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A. WYON SC.
LONDON. W.

THE

CYCLOPÆDIA;

OR,

Universal Dictionary

OF

ARTS, SCIENCES, AND LITERATURE.

PLATES. VOL. II.

BASSO RELIEVO — HOROLOGY.

Printed by A. Strahan,
New-Street-Square, London.

THE

CYCLOPÆDIA;

OR,

UNIVERSAL DICTIONARY

OF

Arts, Sciences, and Literature.

BY

ABRAHAM REES, D.D. F.R.S. F.L.S. *S. Amer. Soc.*

WITH THE ASSISTANCE OF

EMINENT PROFESSIONAL GENTLEMEN.

ILLUSTRATED WITH NUMEROUS ENGRAVINGS,

BY THE MOST DISTINGUISHED ARTISTS.

PLATES. VOL. II.

BASSO RELIEVO — HOROLOGY.

LONDON:

PRINTED FOR LONGMAN, HURST, REES, ORME, & BROWN, PATERNOSTER-ROW,

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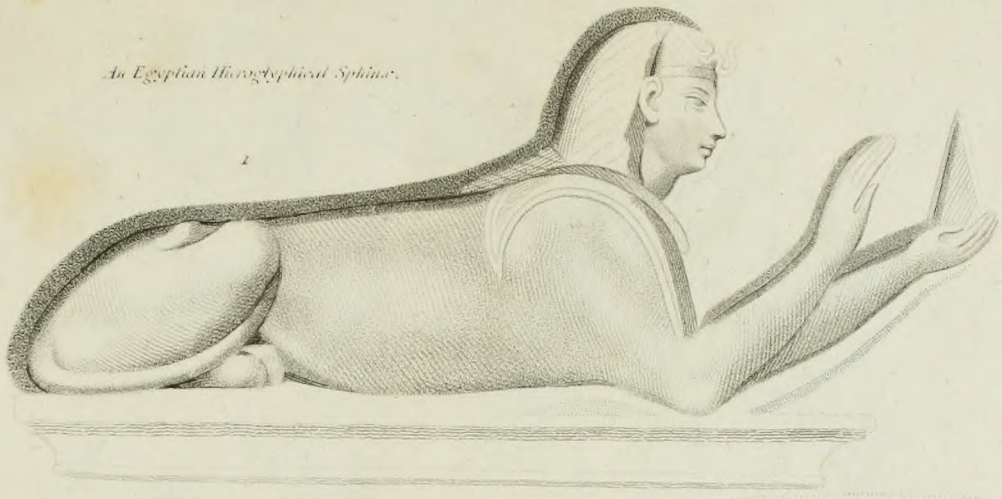
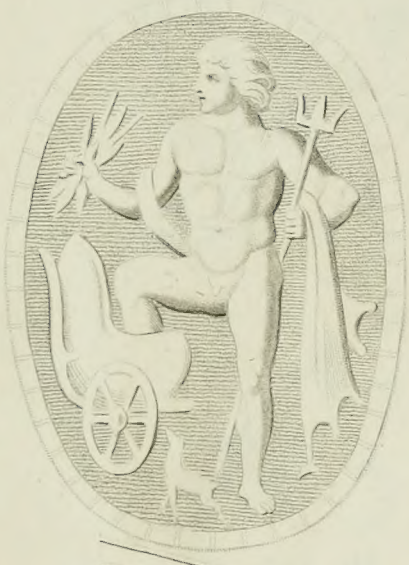
1820.

An Egyptian Hieroglyphical Sphinx.

1

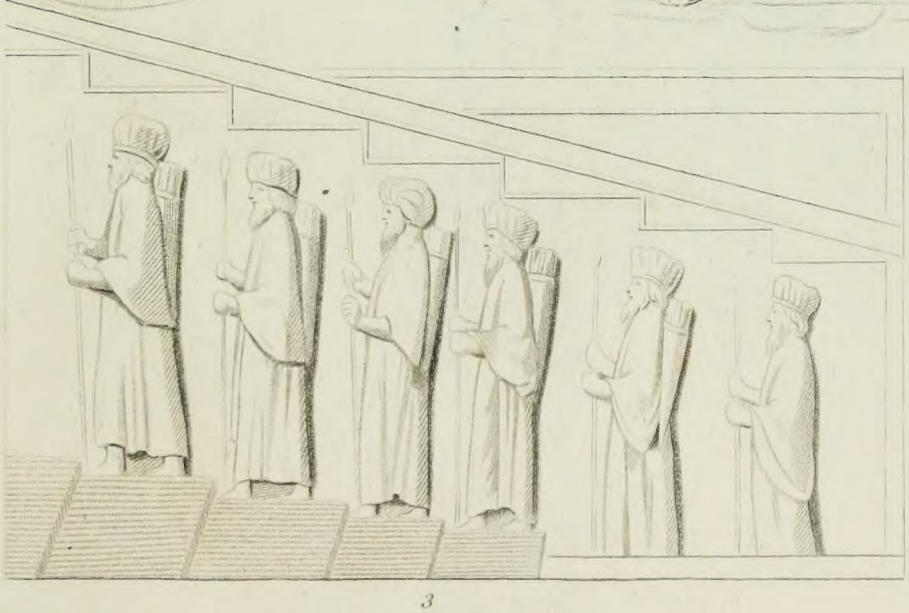




4

2

Hindu Basso Relievo — British Museum.



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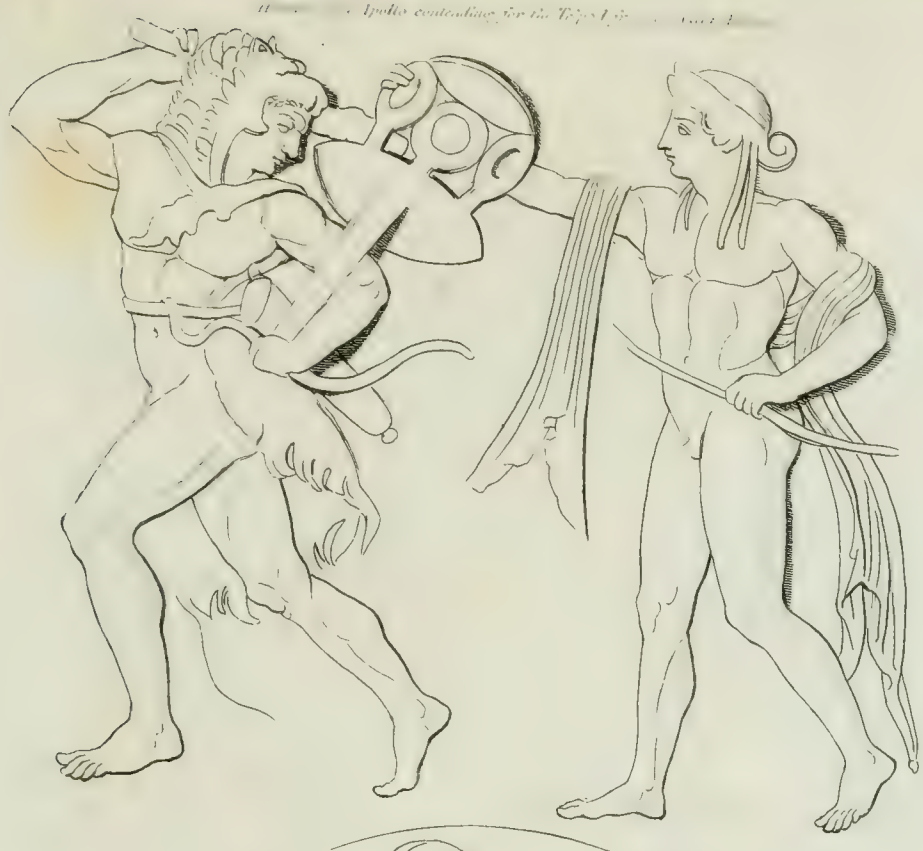
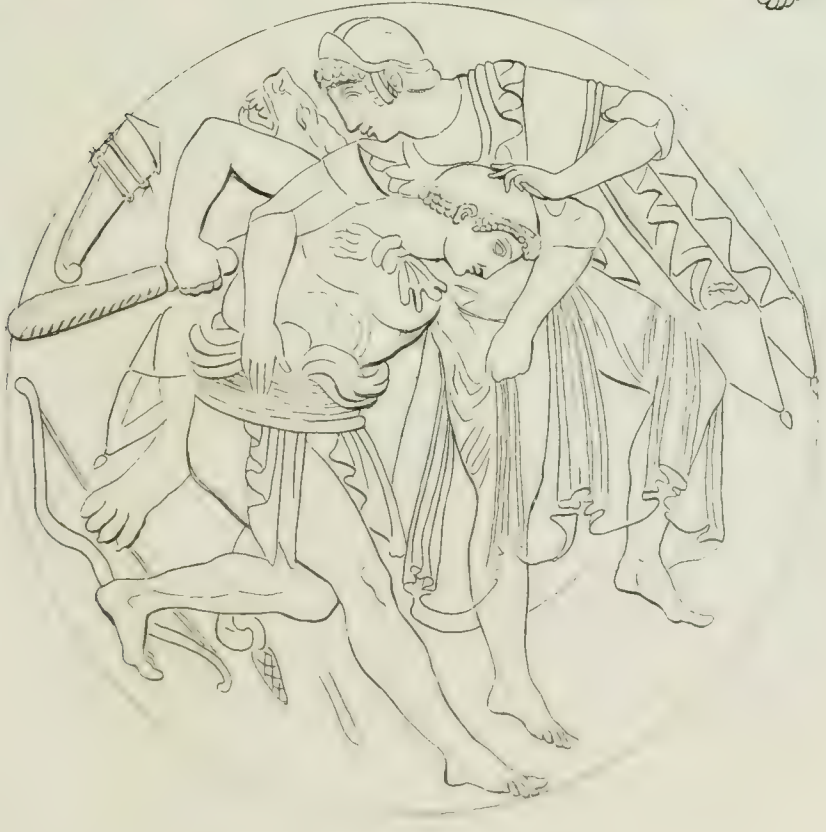
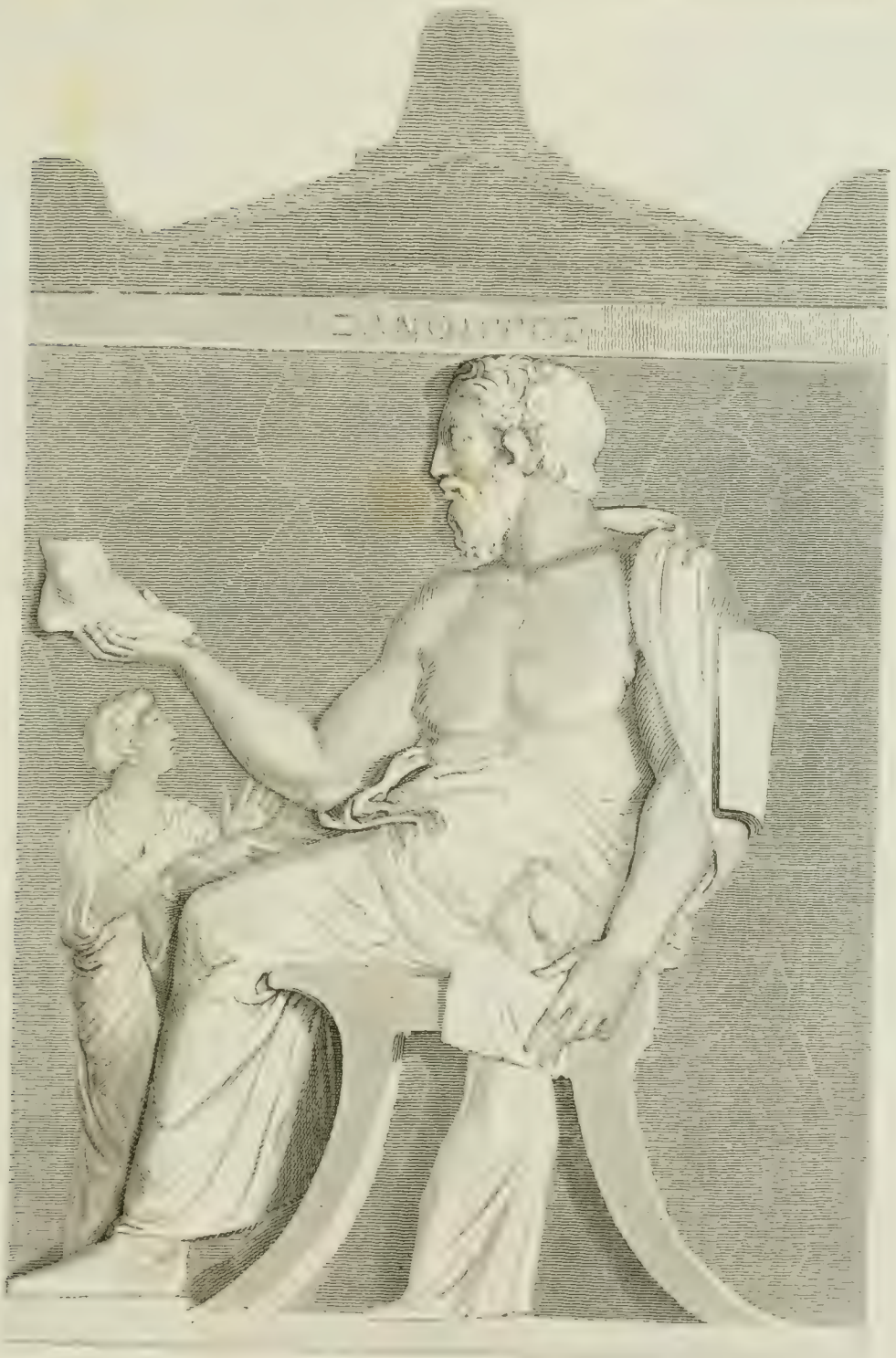




THE TOMB STONE OF XANTHIPPUS FATHER OF PERICLES.

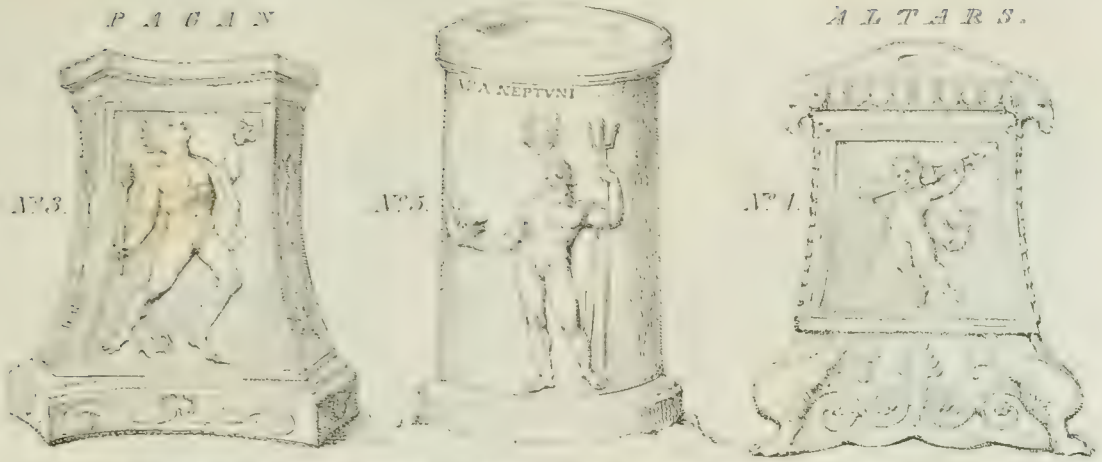


Brought from Athens by Dr. Askew
In the Possession of Charles Townley Esq.r

Drawn by J. Flaxman R.A. *Published as the Act directs Jan.y 2.d 1801 by Longman & Rees Paternoster Row.* *Engraved by J. Parker*

BASSO RELIEVO.

PAGAN ALTARS.



N°3. N°5. N°1.

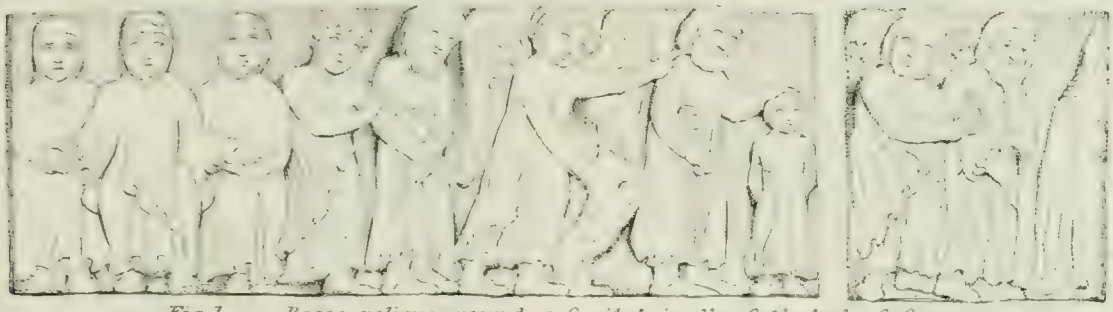
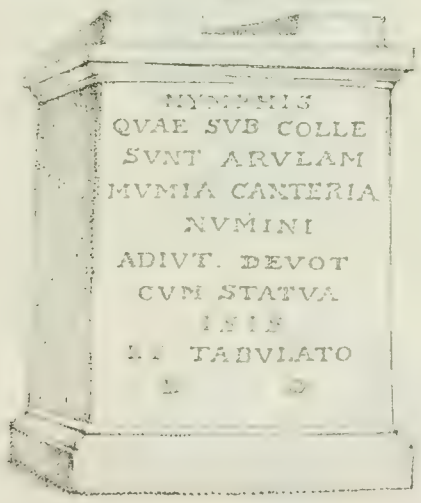


Fig.1. — Basso-relievo round a Capital in the Cathedral of Carrara.

Altars_N°2.



Altars_N°1

Fig 2. — Basso relievo of Bellus Antiope & Amphion

Published by Longman Hurst Rees Orme & Brown London Novem^r 1^st 1818.

BLEACHING.

BUCKING

Fig. 1.

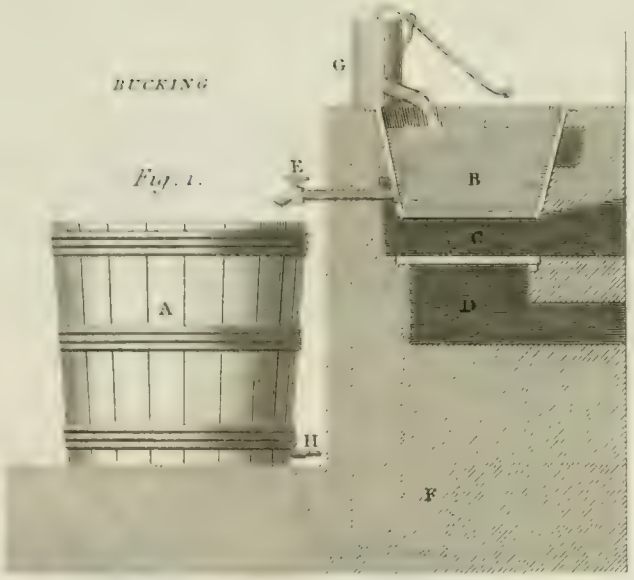
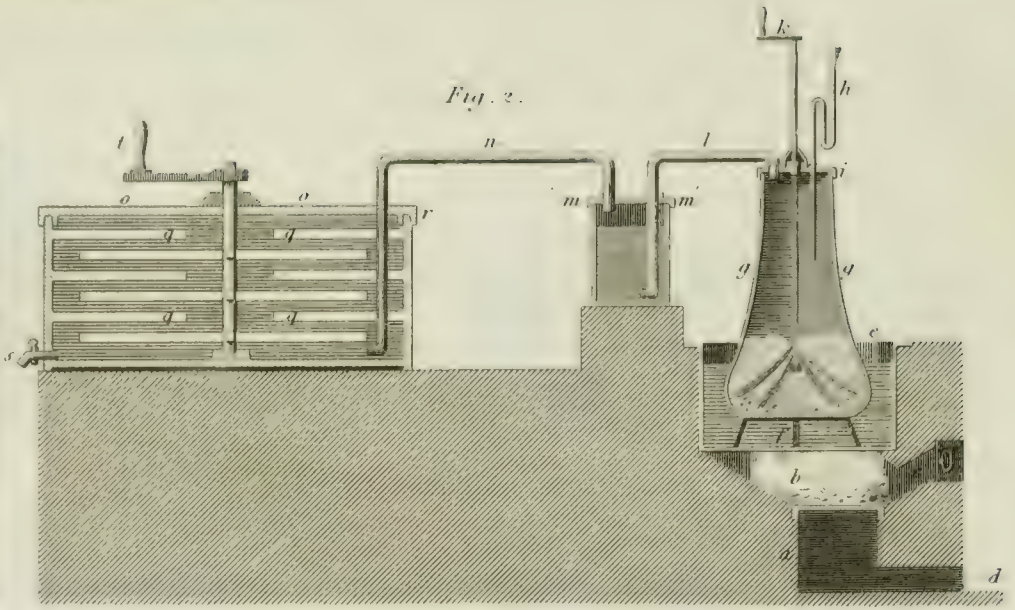


Fig. 2.



OXI-MURIATIC ACID

Fig. 3

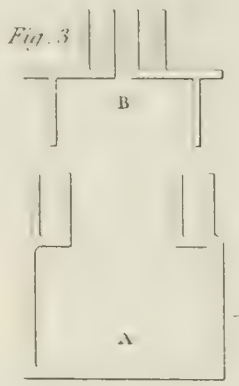
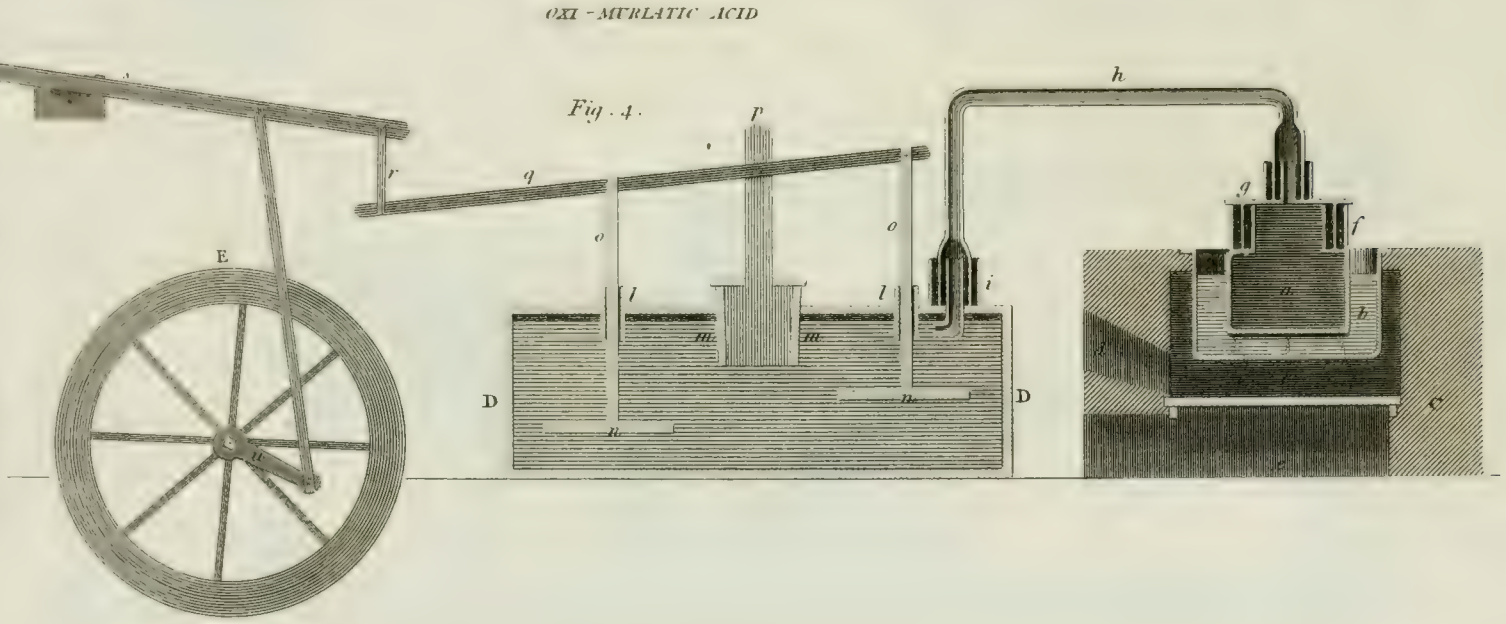


Fig. 4.



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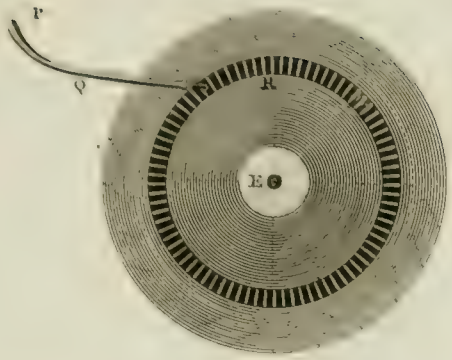
BLEACHING.

WASHING & CLEARING.

Fig. 2



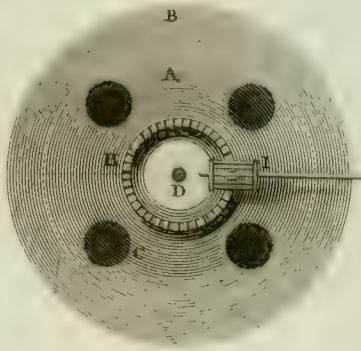


Fig. 1

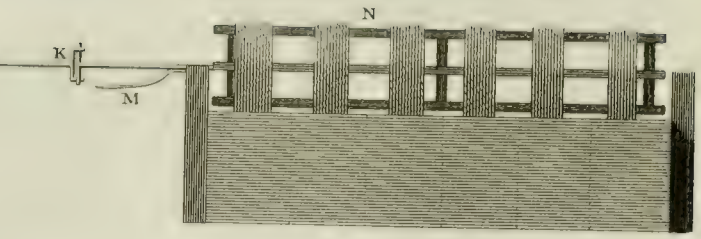


Fig. 4.

Fig. 5

Fig. 3

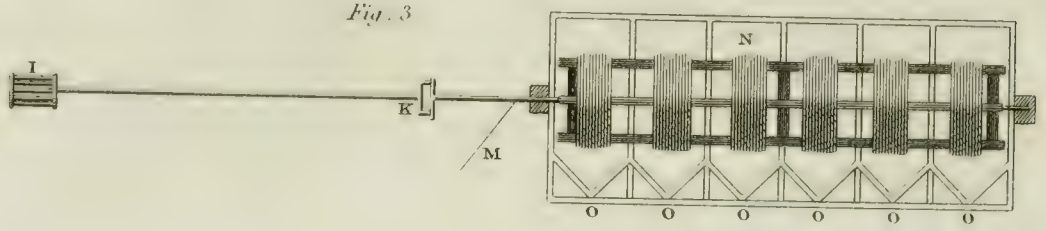


Fig. 6

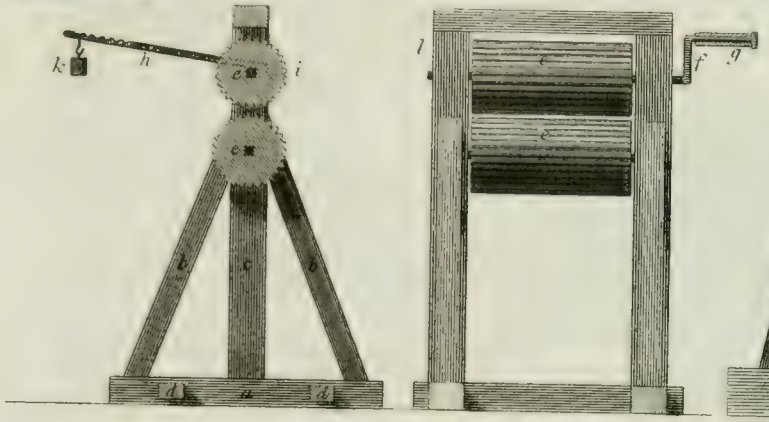
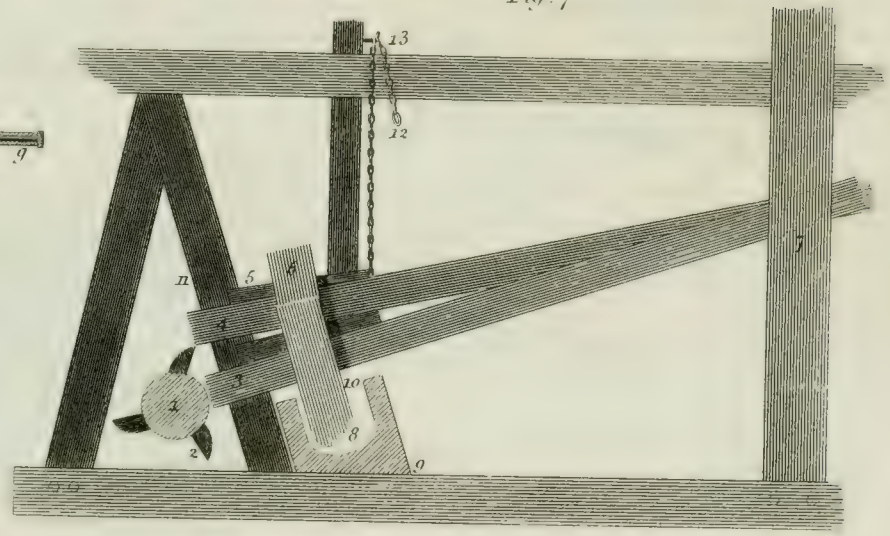


Fig. 7



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DRYING.

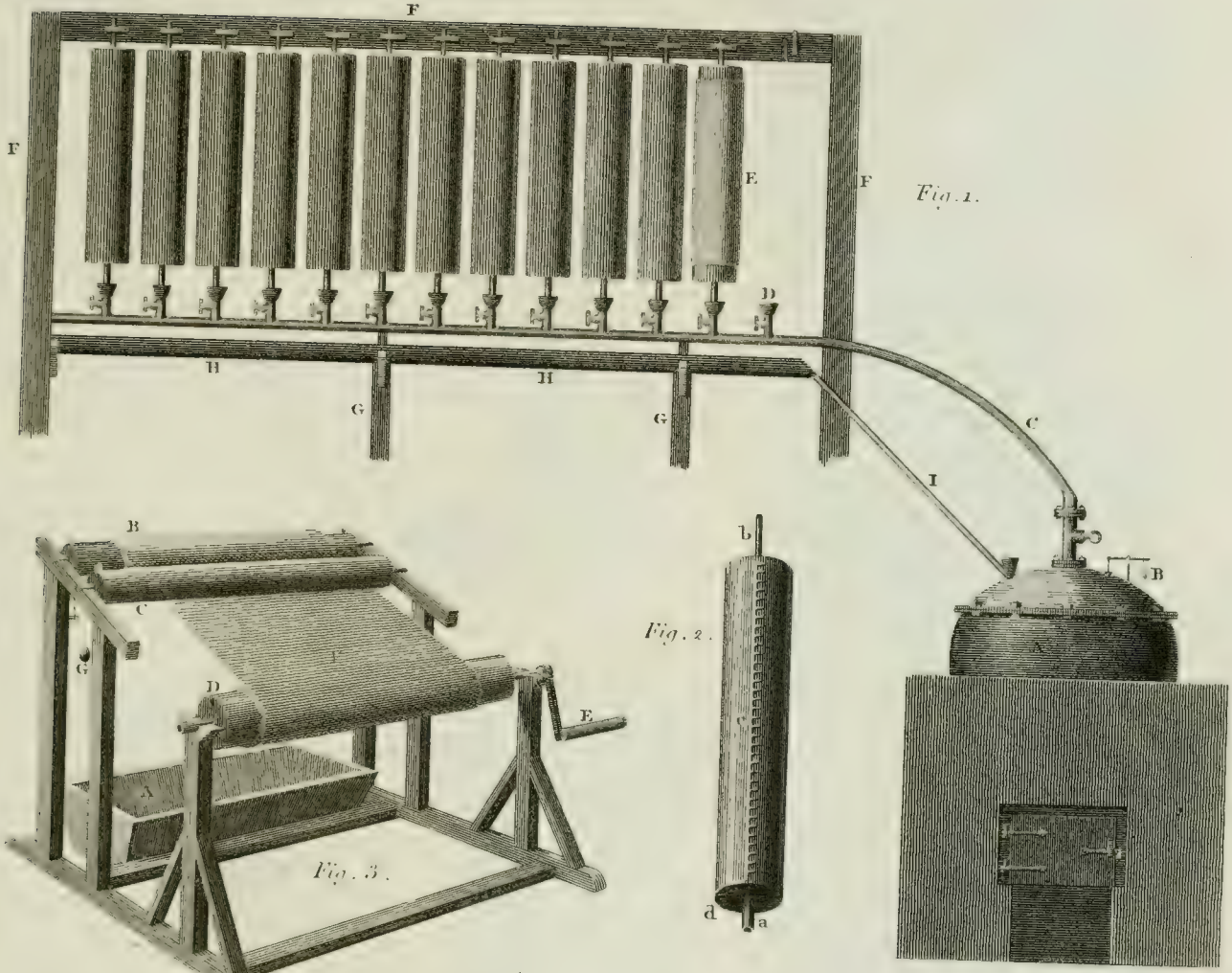

Fig. 1.

Fig. 2.

Fig. 3.

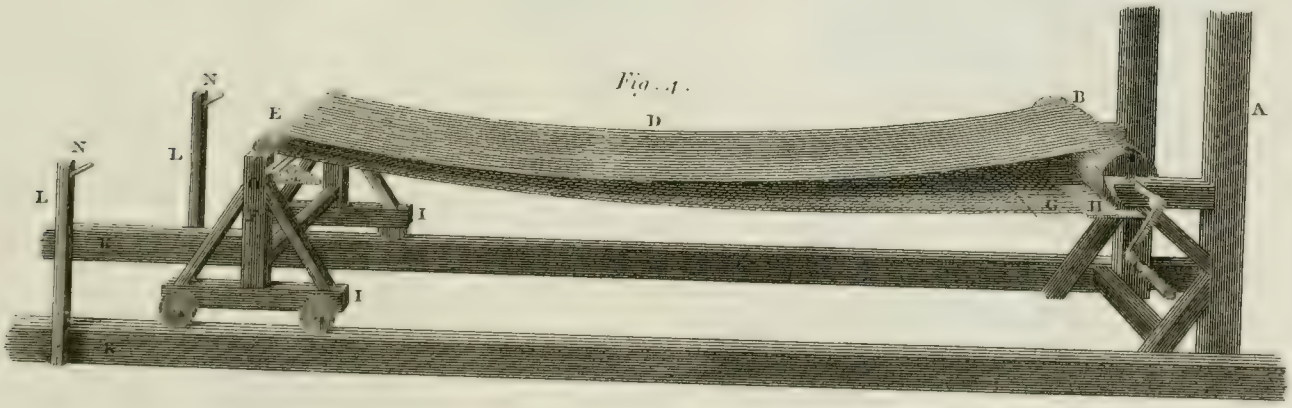

Fig. 4.

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Fig. 1.

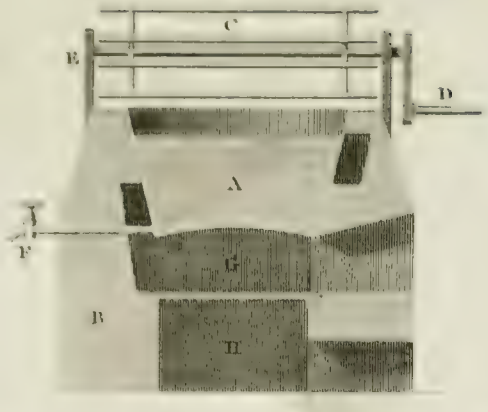


Fig. 2.

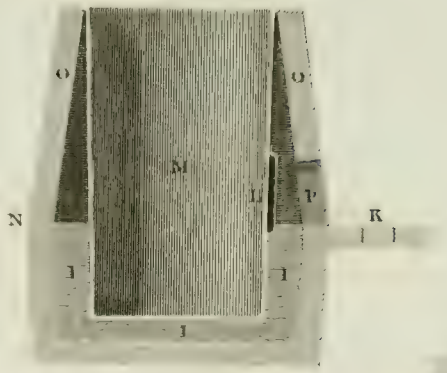
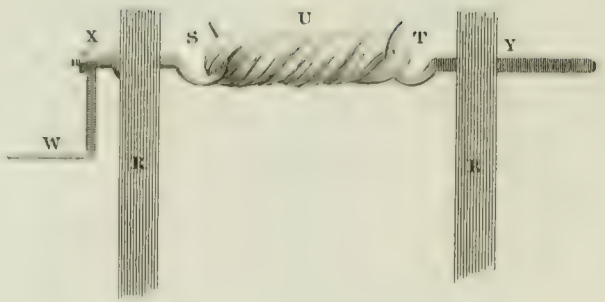


Fig. 3.



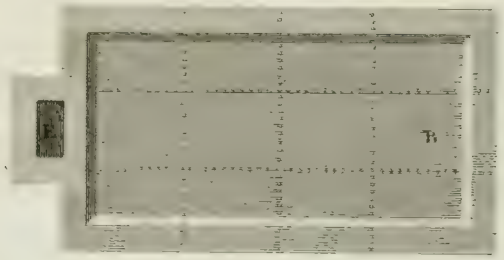


Fig. 5.

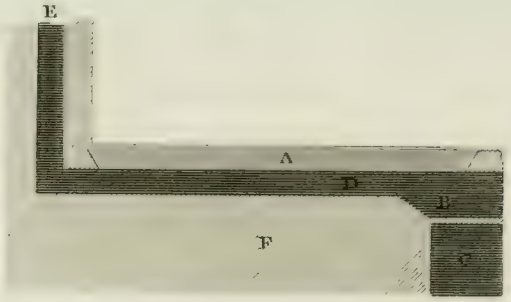


Fig. 4.

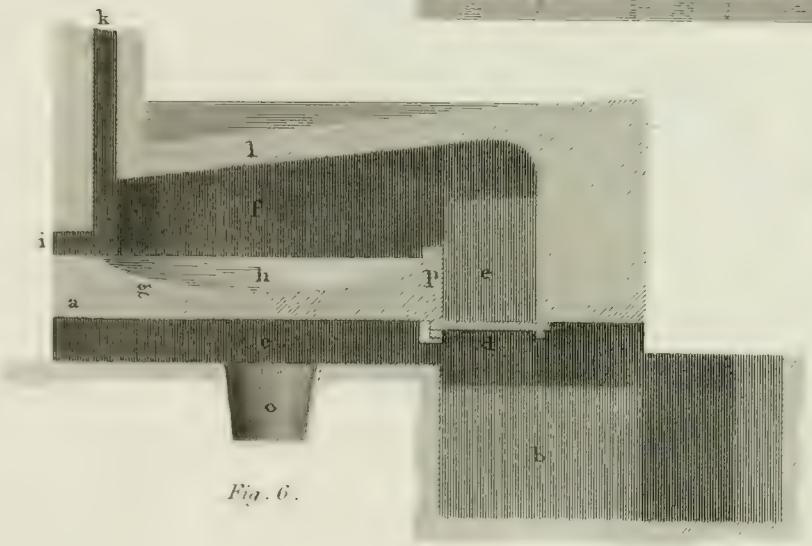


Fig. 6.

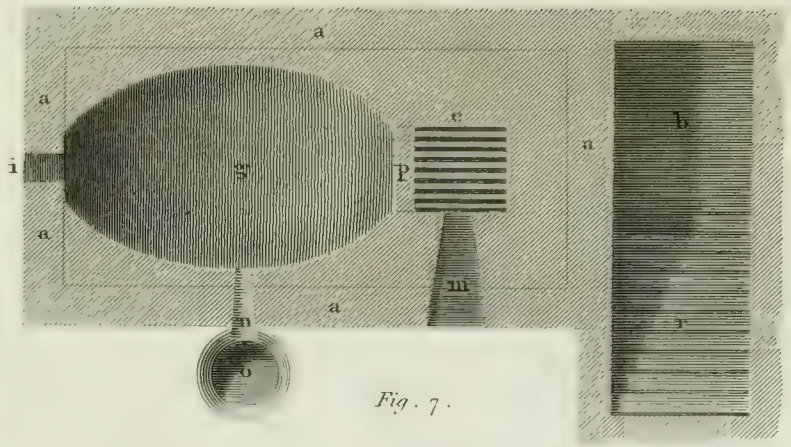


Fig. 7.

Published as the Act directs, March 1st 1805, by Longman Hurst, Rees & Orme, Paternoster Row.

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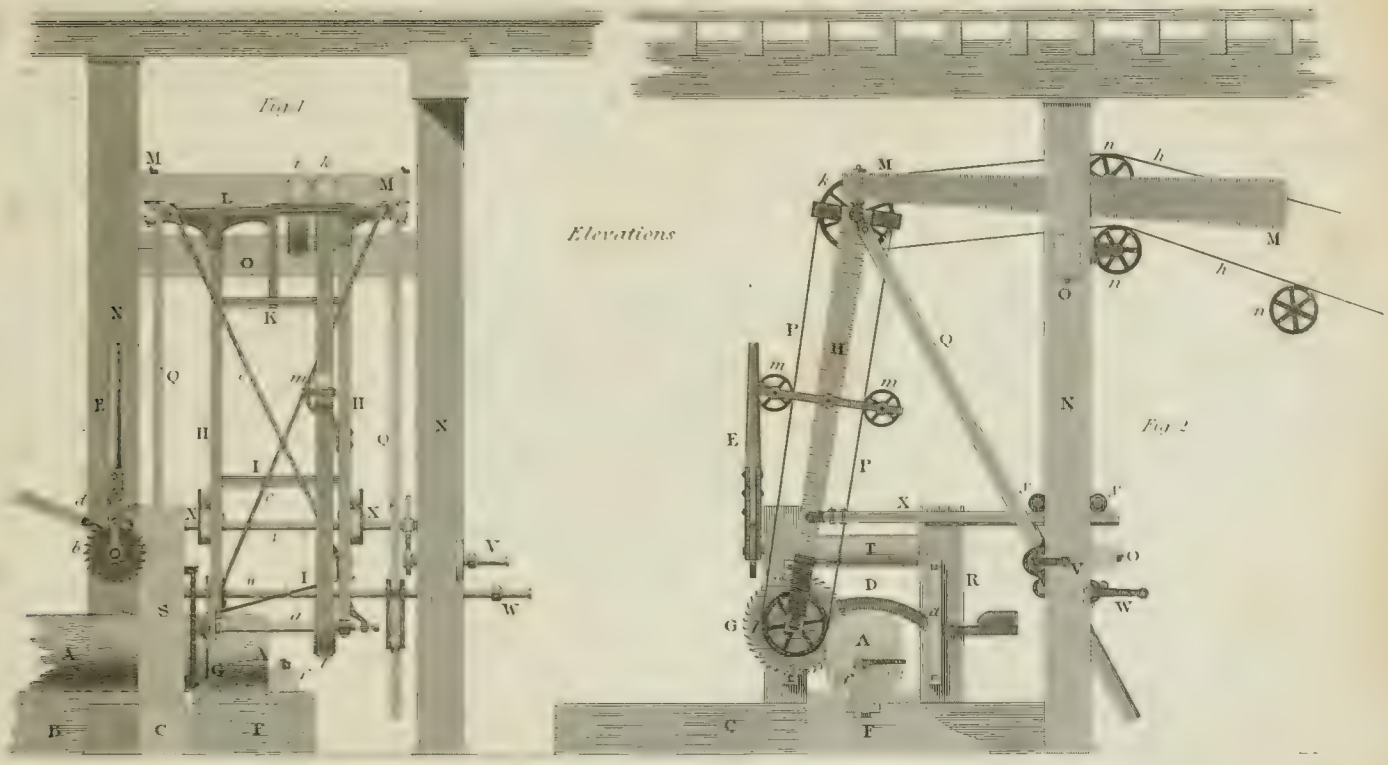
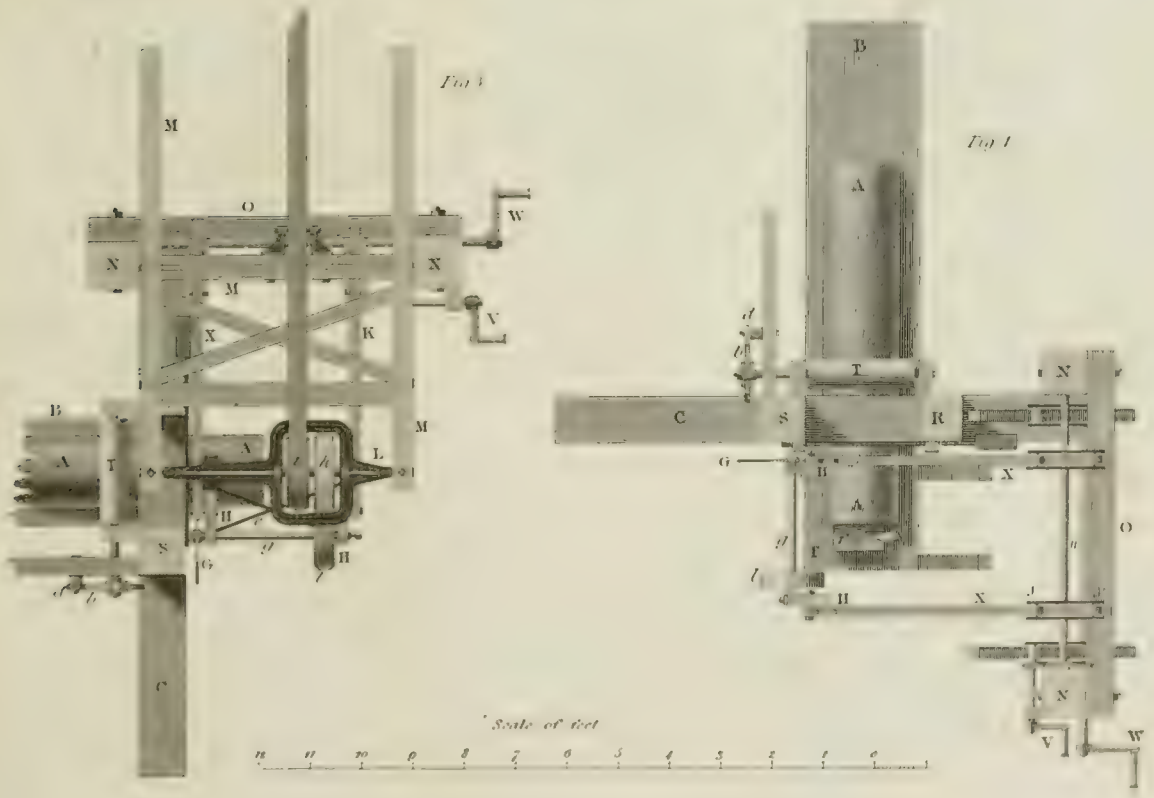
MACHINERY.

BLOCK MACHINERY at PORTSMOUTH.

Sawing Machine.





J Farey del.
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Fig. 1.

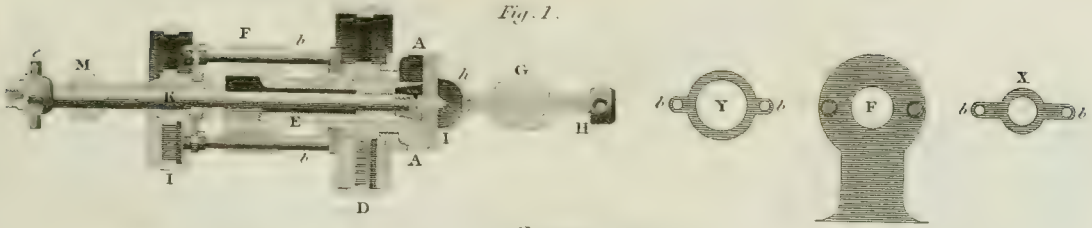


Fig. 2.

Crown Saw.

Fig. 3.

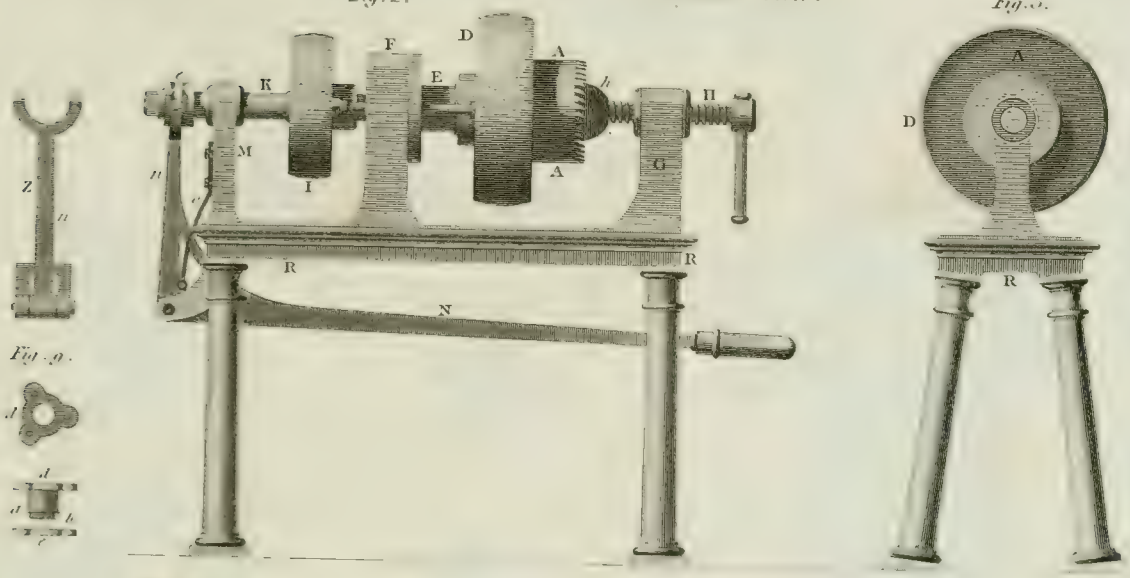


Fig. 9.

Fig. 4.

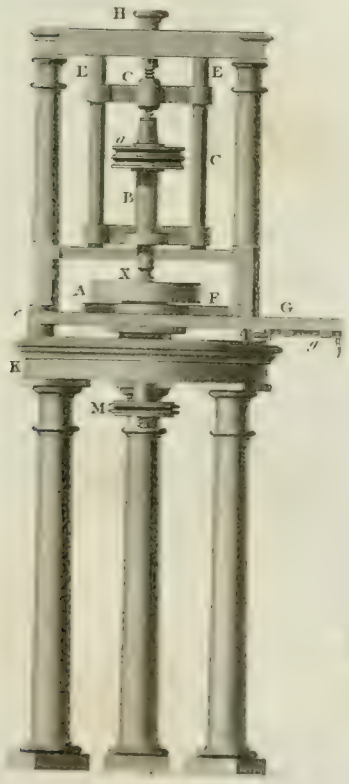


Fig. 6.

Coaking Engine.

PLATE B.

Fig. 5.

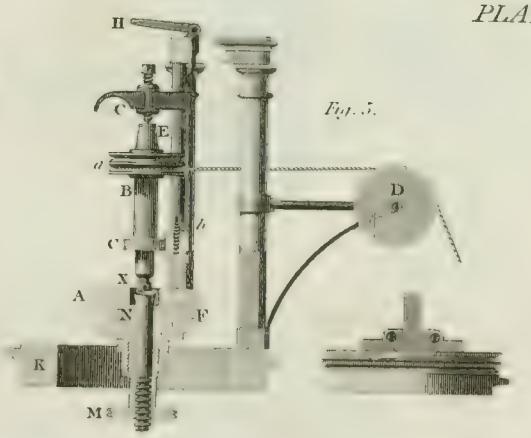
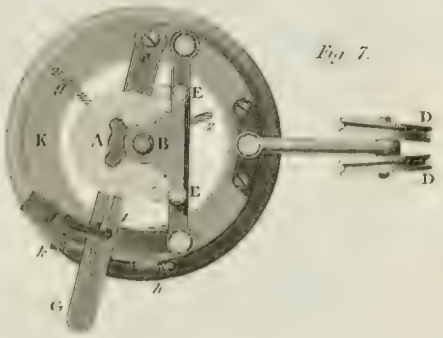
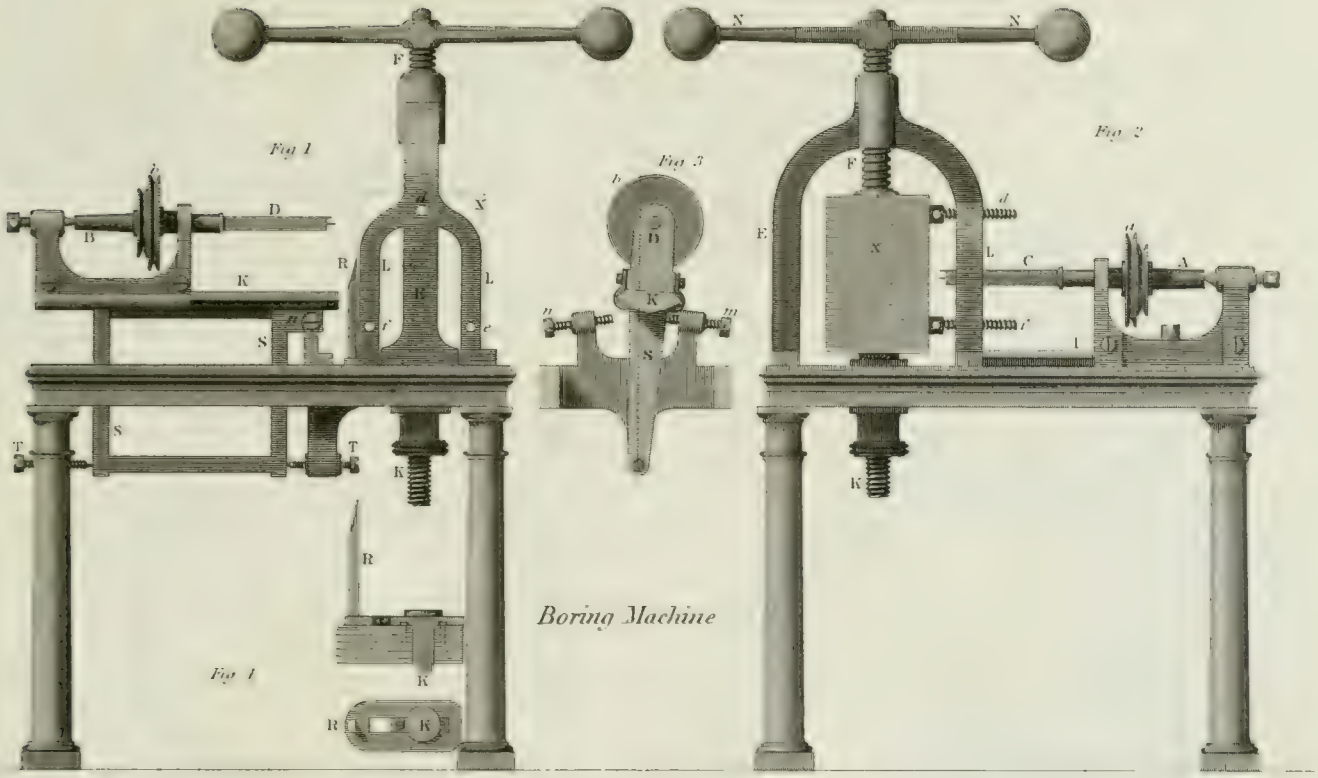


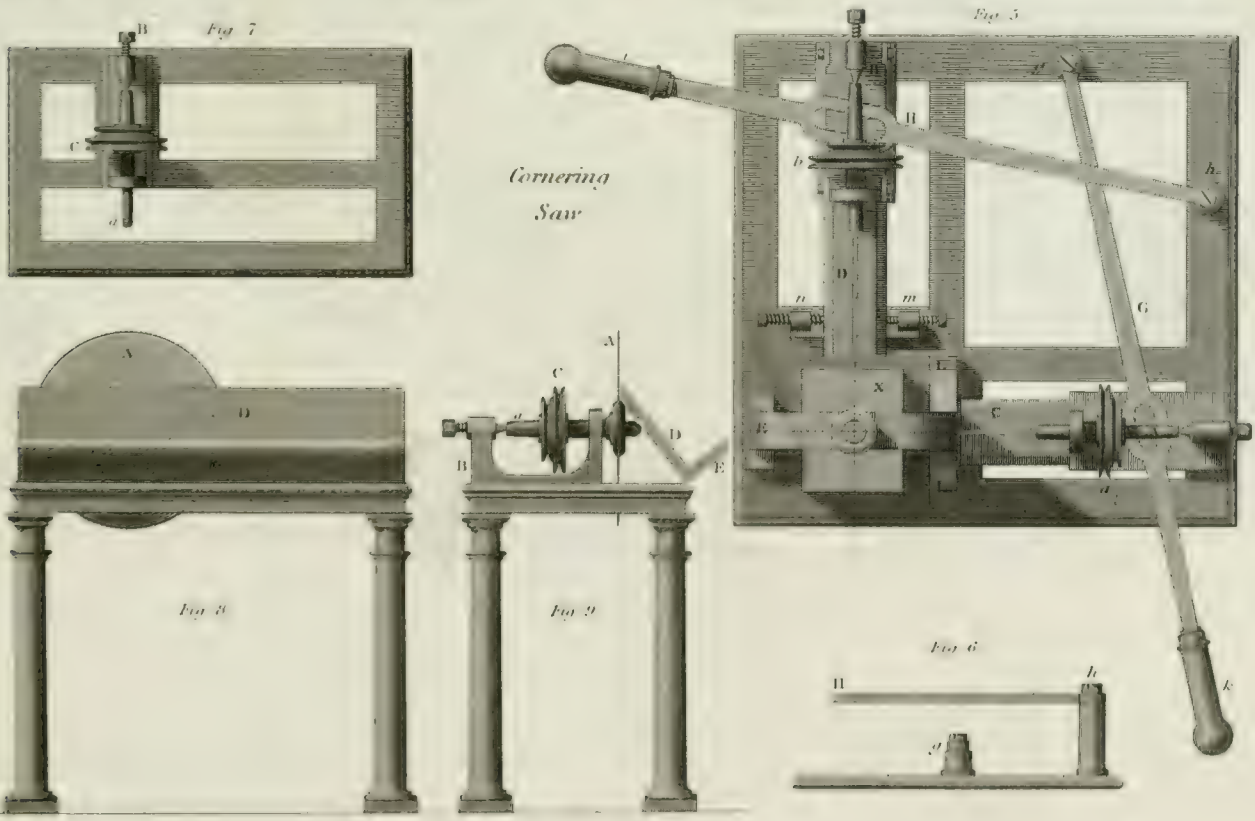
Fig. 8.

Fig. 7.



J. Farey delin. Published as the Act directs, 1816, by Longman, Hurst, Rees, Orme & Brown, Paternoster Row. Lowry Sc.





J Farey del. Published as the Act directs 1815, by Longman, Hurst, Rees, Orme, & Brown, Paternoster Row Lowry Sculp.

BLOCK MACHINERY AT PORTSMOUTH.

Fig. 1.

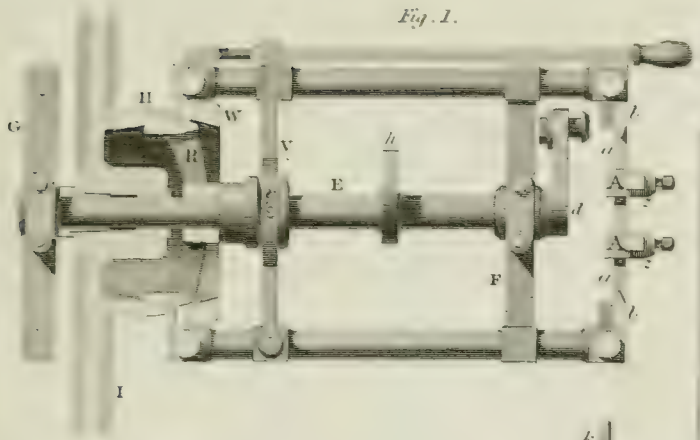
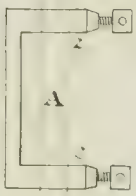
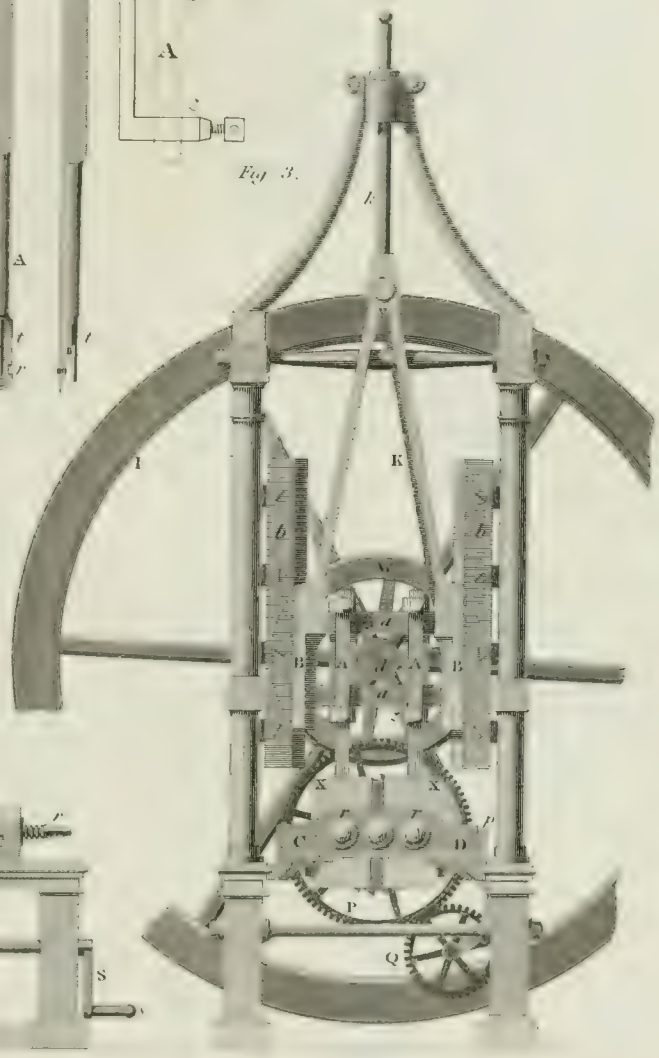


Fig. 6.



Mortising Machine.

Fig 3.



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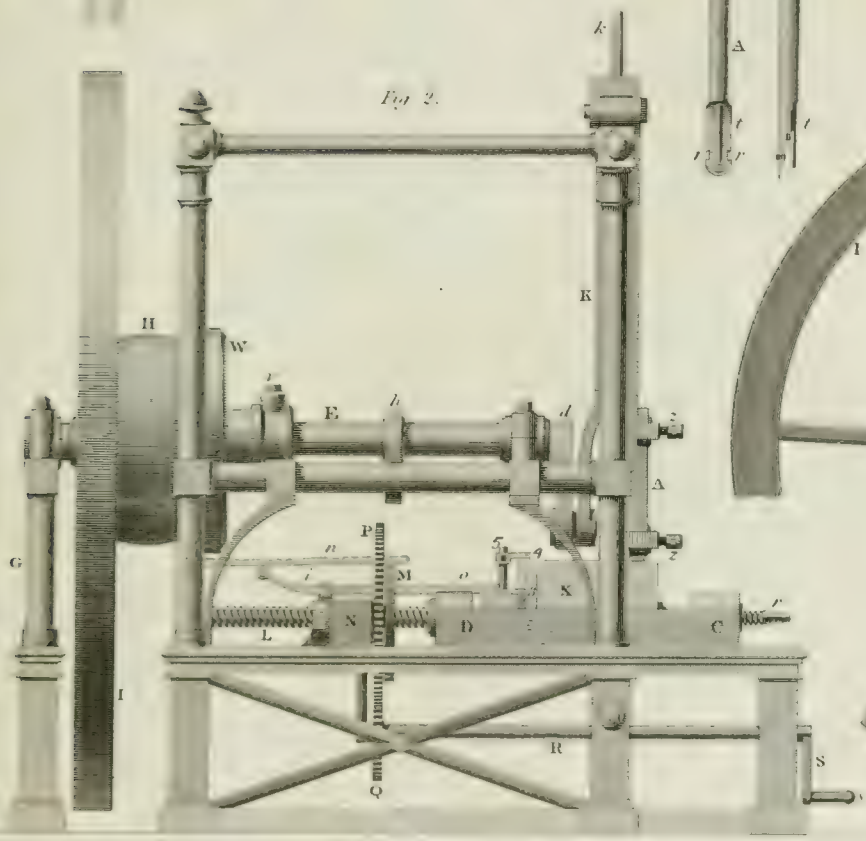


Fig 4

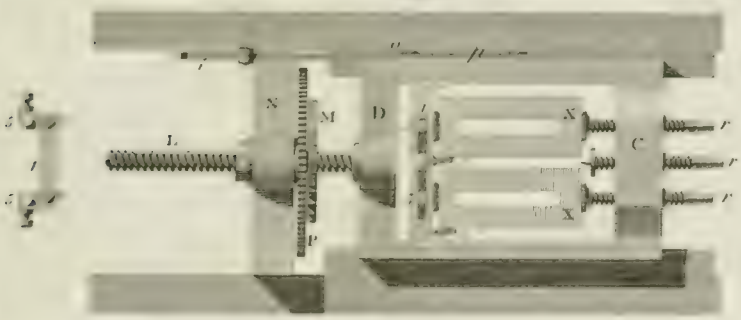
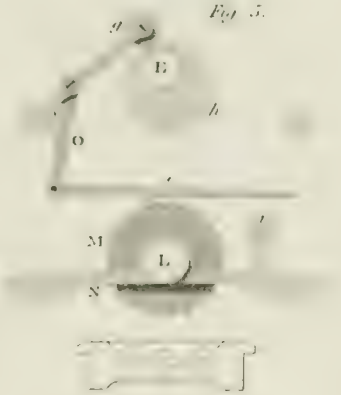


Fig 5.

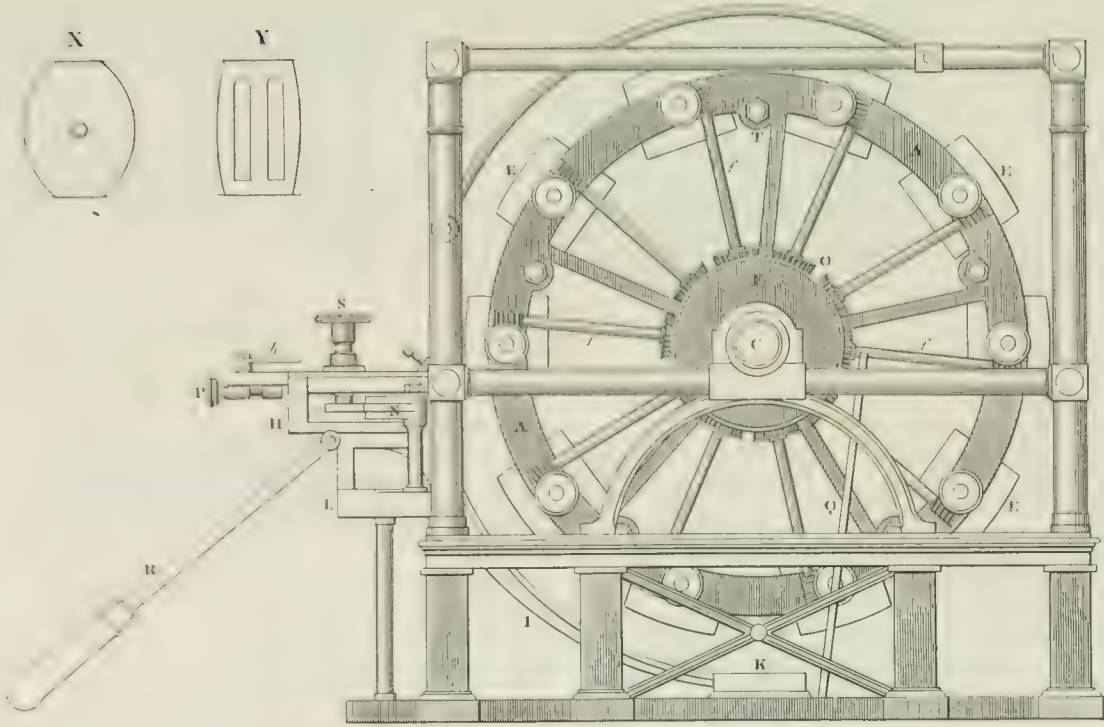


J. Farey del. Published as the Act directs, 1818, by Longman, Hurst, Rees, Orme & Brown, Paternoster Row. Lowry Sc.

BLOCK MACHINERY AT PORTSMOUTH.

SHAPING Engine.

Elevation Fig.1.



End View. Fig 2

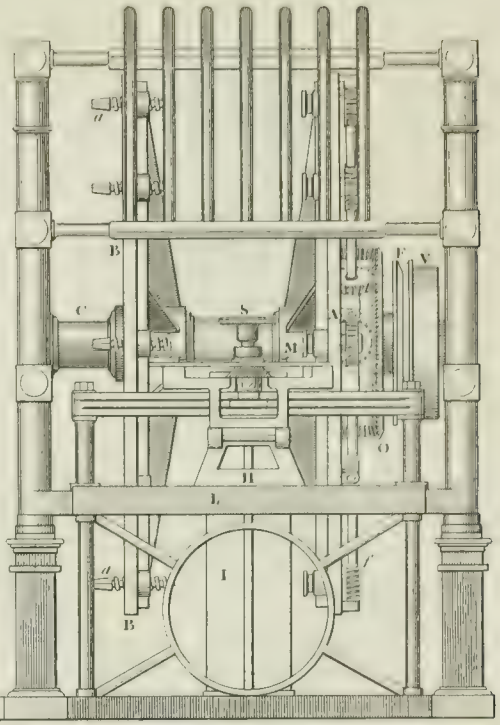


Fig.3. Plan.

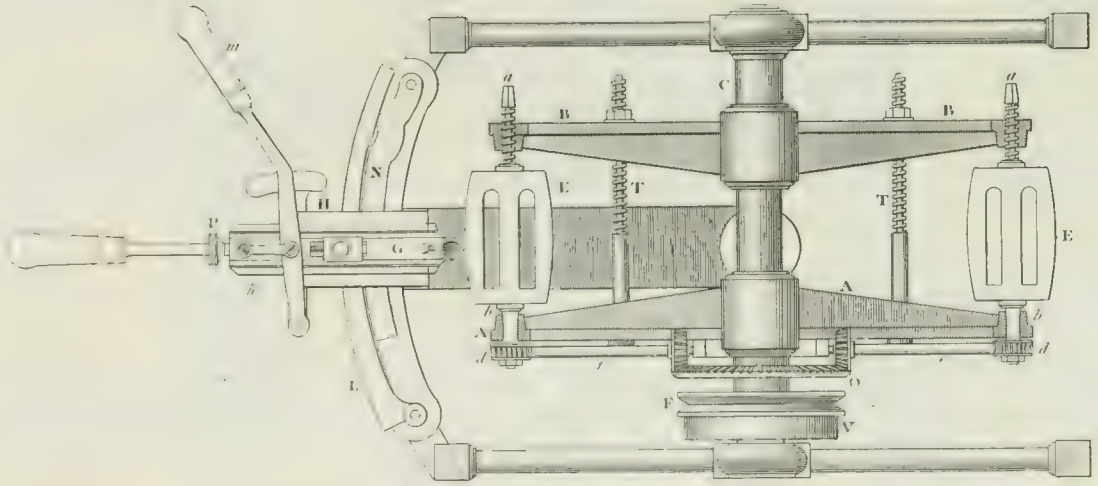
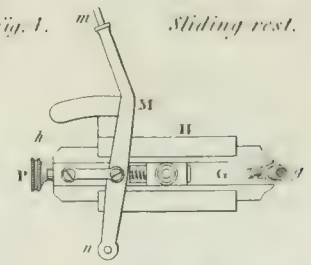
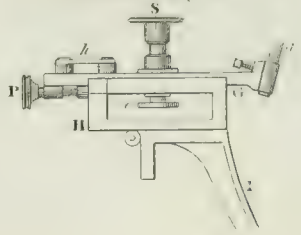


Fig.4. Sliding rest.



Gauge.

Elevation Fig.5.



J Farey Jun. del

Published as the act directs, 1820, by Longman Hurst Rees, Orme and Brown, Paternoster Row, London.

Invented by Mr. Brunel.

Fig. 1

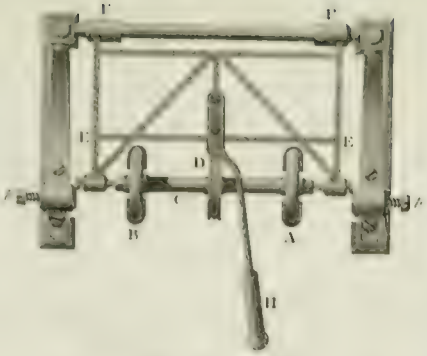


Fig. 2

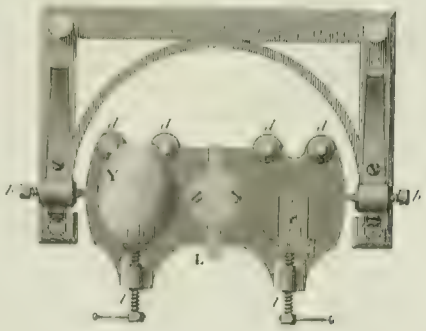


Fig. 3

SCORING Engine.

Fig. 4

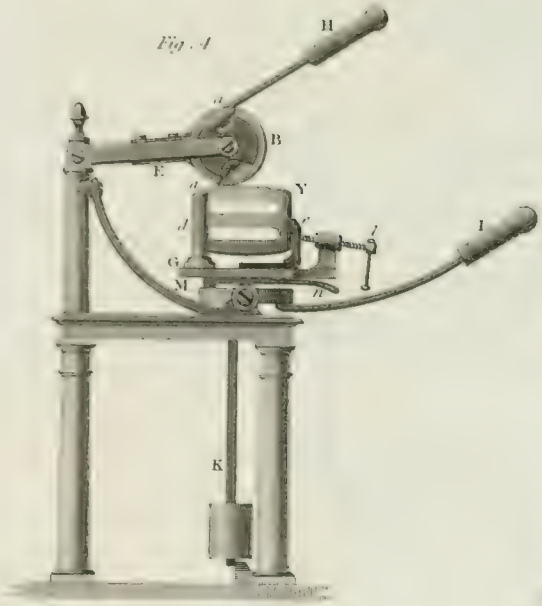
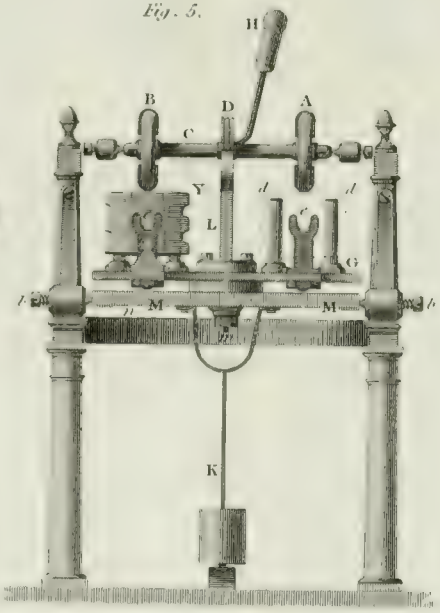


Fig. 5.



Machine for Making Dead Eyes.

Fig 6.

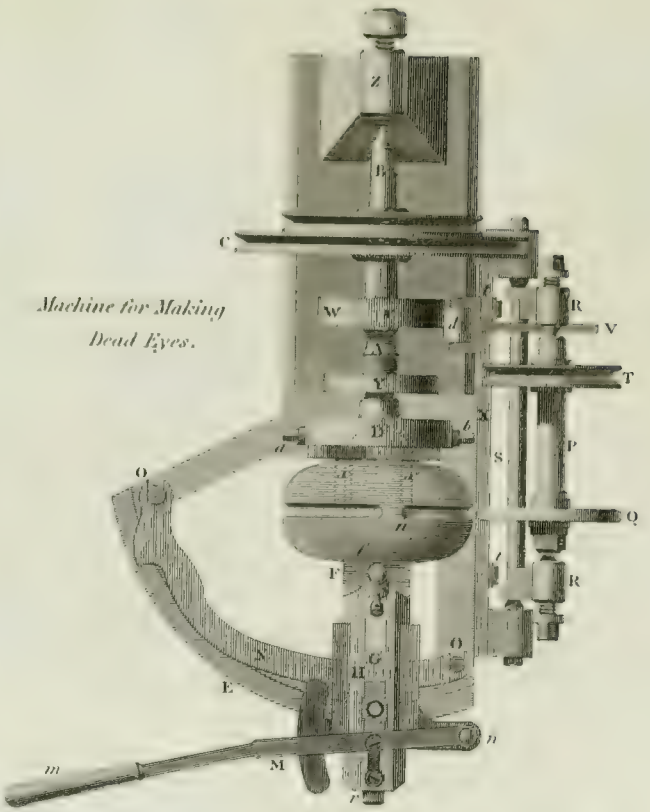
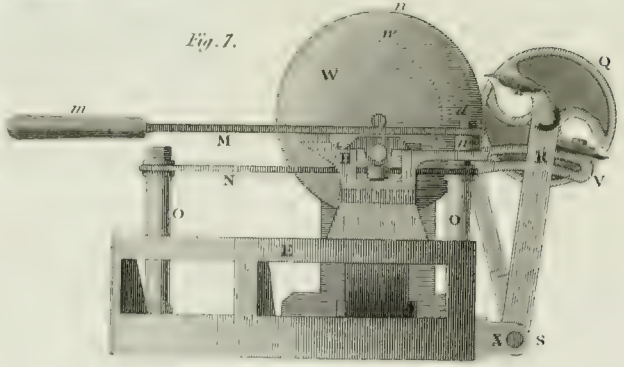


Fig. 7.



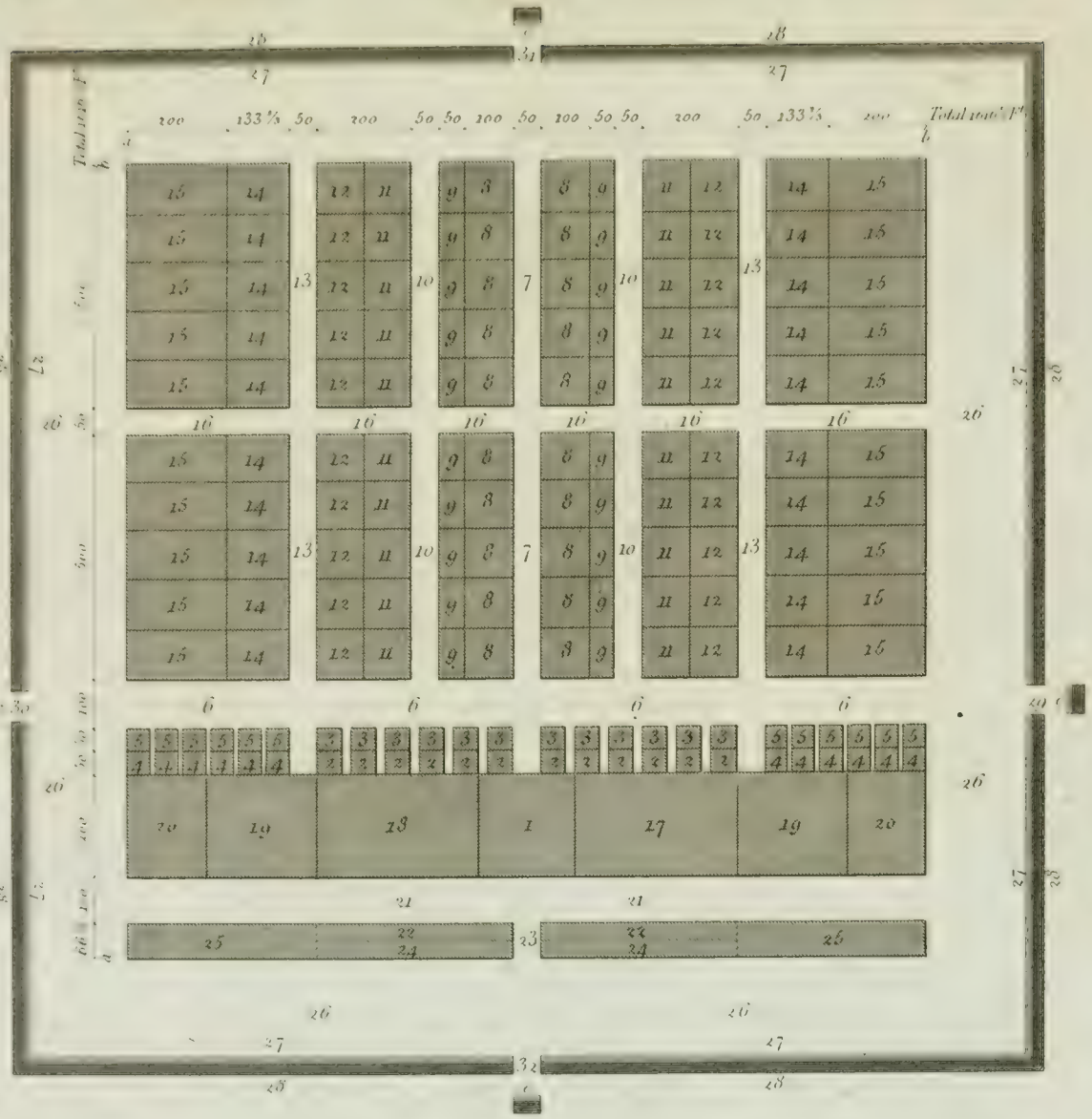
J. Farey delin.

Published as the Act directs, 1816, by Longman, Hurst, Rees, Orme & Brown, Paternoster Row.

Lowry Sc.

CAMP.

PLAN OF A ROMAN CONSULAR CAMP ACCORDING TO POLYBIUS.



A Scale of 1000 Feet.

EXPLANATION AND REFERENCES.

1 The Pretorium or General's ground set apart for the Consul containing 40000 Roman square feet

2 Ground behind the tents of the Tribunes for their Horses, Beasts of Burthen, Baggage &c.

3 Ground where the tents of the Tribunes were pitched

4 Ground behind the tents of the Prefecti of the Allies for their Horses, Beasts of Burthen, Baggage &c.

5 Ground where the tents of the Prefecti of the Allies were pitched.

6 A croſs-street 100 feet wide called [illegible] which the encampments of the cavalry and infantry both of the Roman legions and of their Allies had their beginnings or commencements.

7 A street 50 feet wide between the [illegible]

8 The Horse of two Roman legions in ten troops each

9 The Triarii of two legions in ten Maniples each

10 Two streets 50 feet wide each between the Triarii and Principes of two legions.

11 The Principes of two legions in ten Maniples each

12 The Hastati of two legions in ten Maniples each.

13 Two streets 50 feet wide each between the Hastati of the two Roman legions and the Horse of the Allies.

14 The Horse of the Allies wanting the Extraordinarii

15 The Infantry of the Allies wanting the Extraordinarii who amounted to a fifth part of their whole number, in ten divisions each on the right and left sides of the Encampment.

16 Via Quintana 50 feet wide running acroſs the camp between the fifth and sixth Maniples and troops reckoned from the Principia.

17 The Quæstorium. 18 The Forum.

19 Quarters or encamping ground for the Horse guards of the Consul and Quæstor.

20 Quarters for the Foot-guards of the Consul and Quæstor

21 A croſs street 100 feet wide.

22 The extraordinary Horse except those selected for the guards of the Consul and Quæstor.

23 A street 50 feet wide.

24 The extraordinary Foot except those selected for the guards of the Consul and Quæstor.

25 Quarters for any strangers that might arrive at the Camp.

26 A space two hundred feet broad between the outermost tents and the Rampart.

27 The Rampart. 28 The Ditch.

29 Porta principalis dextra

30 Porta principalis sinistra.

31 Porta Decumana according to some but Porta Pratoria according to others.

32 Porta Pratoria according to some but Porta Decumana according to others

a b a b Two right lines on which are marked the principal dimensions of the different parts of the camp shewing the whole to be a square or an equilateral right angled quadrangle

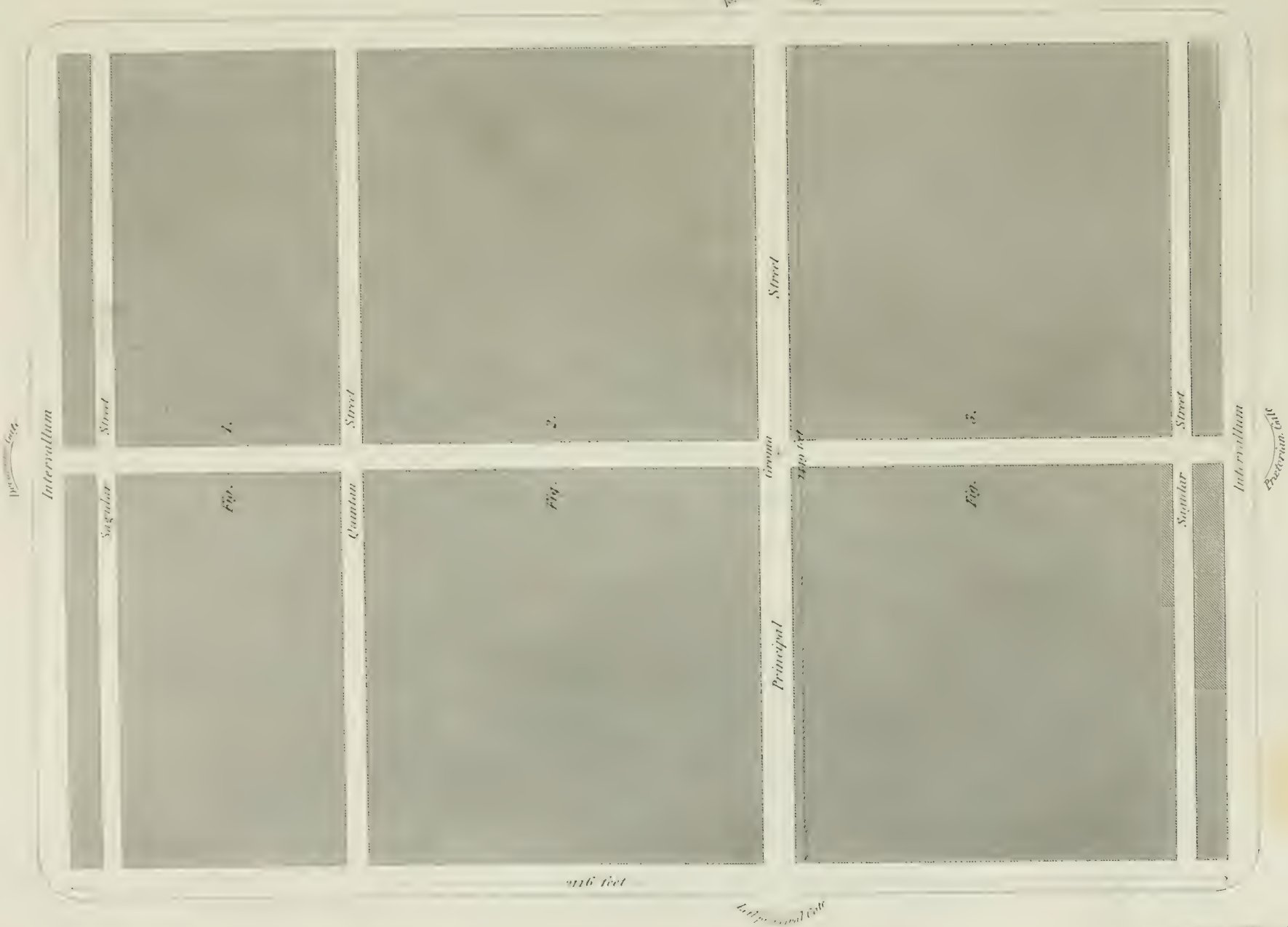
e A Traverse Breastwork or Epaulement with a ditch before it opposite to each of the Gates.

Published as the Act directs April 1.1806 by Longman, Hurst Rees & Orme Paternoster Row,

Engraved by Wilson Lowry

Illustrative of the Hagmanian System of **CASTRAMETATION.**

The total length of the **CAMP** *from front to rear is 2310 Roman Feet or 2232 English Feet, and its extreme breadth from right to left is 1050 Roman Feet or 1363 English Feet. The intervallum is 60 Roman Feet wide or 158 English; and the length of the space that was occupied by the troops is 2116 English Feet and its breadth 1449.*



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ARTILLERY.

ENCAMPMENT.

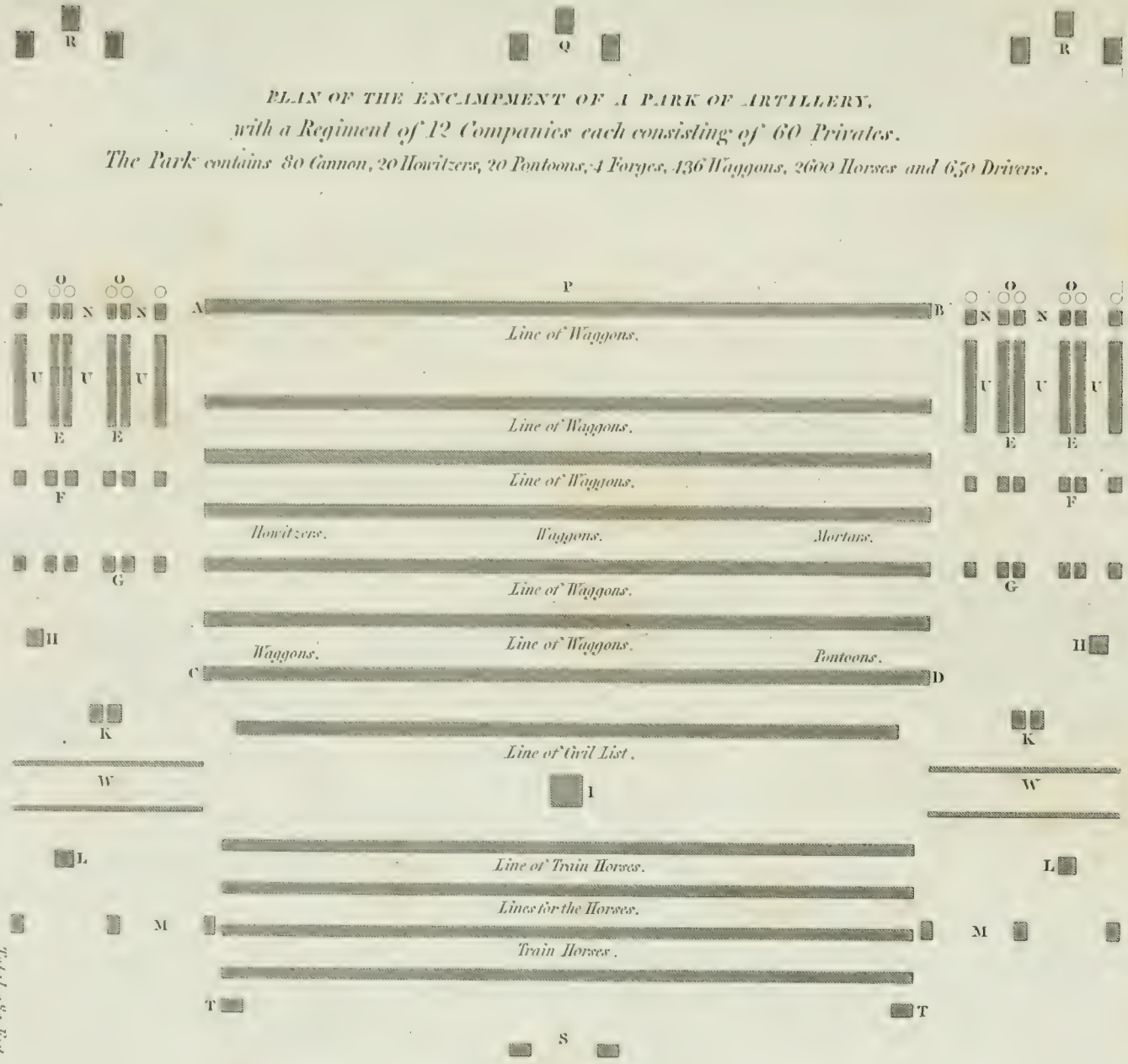
PLAN OF THE ENCAMPMENT OF A PARK OF ARTILLERY,

with a Regiment of 12 Companies each consisting of 60 Privates.

The Park contains 80 Cannon, 20 Howitzers, 20 Pontoons, 4 Forges, 436 Waggons, 2600 Horses and 650 Drivers.

EXPLANATION.

A.B.C.D. *Bounds of the Park.*
E. *Artillery Ground.*
F. *Subalterns Tents.*
G. *Captains Tents.*
H. *Lieutenant Colonel, and Majors Tents.*
I. *Colonels Tent.*
K. *Staff Officers Tents.*
L. *Grand Sutlers Tents.*
M. *Petit Sutlers Tents.*
N. *Serjeants Tents.*
O. *Bells of Arms.*
P. *Alarm or Evening Guns.*
Q. *Army Guard.*
R. *Artillery Guard.*
S. *Rear Guard.*
T. *The Forges.*
U. *The Streets.*
W. *The Batmens Tents and Horses of the Regiment.*



Published as the Act directs 1st Dec. by Longman Hurst Rees & Orme Paternoster Row.

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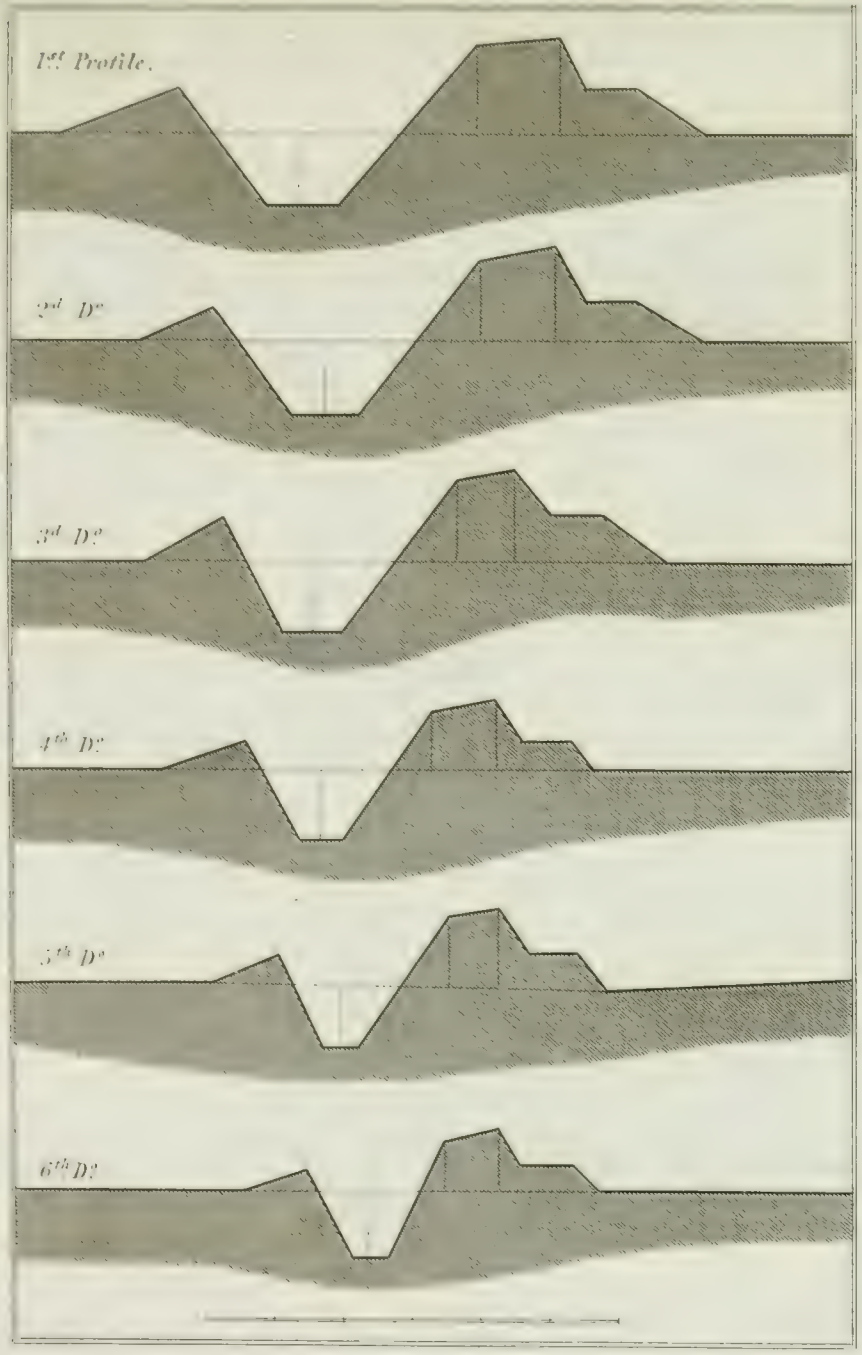
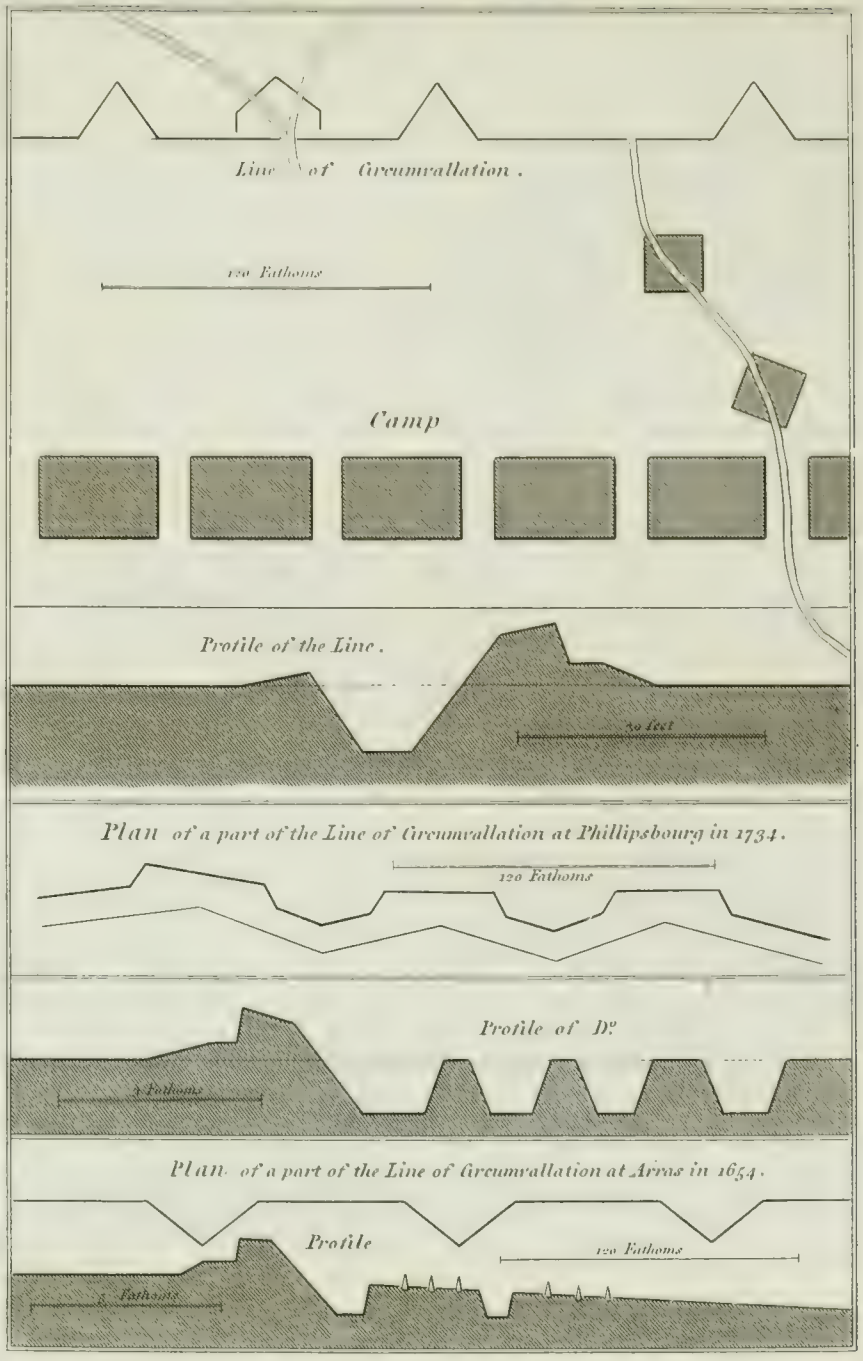
CAMP.

Profiles of Lines of Circumvallation according to Vauban.



Lines of Circumvallation with Camp.



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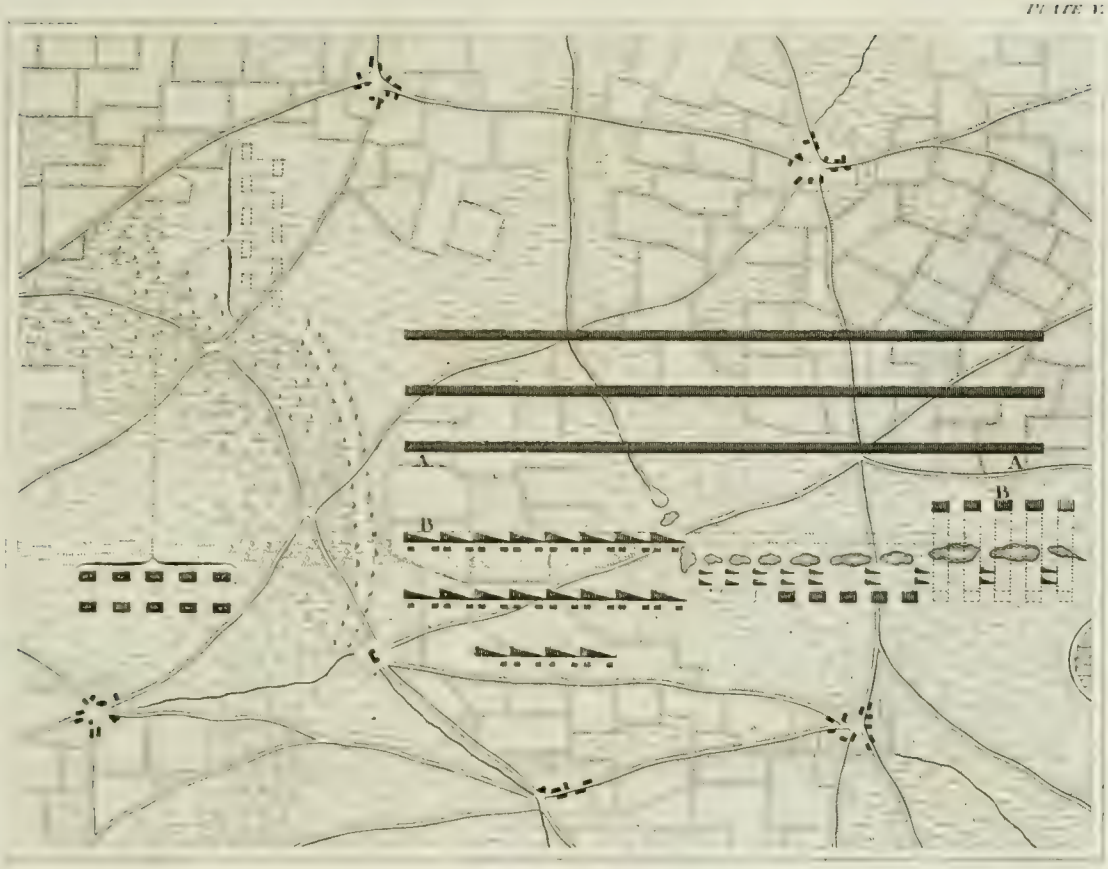
W. Lowry Sculp.

PLATE V.



Scale

PLATE VI.

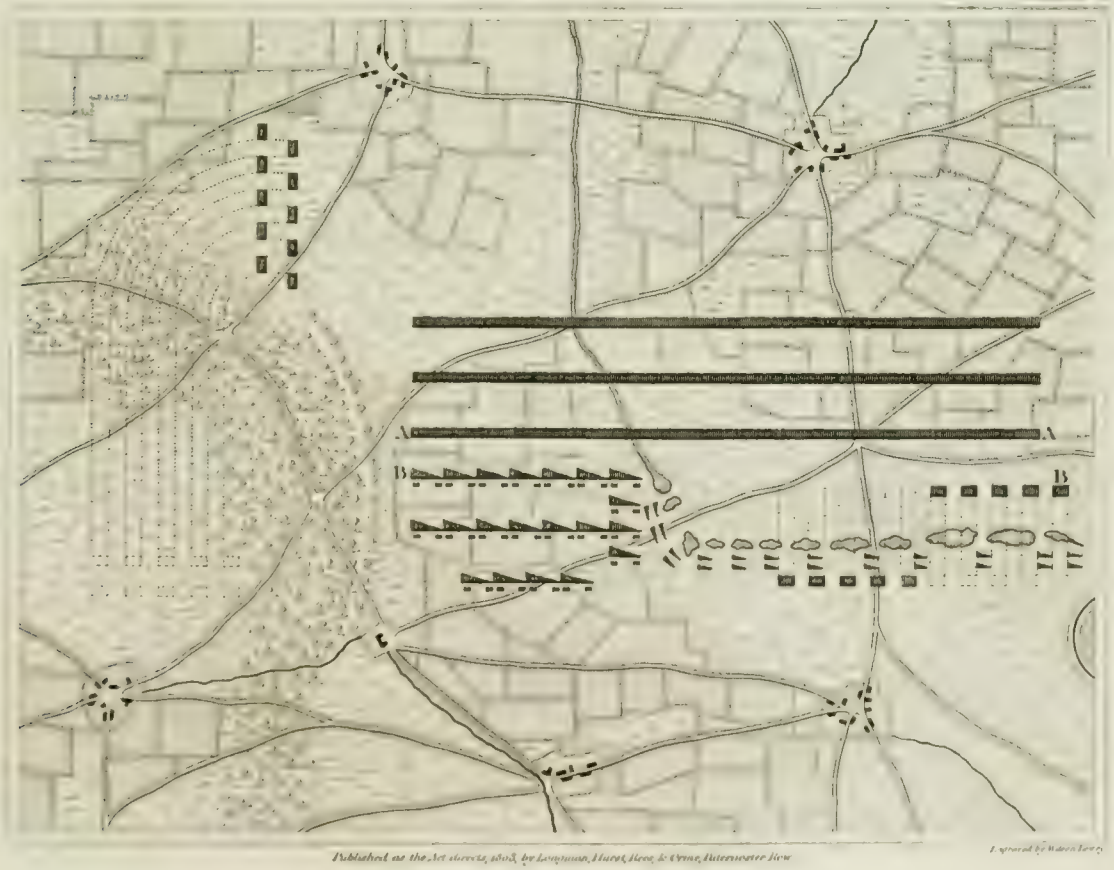


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PLATE VII.

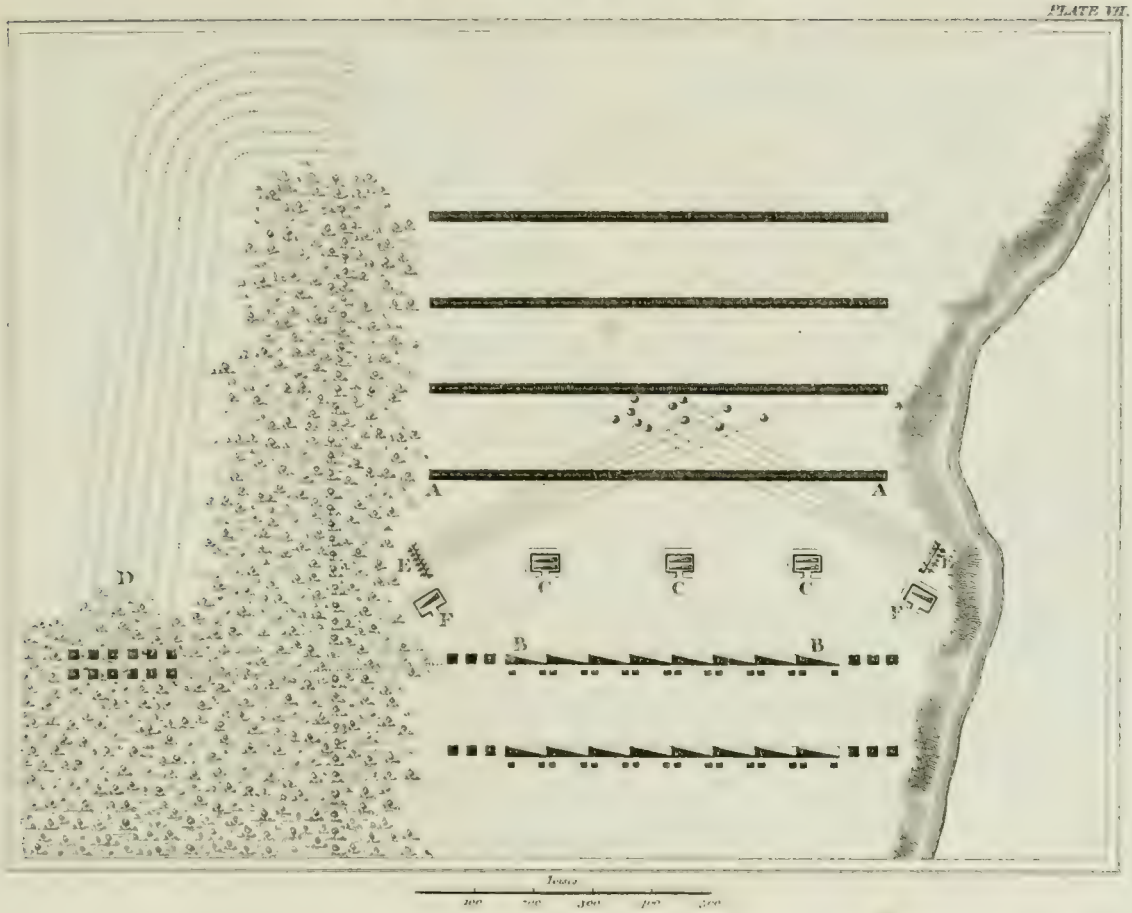

PLATE VIII.

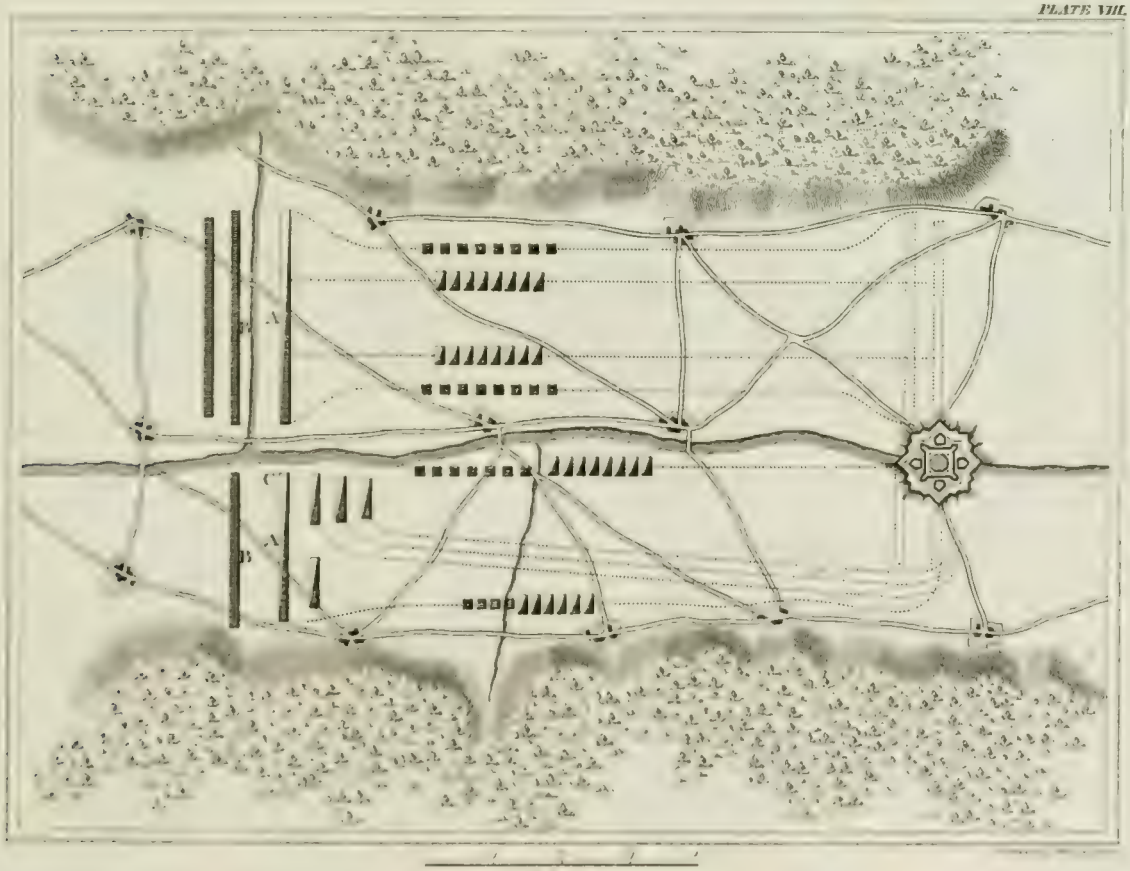

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PLATE IV.

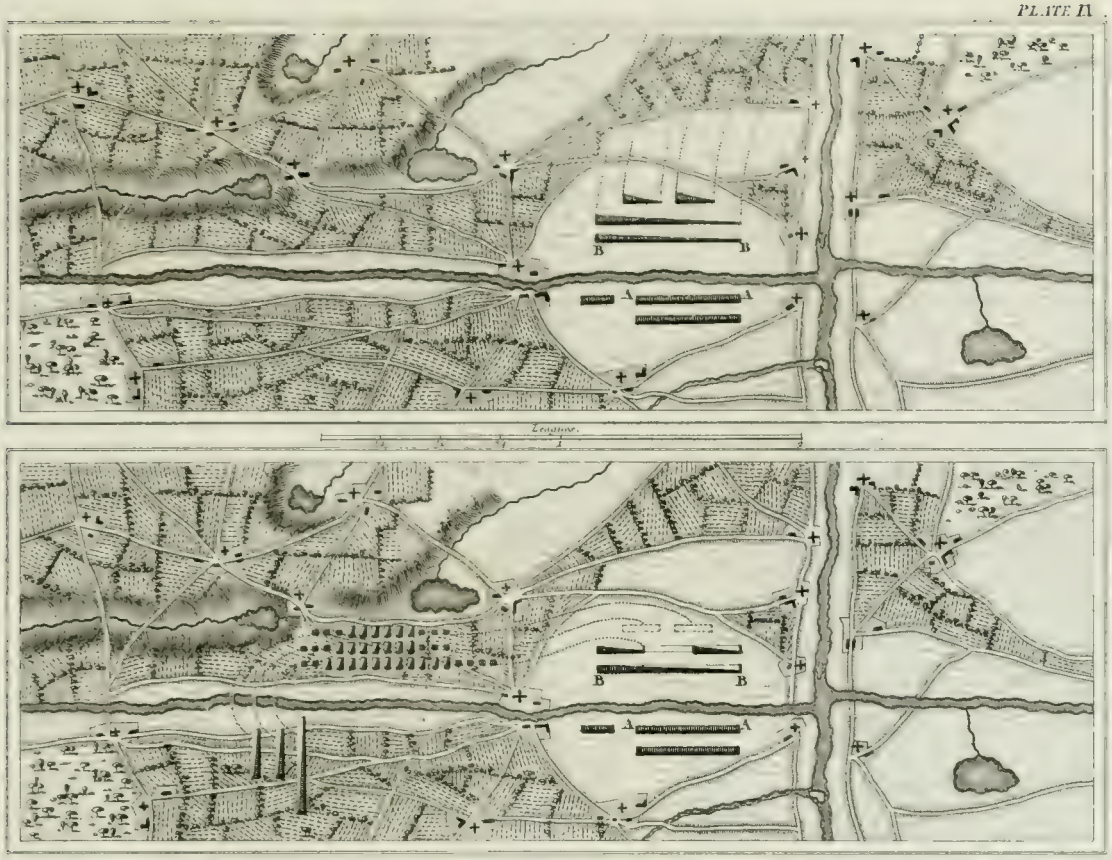

PLATE V.

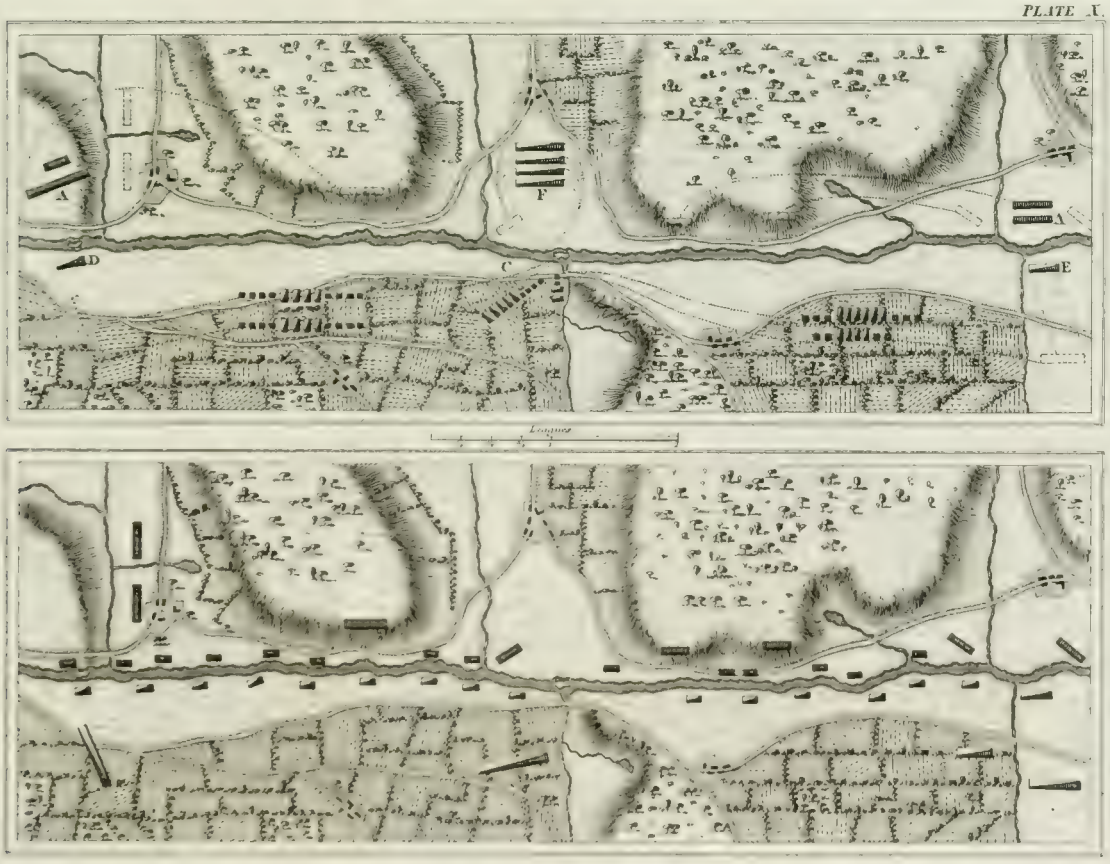

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PLATE XI.

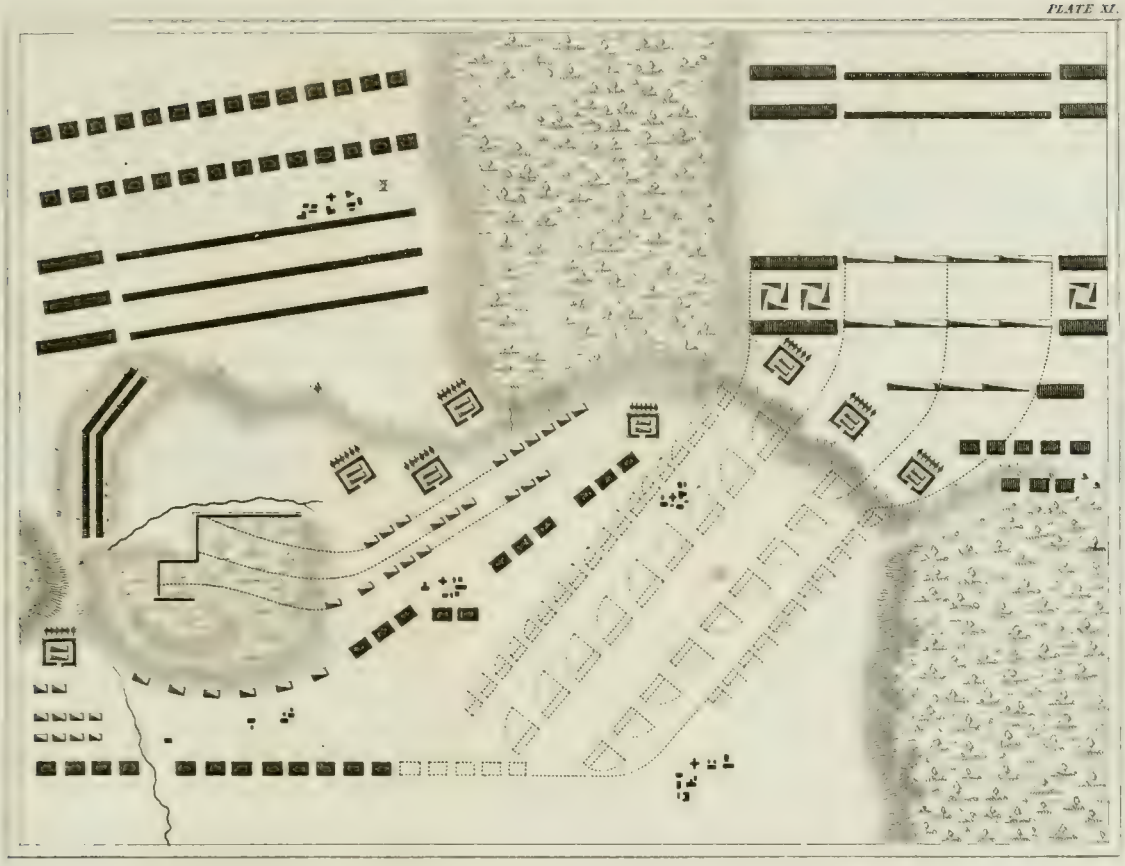
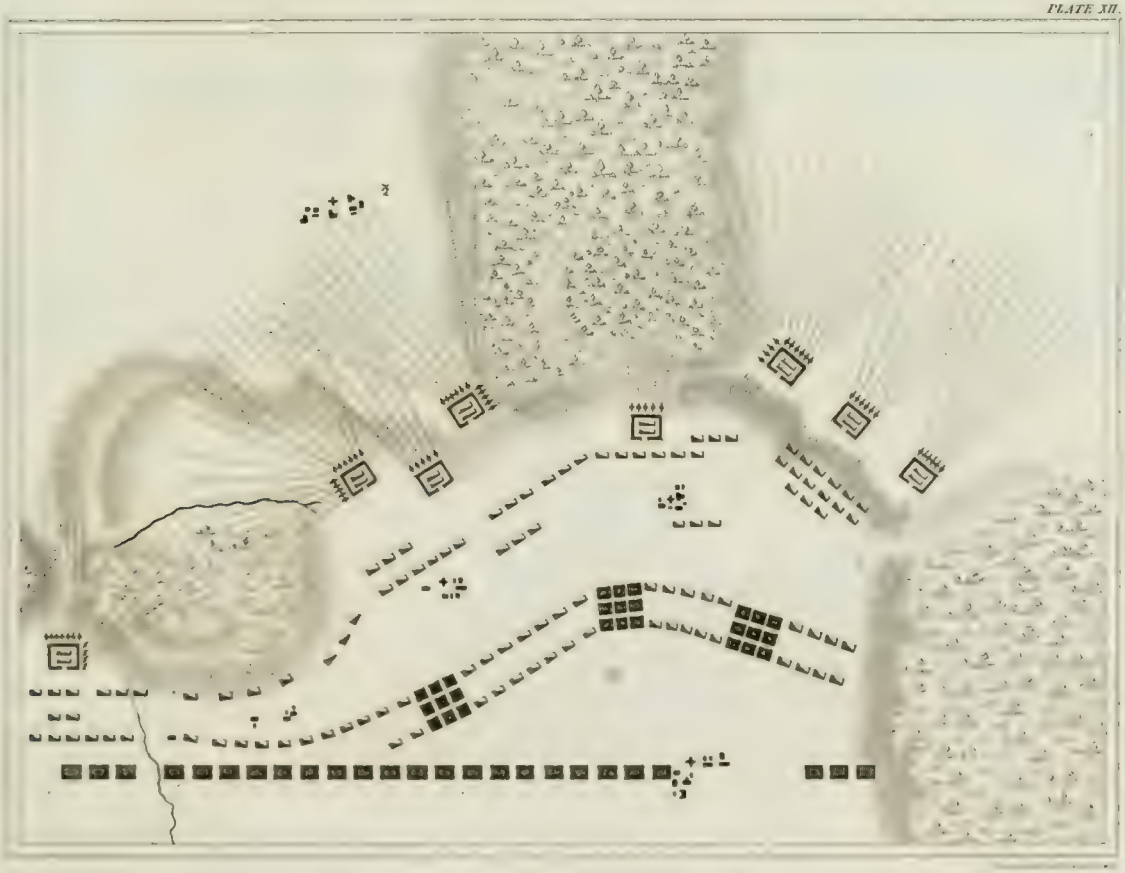


PLATE XII.



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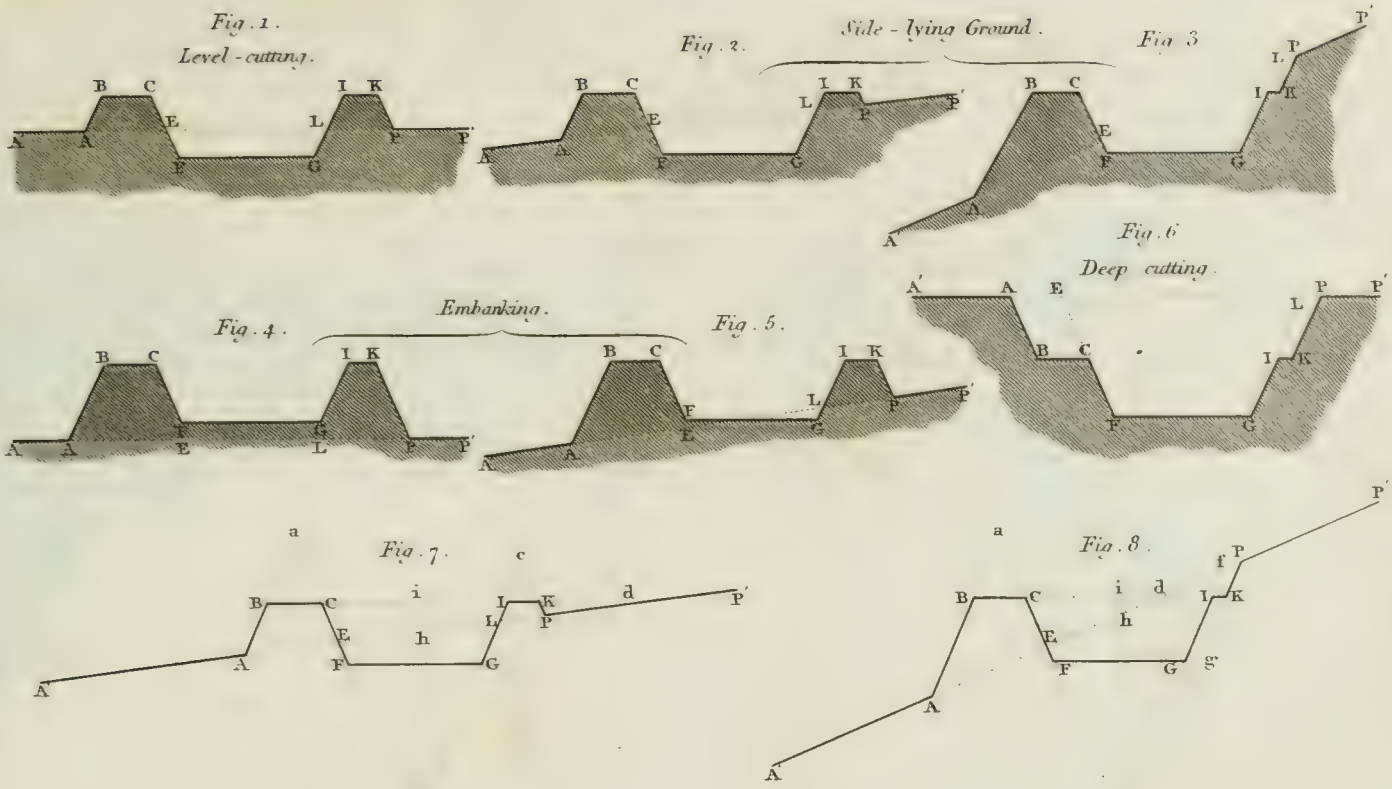

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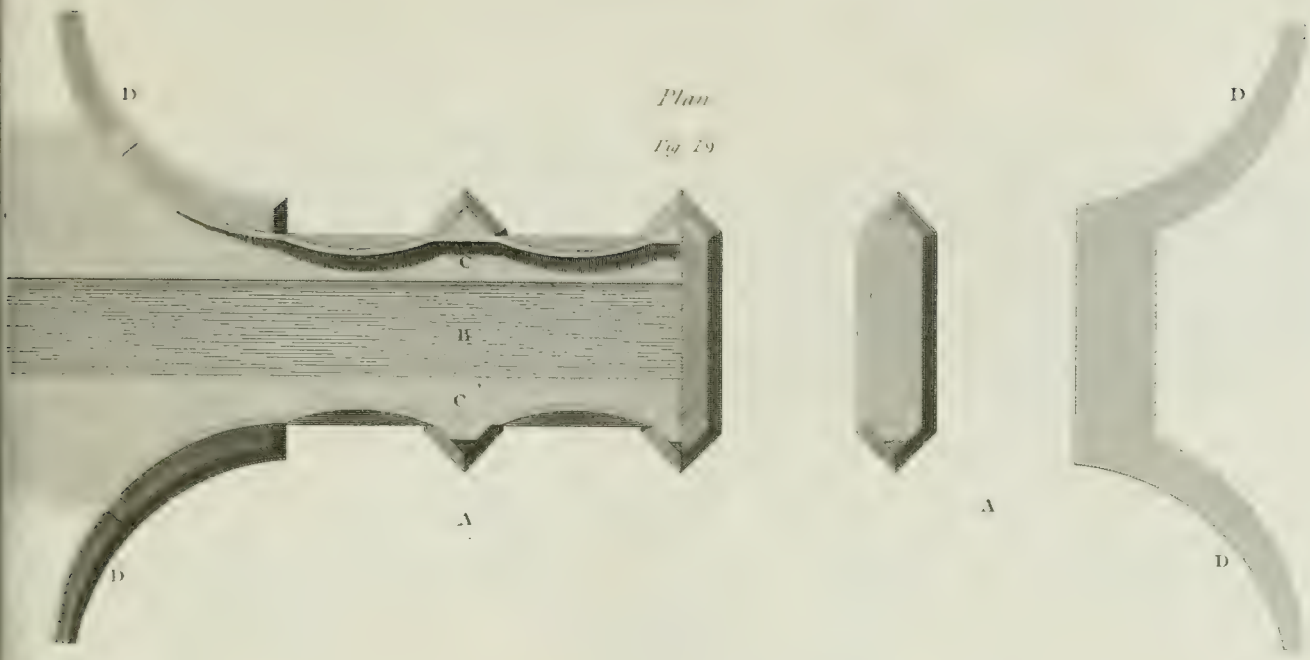
Aqueduct BRIDGE at Kelvin on the Forth & Clyde Canal.

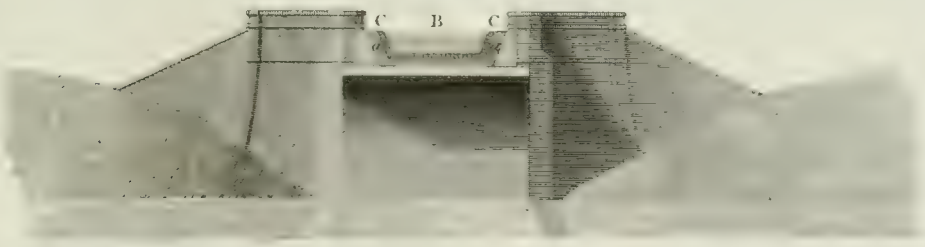
Plan

Fig 19



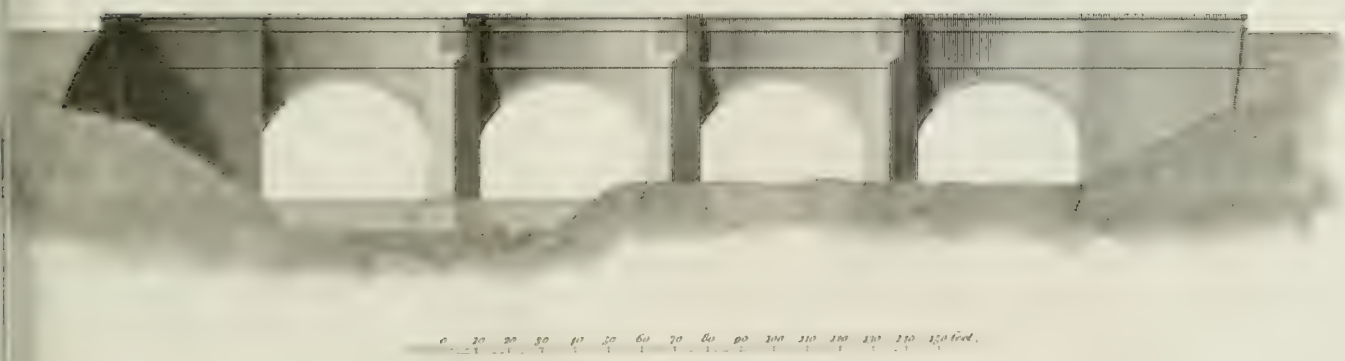
Transverse Section.

Fig. 20.



Elevation.

Fig. 21.



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CANALS.

CAST IRON AQUEDUCTS.

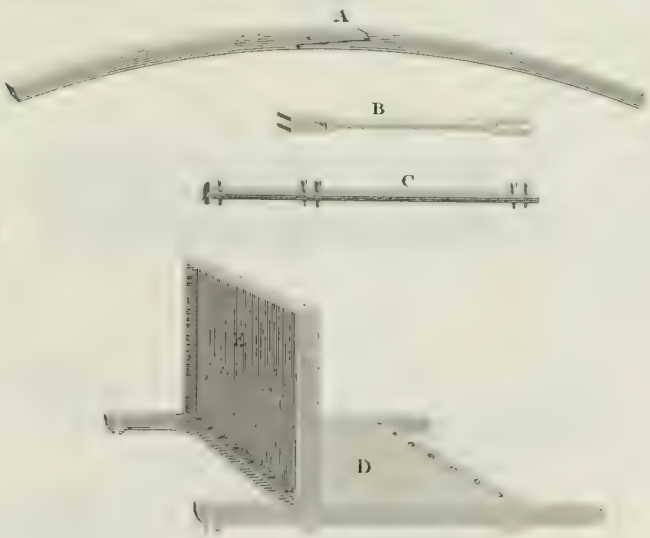
Mr. Telford's, on the Shrewsbury Canal at Long.

Fig. 22.

by Mr. Fulton.

Fig. 23.

Fig. 24.



Lowry Junr. delin.

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Fig. 25. Embankment

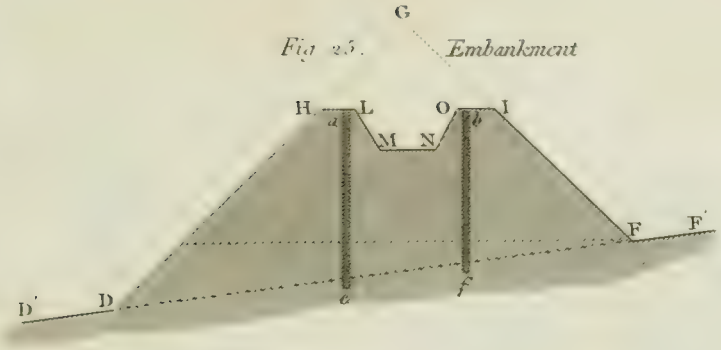


Fig. 26 Safety Gate.

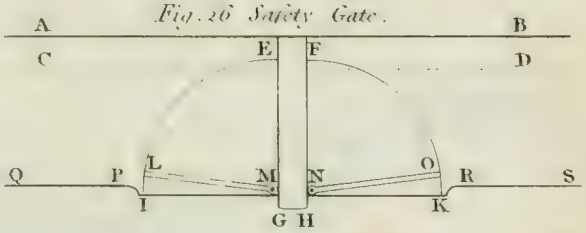


Fig. 27. Weir.

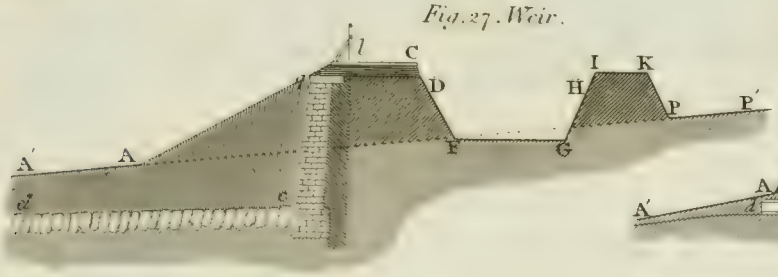


Fig. 28. Circular Weir.

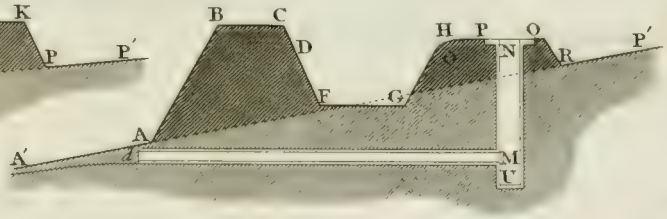
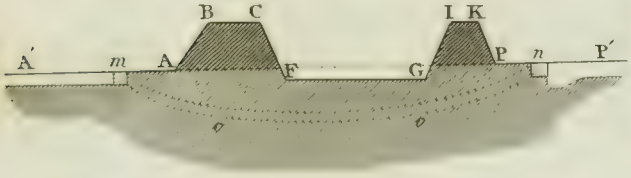
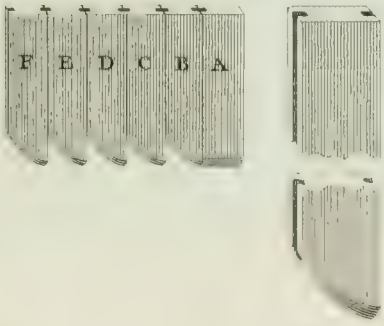


Fig 30 Pile-planks.

Fig. 29.





Iron Rail-ways.

Fig. 31.

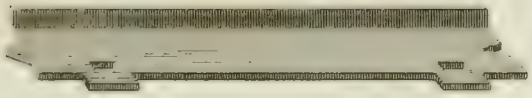


Fig. 34.

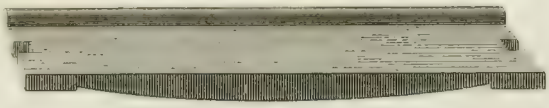


Fig. 32

Fig. 33

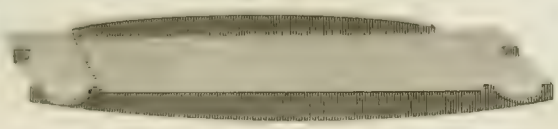
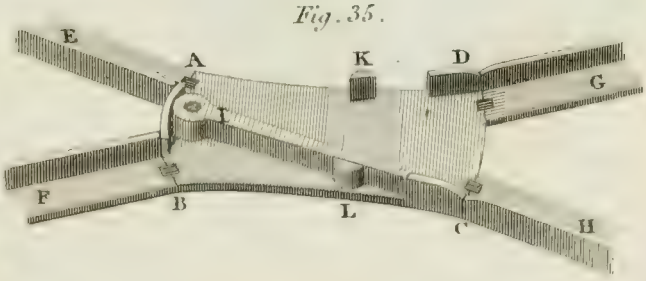


Fig. 35.



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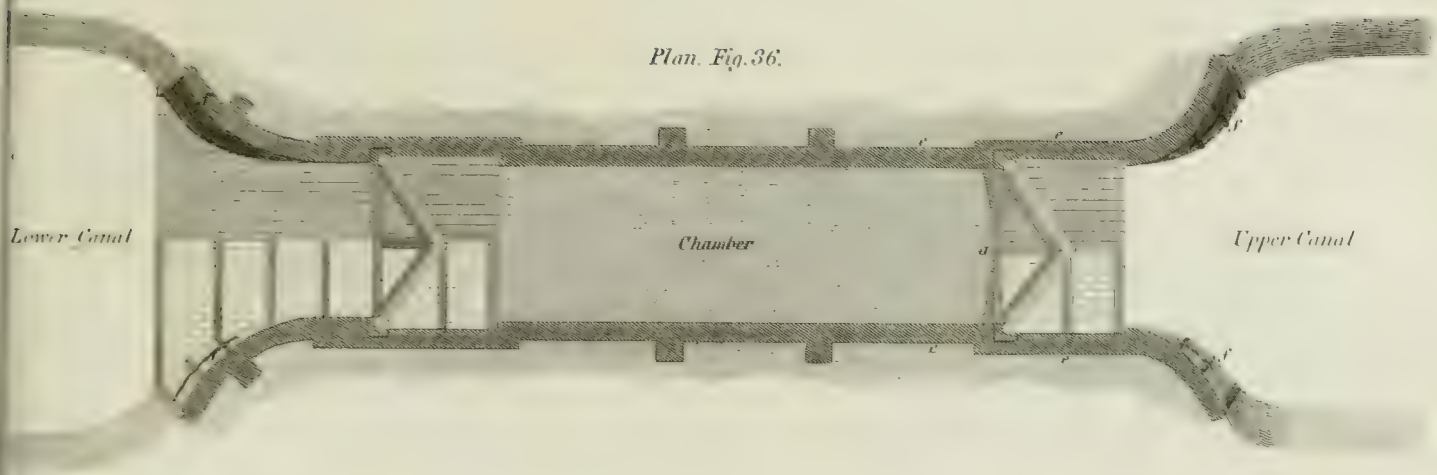
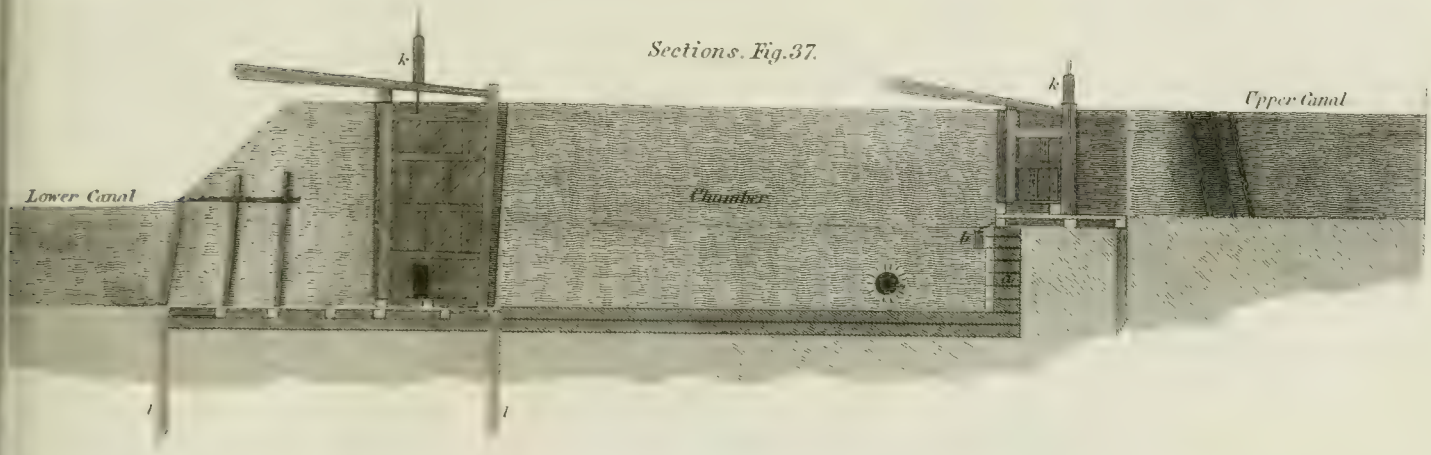
CANALS.

LOCKS.

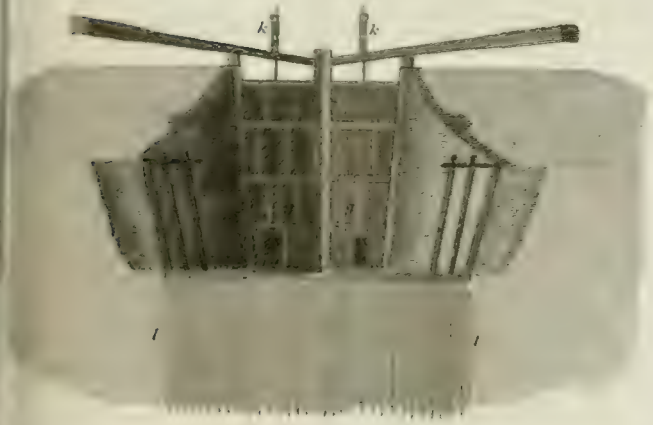
Plan. Fig. 36.



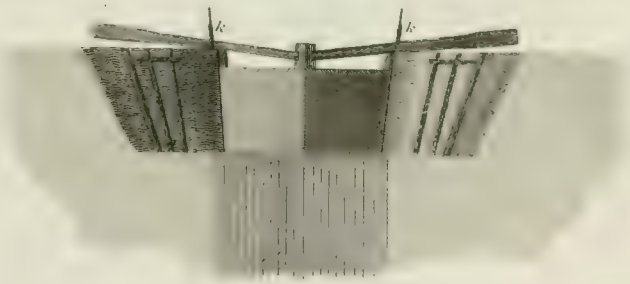
Sections. Fig. 37.



Lower Gates. Fig. 39.



Upper Gates Fig. 38.



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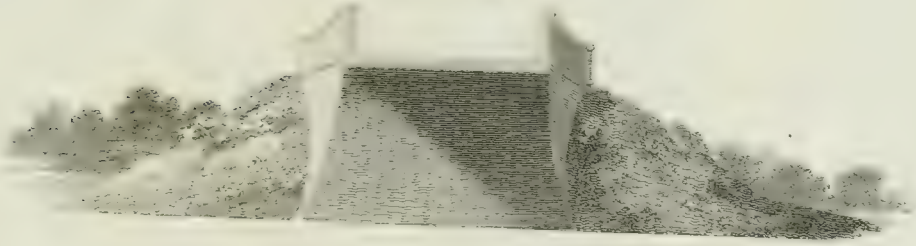
CANALS.

BRIDGES.

View_ Fig. 42.

Section_ Fig. 41.



Plan_ Fig. 40.

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Swing-Bridge.

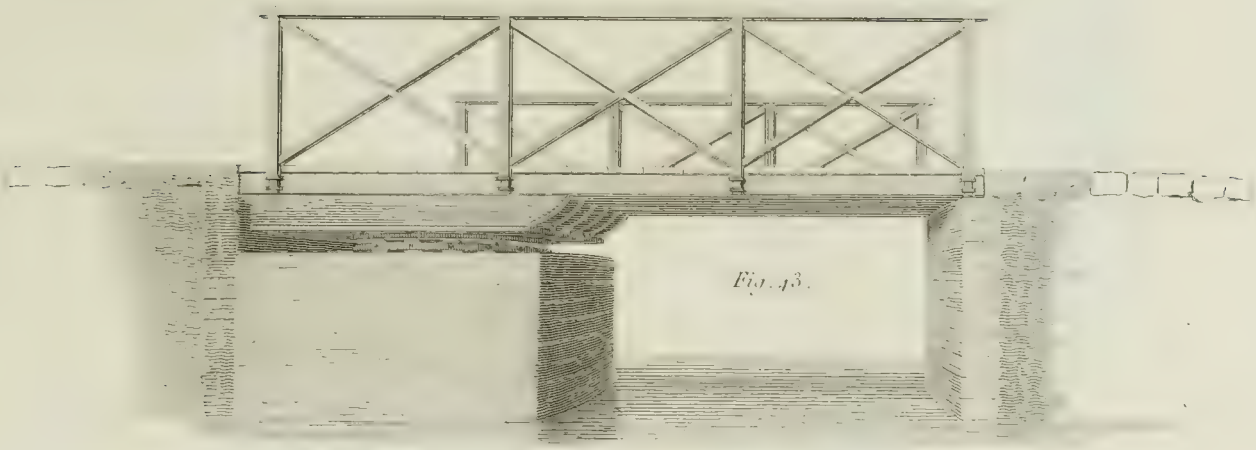


Fig. 43.

Fig. 44

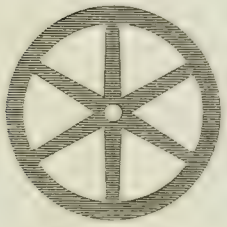


Fig. 45.

Fig. 46.

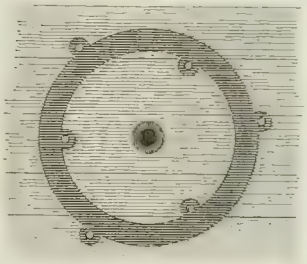
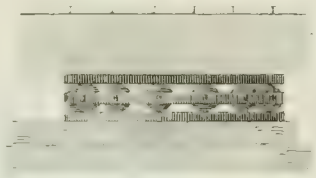


Fig. 47.



NAVIGATOR'S TOOLS &c.

Fig. 48. Barrow.

Fig. 49 Horsing Block.

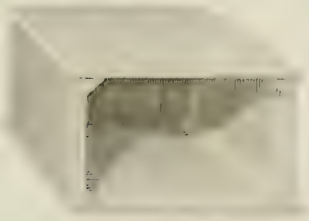


Fig. 50. Grafting Tool.

Fig. 51. Shovel.

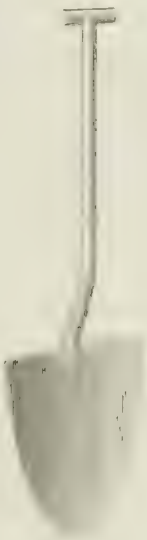
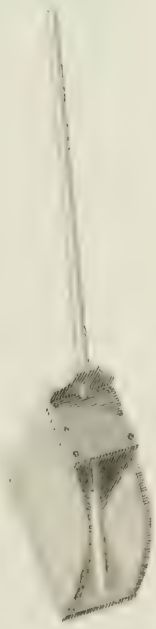


Fig. 52 Scoop.



John Farey Junr. delin. Published as the Act directs, May 1st 1806, by Longman Hurst, Rees & Orme, Paternoster Row. Engraved by Wilson Lowry.

CANDLE.

CANDLE MAKING.

Fig. 1.

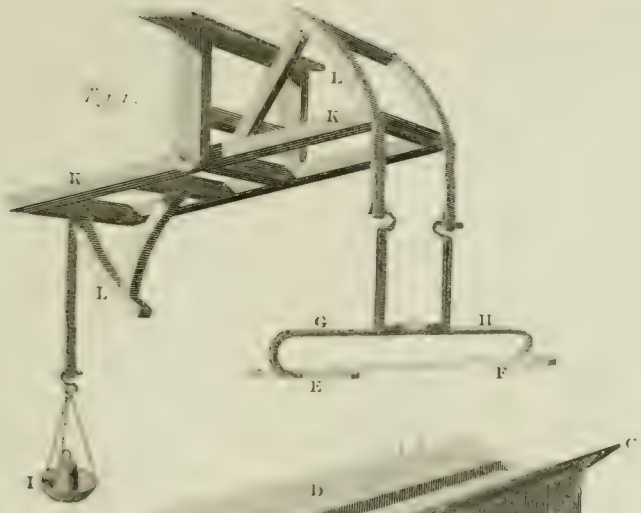


Fig. 4.

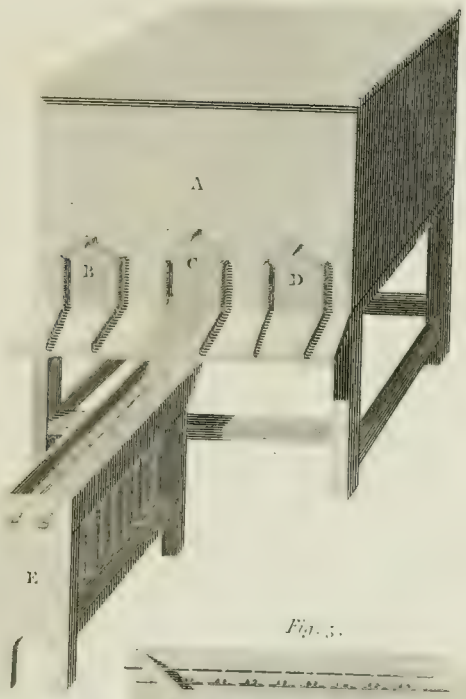


Fig. 1.

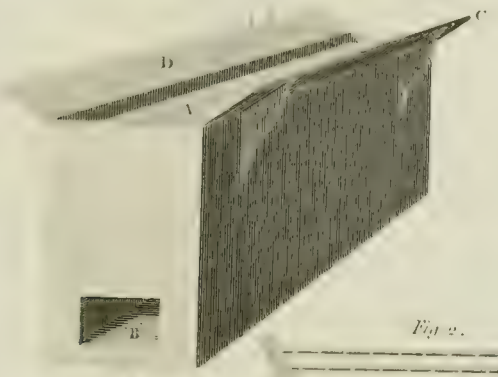
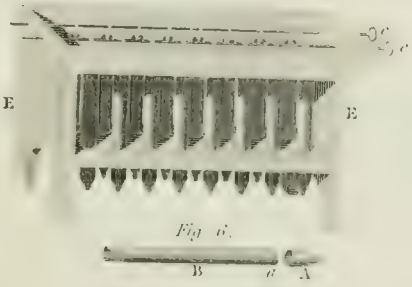


Fig. 5.



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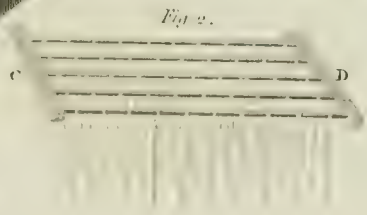

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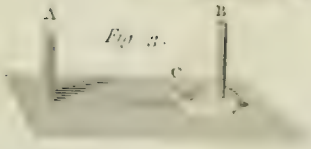
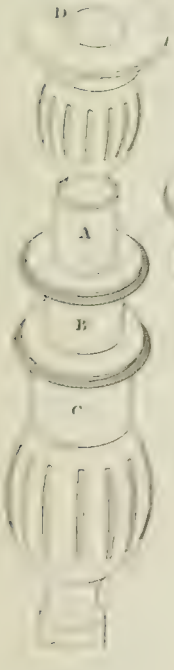


Fig. 6.

Fig. 7.

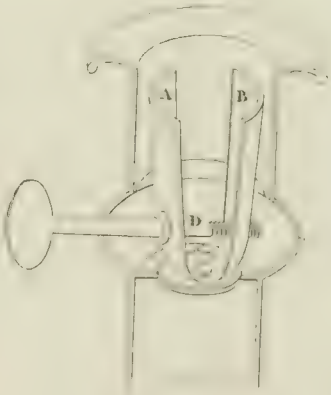


CANDLESTICKS.

Fig. 8.

Fig. 9.

Fig. 10.



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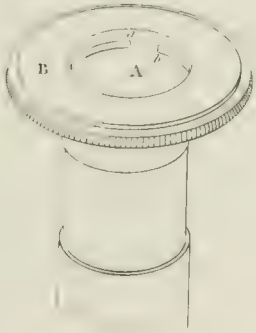
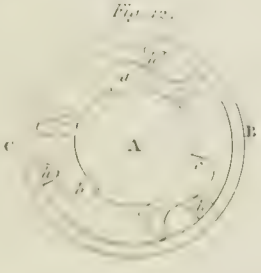


Fig. 12.



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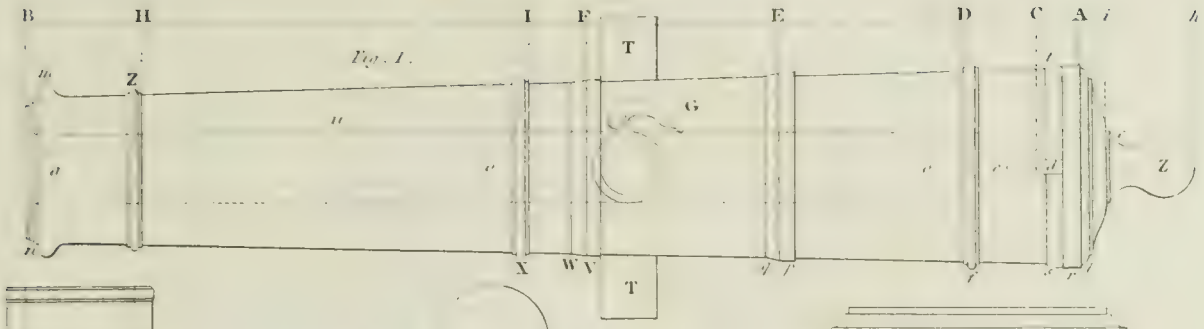

Fig. 1.

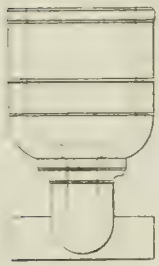
Fig. 12

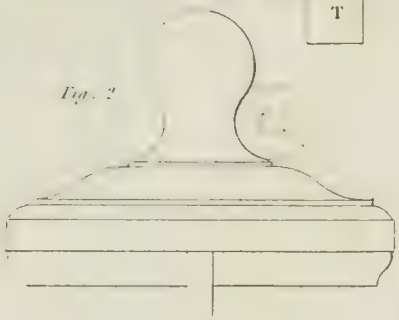
Fig. 2


Fig. 3

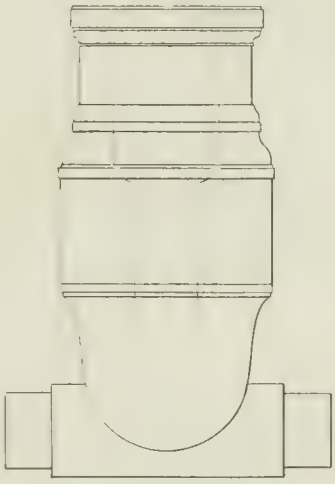
Fig. 5.


Fig. 7

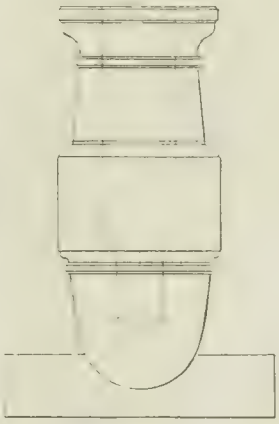
Fig. 6

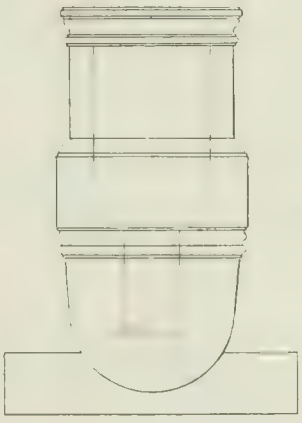
Fig. 4

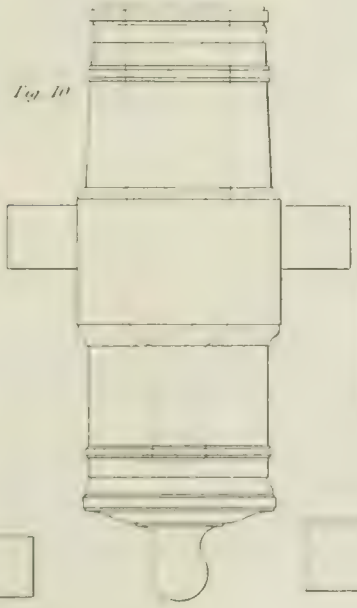
Fig. 10

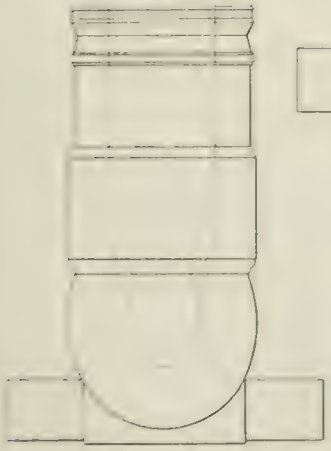
Fig. 11

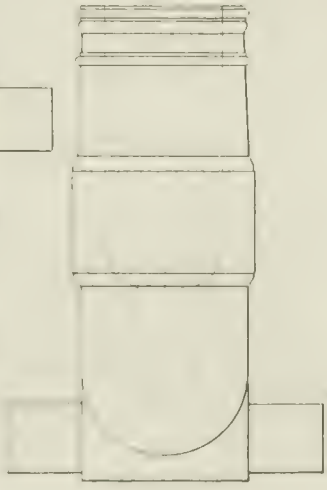
Fig. 9.

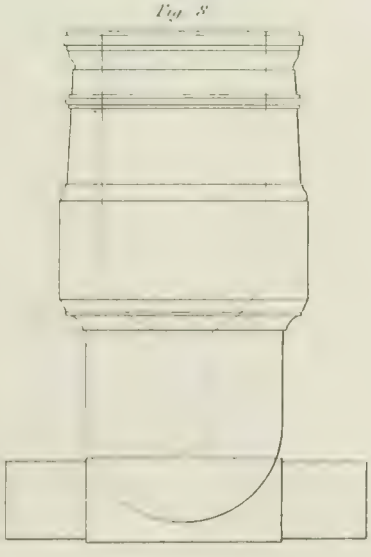
Fig. 8

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Lowry Sc.

BORING.

Fig. 13.

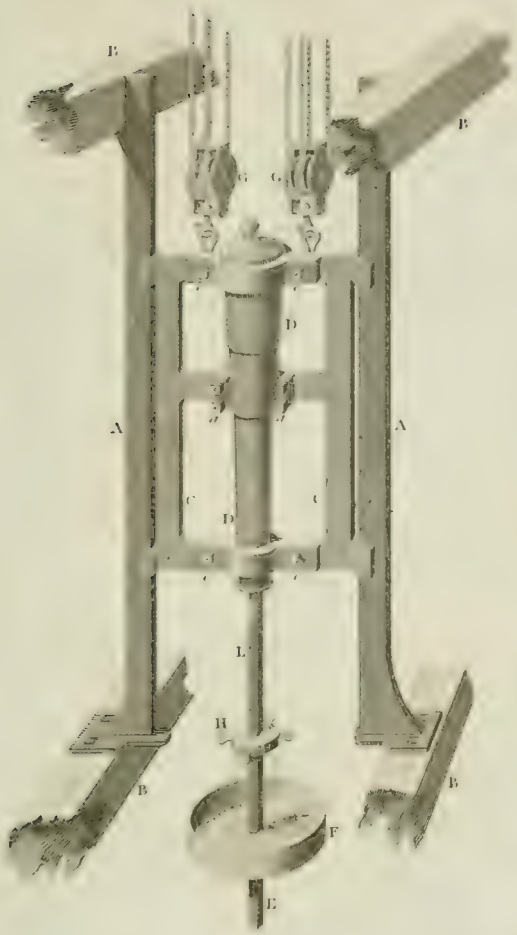


Fig. 11.

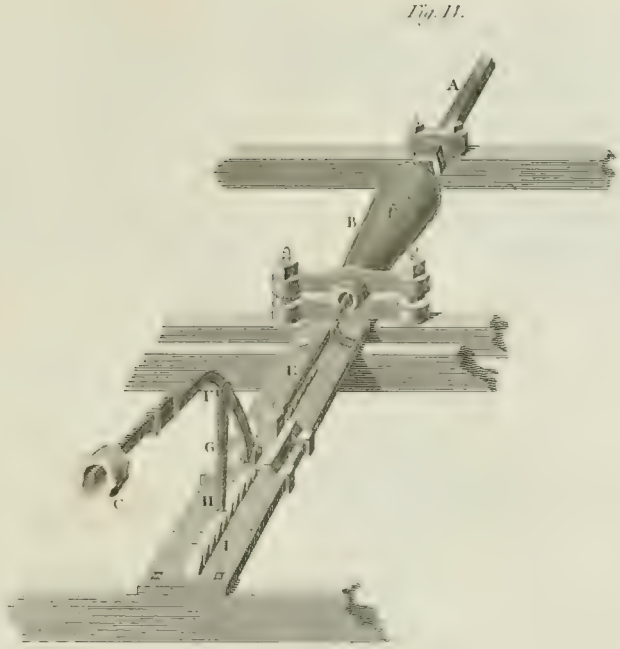
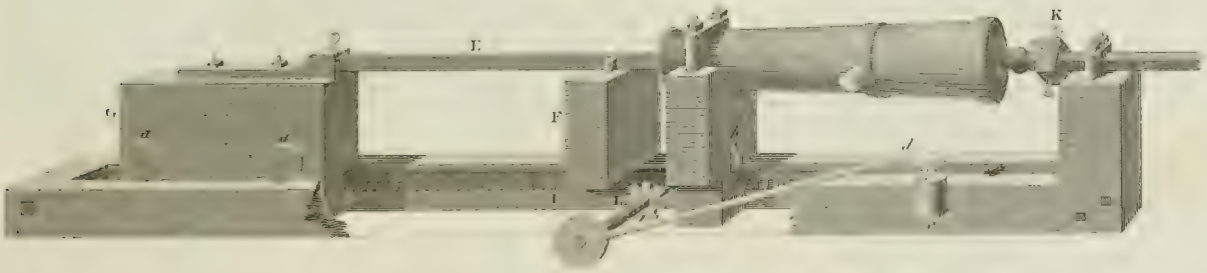


Fig. 15.



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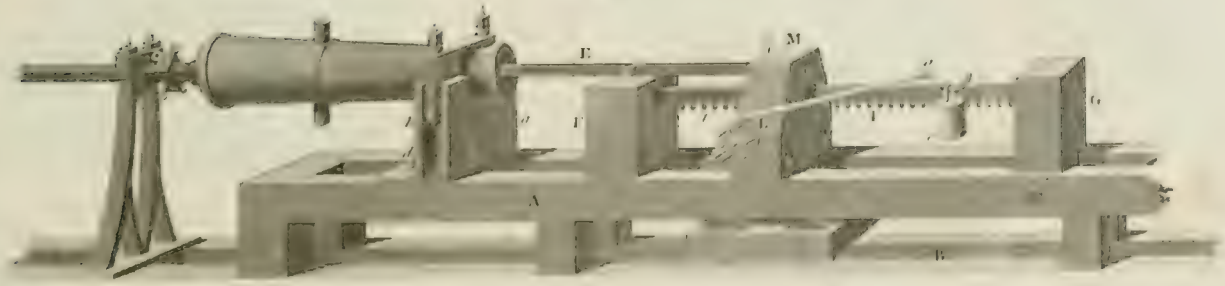

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CANNON.

BORING, &c.

Fig. 17.

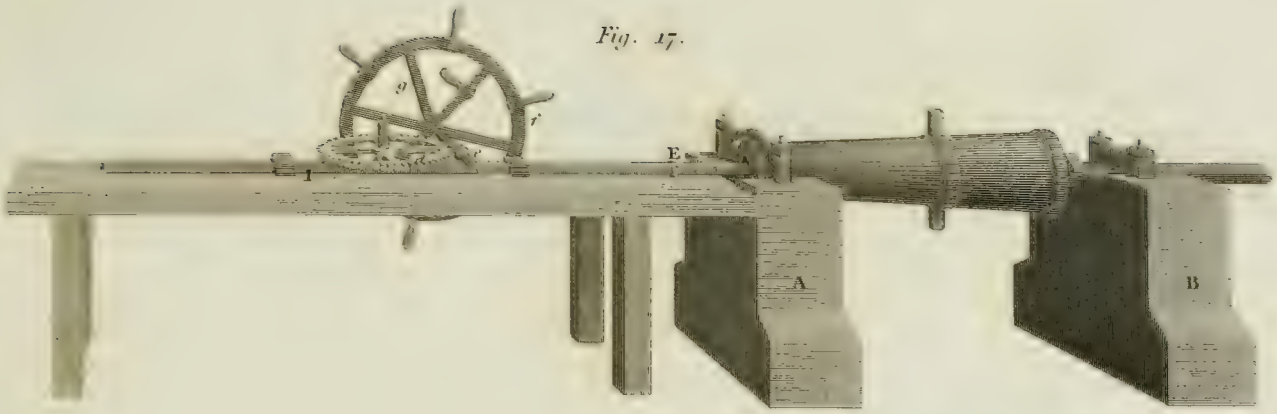
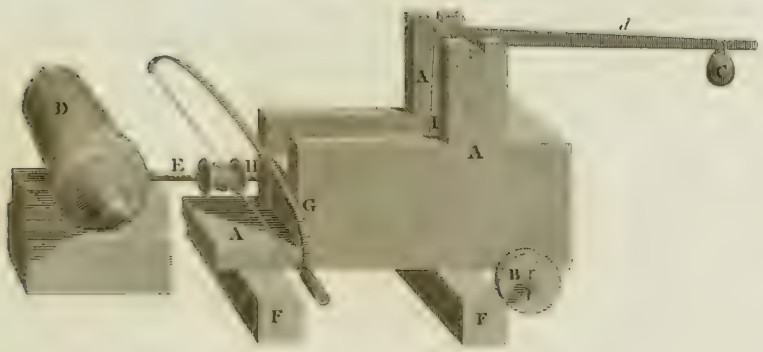


Fig. 18.



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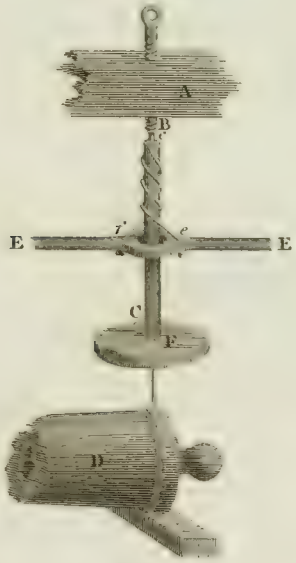
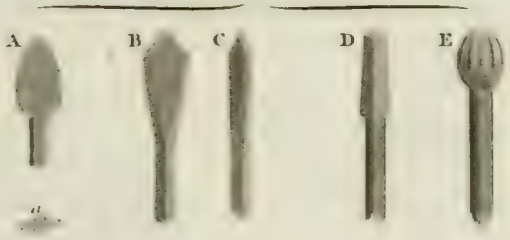


Fig. 20.

Fig. 21.



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Engraved by Wilson J

CANTEENS.

MANUFACTURE OF

by Mr. Geo. Smart.

Fig. 1. A Canteen.

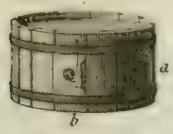

Fig. 2. Crofs cutting Saw.

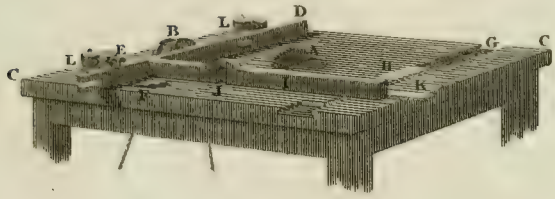

Fig. 3.

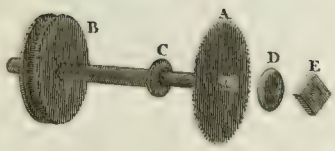

Fig. 4. Tenanting or rebating Saws.

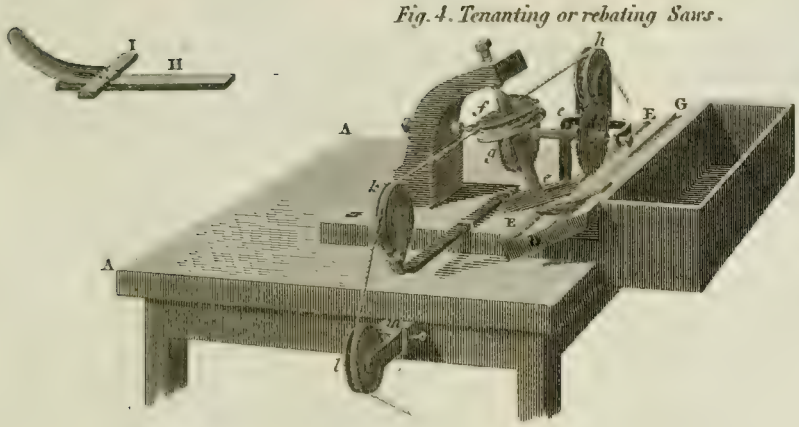

Fig. 5.

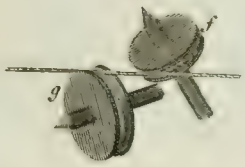

Fig. 6. Bung stave.

Fig. 8. Center bit.

Fig. 7. boring Machine.

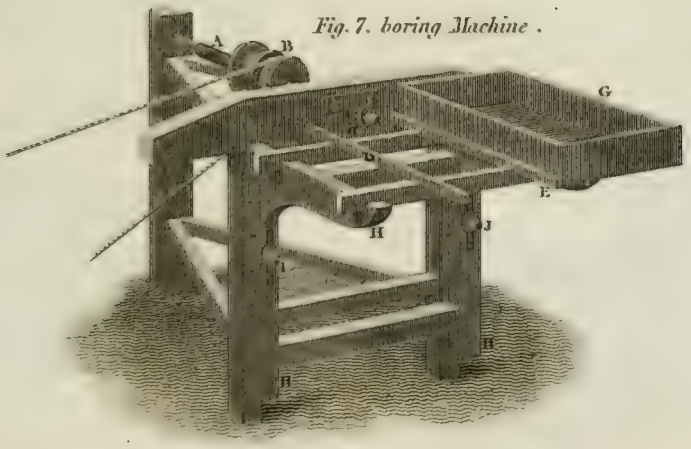

Fig. 9. Slider.

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Fig. 11.
Screw Hoop

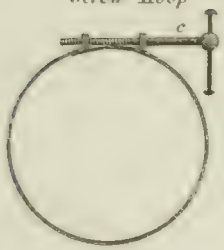


Fig. 12.
Truss Hoop

Fig. 13.

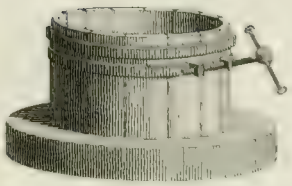


Fig. 10.

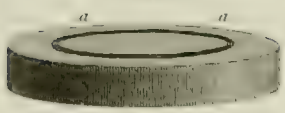


Fig. 15. turning the head.

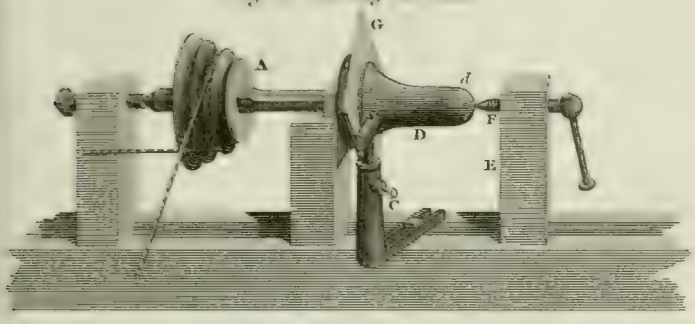


Fig. 14. turning the chime.

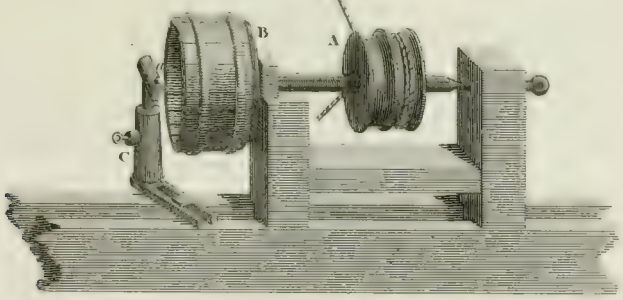
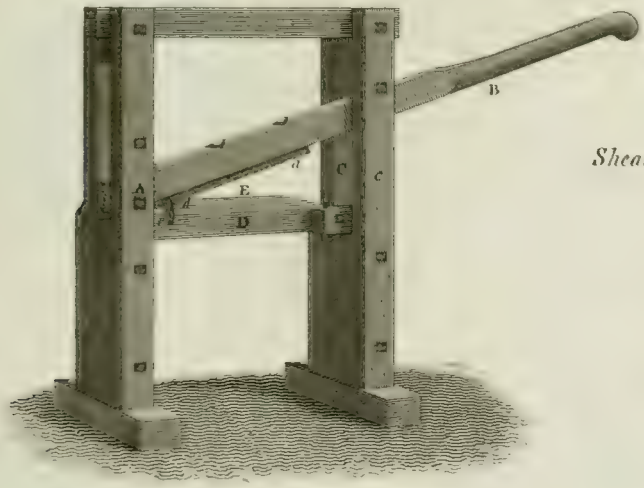


Fig. 16.



Shears

Fig. 17.

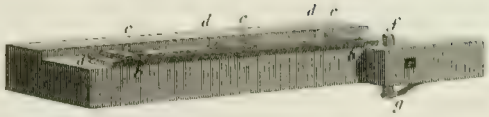


Fig. 18. punching the Hoops.

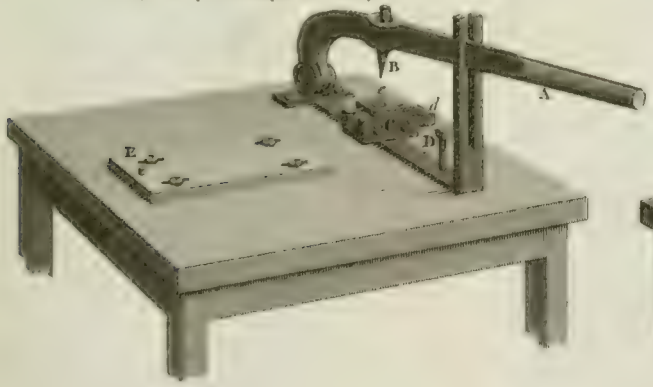


Fig. 19. rounding the ends of the Hoops.

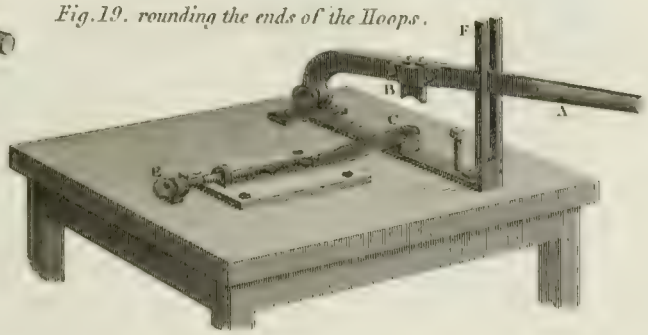


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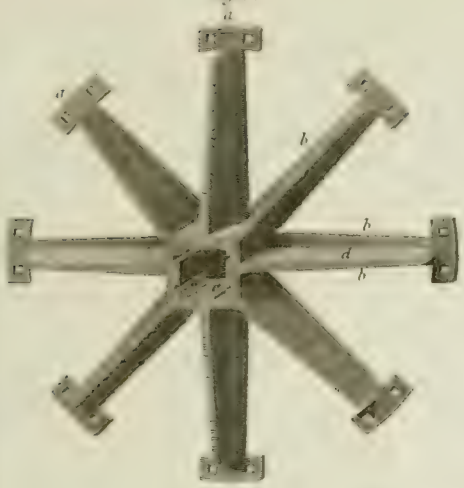
Fig 1.



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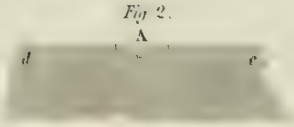

Fig 3.

Fig 4

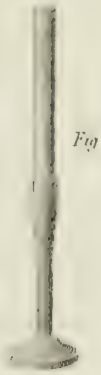

Fig 5.

Fig 6.

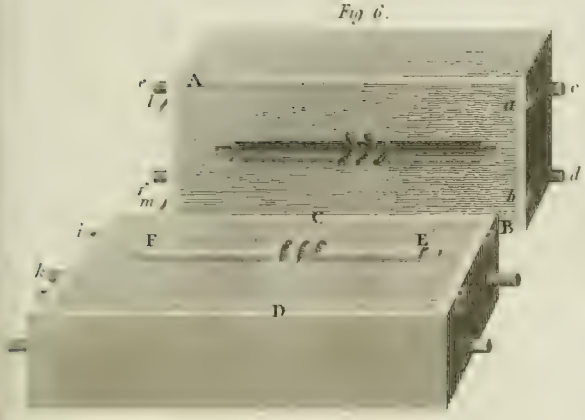

Fig 7.

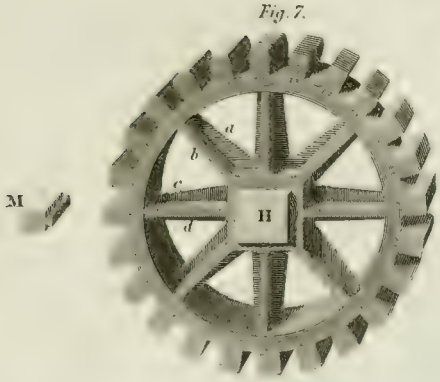

Fig 8

Fig 9.

Fig 10.

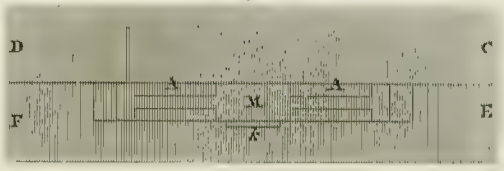

Fig 11

Fig 12.

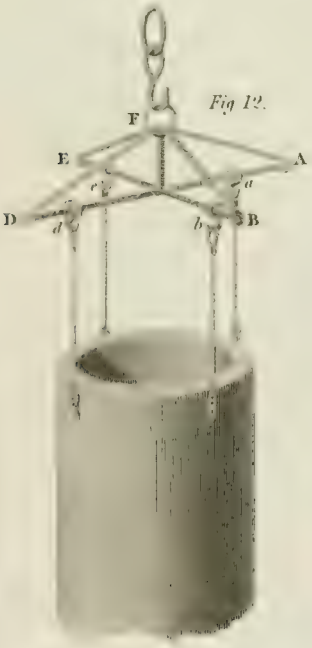

Fig 13.

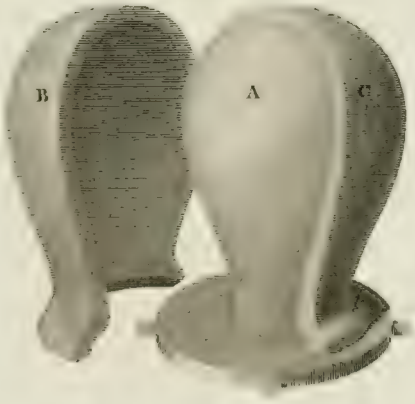

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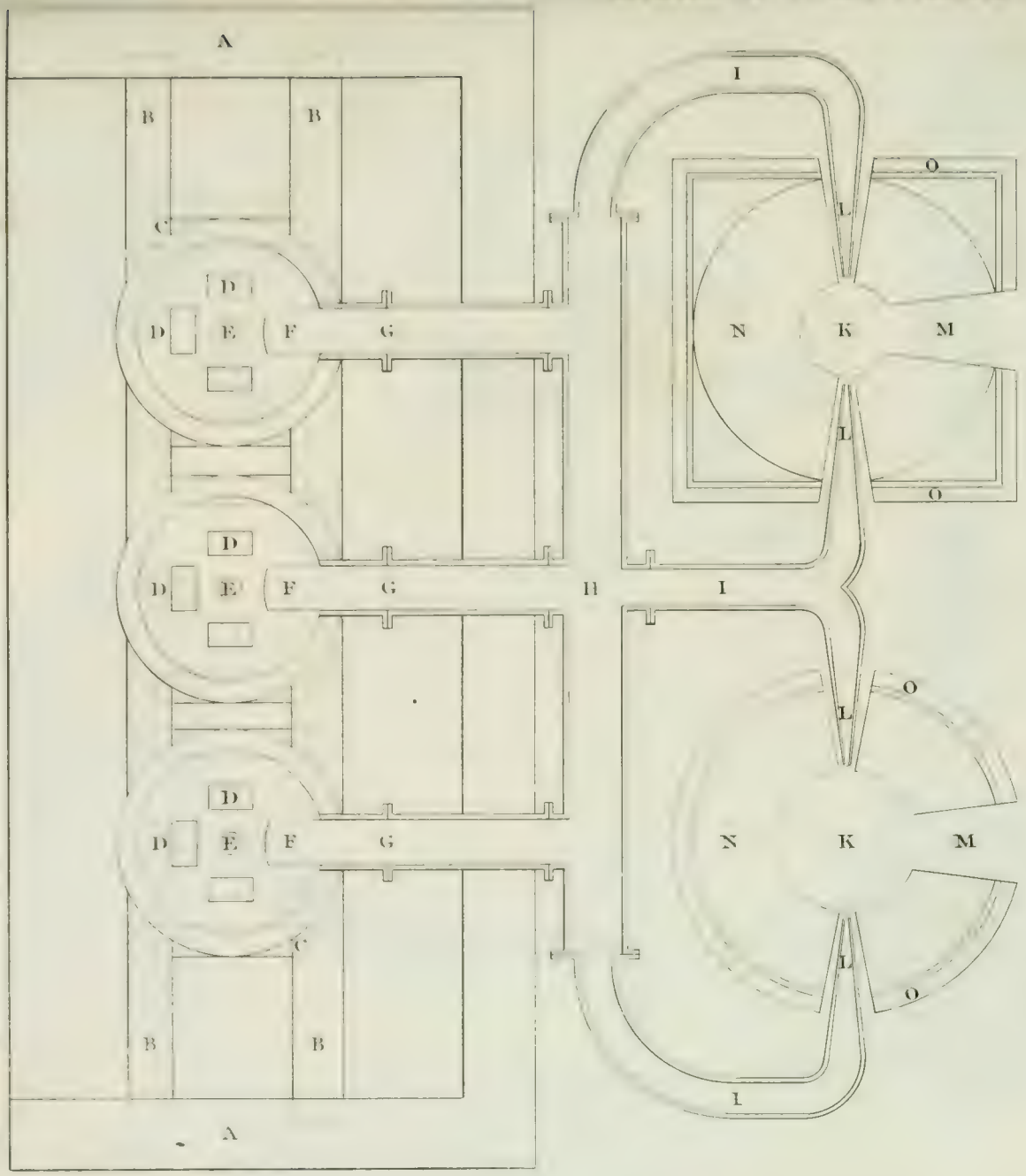
Fig. 1.

SECTION OF CUPILO FURNACE.



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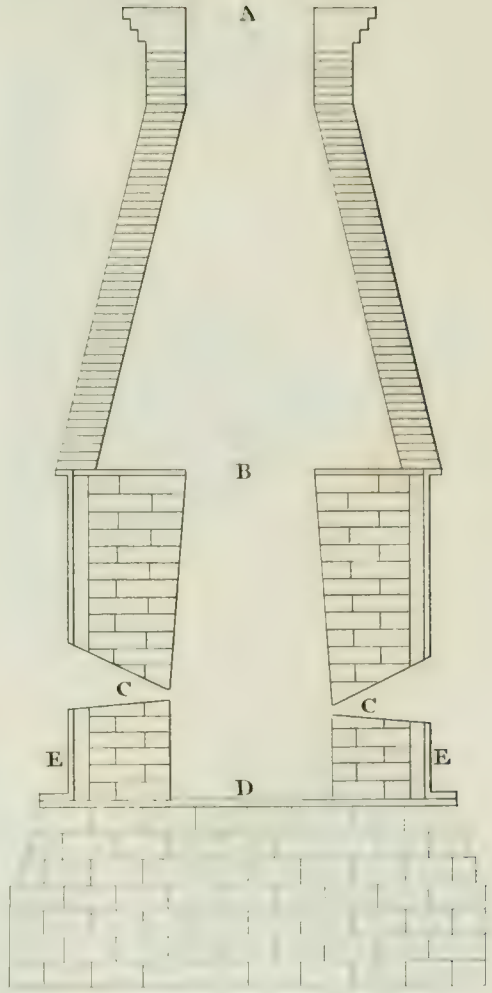

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CHEMISTRY.

STILL.

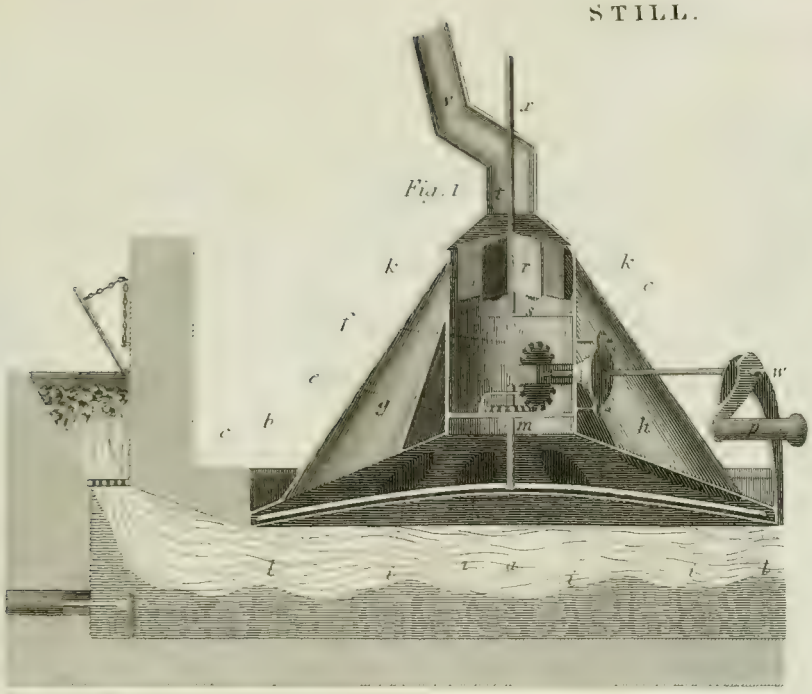
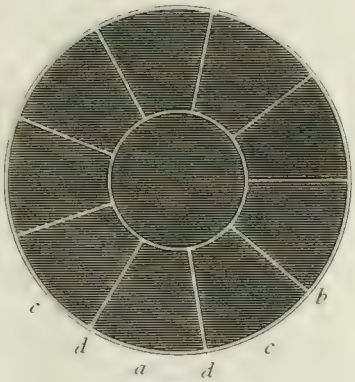


Fig. 1



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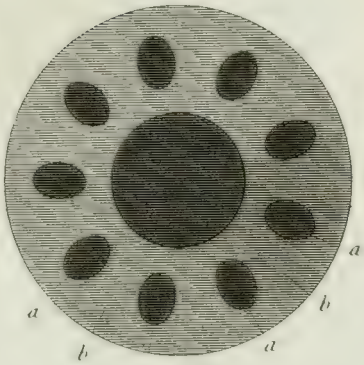

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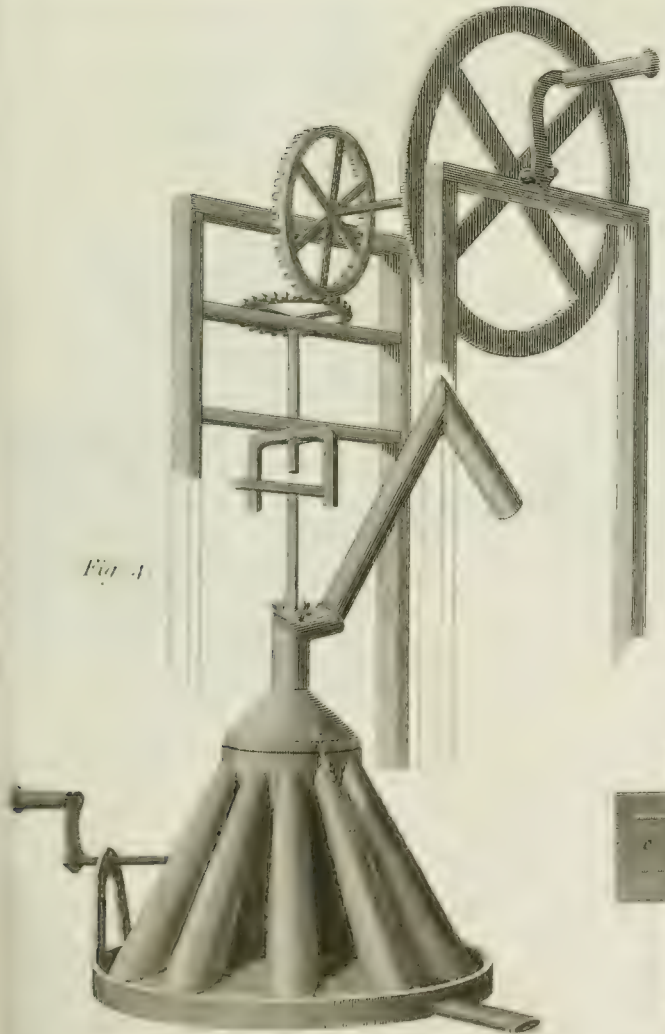

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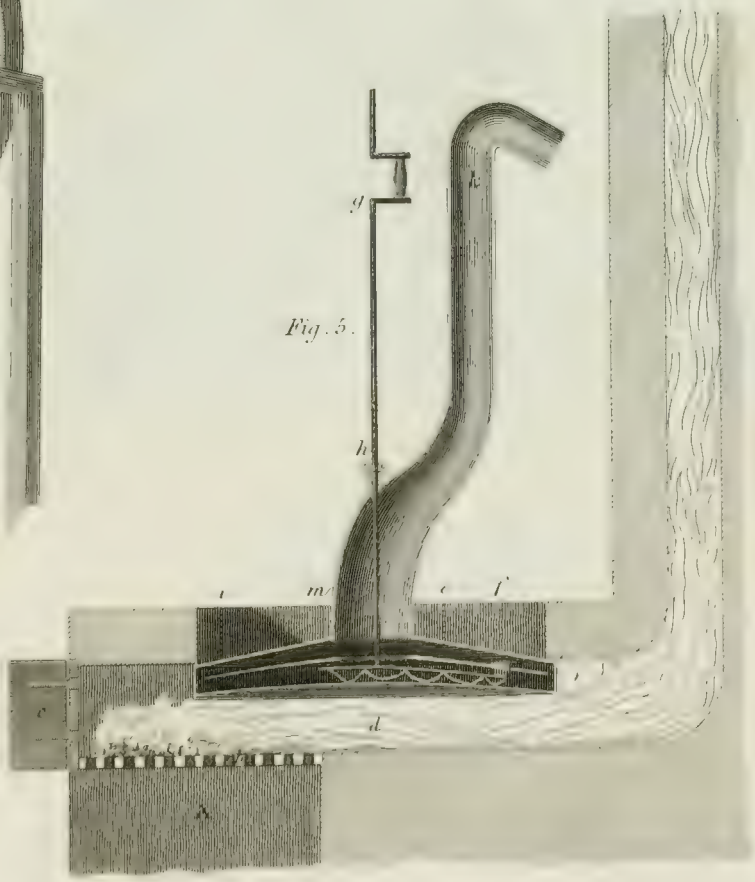

Fig. 5.

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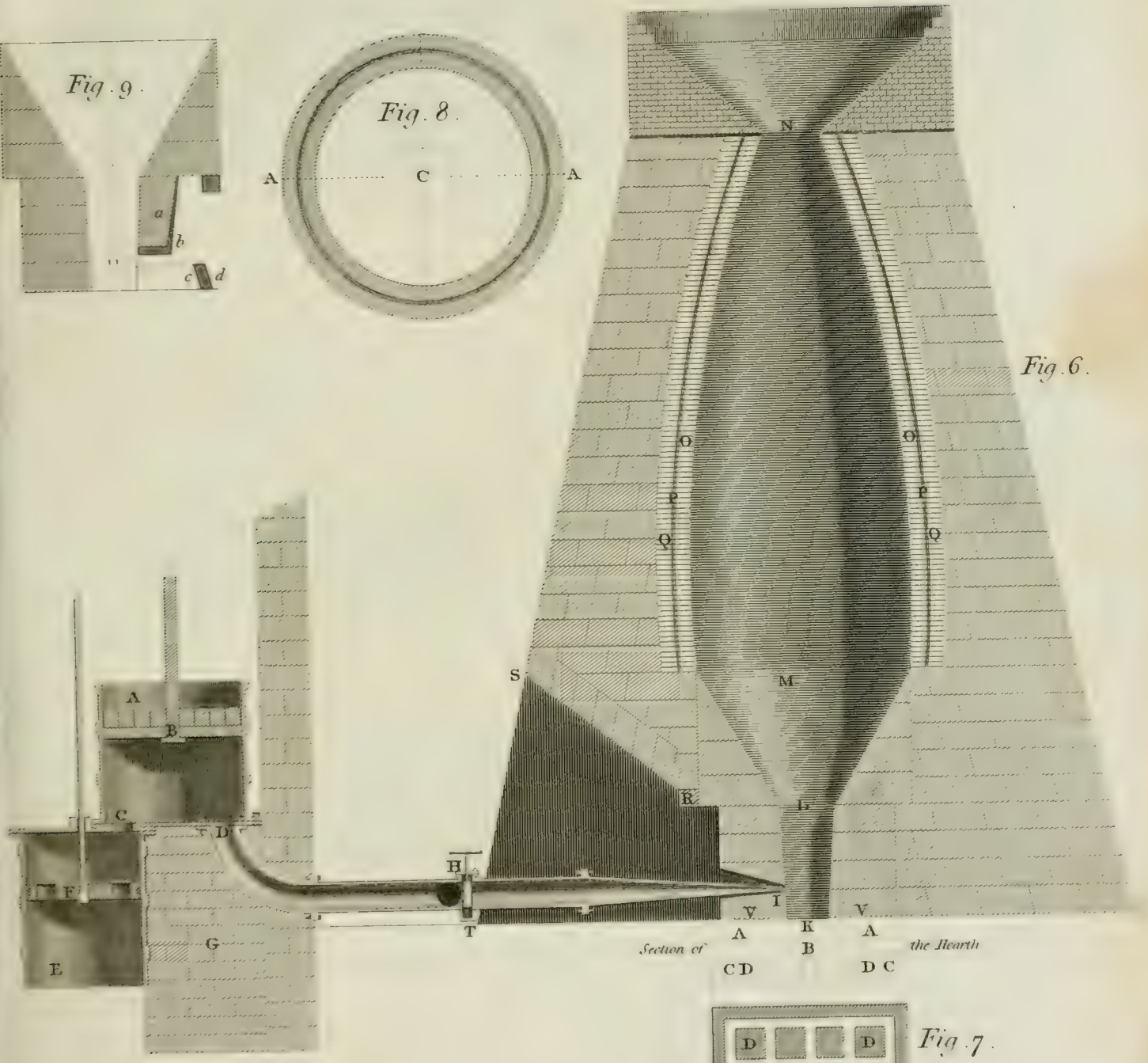
CHEMISTRY.

IRON SMELTING FURNACE

Fig. 9.

Fig. 8.

Fig. 6.



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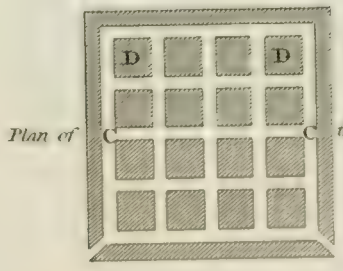

D. Mushet del.

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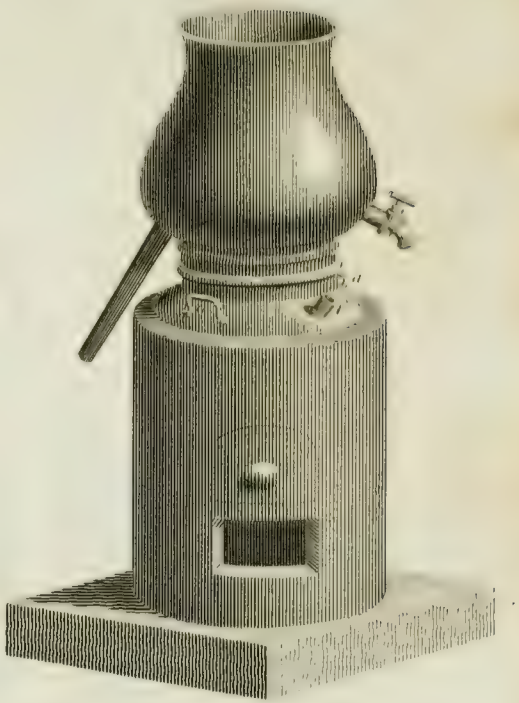
Fig. 2.

Fig. 1.

ALEMBIC.

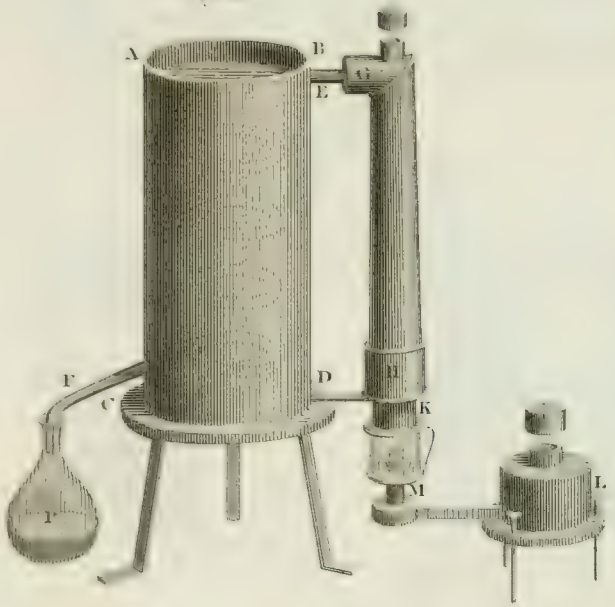
Fig. 2.

Fig. 3.



ALCOHOL.

Fig. 4.



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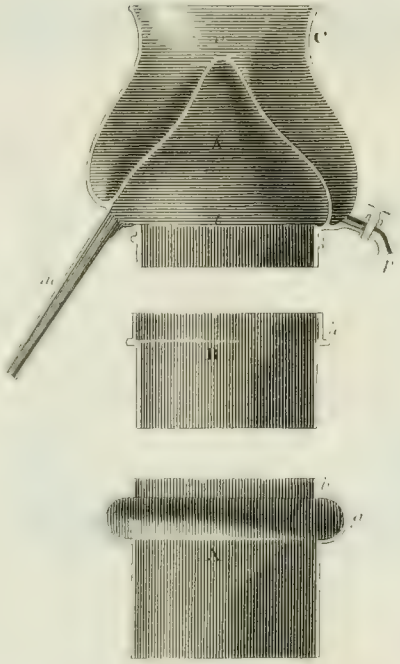
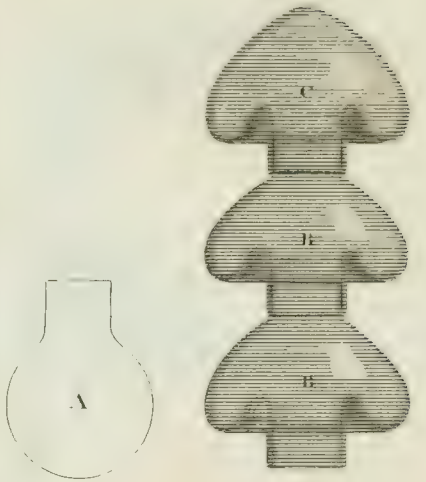


ALUDEL.

Fig. 6.



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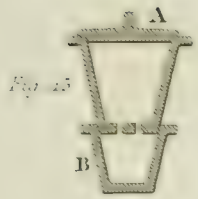
FURNACES FOR THE REDUCTION OF ANTIMONY.



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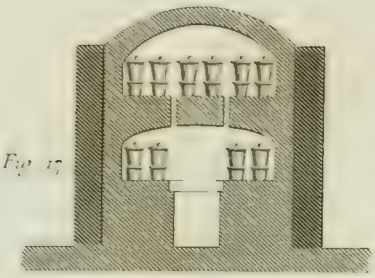
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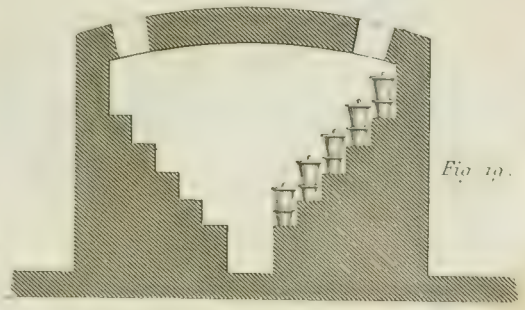
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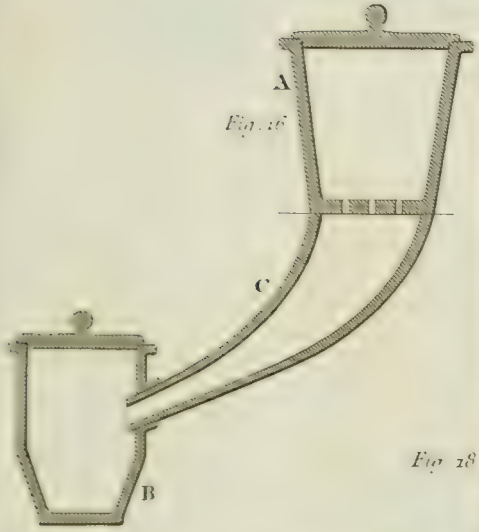

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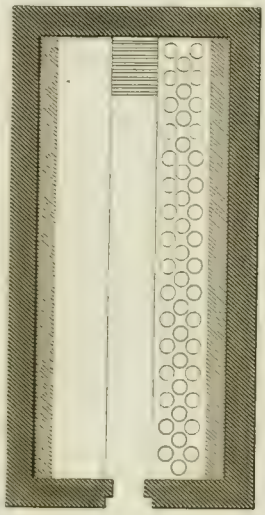
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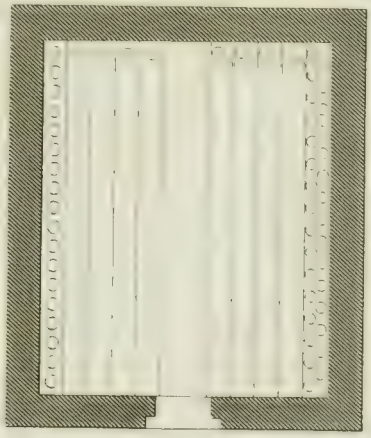
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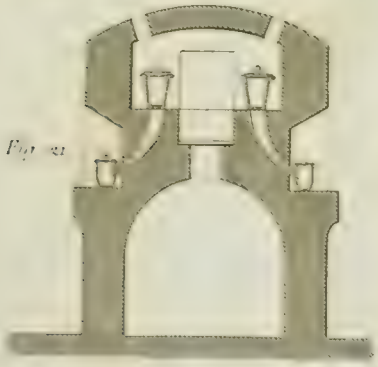
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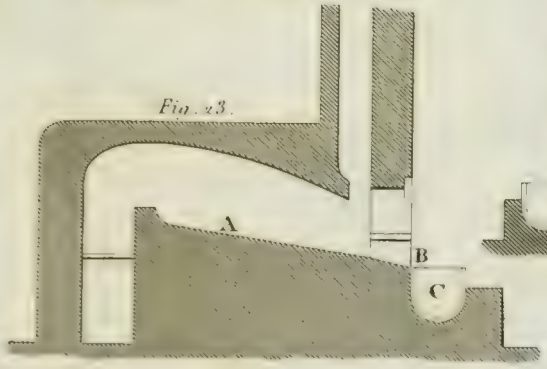

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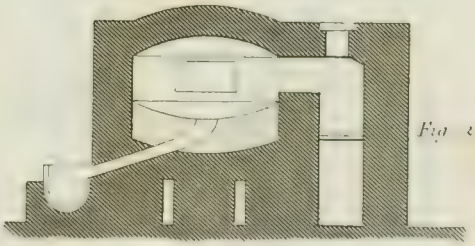
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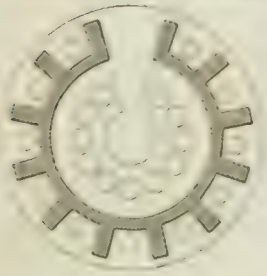
Fig. 22.


Fig. 24.

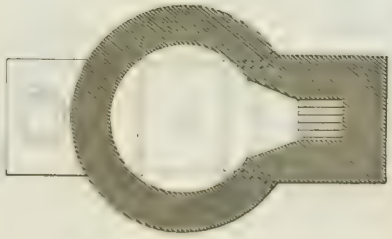
Fig. 26.

Scale of feet for all except Figs 15 & 16

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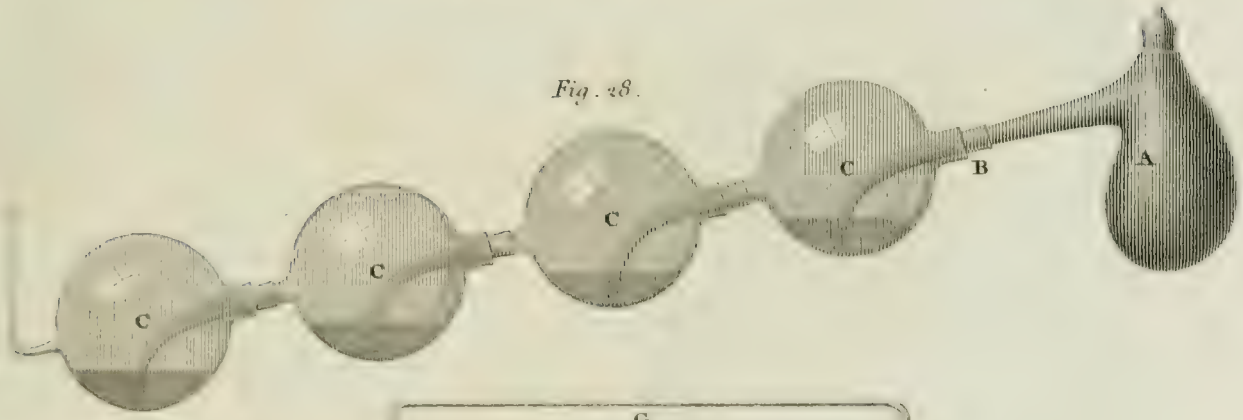
CHEMISTRY.

WOULFE'S APPARATUS.

Fig. 28.



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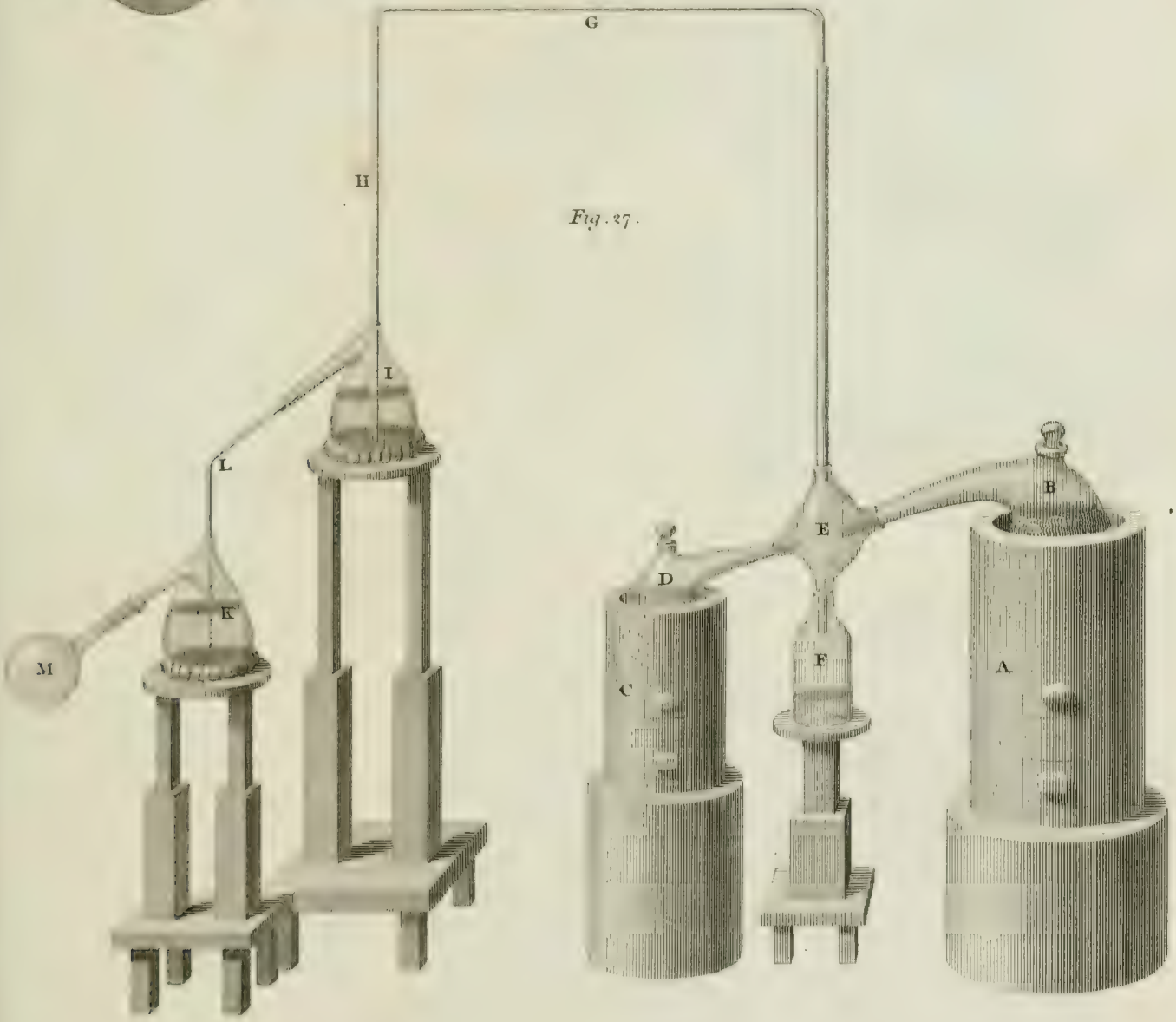

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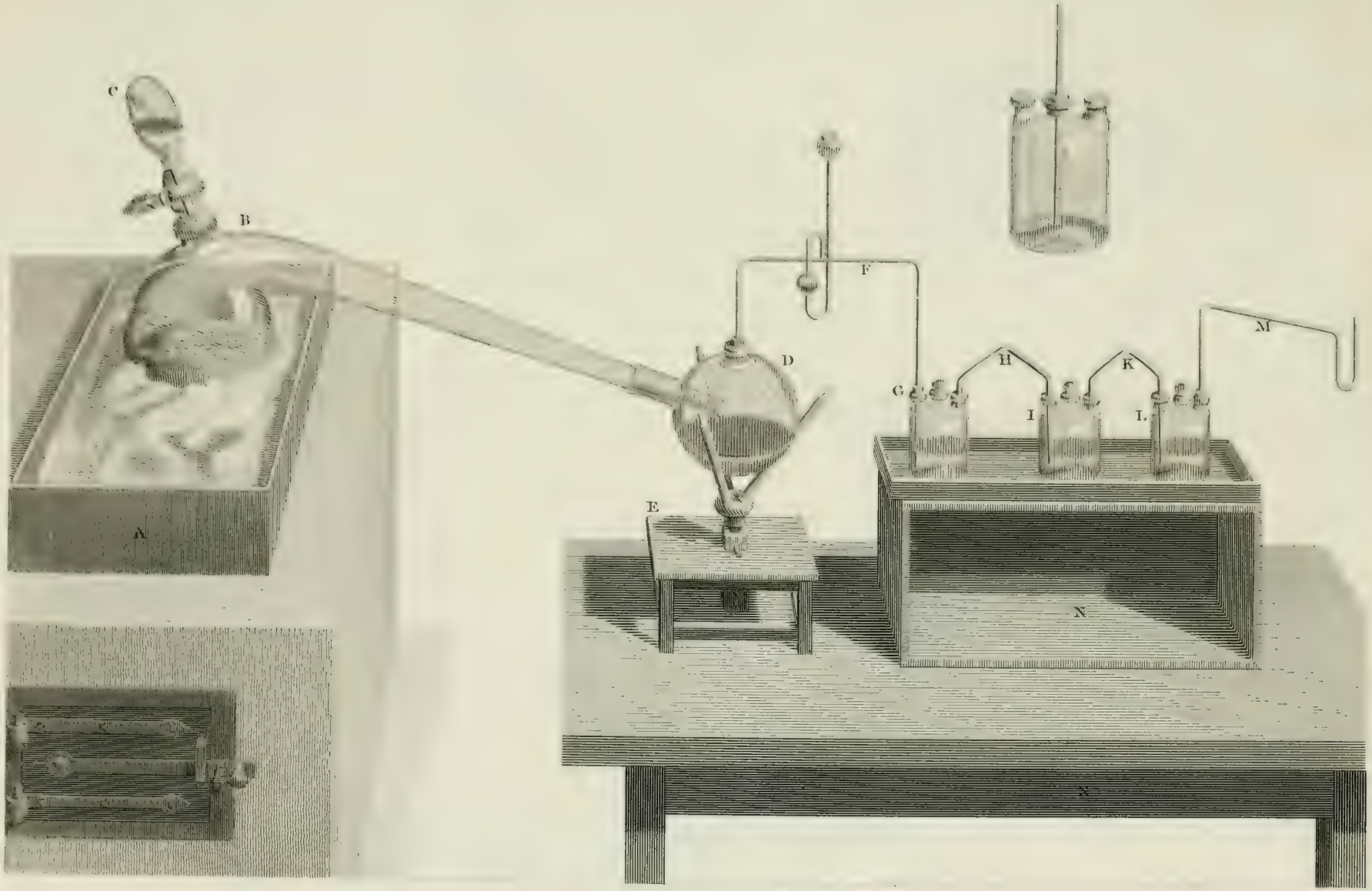
WOULFE'S APPARATUS.



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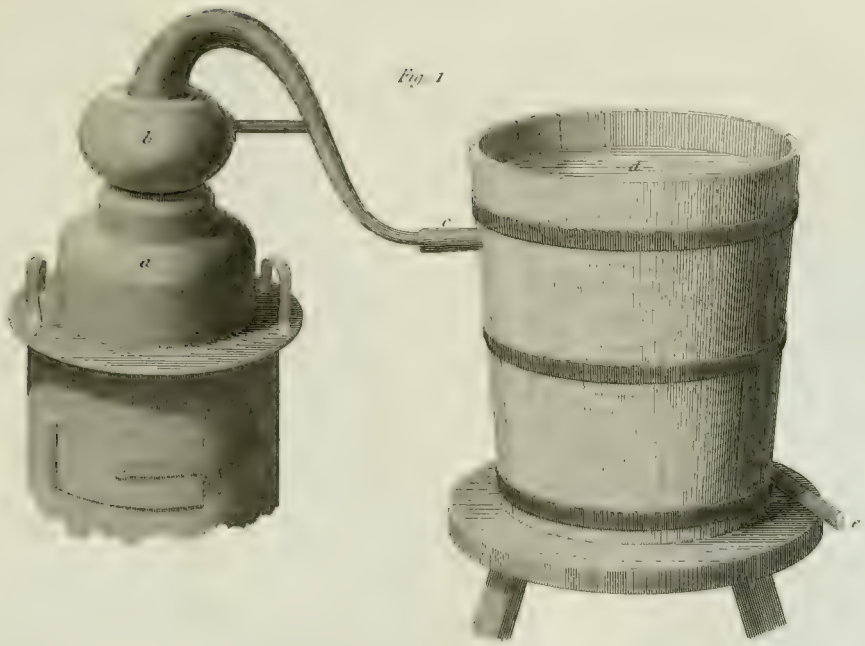
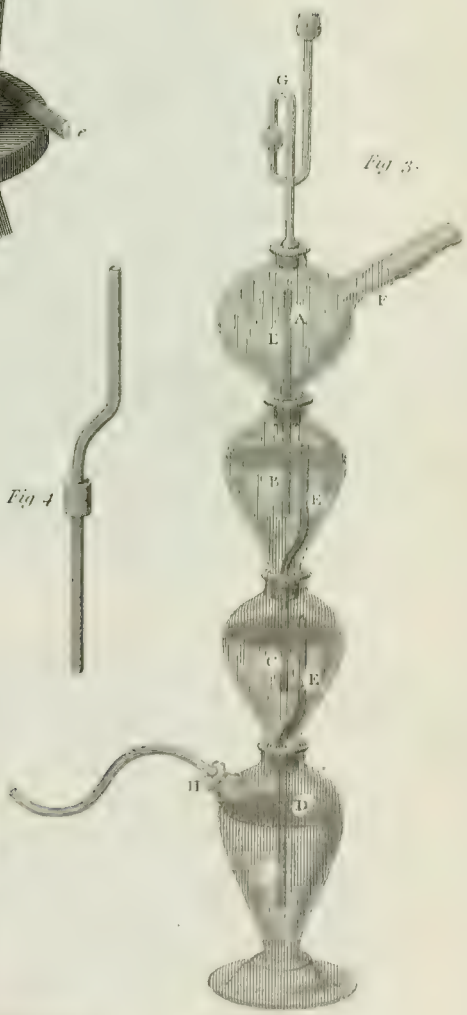


Fig. 3.



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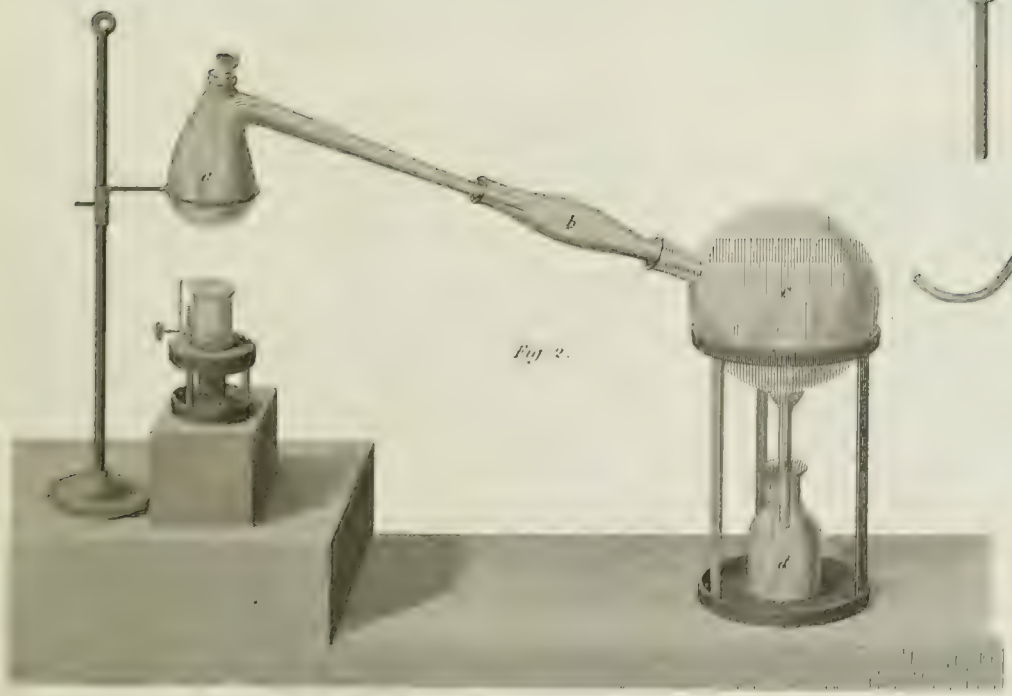

Fig. 2.

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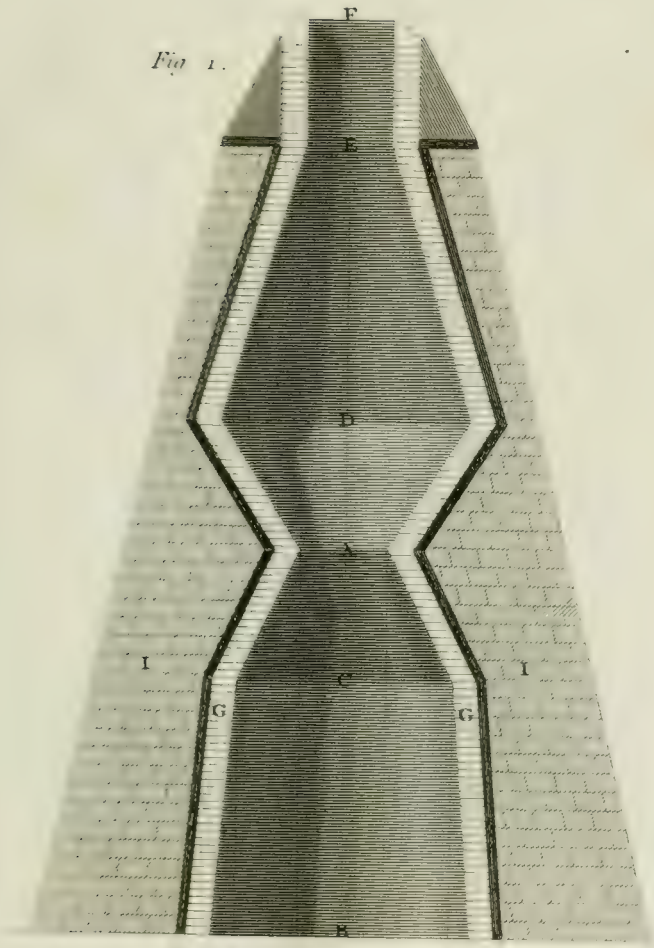
BLAST FURNACE.

Fig. 1.



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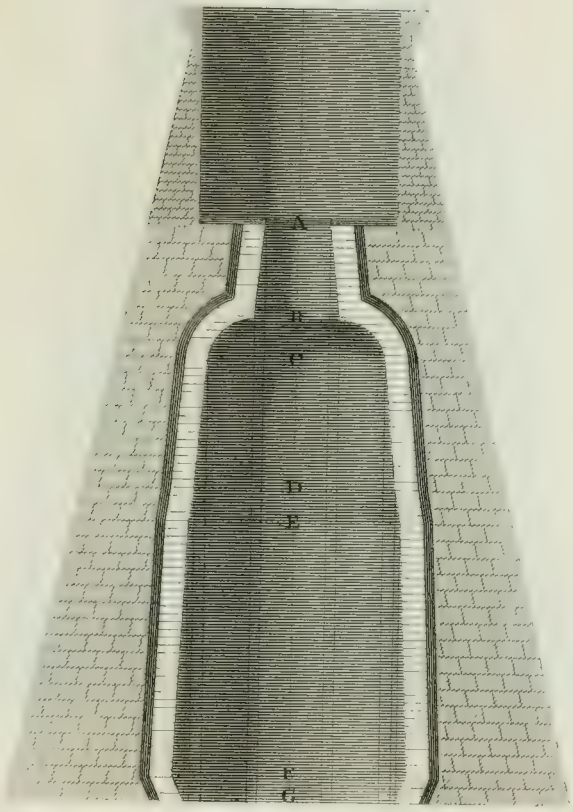


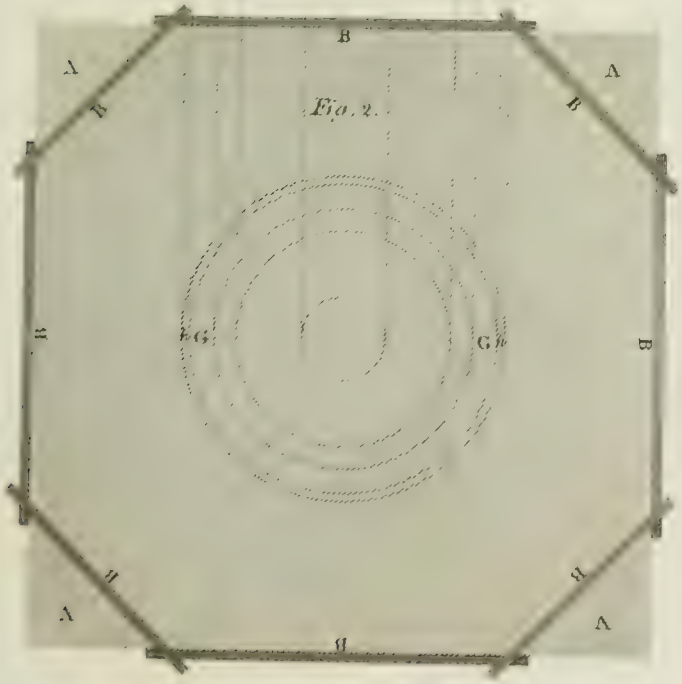
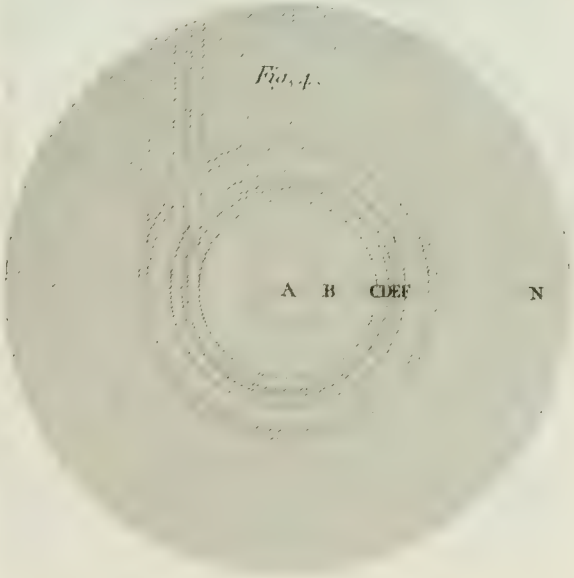


Fig. 2.

Fig. 4.



D. Mushett

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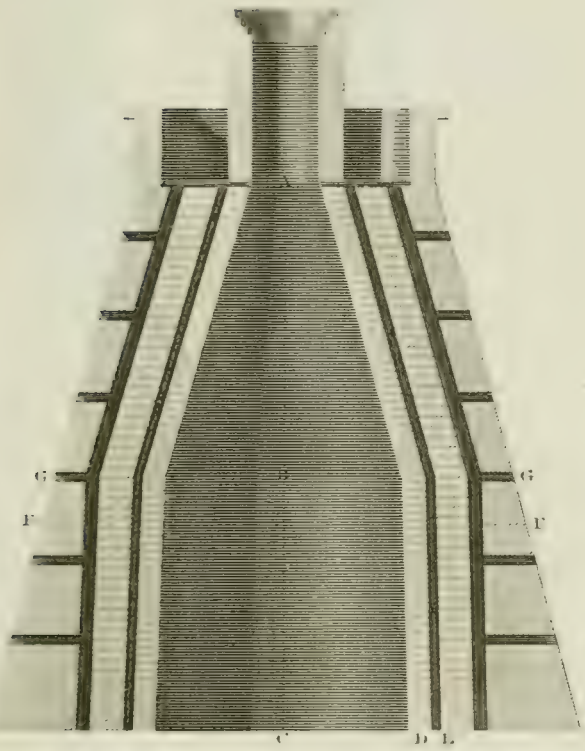
BLAST FURNACE.

Fig 1.



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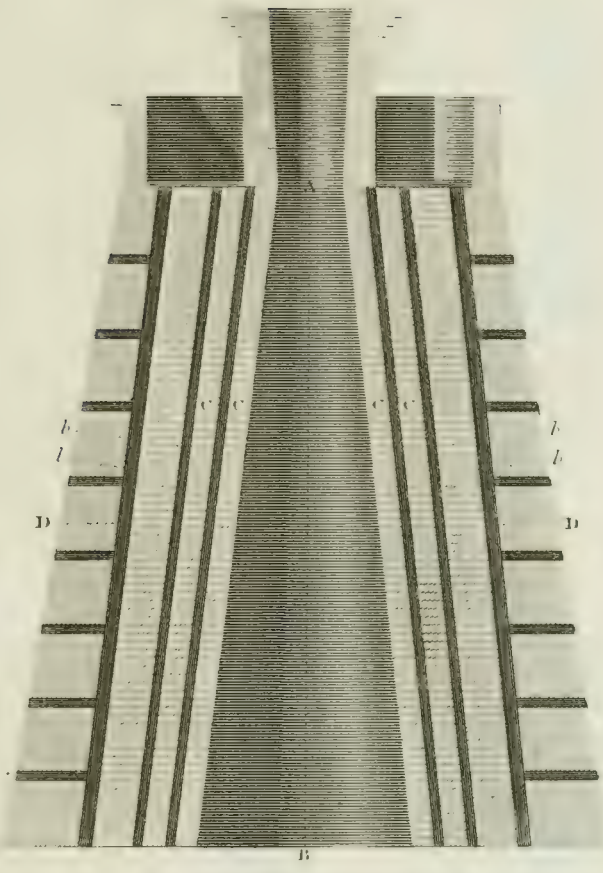
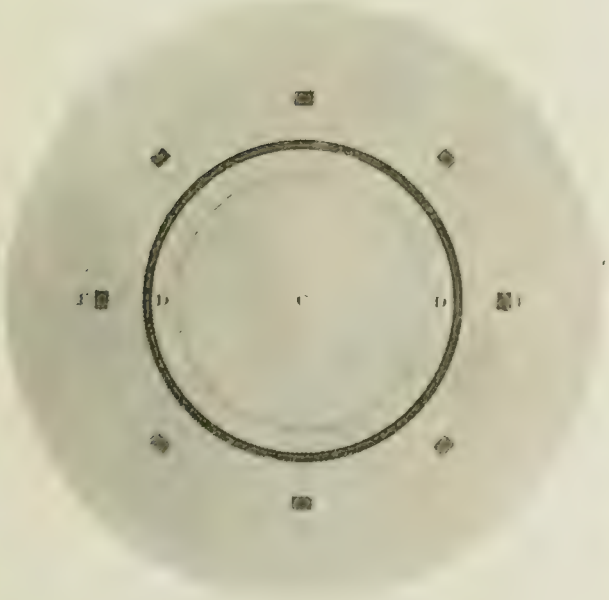


Fig 2.



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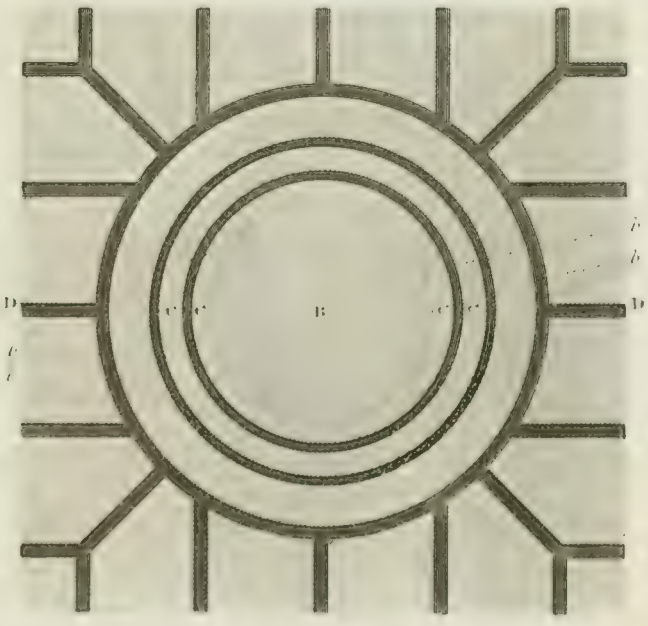
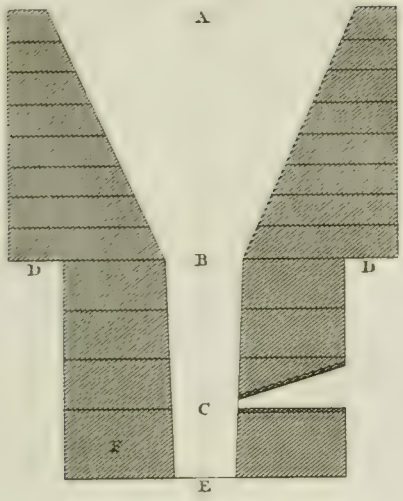


BLAST FURNACE.

Fig. 1.



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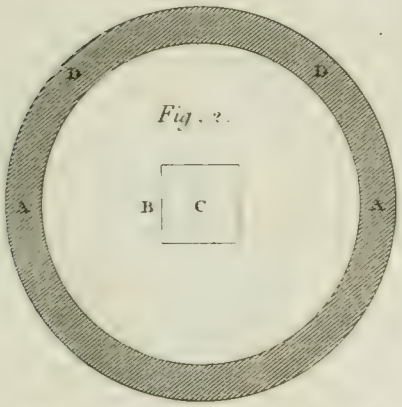

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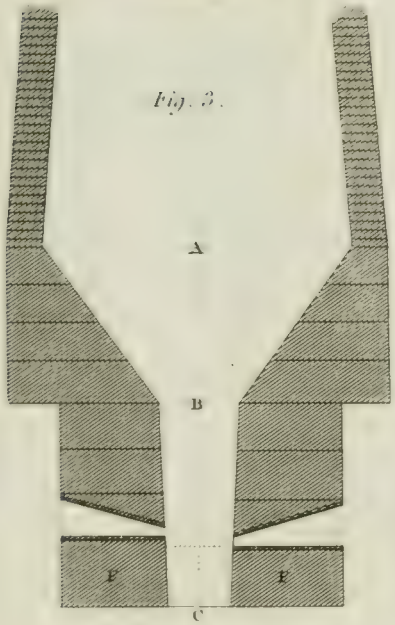

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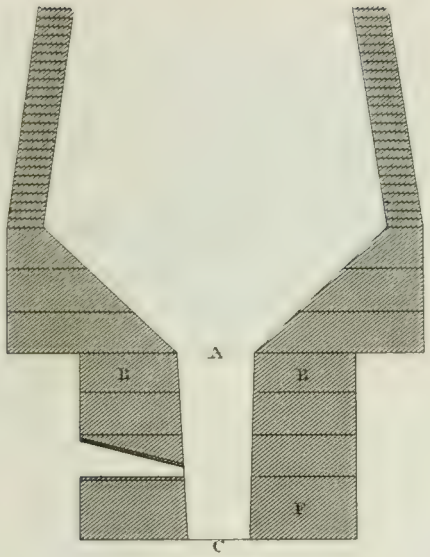

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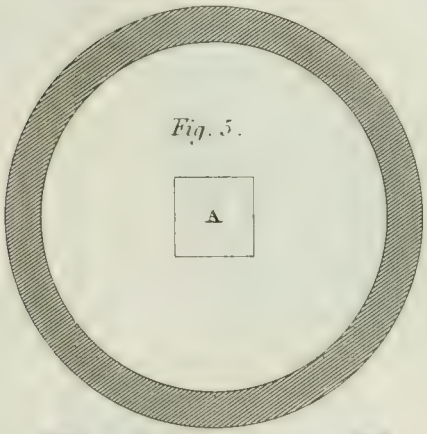

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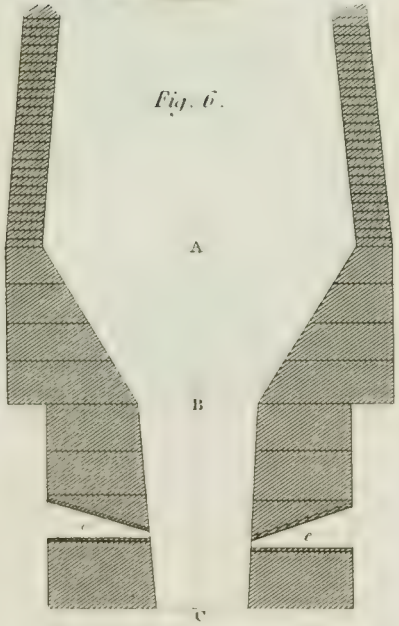

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BLAST FURNACE.

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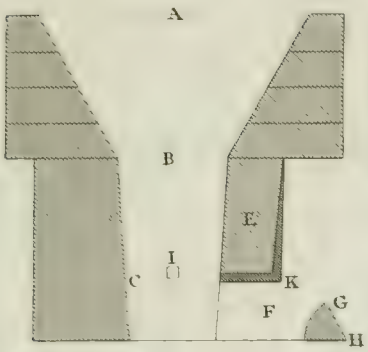

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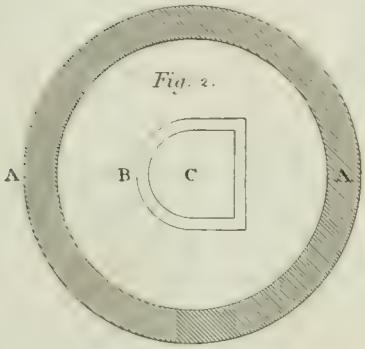

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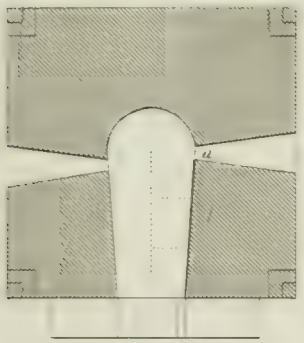

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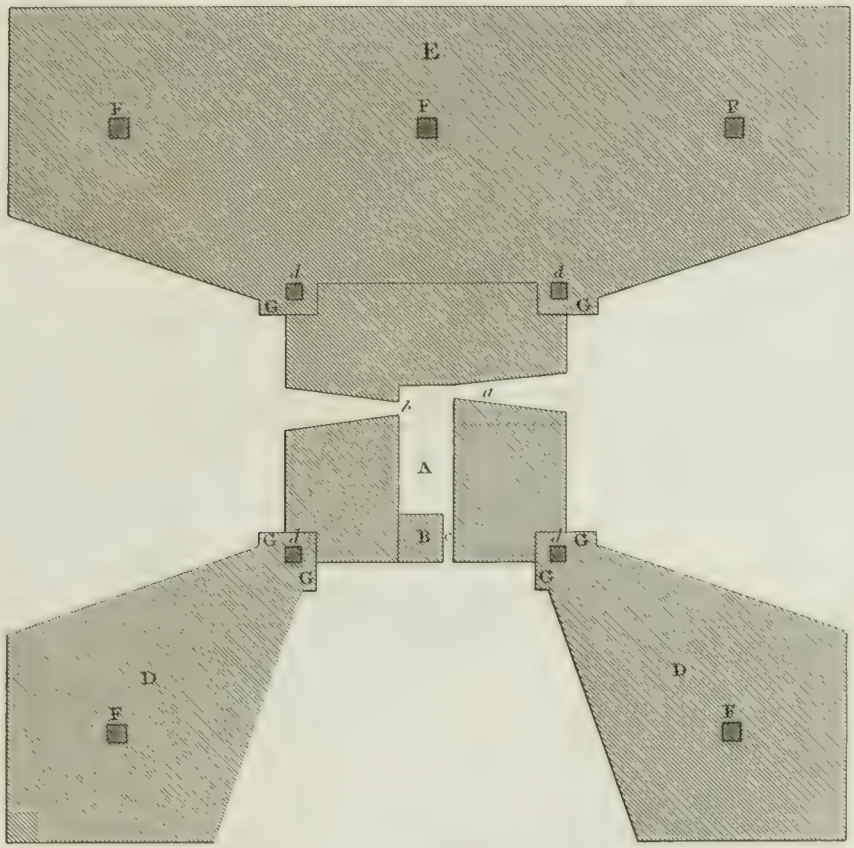

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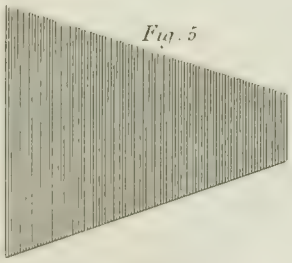

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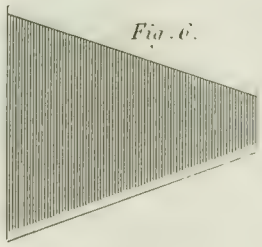

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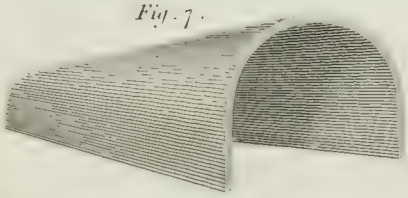
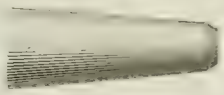


Fig. 10.

Fig. 8.



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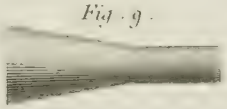

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CHEMISTRY.

BLOWPIPE.

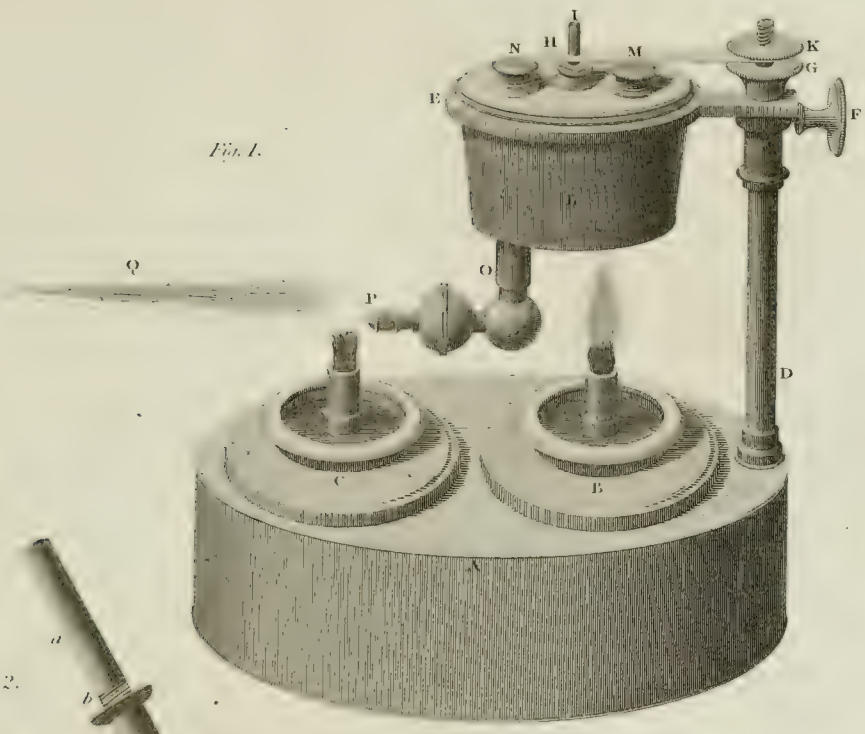
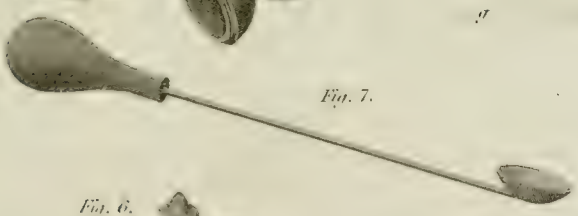


Fig. 1.

Fig. 2.



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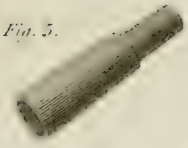

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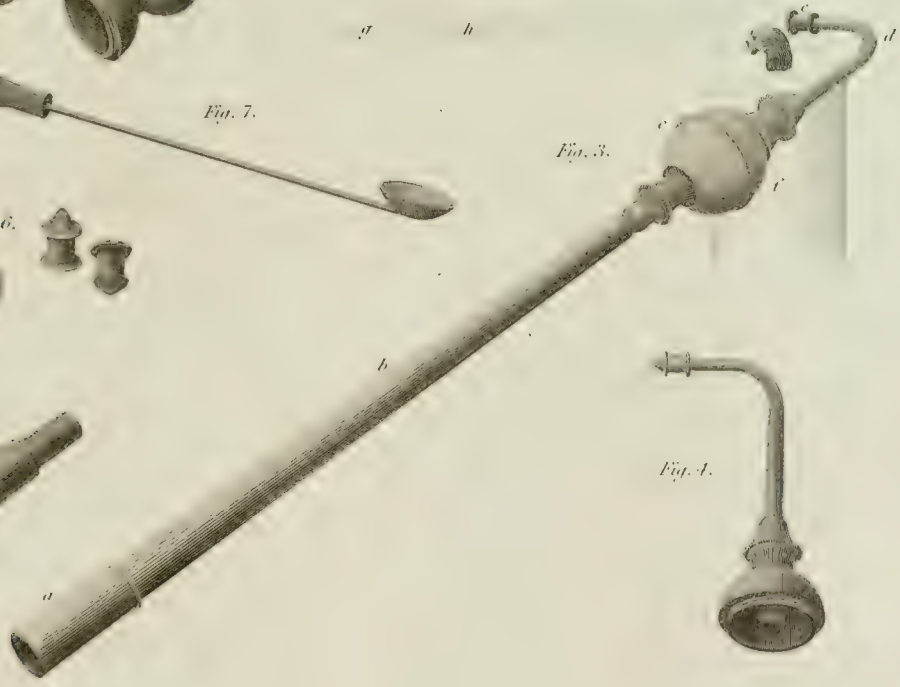

Fig. 3.

Fig. 4.

Published as the Act directs by Longman Hurst Rees Orme and Brown Paternoster Row Jan 1 1816.

ANCIENT CHEMICAL CHARACTERS.

ral & Miscellaneous terms

- *à à à.* Amalgama
- C. Calx
- Caput mortuum
- Finis
- Pulvis
- Q.E. Quinta Eſſentia
- Spiritus
- Regulus
- Dies
- Nox
- Menſis
- Hora

Inſtruments & processes

- Crucibulum
- Alembicum
- Amphora
- B Balneum
- MB Balneum Mariæ

- Retorta
- Diſtillare
- Precipitare
- Sublimare
- SSS. Stratum ſuper Stratum

Substances

- Aurum
- Argentum
- Ferrum
- Cuprum
- Antimonium
- Argentum vivum
- Stannum
- Plumbum
- Arſenicum
- Auripigmentum
- Cinnabaris
- X Acetum - Acidum
- X Acetum diſtillatum
- Nitrum - Natron
- Vitriolum
- Sal commune
- Acidum vitriolicum
- Acidum Nitri
- Acidum Muriaticum
- Aer
- Aqua
- Aqua fortis
- Aqua regia
- Ignis
- Terra
- Terra vitrifiabilis
- Terra fuſibilis
- Vitrum
- Argilla
- Gypſum
- Talcum
- Arena
- Calx viva
- C C Cornu Cervi
- Alkali
- Alkali fixum
- Alkali volatile
- Alumen
- Tartarus
- Sal ammoniacum
- Sal Gemmæ
- Borax
- Ærugo æris
- Tutia
- Sulphur
- Urina
- V Vinum
- V Spiritus vini
- OO Oleum

BERGMAN'S CHEMICAL CHARACTERS.

- \+ Acid
- Alkali
- Vitriol
- Phlogiston
- Dephlogisticated
- Nitre
- Sea ſalt
- Aqua regia
- F. Fluor
- Borax
- Sugar
- Tartar
- Sorrel
- C. Lemon (Citrus)
- Benzoe
- Amber

- Sugar of milk
- Diſtilled vinegar
- Milk
- f Ants (Formicæ)
- Fat
- Phoſphorus
- Pruſſian blue
- V Fixed
- Λ Volatile
- v. Vegetable
- m. Mineral - Mild
- p. Pure
- c Lime (Calx) - Caustic
- Barytes
- Lime - Metallic calx
- Magneſia

- Clay
- Silex
- Water
- Vital air
- Matter of Heat
- Sulphur
- V Spirit of wine
- Ether
- Eſſential oil
- Expreſſed oil
- Gold
- Platina
- Silver
- Mercury
- b Lead
- Copper

- Iron
- Tin
- Bismuth
- Nickel
- Arſenic
- Cobalt
- Zinc
- Antimony
- Manganeſe

Examples of Combination

- v p Pure fixed vegetable alkali
- v Vitriolated fixed-vegetable alkali
- Calx of Iron
- Mercury ſublimate
- Dephlogisticated Muriatic acid

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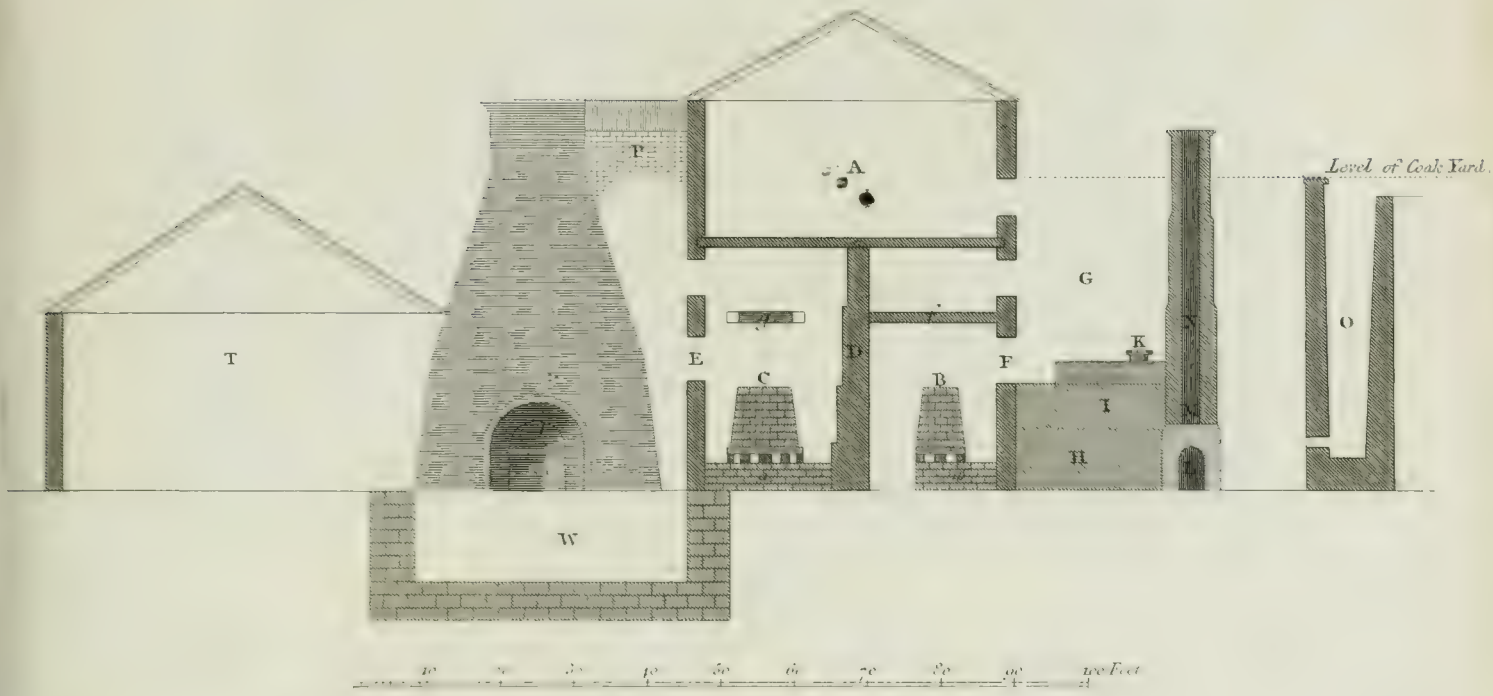
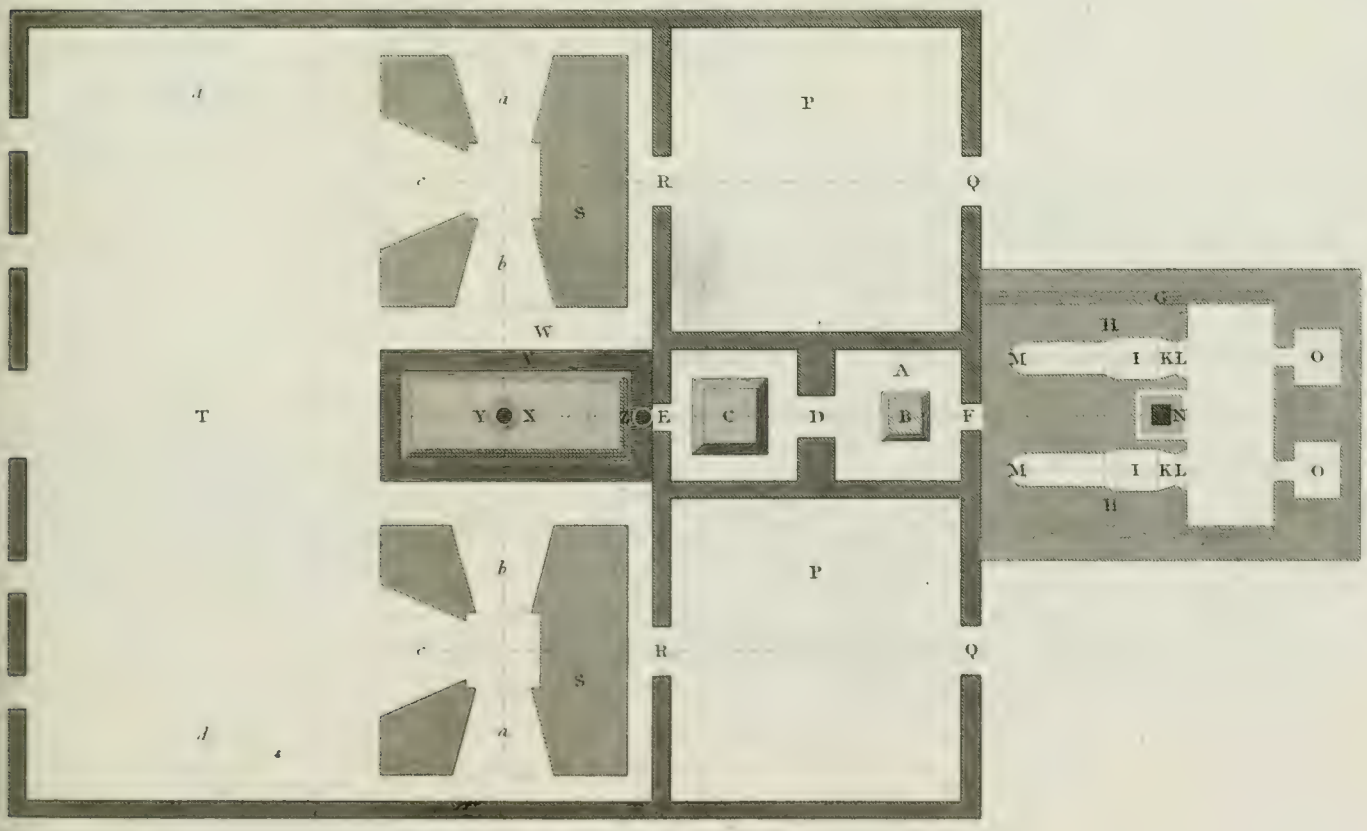
CHEMISTRY.

BLAST FURNACE WORKS.





Drawn by D Mushet
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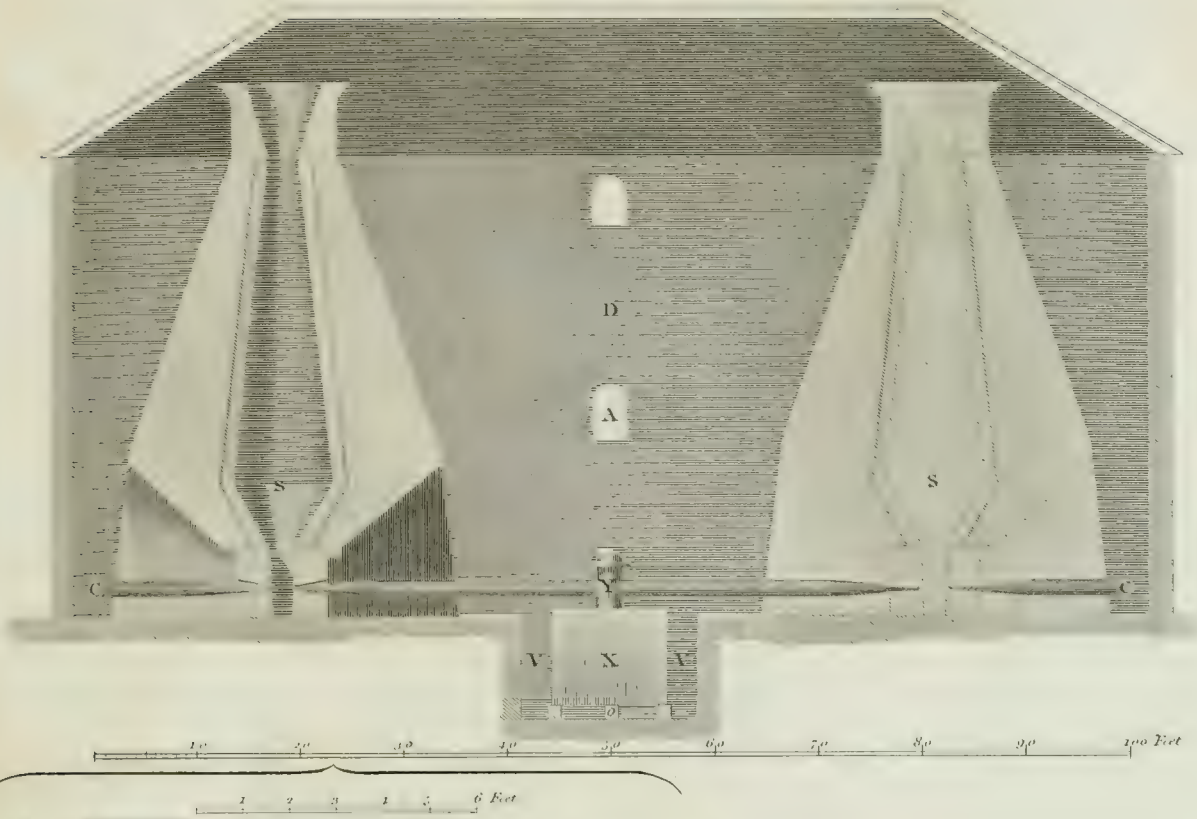
BLAST FURNACE WORKS.



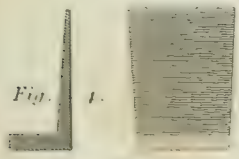


Fig. 1.

Tymp Plate

Fig. 3.

Dam Plate

Fig. 2.

Dam Stone

Fig. 1.

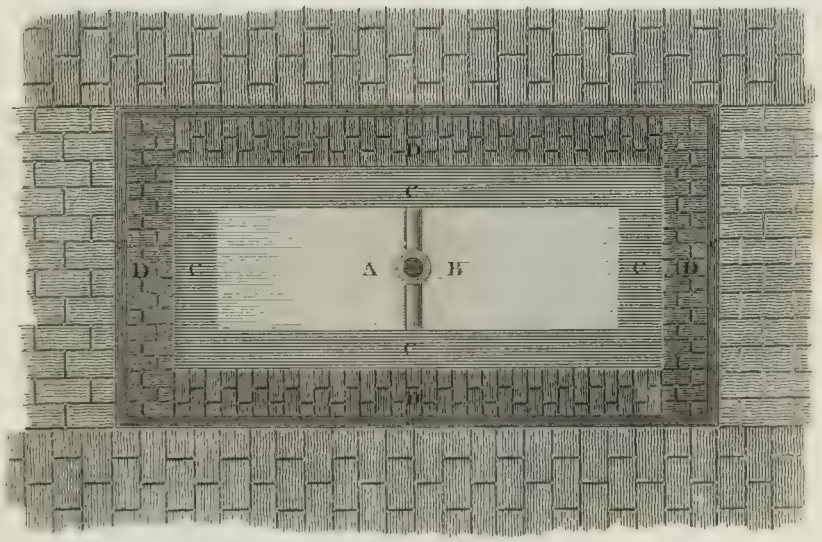
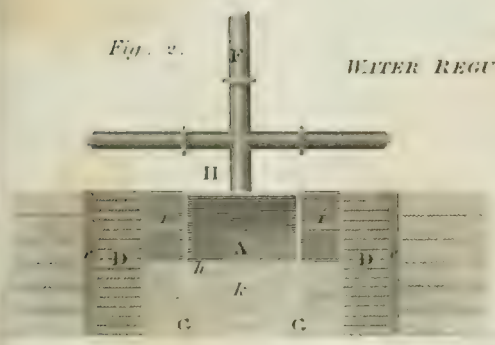


Fig. 2.

WATER REGULATOR



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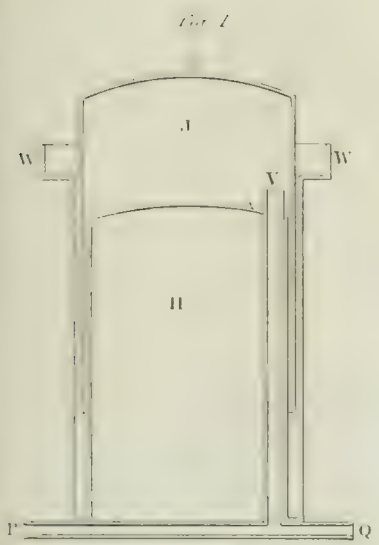
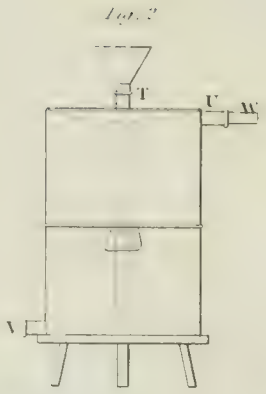
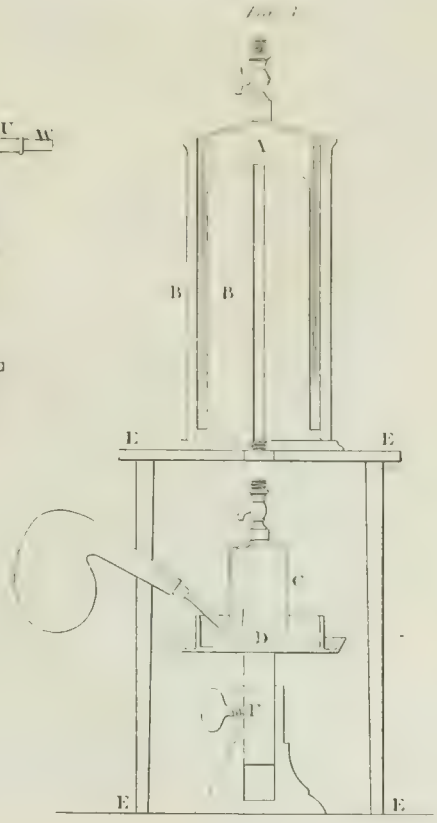
GAZOMETER & BLOW PIPE.







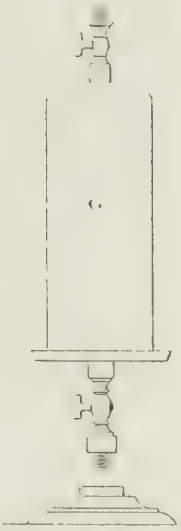
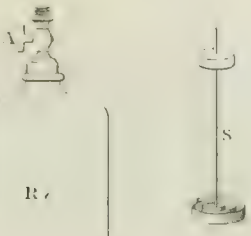
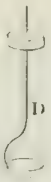


Fig. 6. SHOE LAMP.





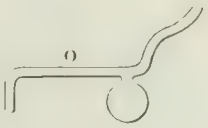
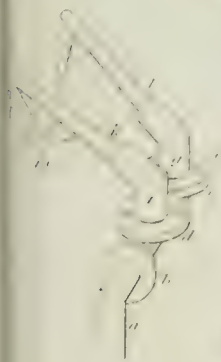


Fig. 7.
Double BLOW PIPE.



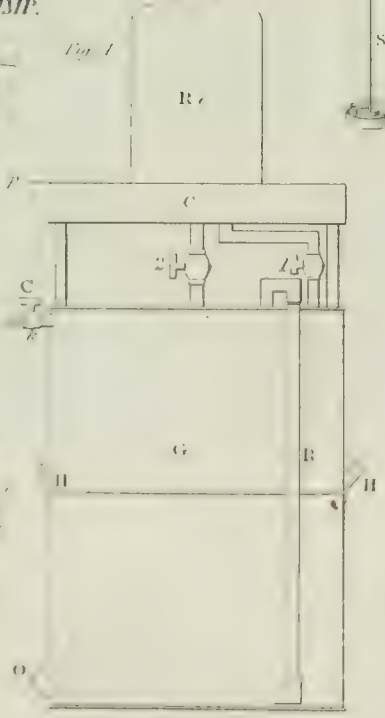
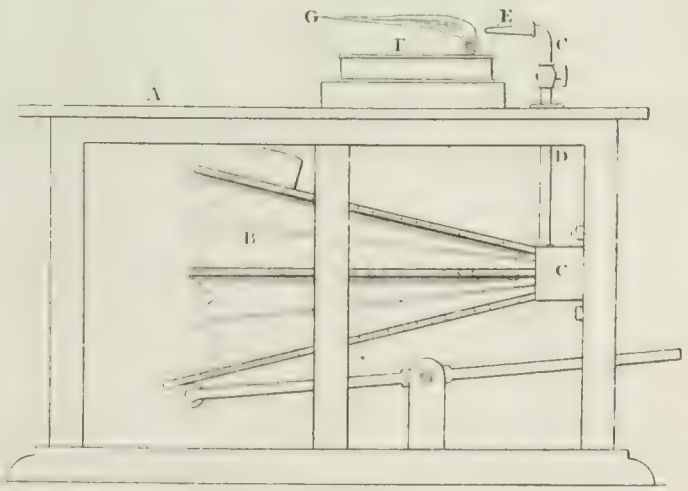


Fig. 5. Glass blower's Lamp.



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Lowry Sc.

CHEMISTRY.

AIR VAULT.

Fig. 1

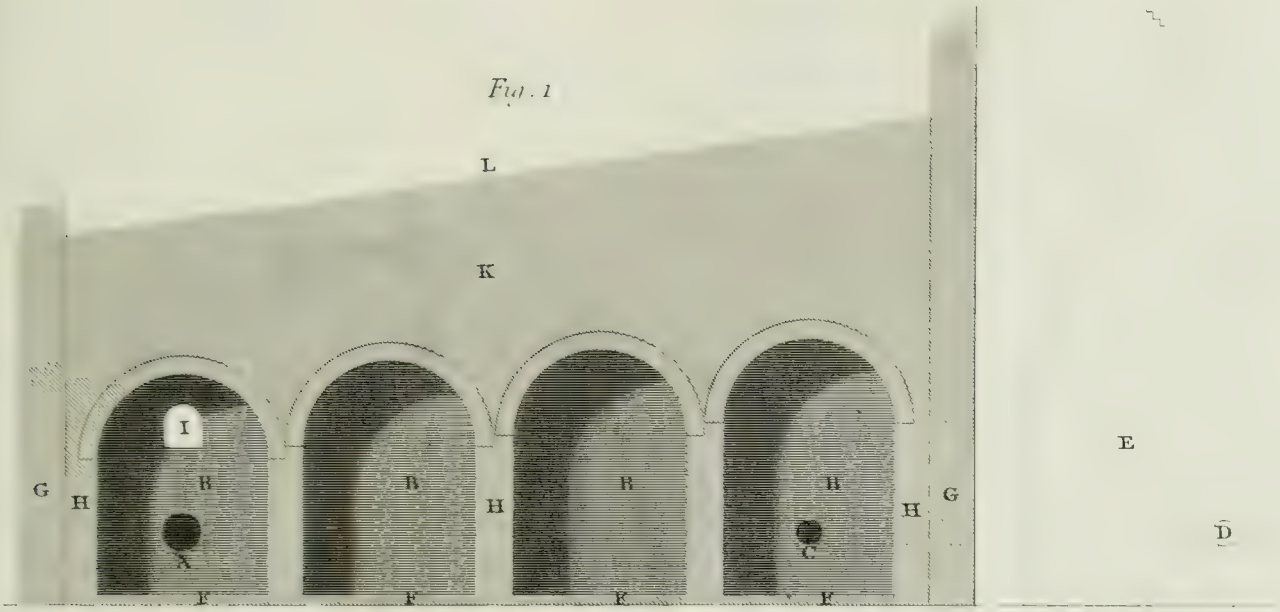
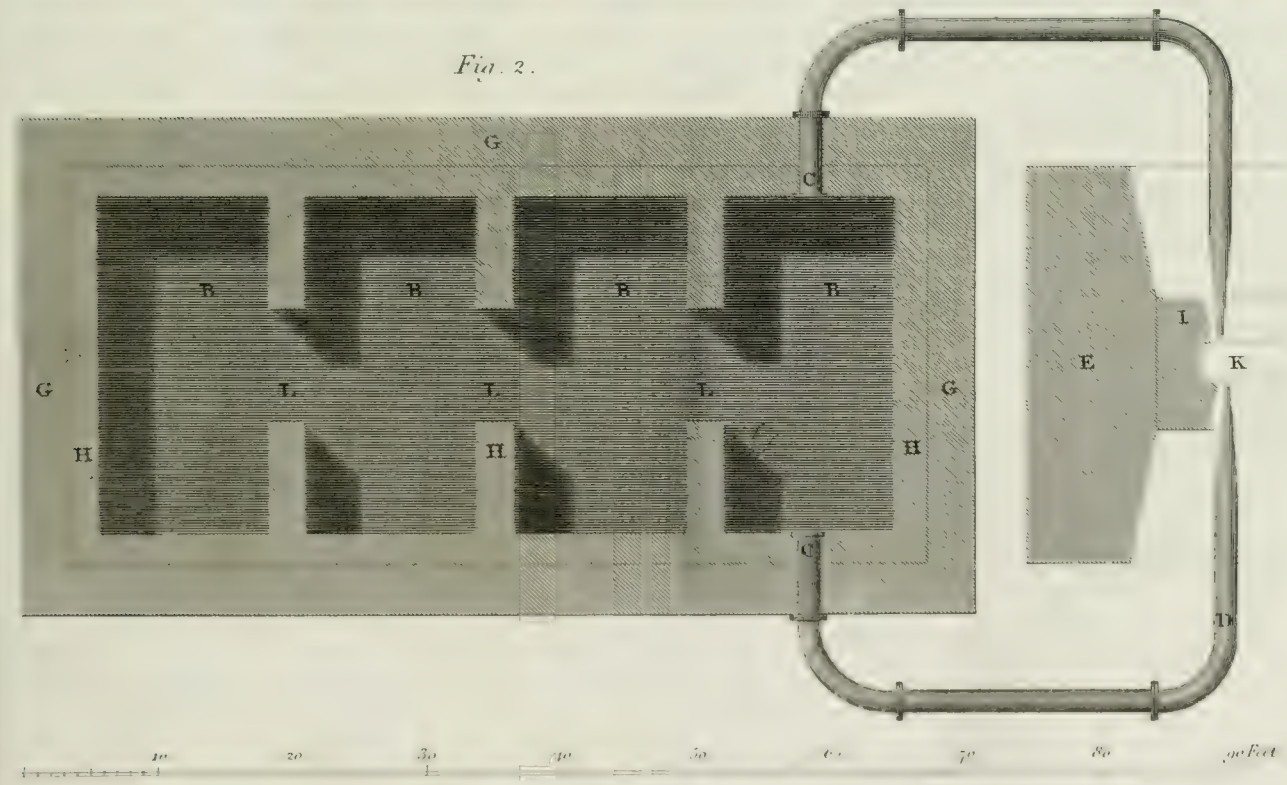


Fig. 2.



Drawn by D. Mushet

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CHEMISTRY.

LABORATORY.

W. Duesbury del.

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W. Lowry sculp.

Fig. 15.

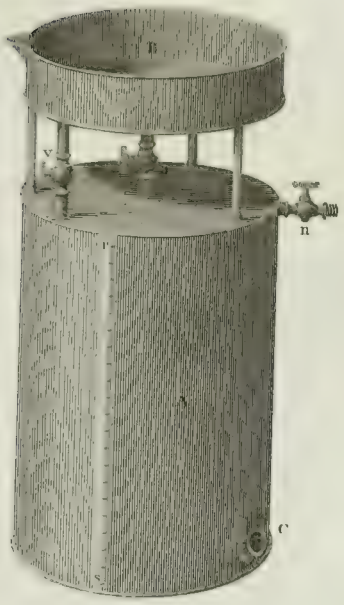


Fig. 9.

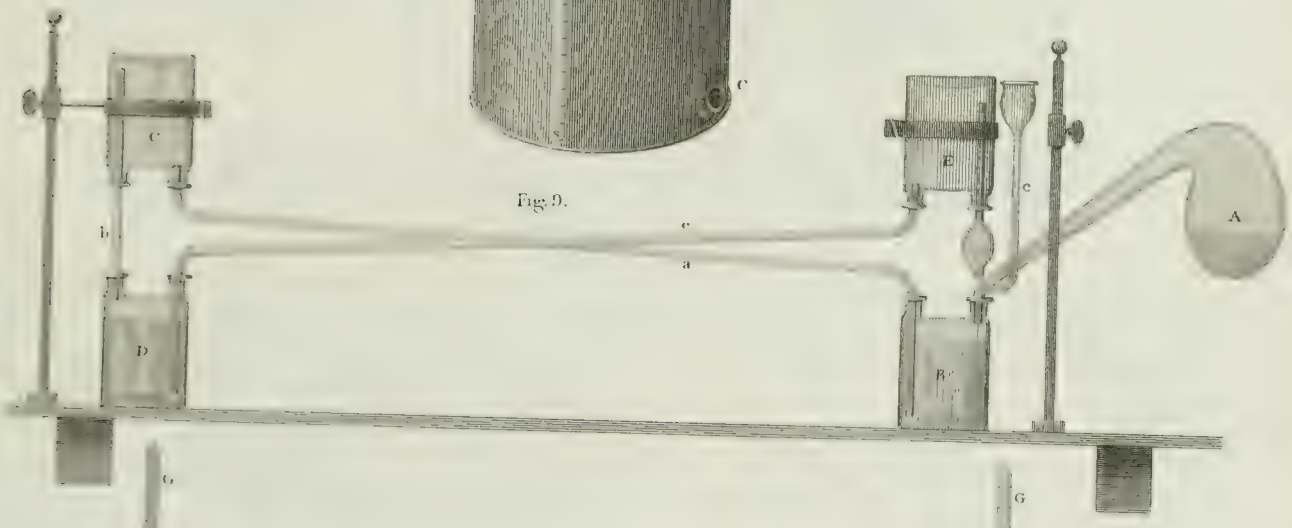


Fig. 14.

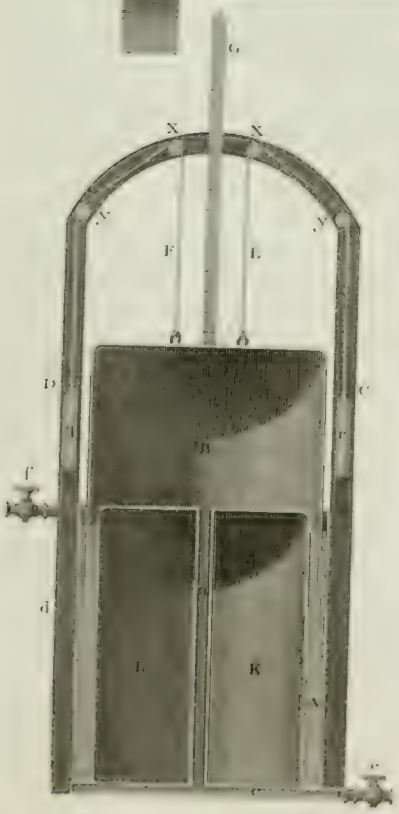
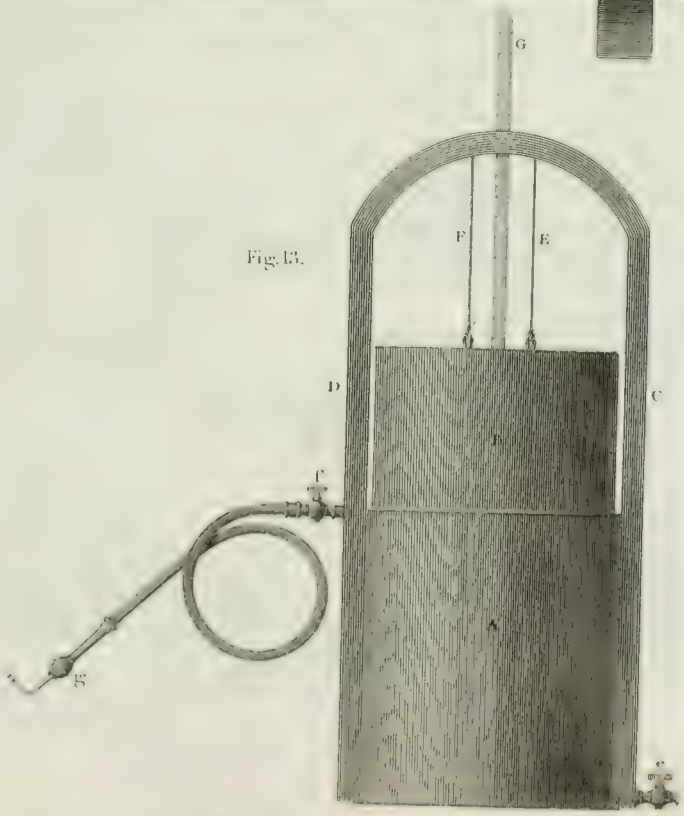


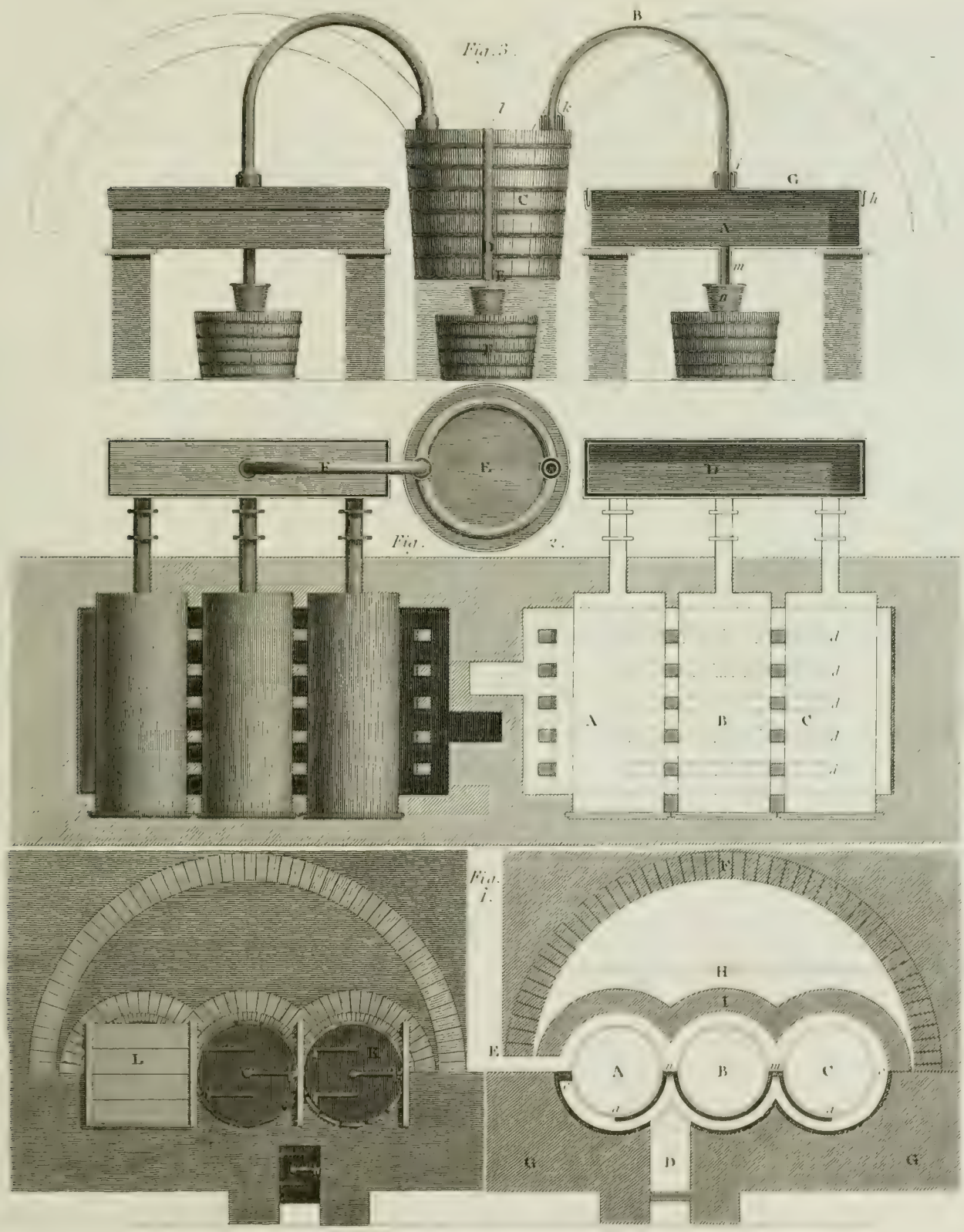
Fig. 13.



Published as the Act directs 1832 by Longman Hurst [illegible] and [illegible] London.

W. Lowry sculp.

APPARATUS FOR THE DISTILLATION OF PYROLIGNEOUS ACID.



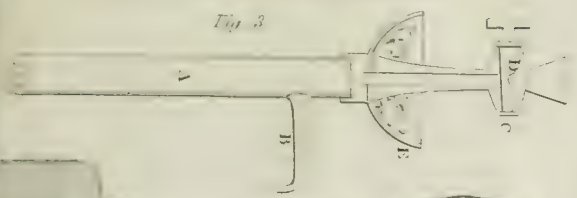
Drawn by William Thomson. Published as the Act directs, Aug. 1 [illegible] Engraved by Wilson Lowry

CHEMISTRY.

ANALYSIS of Organic Substances.

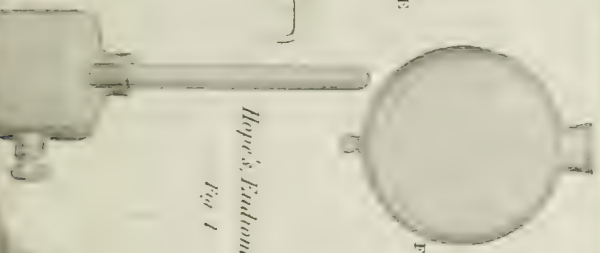
Gay Lussac & Thenard's Apparatus.

Fig. 3



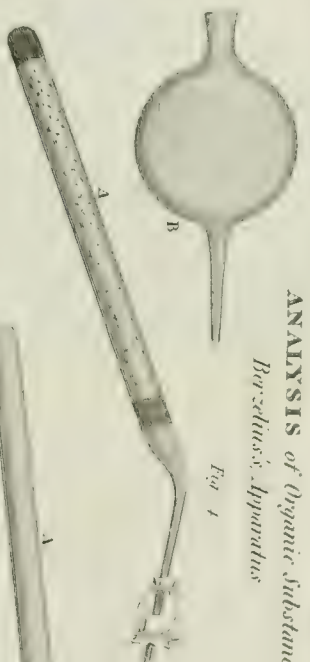
Hope's Endiometer.

Fig. 1



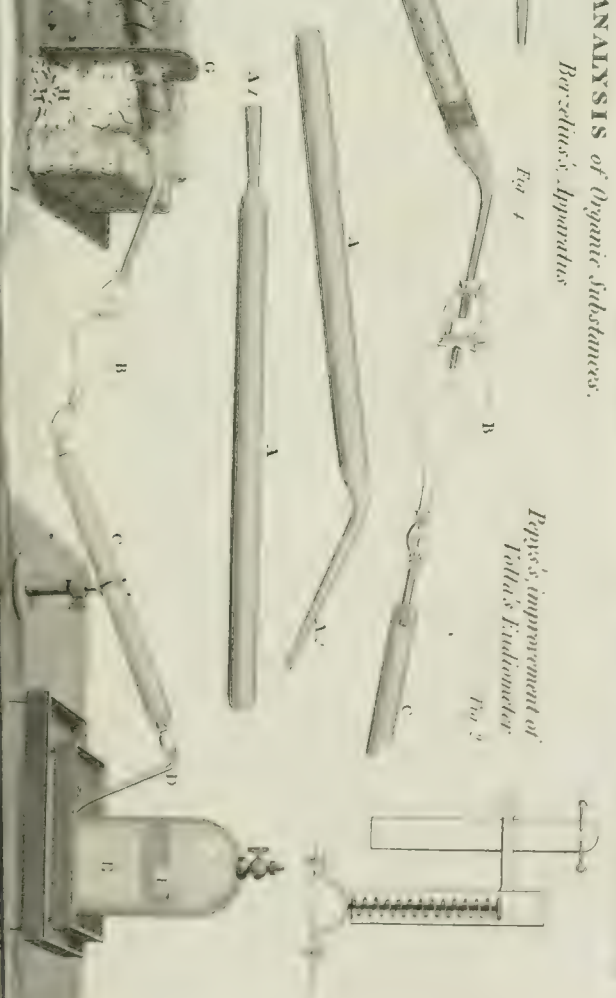
Berzelius's Apparatus.

Fig. 4



Pepys's improvement of Volta's Endiometer.

Fig. 2



Dr Wollaston's Scale of Chemical Equivalents.

Fig. 6.

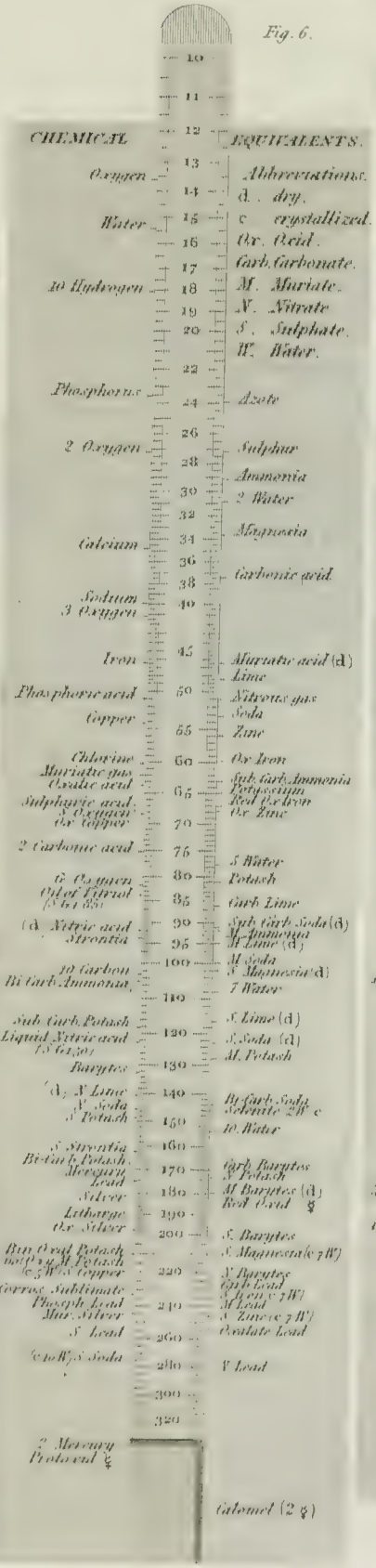
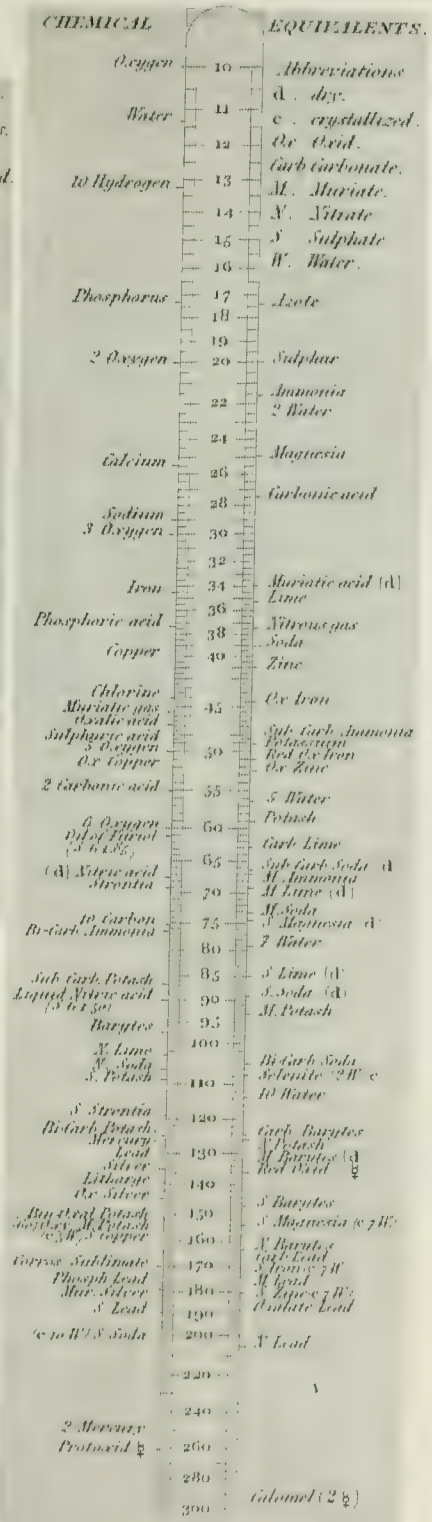


Fig. 5.



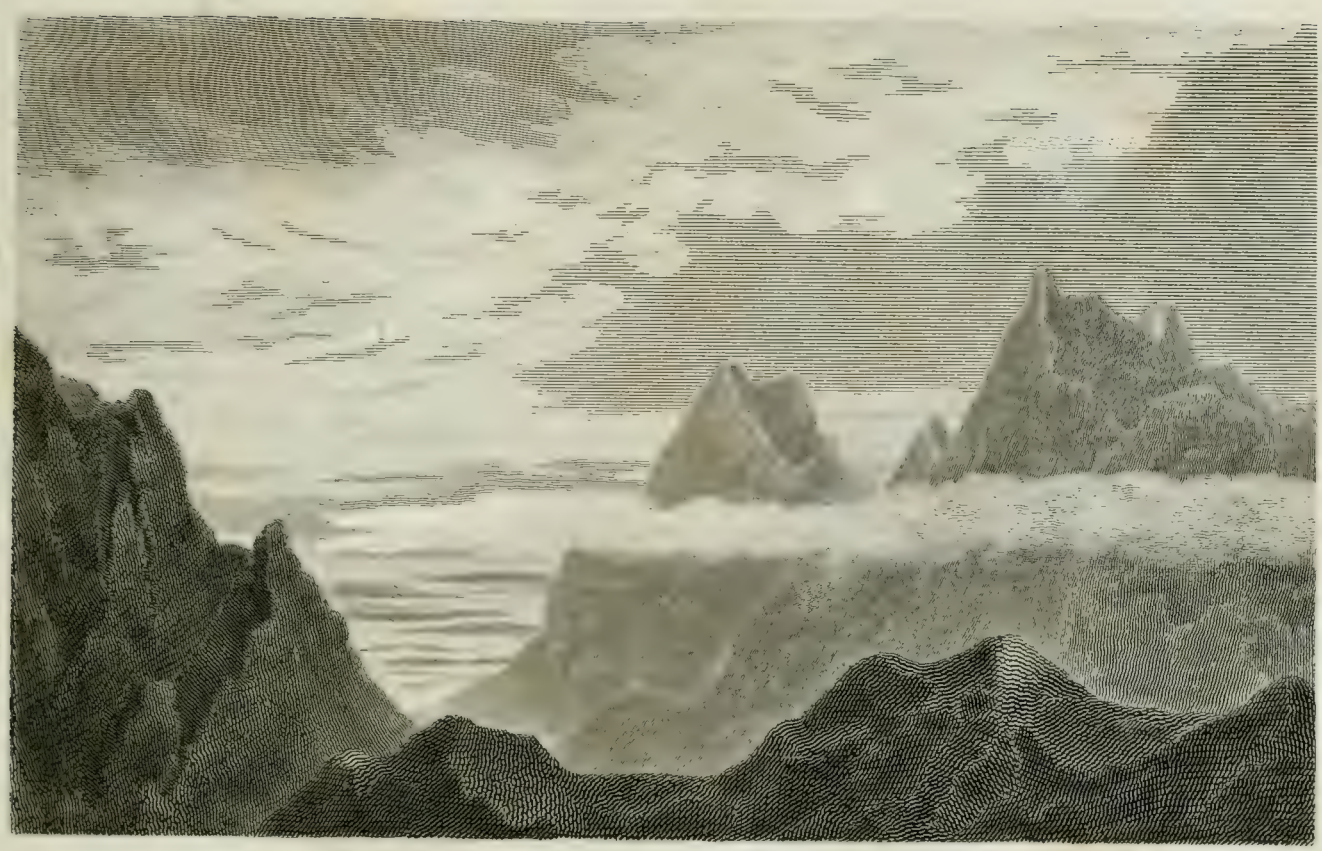
F. Howard del.

1. Cirrus, *in different forms* – 2. Cirro-stratus, *subsiding on* Cumuli *beneath* – 3. Cirrus, *as seen before Thunder* – 4. Cirro-cumulus, *as seen before Thunder*

5. A Nimbus, *flanked by* Cirro-stratus, *and giving an Electrical discharge* – 6. *A range of* Cumuli, *passing to* Cumulo-strati, *before Thunder*

Published as the Act directs June 1st

CLOUDS.

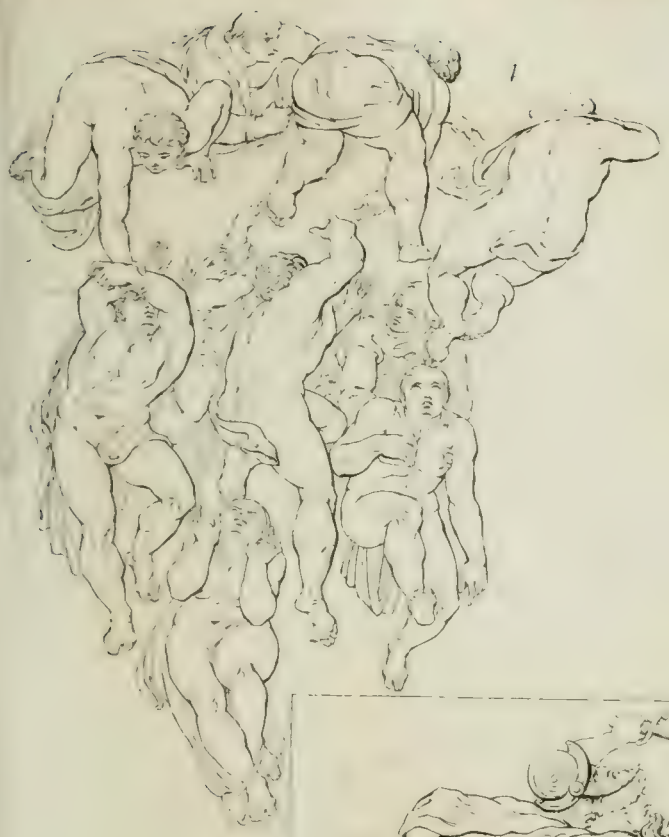


E.Kennion del.

Milton sculp.

1.Cirro-stratus — 2.2.*distant* Cirri-strati — 3.3.Cirrus *passing to* Cirro-cumulus — 4 Cirro-stratus, Cumulus *and* Cumulo-stratus *grouped*

Published as the Act directs, Jan 1st 1810 by Longman Hurst Rees & Orme Paternoster Row.



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COMPOSITION.

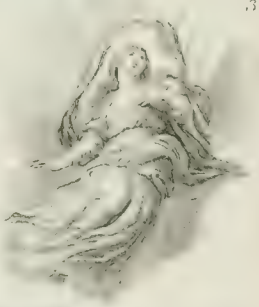
2

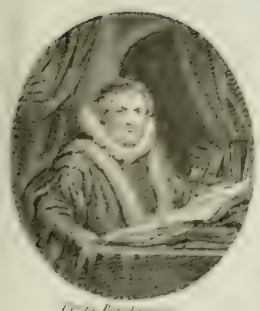
6

4

5

3

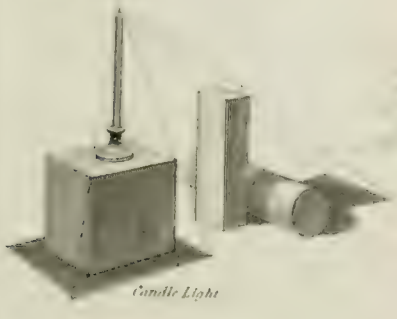




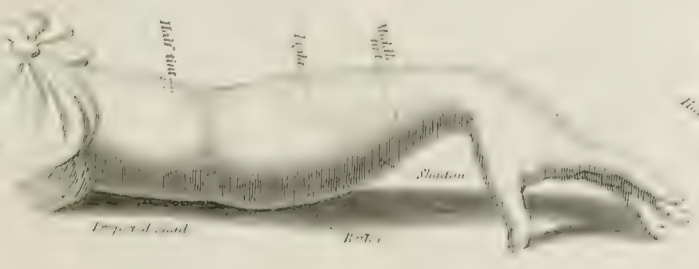
Portrait of Rembrandt

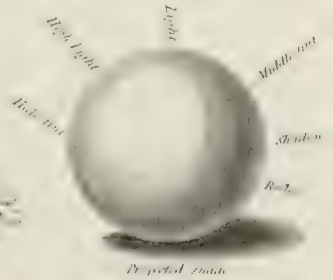
Head of Michael Angelo

CLAIR OBSCURE. 7.



Candle Light



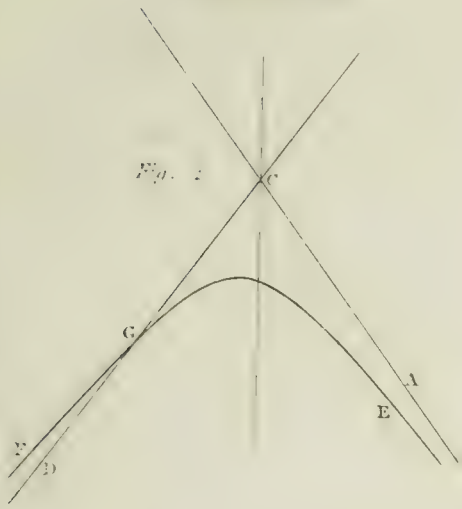


Published as the Act directs July 1.1830 by Longman, Hurst Rees, Orme & Brown, Paternoster Row

CONICS.

AMBIGENAL.

Fig. 1.



ASYMTOTE.

Fig. 2.

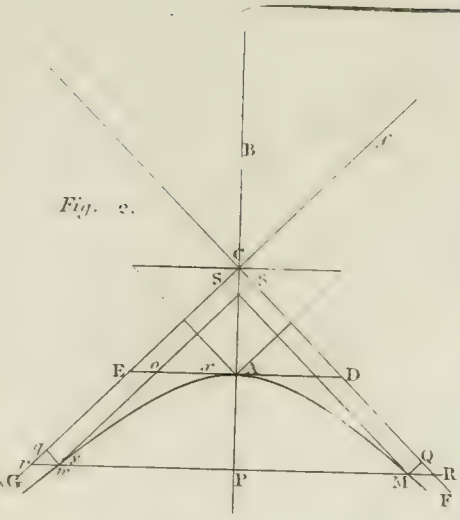
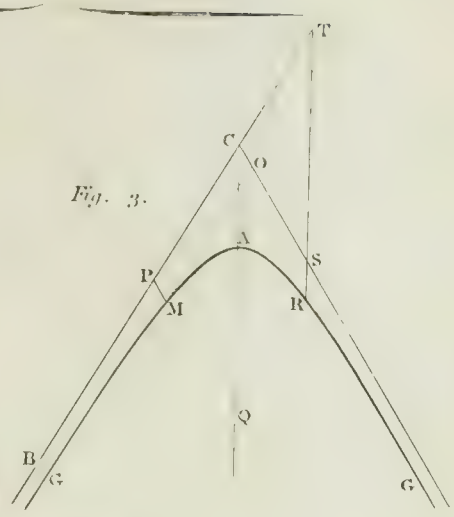


Fig. 3.



CONE.

Fig. 4.

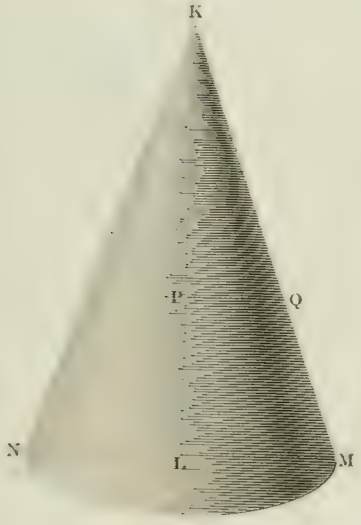


Fig. 5.

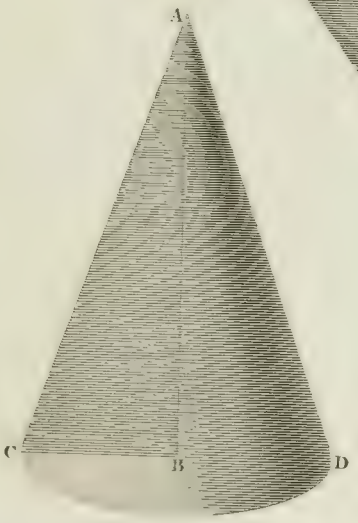


Fig. 6.

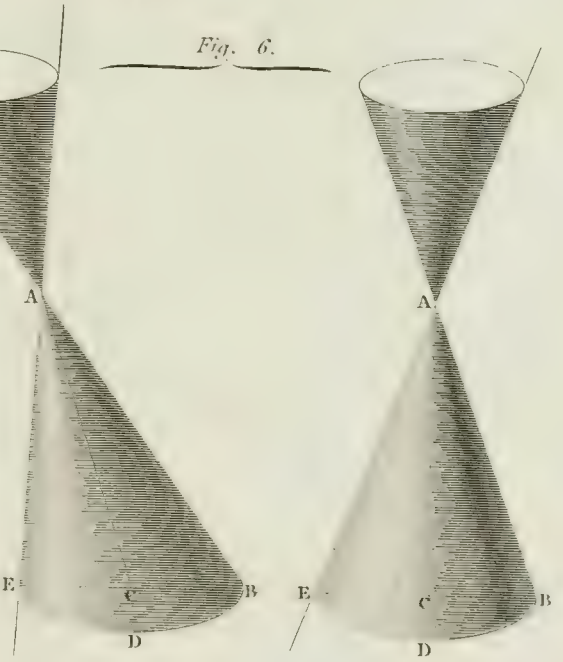


Fig. 7.

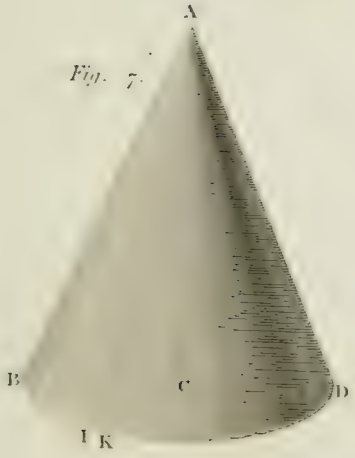


Fig. 8.

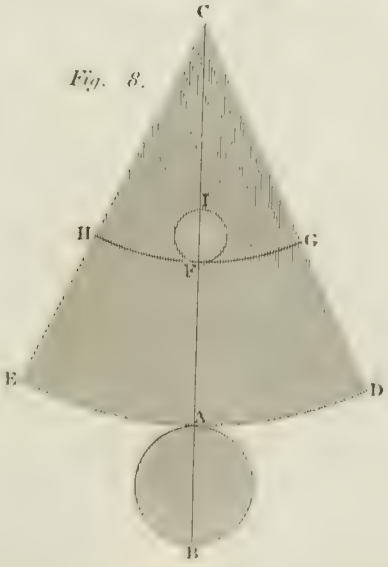


Fig. 9.

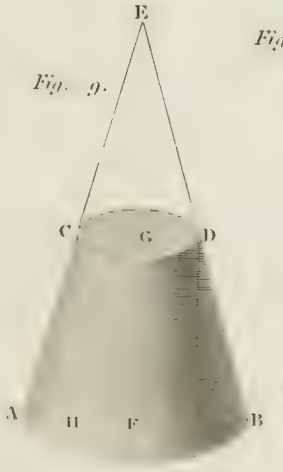
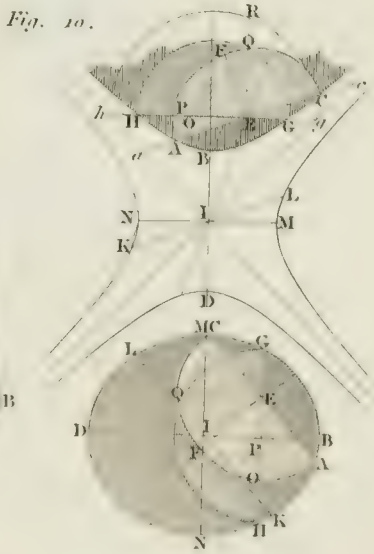


Fig. 10.



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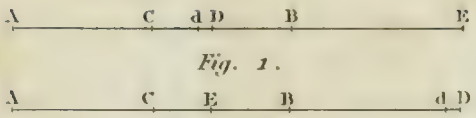

Fig. 1.

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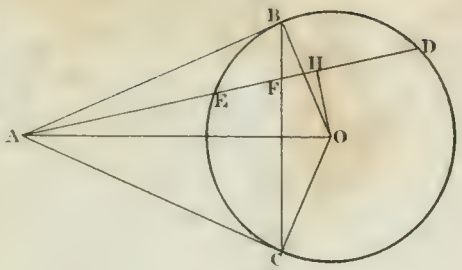

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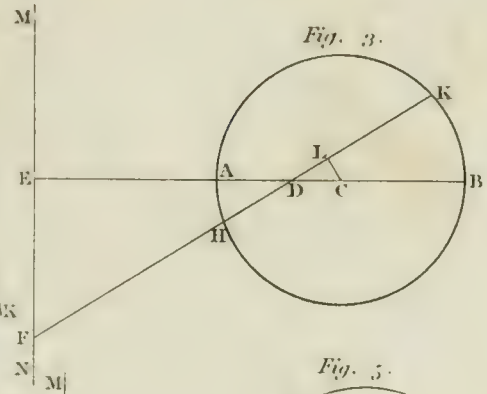

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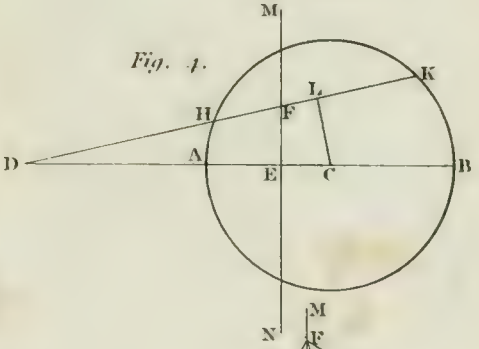

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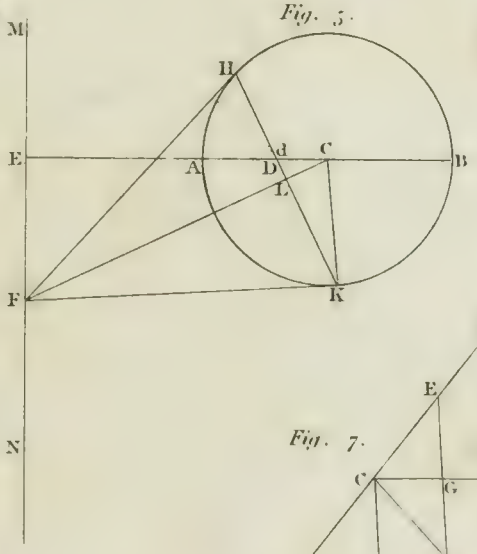

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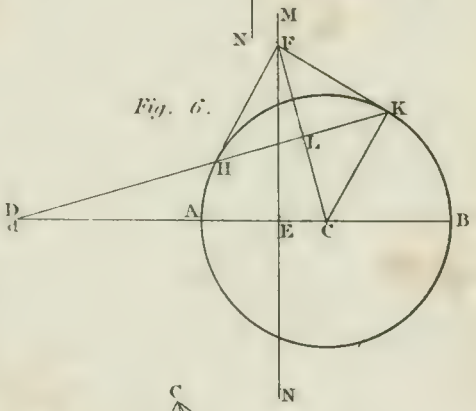

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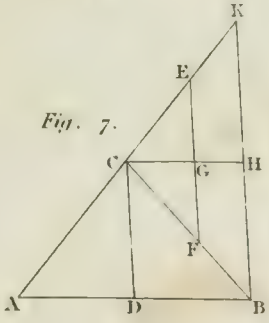

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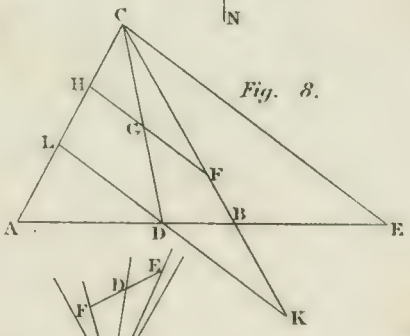

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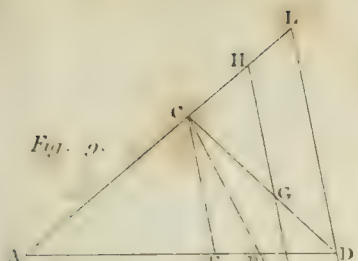

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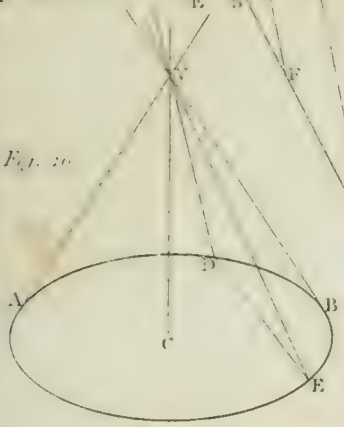

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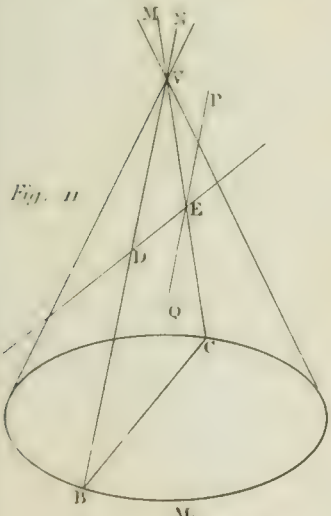

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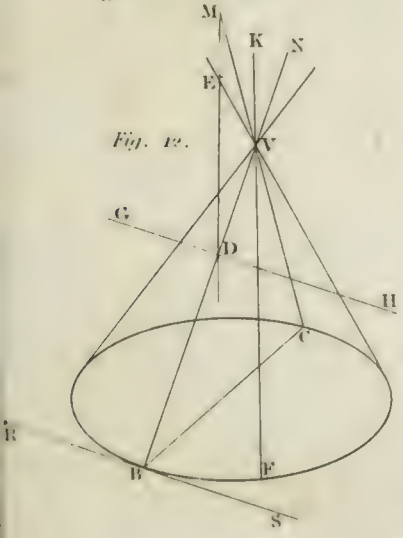

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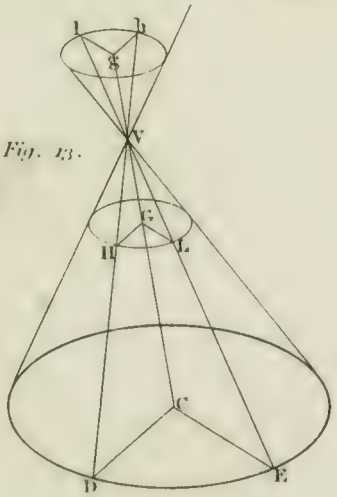

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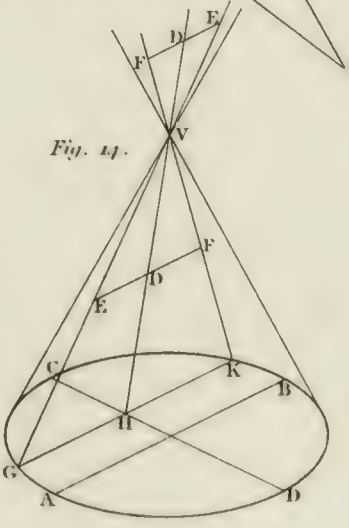

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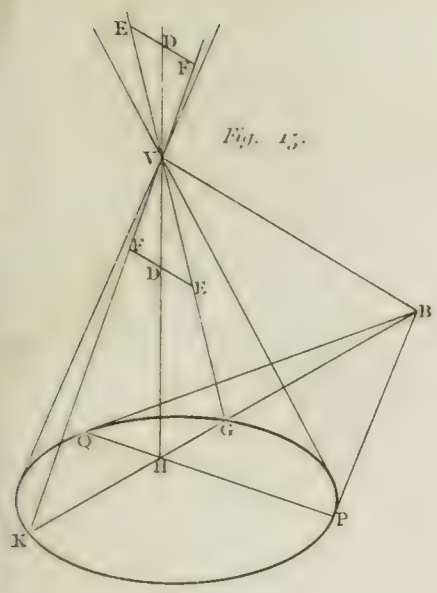

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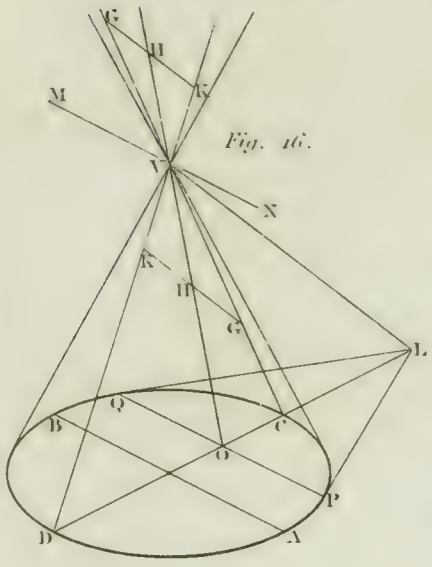

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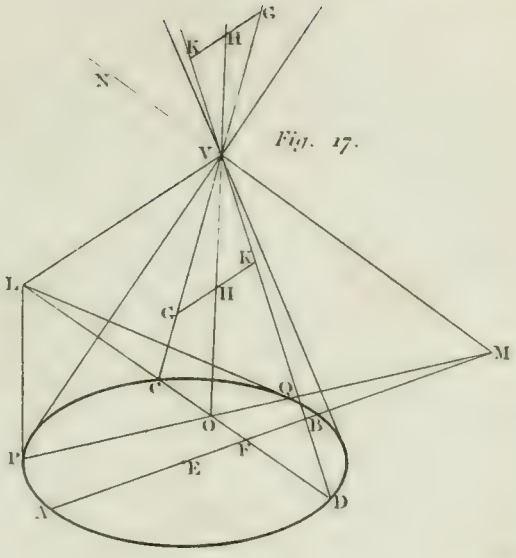

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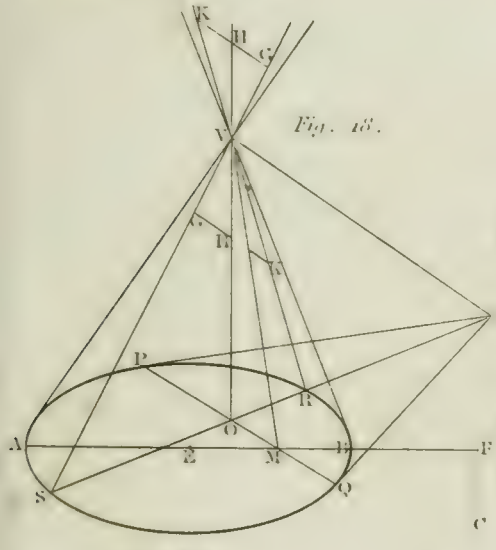

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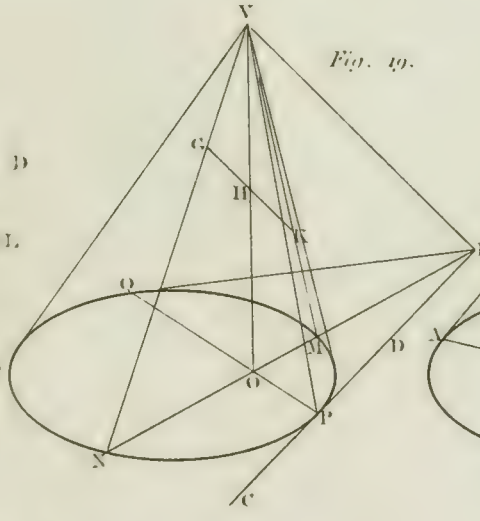

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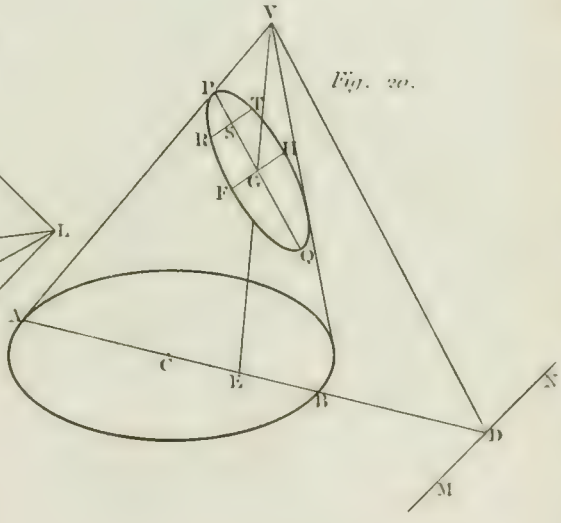

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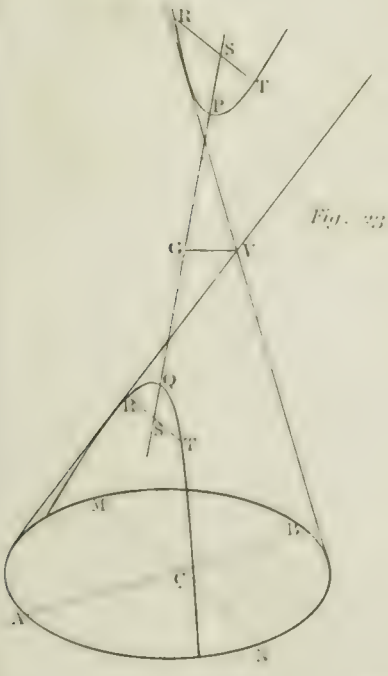

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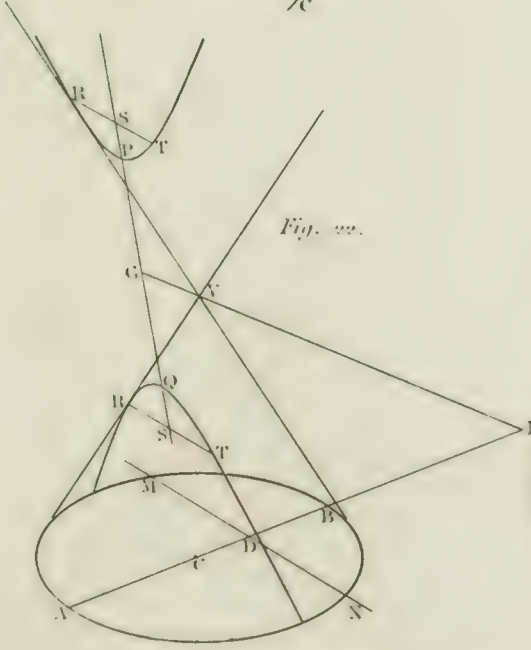

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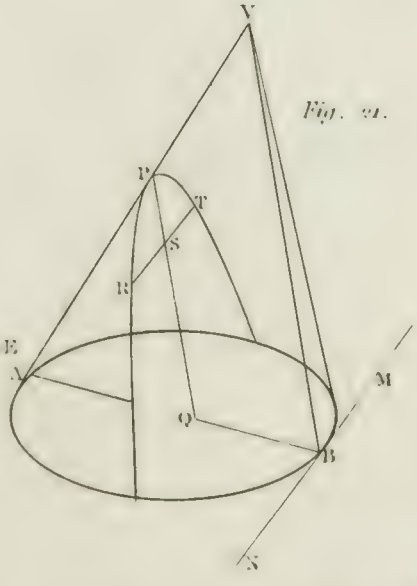

Fig. 21.

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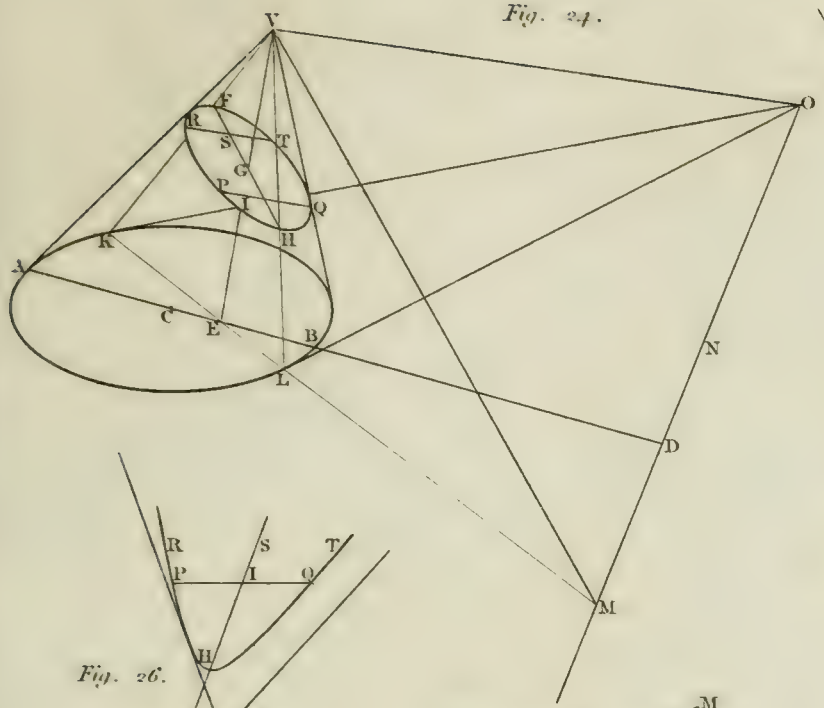

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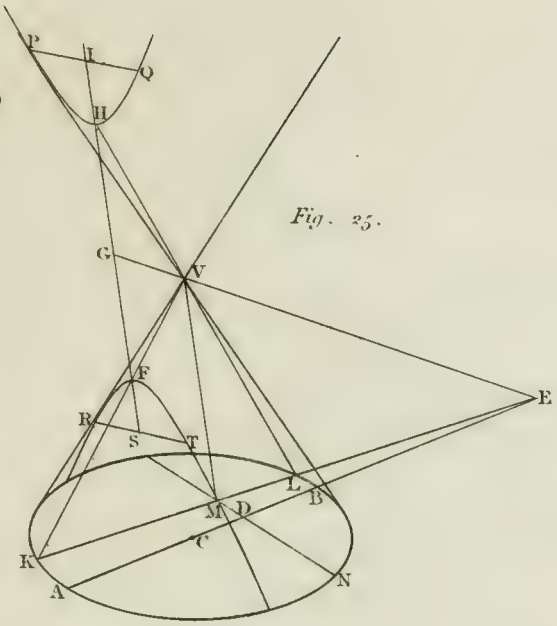

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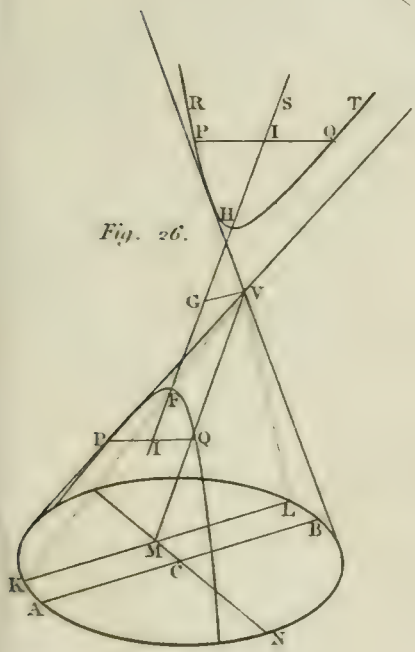

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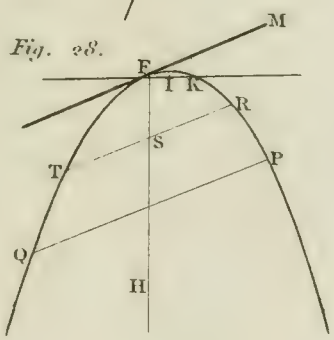

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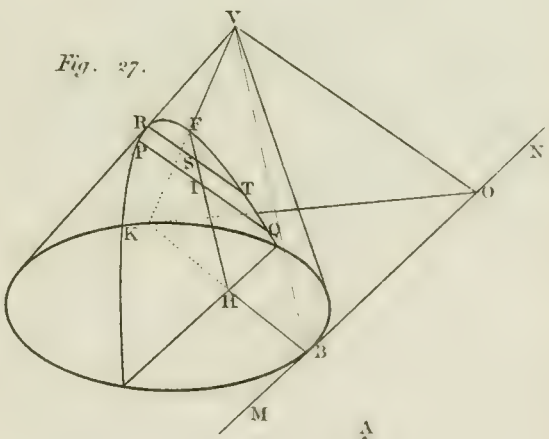

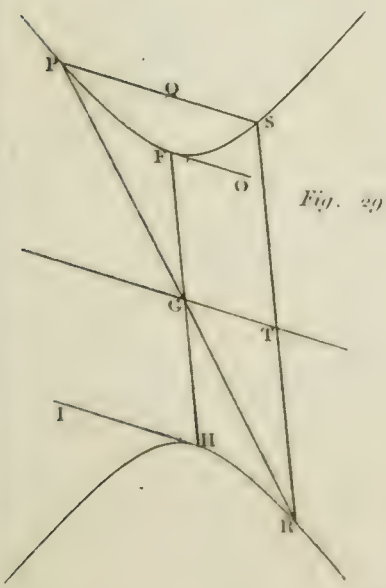

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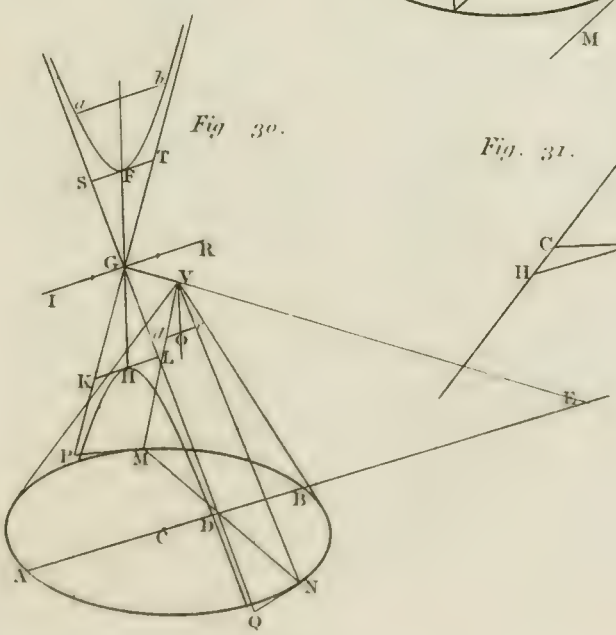

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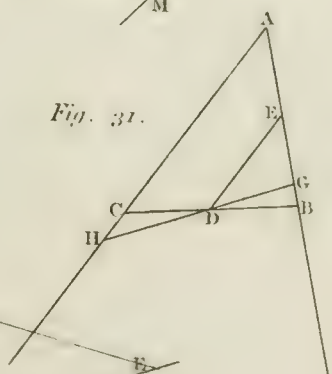

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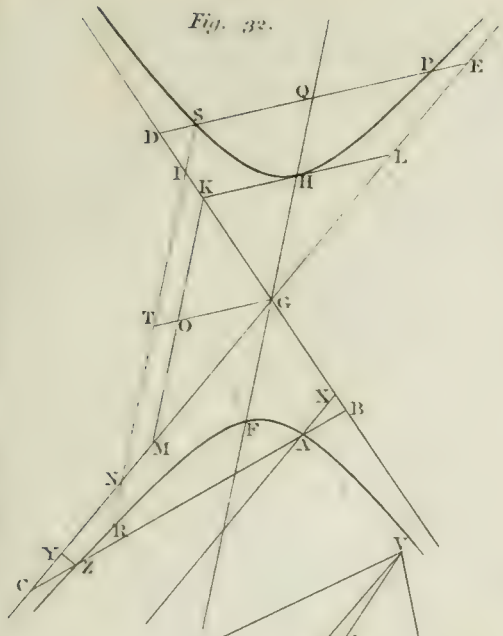
Fig. 32.



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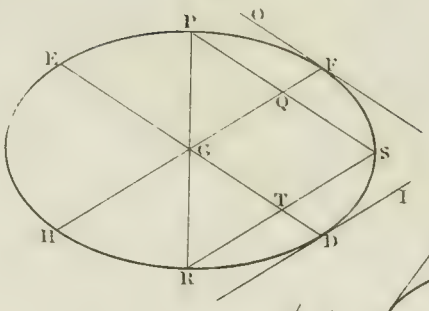


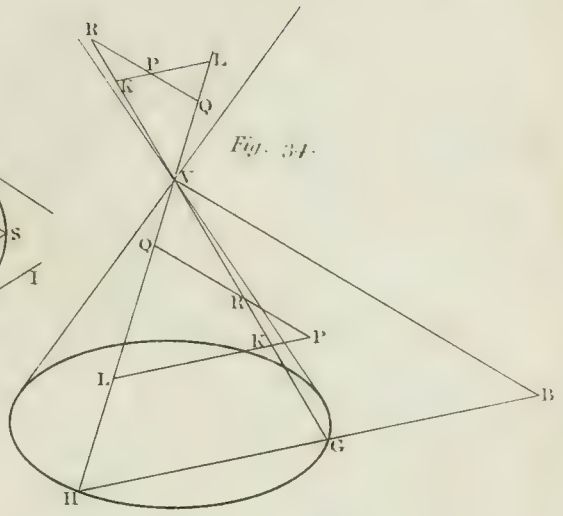
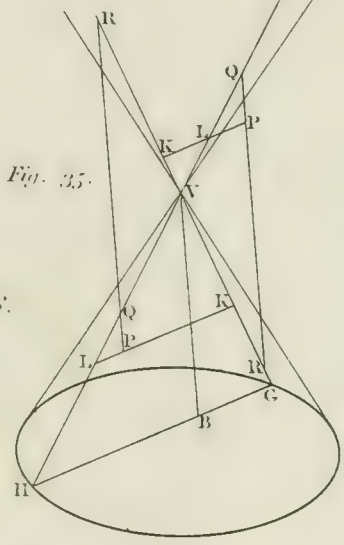


Fig. 34.

Fig. 35.



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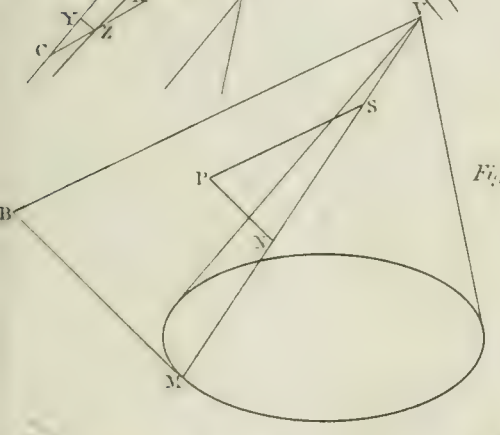

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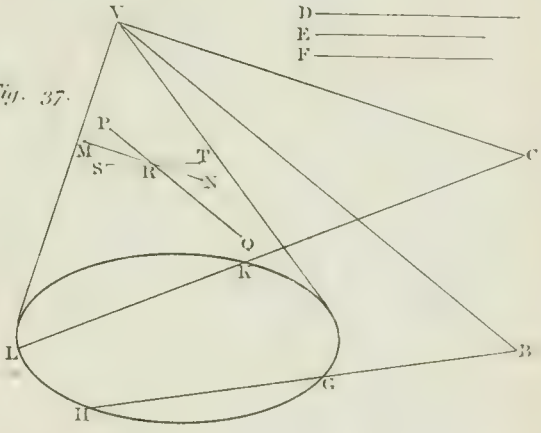

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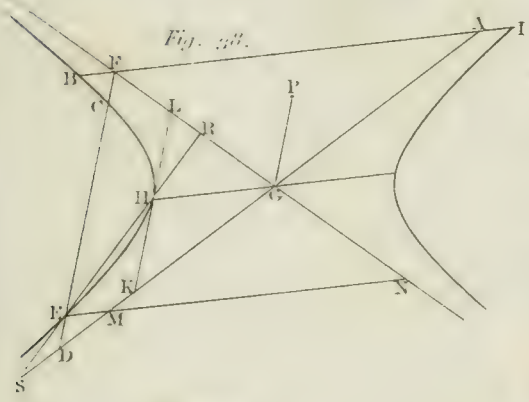

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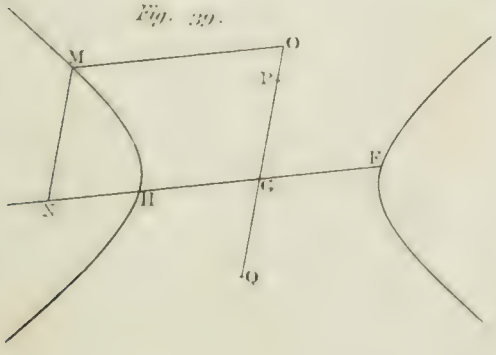

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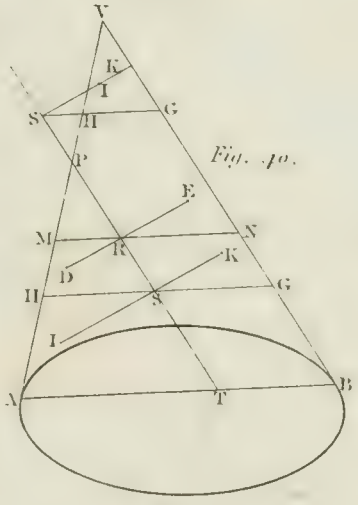

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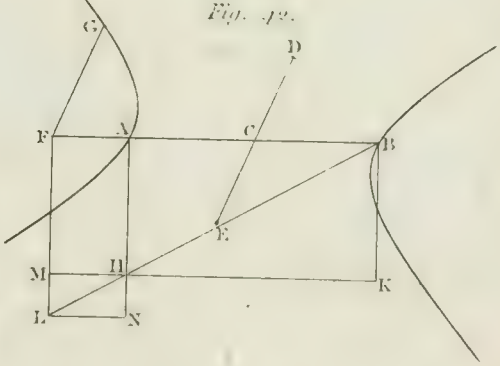

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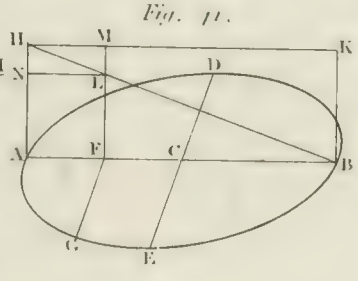

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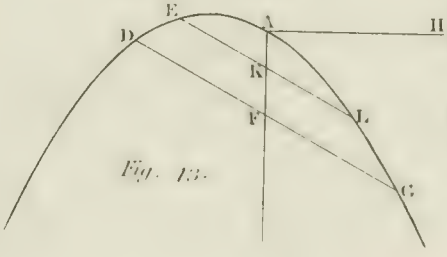

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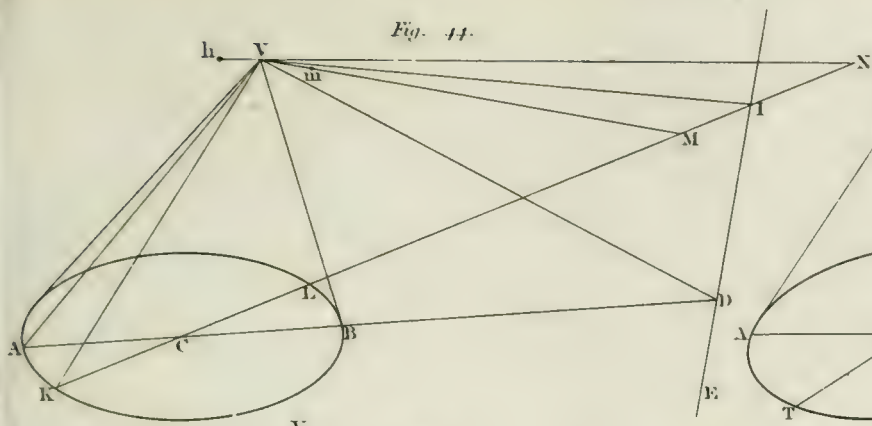
Fig. 44.



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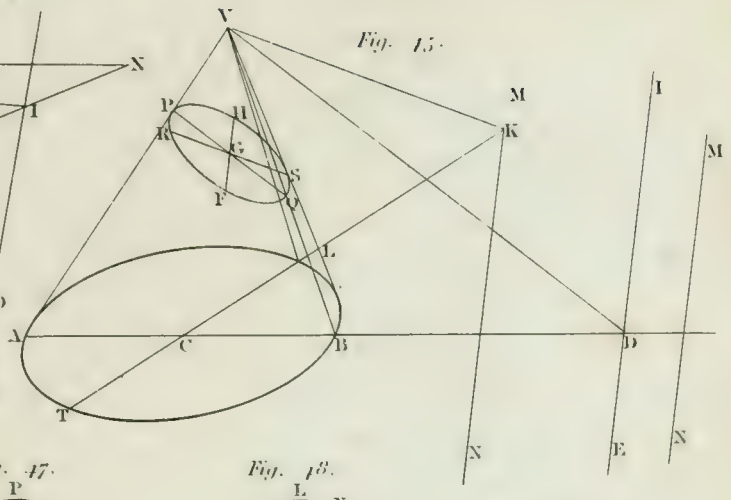

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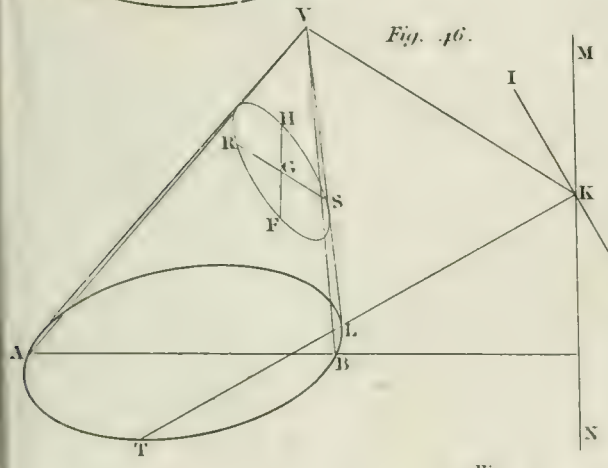

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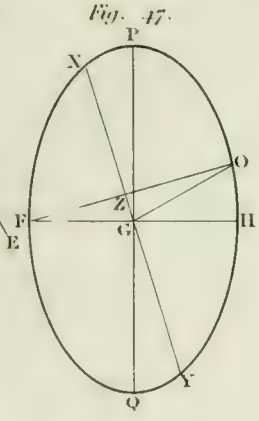

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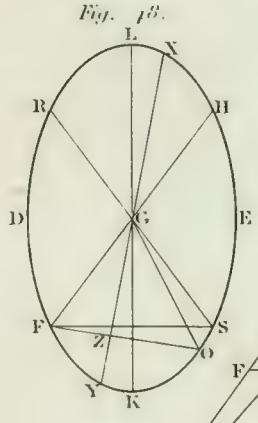

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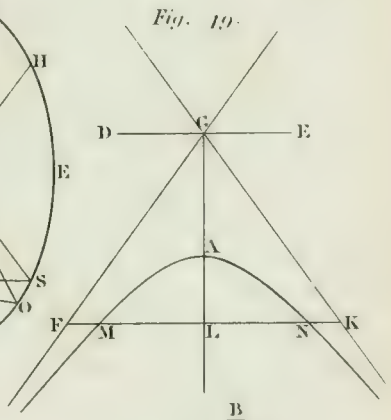

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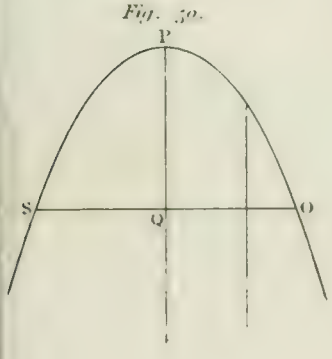

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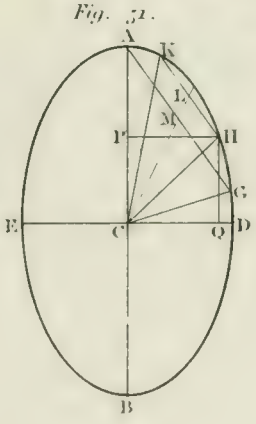

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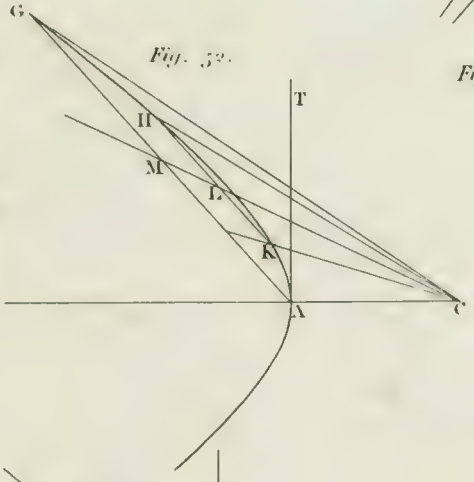

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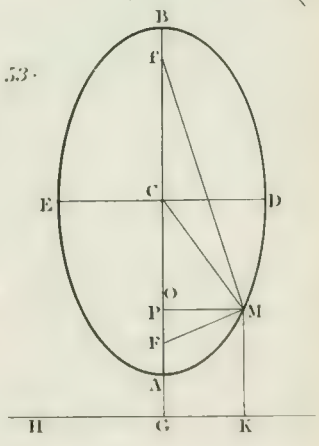

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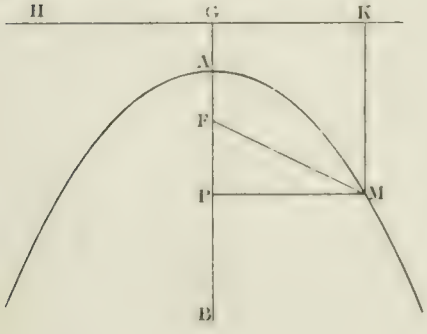

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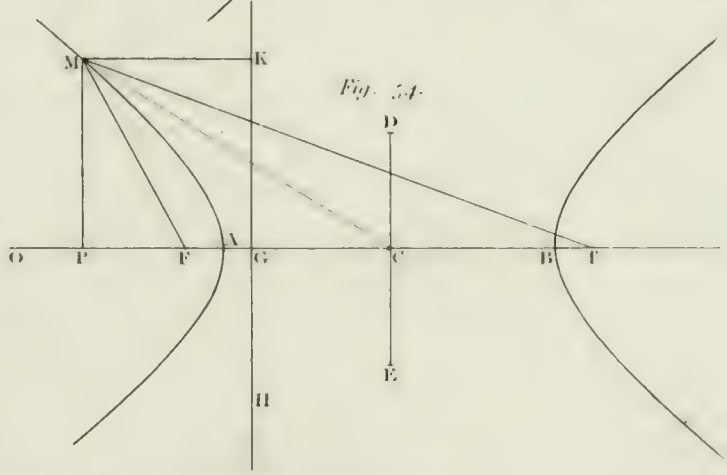

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Fig. 1.

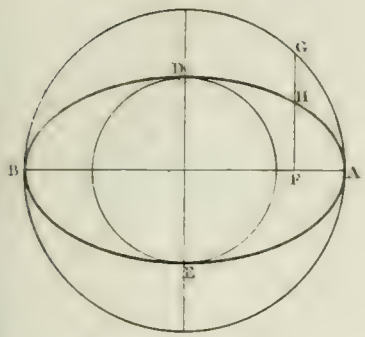
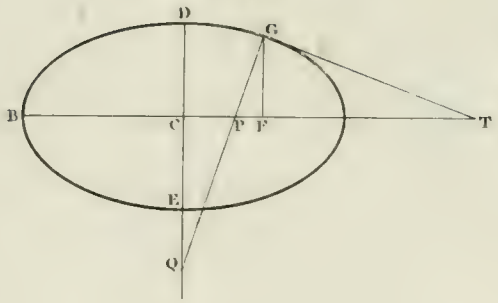


Fig. 5.



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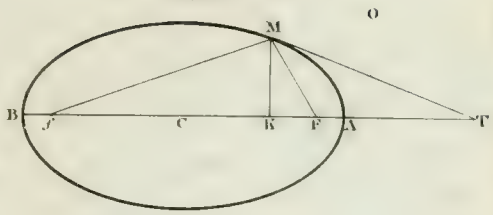

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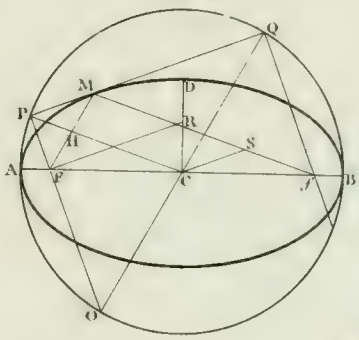

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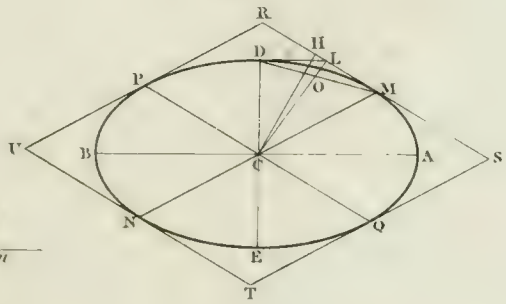

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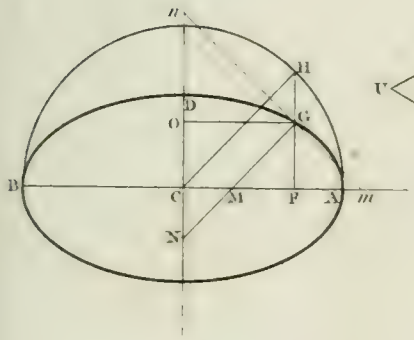

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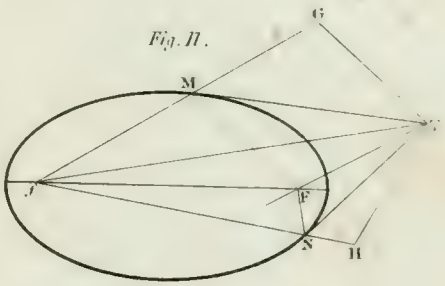

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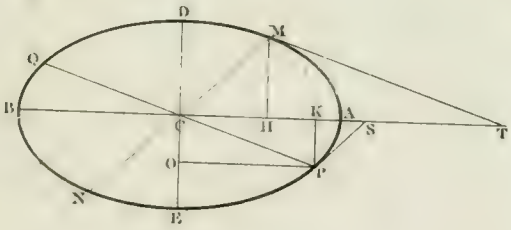

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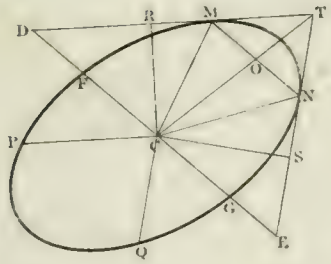

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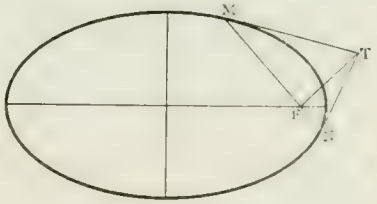

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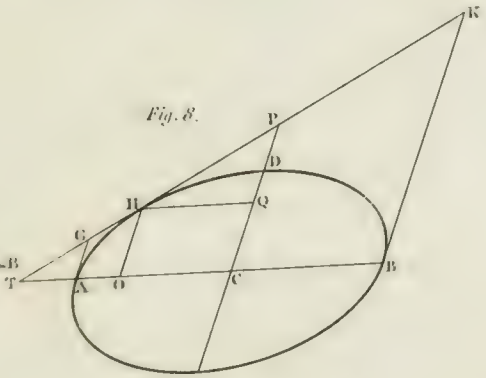

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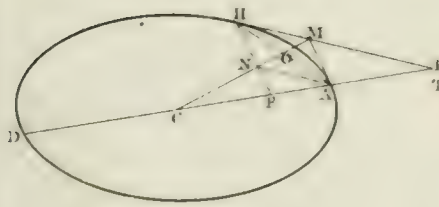

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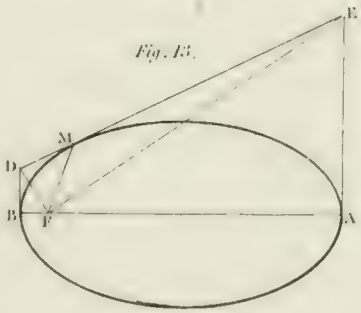

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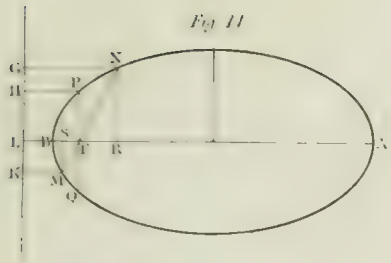
Fig. 11



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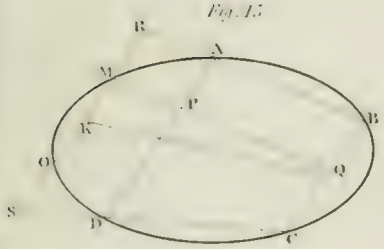

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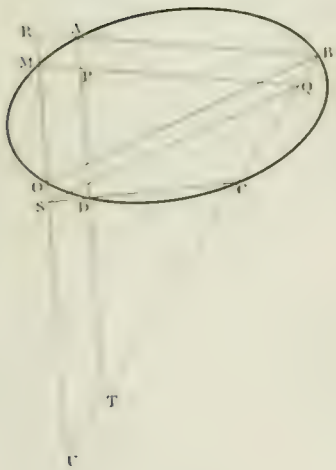

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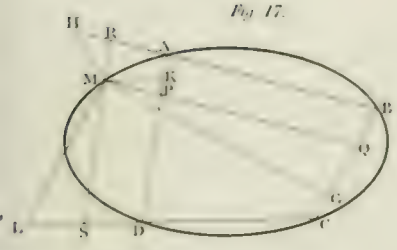

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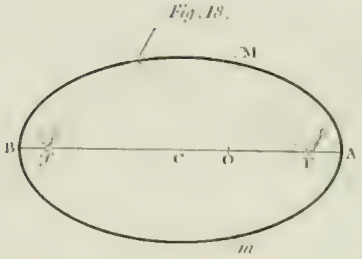

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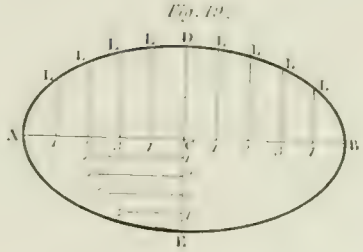

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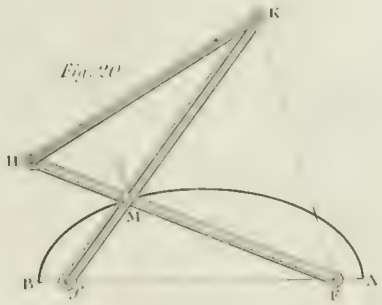

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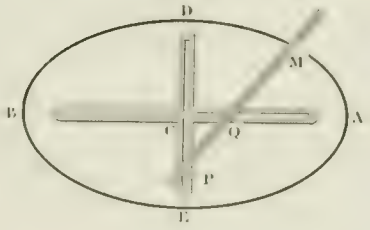

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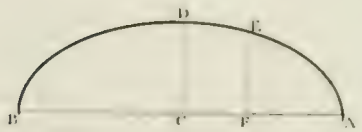

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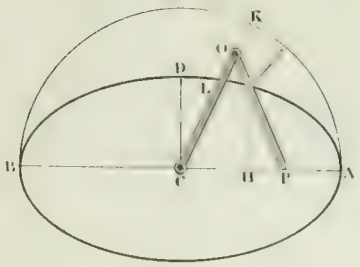

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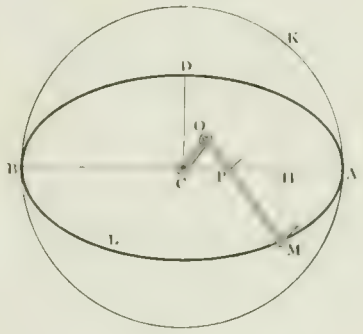

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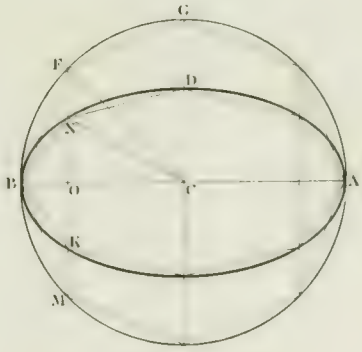

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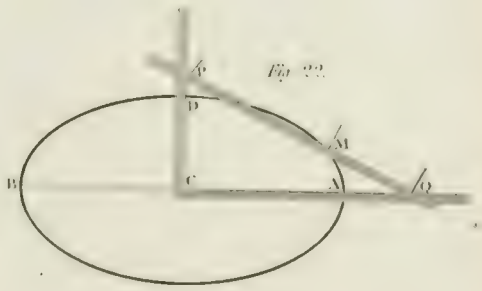

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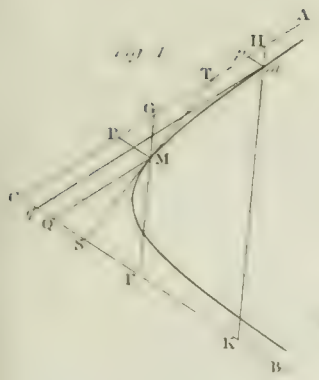
HYPERBOLA.



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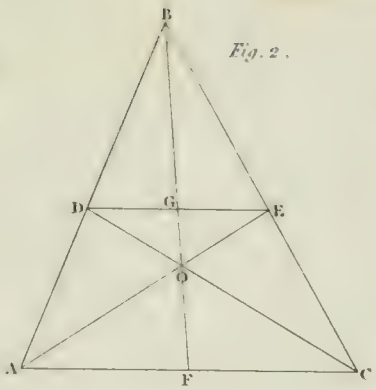

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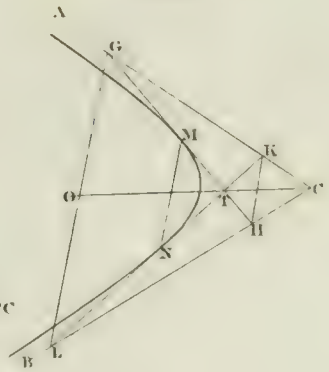

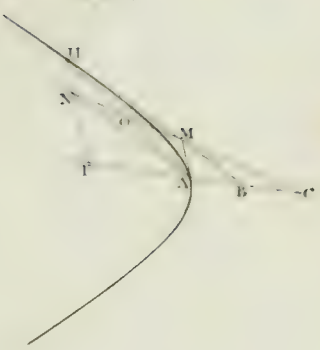

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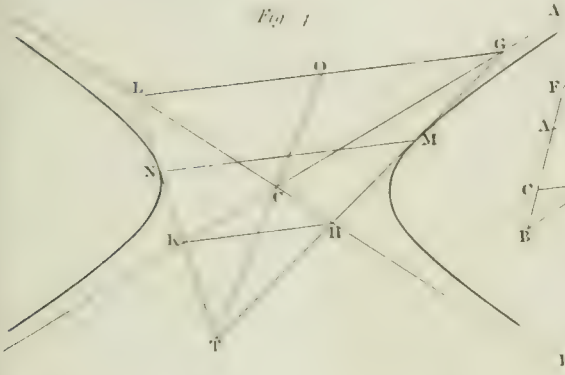

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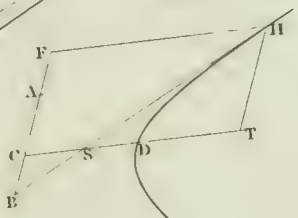

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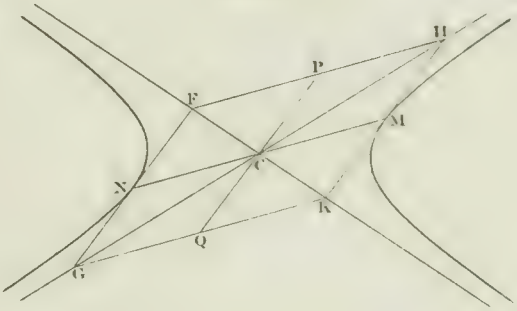

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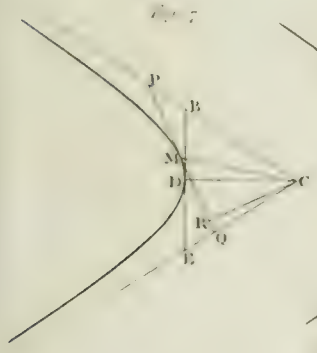

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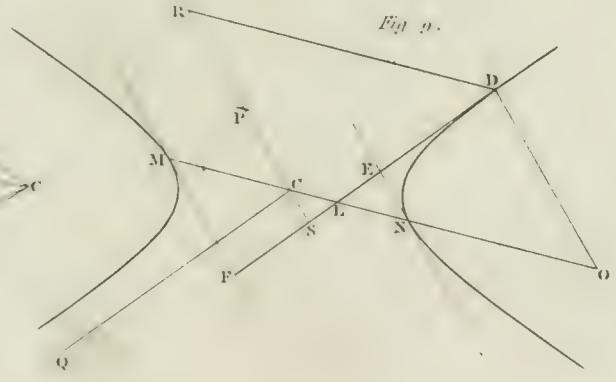

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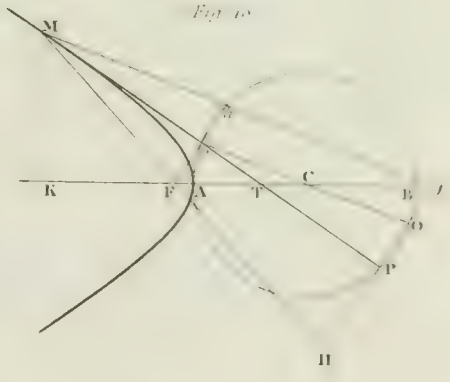

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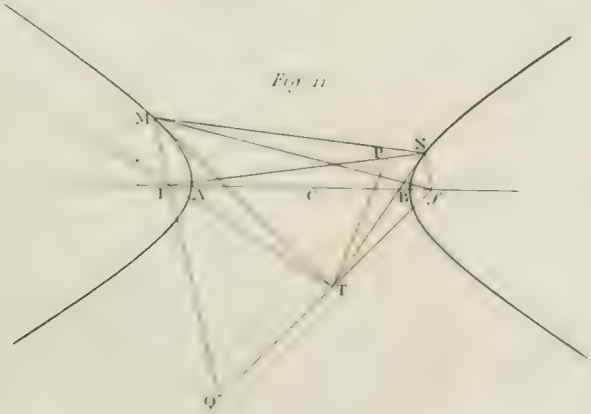

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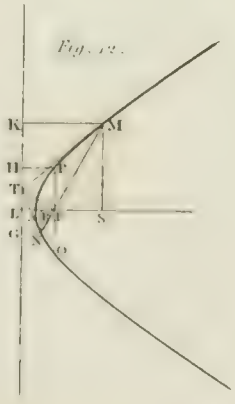

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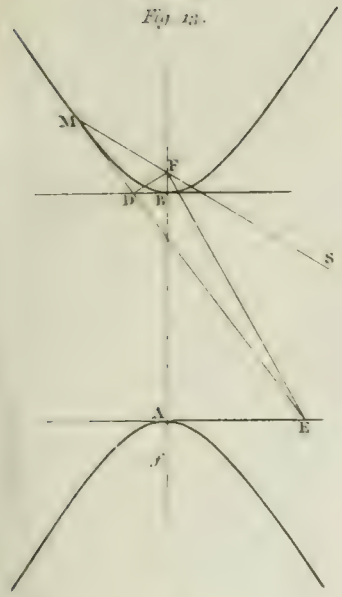
HYPERBOLA.

Fig. 13.



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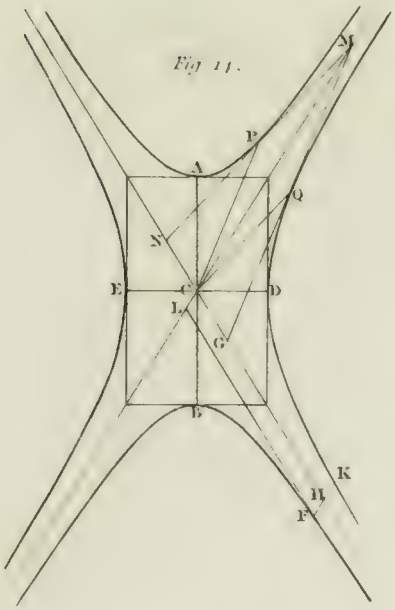

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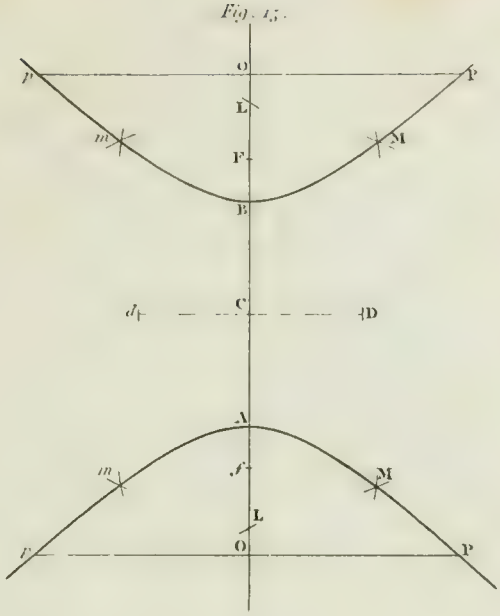

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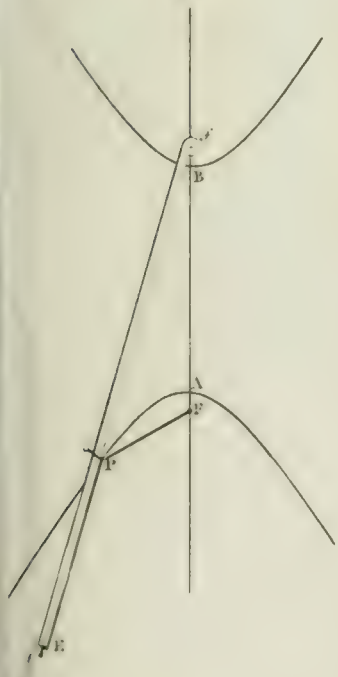

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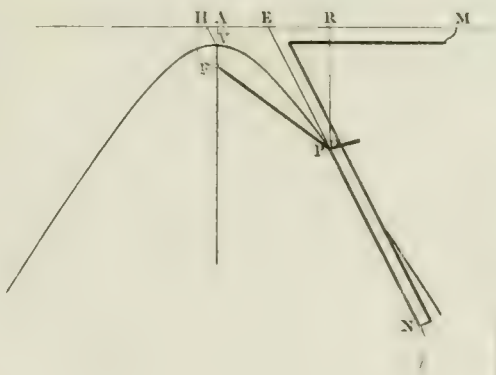

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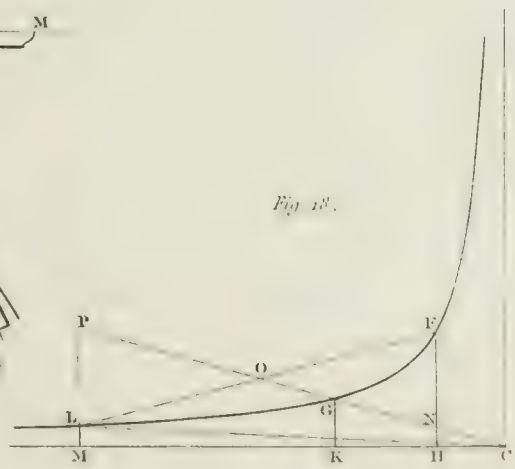

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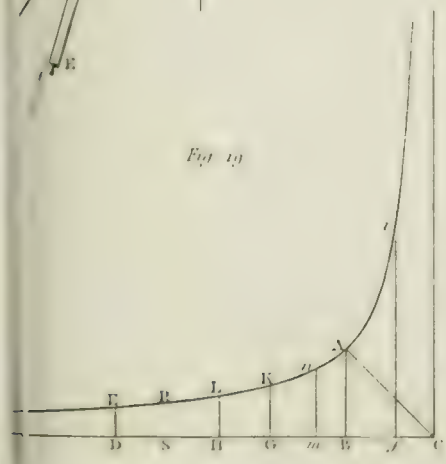

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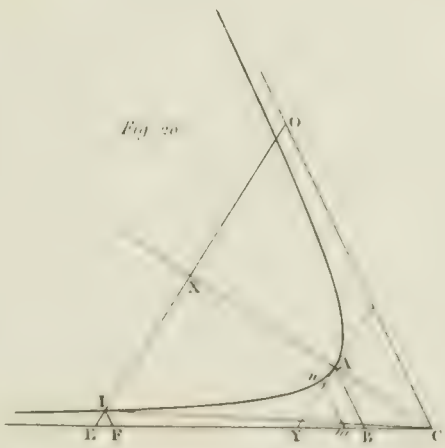

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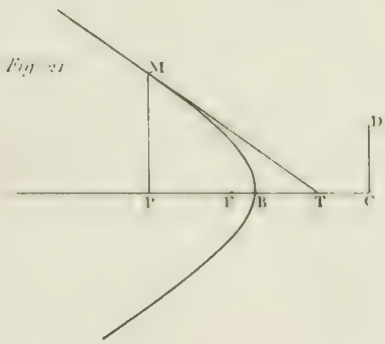

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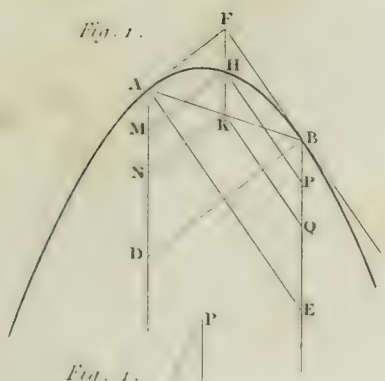
CONICS.

PARABOLA.

Fig. 1.



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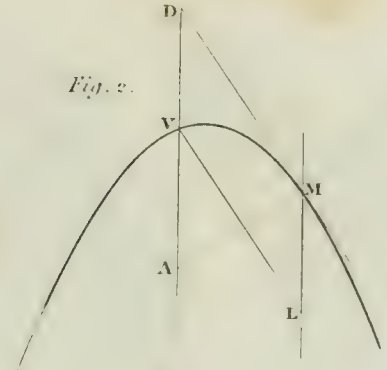

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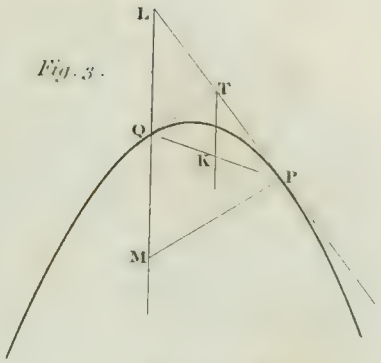

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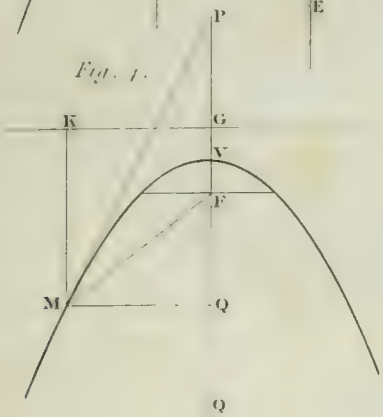

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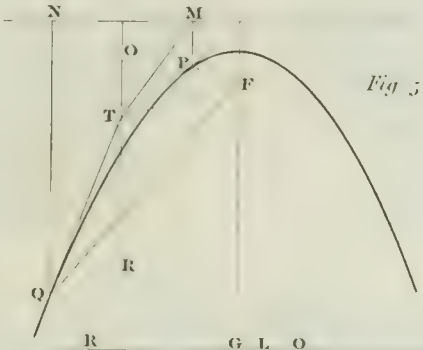

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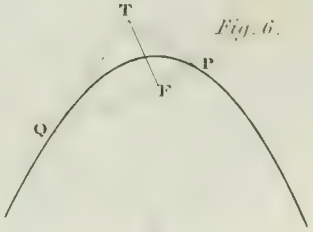

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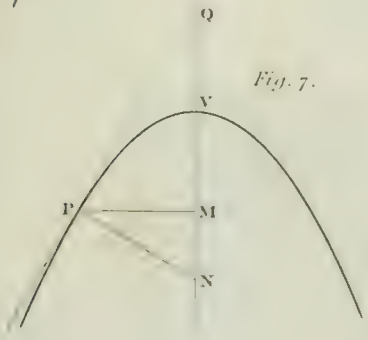

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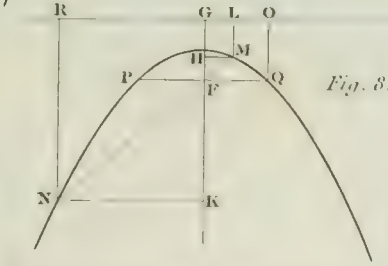

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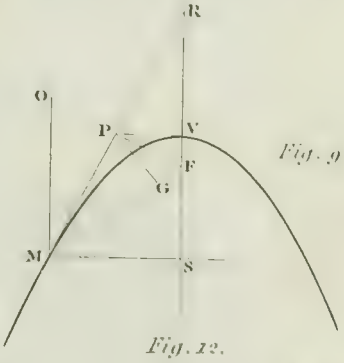

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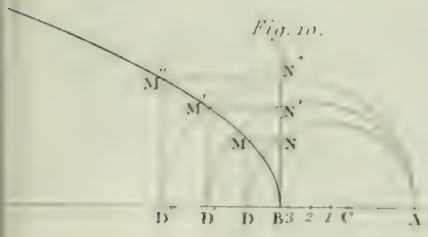

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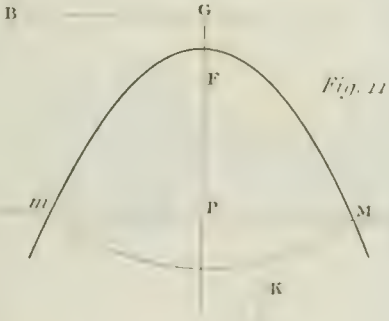


Fig. 12.

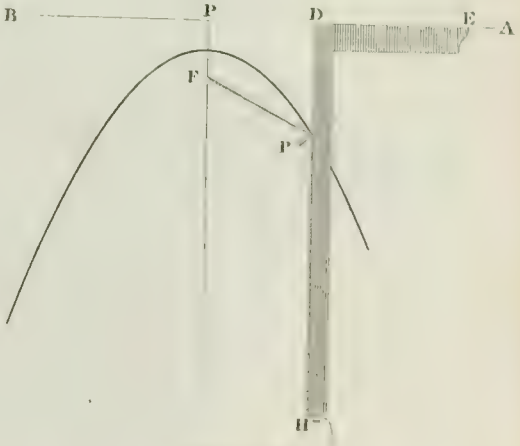


Fig. 16.

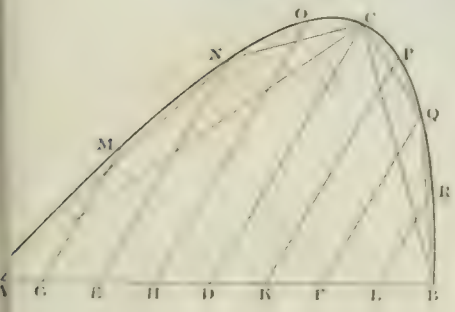


Fig. 13.

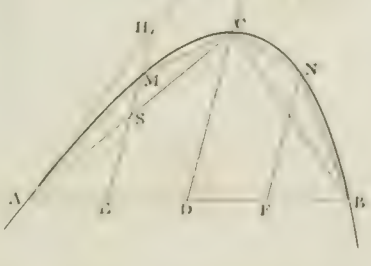
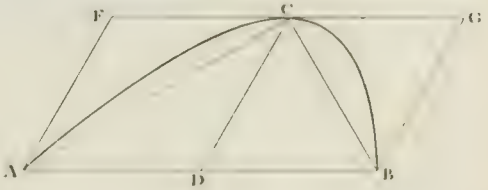


Fig. 14 & 15.



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Lowry Sculp.

COTTON MANUFACTURE.

CALICO PRINTING.

Fig. 1.

Fig. 6.

Fig. 2.

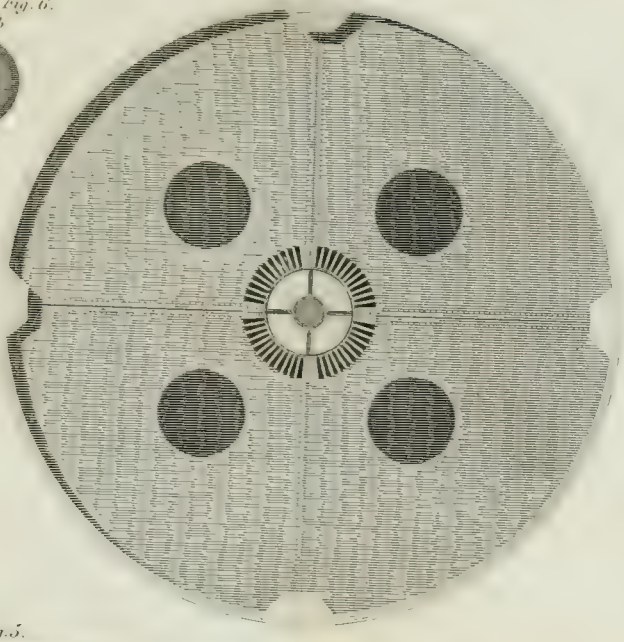


Fig. 5.

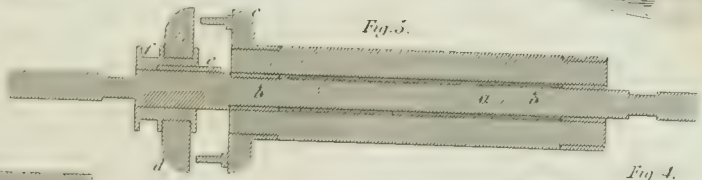
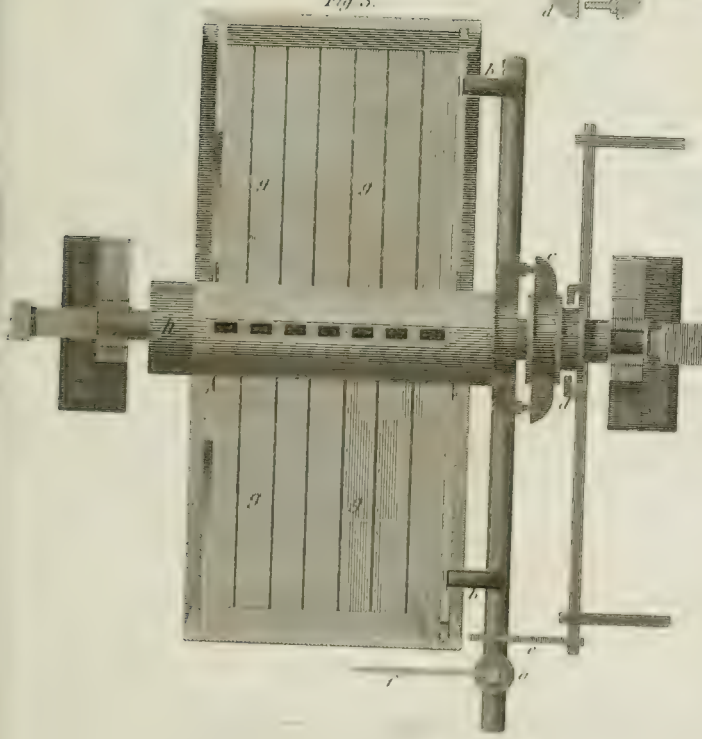


Fig. 3.



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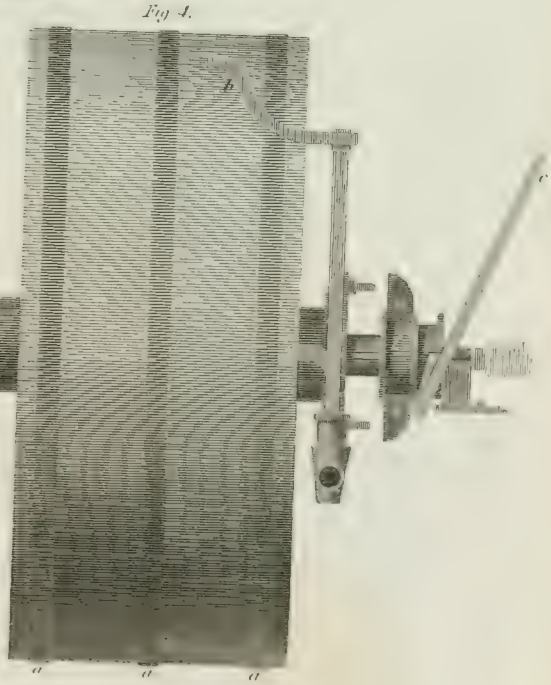
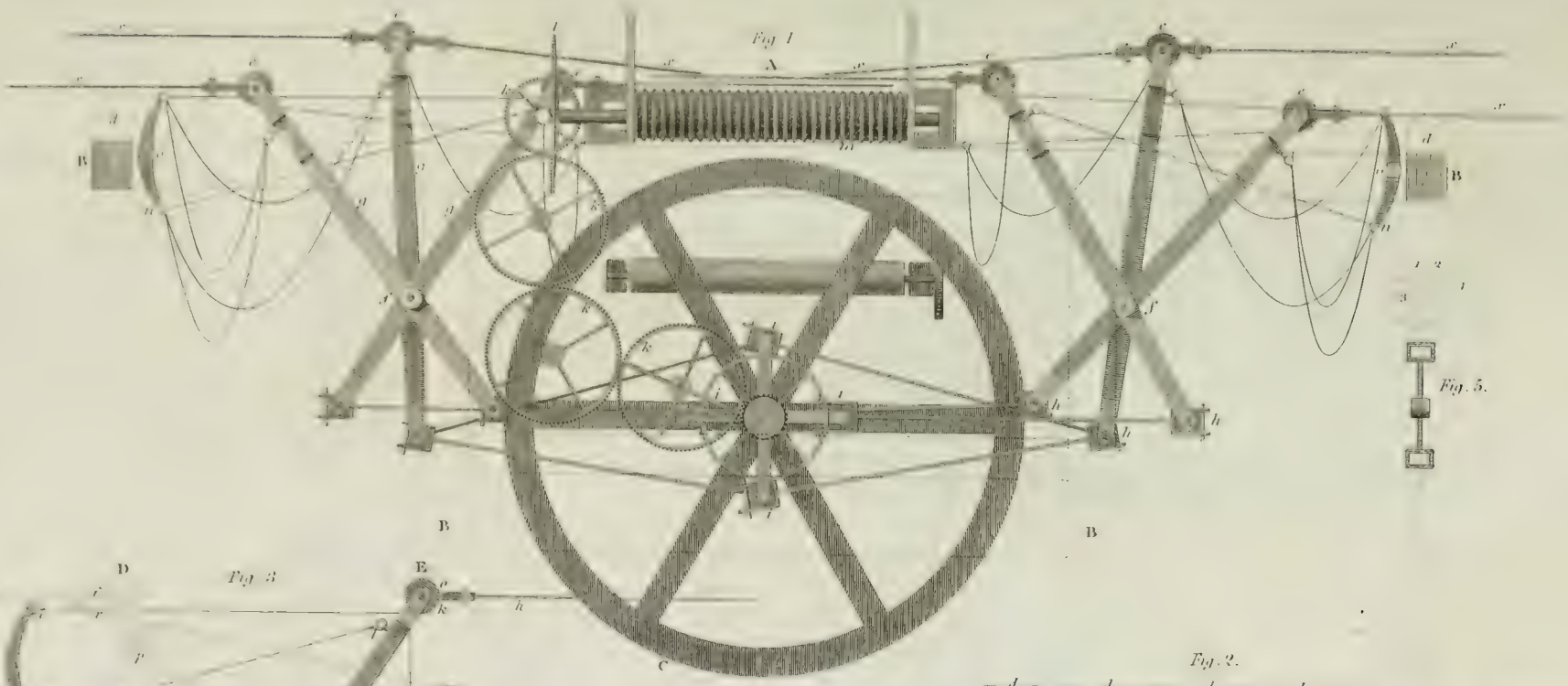


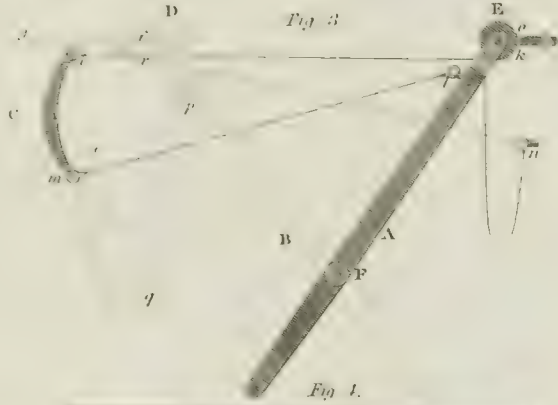
...w Wm. Thomson.

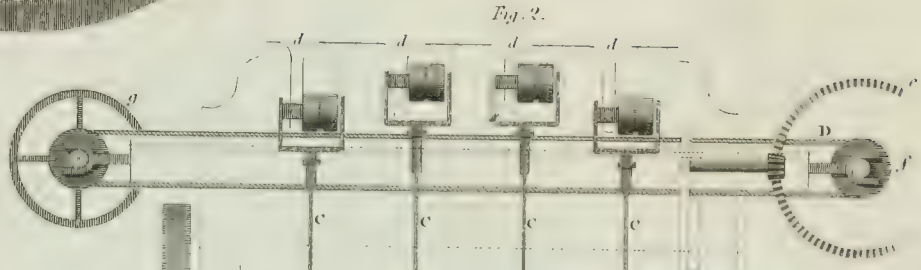
Published as the Act directs, 1809, by Longman, Hurst, Rees & Orme, Paternoster Row.

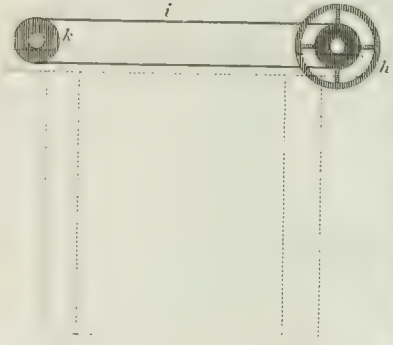
Engraved by Wilson Lowry.

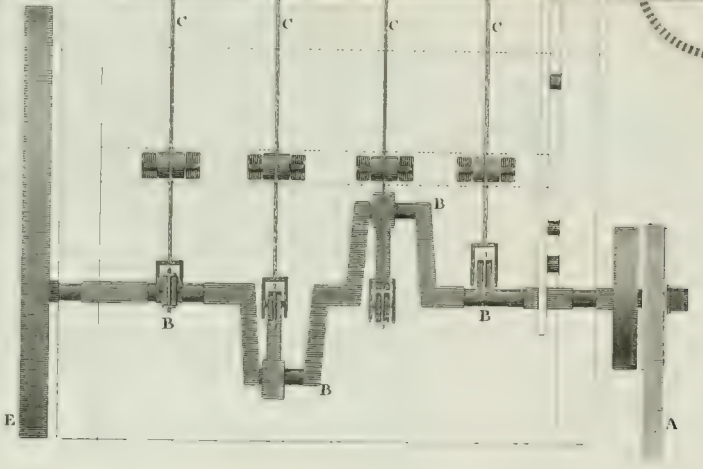
BATTING MACHINE.











Drawn by J.s Burton.

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Engraved by Wilson Lowry.

COTTON MANUFACTURE.

DEVILING.

PLATE III.

Fig. 5

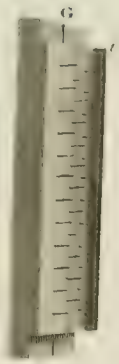


Fig. 3

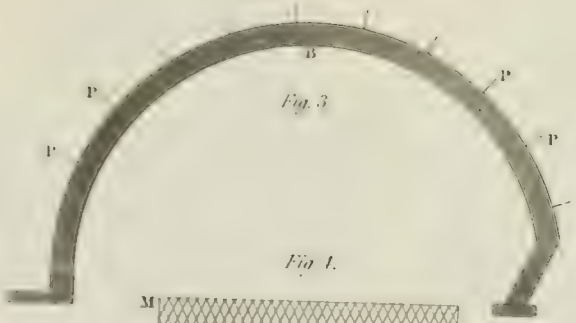
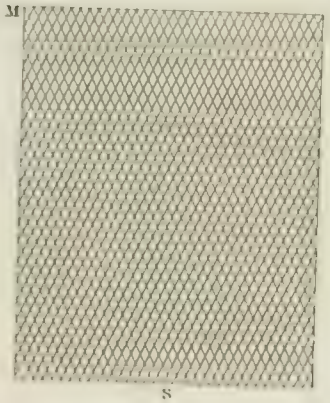


Fig. 4.



Plan.

Fig. 1.

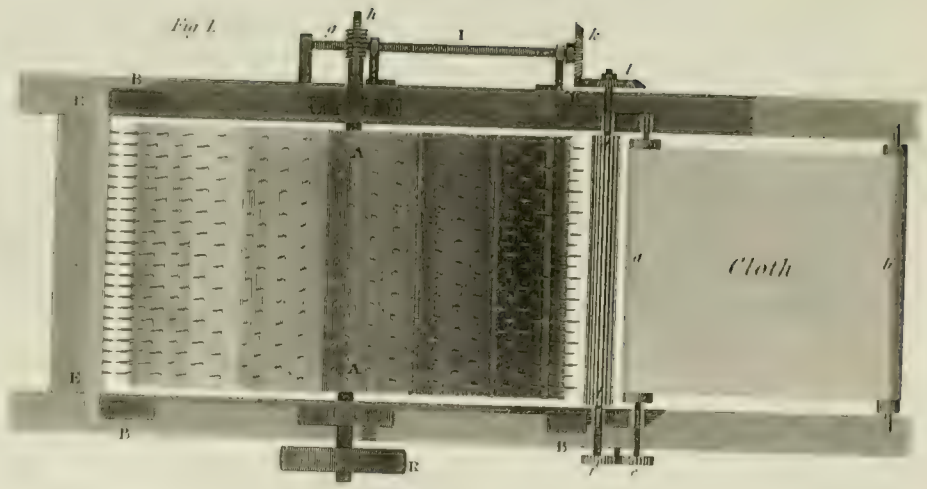
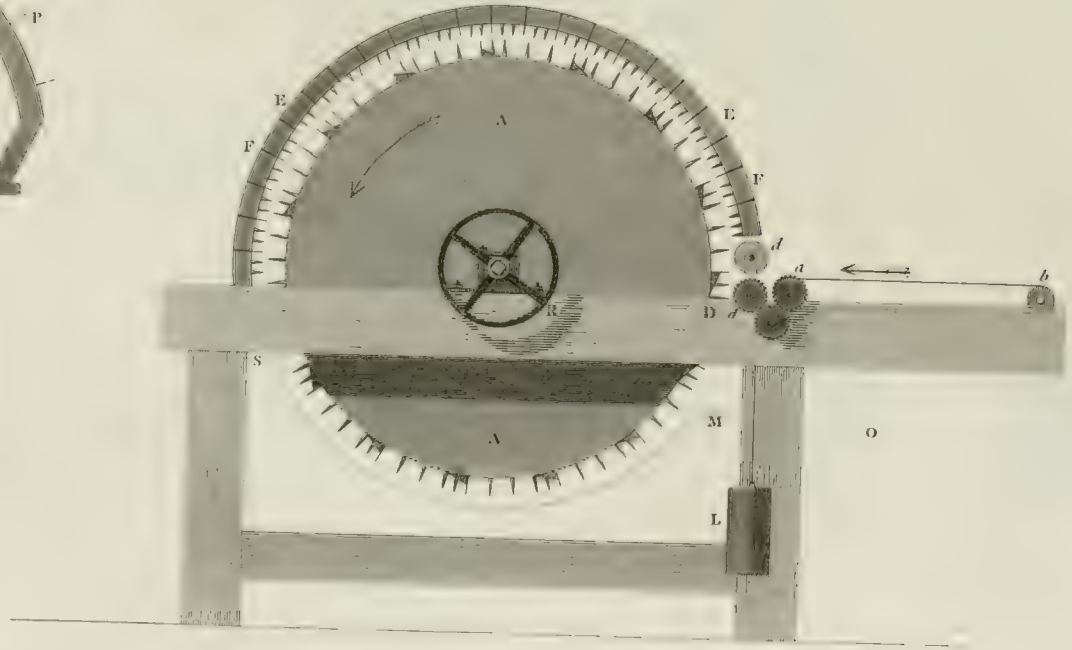


Fig. 2.

Section.



Drawn by James Burton.

Published as the Act directs, by Longman, Hurst, Rees, Orme & Brown, Paternoster Row.

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CARDING.

Fig. 1.

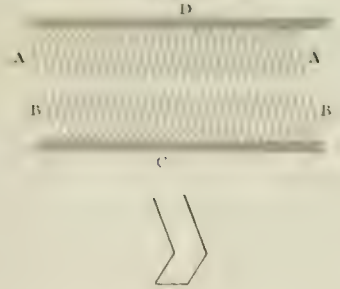


Fig. 1 Plan

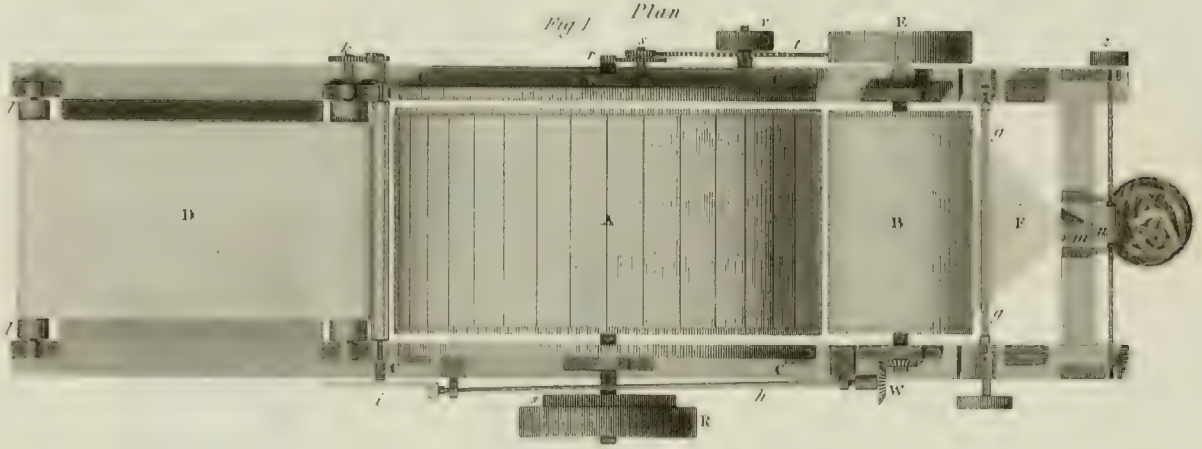


Fig. 3.

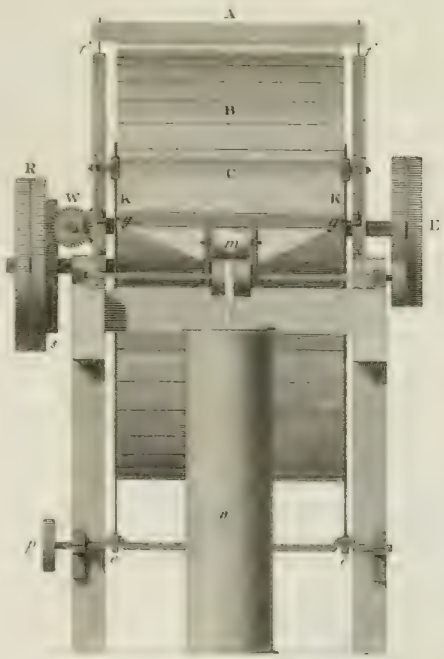
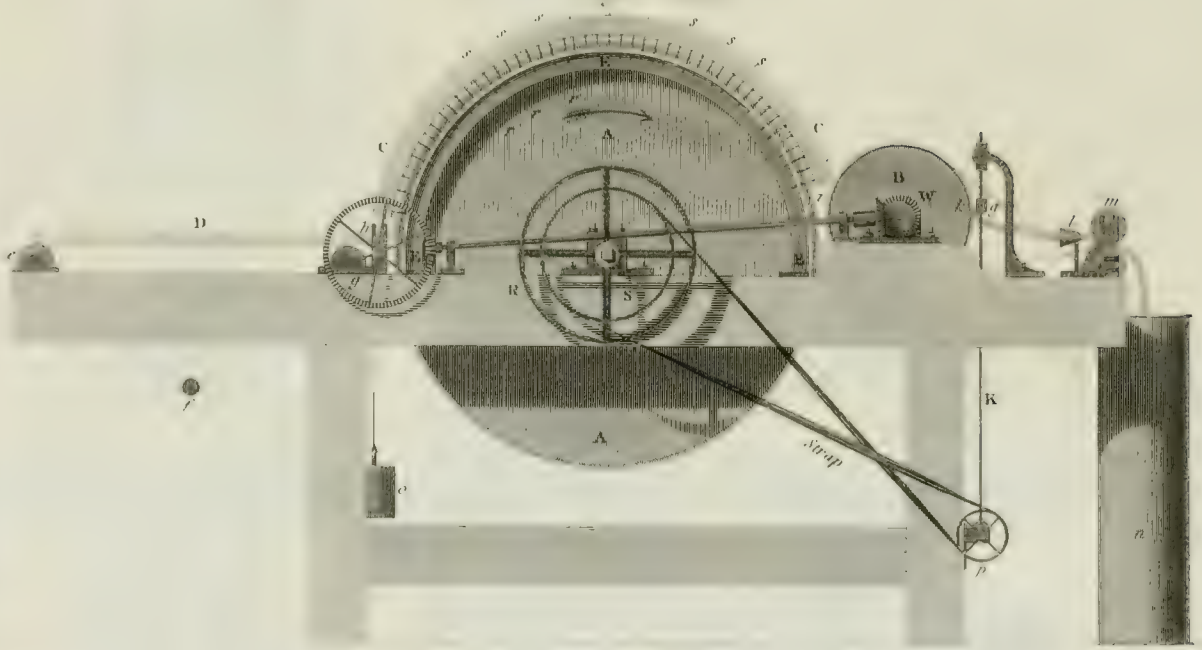


Fig. 2. Section



Drawn by James Brown

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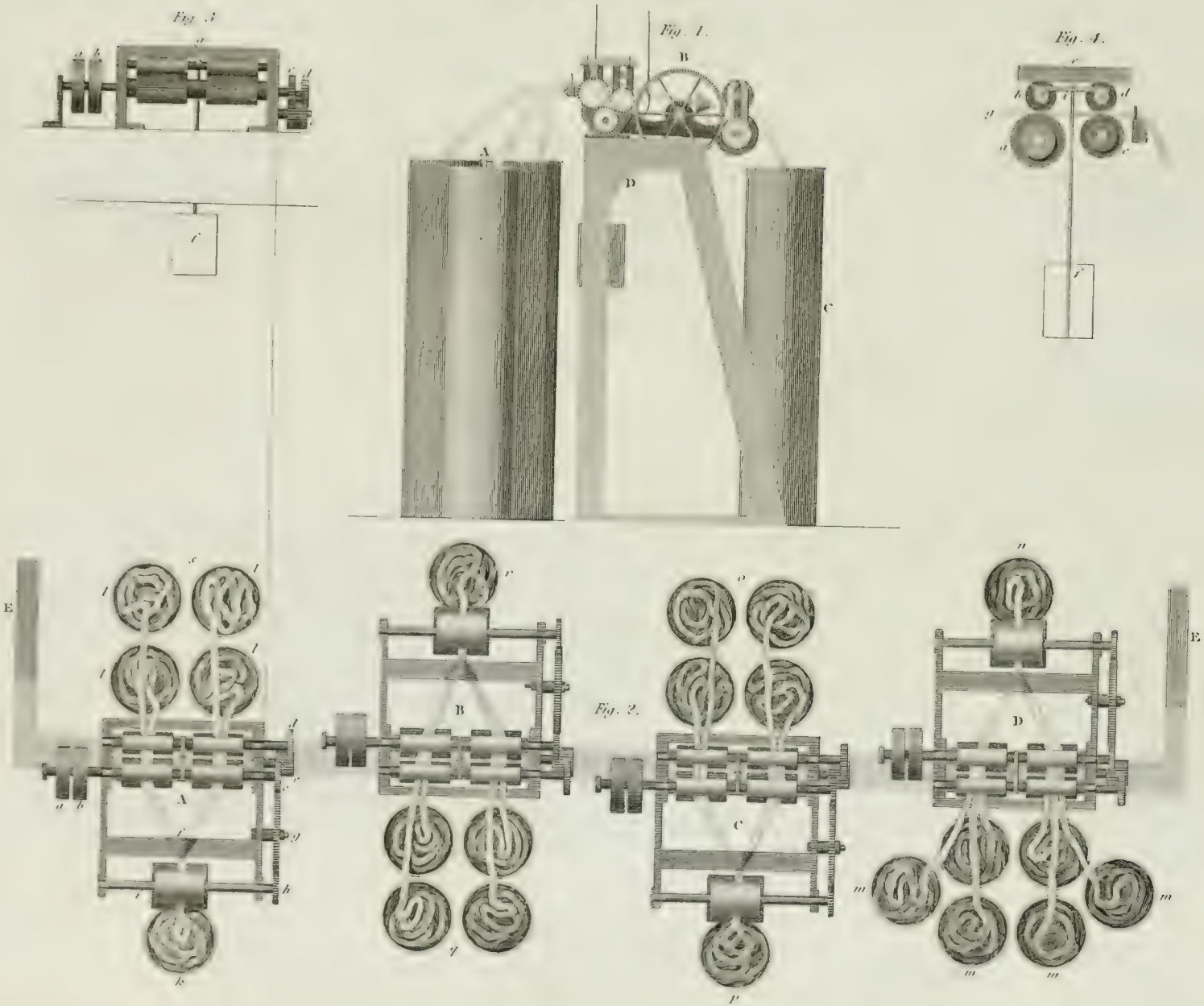
COTTON MANUFACTURE.

DRAWING FRAME.



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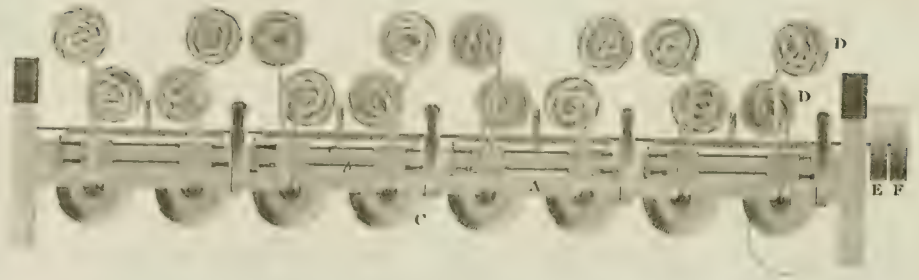
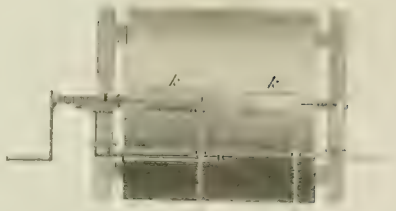
COTTON MANUFACTURE.

ROVING CAN FRAME.

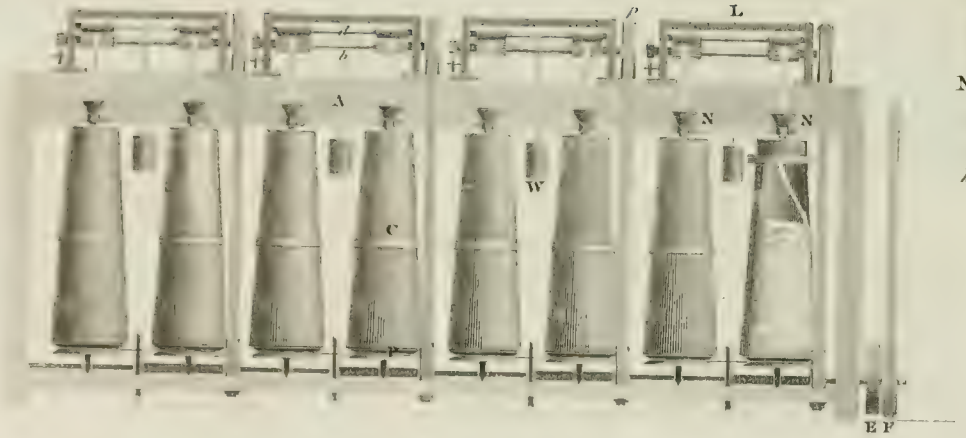
PLATE

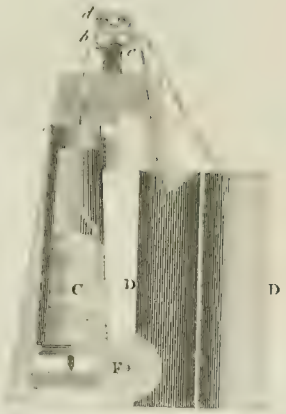


Winding Block



A *Roller beam.*
b Front Roller.
c Back Roller.
d Top front Roller.
C *Revolving Can.*
W *Roller weights.*
P *Can Pulley.*
DD *Back Cans.*
E *Driving Pulley.*
F *Loose Pulley.*
NN *Can Funnels.*
L *Cleaner.*
p Front roller Pulley.
kk Bobbins.





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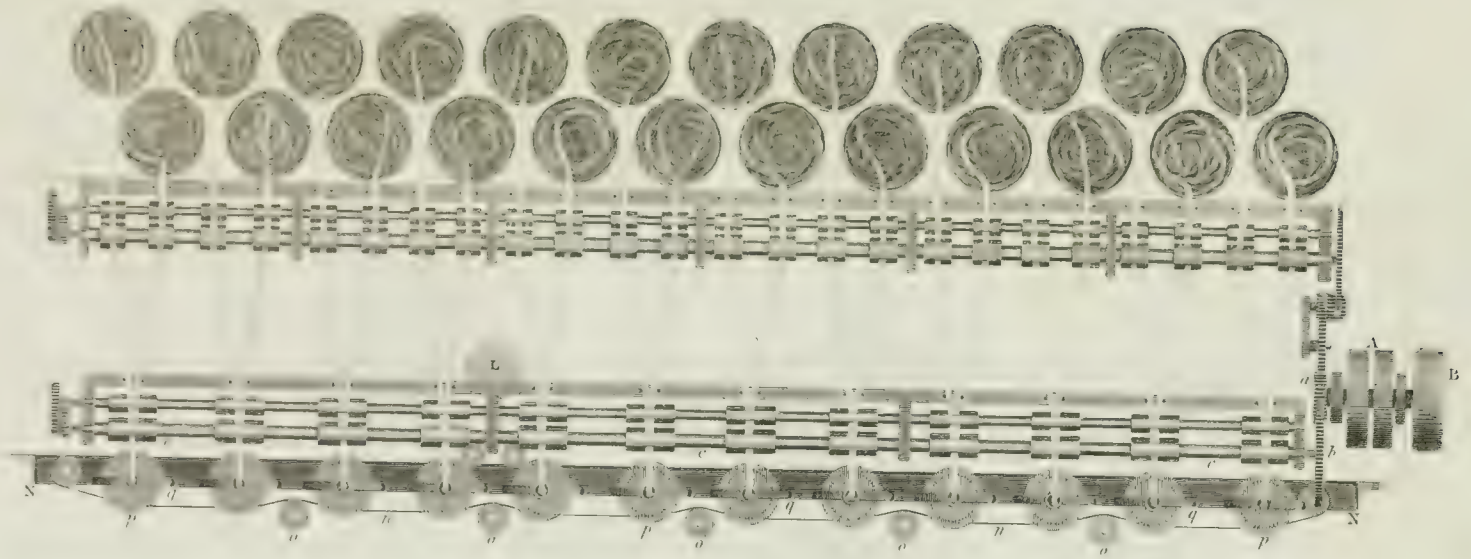
Engraved by Wilson Lowry.

COTTON MANUFACTURE.

ROVING FRAME, Plate 1st

These cans contain the slivers brought from the Drawing frame.



Horizontal Plan of the Machine called Double Speeder.

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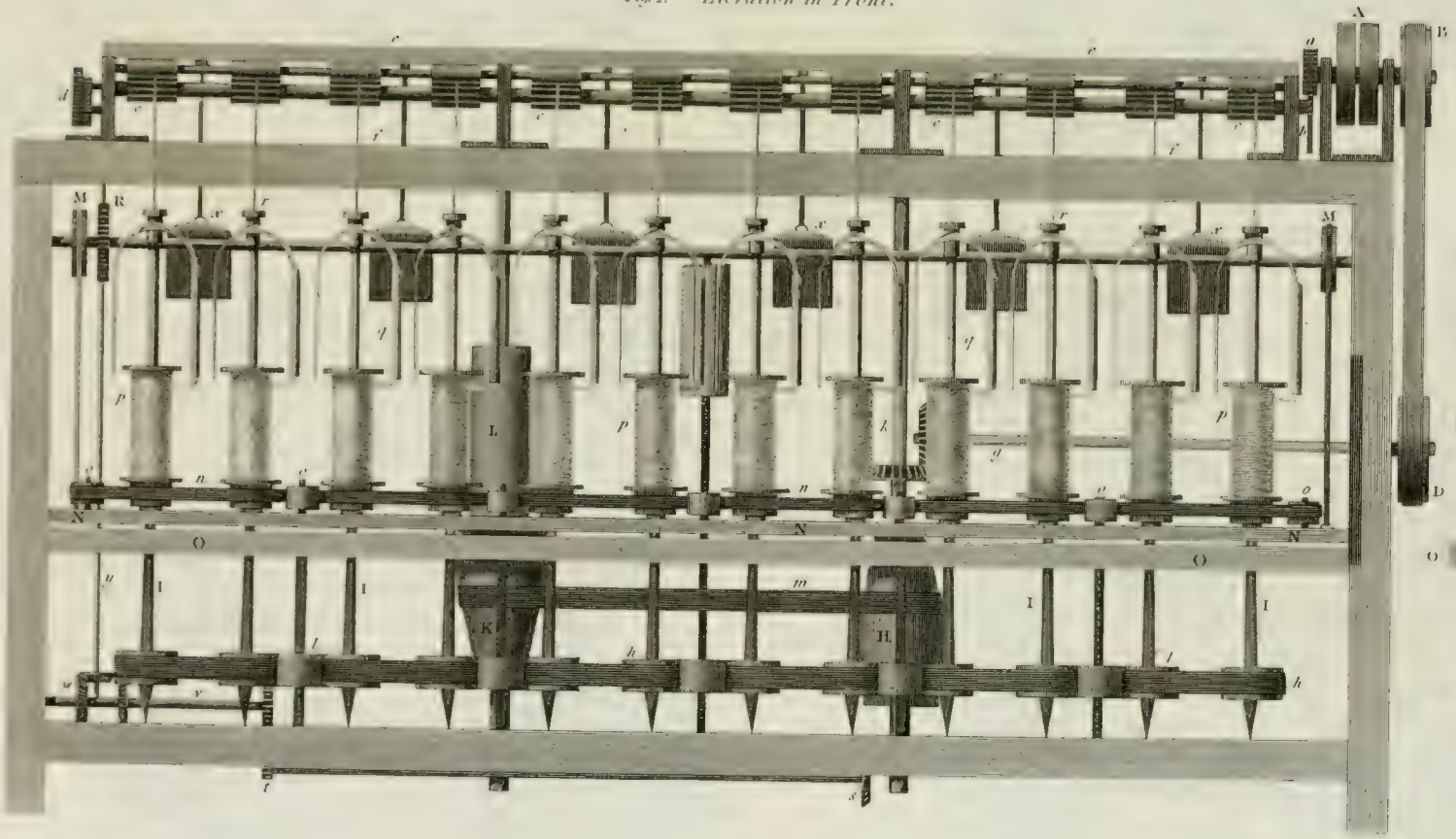
COTTON MANUFACTURE.

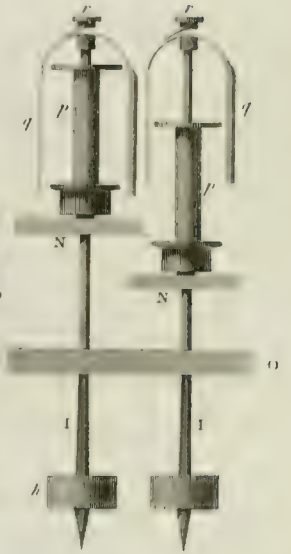
ROVING FRAME termed *DOUBLE SPEEDER.*

PLATE VII.

Fig. 1. Elevation in Front.



Figs. 2 & 3.



J. Hewitson Del.

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Engraved by Wilson Lowry.

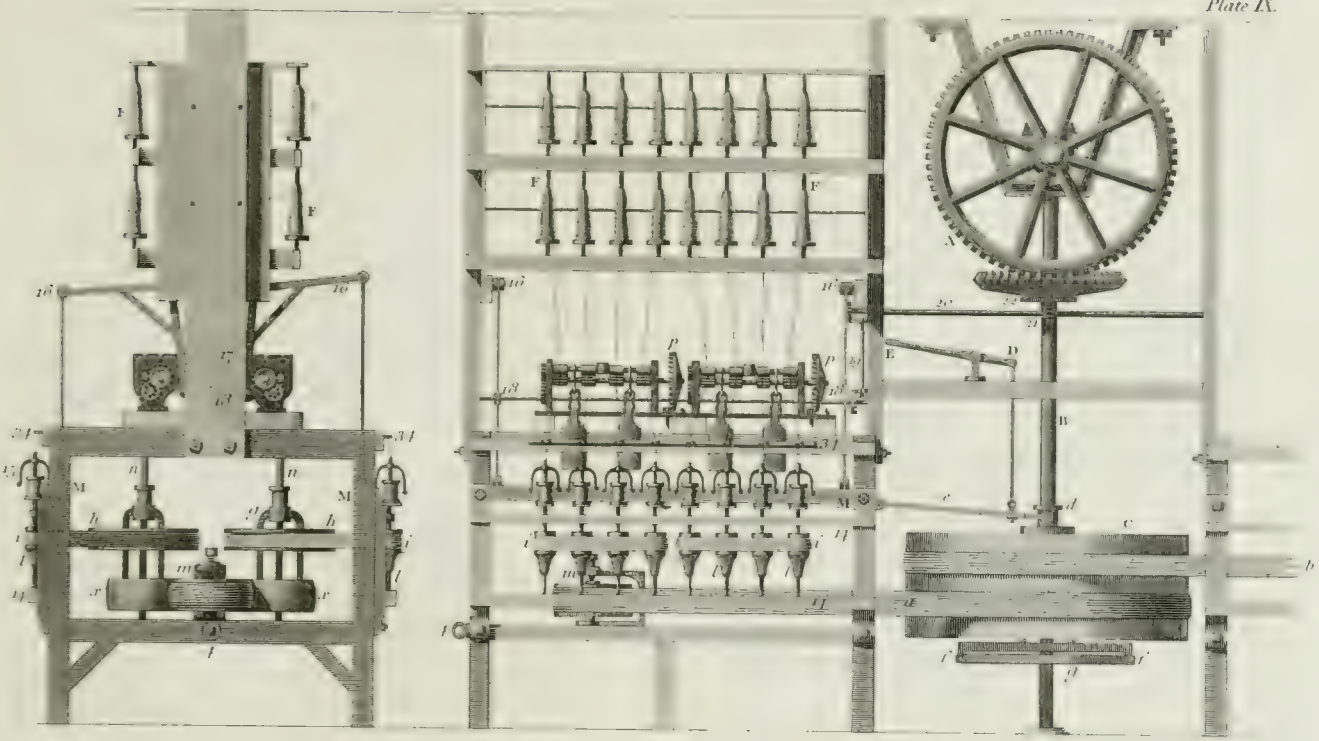
COTTON MANUFACTURE.

WATER SPINNING FRAME.

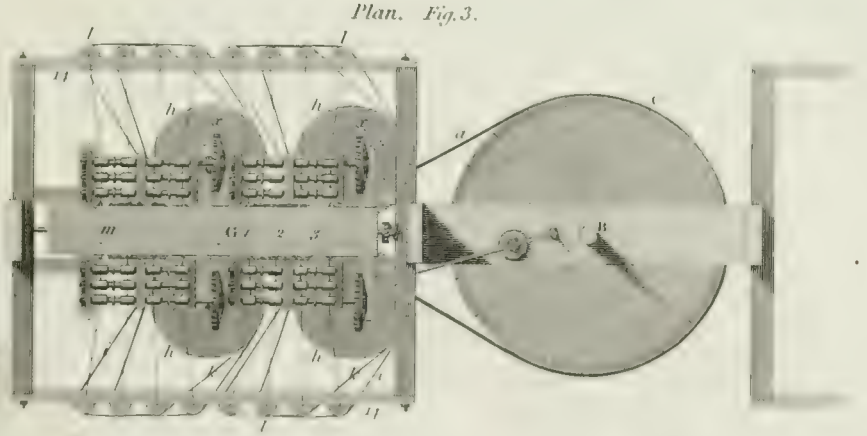
End View. Fig. 2.

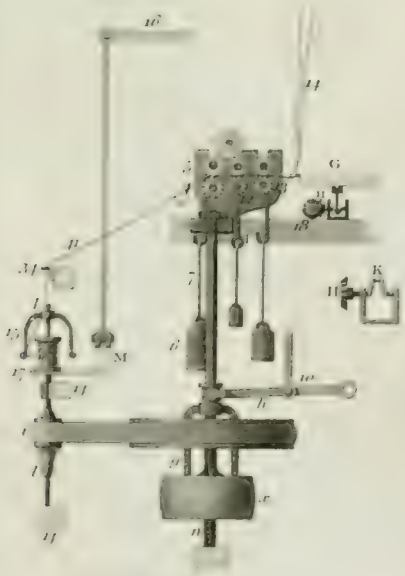
Elevation. Fig. 1.

Plate IX.

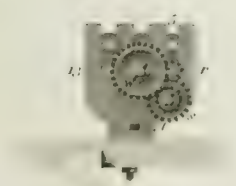


Plan. Fig. 3.

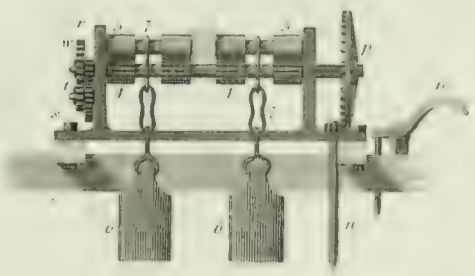




Spindle enlarged. Fig. 4.



End View. Fig. 6.



Elevation of Rollers. Fig. 5.

J. Farey junr. del.

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COTTON MANUFACTURE.

THROSTLE SPINNING FRAME.

Fig. 1.

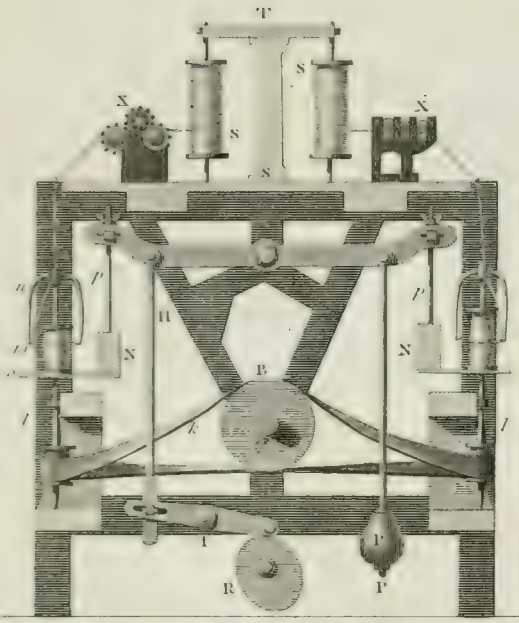


Fig. 2.

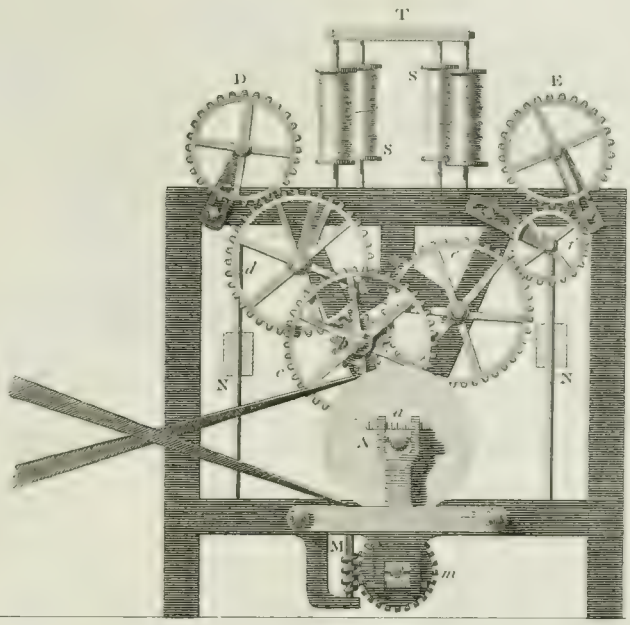
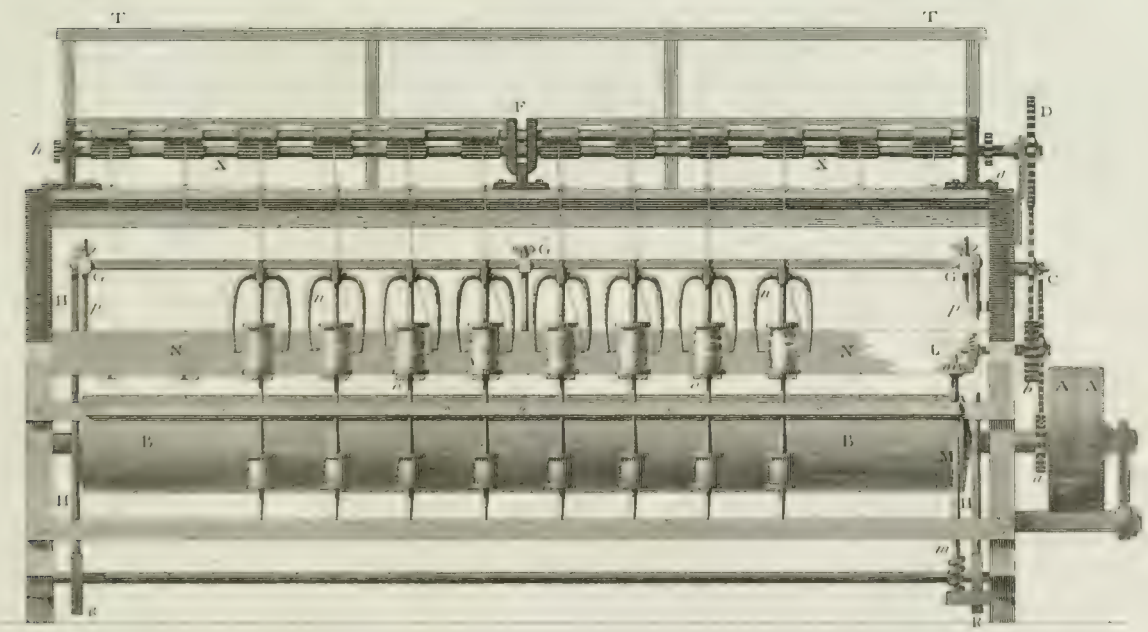


Fig. 3.

Elevation in Front.



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Engraved by W. Lowry

MULE SPINNING.

Fig. 1.

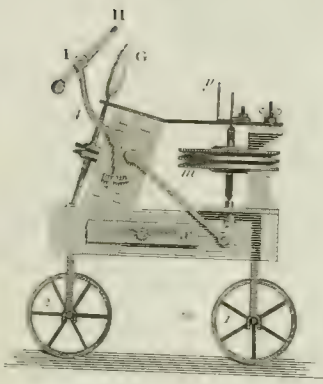


Fig. 2.

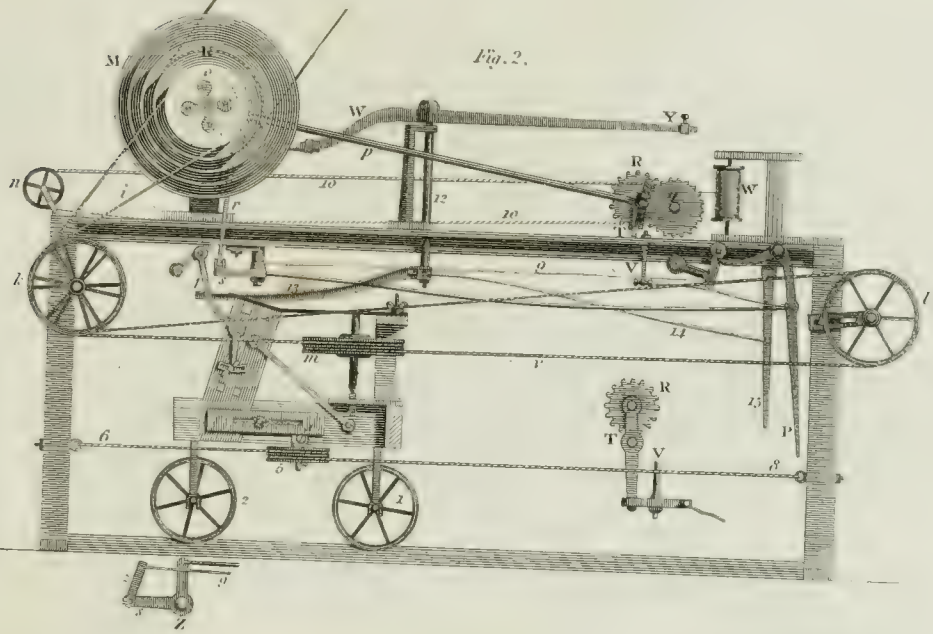


Fig. 3.

Elevation in Front.

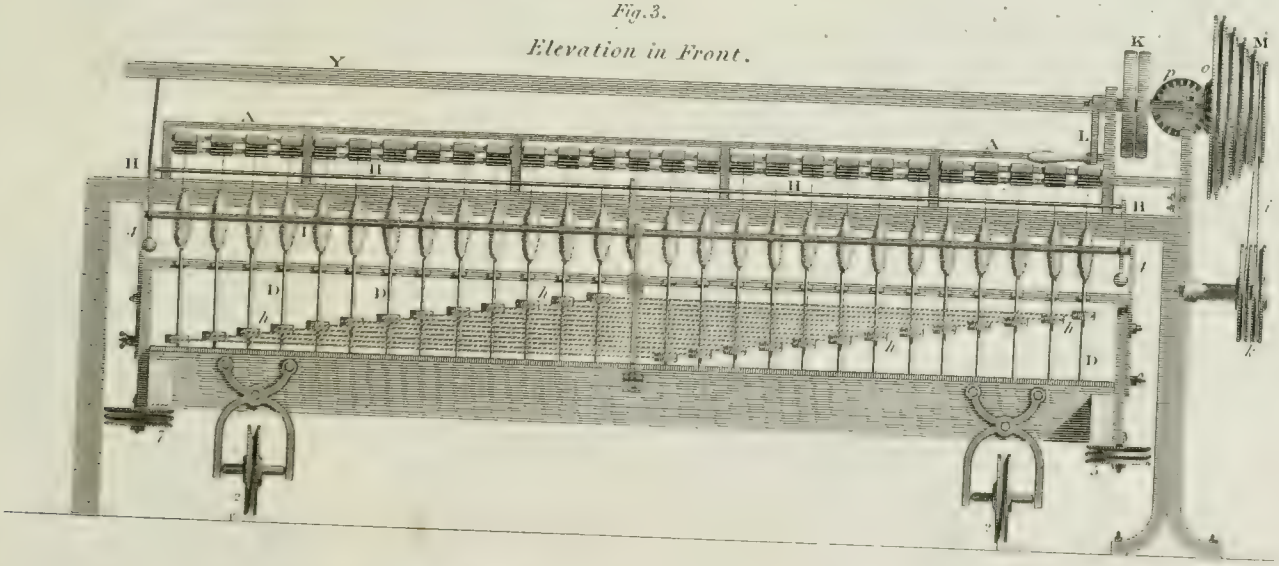


Fig. 4.

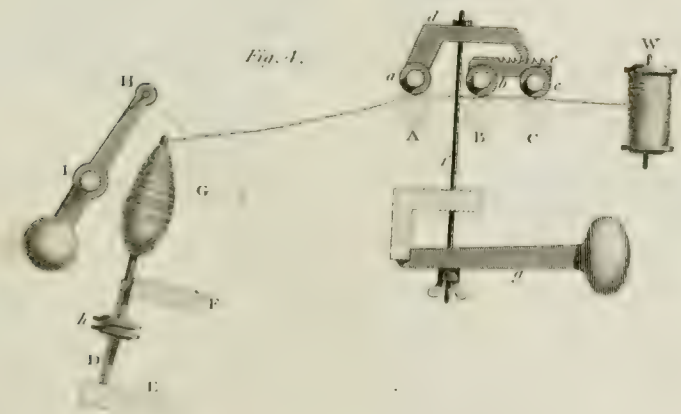
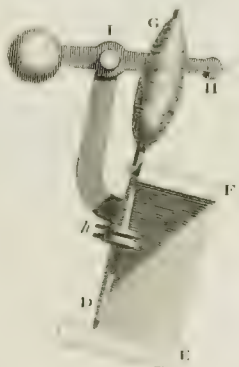


Fig. 5.



I. Farey del.

Published as the act directs, 1804, by Longman Hurst Rees Orme & Brown, Paternoster Row, London.

W. Lowe.

REELING.

Fig 1

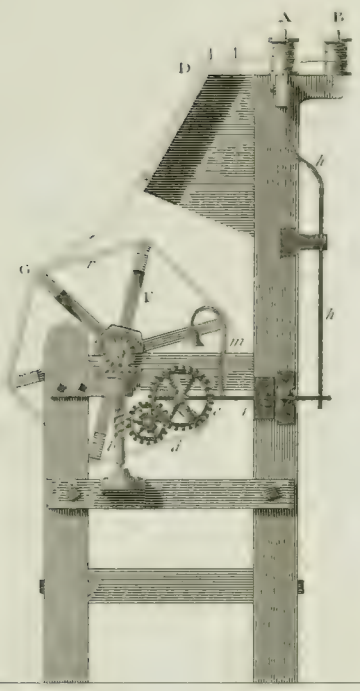
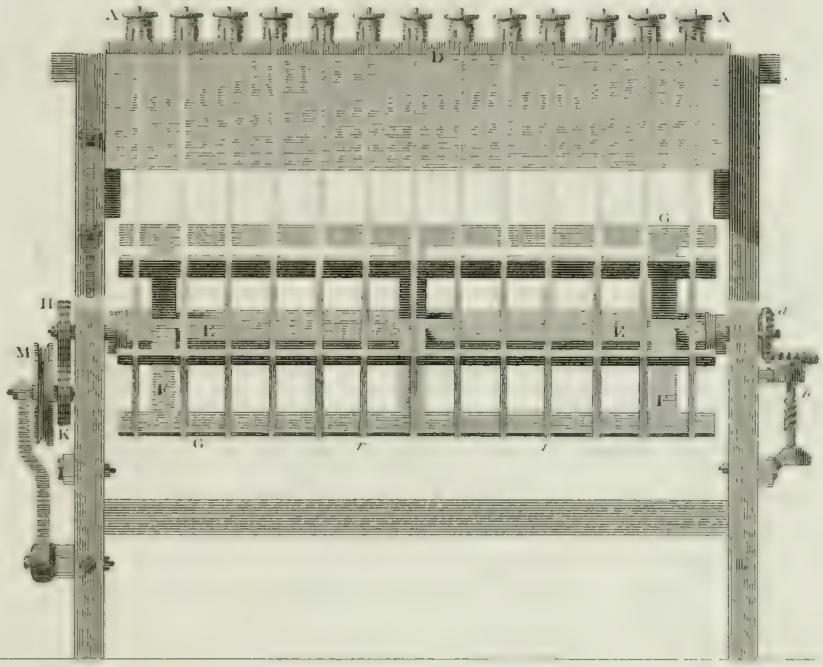


Fig 2



Machine for winding sewing cotton into Balls

Fig 3

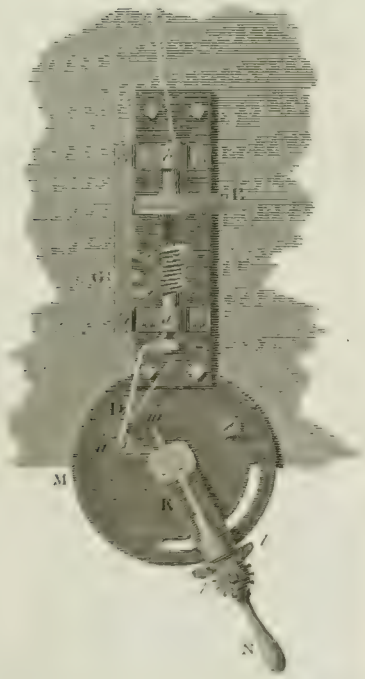
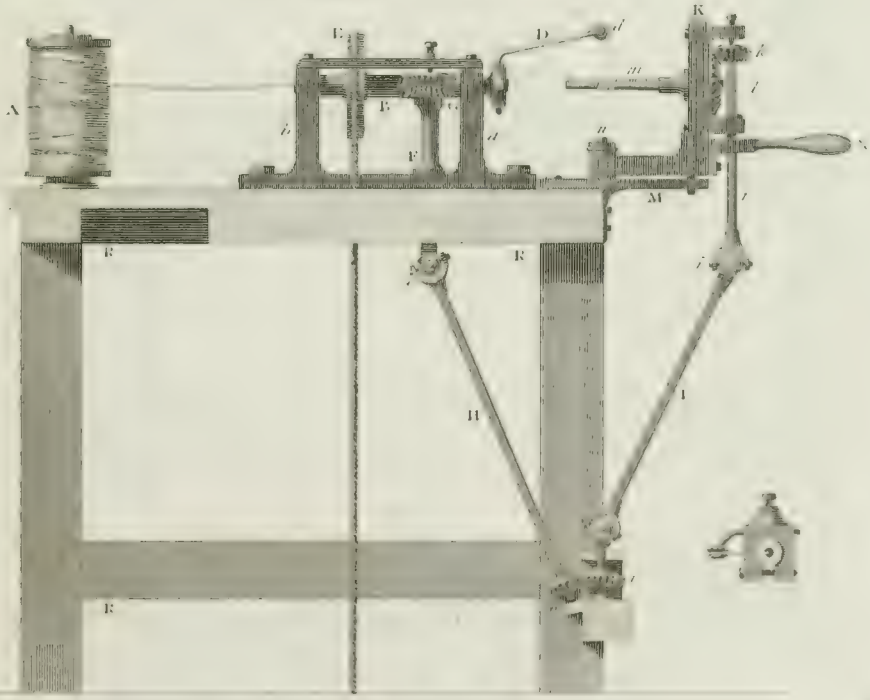


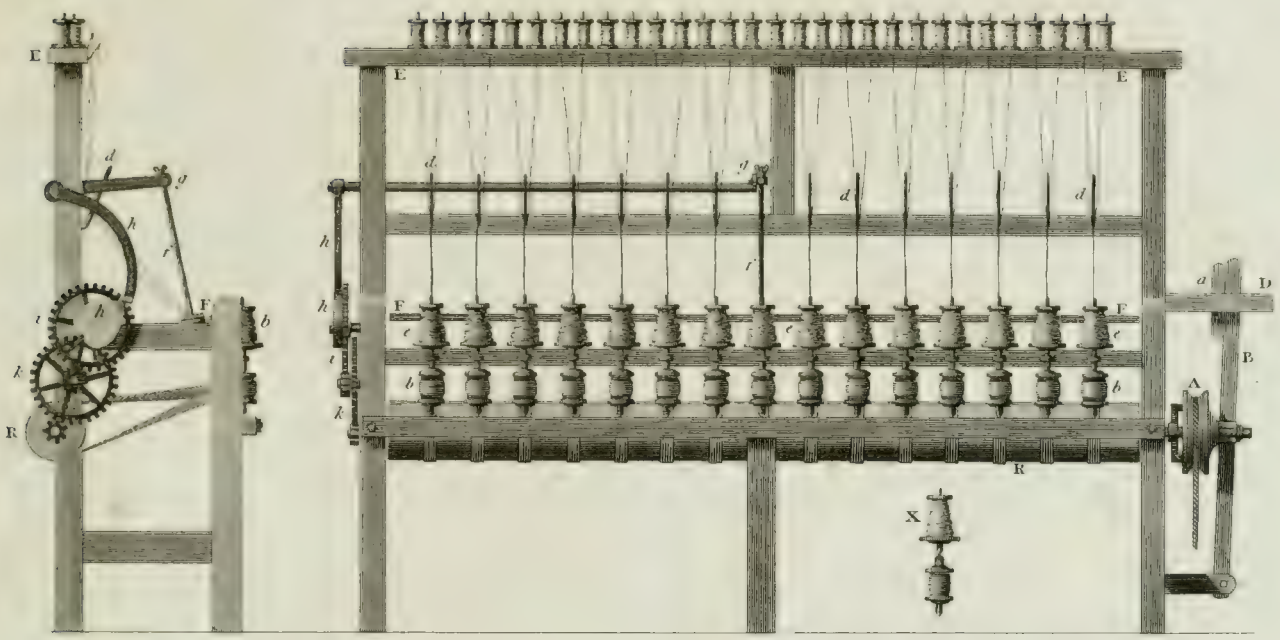
Fig 5



Published as the Act directs 1st Jan by Longman Hurst Rees Orme and Brown Paternoster

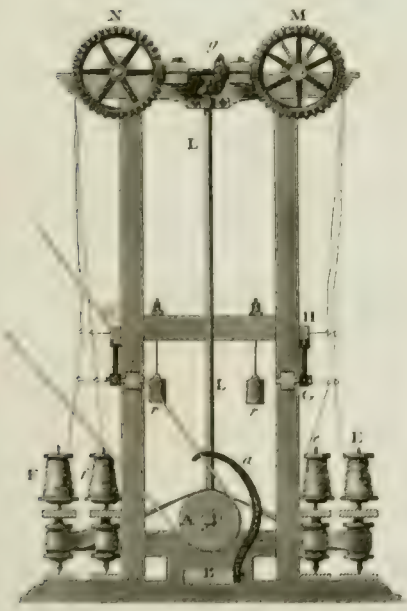
Fig. 2.

Fig. 1. DOUBLING MACHINE.

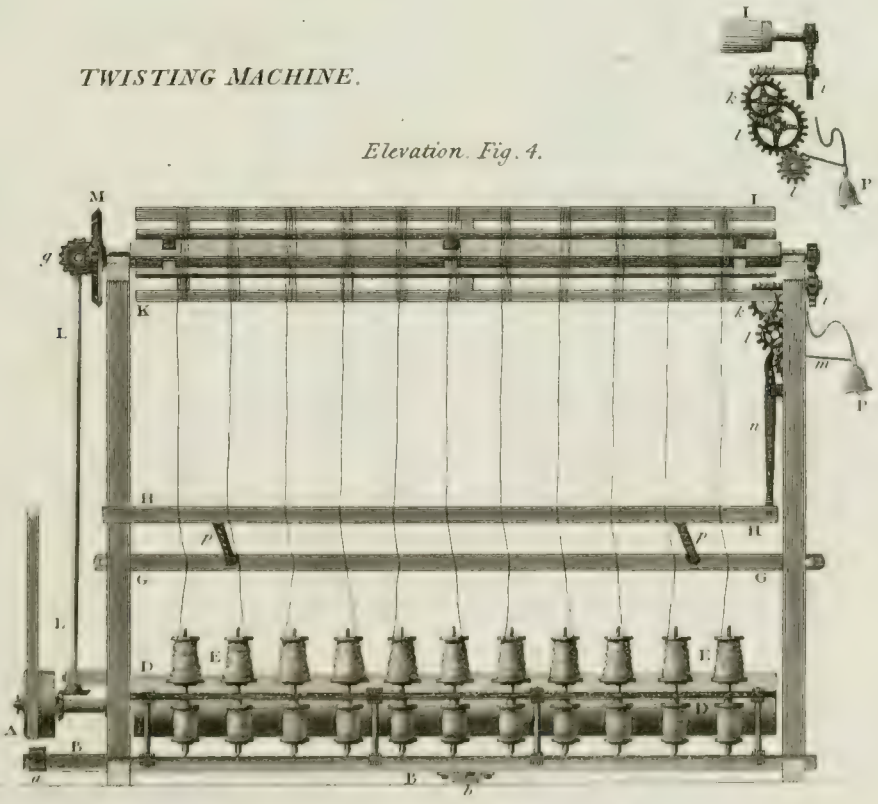


TWISTING MACHINE.

End View. Fig. 3.



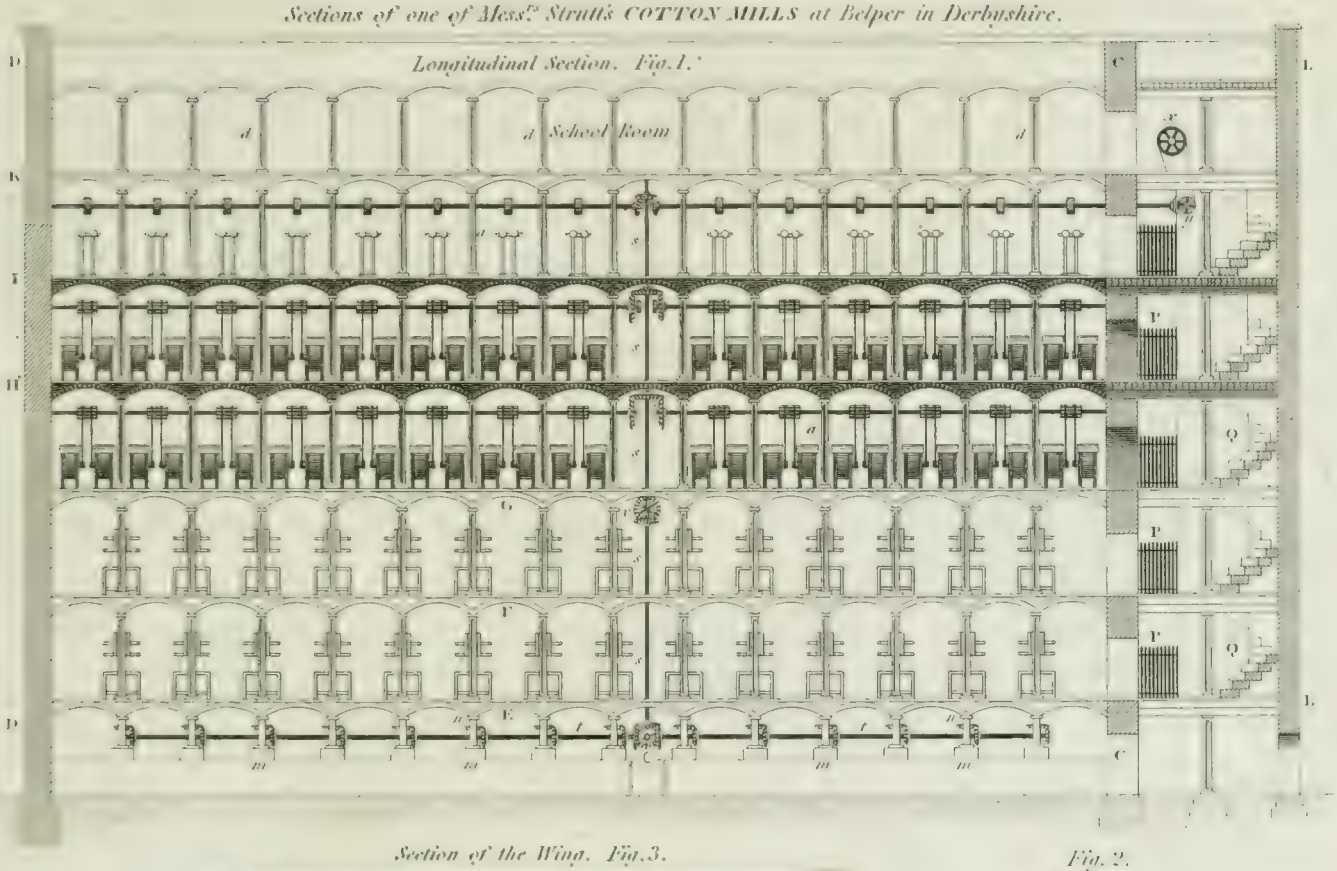
Elevation. Fig. 4.



Farey Jun. del. Published as the Act directs, 1814, by Longman, Hurst Rees, Orme & Brown, Paternoster Row, London

Sections of one of Messrs. Strutt's COTTON MILLS at Belper in Derbyshire.

Longitudinal Section. Fig. 1.



Section of the Wing. Fig. 3.

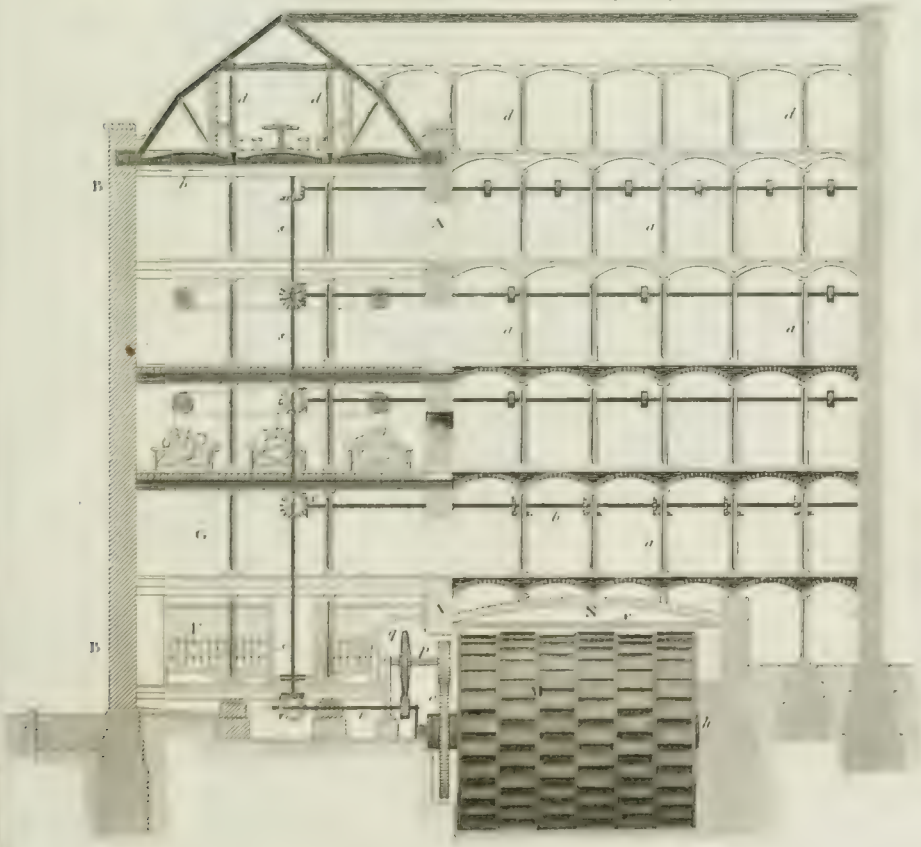


Fig. 2.

Cross Section

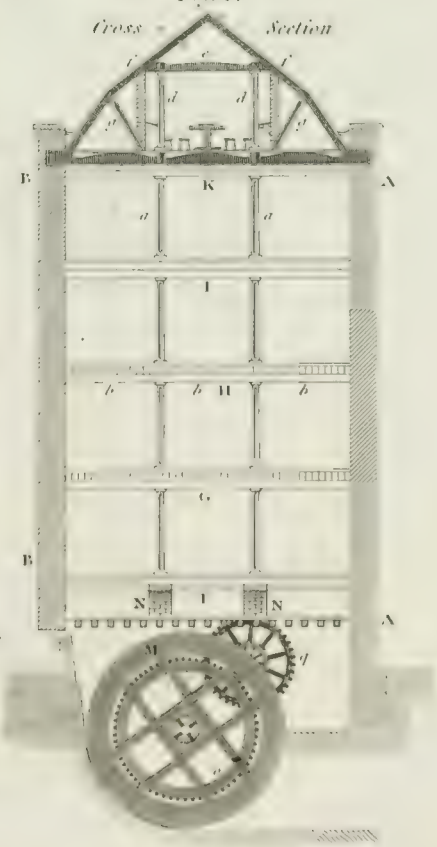


Fig. 1. Two Troughs of a Grinding Mill.

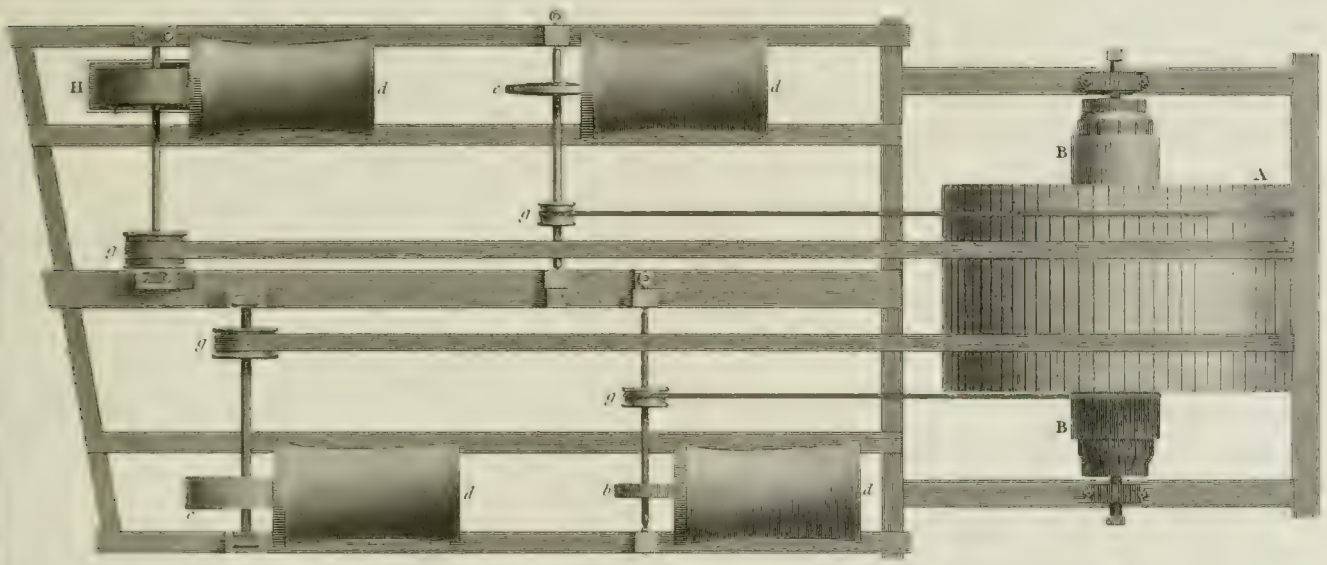


Fig. 3. Pressing Vice.

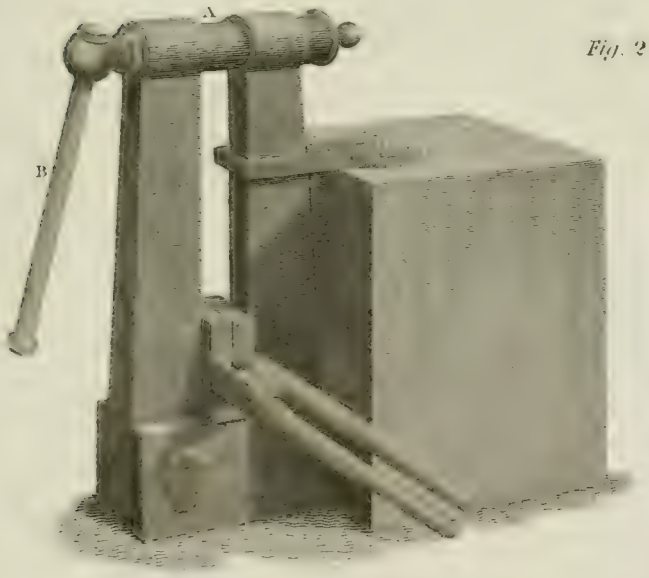


Fig. 2. Tongs for pressing Knife Handles.

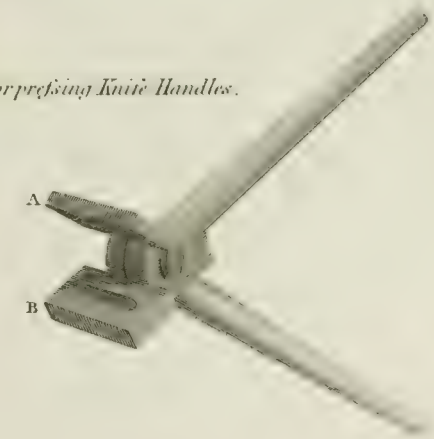


Fig. 2.

Fig. 3. Spring Drill.

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CYCLOID.

Fig. 1.

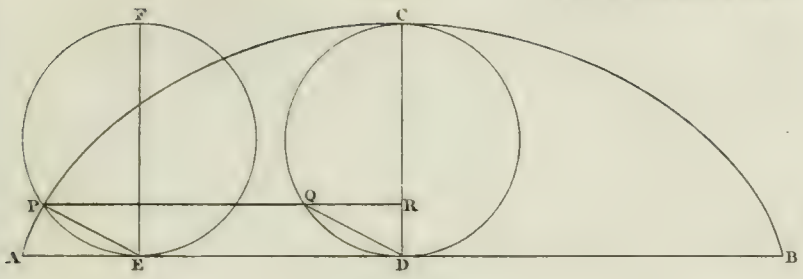


Fig. 2.

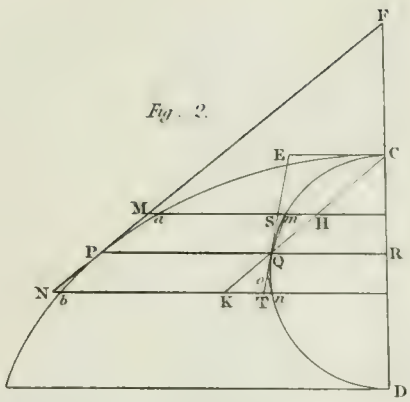


Fig. 3.

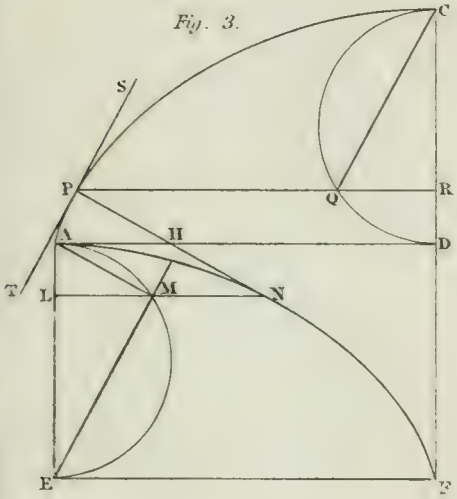


Fig. 4.

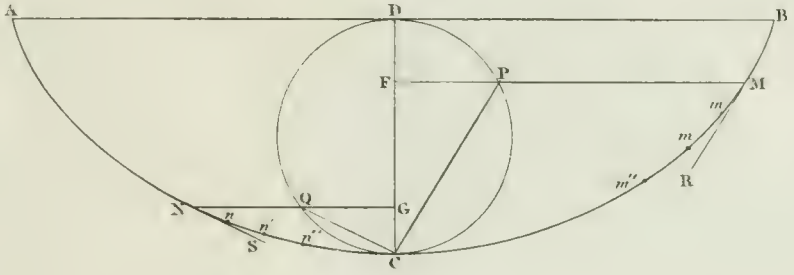


Fig. 5.

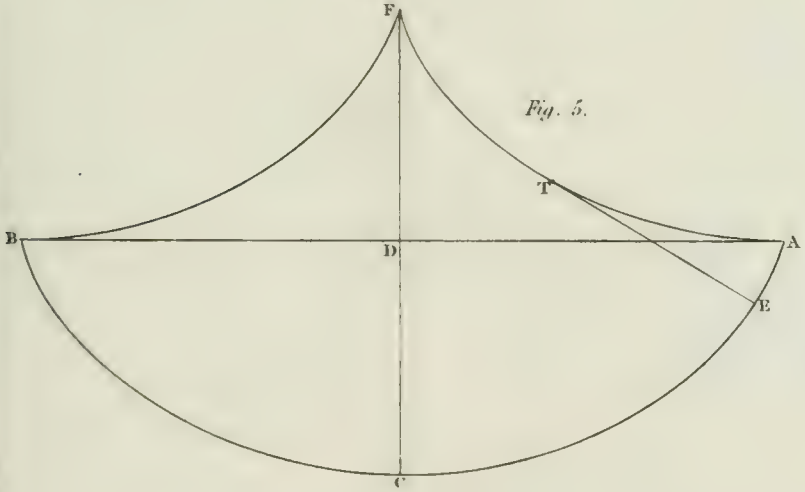


Fig. 6.

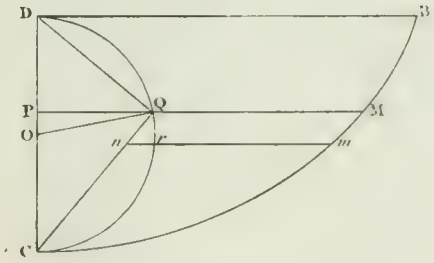


Fig. 8.

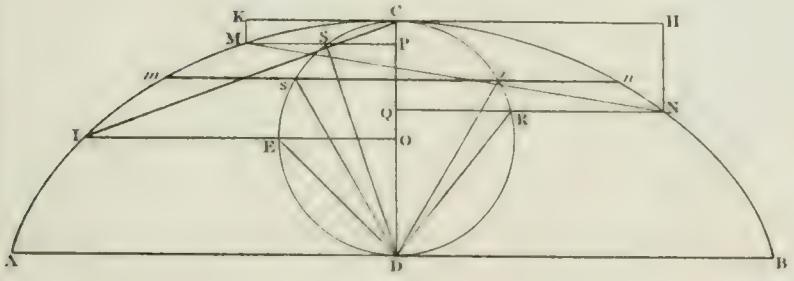
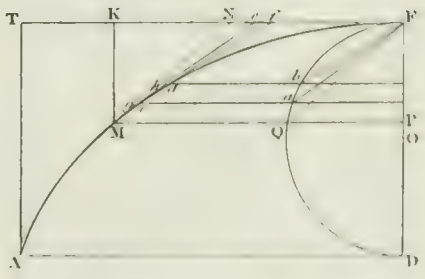


Fig. 7.



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DIALLING.

DECLINATOR.

Fig 1.

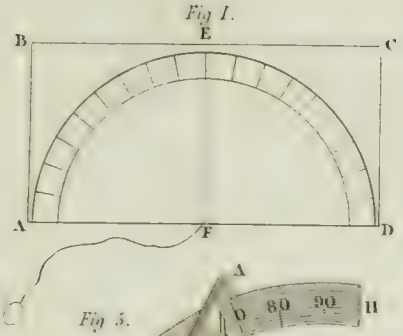


Fig. 9.

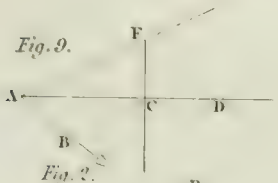


Fig. 2.

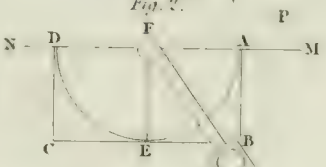


Fig. 3.

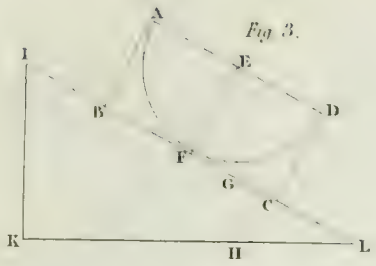
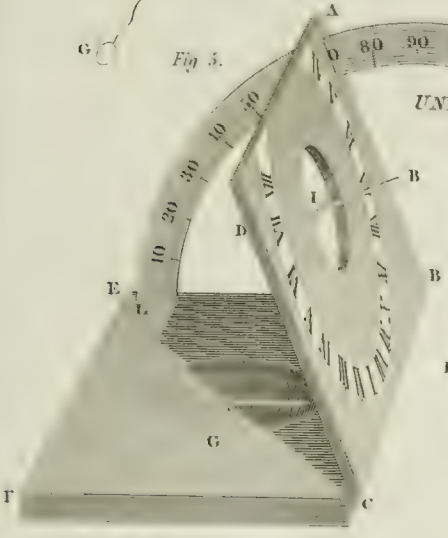


Fig. 5.



UNIVERSAL EQUINOCTIAL DIAL.

Fig. 1.

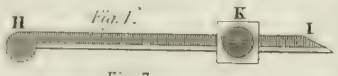
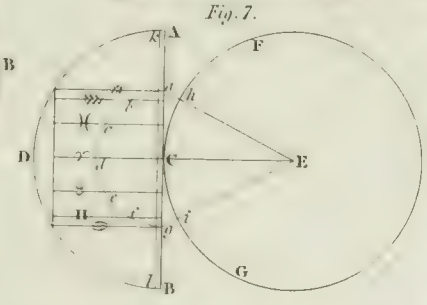


Fig. 7.

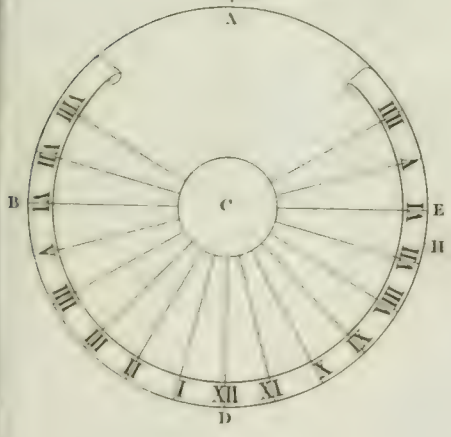


UNIVERSAL DIAL.

Fig. 6.

EQUINOCTIAL DIAL.

Fig. 4.



HORIZONTAL DIAL.

Fig. 8.

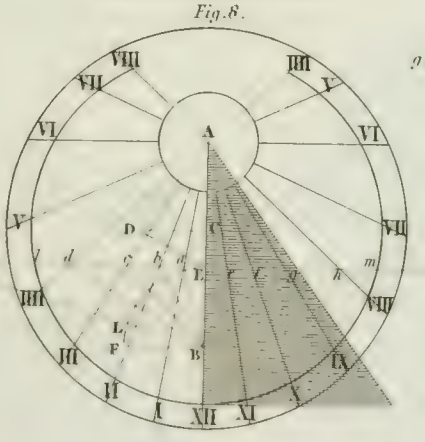


Fig. 10.

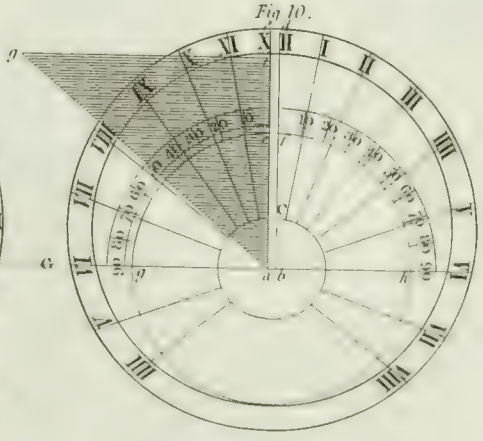


Fig. 11.

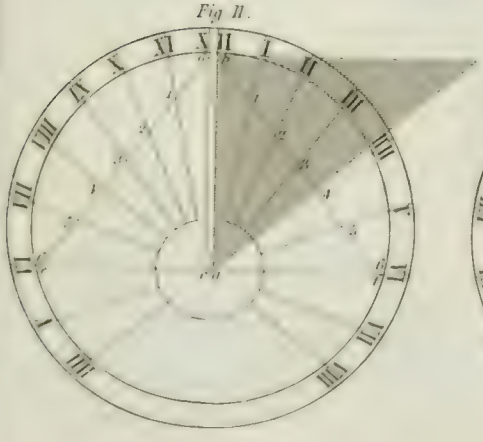
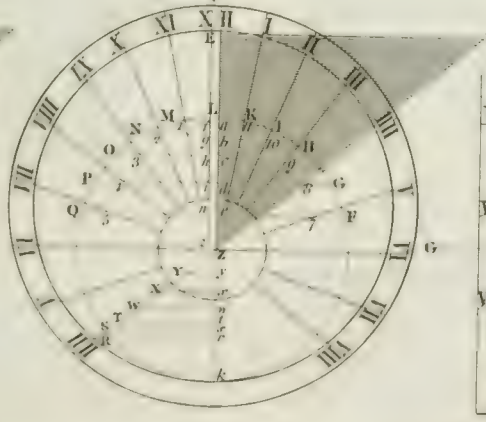


Fig. 12.



VERTICAL SOUTH DIAL.

Fig. 13.

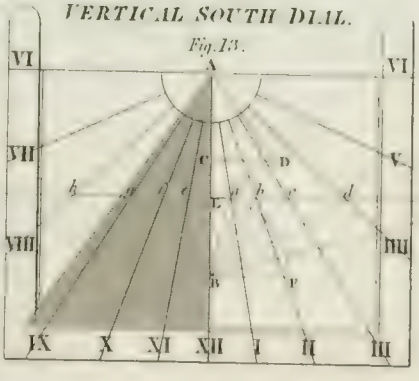


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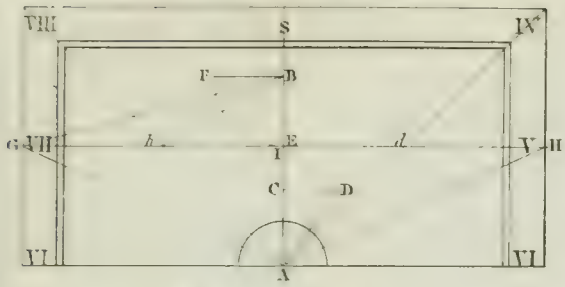
Fig. 14.
VERTICAL NORTH DIAL



POLAR DIAL

Fig. 17.

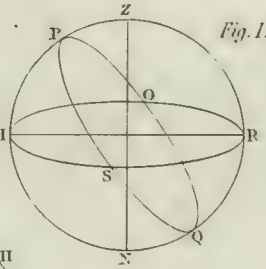


Fig. 15.
SOUTH DIAL

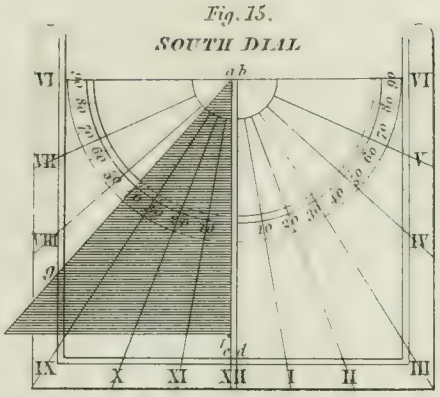


Fig. 16.
EAST DIAL

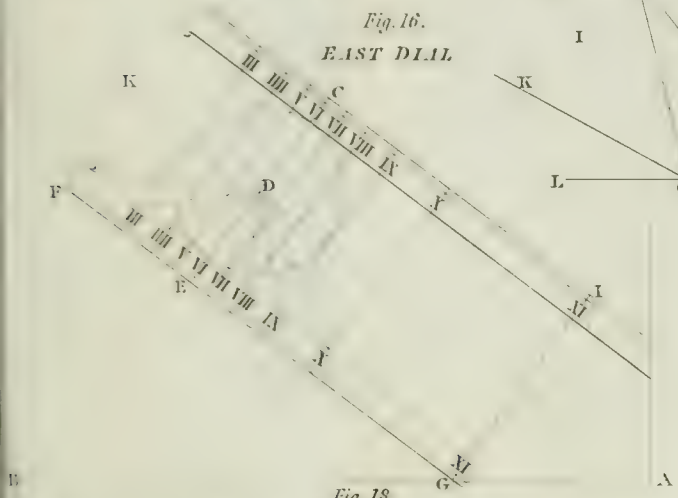


Fig. 23.
INCLINED DIAL

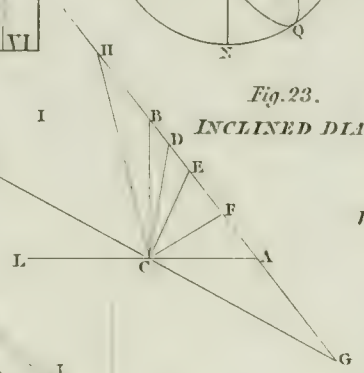


Fig. 22.
VERTICAL DECLINING DIAL

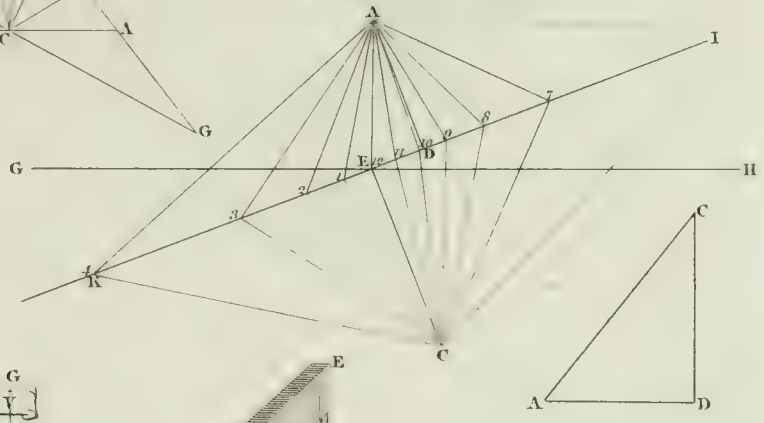


Fig. 18.

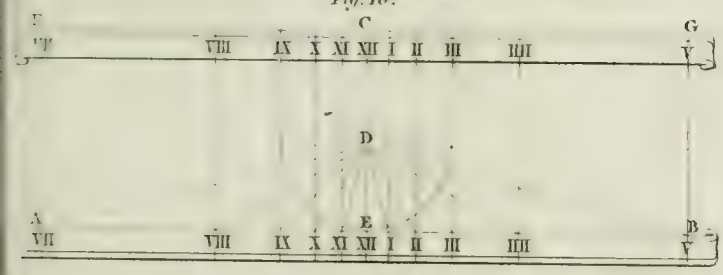
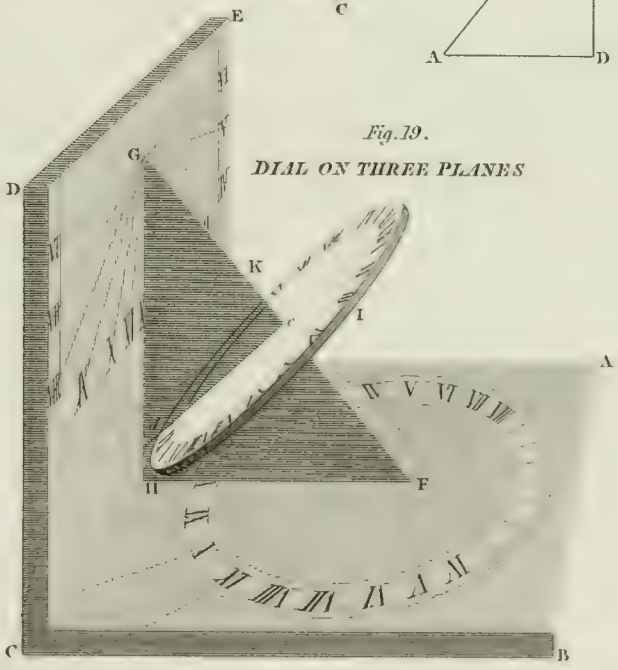


Fig. 19.
DIAL ON THREE PLANES



DIALS

Fig. 20.

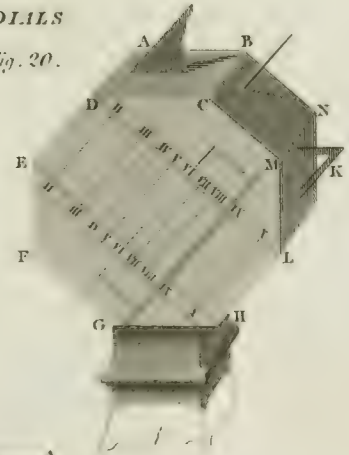


Fig. 24.
UNIVERSAL MECHANICAL DIAL

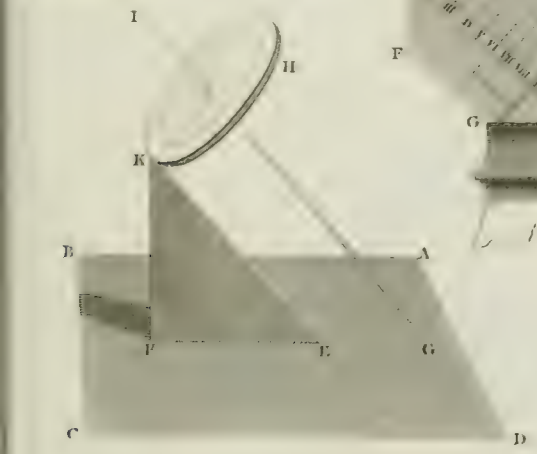
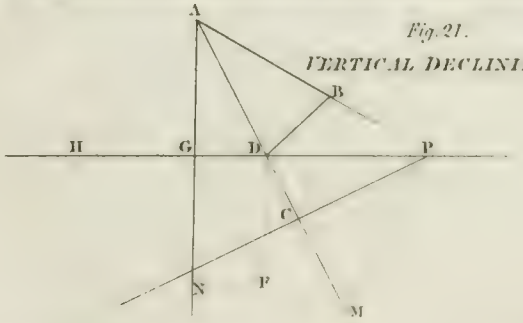


Fig. 21.
VERTICAL DECLINING DIAL



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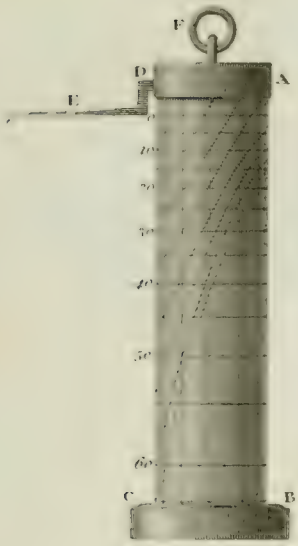
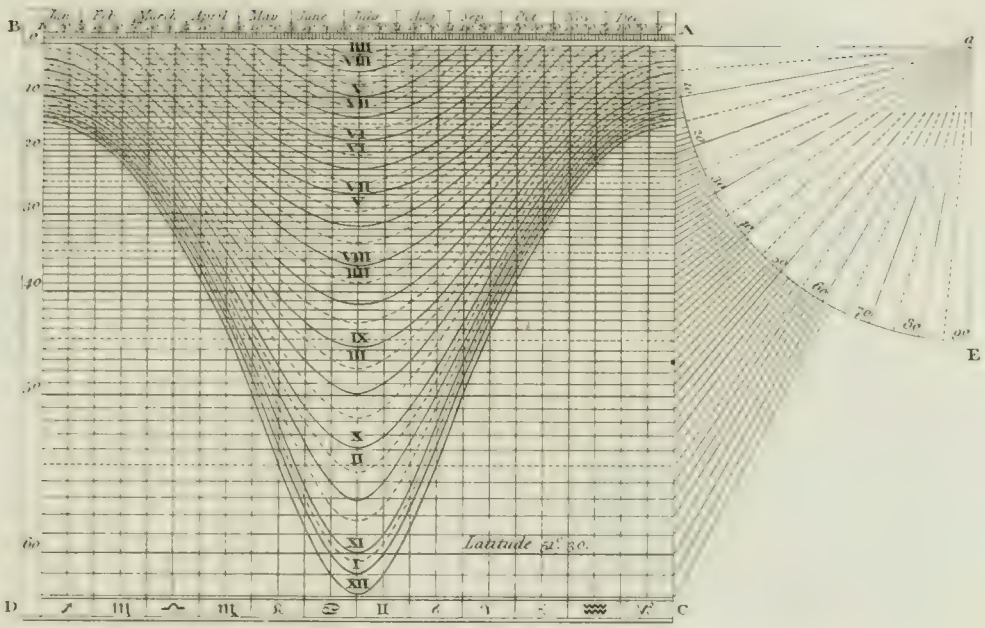
Cylindrical DIAL, Fig. 28.

Fig. 27.





Portable DIAL.

Fig. 29.

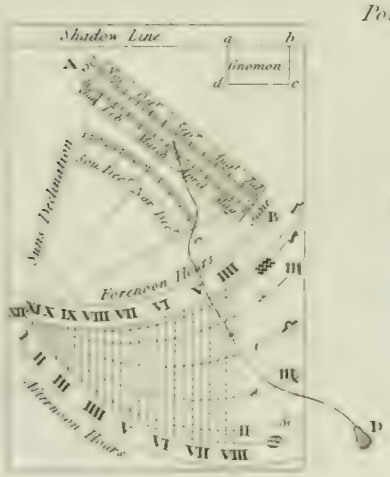


Fig. 30.

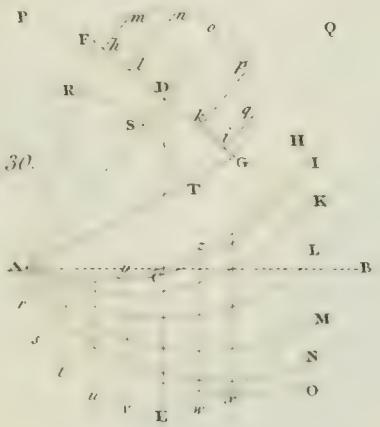


Fig. 32.

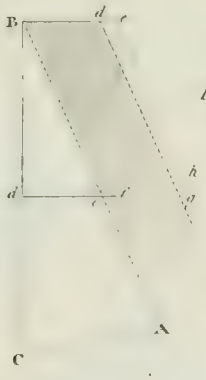
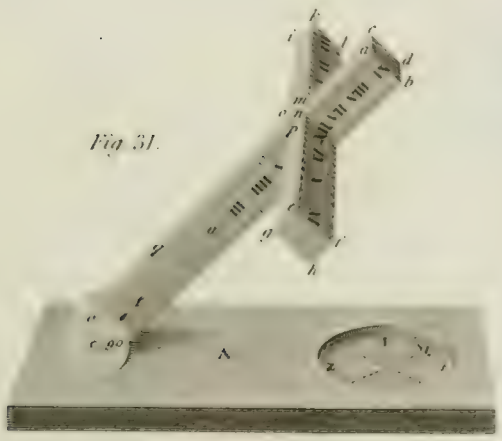
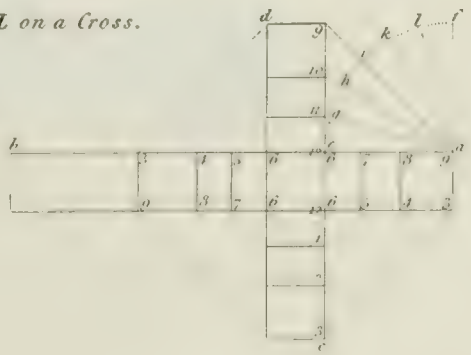


Fig. 31.



Universal DIAL on a Cross.

Fig. 33.



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Lowry sculp.

Fig. 33

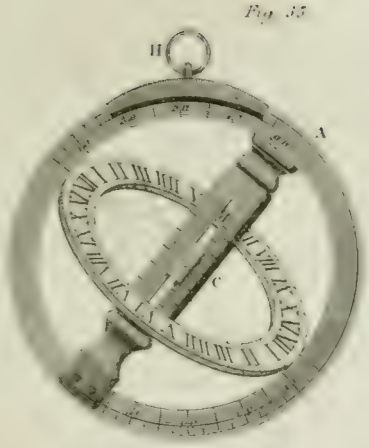


Fig. 25. PL II.

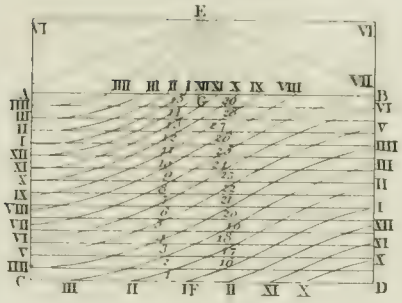


Fig. 26. PL II

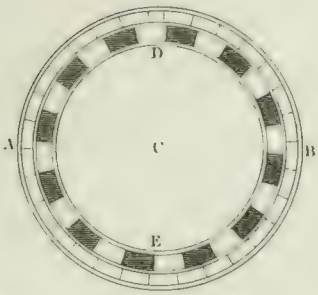


Fig. 37

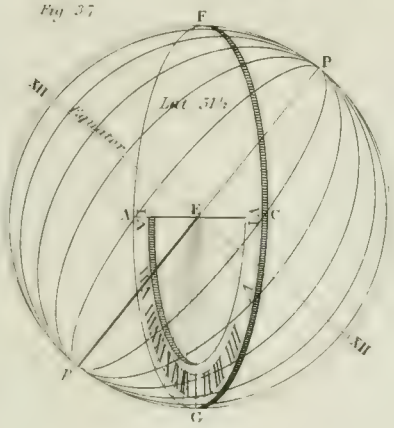


Fig. 36

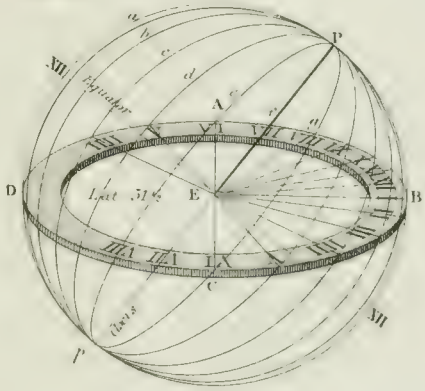


Fig. 34 Ring Dial

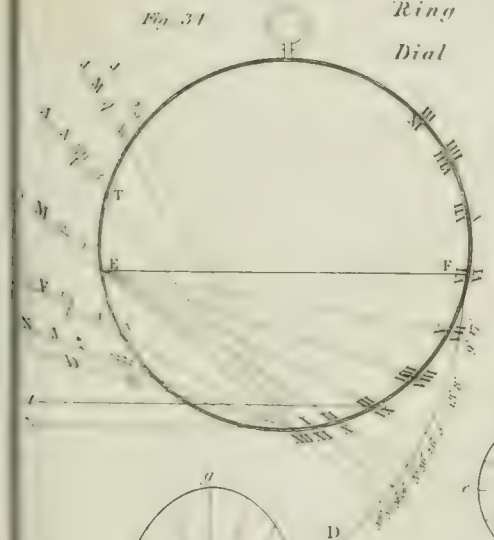
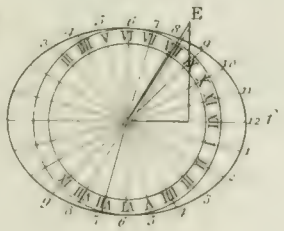


Fig. 40



Dialling Cylinder

Fig. 38

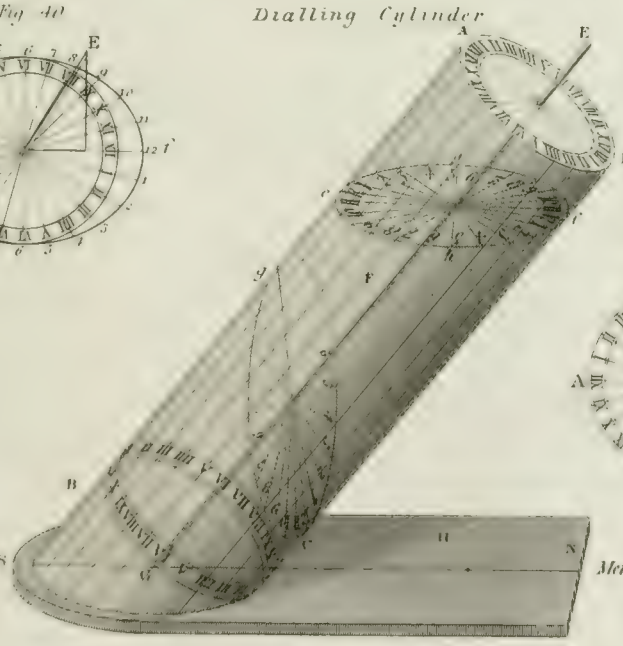


Fig. 41

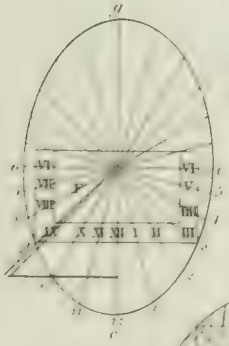
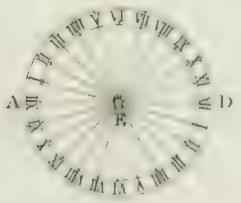
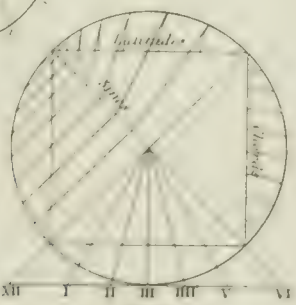


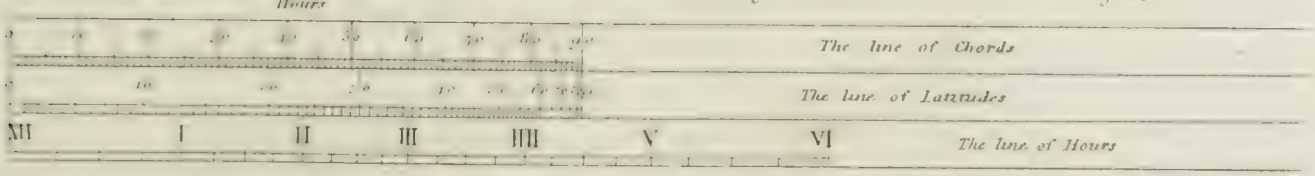
Fig. 39





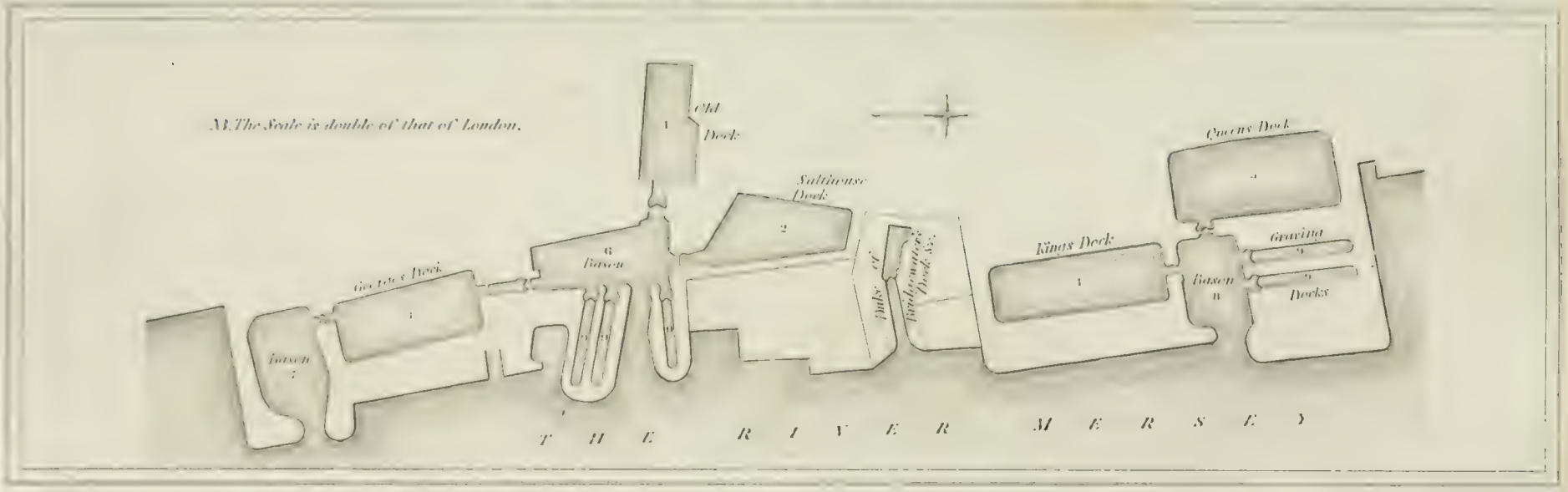
Hours

Dialling Scales Fig. 42

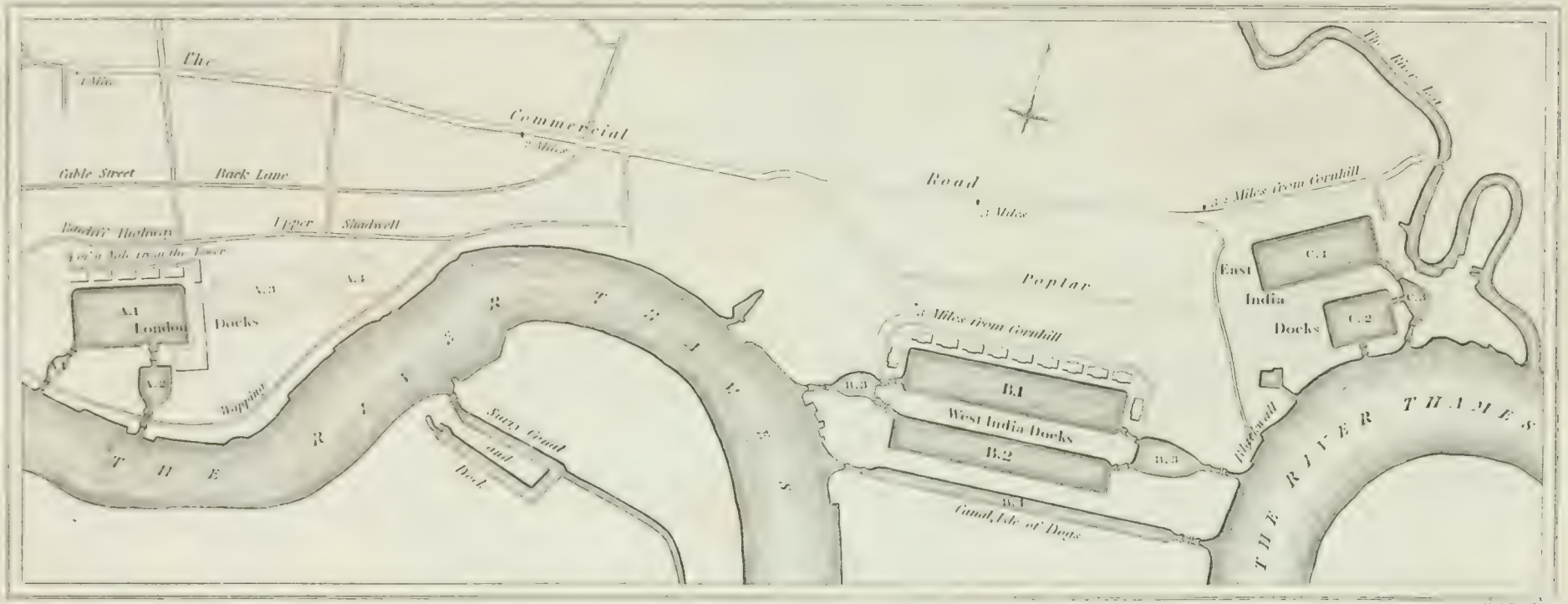


Harvey fecit delin. Published as the Act directs 2 Feb, by Longman, Hurst, Rees, Orme, & Brown, Paternoster Row Lowry Sculp.

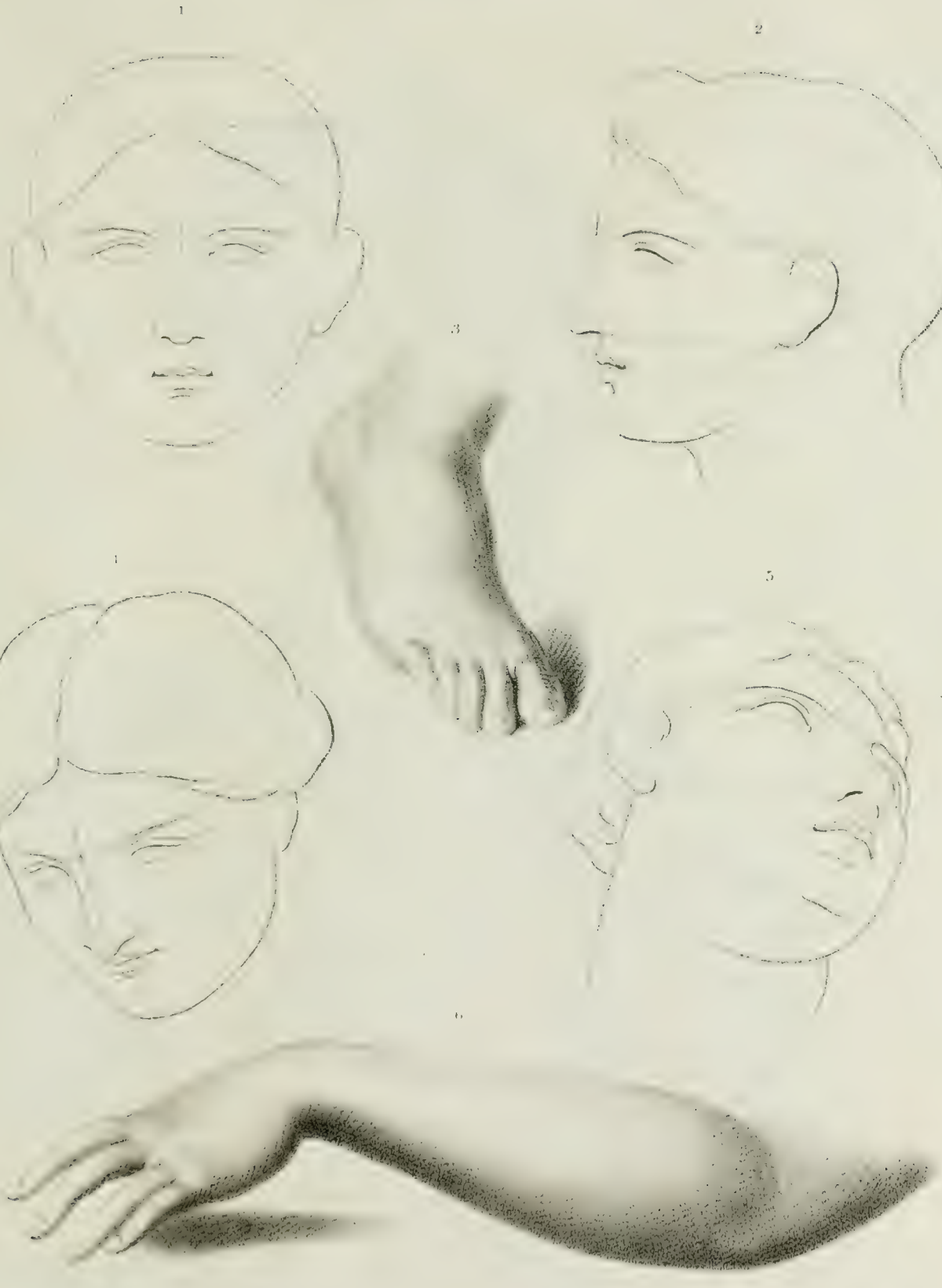
PLAN OF THE DOCKS AT LIVERPOOL, IN 1805.



PLAN OF THE DOCKS AT LONDON, IN 1808.



Published January 1st 1809, by Longman Hurst Rees and Orme, Paternoster Row, London.



W. Howard Esq. R.A. del.

Published as the Act directs Jan. 1 1810 by Longman Hurst Rees Orme & Brown Paternoster Row

From a Bust in the Collection of Charles Townley Esq.r

Drawn by H.Howard R.A. *Published as the Act directs, Jan.y 2.d 1804, by Longman & Rees, Paternoster Row.* *Engraved by C.Fiéld*

Plate 3.

From an original Drawing by Gaspar Poussin in the collection of Benjamin West Esq^r P R A

Laporte Sculpt

From an original Drawing by Gaspar Poussin in the Collection of Benjamin West Esq.r P.R.A.

Pubd by Longman Hurst, Rees & Orme, Paternoster Row, May 26th 1809

PLATE X

From an Original Drawing in the Collection of the Duke of Devonshire

Published as the Act directs Jan.1.1810. by Longman Hurst Rees Orme & Brown Paternoster Row

DRAWING INSTRUMENTS.

COMPASSES.

Fig. 1.

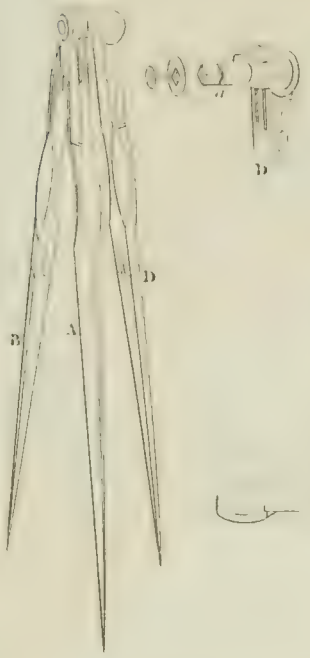


Fig. 6.

Fig. 4.

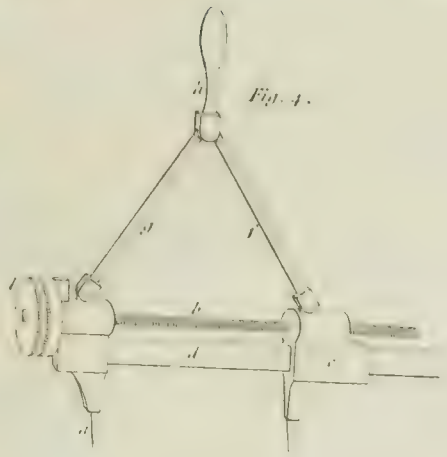
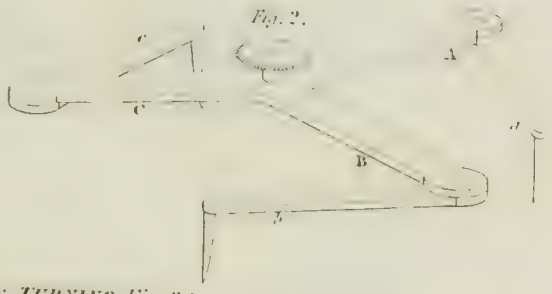


Fig. 2.



For Fig. 5. of this Plate see Plate TURNING, Fig. 20.

Fig. 3.

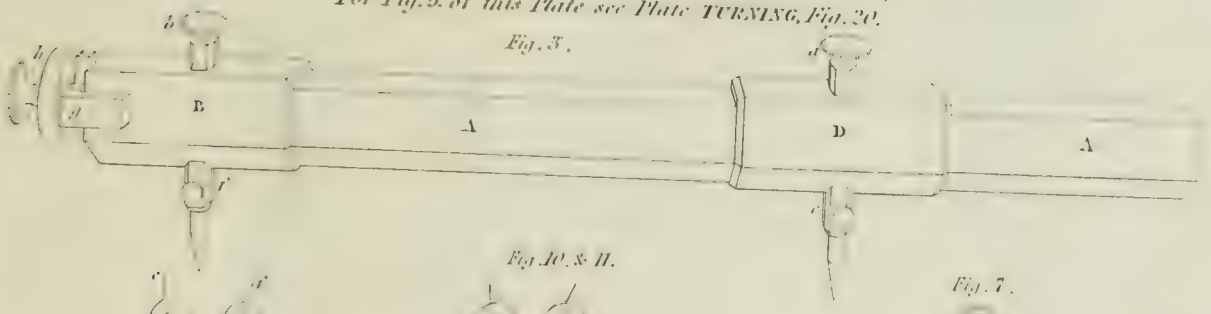


Fig. 10. & 11.

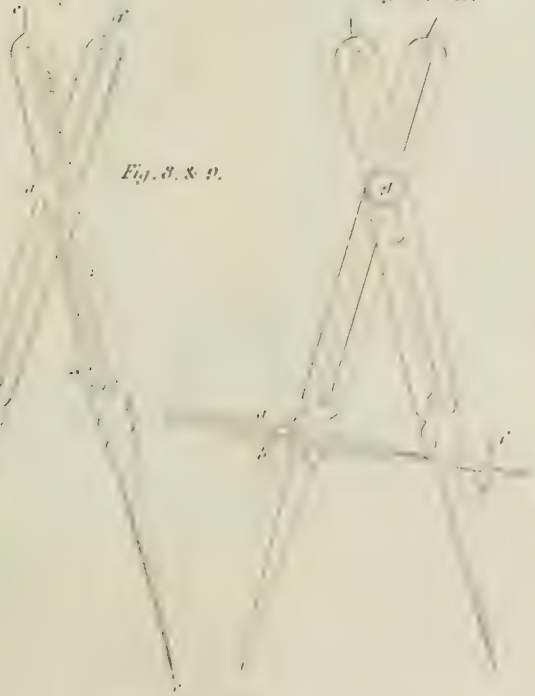


Fig. 7.

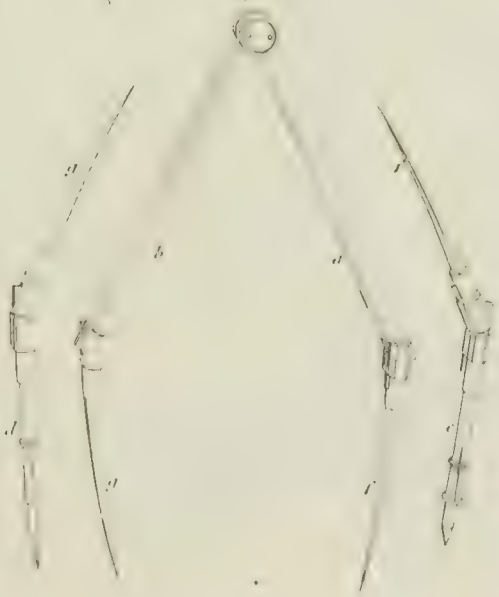
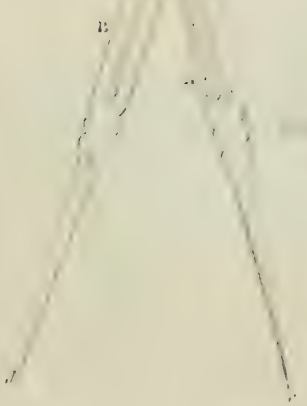


Fig. 8. & 9.



Jun.r delin.

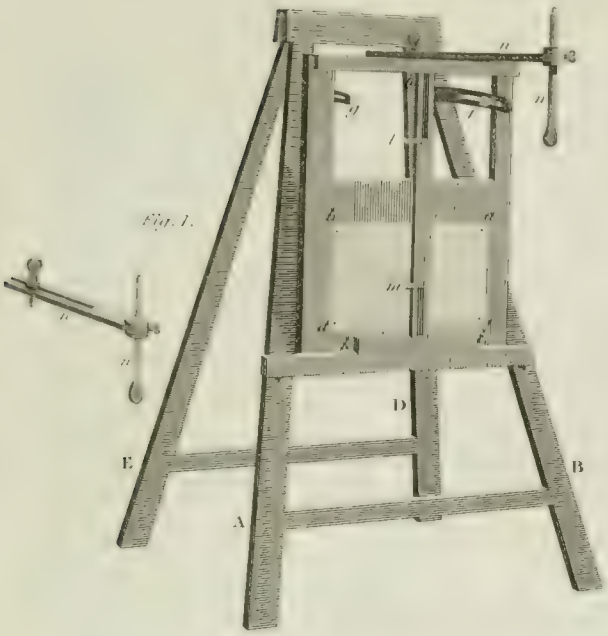
Published as the Act directs, 1811, by Longman, Hurst, Rees, Orme & Brown, Paternoster Row.

Engraved by Wilson Lowry.

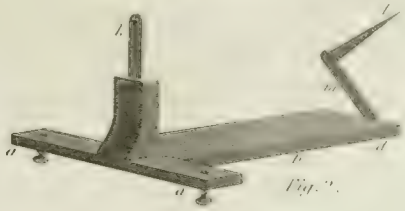
DRAWING INSTRUMENTS.

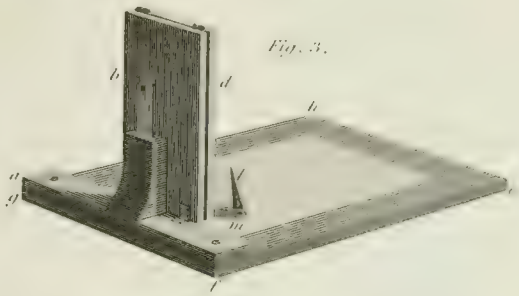
DELINEATORS.

Mr. Peacock's delineator.

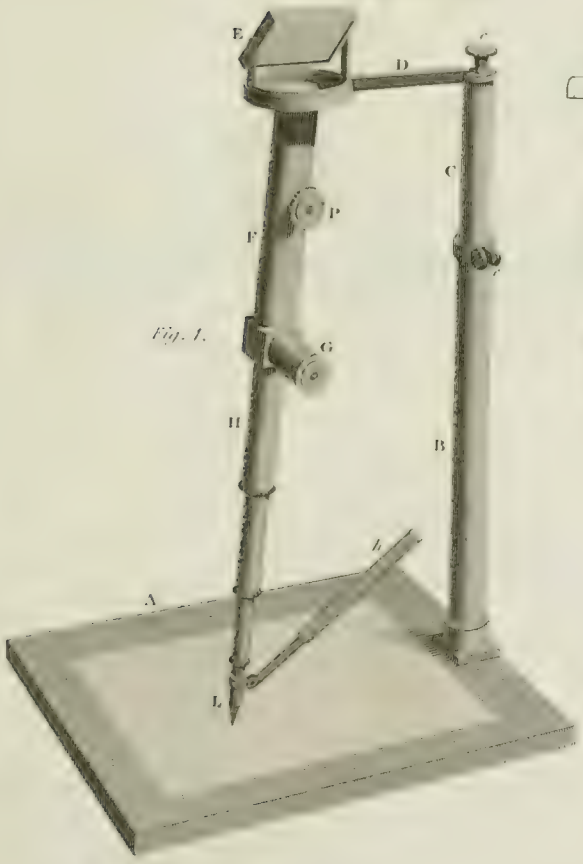


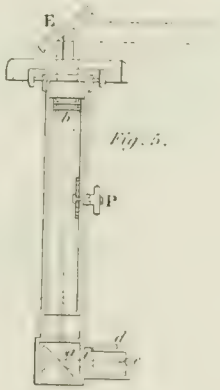
Miss Edgeworth's delineator.



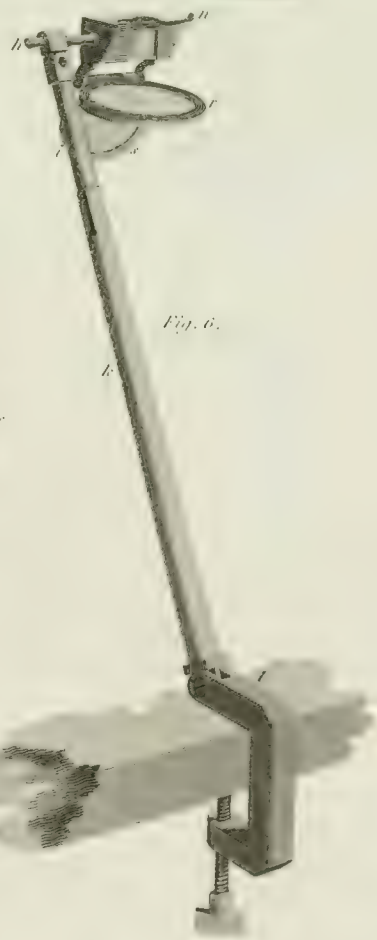


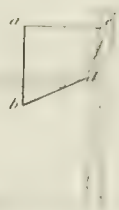
Ramsden's Optigraph improved by Thos. Jones.





Mr. Wollaston's Camera Lucida.





Drawn by J. Farey Junr.

Published as the Act directs, 1812, by Longman, Hurst, Rees, Orme and Brown, Paternoster Row, London.

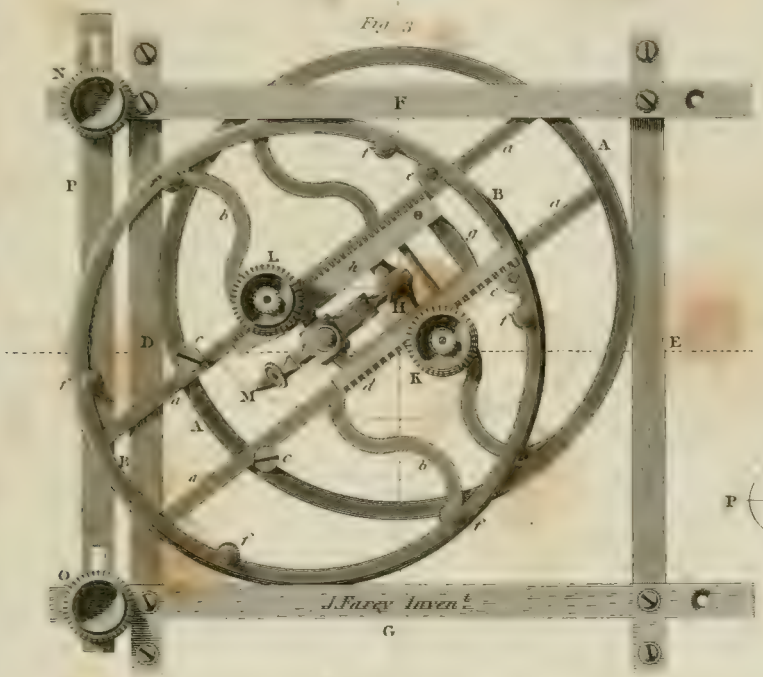
Engraved by W. Lewis.

DRAWING INSTRUMENTS.

OVAL.

Mr. Farey's, Elliptograph for drawing Ellipses.

Fig. 3



Oval.—Fig. 1.

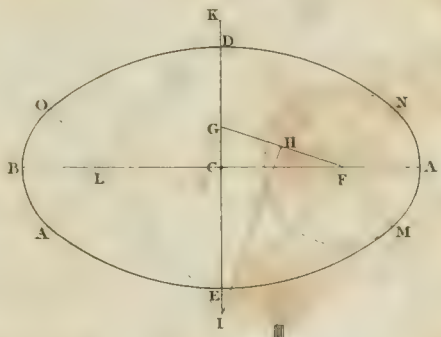


Fig. 6.

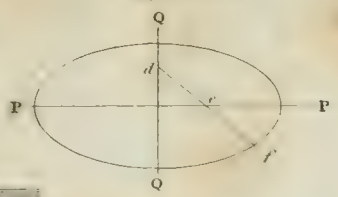


Fig. 2.

Fig. 4.

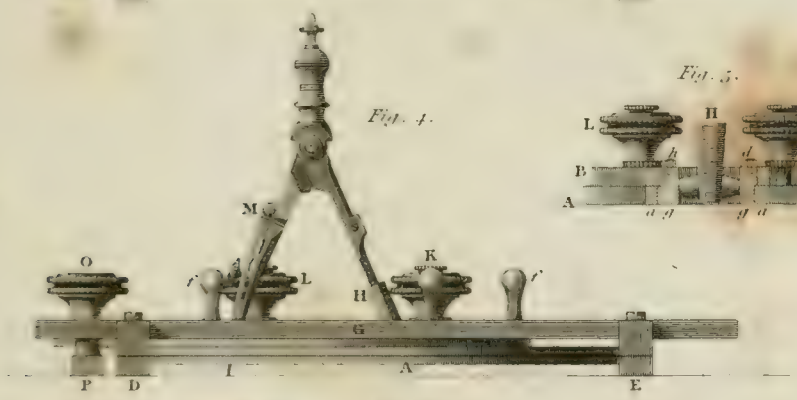
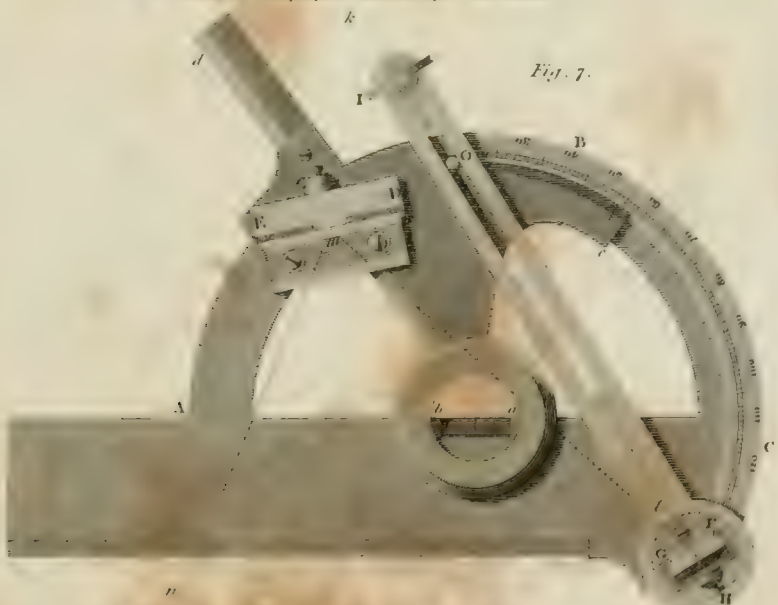


Fig. 5.

Sir Howard Douglas's, Reflecting Protractor.

Fig. 7.

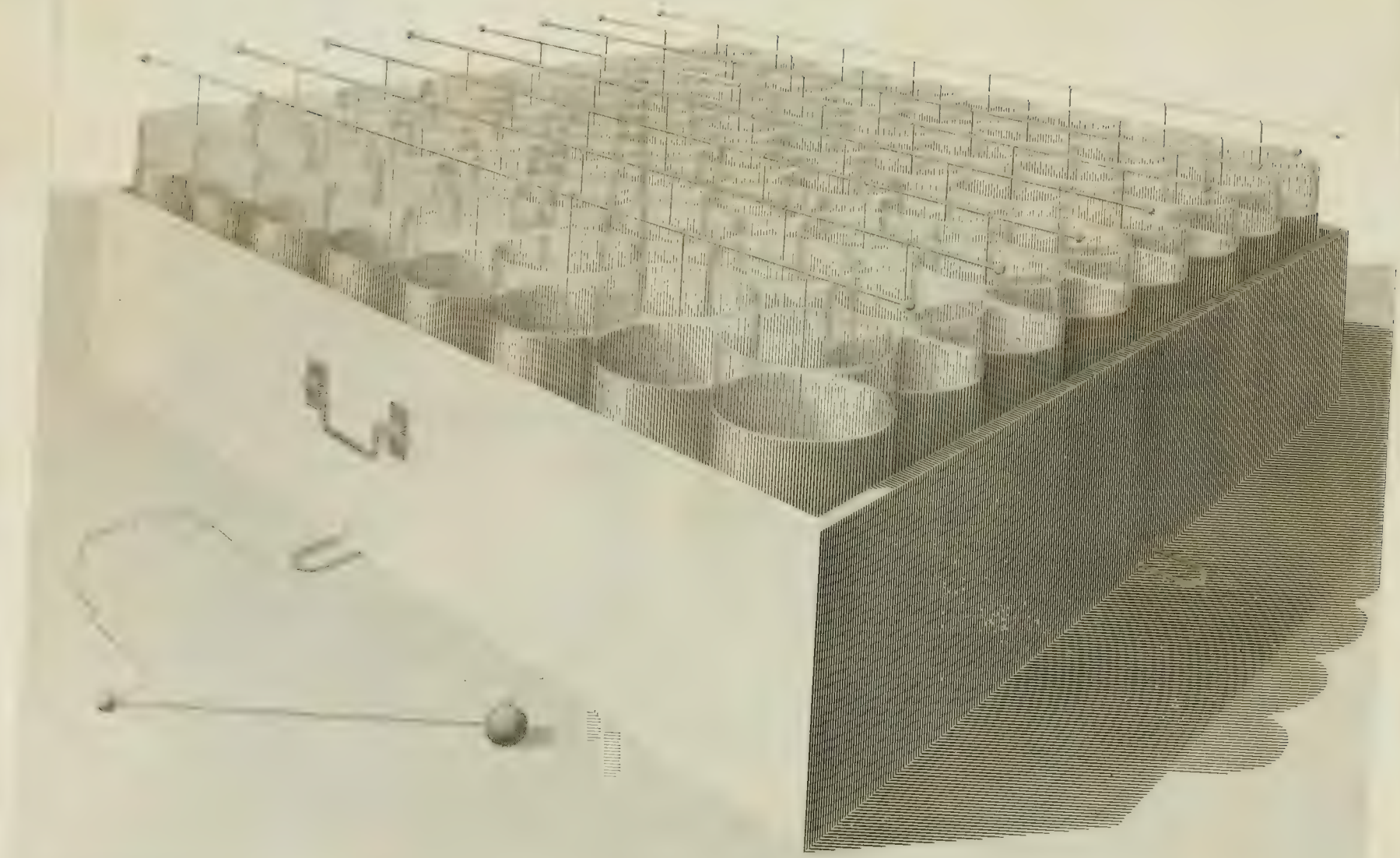


Farey delin.

Published as the Act directs, 1815, by Longman, Hurst, Rees, Orme & Brown, Paternoster Row.

Lowry sculp.

PRIESTLEY'S BATTERY.

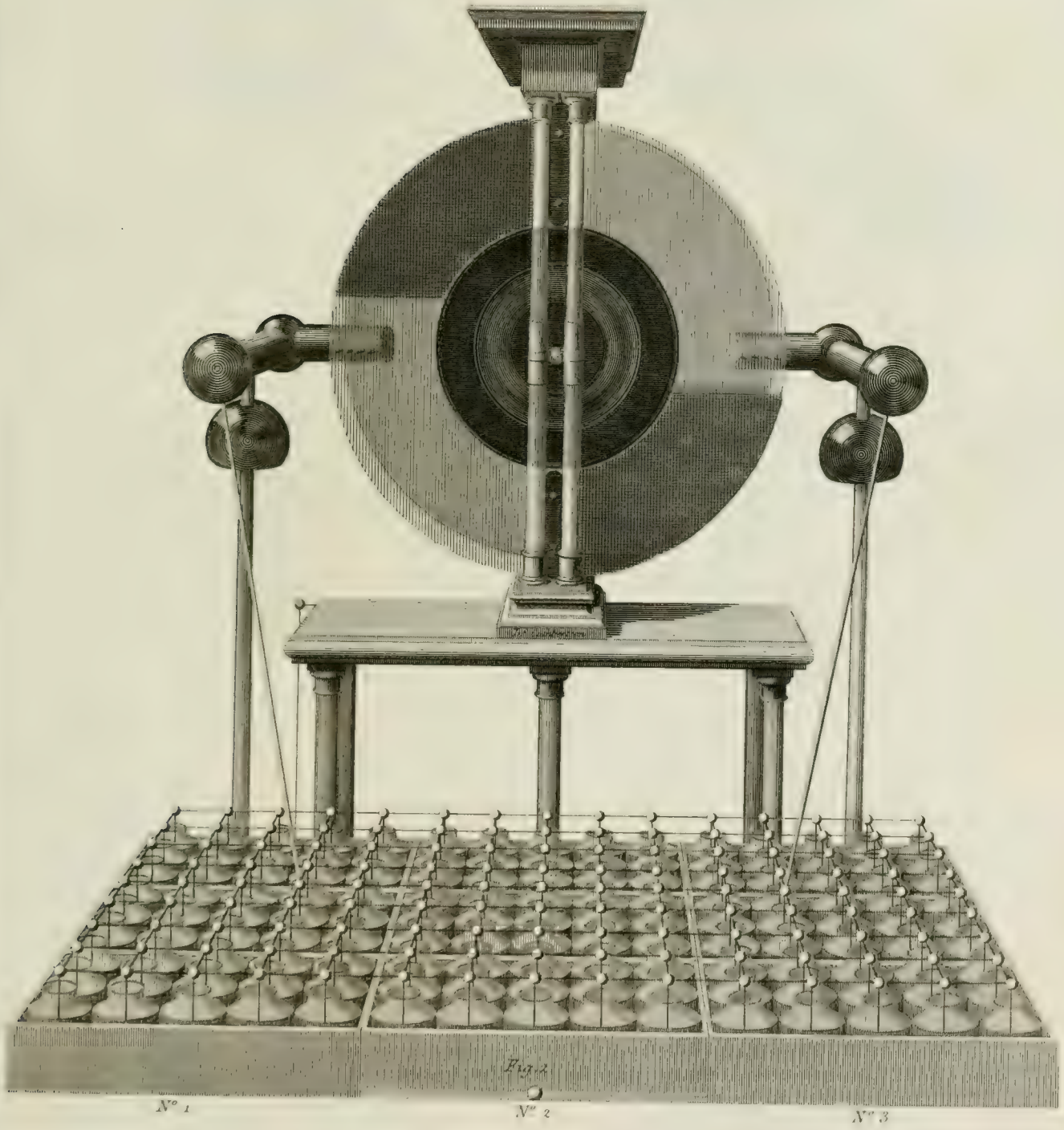


Published as the Act directs, 1810, by Longman, Hurst Rees & Orme, Paternoster Row.

Engraved by Wilson, Lowe.

ELECTRICITY.

ELECTRICAL MACHINE & BATTERY.



Published as the Act directs, Aug.st 1.st 1804, by Longman & Rees, Paternoster Row.

Engraved by Wilson.

CONDENSERS.

Fig 4

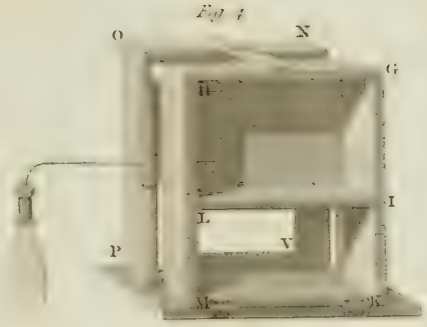


Fig 5

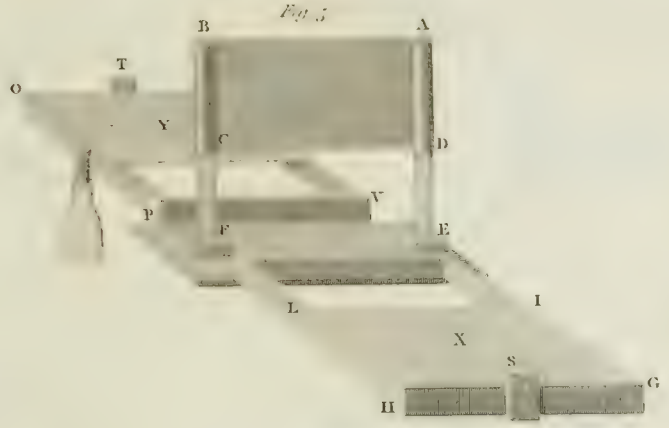


Fig 6

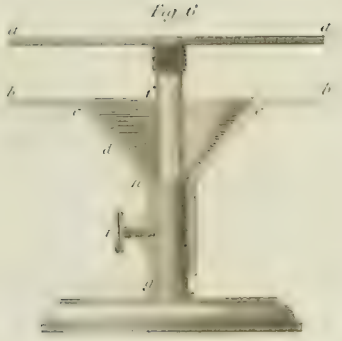


Fig 7

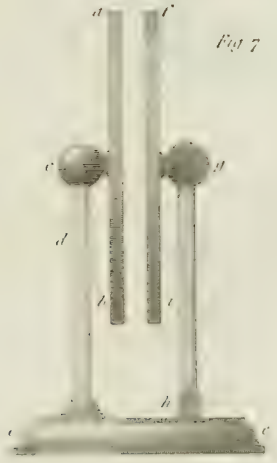


Fig 8

Fig 9

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Engraved by Wilson Lowry

ELECTRICITY.

DISCHARGER AND DOUBLER.

Fig. 10.

Fig. 11.

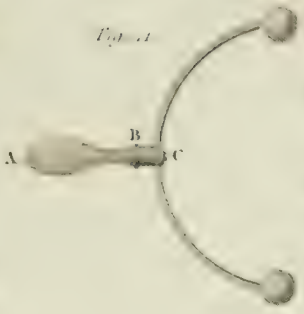


Fig. 12.

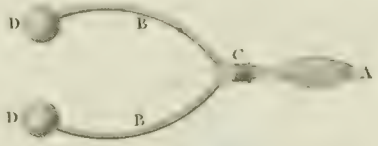


Fig. 13.

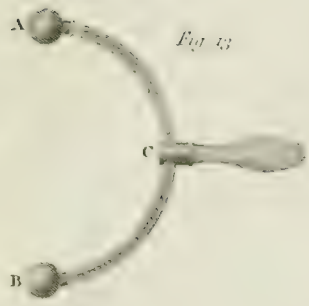


Fig. 14.

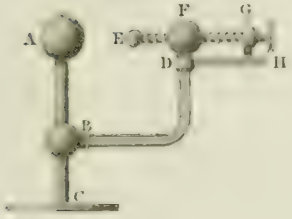
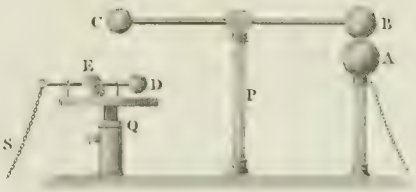


Fig. 15.

Fig. 16.



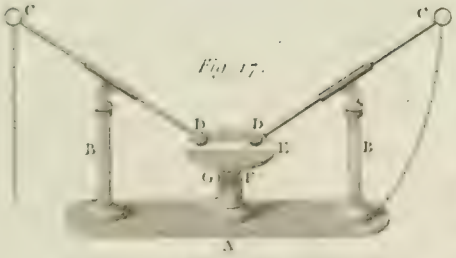
Mr CAVALLO'S DOUBLER.

Fig. 22.

Fig. 23.

Fig. 21.

Fig. 17.



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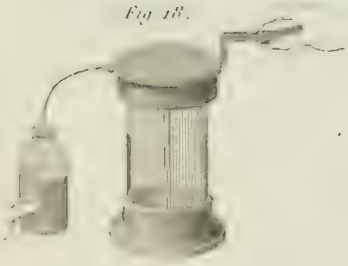

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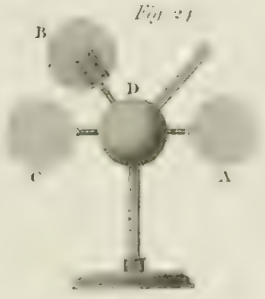


Fig. 20.

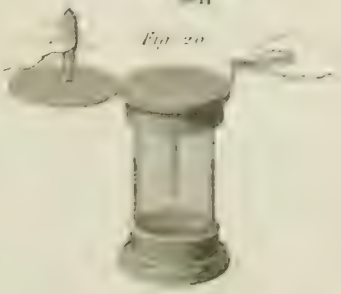


Fig. 19.

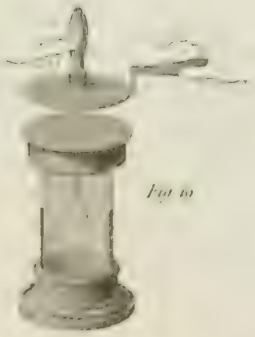
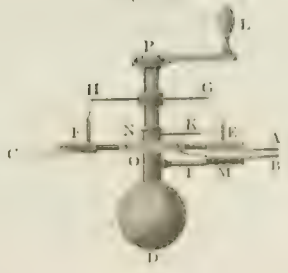


Fig. 25.



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ELECTRICAL EXPERIMENTS.

Fig. 26.

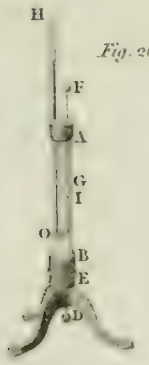


Fig. 27.

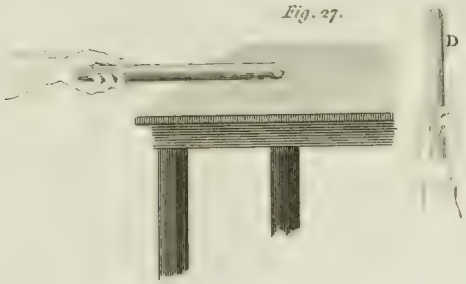


Fig. 28.

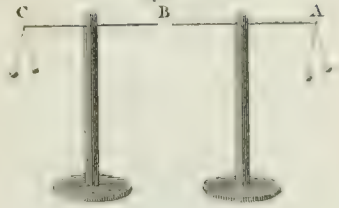


Fig. 29.

Fig. 30.

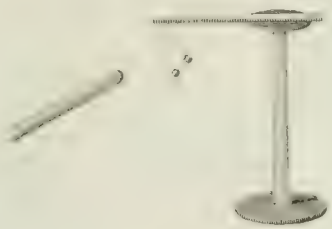


Fig. 31.

Fig. 32.

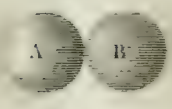


Fig. 33.

Fig. 34.

Fig. 35.

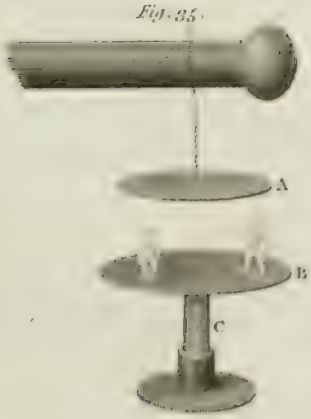


Fig. 36

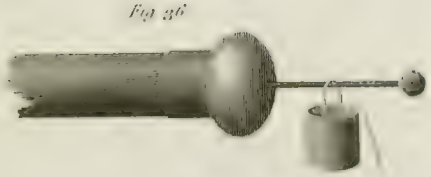
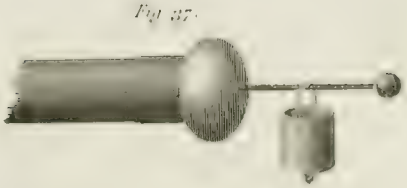


Fig. 37.



J. Farey delin. Published as the Act directs, 1811, by Longman, Hurst, Rees, Orme & Brown, Paternr. Row. Engraved by Wilson Lowry

Fig. 38.

Fig. 39.

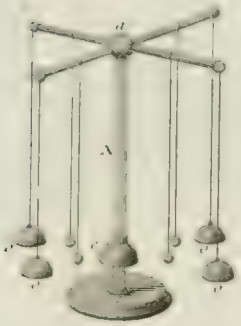


Fig. 40.

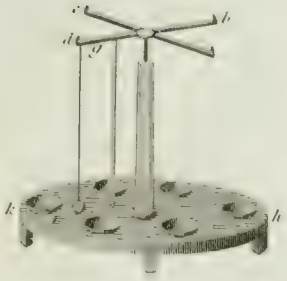


Fig. 41.

Fig. 42.

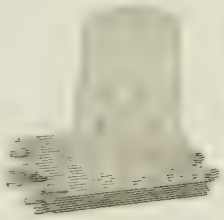


Fig. 43.

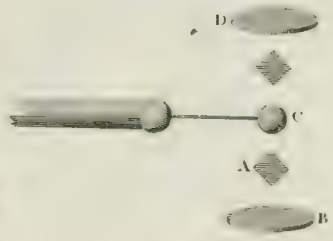


Fig. 44.

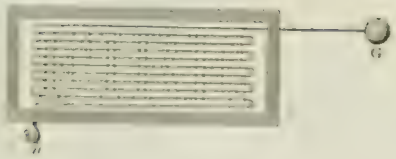


Fig. 45.

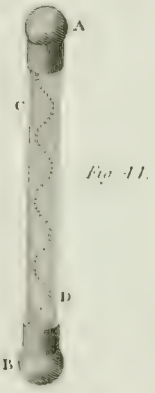


Fig. 46.

Fig. 47.

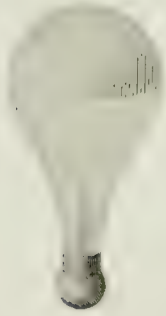


Fig. 48.

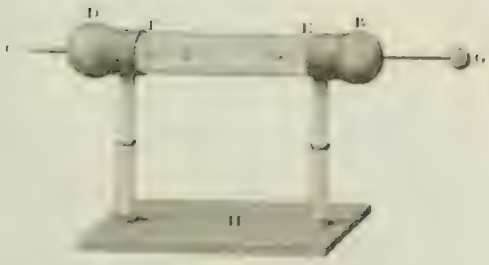


Fig. 49.

Fig. 50.

Published as the Act directs, 1807, by Longman, Hurst, Rees, Orme & Brown, Paternoster Row, London.

Engraved by W. Lowry.

ELECTRICITY.

PLATE

CONFIGURATIONS.

Published as the Act directs, 1809, by Longman, Hurst, Rees and Orme, Paternoster Row.

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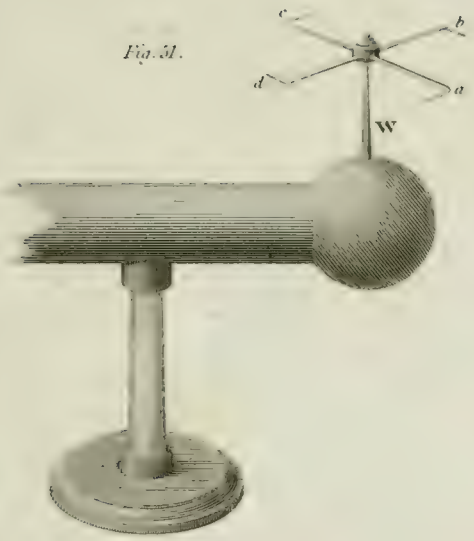
ELECTRICITY.

EXPERIMENTS.

Fig. 51.



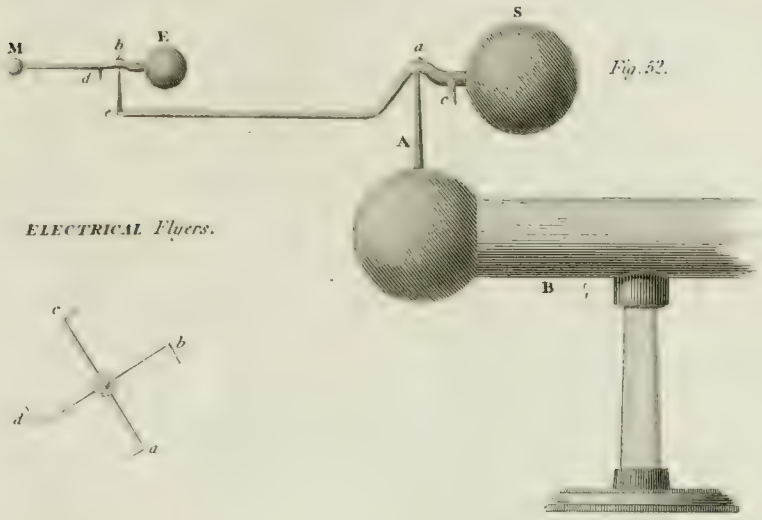


Fig. 52.

ELECTRICAL Flyers.

Fig. 53.

INFLAMABLE AIR Pistol.

Fig. 54.

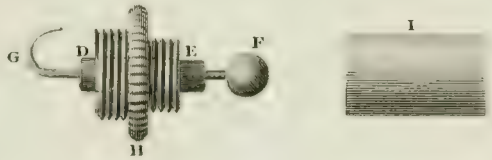
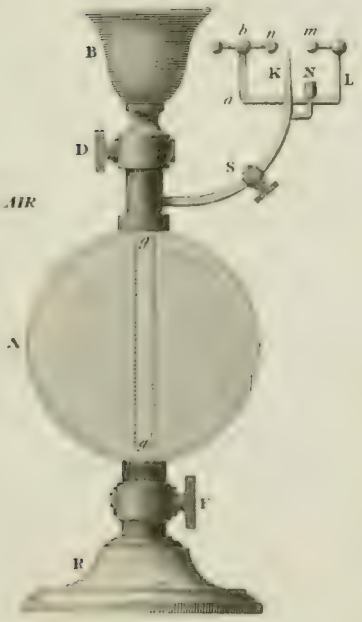


Fig. 55.



Mr Volta's INFLAMABLE AIR Lamp.

ELECTROPHORUS.

PLATE XIV.

Fig. 2.

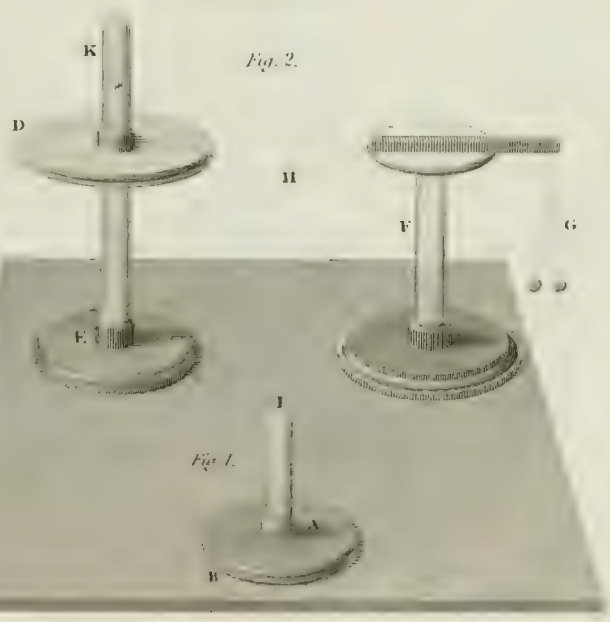


Fig. 1.

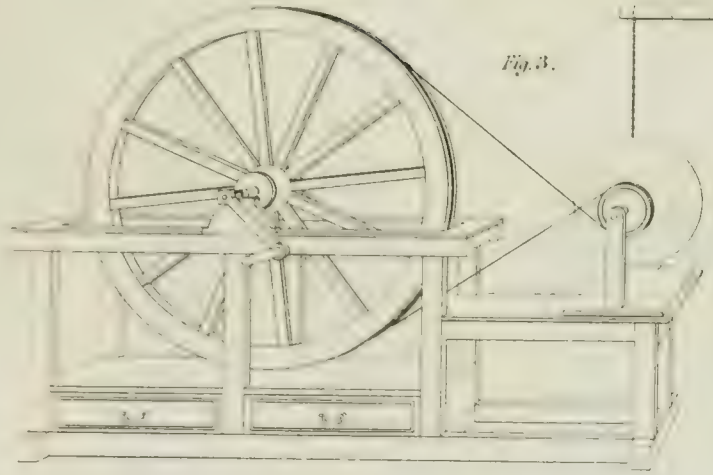
Published as the Act directs, 1814, by Longman, Hurst, Rees, Orme & Brown, Paternoster Row, London.

Lowry sculp

ELECTRIC MACHINES.

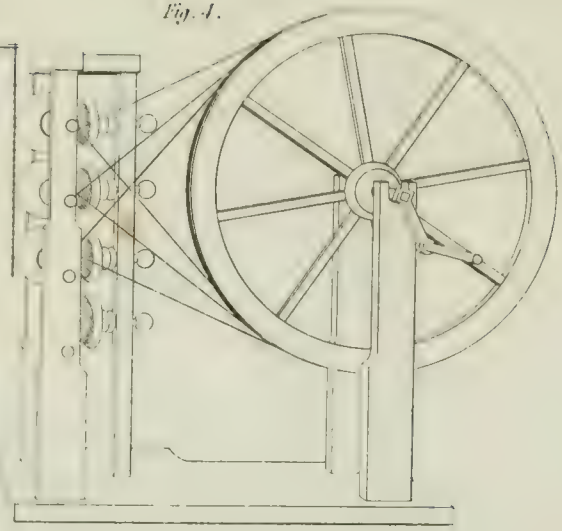
ABBE NOLLET'S.

Fig. 3.



Dr WATSON'S.

Fig. 4.



Mr HAWKSBEE'S.

Fig. 2.

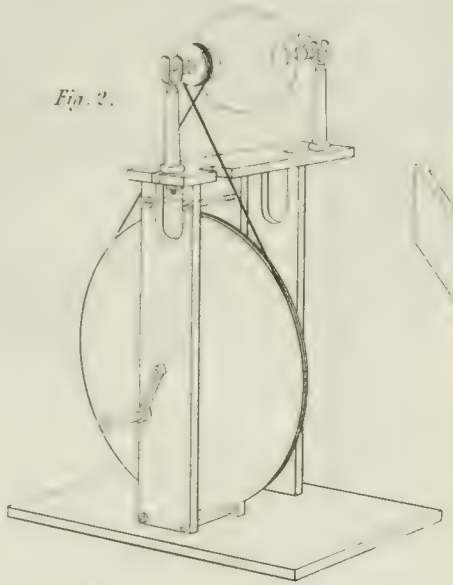
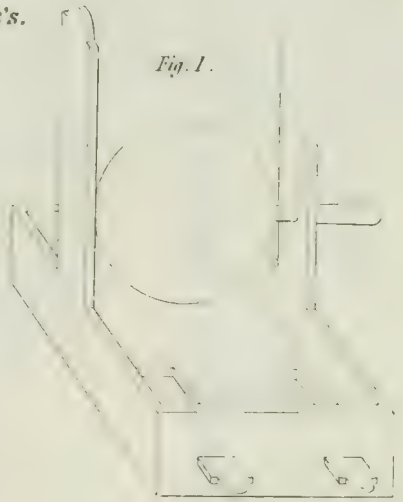
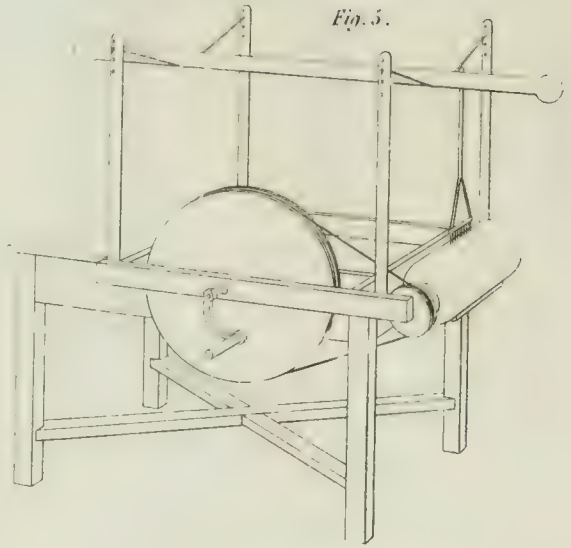


Fig. 1.



Mr WILSON'S.

Fig. 5.



J. Farey delin.

Published as the Act directs, 1809, by Longman, Hurst, Rees & Orme, Paternoster Row.

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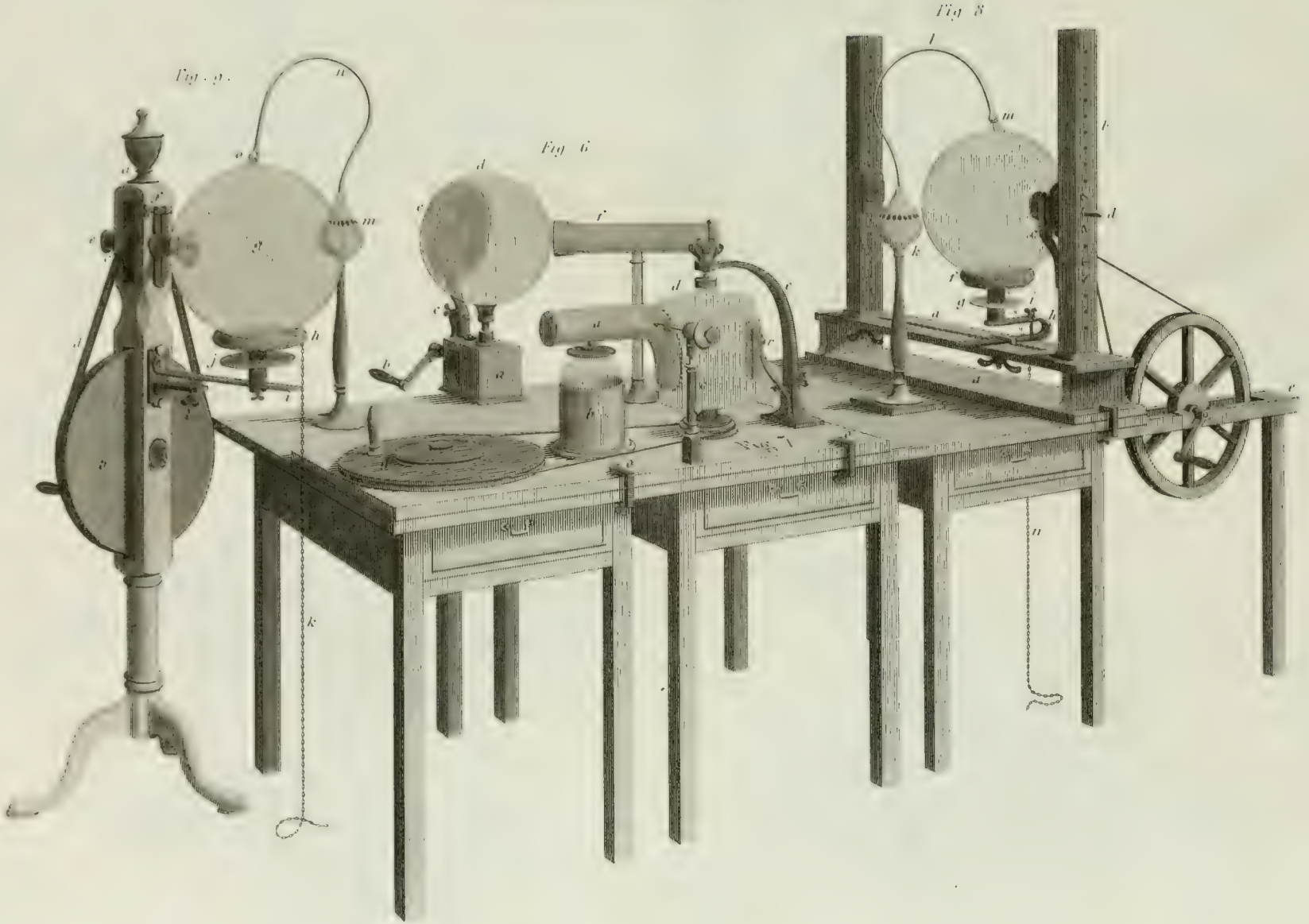
ELECTRIC MACHINES.



Published As the Act directs &c. by Longman Hurst Rees Orme & Brown Paternoster Row
Engraved by W Lowry

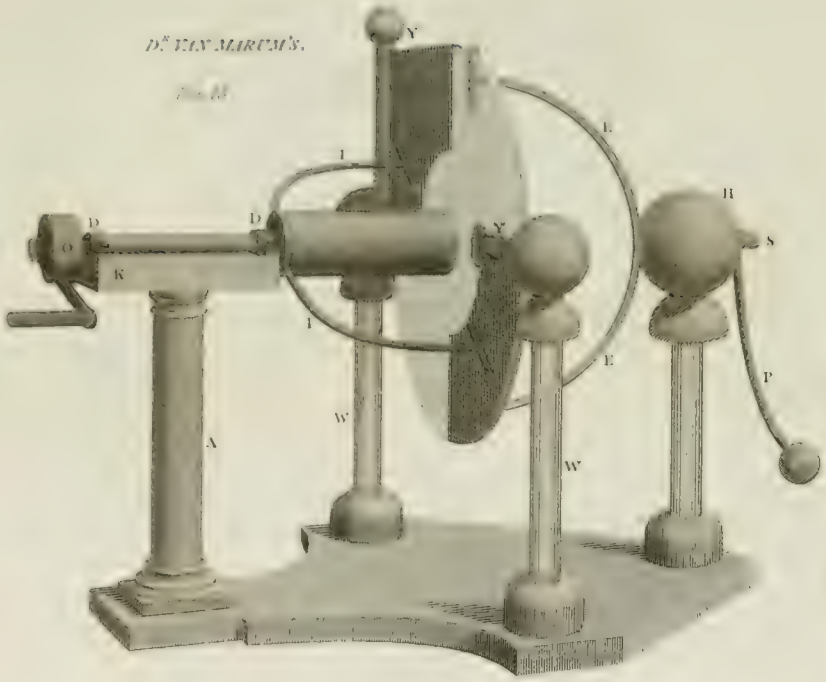
ELECTRICITY.

ELECTRICAL MACHINE.

PLATE IX.

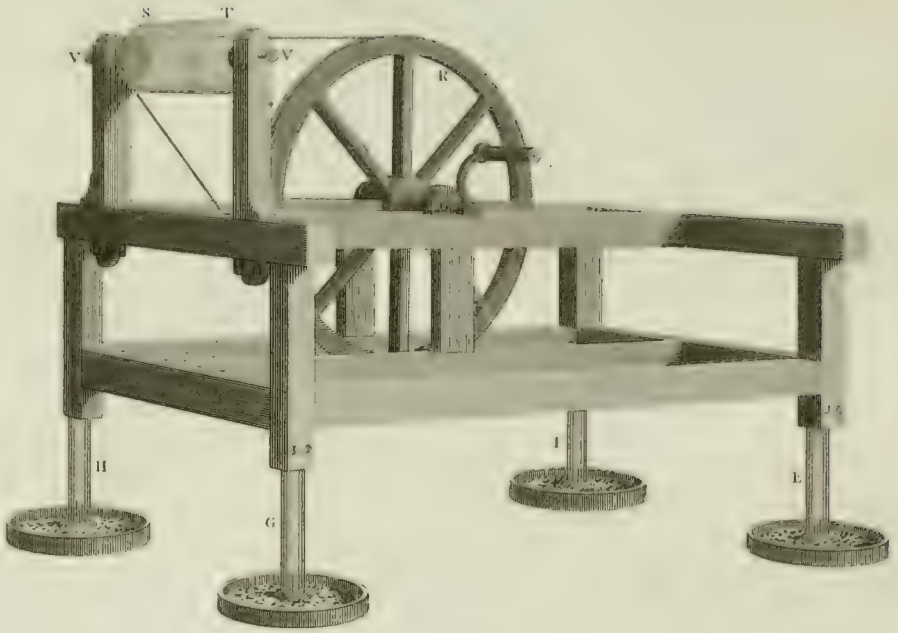
Dr. VAN MARUM's.

Fig. 10.



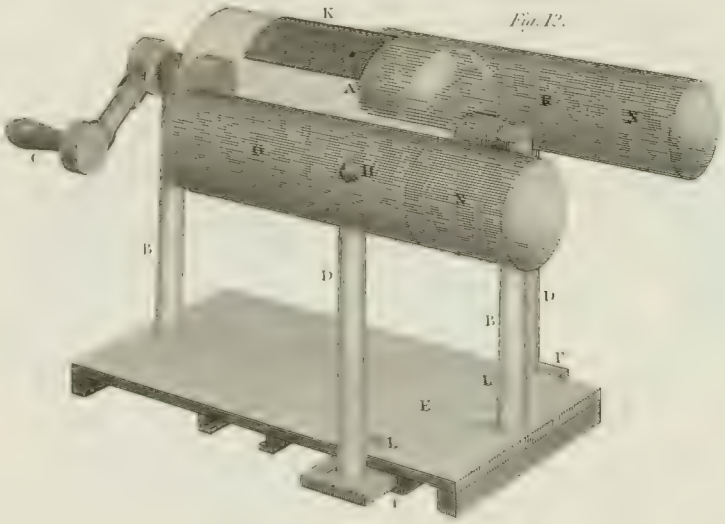
M. BECCARIA's.

Fig. 18.



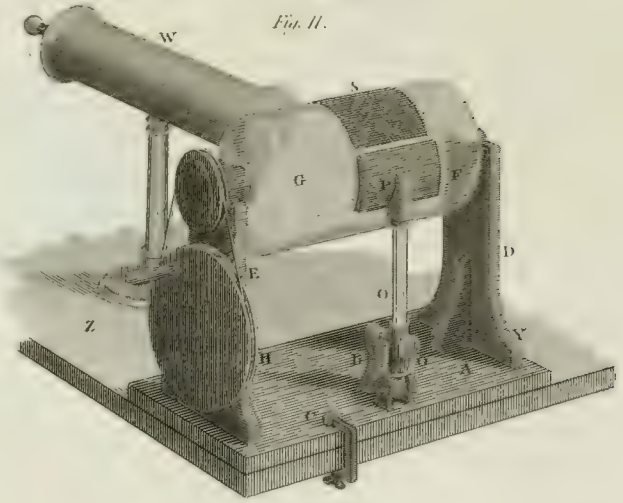
Mr. NAIRNE's.

Fig. 12.



COMMON MACHINE.

Fig. 11.



Engraved by W. Lowry.

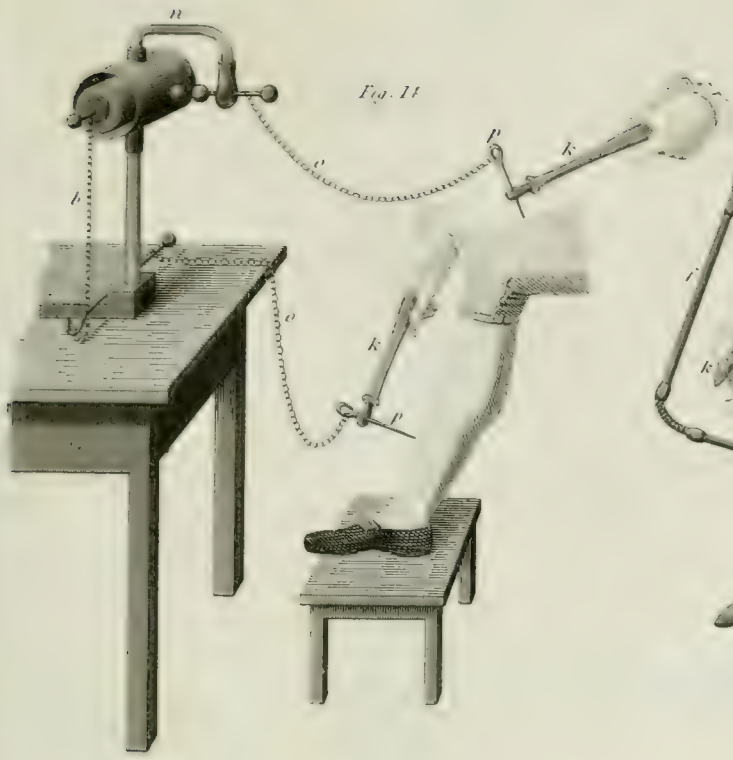


Fig. 14

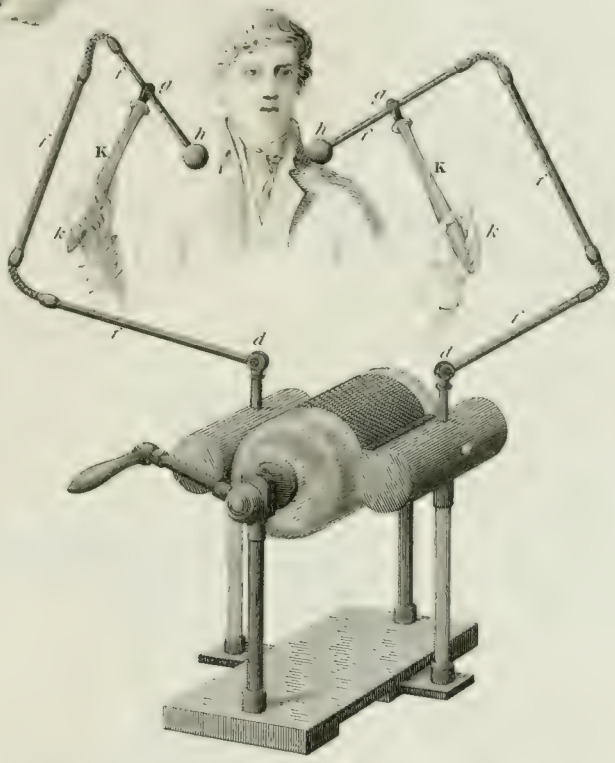


Fig. 13.

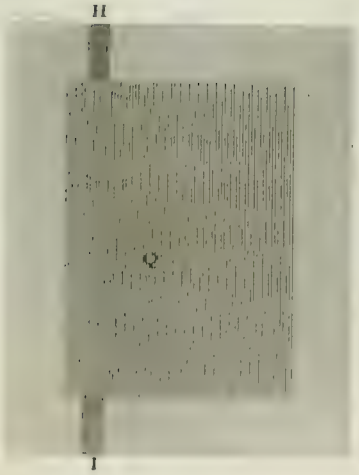


Fig. 16

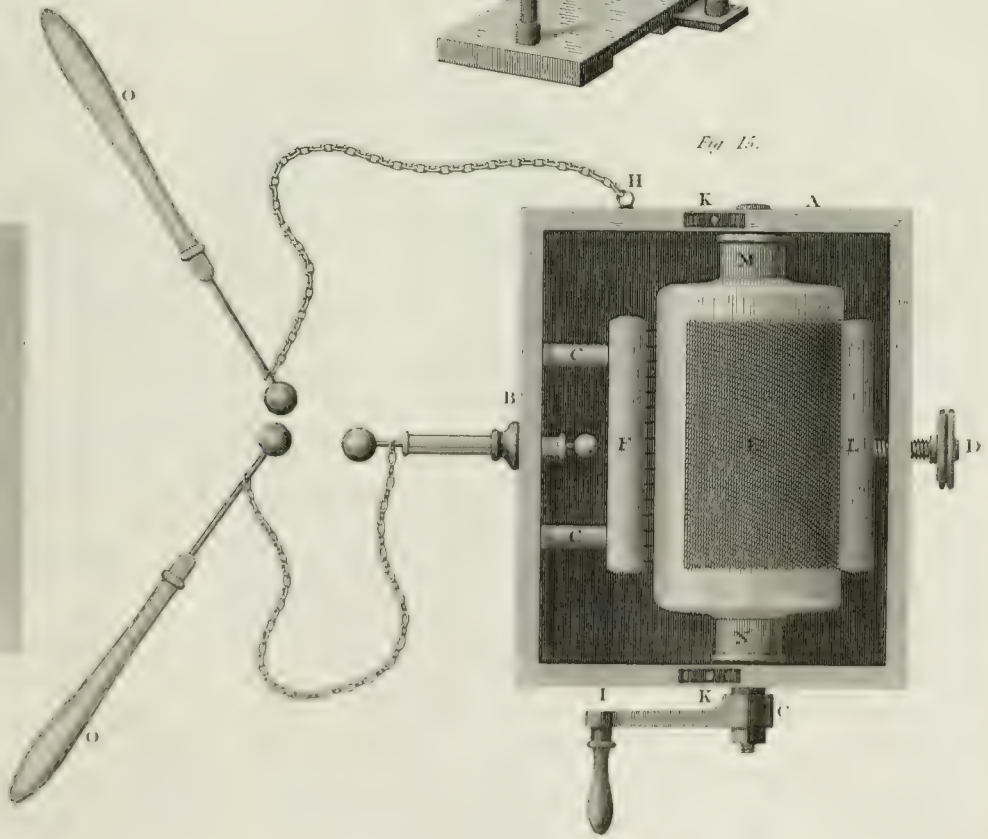


Fig. 15.

J. Farey delin. Published as the Act directs 1818, by Longman, Hurst, Rees, Orme & Brown, Paternoster Row. Lowry Sc.

ELECTRICITY.

Mr. CUTHBERTSON'S ELECTRICAL MACHINE.

Fig. 22.

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Engraved by Wilson Lowry.

ELECTRICITY.

ELECTROMETER.

Published as the Act directs 1810, by Longman, Hurst, Rees & Orme, Paternoster Row

Engraved by W. Lowry.

ELECTRICITY.

ELECTROMETER.

For Figs. 13. 14. & 15. see PI. XII.

Fig. 16.

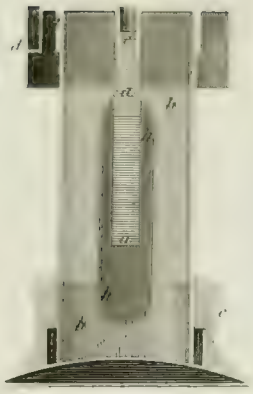


Fig. 17.

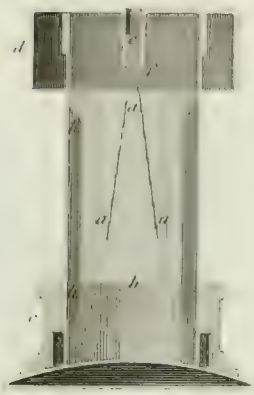


Fig. 18.

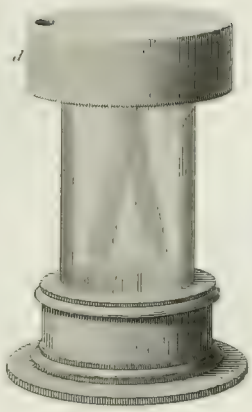


Fig. 19.

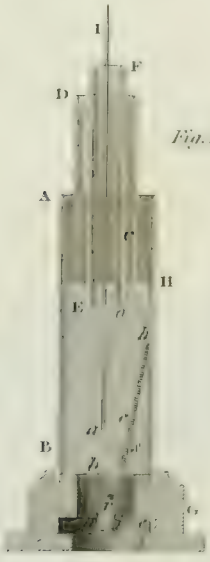


Fig. 20.

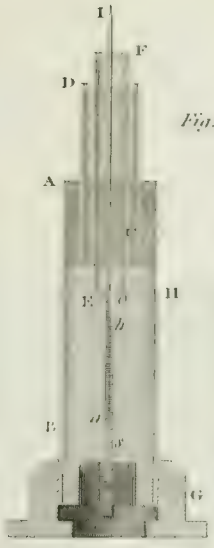


Fig. 21.

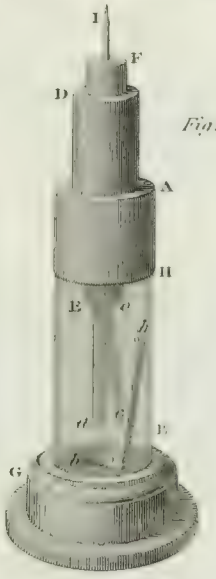
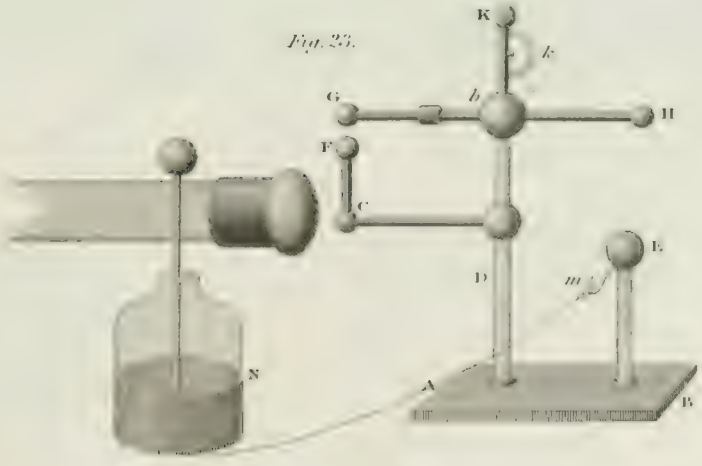


Fig. 22.

Fig. 23.



ELECTRICITY.

MEDICAL ELECTRICITY.

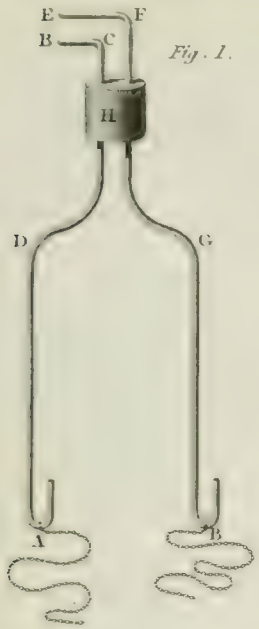


Fig. 1.

THUNDER House.

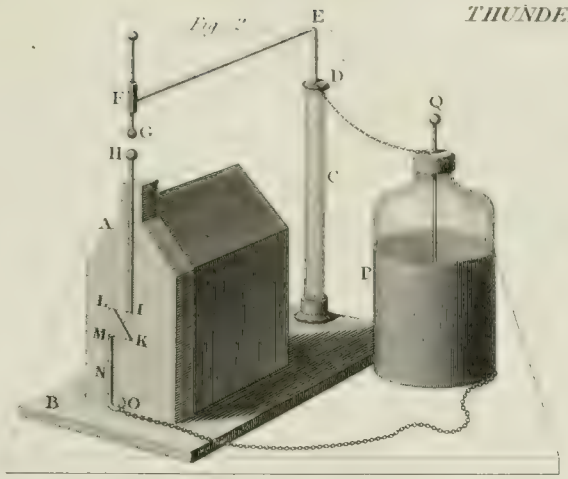


Fig. 2.

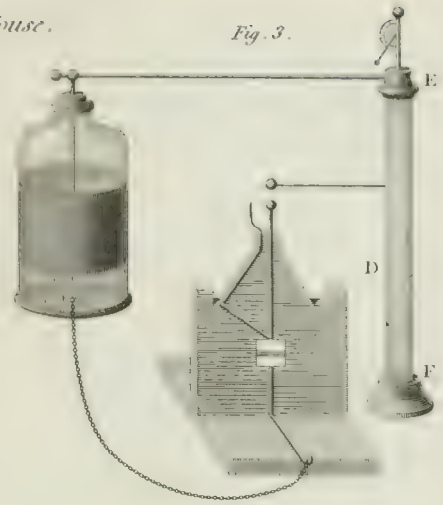


Fig. 3.

TORPEDO.

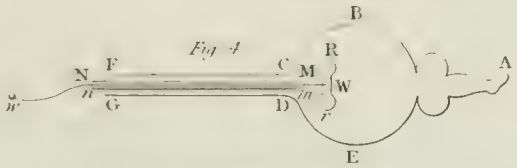


Fig. 4

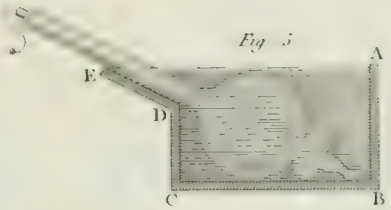


Fig. 5

BRUSH.

Fig. 6

Inside connecting Frame of Taylors BATTERY.

Fig 7 N°1

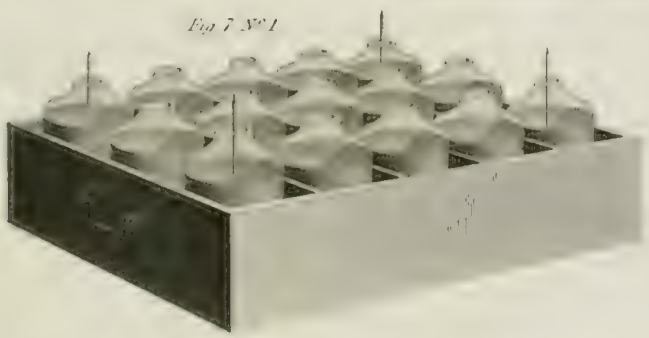
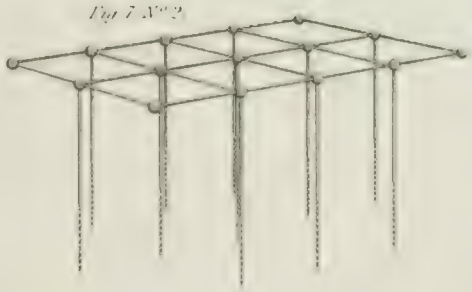


Fig 7 N°2



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ENGINE.

Mr R. SALMON'S WEIGHING MACHINE.

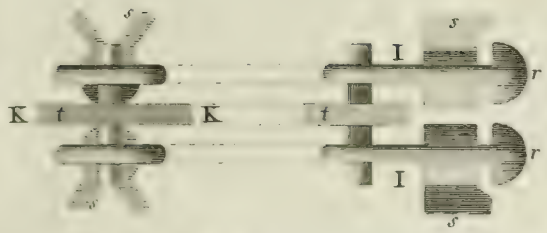
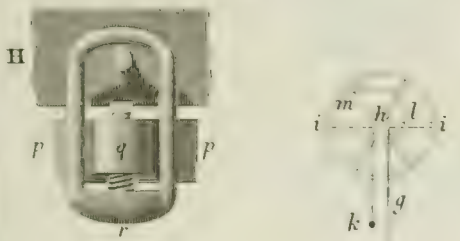
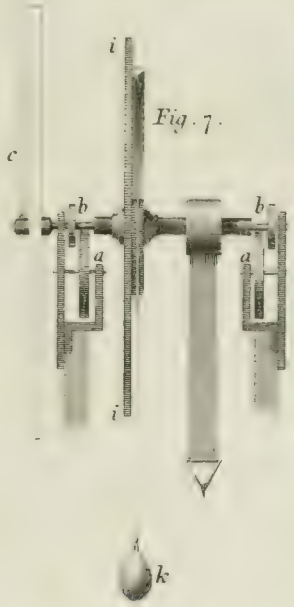
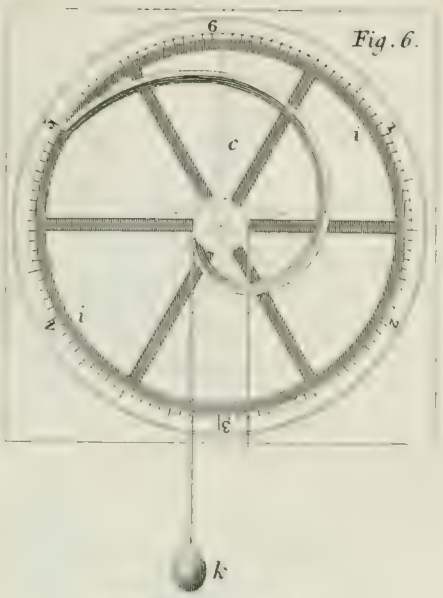
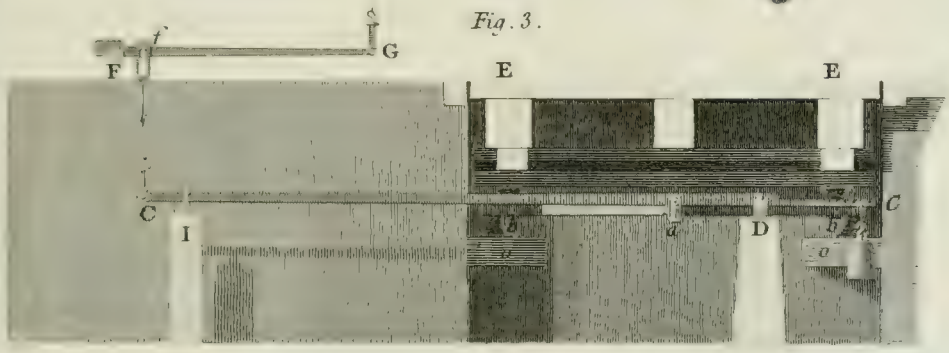


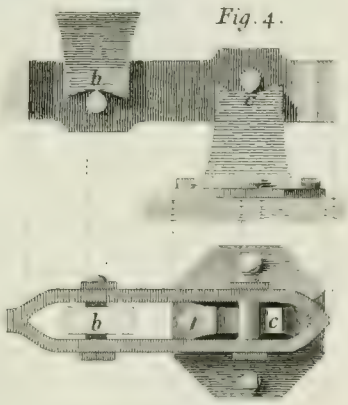
Fig. 5.

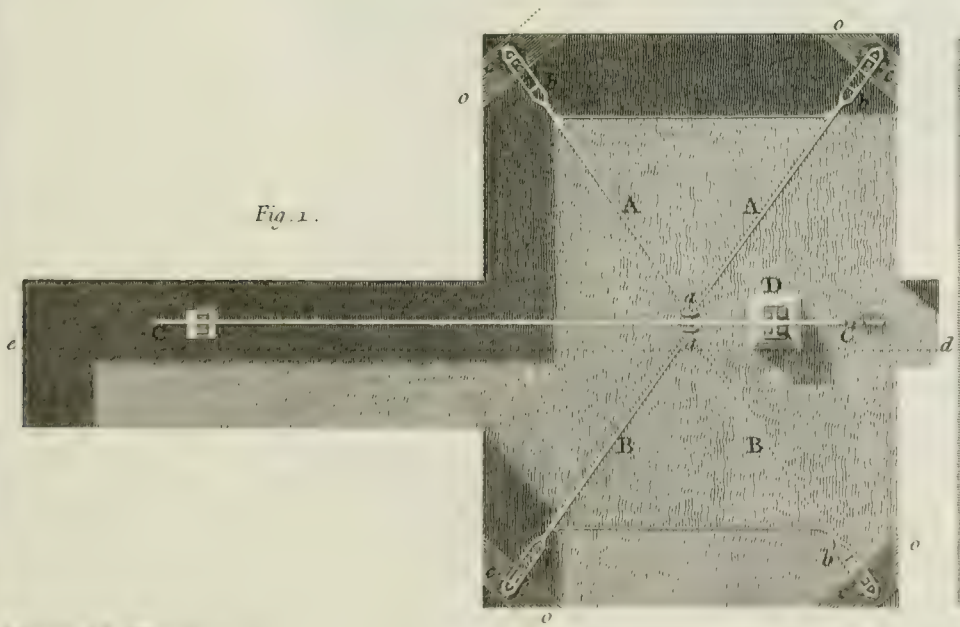








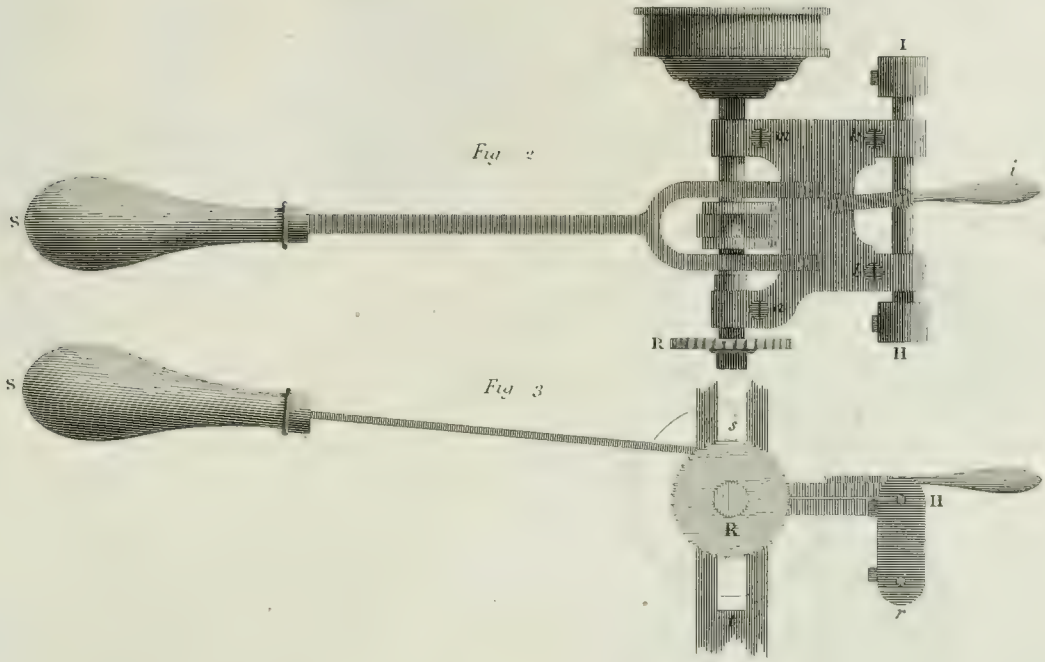


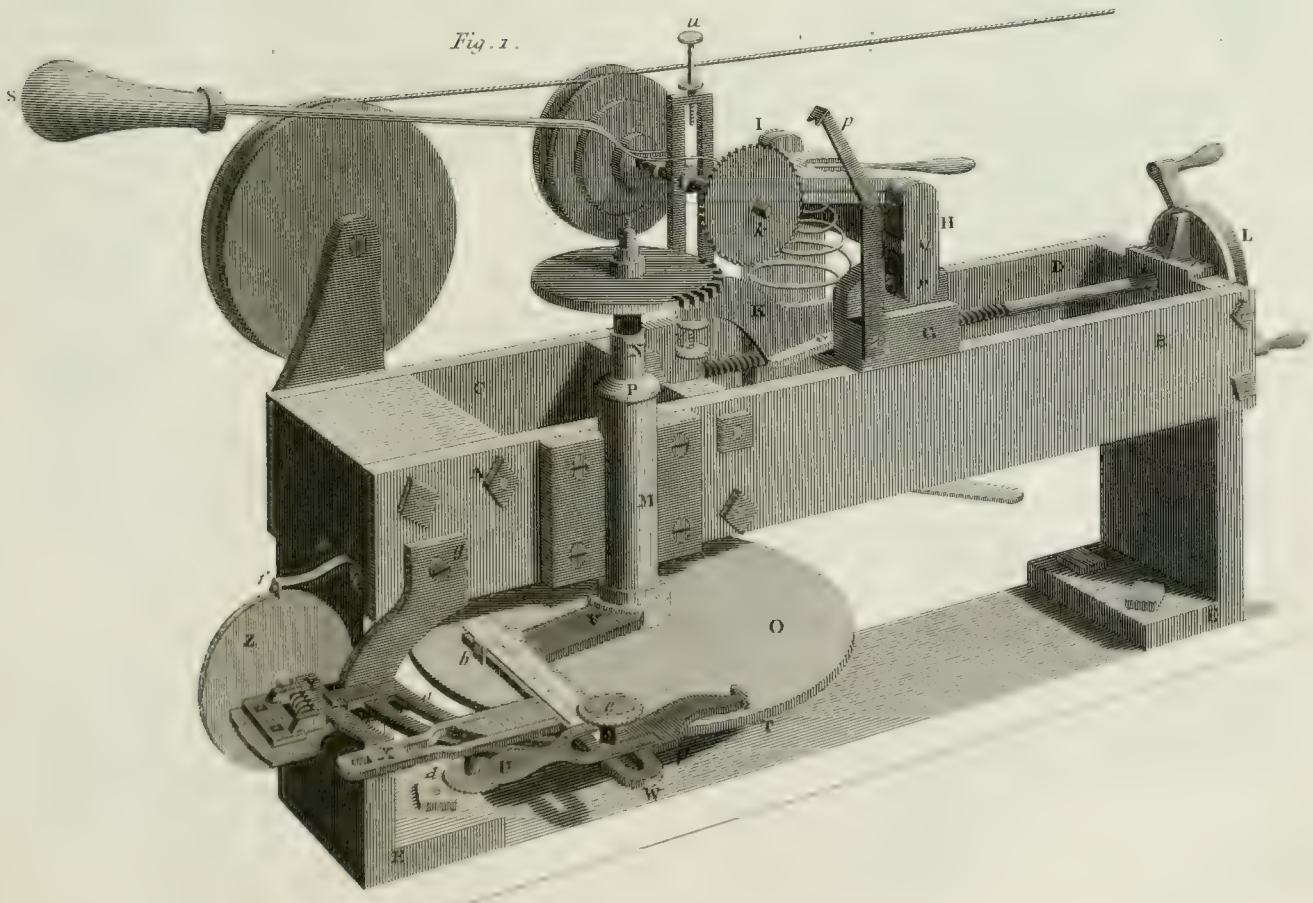


Drawn & Engraved by Wilson Lowry.

Published as the Act directs, Jan.y 1, 1803, by Longman & Rees, Paternoster Row.

Cutting Engine by Hindley.





J. Farey Junr delin. Published as the Act directs, 1813, by Longman, Hurst, Rees, Orme & Brown, Paternoster Row Engraved by W. Lowry.

CUTTING ENGINE.

Fig 2.

Fig 3

Fig 1

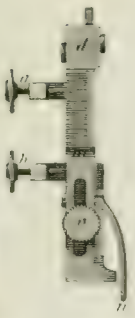


Fig 5.

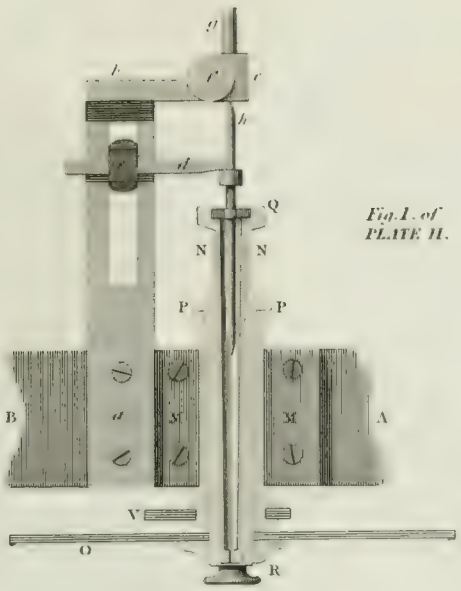
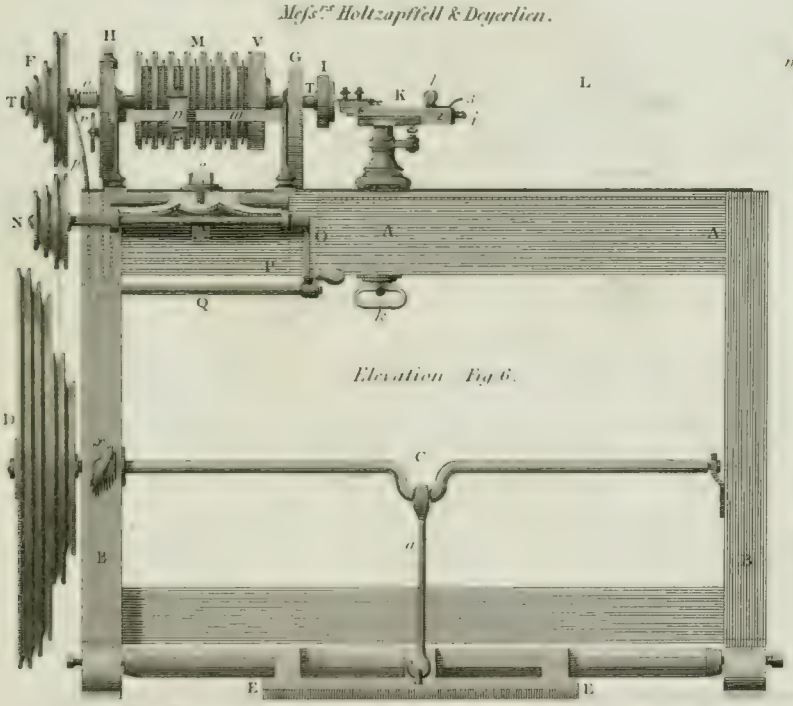


Fig. 1. of PLATE II.

Rose Engine or figure Lathe made by Messrs Holtzapffell & Deyerlein.



Elevation Fig 6.

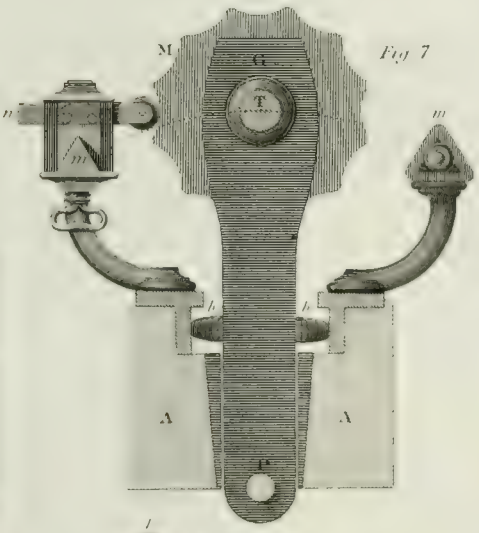


Fig 7

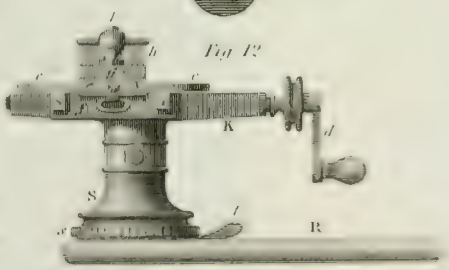


Fig 12

Fig 9

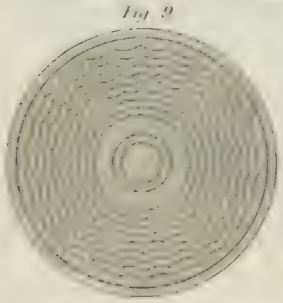
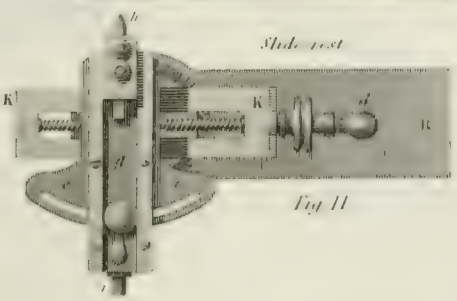


Fig 10

Fig 10



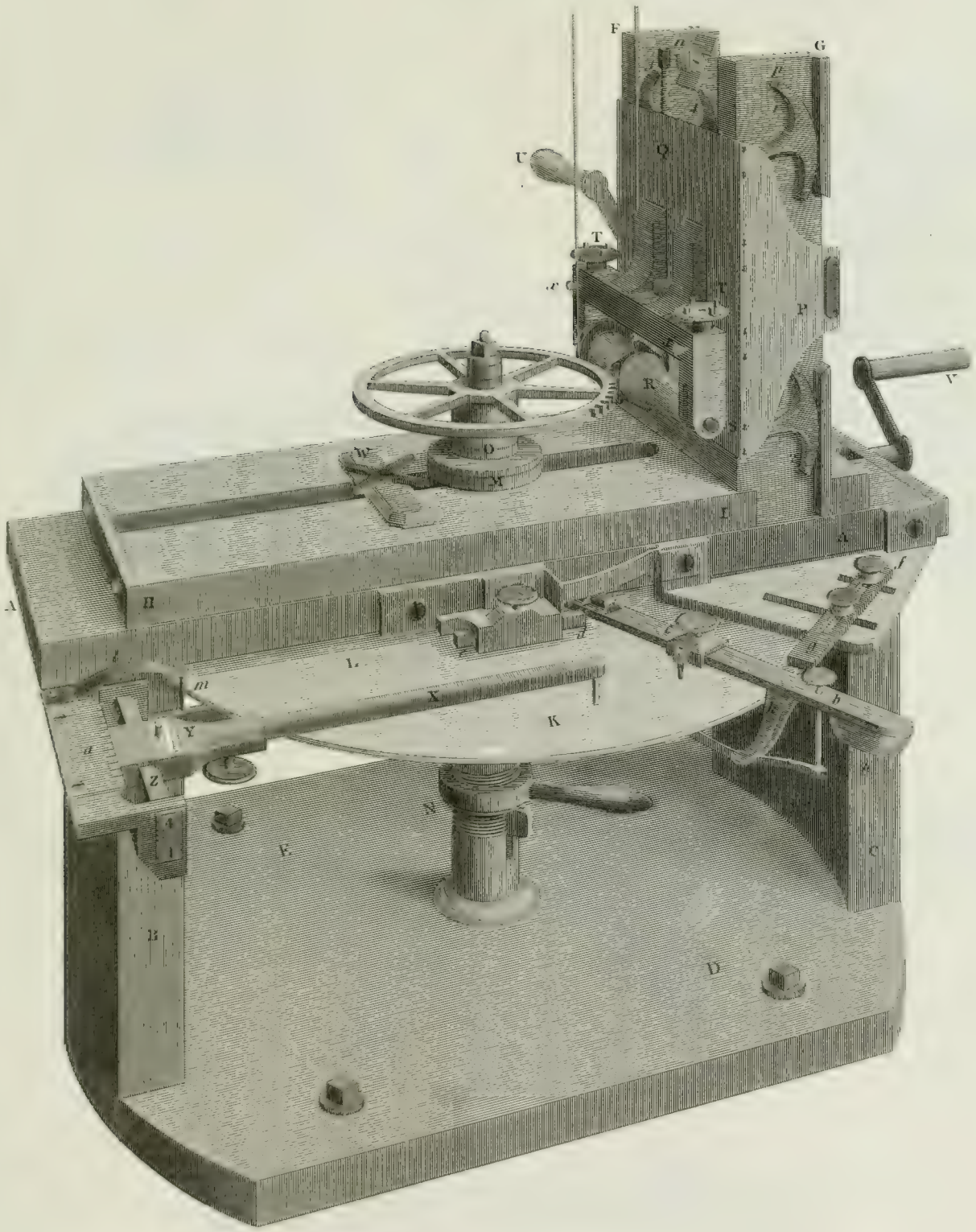
Slide rest

Fig 11

J. Farey Junr del.

Published as the Act directs, 1816, by Longman, Hurst, Rees, Orme & Brown, London

Cutting ENGINE by Rehe.



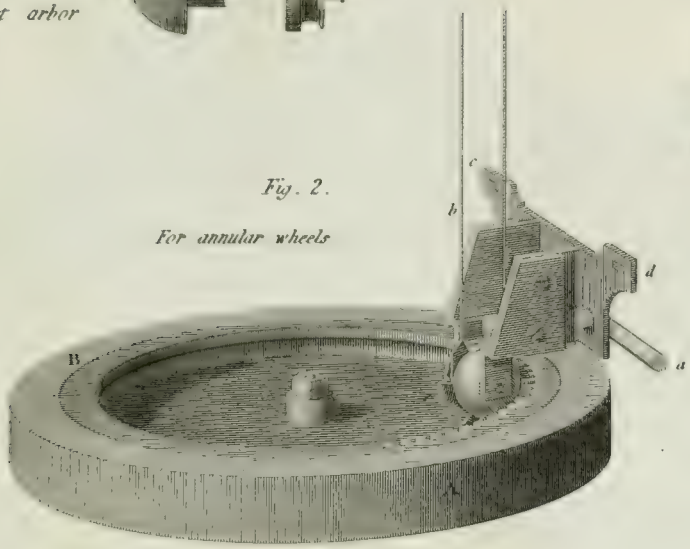
CUTTING ENGINE by REHE.

Fig. 3

Short arbor

Fig. 2.

For annular wheels



For worm wheels

Fig. 1.

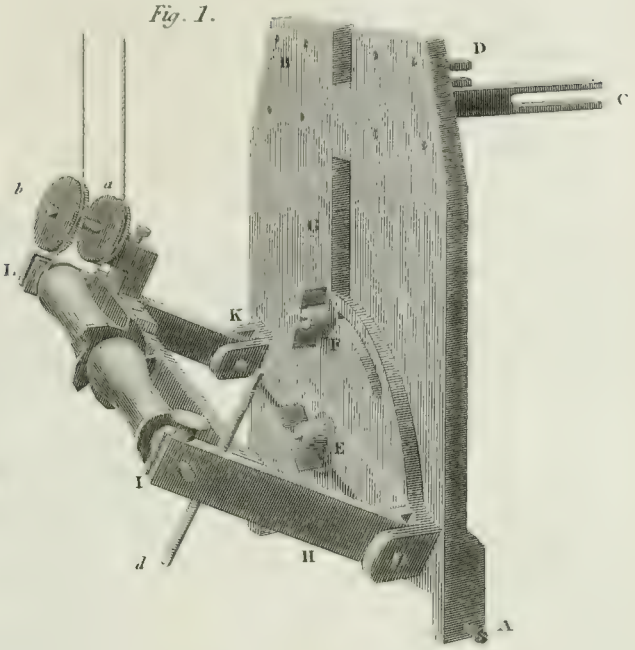


Fig. 4.

For Racks

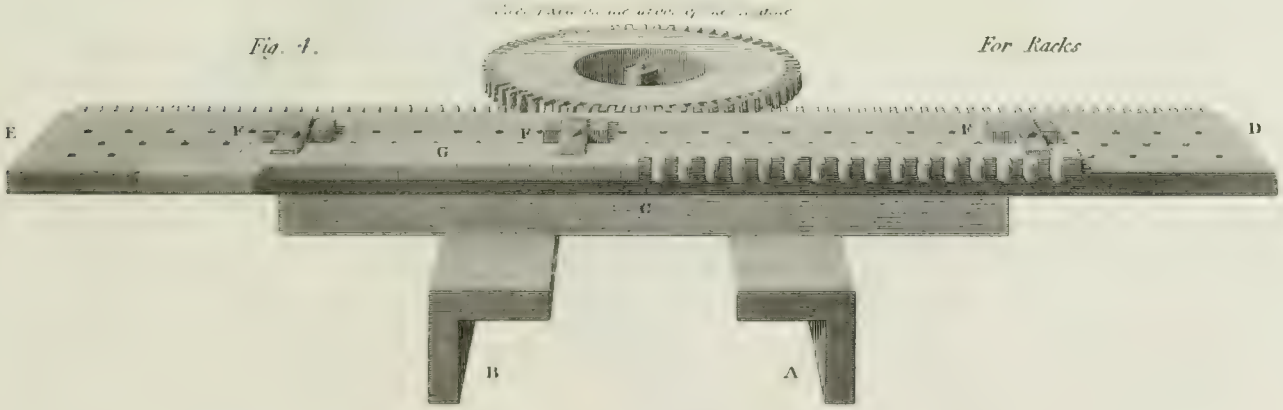
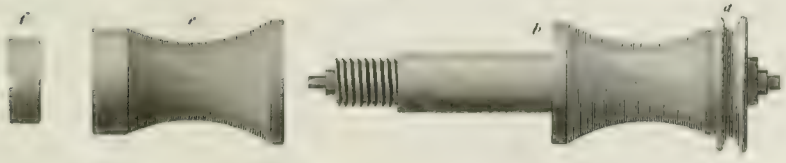


Fig. 5.



Cutter arbor

Published as the Act directs, 1818 by Longman, Hurst, Rees Orme & Brown Paternoster Row.

Lowry Sculp

ENGINES.

For sharpening Cutters

BY REHE

Fig 1

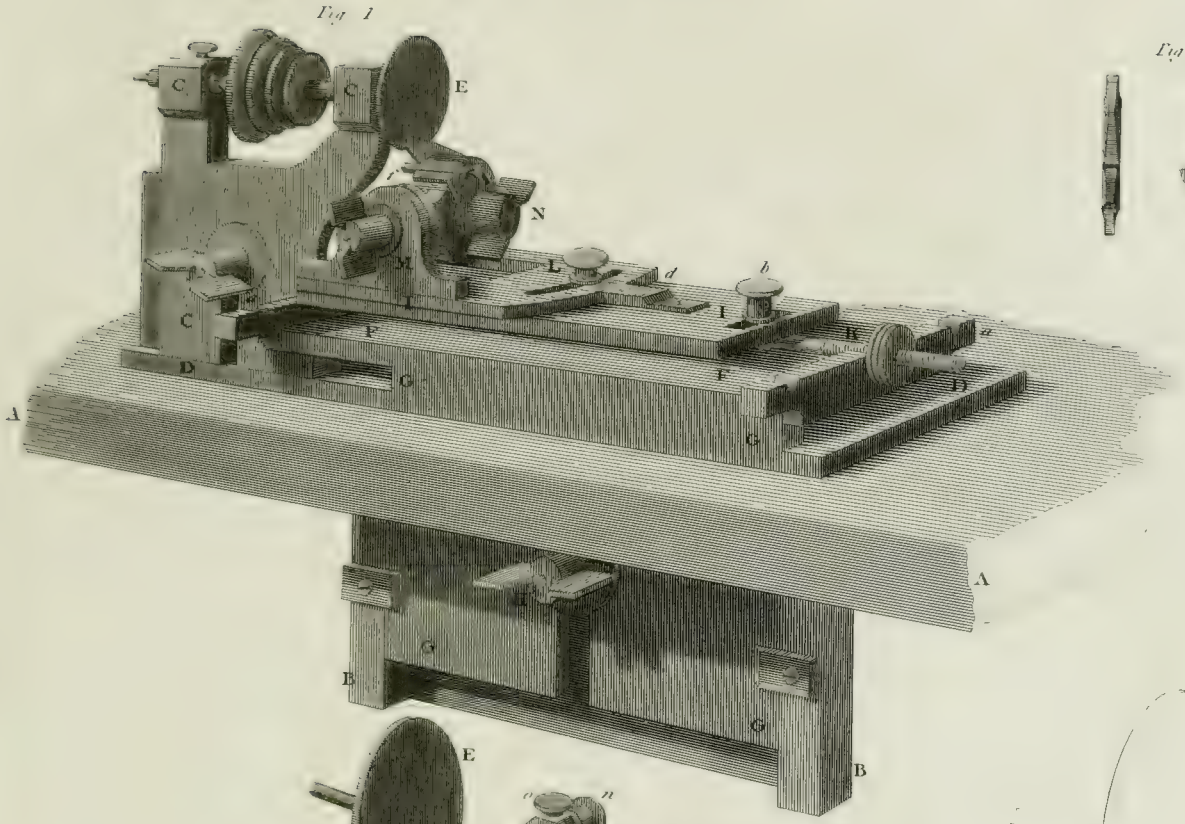
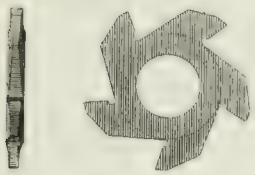


Fig 2.



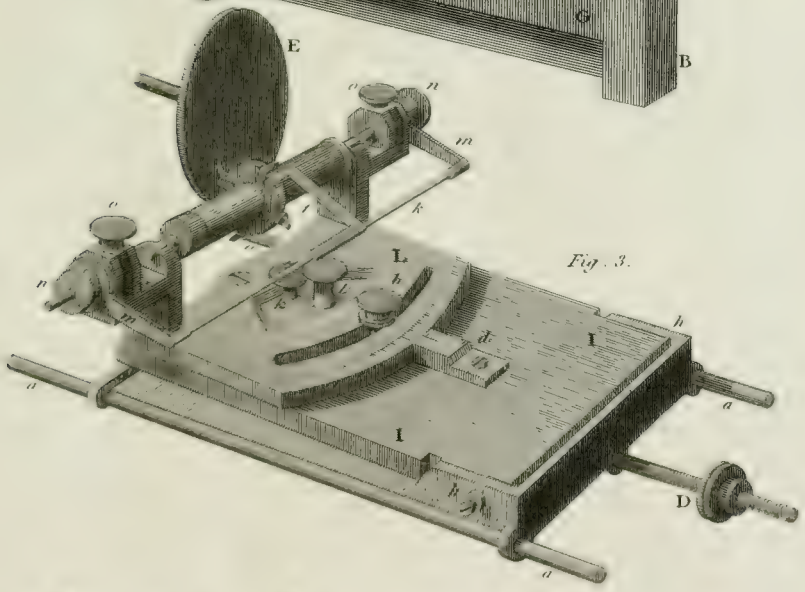


Fig. 3.

Fig 4.

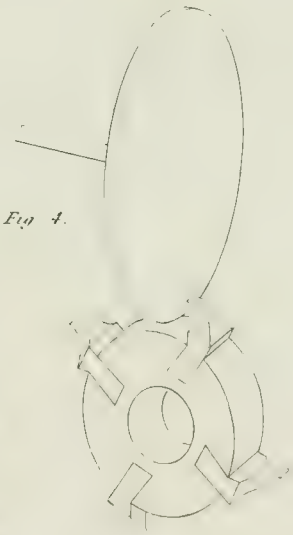
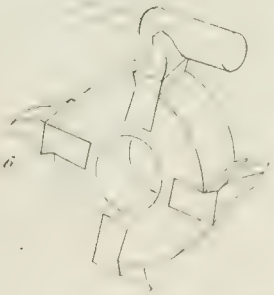


Fig 5.

Fig 6



J. Varey, Junr. del.

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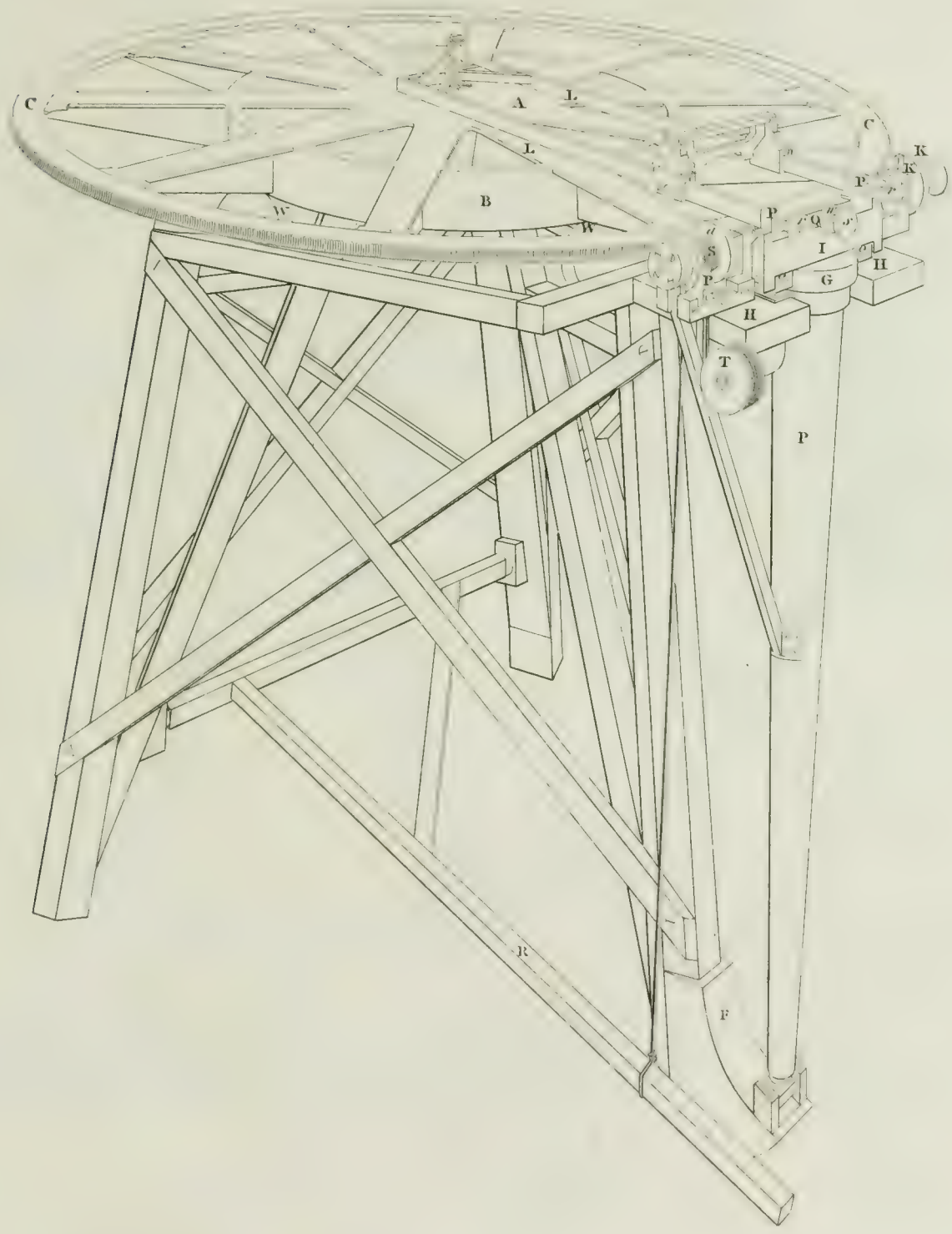
Lowry Sc.

A perspective View of Mr RAMSDEN'S dividing Engine.



Published as the Act directs, 1st Jan by Longman, Hurst, Rees and Orme, Paternoster Row.

Engraved by Wilson Lowry

Mr RAMSDEN'S DIVIDING ENGINE.

Fig. 2.
PLAN
of the Great Wheel.

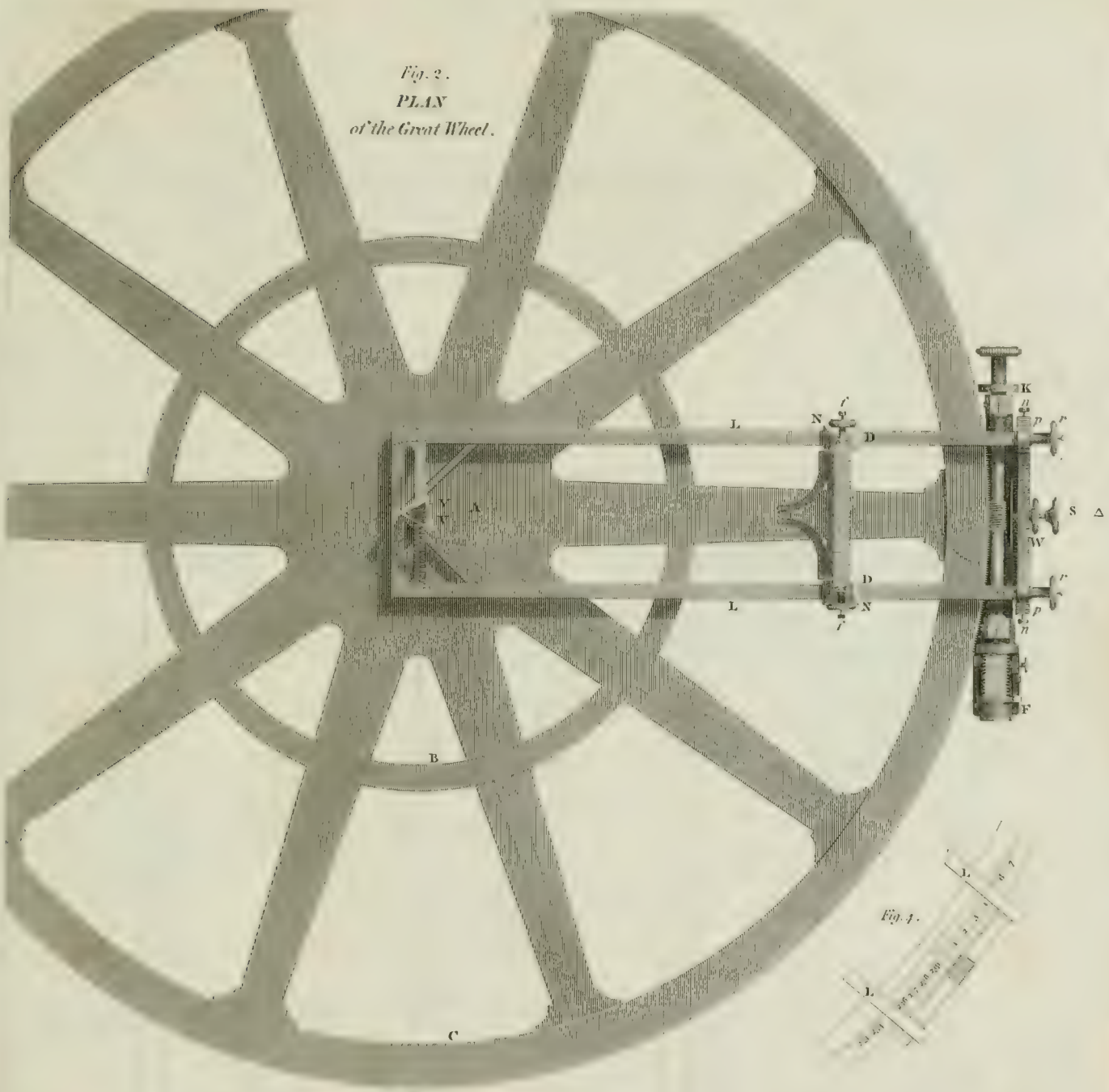
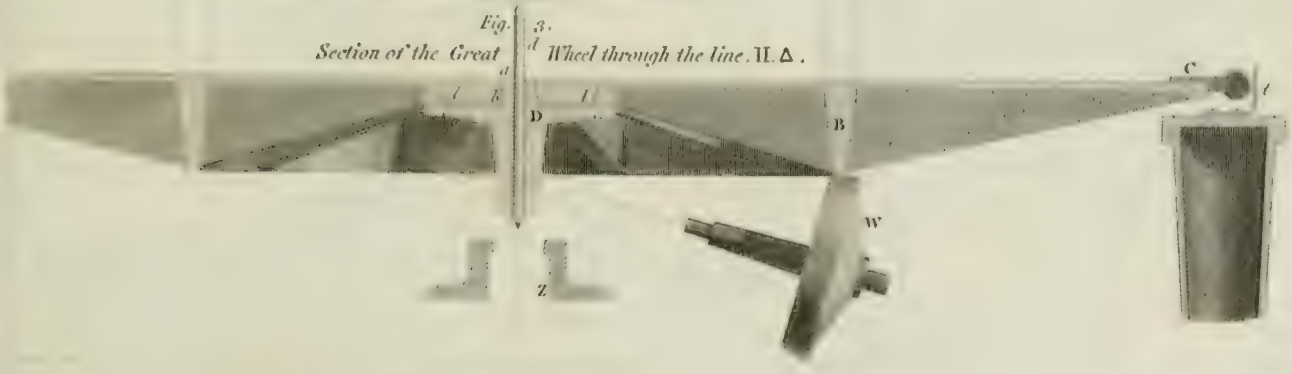


Fig. 4.

Fig. 3.
Section of the Great Wheel through the line M. Δ.



Published as the Act directs, 1810, by Longman, Hurst, Rees & Orme, Paternoster Row.

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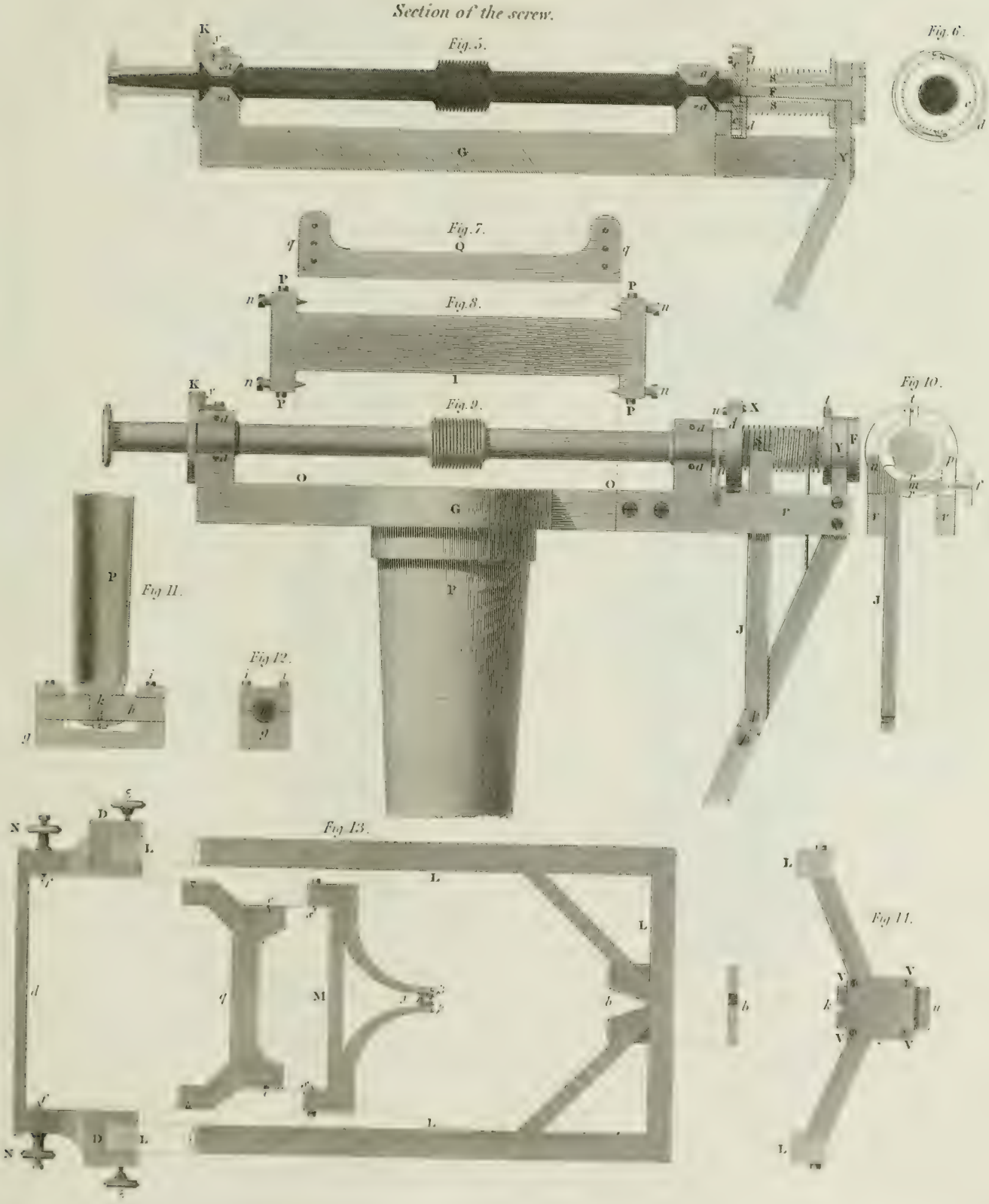
ENGINES.

Mr RAMSDENS DIVIDING ENGINE.



Published as the Act directs 1809, by Longman, Hurst, Rees & Orme, Paternoster Row.

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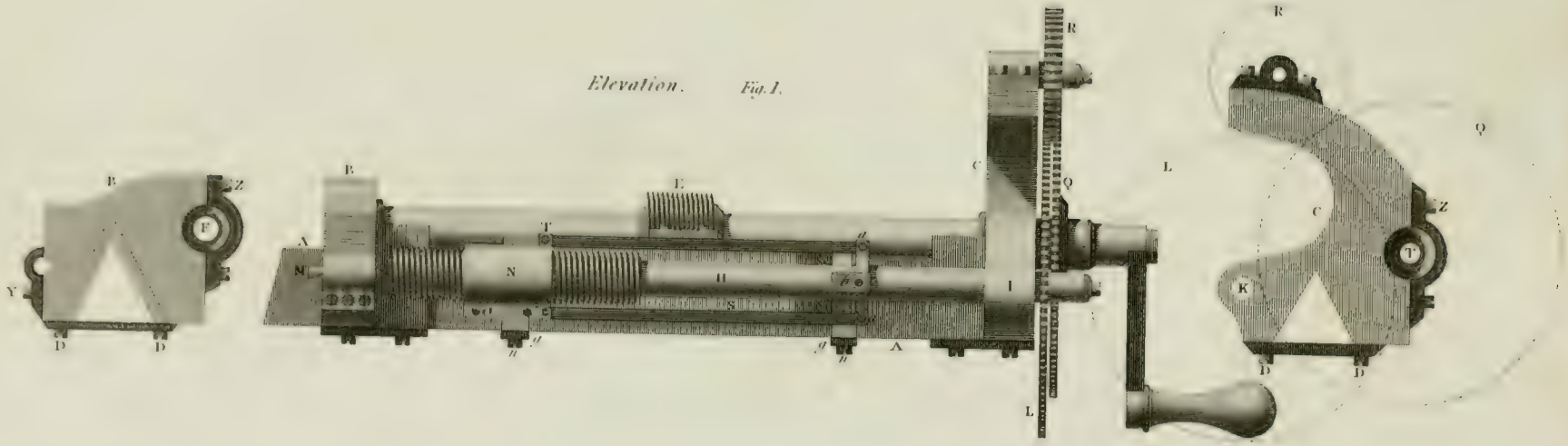
Engine for cutting the Screw of Ramsden's Circular Dividing Engine.

Elevation. *Fig. 1.*



Plan. *Fig. 2.*

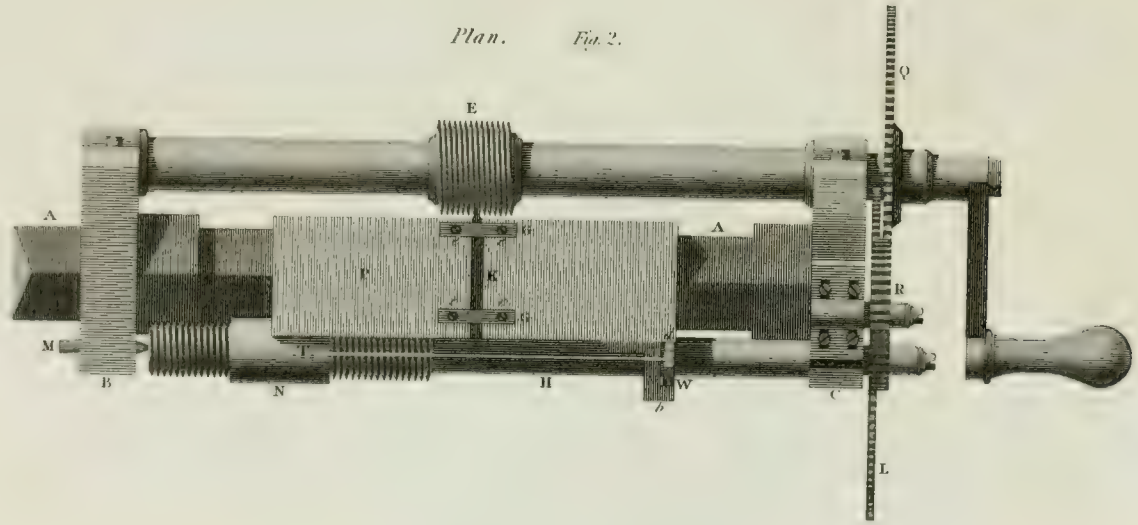


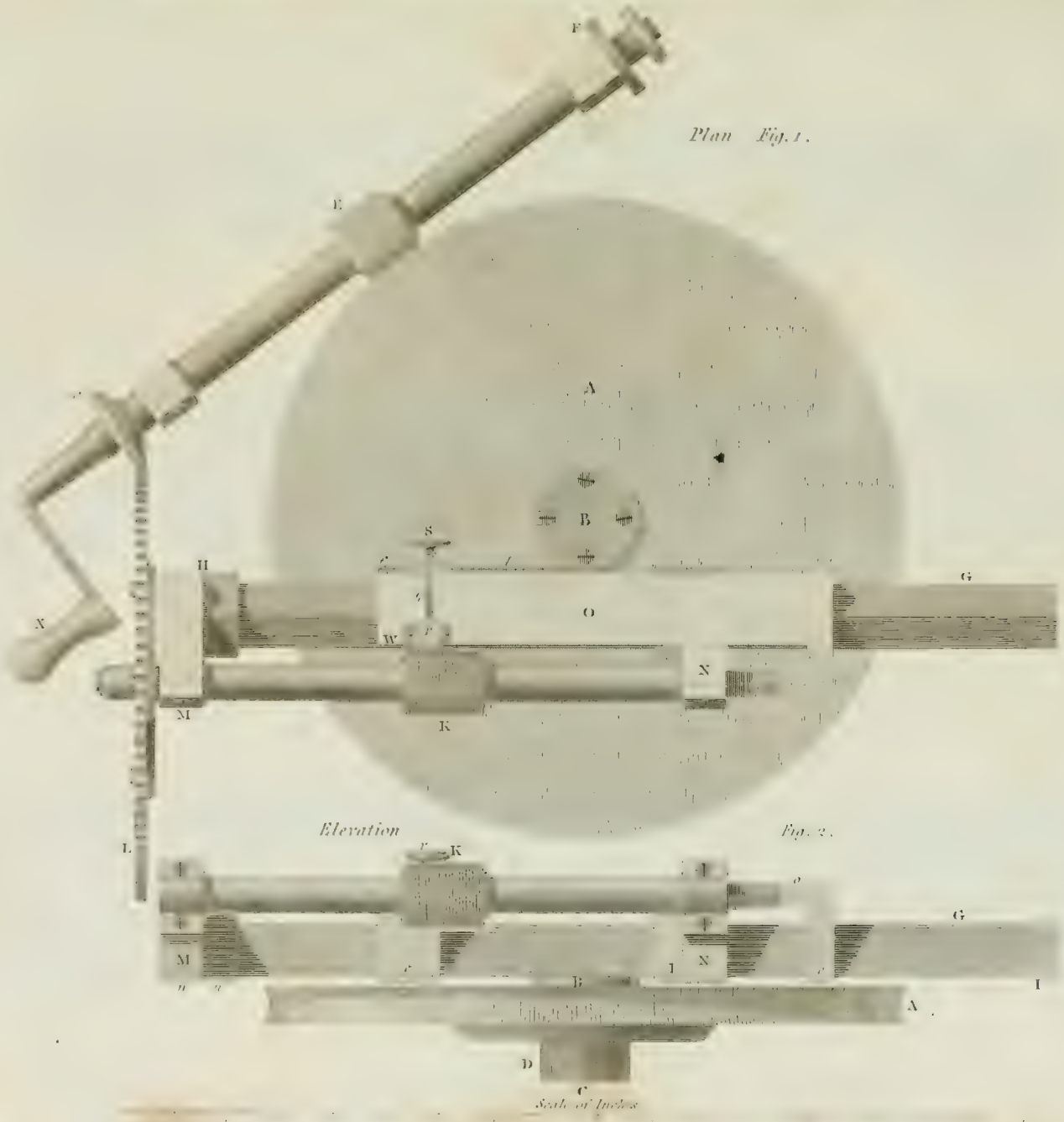
Fig. 3.

Drawn by J. Farey

Published as the Act directs 1812, by Longman, Hurst, Rees, Orme and Brown, Paternoster Row London

Engraved by W. Lowry.

ENGINE for cutting the Screw of **RAMSDENS** *Straight Line dividing Engine.*



Drawn by J. Farey.

...shed as the Act directs, 1811, by Longman, Hurst, Rees, Orme & Brown. P. F. ...

... Wilson Lowry.

Ramsden's Engine for dividing straight Lines.

Fig. 3.

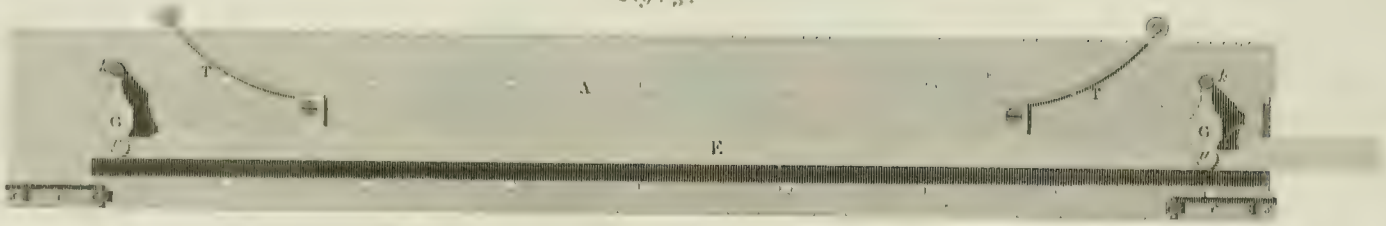


Fig. 1.

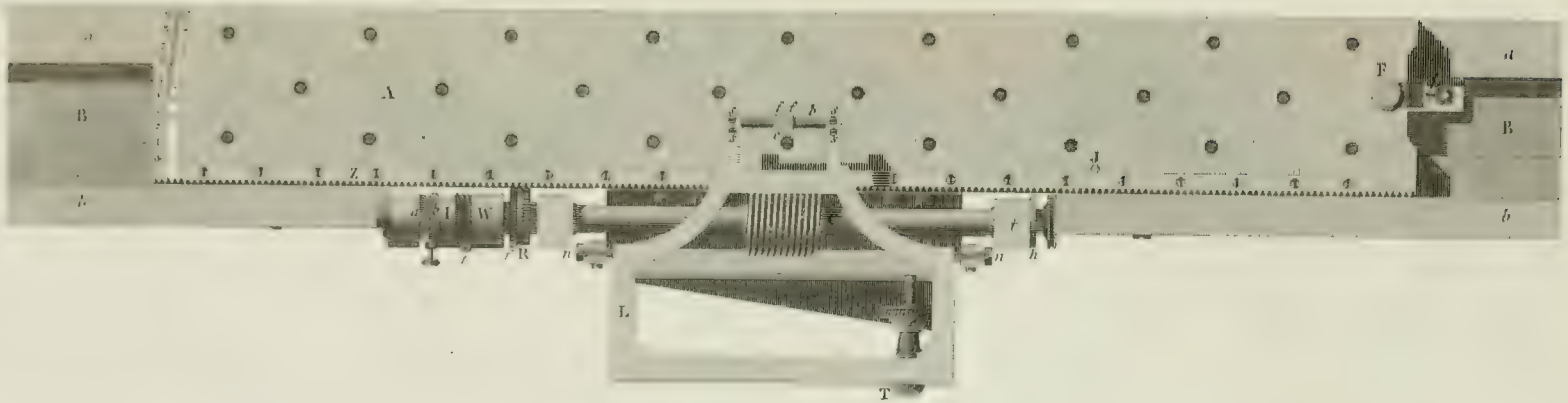
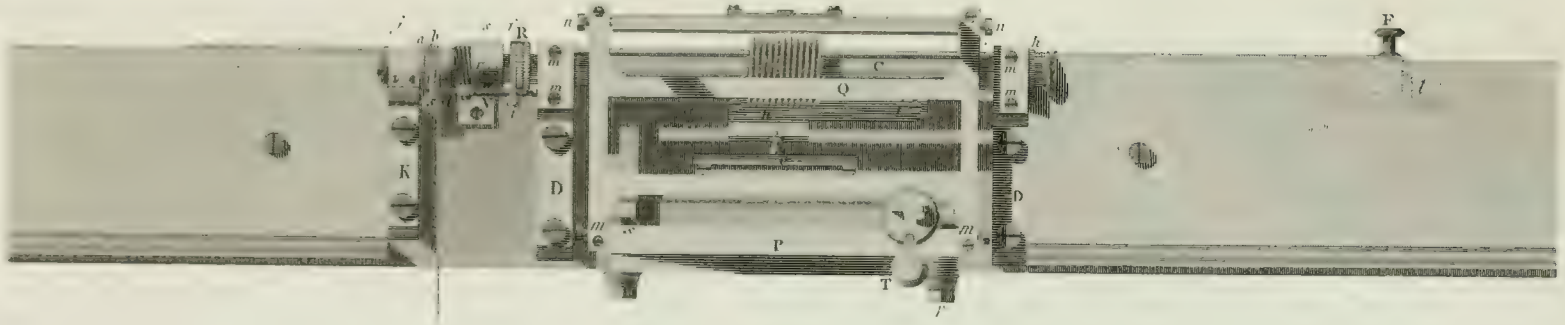


Fig. 2.



J. Farey Jun. del.

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Engraved by Wilson Lowry.

Engraved front of King Alfreds Jewel.

Fig. 1.

Engraving on the back of King Alfreds Jewel.

Impression from the Engraved Seal of Anselm the Primate.

Fig. 3.

Engraved Brass on the Tomb of Wm. de Fulbourn, in Fulbourn Church, Cambridgeshire.

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FARRIERY.

HORSE SHOEING.

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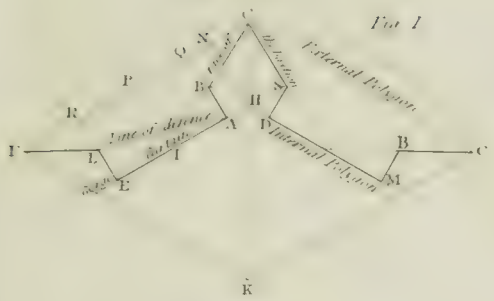
PLATE I.

BASTION.

Fig. 1



CAVALIER.

Fig. 2.

Fig. 3

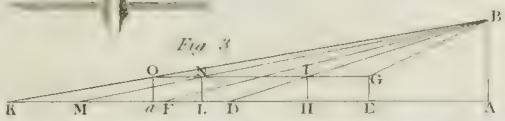


PLATE II.

BATTERY.

Fig. 1.

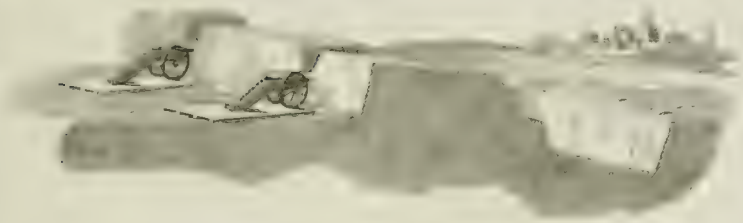
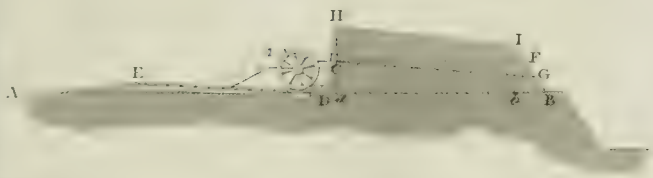


Fig. 2



Battery en Barbe or Barbet.

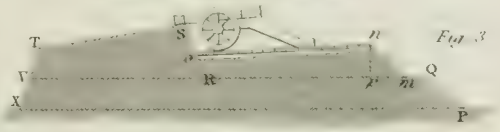


Fig. 3

Fig. 8

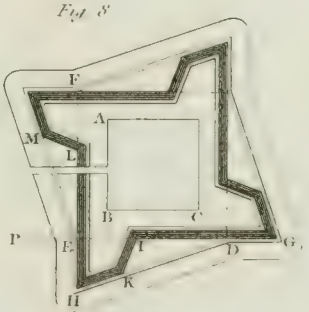


PLATE IV.

FORT.

Fig. 4

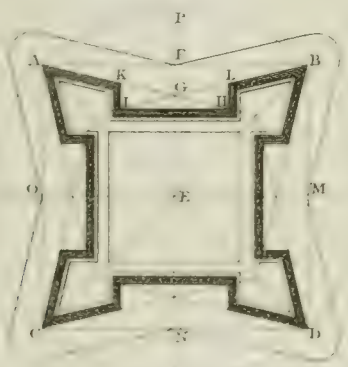


Fig. 5

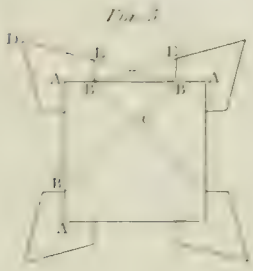


Fig. 6

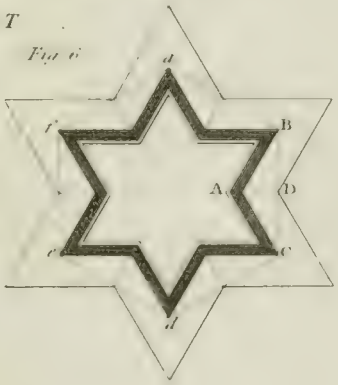


Fig. 7

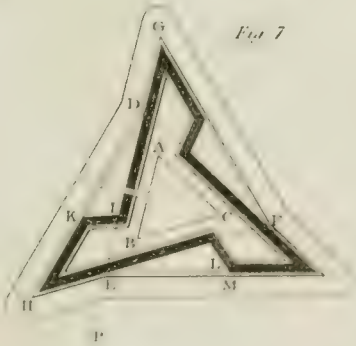


Fig. 9

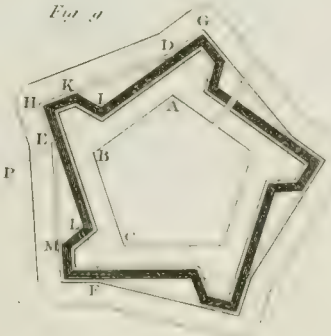
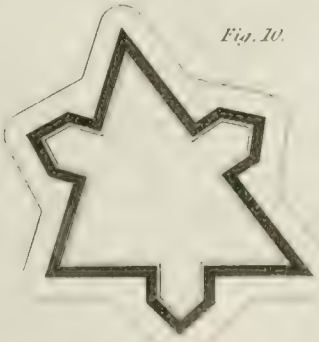


Fig. 10.



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Lowry Sc.

Fig. 1.
ECHELLON.

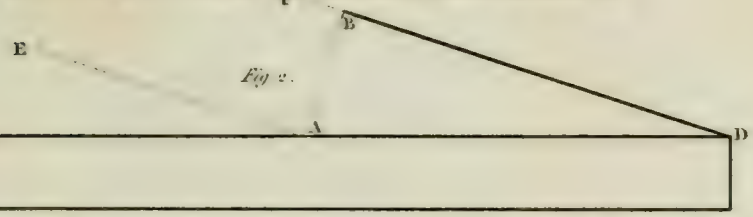
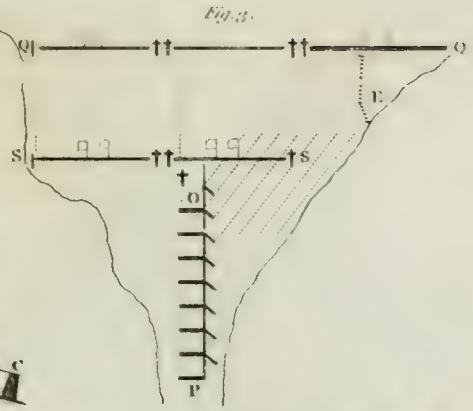


Fig. 2.

Fig. 3.



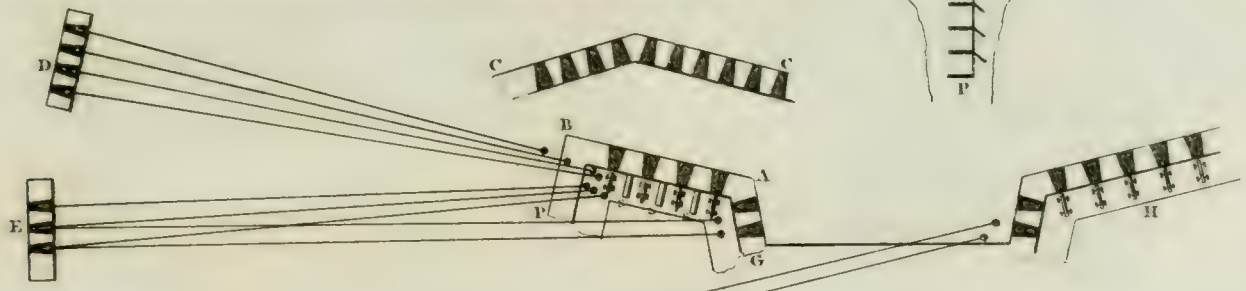


Fig. 4.

ENFILADE.

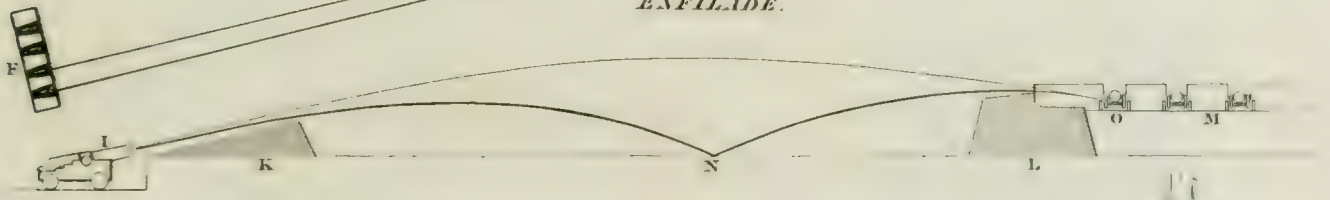


Fig. 5.

Fig. 6.

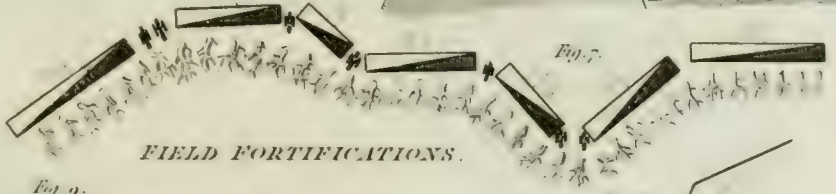


Fig. 7.

FIELD FORTIFICATIONS.

Fig. 9.

Fig. 8.

Fig. 10.

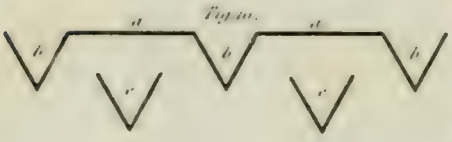


Fig. 11.

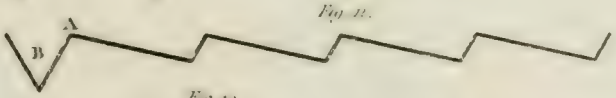


Fig. 13.

Fig. 12.

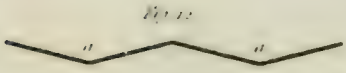
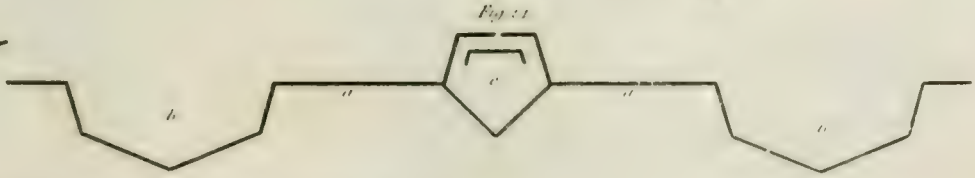


Fig. 14.



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FORTIFICATION.

CONSTRUCTION.

Fig. 1.

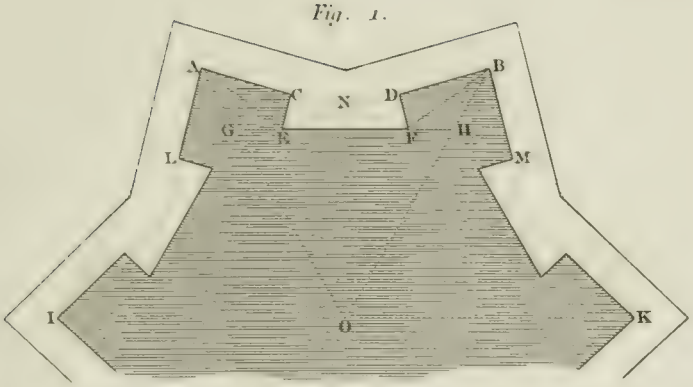


Fig. 2.

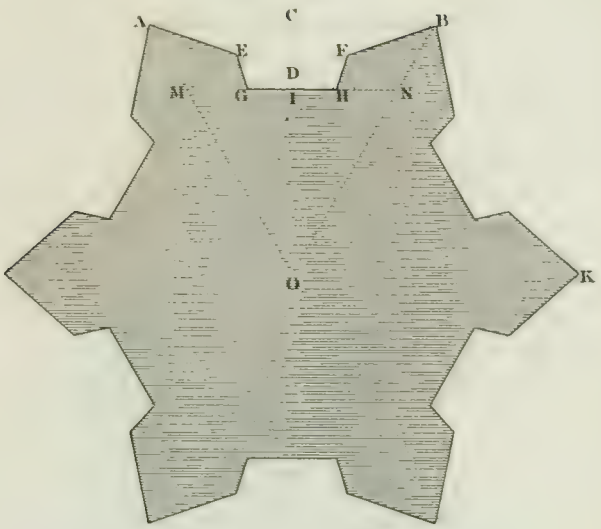


Fig. 3.

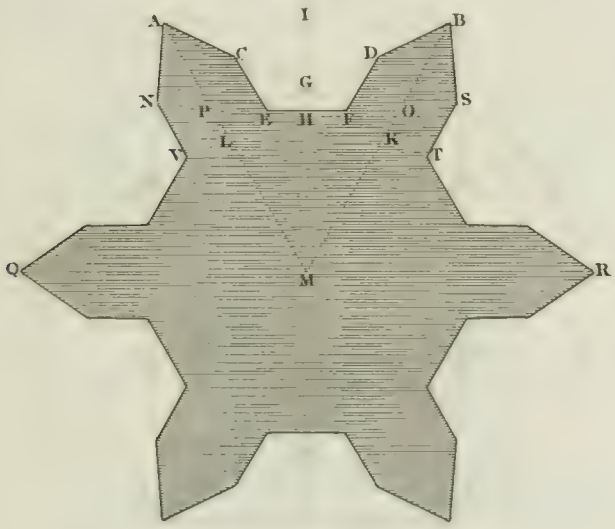


Fig. 4.

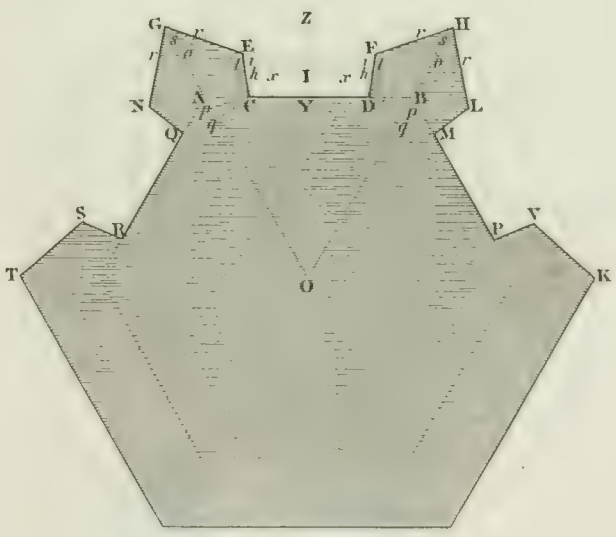


Fig. 5.

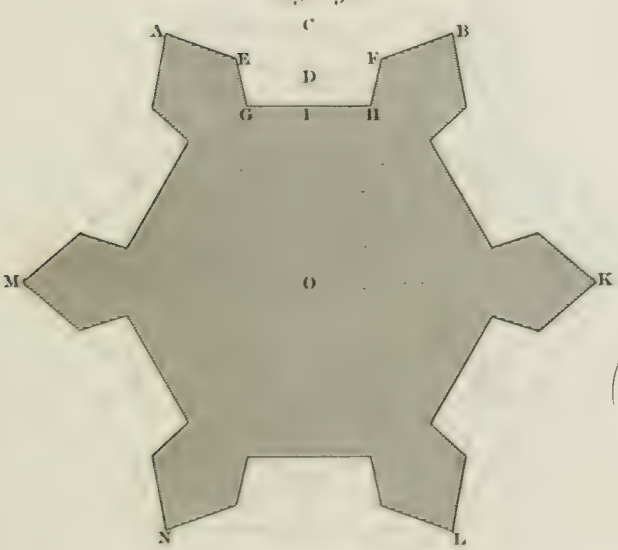
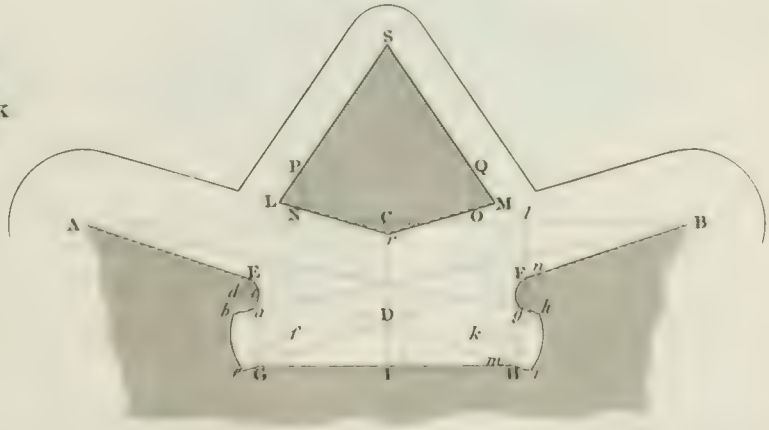


Fig. 6.



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CONSTRUCTION.

Fig. 7.

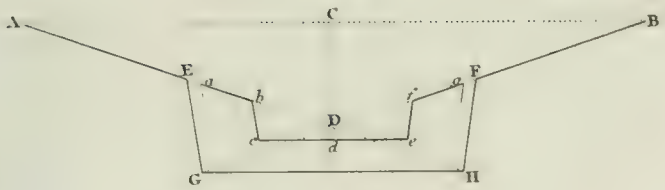

Fig. 8.

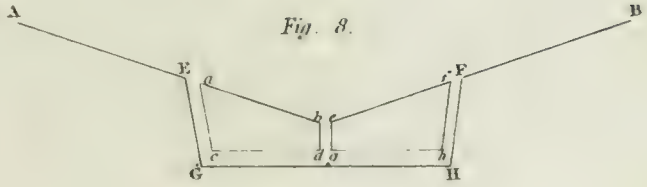

Fig. 9.

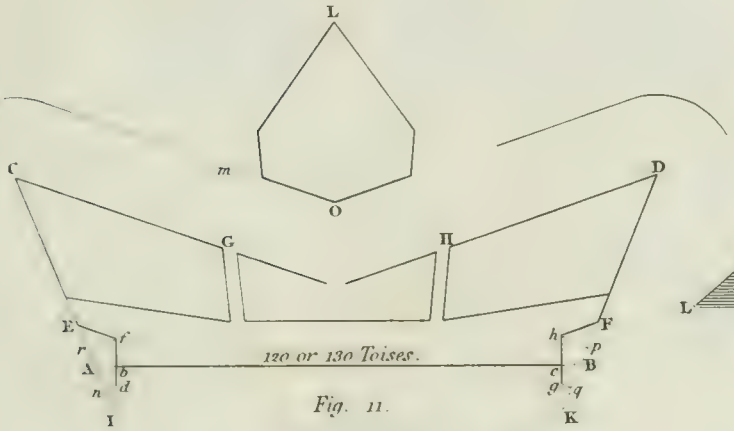

Fig. 10.

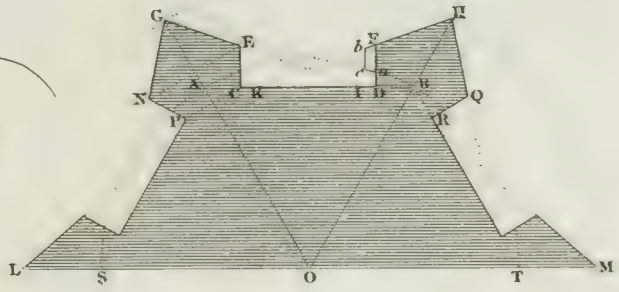

Fig. 11.

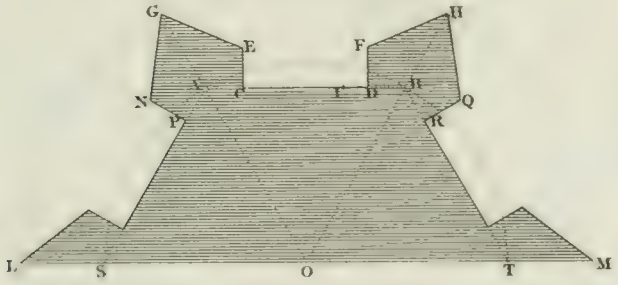

Fig. 12.

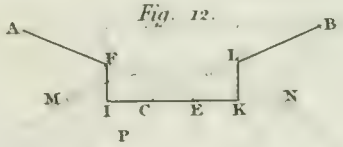

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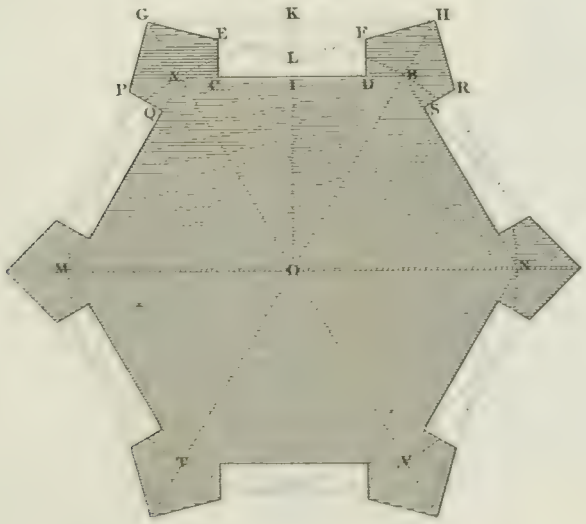
Fig. 13.



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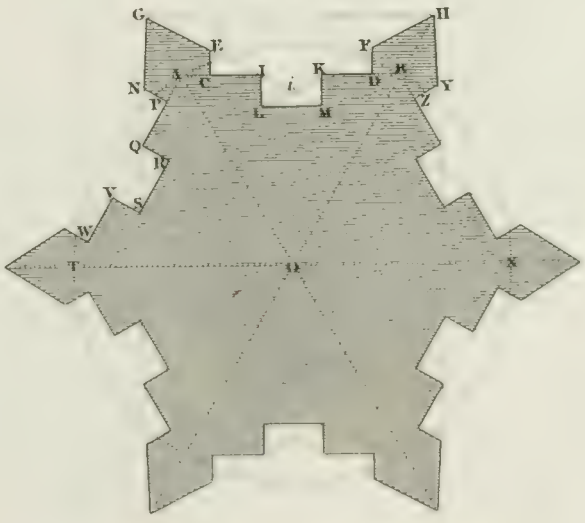


Published as the Act directs, 1808, by Longman, Hurst, Rees & Orme, Paternoster Row.

Engraved by Wilson Lowry.

MANTELET

Fig. 9

MINE

Fig. 10.

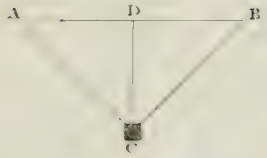


Fig. 11.

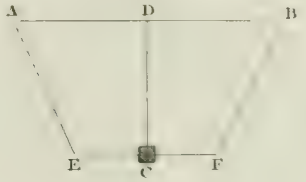


Fig. 12

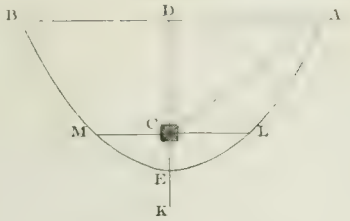


Fig. 13

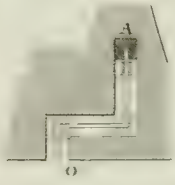


Fig. 14

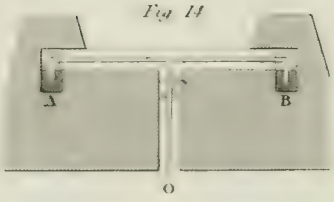
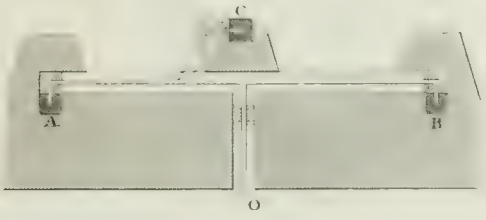


Fig. 15



RAVELIN

Fig. 4

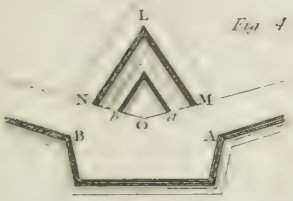
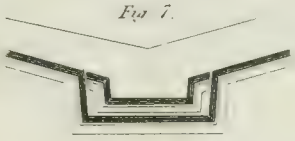
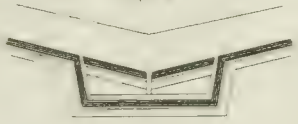


Fig. 7.



TENAILLE

Fig. 6



REDOUBT

Fig. 5

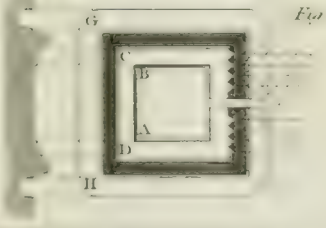
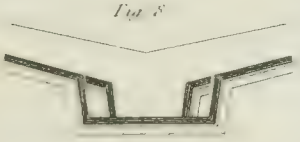


Fig. 8



TENAILLON

Fig. 9

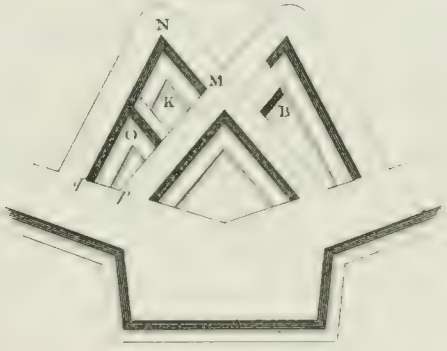


PLATE VII.

FORTIFICATION.

PLATE VIII.

BELIDOR'S First Method

Fig. 15

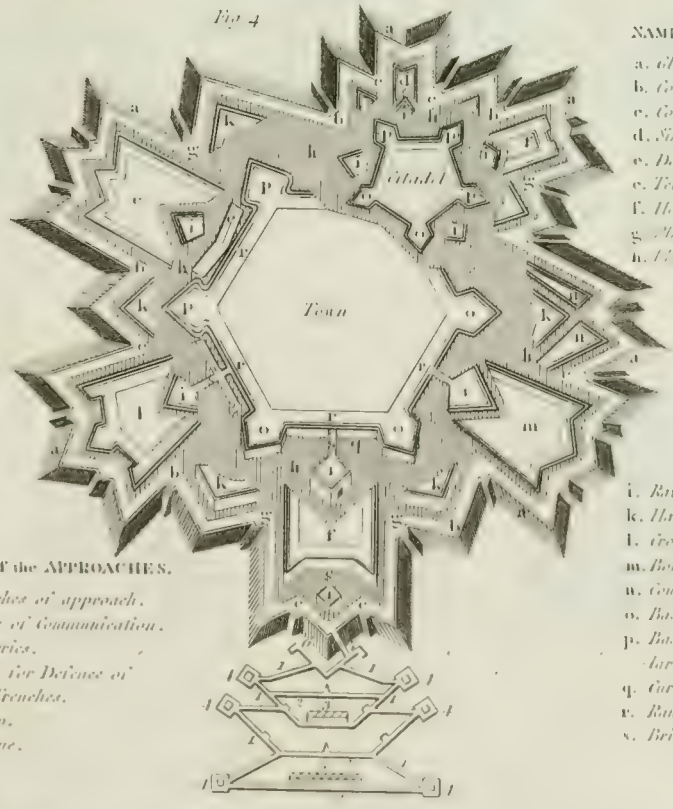
Published as the Act directs, 1819, by Longman, Hurst, Rees, Orme & Brown, Paternoster Row.

Lowry sc.

Fig. 1.
FORTIFICATION
Irregular

FORTIFIED PLACE

Fig. 4



NAMES of the WORKS.

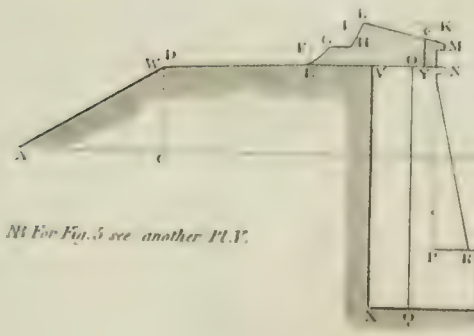
a. *Glacis or Declivity*
b. *Covert way.*
c. *Counterscarp.*
d. *Single* Tenaille.
e. *Double* Tenaille.
e. *Tenaille in the Dit.*
f. *Horn Work.*
g. *Place of arms.*
h. *Dry Moat or Ditch*

i. *Ravelins.*
k. *Half Moons.*
l. *Crown Work.*
m. *Bonnet or Priests cap.*
n. *Counter Guard*
o. *Bastions.*
p. *Bastions with Orec-lar Flanks*
q. *Curtain.*
r. *Rampart or Wall.*
s. *Bridges.*

NAMES of the APPROACHES.

1. *Trenches of approach.*
2. *Lines of Communication.*
3. *Batteries.*
4. *Forts for Defence of the Trenches.*
5. *a Sap.*
6. *a Mine.*

Fig. 2.



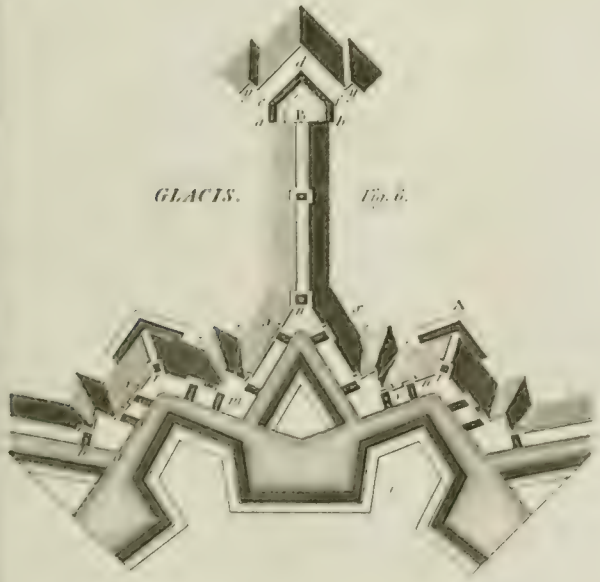
PROFILE of a FORTIFICATION

Fig. 3

N.B For Fig. 5 see another Pl. V.

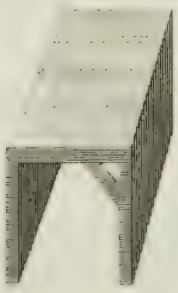
Fig. 5.

GLACIS. *Fig. 6.*



GALLERY.

Fig. 7.



GABION.

Fig. 8.

A. B. *Bastions.*
C. *Ravelin.*
D. *Line of Communication of the Attacks.*
E. *First Parallel.*
F. *Second Dº*
G. *Third Dº*
H. *The Approaches.*
I. *Places of Arms.*
K. *Square Redoubts to prevent Sallies.*
L. *Traverses in the third Parallel.*
M. *Batteries (a Cannon b Mortars*
N. *Glacis.*
O. *Places of Arms in the covert way.*
P. *The Ditch.*
Q. *Bridge of Communication.*
R. *A River.*
S. *Rising Ground.*

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Horn-work.

Fig. 1

Double Horn-work or Crown-work.

Fig. 2

LINE.

Fig. 3.

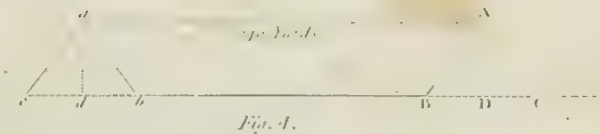


Fig. 4.

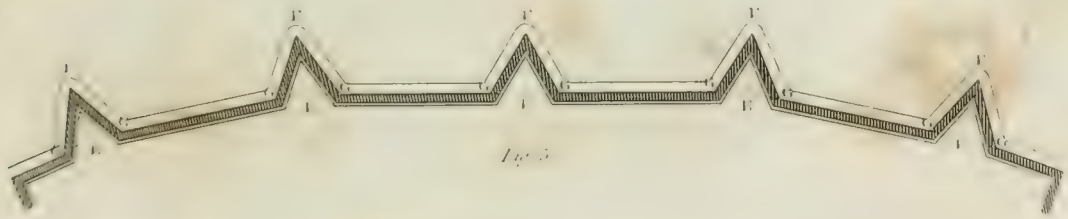


Fig. 5

Lunette

See Fig. 7. see. Plate V. Fig. 4.

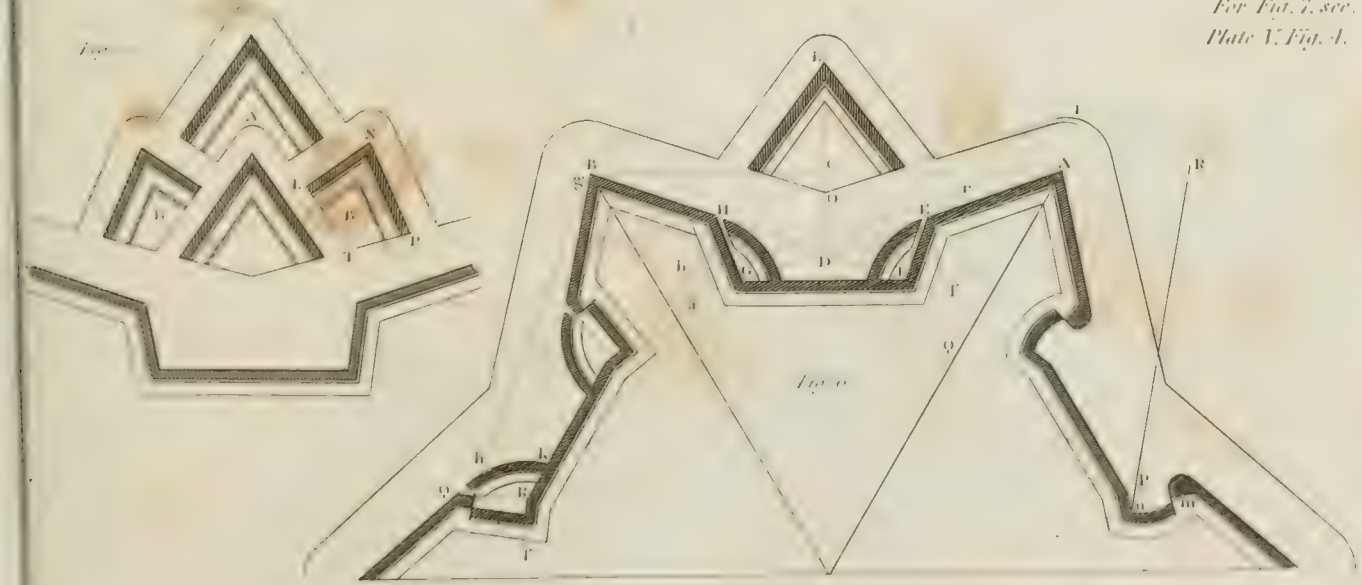


Fig. 6

FURNACE.

PLATE I.

Fig. 1

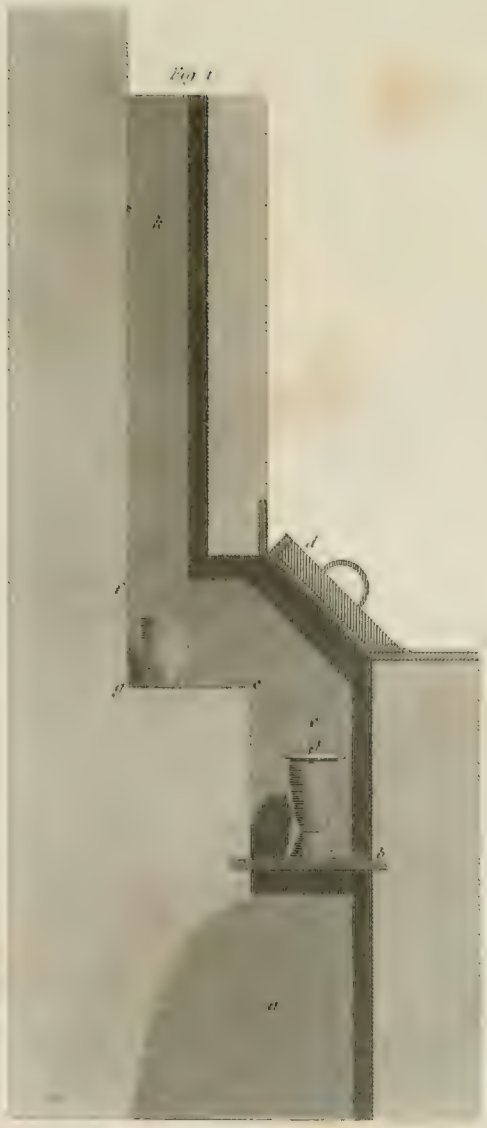


Fig. 3

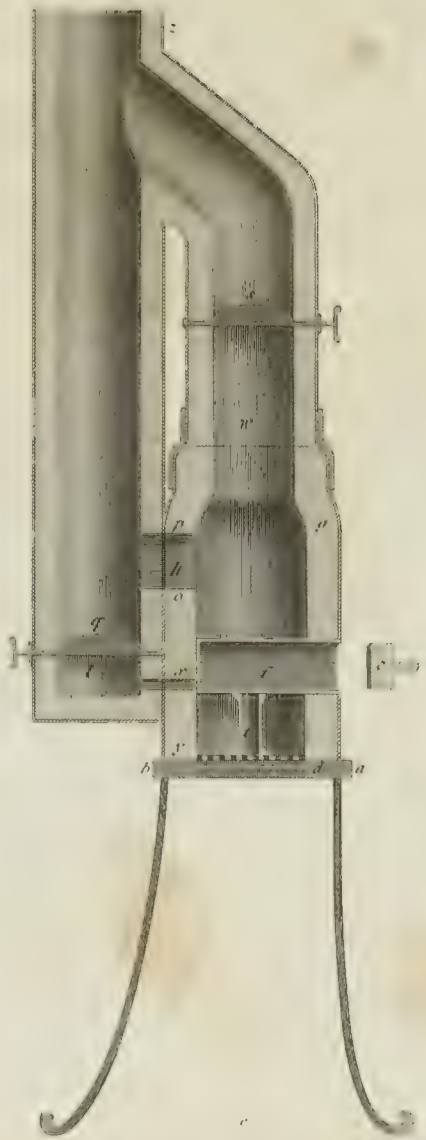
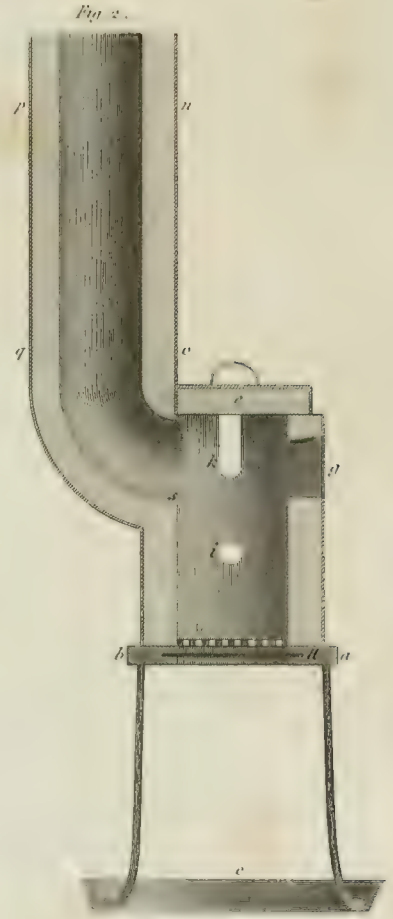


Fig. 2.



Scale of Feet

Published as the Act directs 1810, by Longman & Hurst, Rees & Orme, Cadell & Davies, Strand, London.

Engraved by Wilson Lowry.

Common Air Furnace.

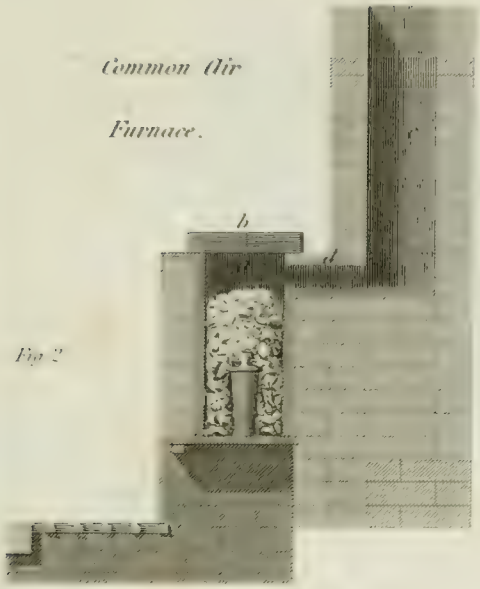


Fig. 2

Dr. Black's.

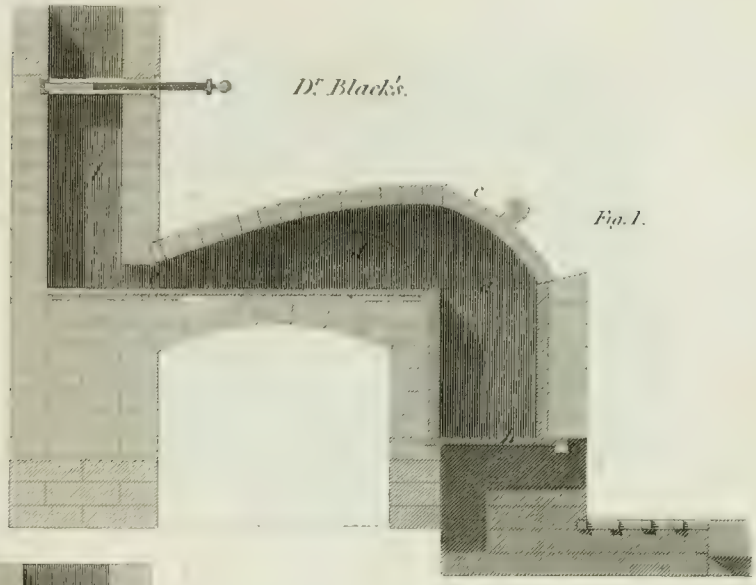


Fig. 1.

Mr. Mushet's.

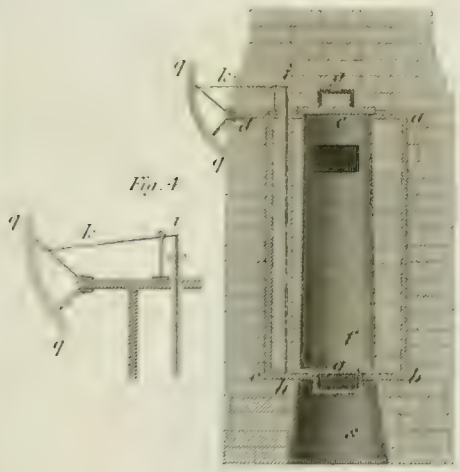


Fig. 4

Mr. Knight's.

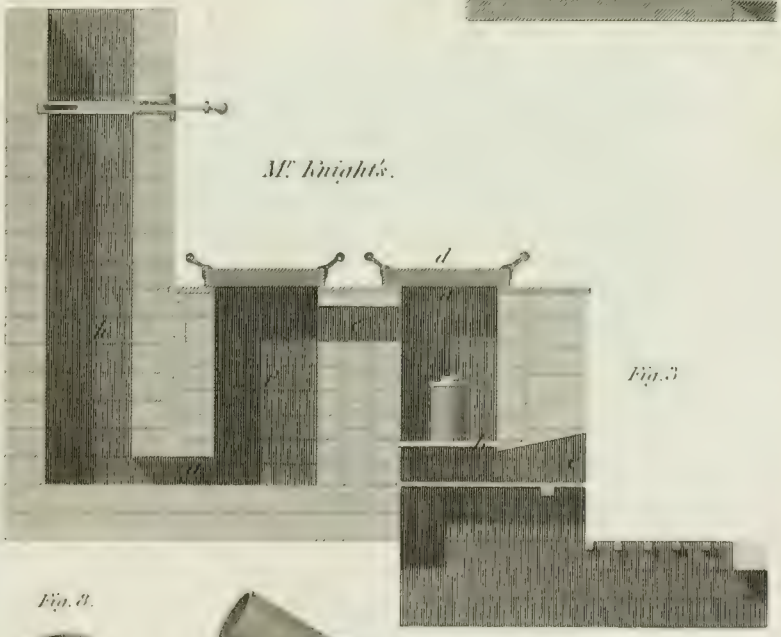


Fig. 3

Portable by Dr. Black.

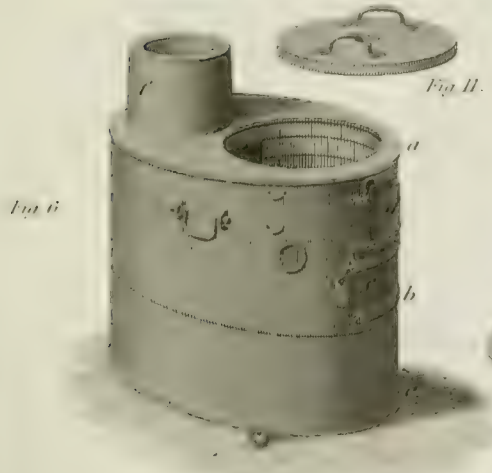


Fig. 6

Fig. 11.

Fig. 8.

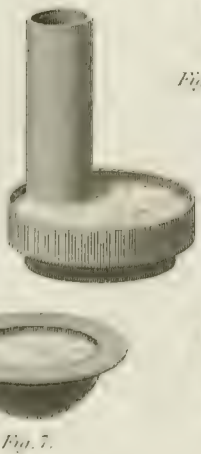


Fig. 7.

Fig. 10.

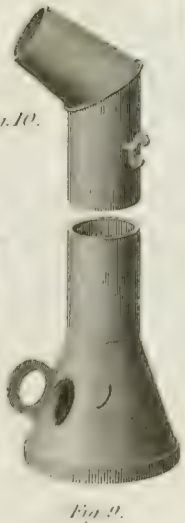


Fig. 9.

Knight's Portable.

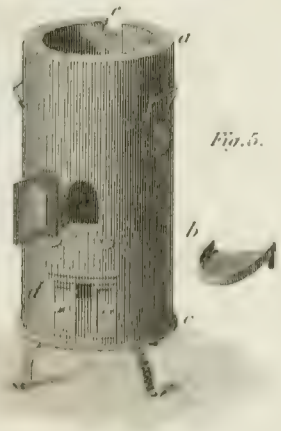


Fig. 5.

J. Farey Jun.

Published as the Act directs, by Longman, Hurst, Rees, Orme and Brown, Paternoster Row, London.

Engraved by W. Lowry.

Furnaces used by Mr. Mushet for his experiments on Iron & Steel.

Fig. 2.

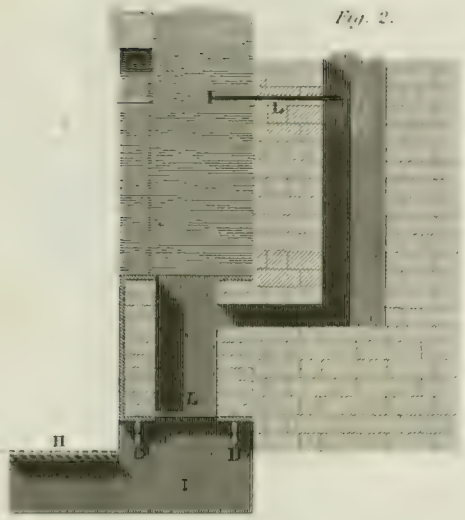


Fig. 1.

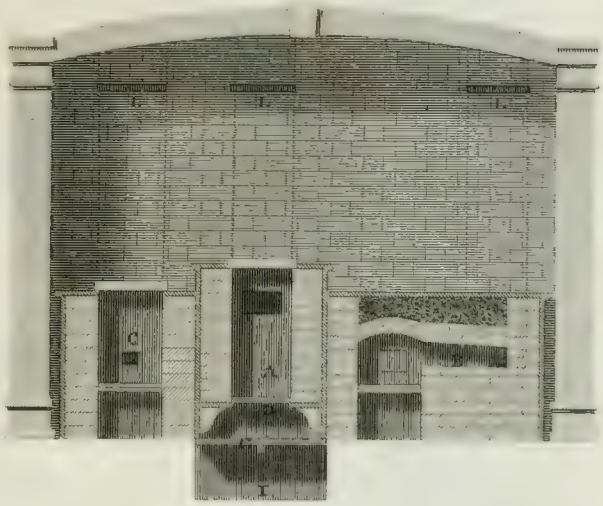
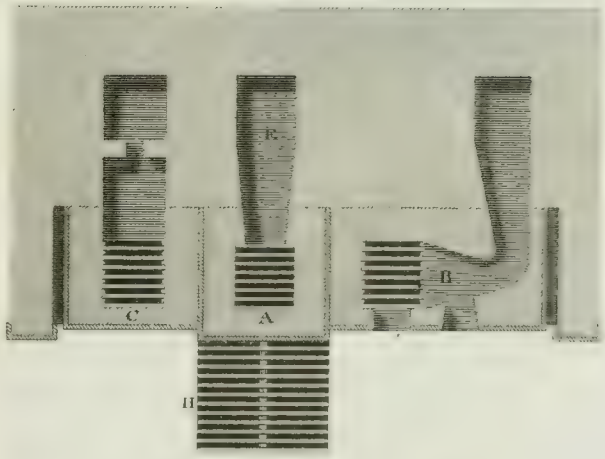
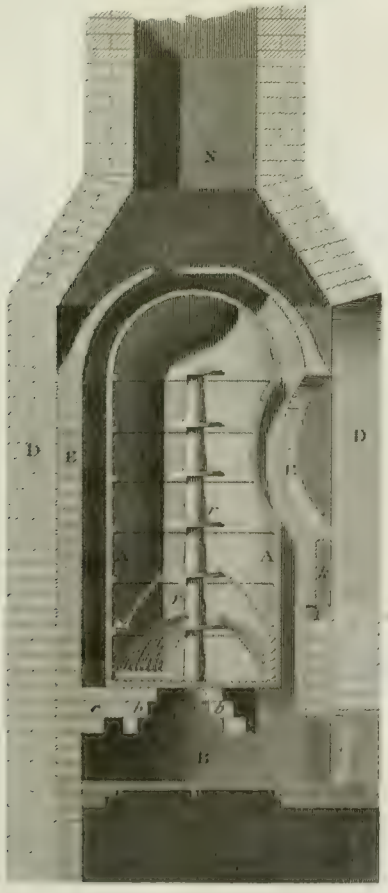


Fig. 3.

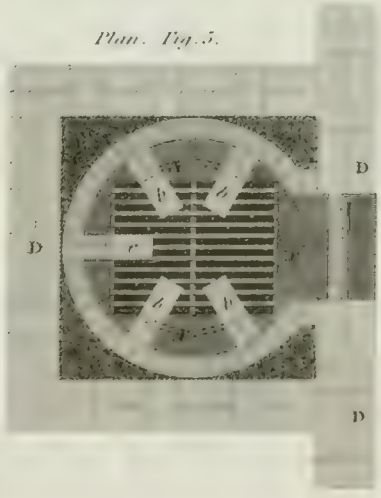


Section of the Tobacco pipe makers Furnace.

Fig. 4.



Plan. Fig. 5.



J. Farey Junr. del. *Published as the Act directs, 1816, by Longman, Hurst, Rees, Orme & Brown, Paternoster Row.* *Lowry Sc.*

FURNACE.

Furnace for Enamelling Watch Dial Plates.

Fig 2.

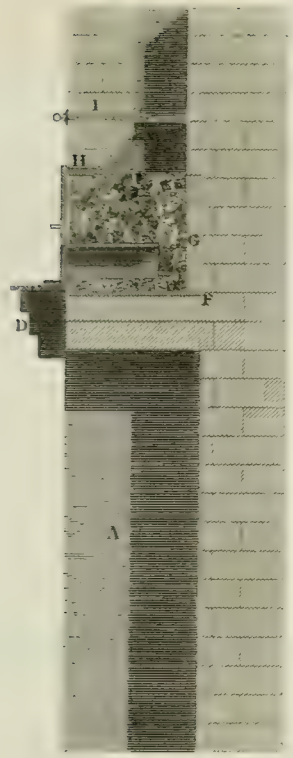
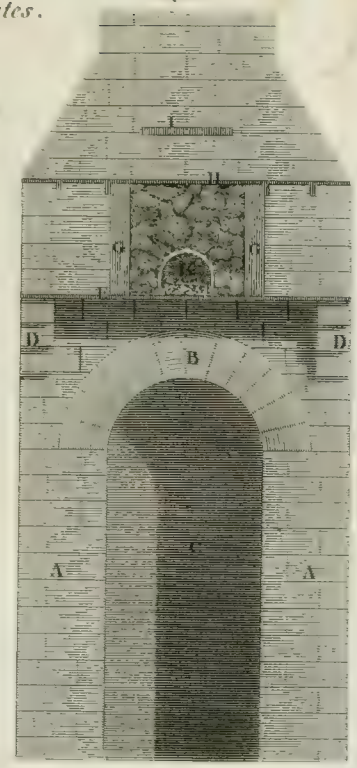


Fig 1.



2 feet

Fig. 3.

Fig 4.

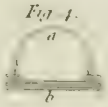


Fig 5.

Fig 6.

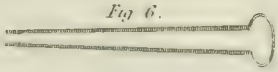


Fig. 7.

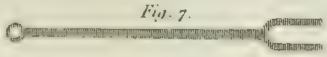


Fig 8.

Fig 9.

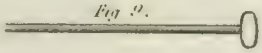


Fig 11.

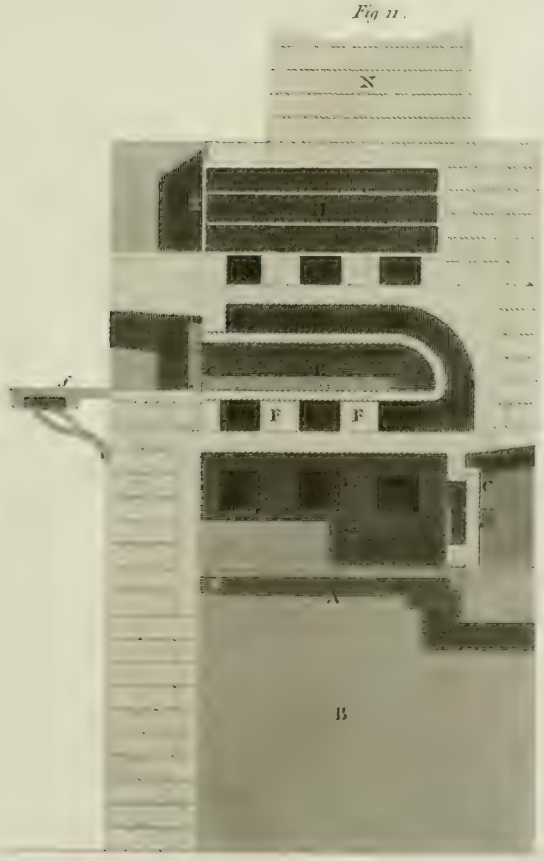
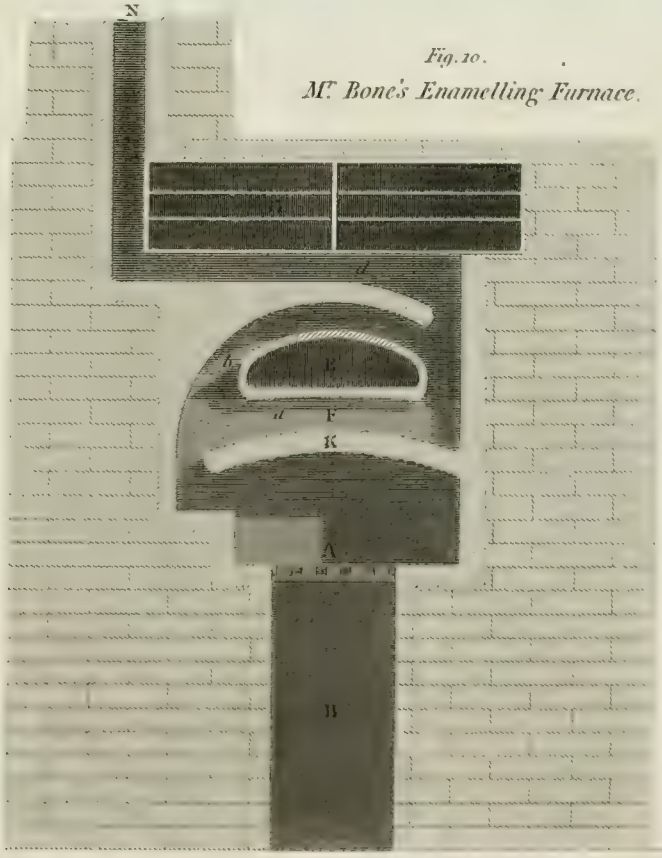


Fig. 10.

Mr. Bone's Enamelling Furnace.



Scale of Feet.

0 1 2 3 4 5 6 7

wn by J. Farey.

Published as the Act directs, 1811, by Longman, Hurst, Rees, Orme & Brown, Paternoster Row.

Engraved by Wilson Lowry.

BARK-BEDS & PITS.

Bark Pit for succession pine apple plants & other tender Exotics.

Fig. 1.

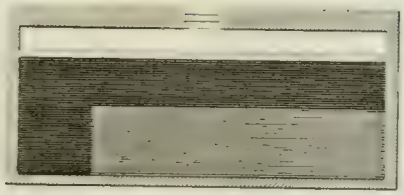
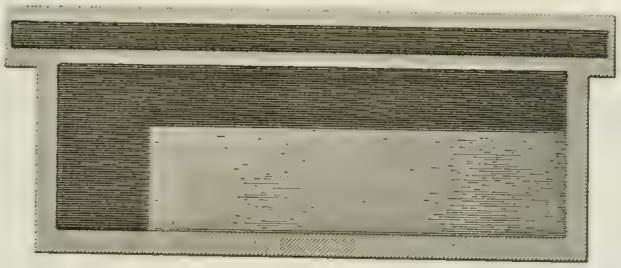


Fig. 2.



Plan

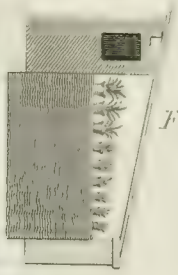


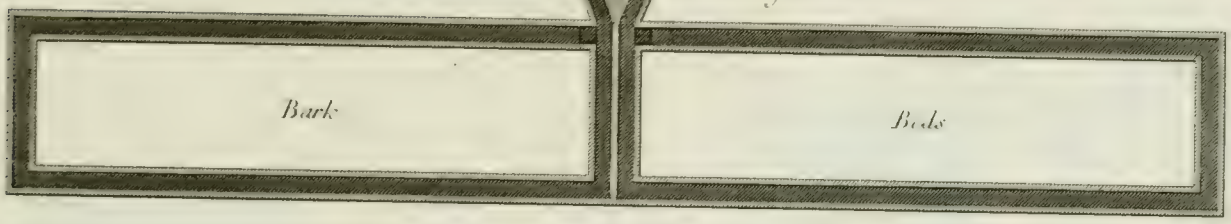
Fig. 3.

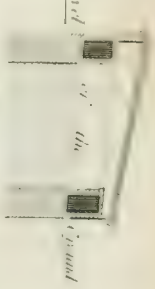
Scale of Feet for Figs. 1. 2. 3.

Plan

Fig. 3.

Section

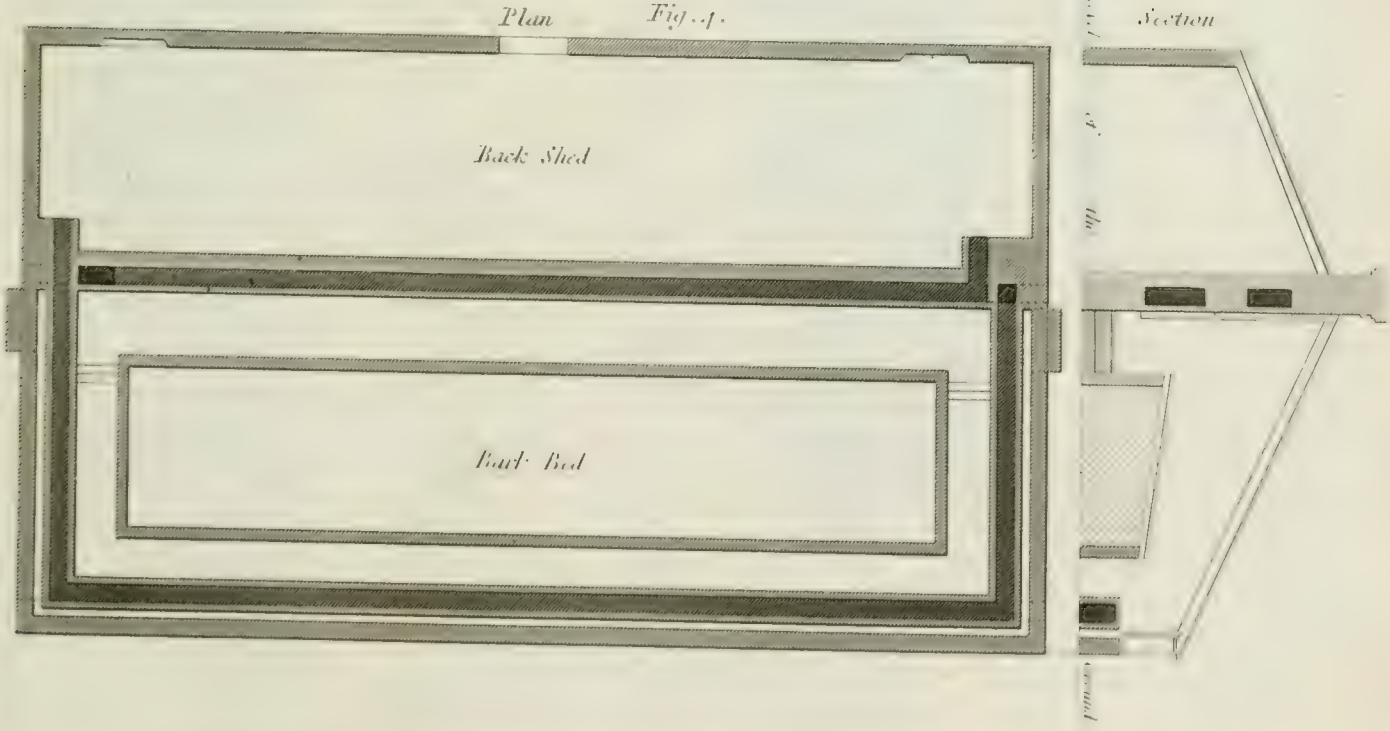




Plan

Fig. 4.

Section



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CONSERVATORY AND GREENHOUSE.

Fig. 6.

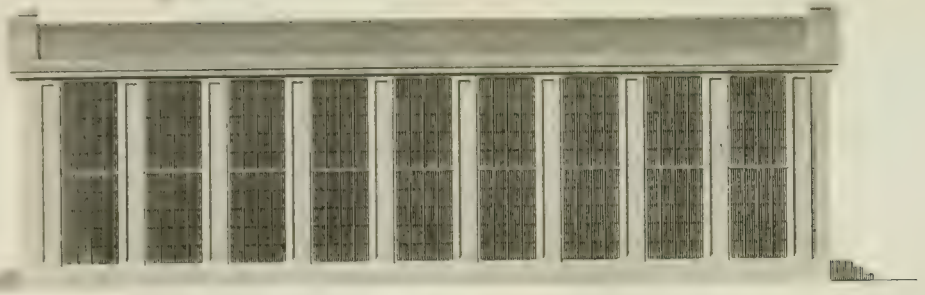


Fig. 5.

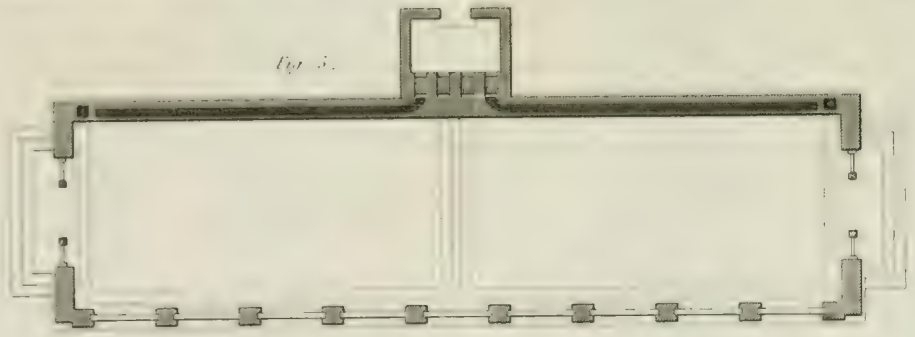


Fig. 1.

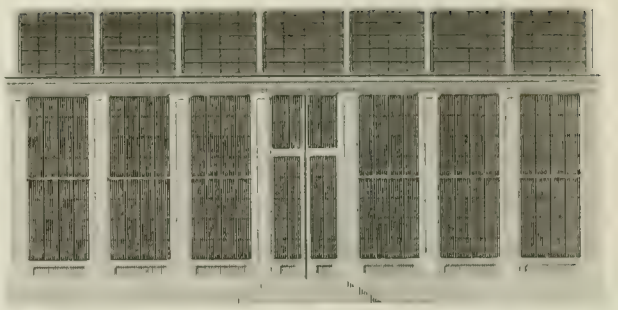


Fig. 1.

Fig. 2.

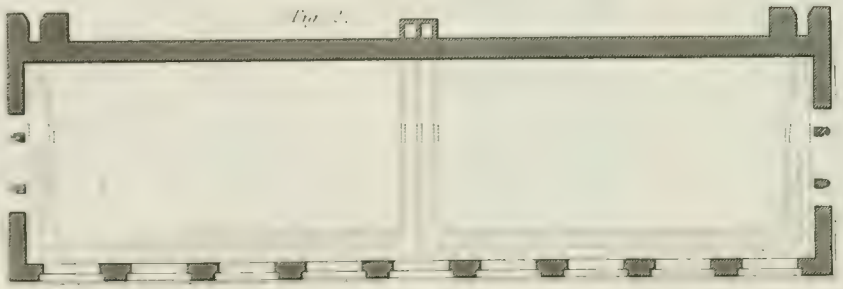
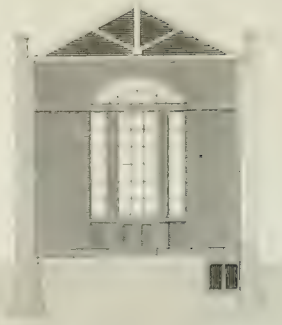


Fig. 3.



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Lowry Sc.

HOT - HOUSE.

Fig. 1. Elevation.

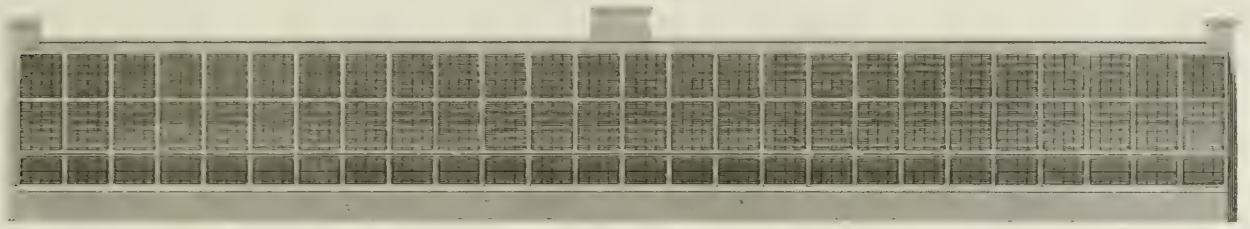

Fig. 2 Plan

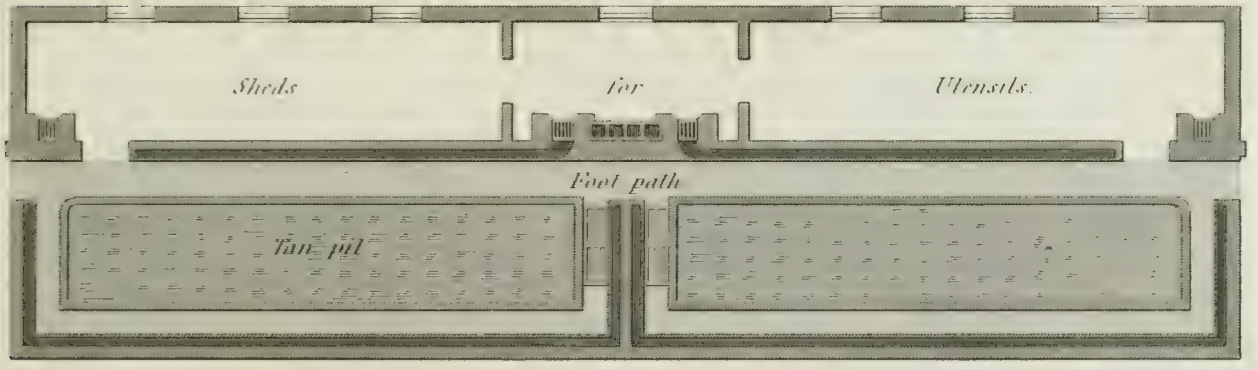

Fig 4.

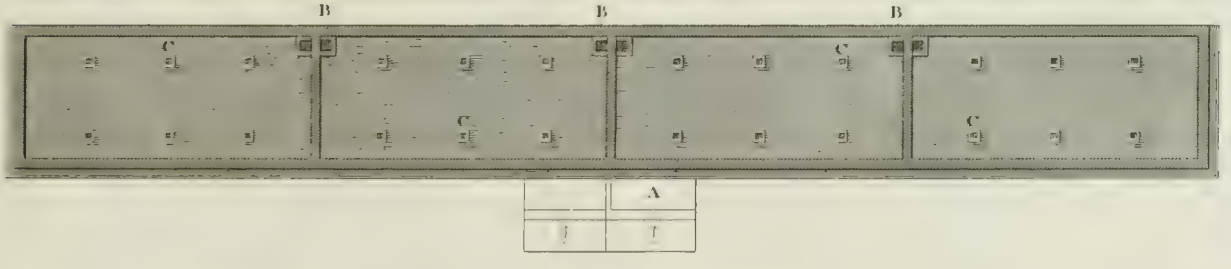

Fig 5

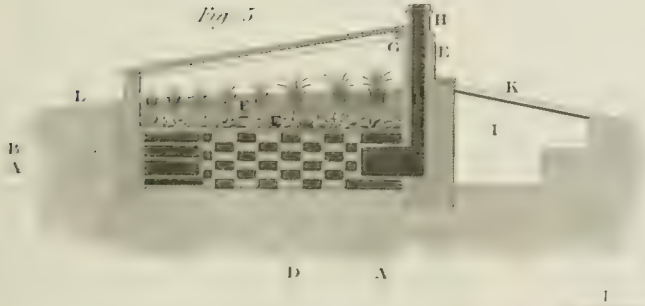

Fig 3

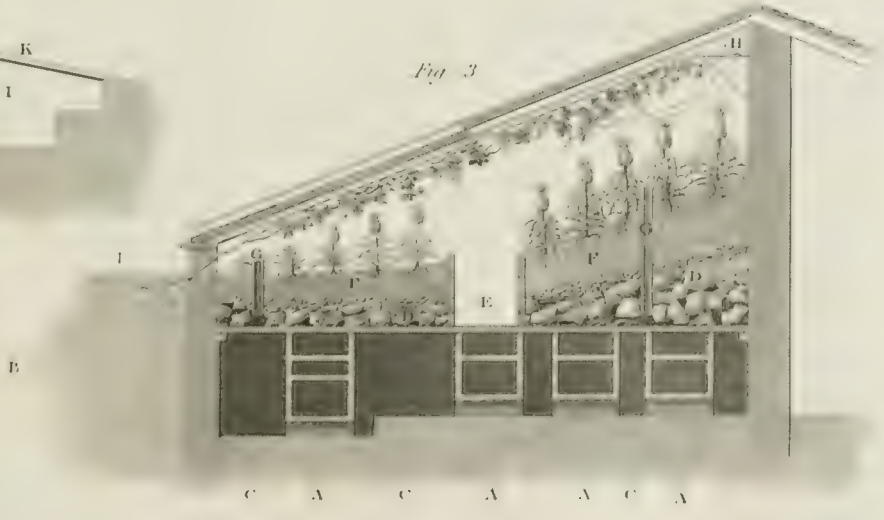

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Fig. 1.

DISTANCE

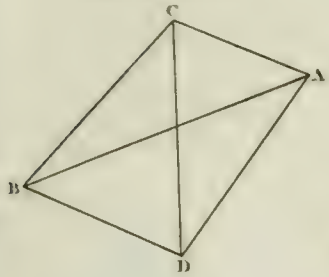


Fig. 2.

HORIZON

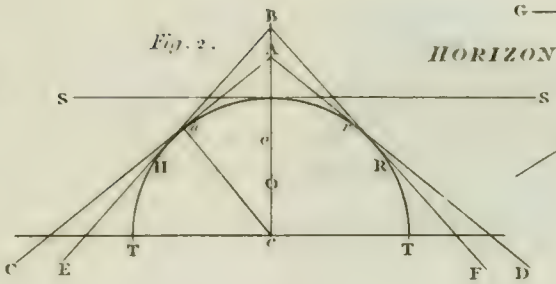


Fig. 3.

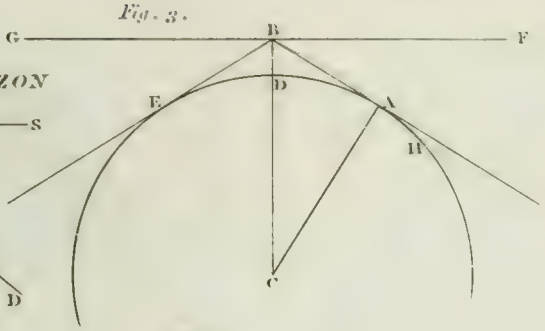


Fig. 6.

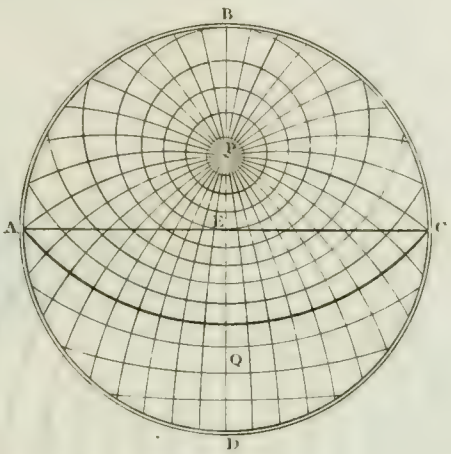
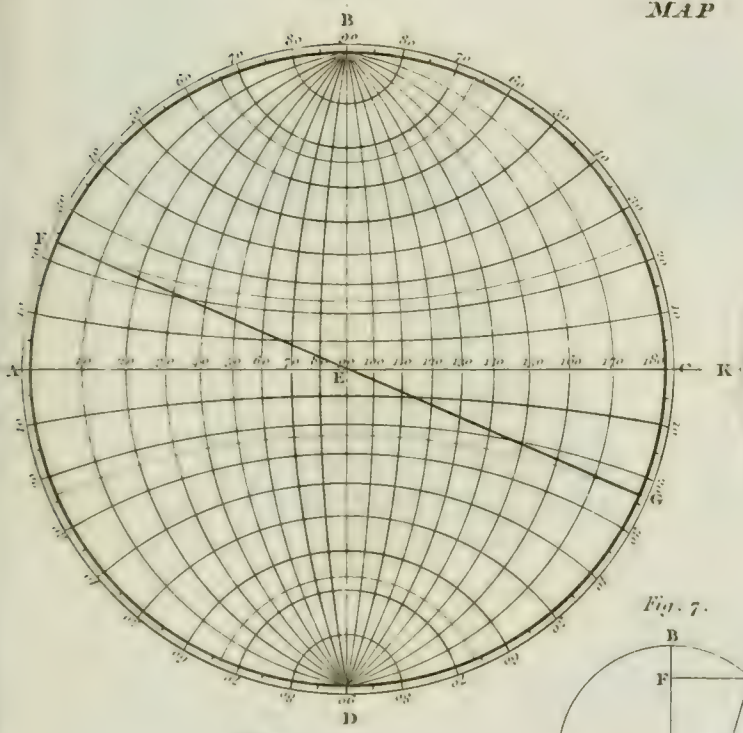


Fig. 5.

MAP



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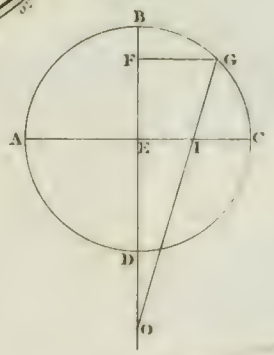

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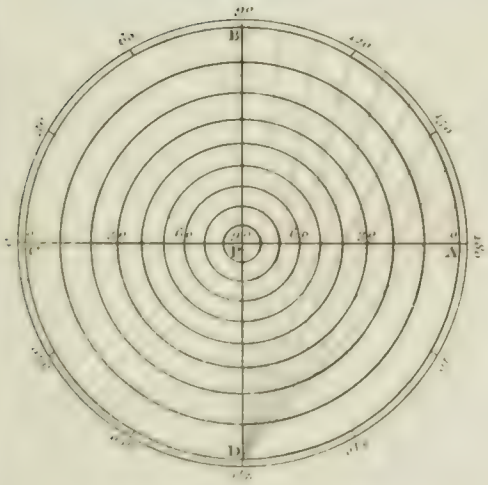

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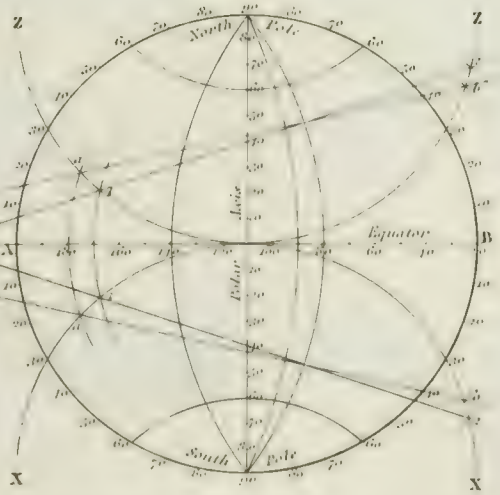

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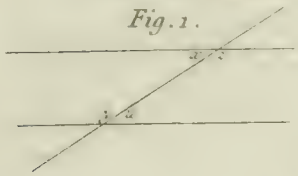
W. Lowry Sculp.

ALTERNATE ANGLES

Fig. 1.



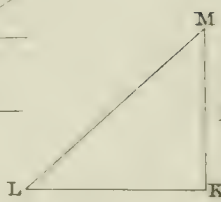


Fig. 2.

ALTITUDE

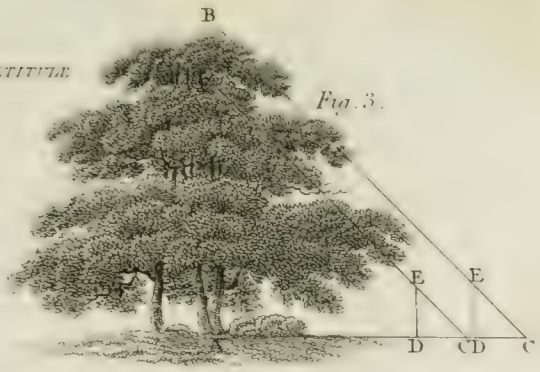


Fig. 3.

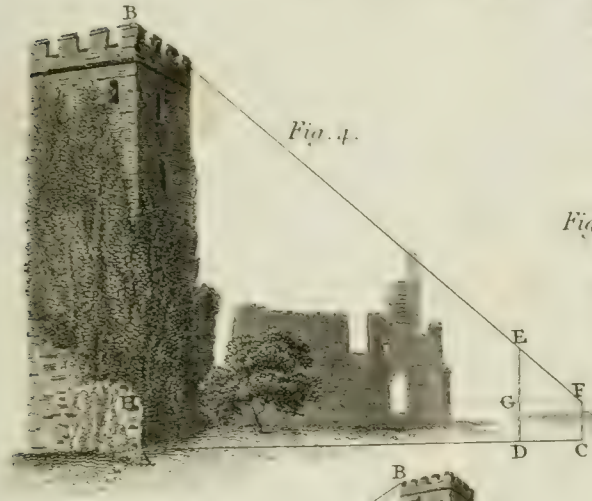
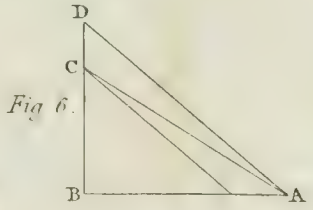


Fig. 4.

Fig. 5.



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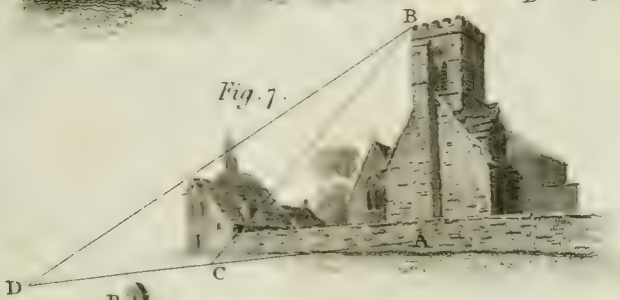
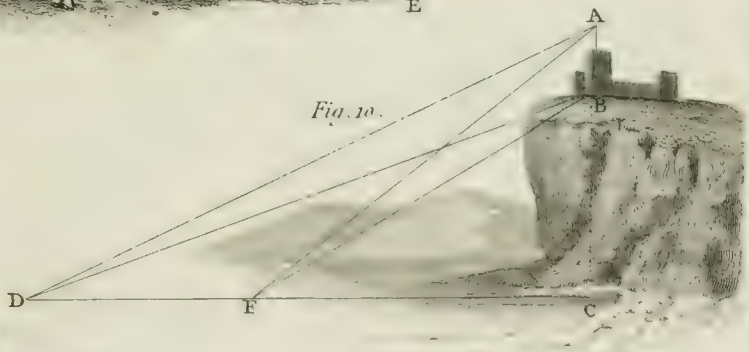


Fig. 7.



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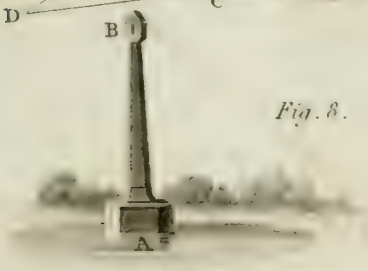
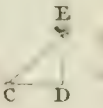


Fig. 8.



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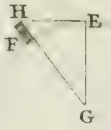

Fig. 13.

Fig. 11

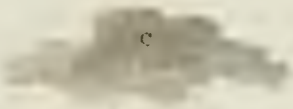

Fig. 12.

ALTITUDE AND DISTANCE

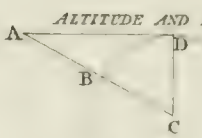

Fig. 14.

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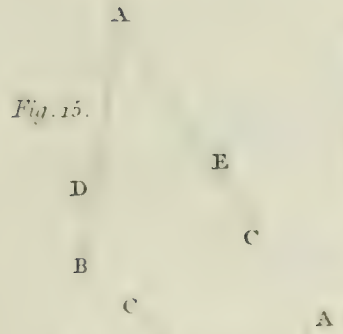
Engraved by Wilson Lowry.

ANGLE.



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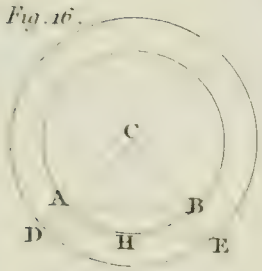

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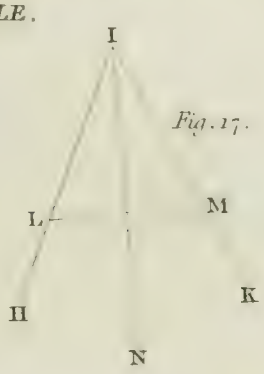

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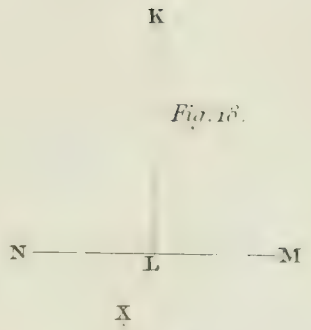

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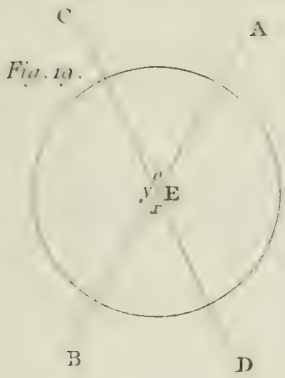

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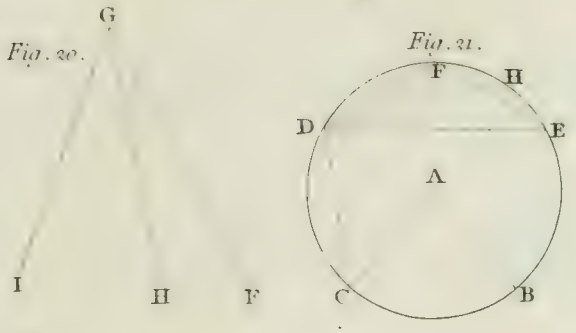
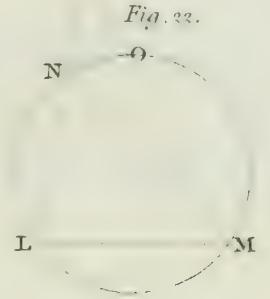


Fig. 20.

Fig. 21.



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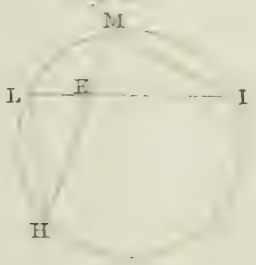

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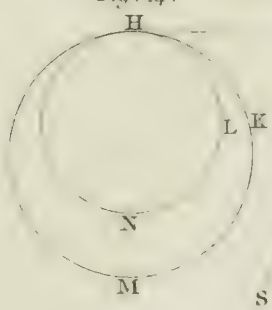

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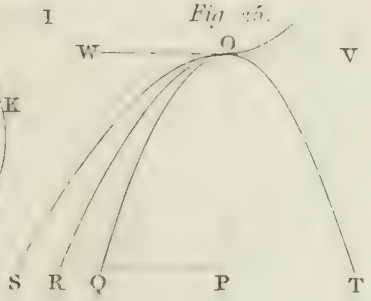


Fig. 25.

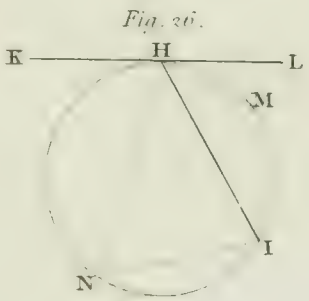


Fig. 26.

ANTIPARALLEL.

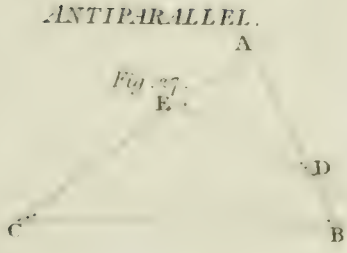


Fig. 27.

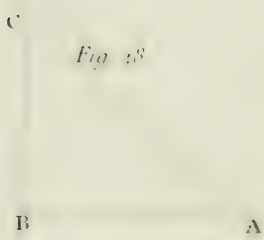
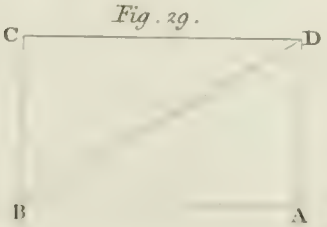


Fig. 28

APPLICATION &c.



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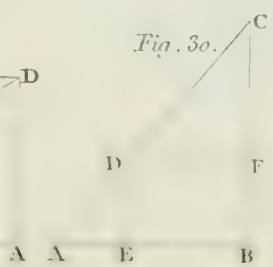
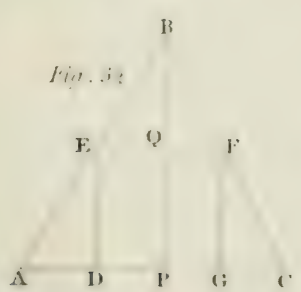


Fig. 30.

Fig. 31.



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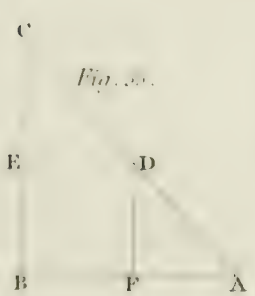

Fig. 33.

Fig. 34

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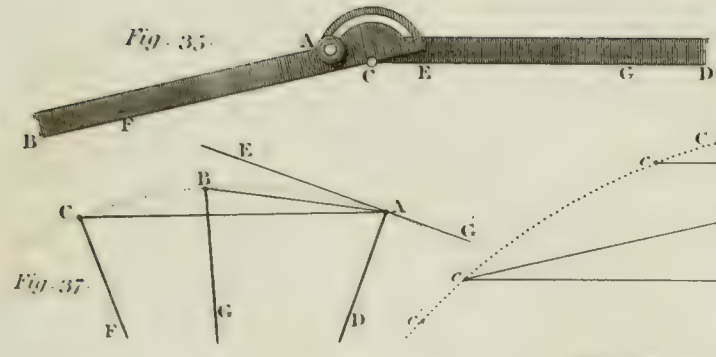
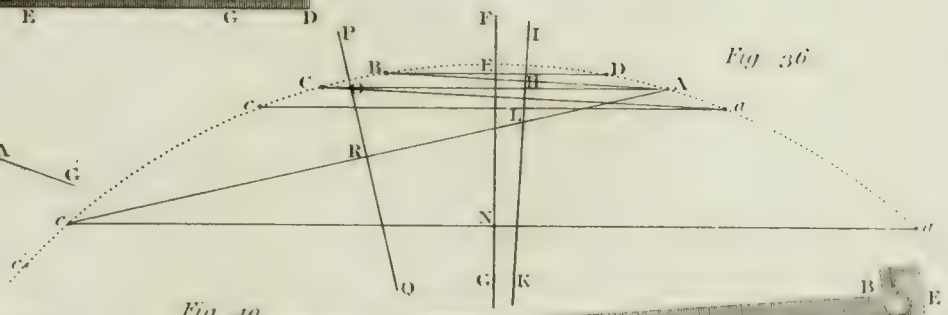
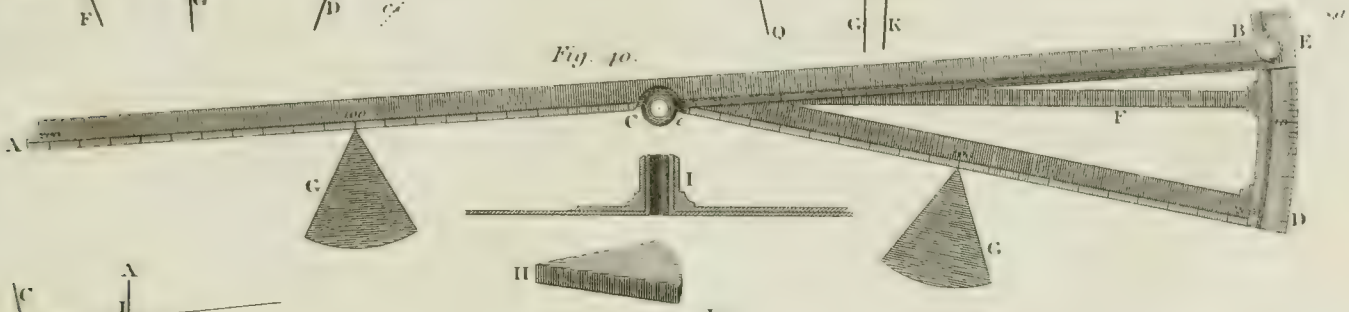
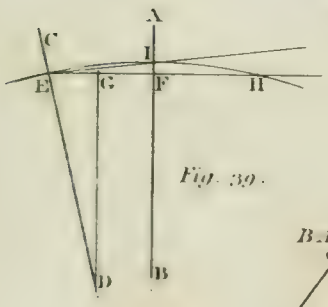
GEOMETRY.

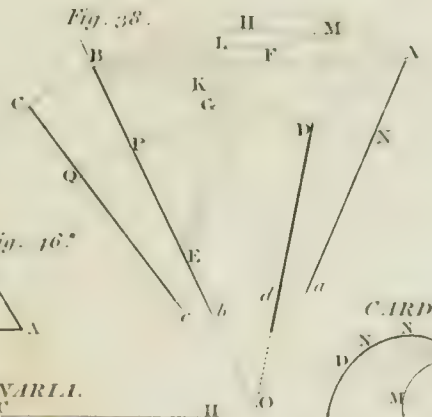
BEVEL &c.

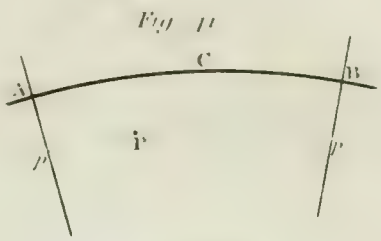


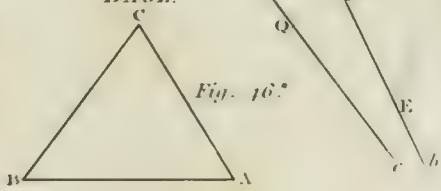


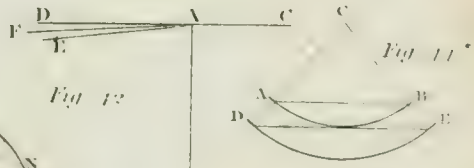


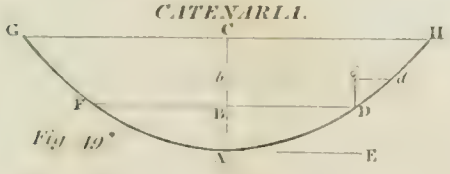


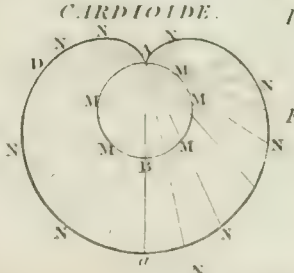


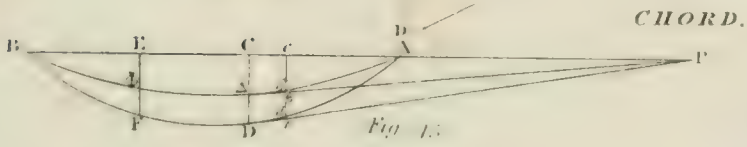


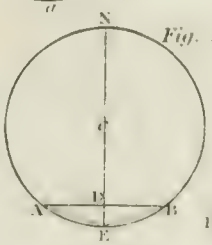


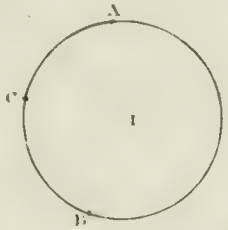


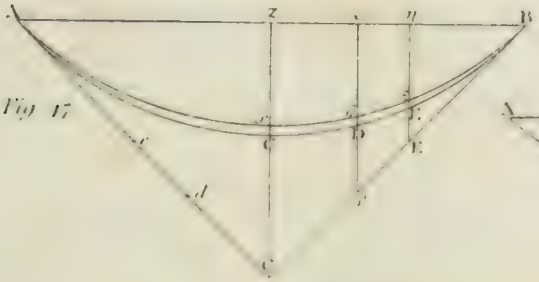


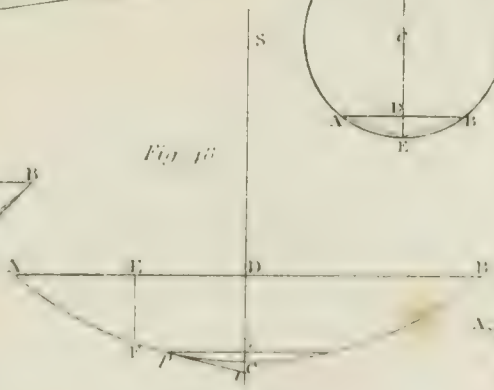


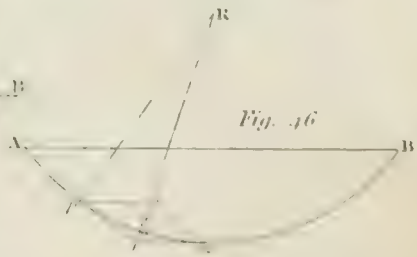












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GEOMETRY.

CIRCLE.

Fig. 49.

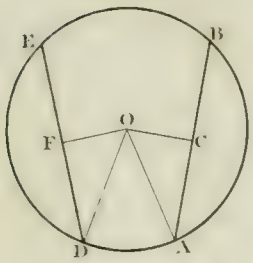


Fig. 50.

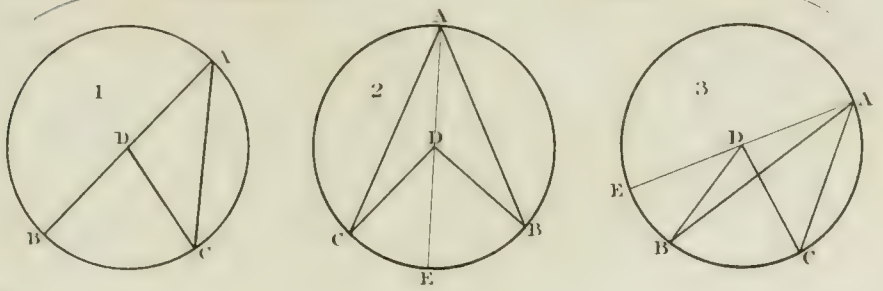
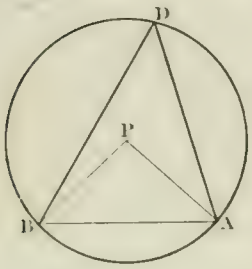
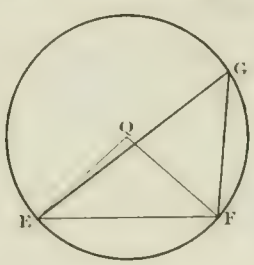


Fig. 51.





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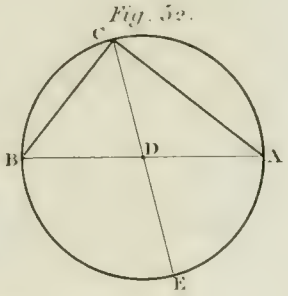

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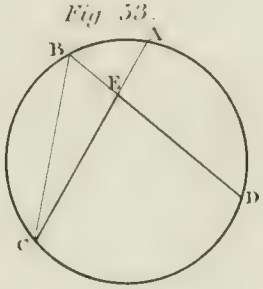
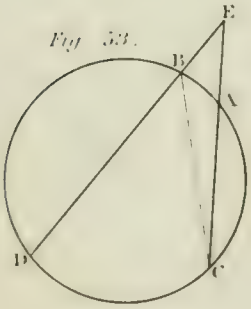
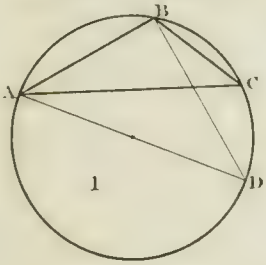
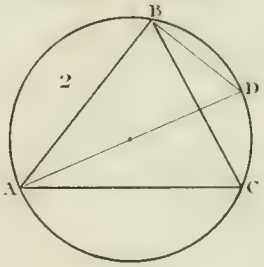


Fig. 54.

Fig. 53.







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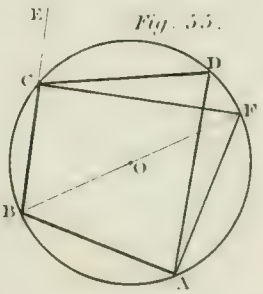

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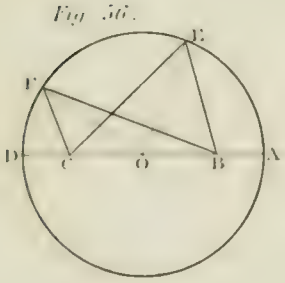

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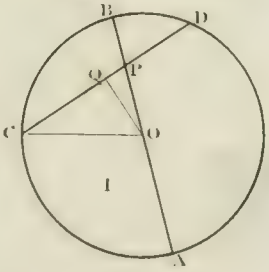

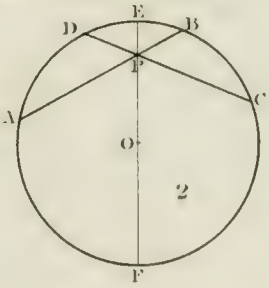

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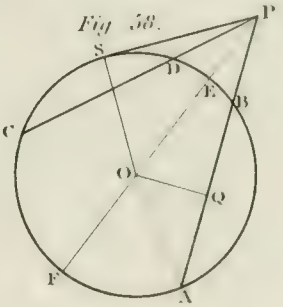

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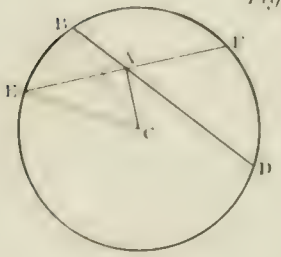

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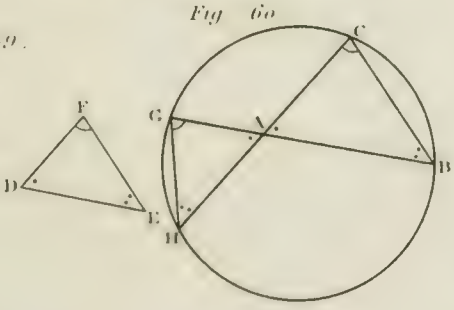

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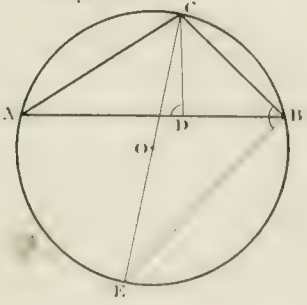

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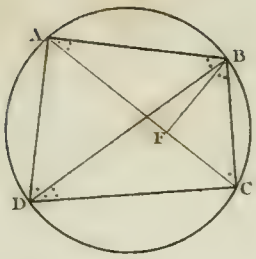
GEOMETRY.

CIRCLE.

Fig. 62.



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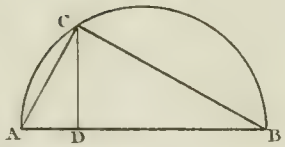

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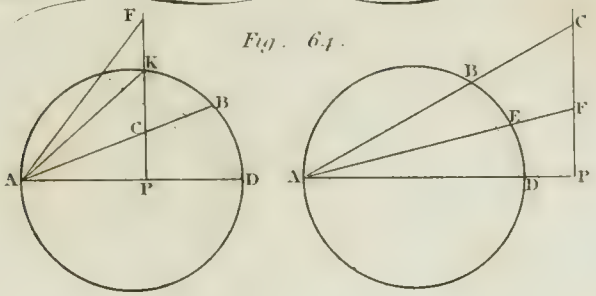

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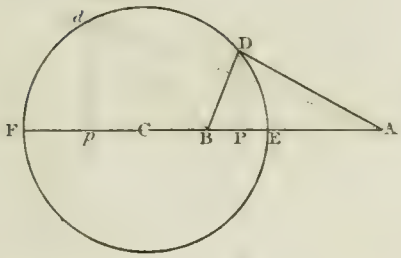

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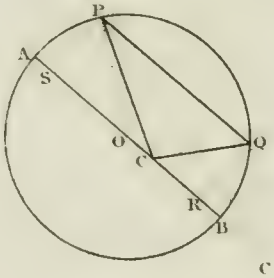
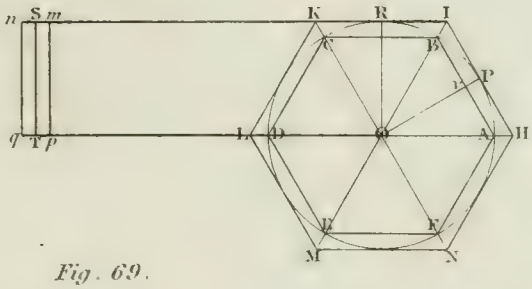


Fig. 67.



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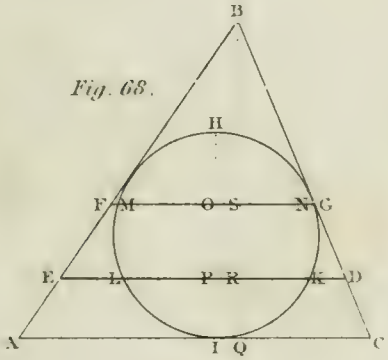

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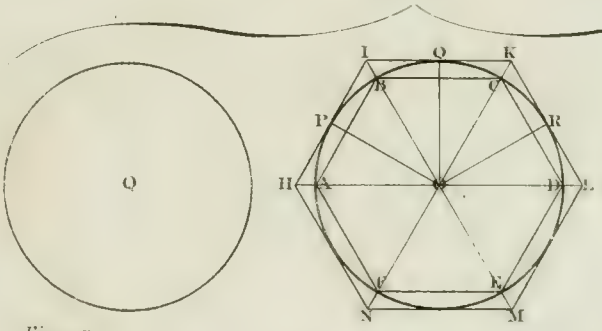

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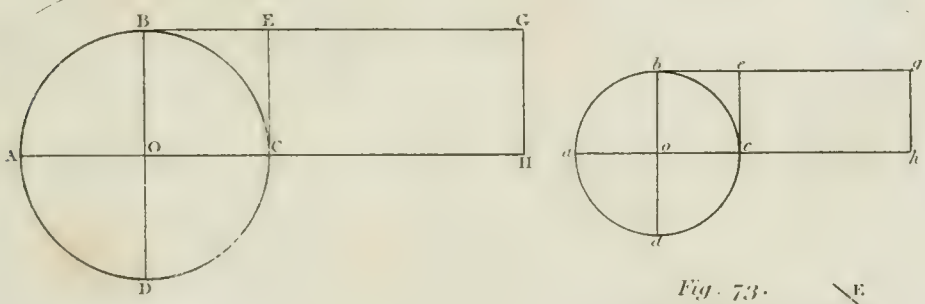


Fig. 71

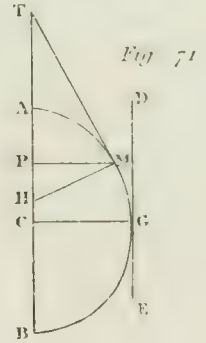
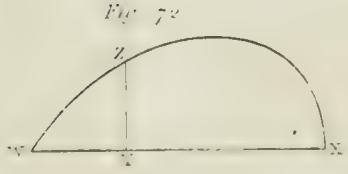


Fig. 72



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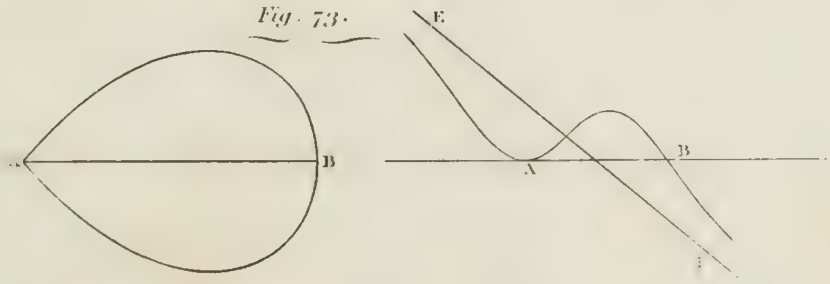

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Engraved by Wilson Lowry.

DECAGON
Fig. 74.

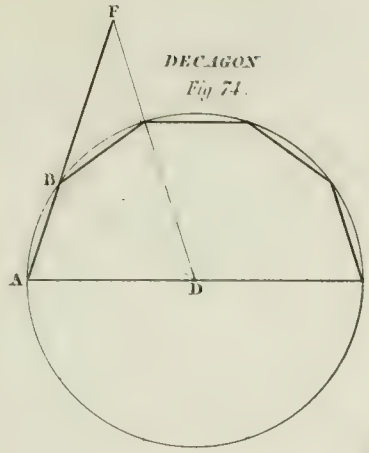
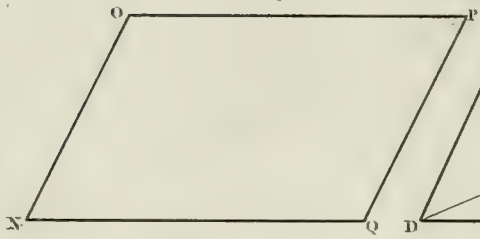


Fig. 75.



DIAGONAL
Fig. 76.

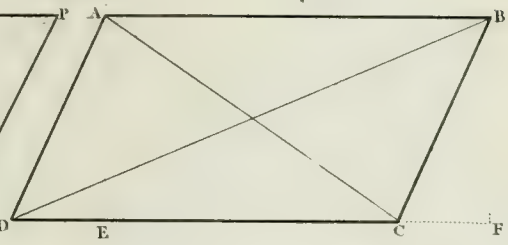


Fig. 77.

DIAGONAL

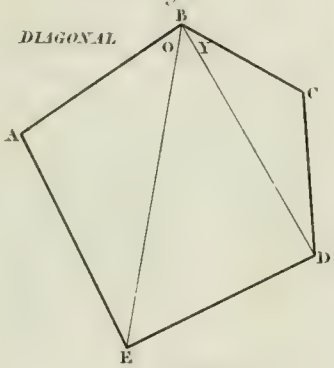
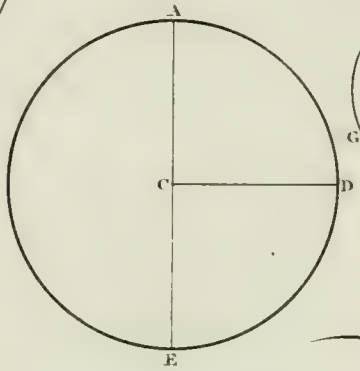


Fig. 78.



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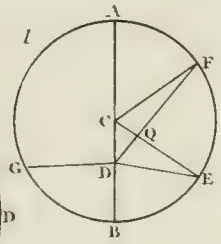

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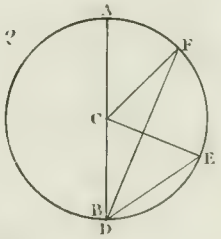
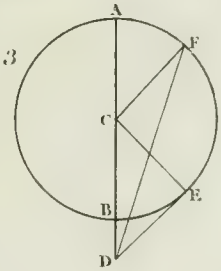


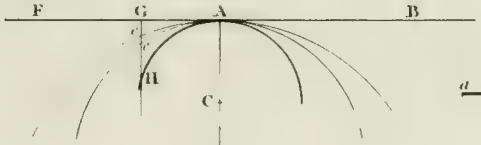
Fig. 79.

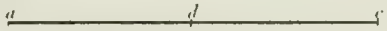
3



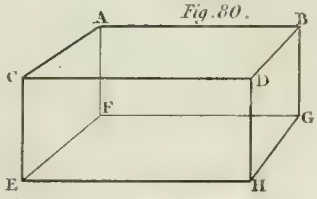
DIAMETER

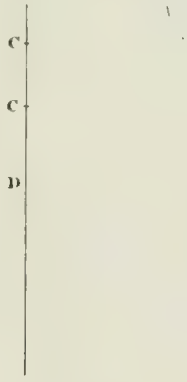
Fig. 81.



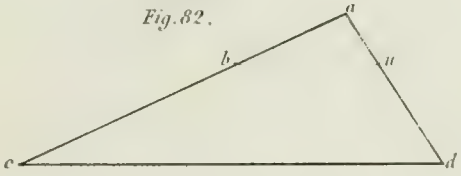


DIRIGENT
Fig. 80.

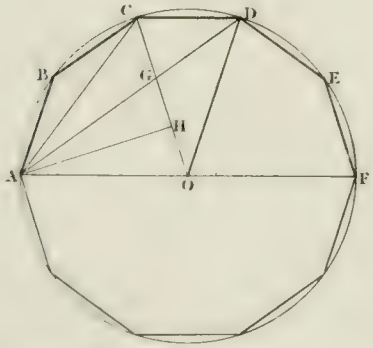




DIVISION
Fig. 82.



DECAGON *
Fig. 83.



* For DODECAGON see HEXAGON

DIOPHANTINE
Fig. 84.

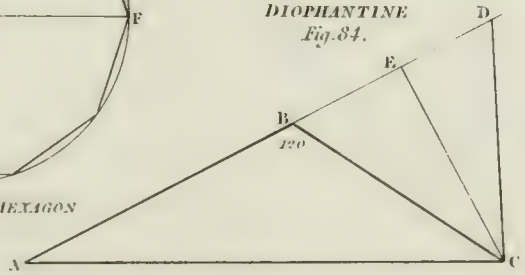
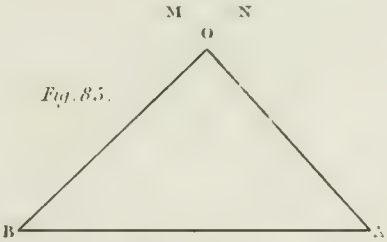
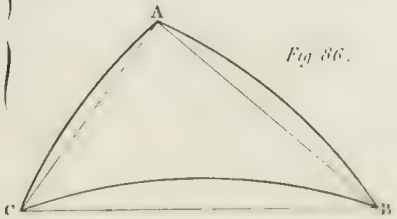


Fig. 85.



DISTANCE

Fig. 86.



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GEOMETRY.

EXTREME & MEAN PROPORTION.

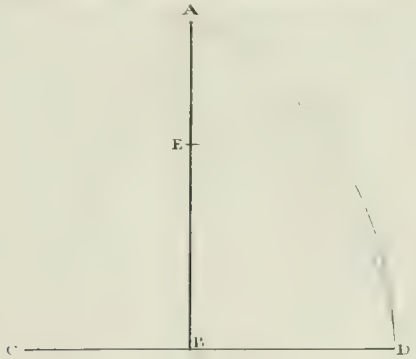


Fig. 87.

FRUSTUM.

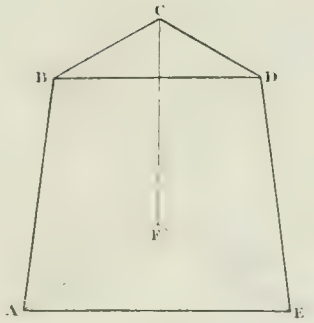


Fig. 88.

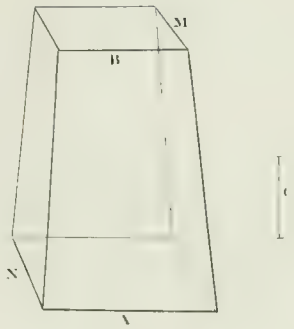
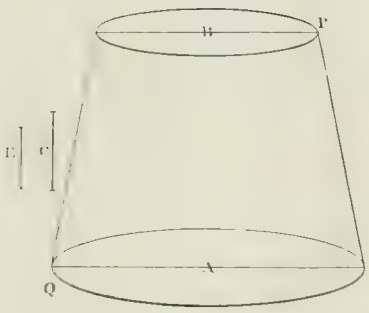


Fig. 89.



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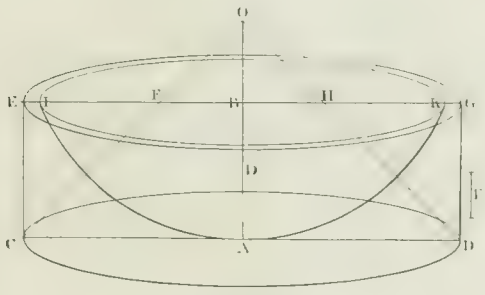

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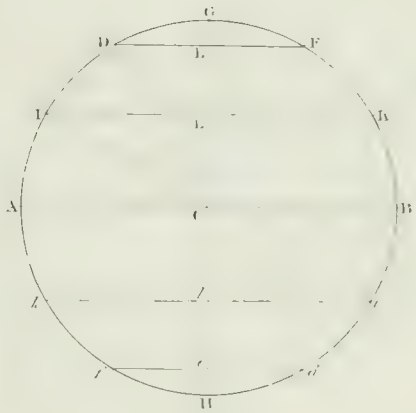
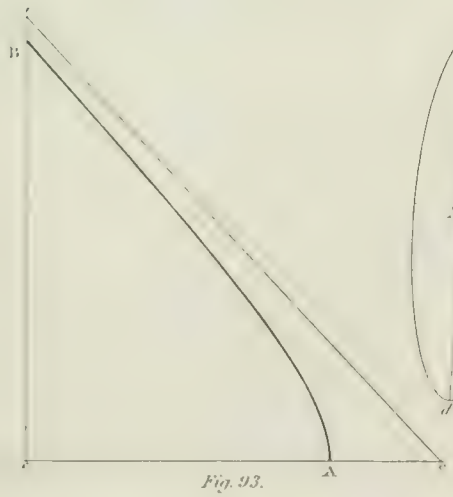


Fig. 92.



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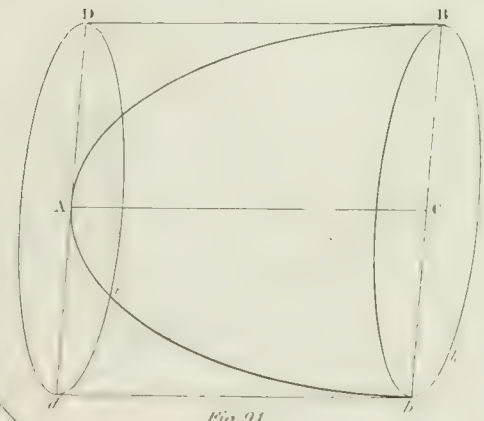

Fig. 94.

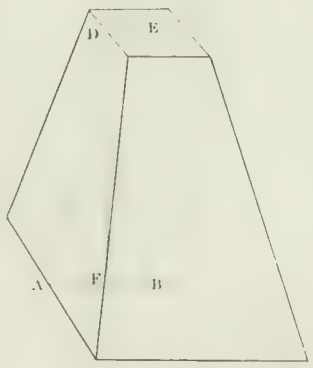

Fig. 95.

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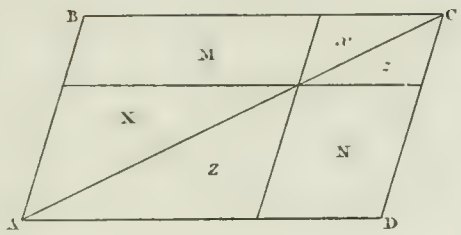
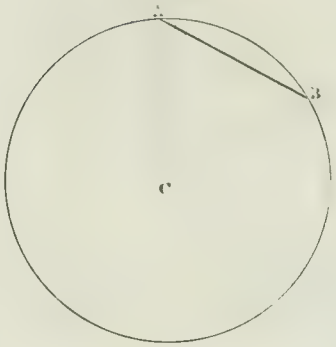
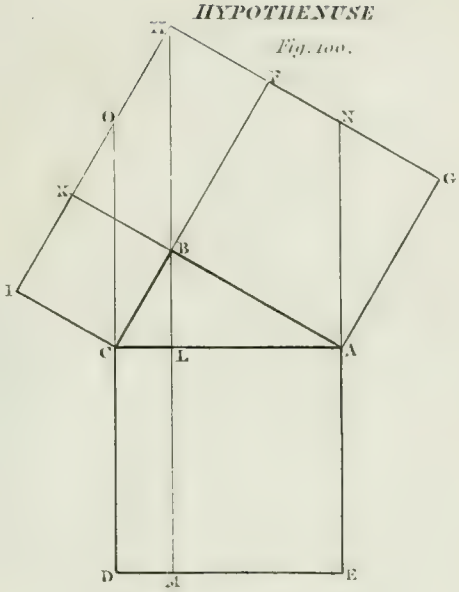
GNOMON
Fig. 96.



HEXAGON
Fig. 97.



HYPOTHENUSE
Fig. 100.



HONEY Comb
Fig. 98.

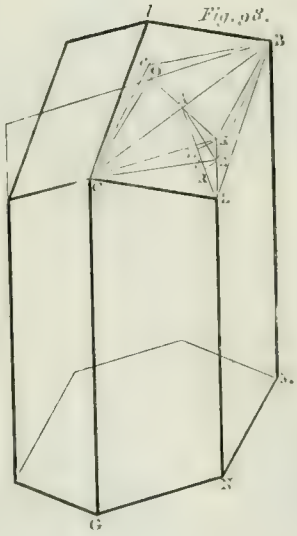
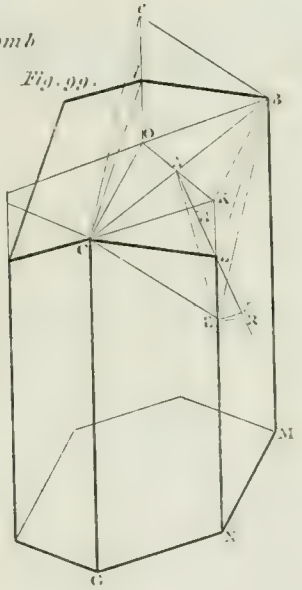
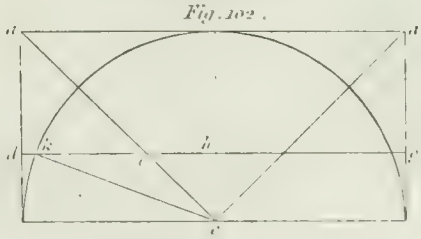


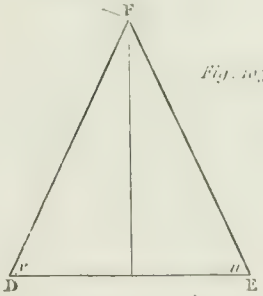
Fig. 99.



INDIVISIBLES
Fig. 102.



ISOSCELES Triangle
Fig. 103.



INCLINATION of Planes
Fig. 101.

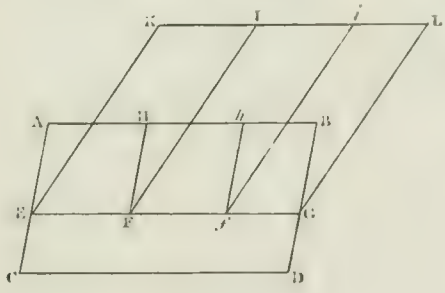
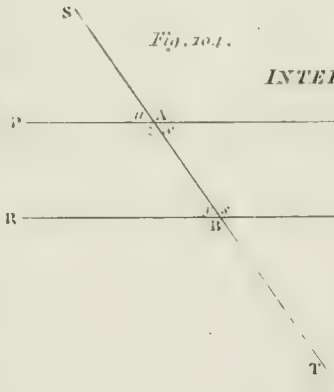
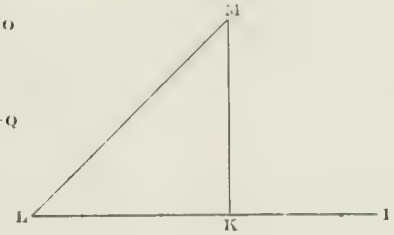


Fig. 104.



INTERNAL Angle
Fig. 105.



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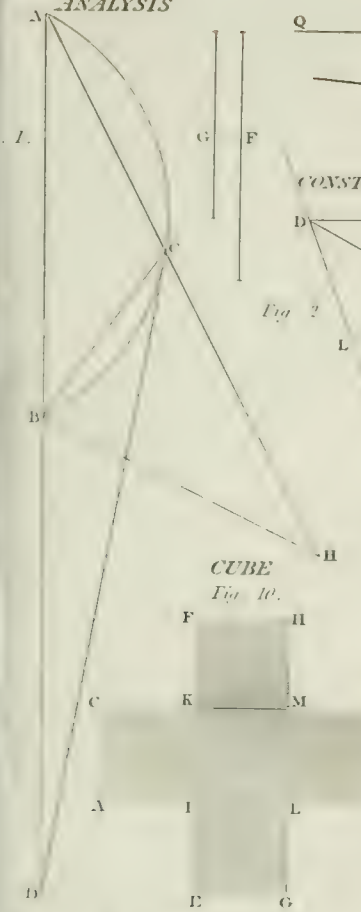
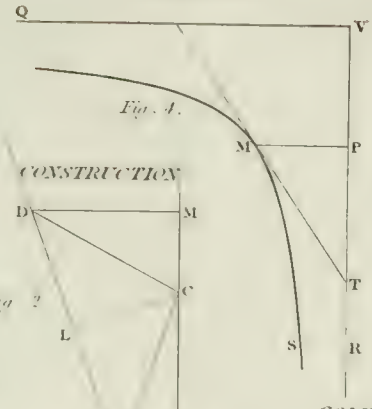
GEOMETRY.

FLUXIONS.

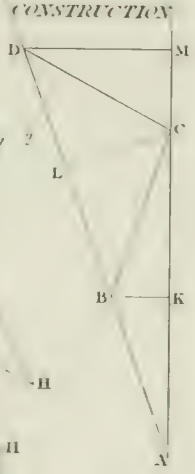
ANALYSIS



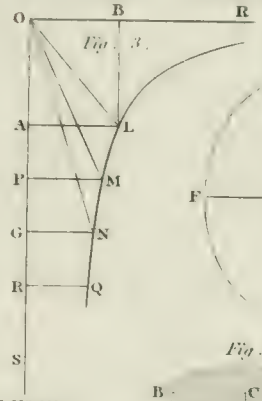
ASYMPTOTE



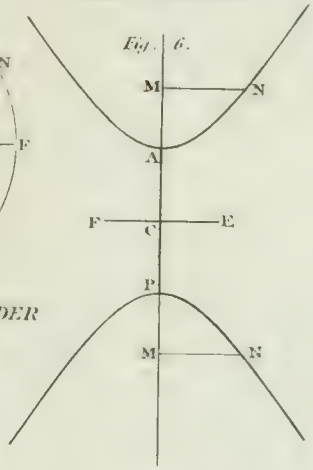
CONSTRUCTION



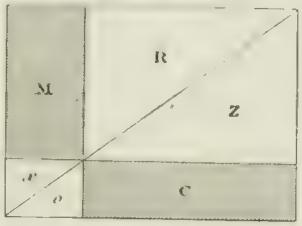
HYPERBOLIC LOGARITHMS



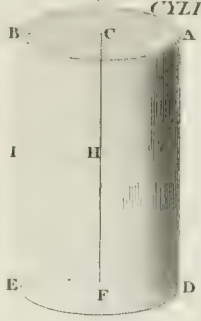
AXIS of the ELLIPSE and HYPERBOLA.



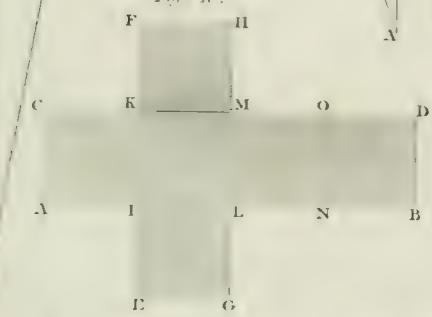
COMPLEMENT



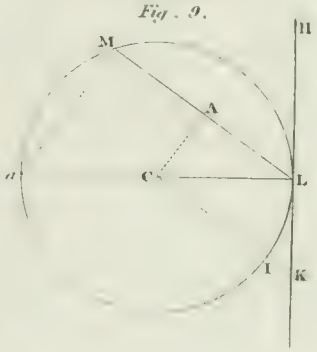
CYLINDER



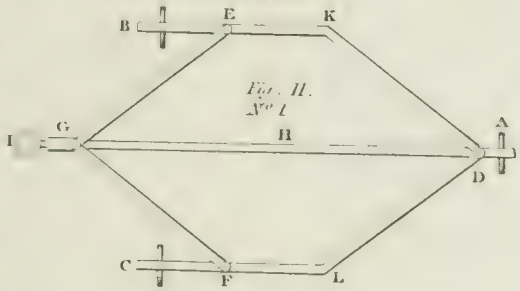
CUBE



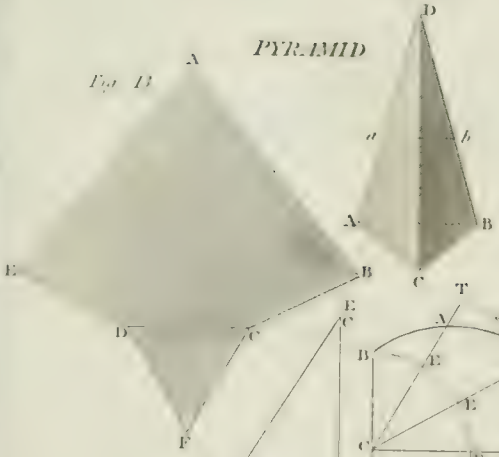
CONTACT



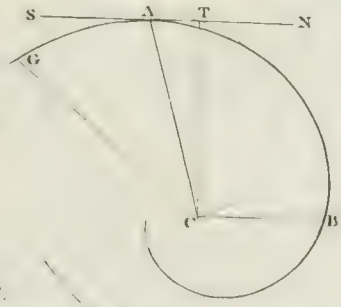
CYCLOGRAPH

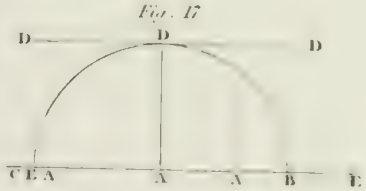


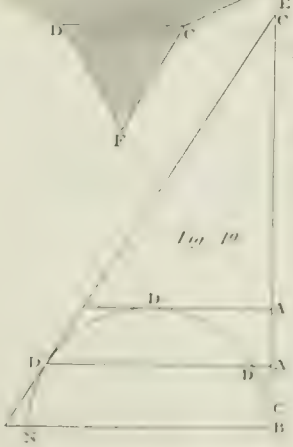
PYRAMID

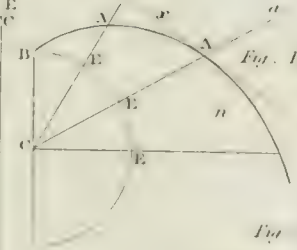


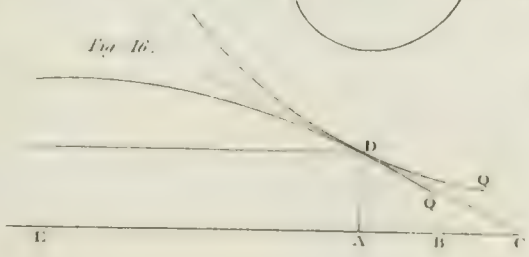
TANGENT

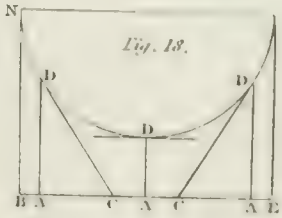












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GEOMETRY.

LINE.

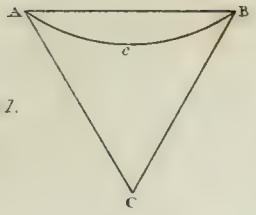


Fig. 1.

LUNES.

Fig. 2.

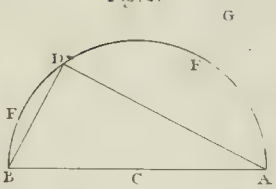


Fig. 3.

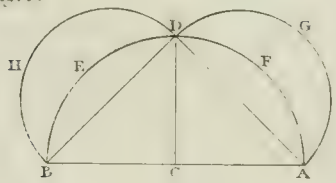


Fig. 3.

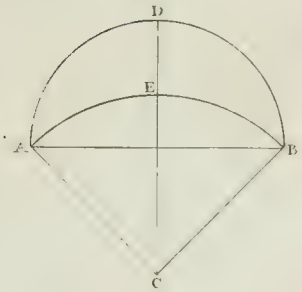
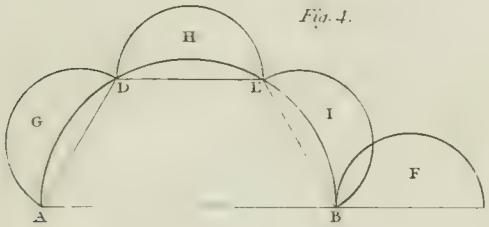


Fig. 4.



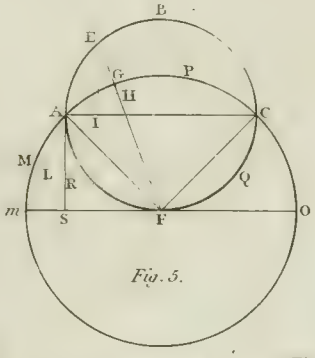


Fig. 5.

MULTIPLICATION.

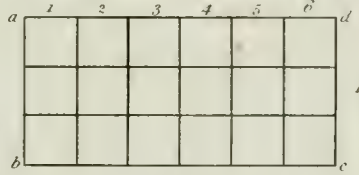


Fig. 6.

MULTIPLICATION.

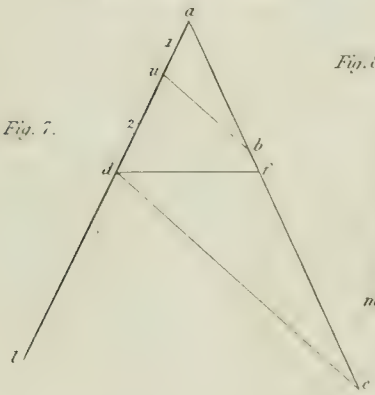
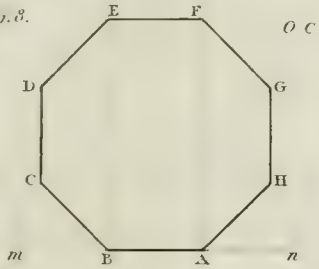


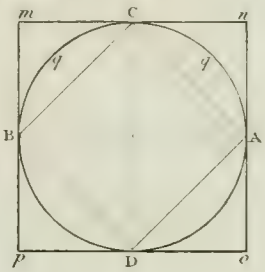
Fig. 7.

Fig. 8.



OCTAGON.

Fig. 9.



PARALLEL.

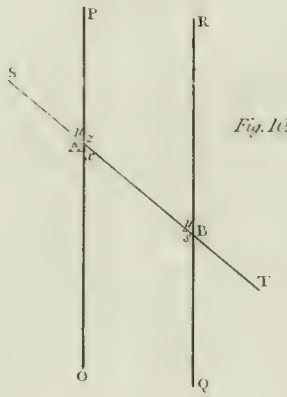
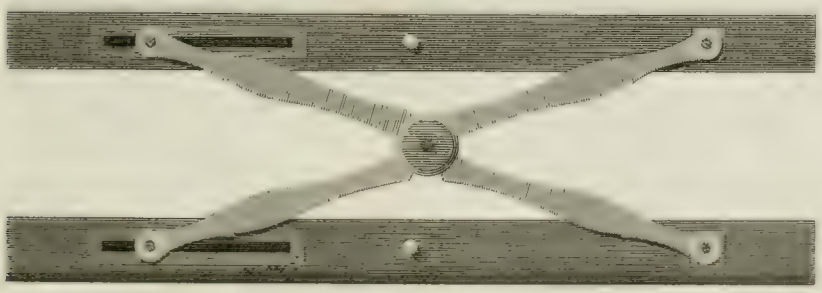


Fig. 10.

PARALLEL RULER.

Fig. 11.

Fig. 12.



PARALLELEPIPED.

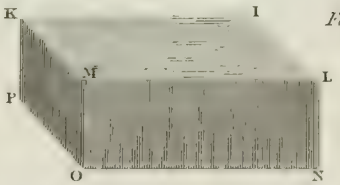


Fig. 13.

PARALLELOGRAM.

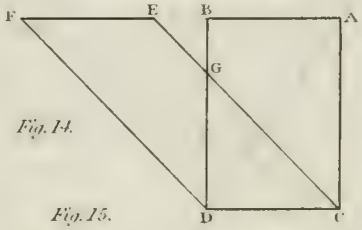
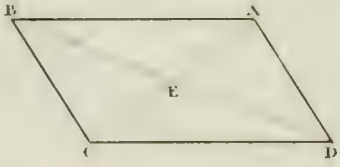


Fig. 14.

Fig. 15.



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PELECOIDES

Fig. 16.

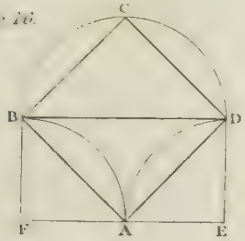


Fig. 17.

PENTAGON

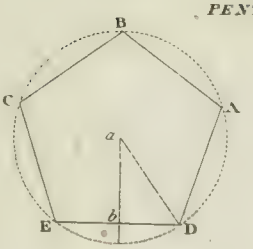
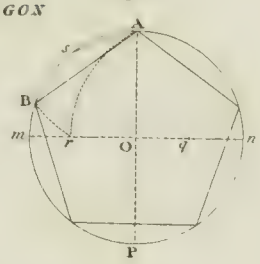
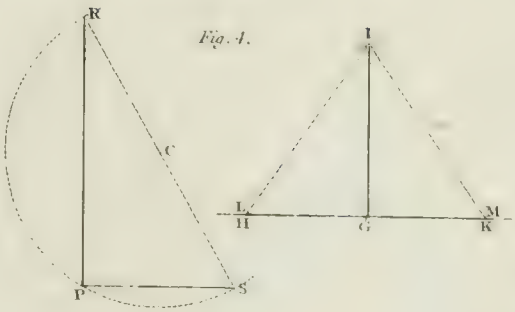


Fig. 18.



PERPENDICULAR

Fig. 4.



POLYGON

Fig. 6.

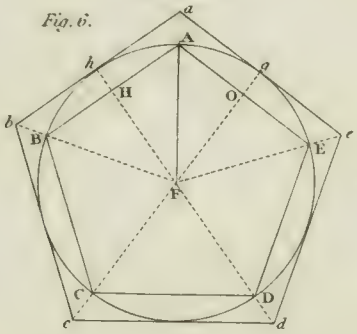


Fig. 5.

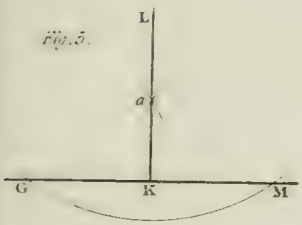


Fig. 7.

POLYGONOMETRY

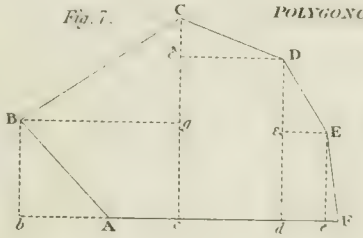
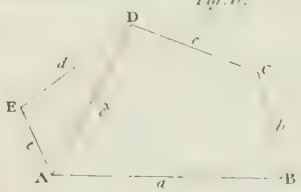


Fig. 8.



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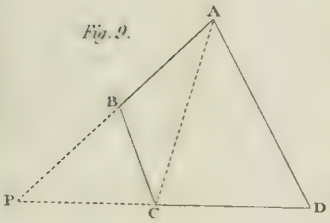

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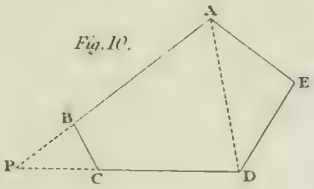
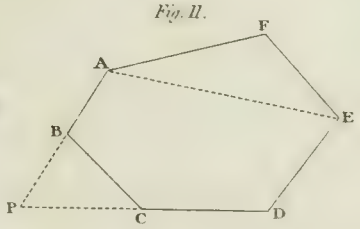


Fig. 11.



PORISM

Fig. 12.

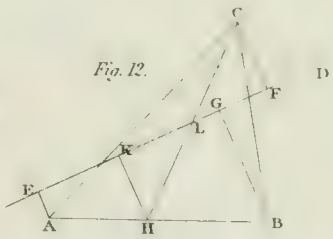
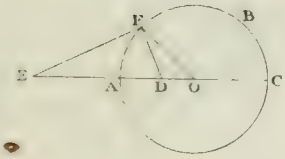
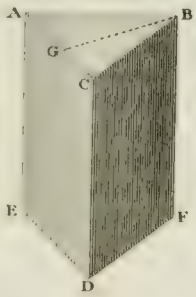


Fig. 13.



PRISM

Fig. 15.



Geometry of POSITION

Fig. 14

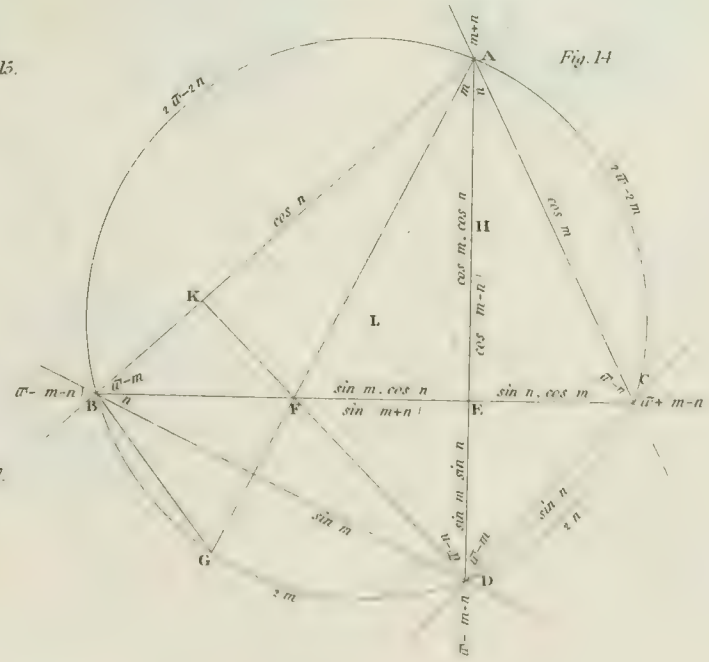


Fig. 16.

PROPORTIONAL

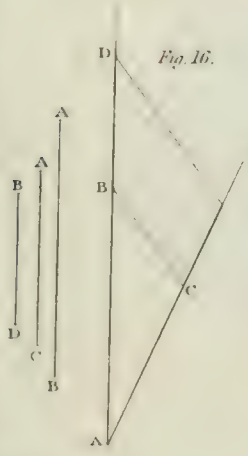
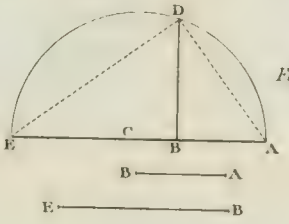


Fig. 17.



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Lowry sculp.

Fig. 1.

QUALITY.

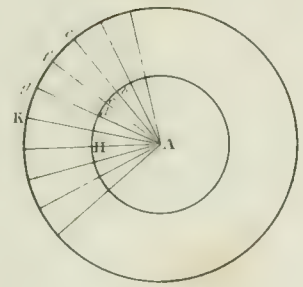
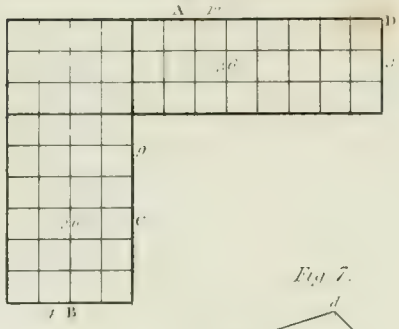


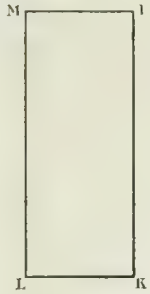
Fig. 2.

RECIPROCAL Figures.



RECTANGLE

Fig. 3.



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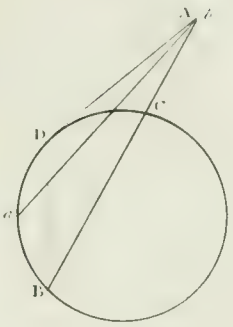

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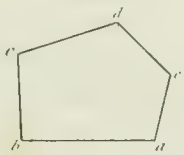


Fig. 5.

REDUCTION

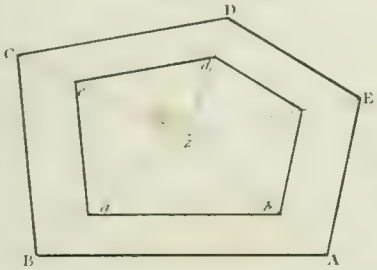


Fig. 6.

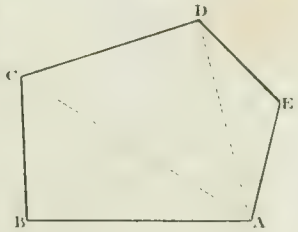


Fig. 8.

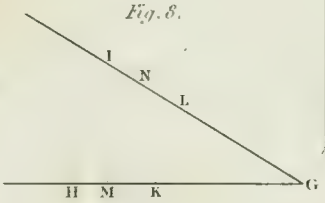
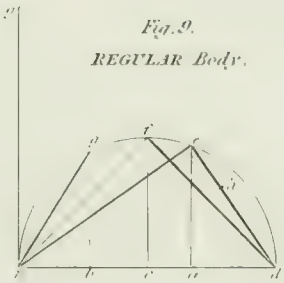


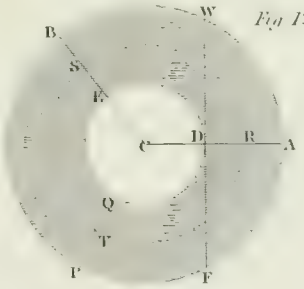
Fig. 9.

REGULAR Body.

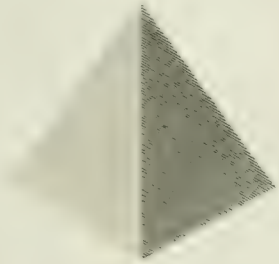


RING

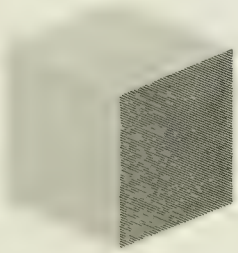
Fig 12.



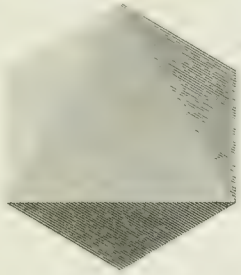
TETRAHEDRON



CUBE



OCTAHEDRON

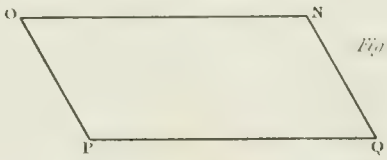


DODECAHEDRON

ICOSAHEDRON

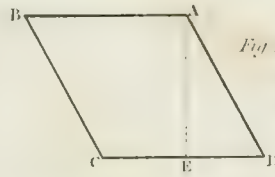
RHOMBOIDES

Fig 10.



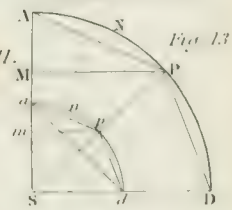
RHOMBUS

Fig 11.



SIMILAR Curves

Fig 13



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Lowry Sc.

GEOMETRY.

SCALE

Fig. 1.

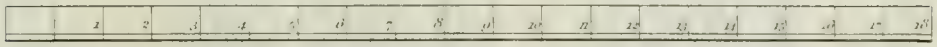
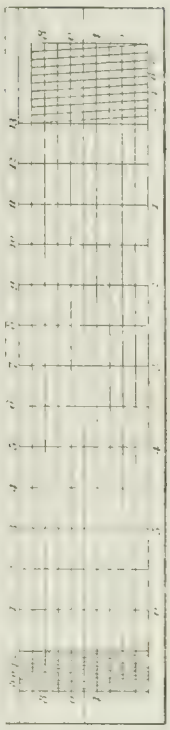


Fig. 2.



SECTOR

Fig. 7.

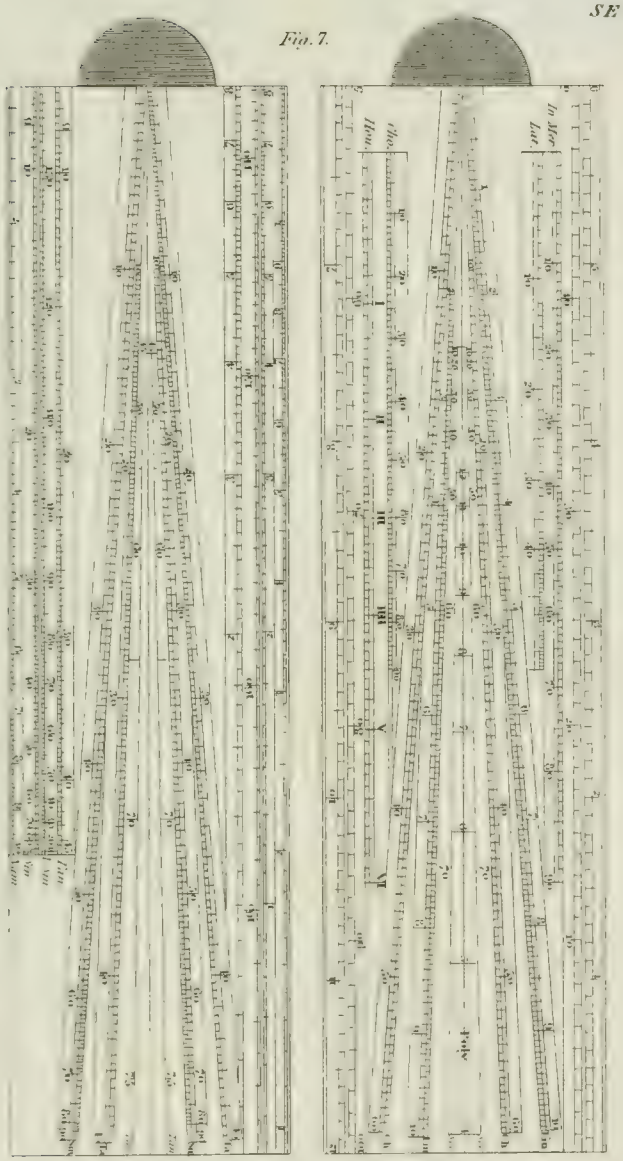
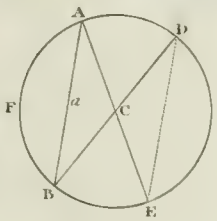


Fig. 5.



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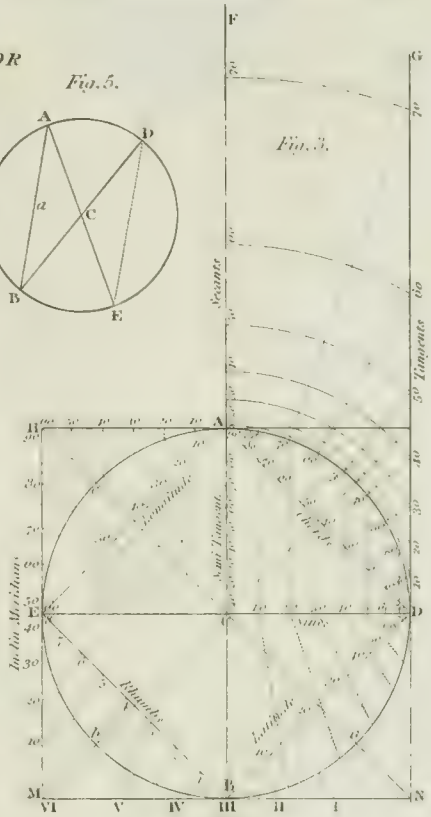
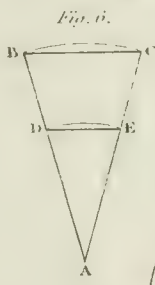


SECANT

Fig. 6.



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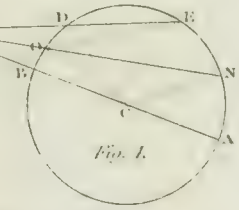

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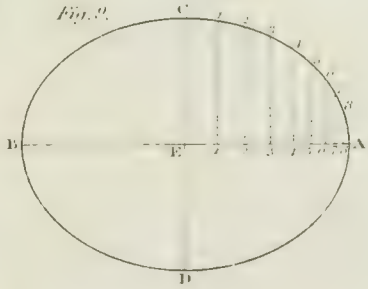

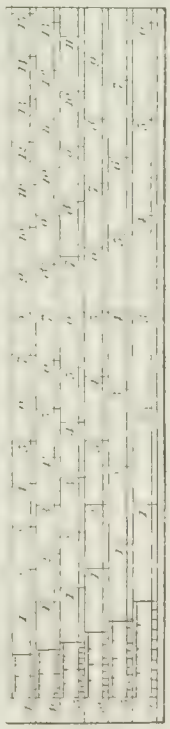

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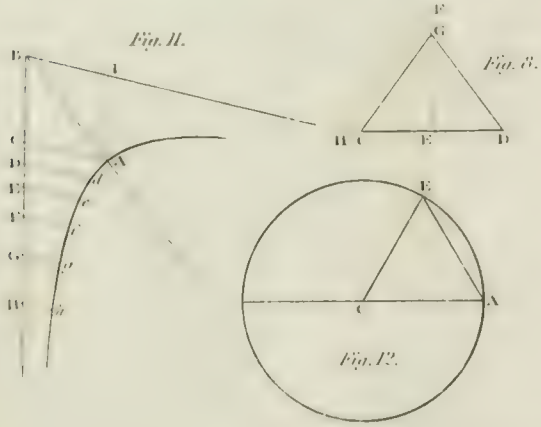
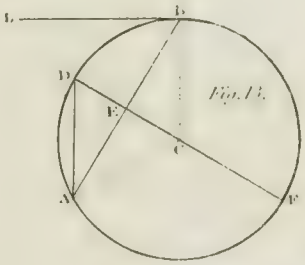


Fig. 8.

Fig. 12.

SEGMENT



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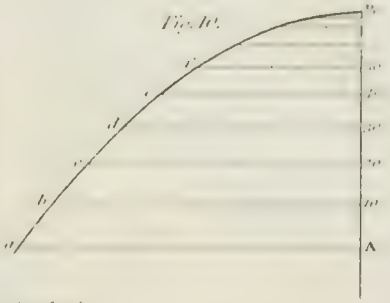

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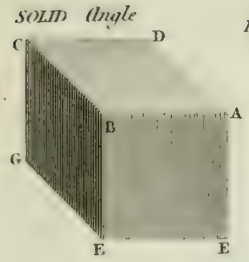
Lowry sculp.

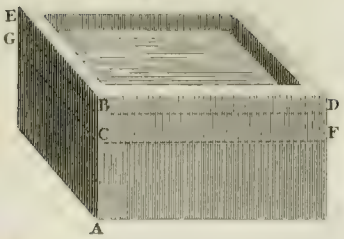
SOLID Angle

Fig. 1.



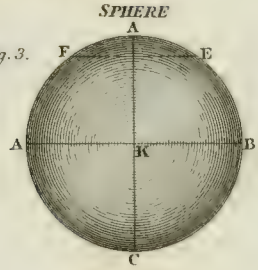
SOLIDITY

Fig. 2.



SPHERE

Fig. 3.



SPHEROID

Fig. 4.

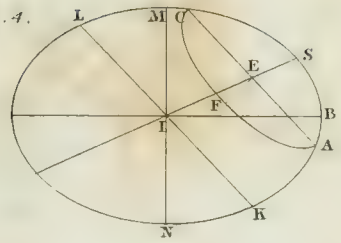
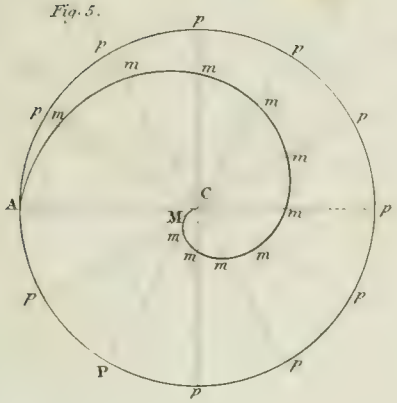


Fig. 5.

SPIRAL



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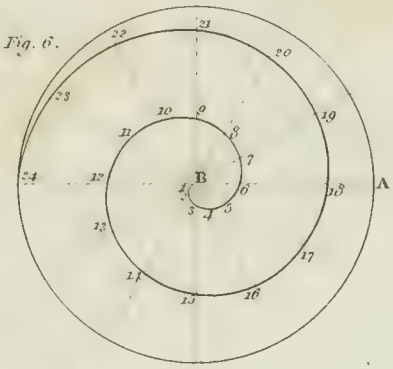

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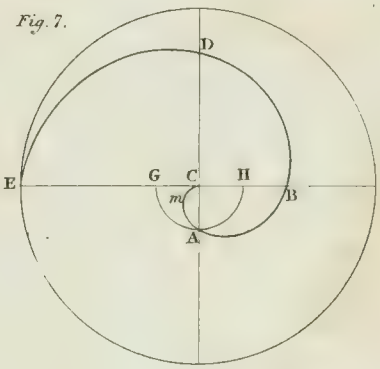

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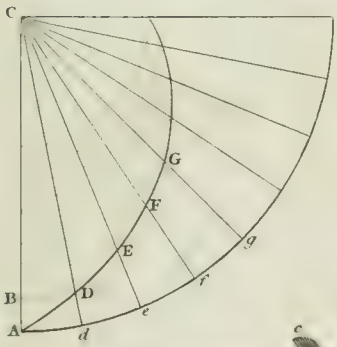

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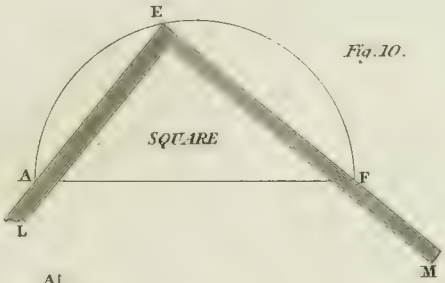

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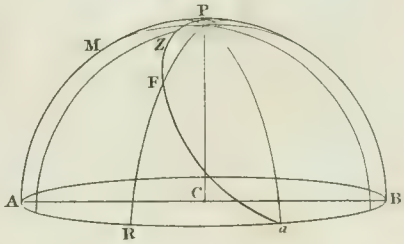

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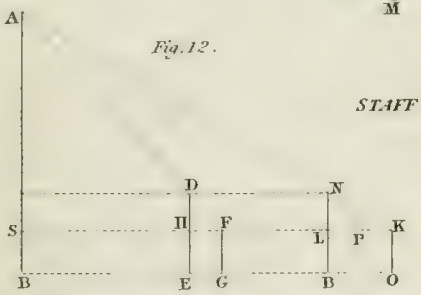

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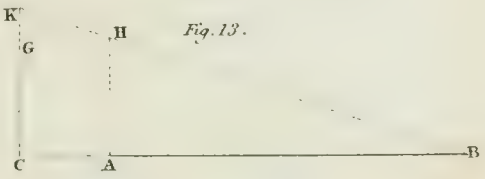


Fig. 13.

Tee SQUARE

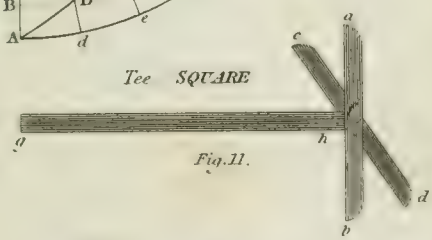
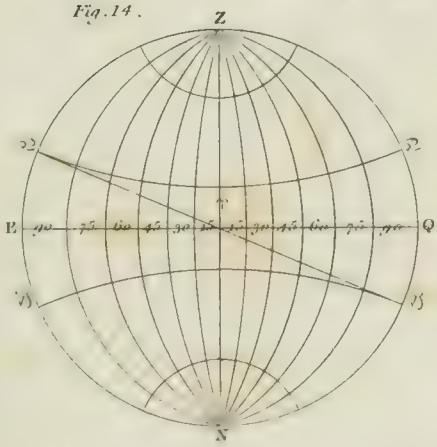


Fig. 11.

Fig. 14.



STEREOGRAPHIC Projection

Fig. 15.

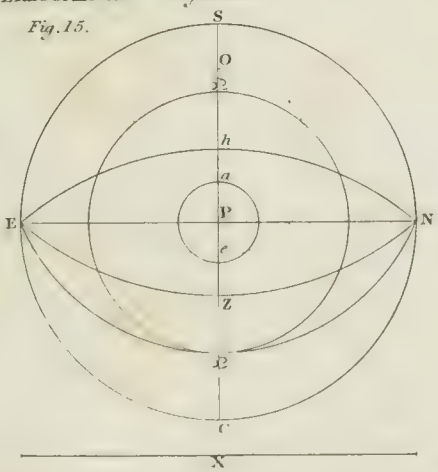
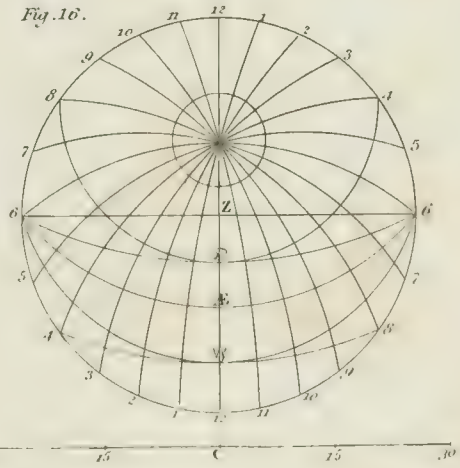


Fig. 16.



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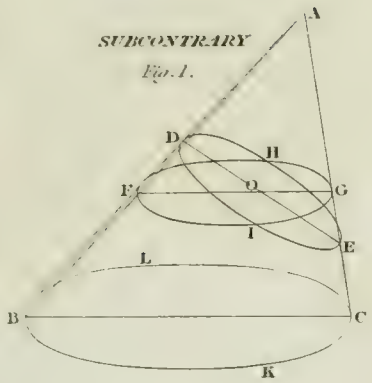
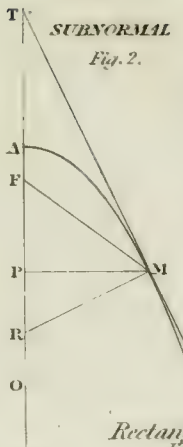
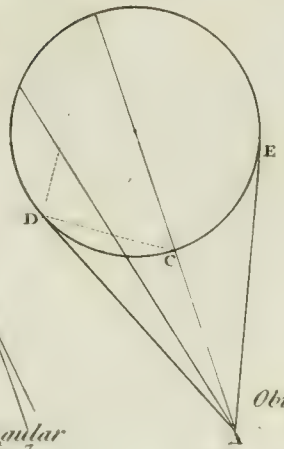
SUBCONTRARY
Fig. 1.



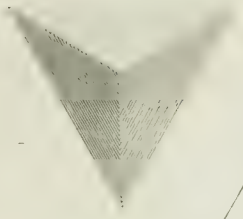
SUBNORMAL
Fig. 2.



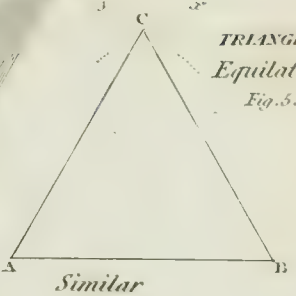
TANGENT
Fig. 3.



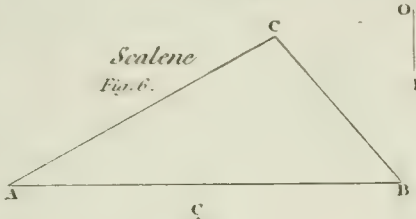
TETRAEDRON
Fig. 4.



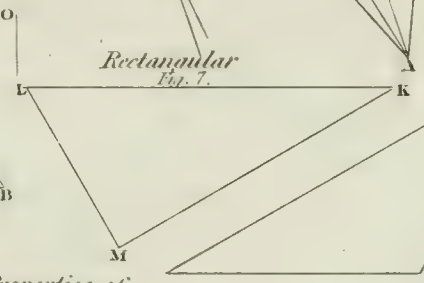
TRIANGLE
Equilateral
Fig. 5.



Scalene
Fig. 6.

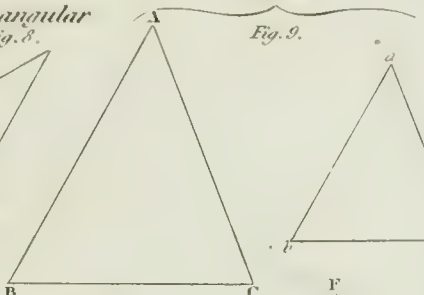


Rectangular
Fig. 7.

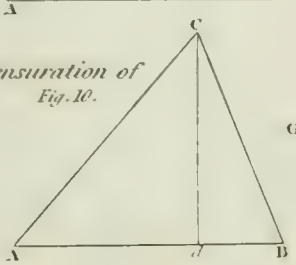


Obtusangular
Fig. 8.

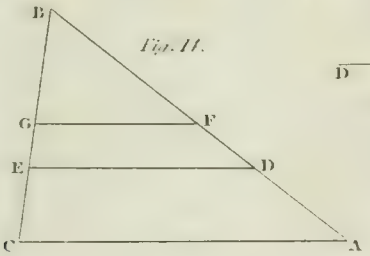
Similar
Fig. 9.



Mensuration of
Fig. 10.



Properties of
Fig. 11.



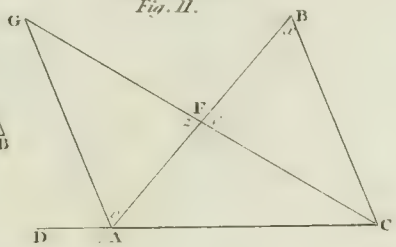
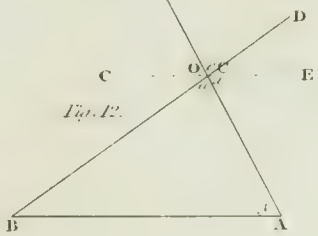


Fig. 12.



Isosceles
Fig. 13.

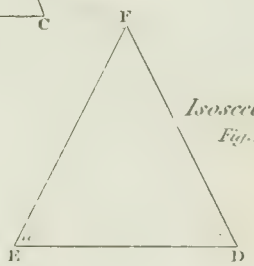


Fig. 15.

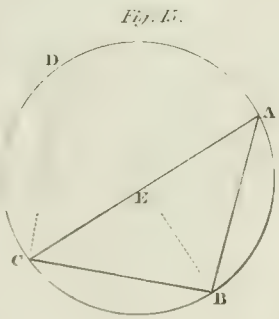
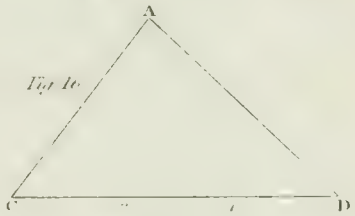
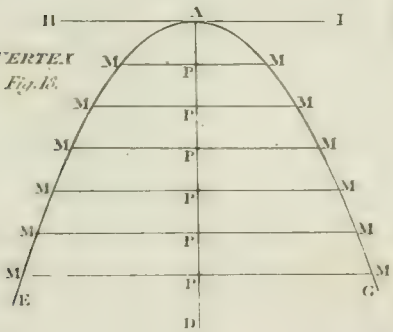
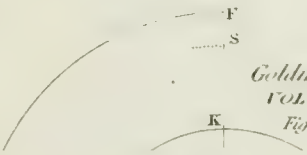


Fig. 16.



VERTEX
Fig. 18.





Goldman's
VOLUTE
Fig. 20.

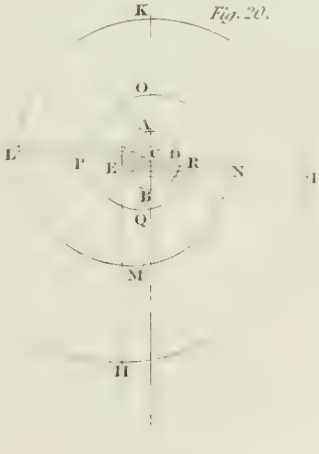


Fig. 17.

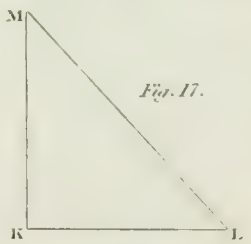
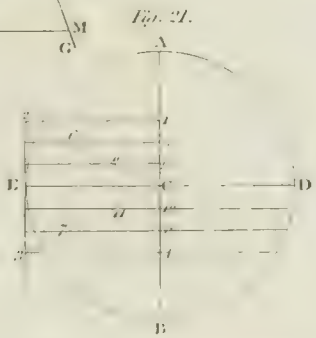
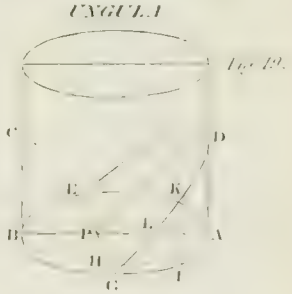


Fig. 21.



UNGULA



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GUNNERY.

Fig. 1. Pointing of a GUN

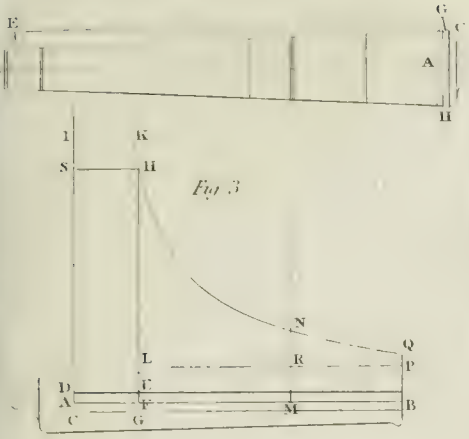
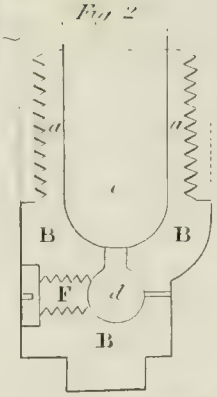
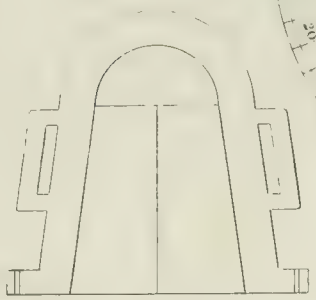


Fig. 3

Fig. 2



PETARD Fig. 4.



QUADRANT Fig. 5.

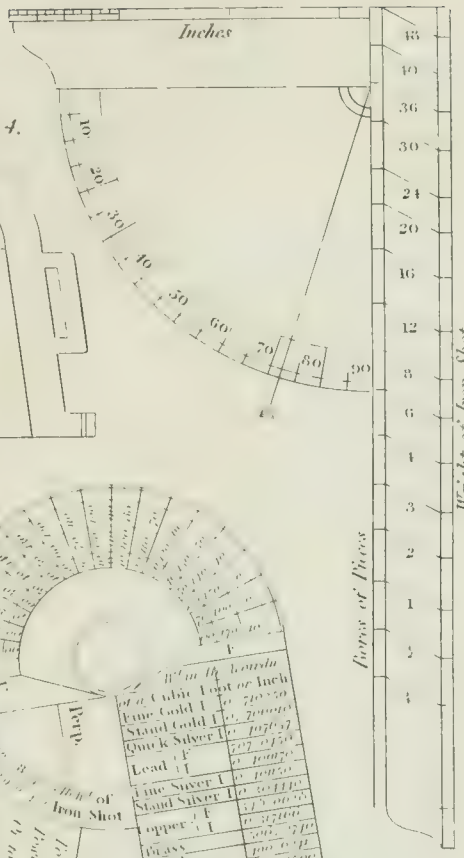
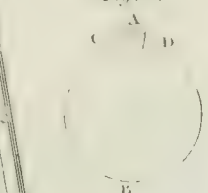
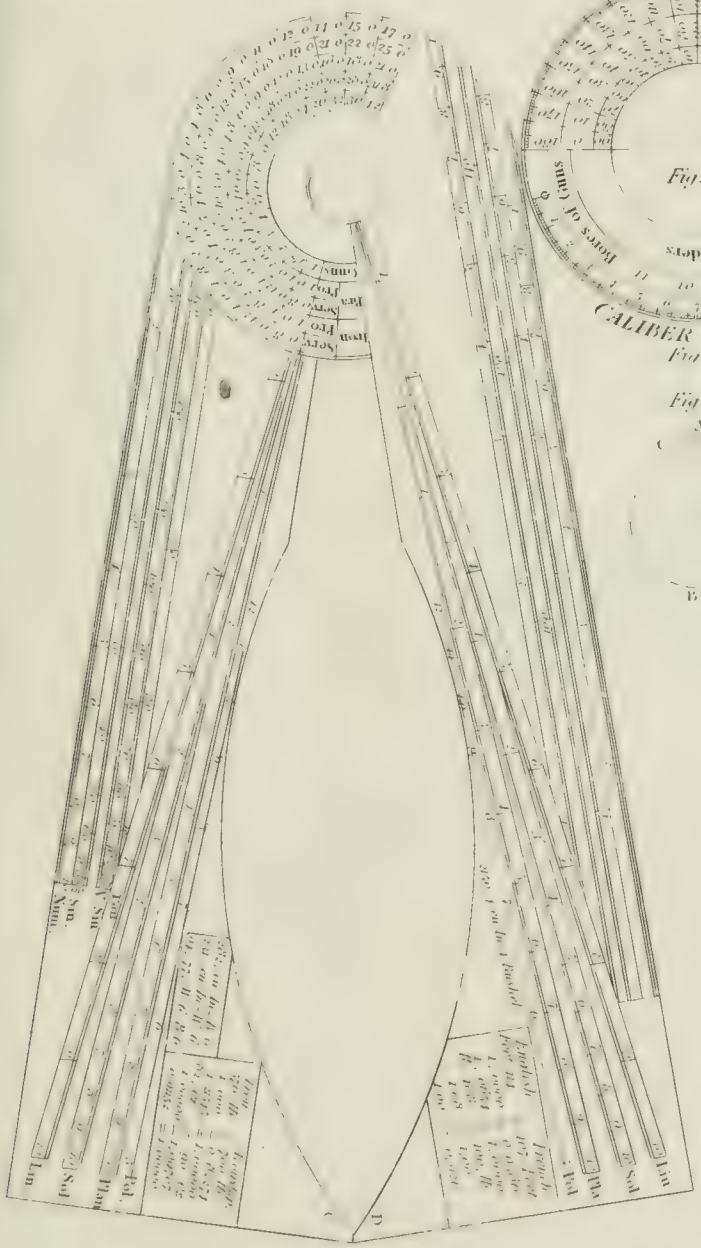


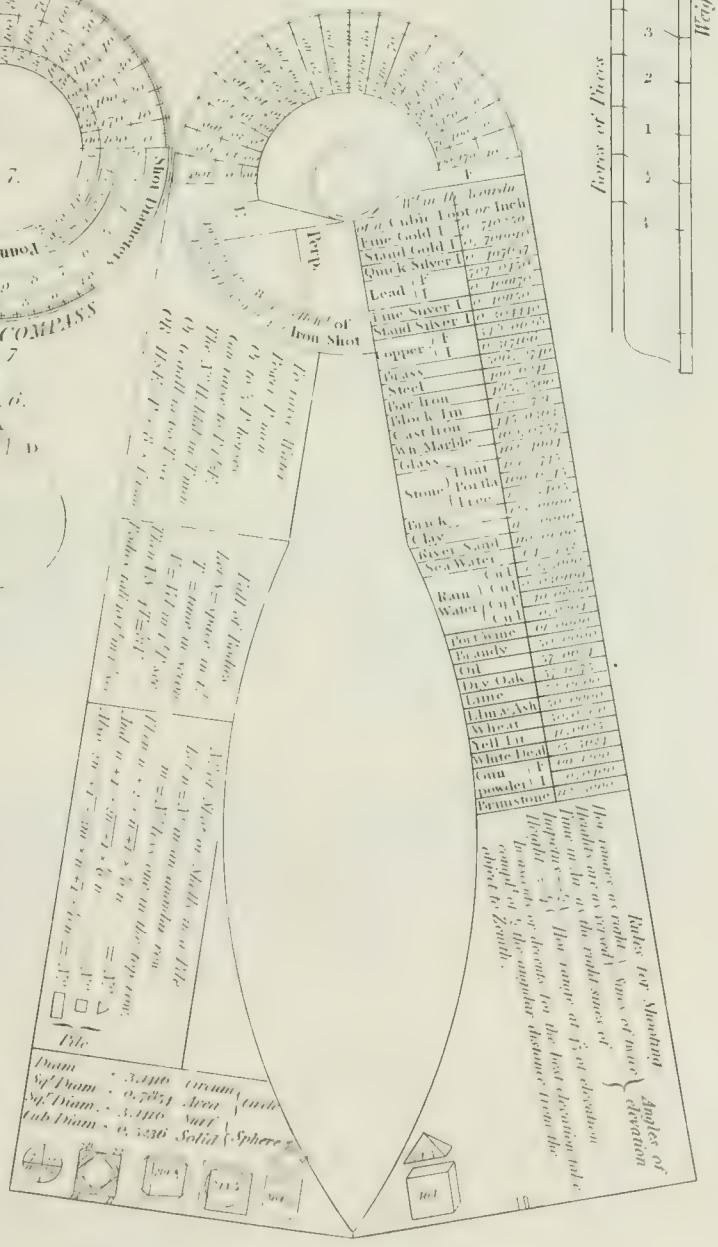
Fig. 7.

CALIBER COMPASS Fig 7

Fig. 6.







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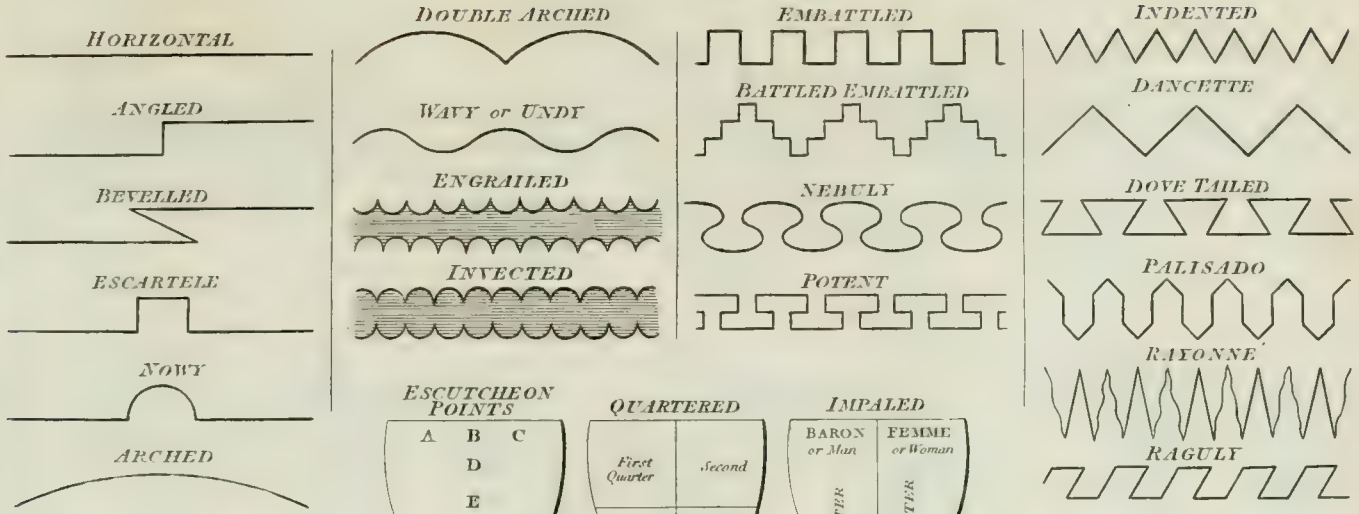
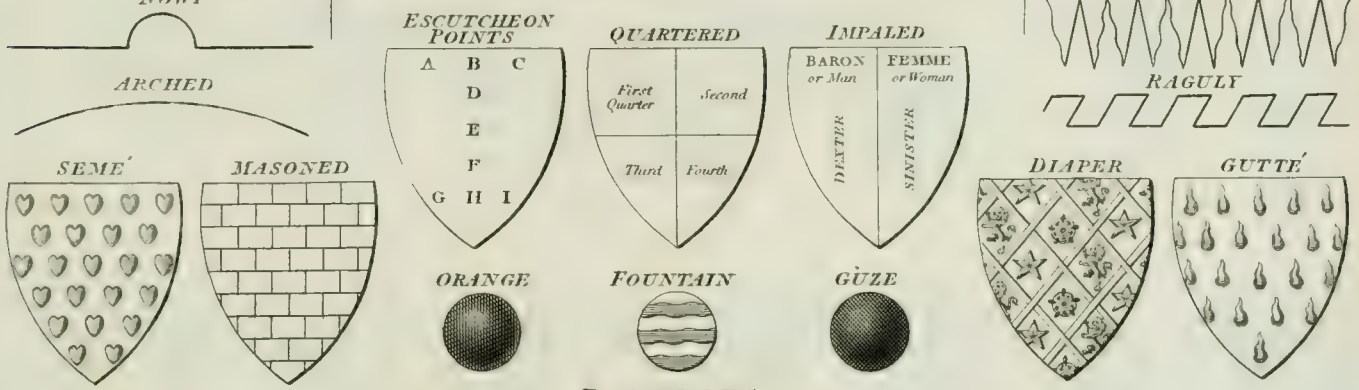
HERALDRY.

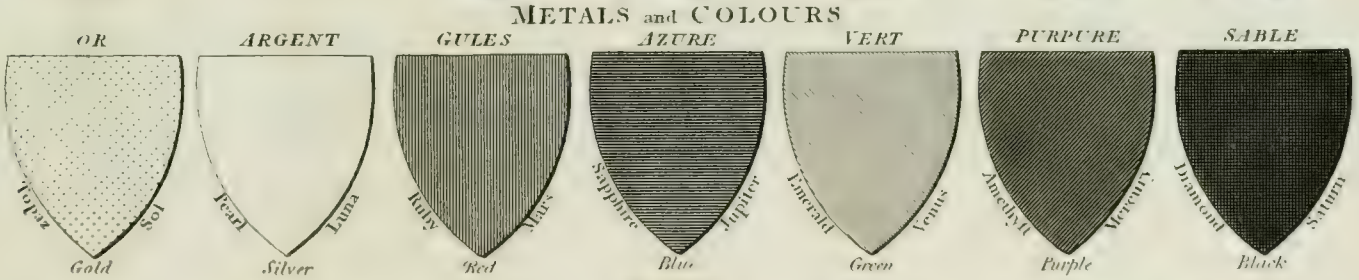
PARTITION LINES



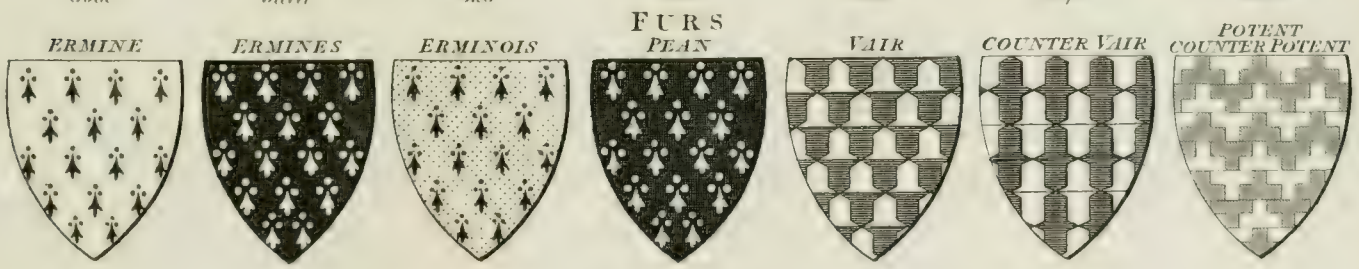


ROUNDLES

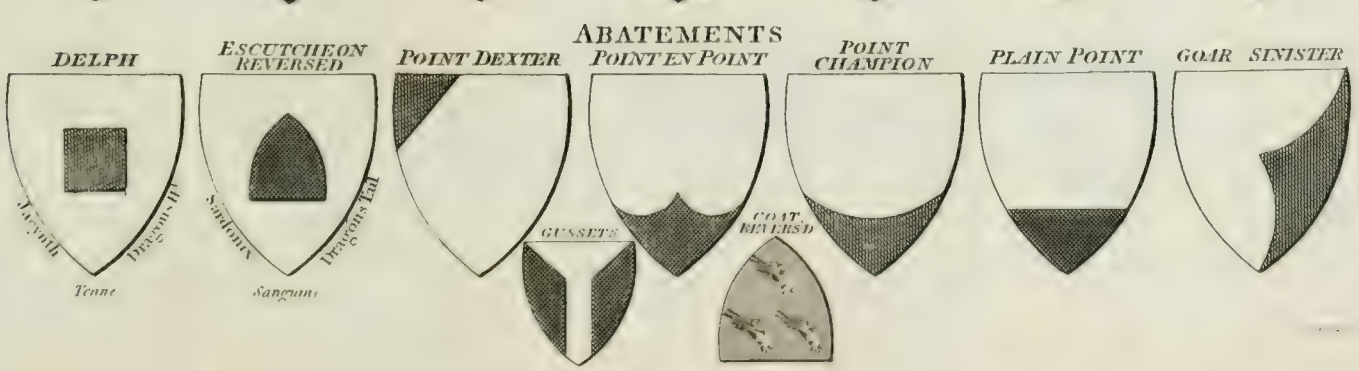
METALS and COLOURS



FURS



ABATEMENTS



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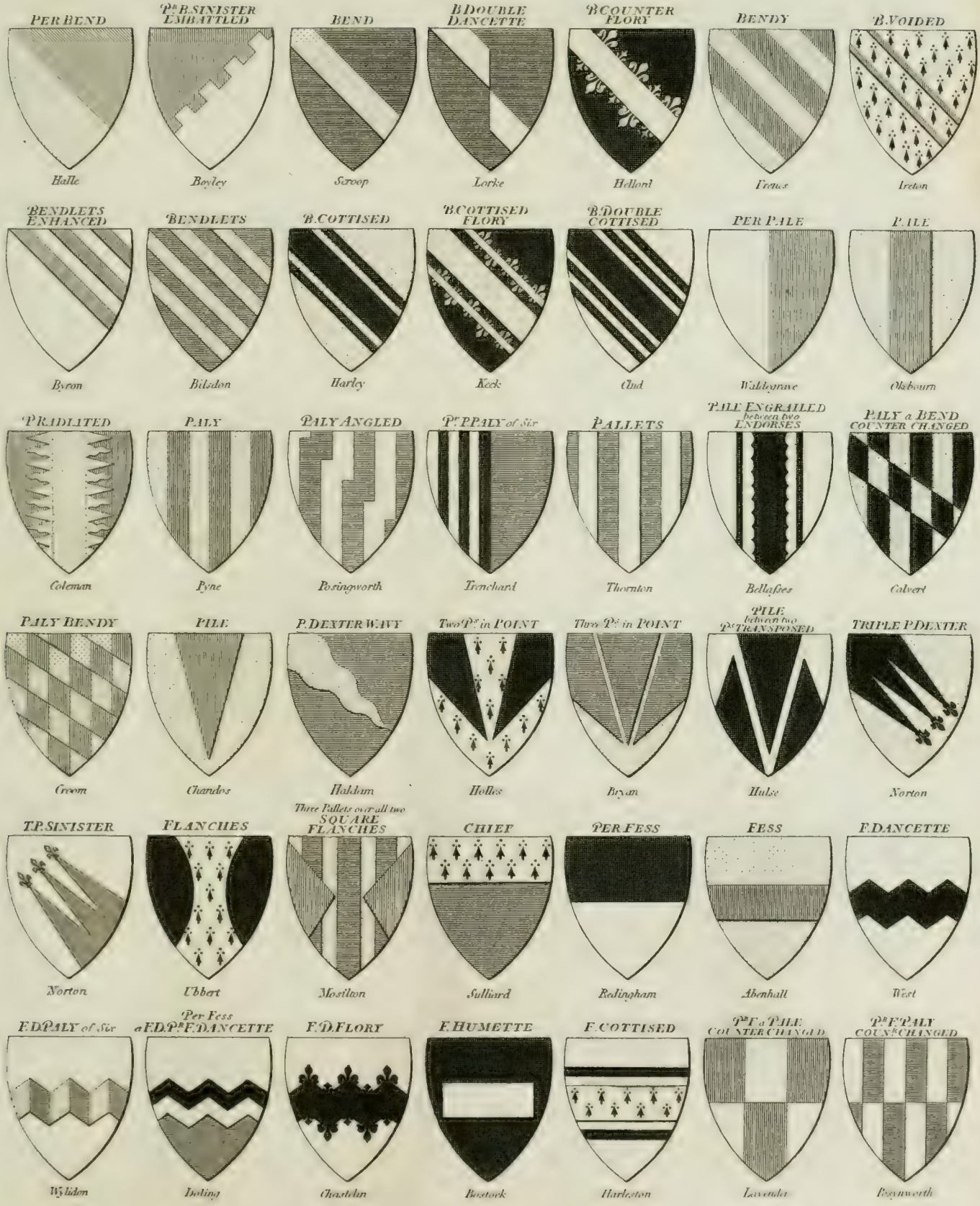
HERALDRY.



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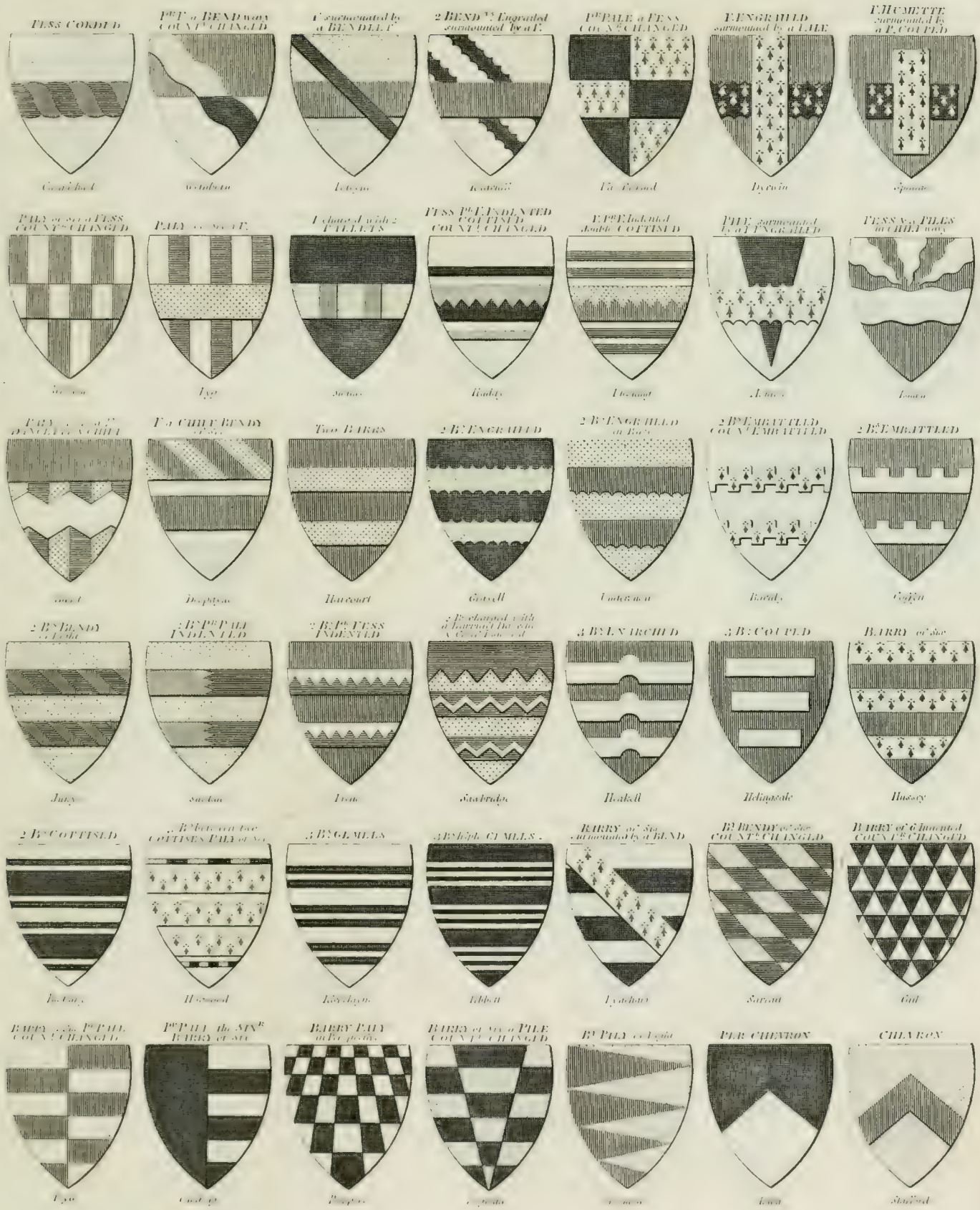
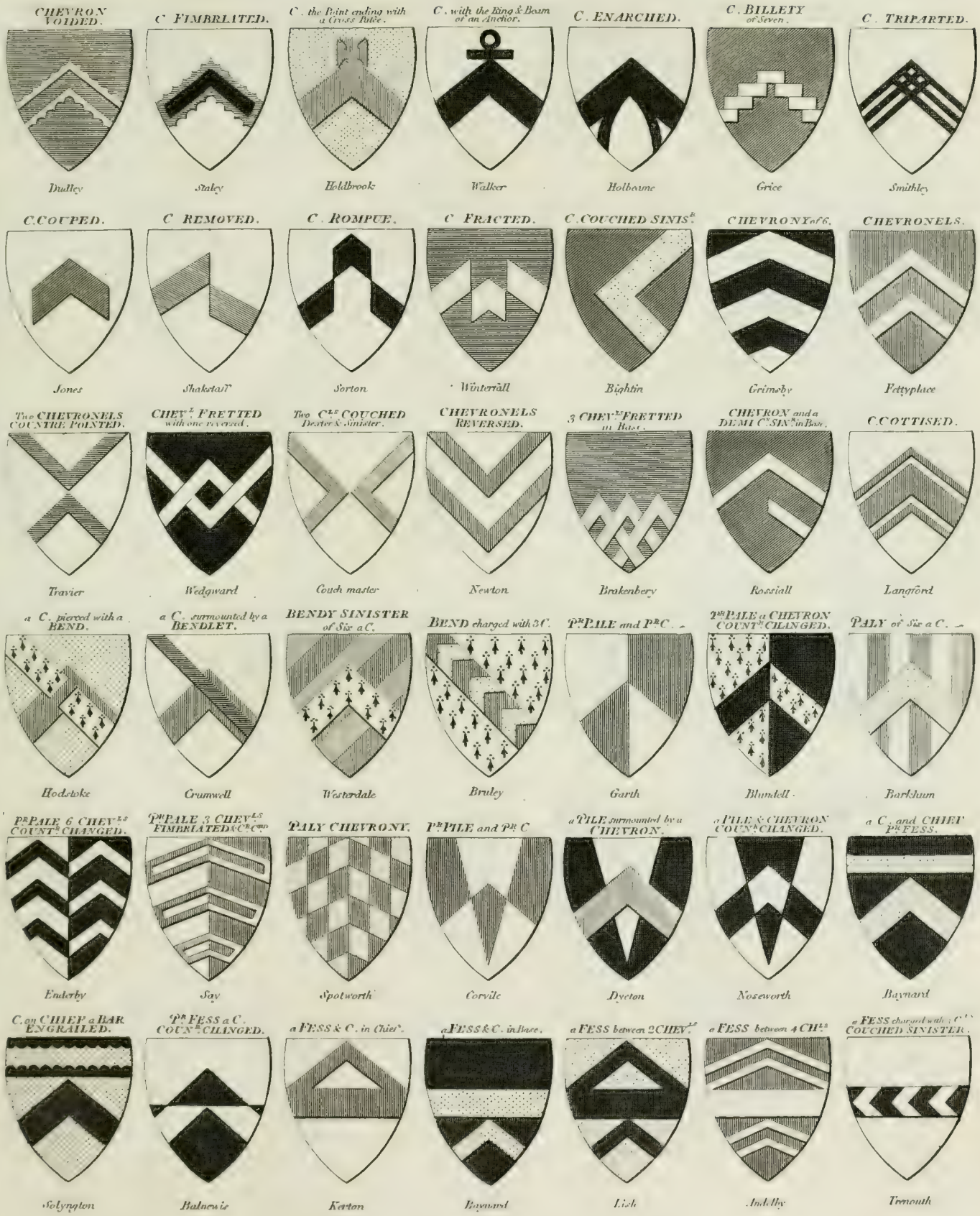

FESS COTTISED
Cornwallis
PALE a BEND sinister COUNTER CHANGED
Wentworth
Surmounted by a BENDLET
Isley
2 BENDS Engrailed surmounted by a F.
Kendall
PALE a FESS COUNTER CHANGED
Fitz Herbert
3 ENGRAILED surmounted by a LAKE
Dyrwin
HUMETTE surmounted by a F. COUPED
Spencer
PALY of six a FESS COUNTER CHANGED
Paly of six
Lyon
Charged with 2 FILLETS
Sutton
FESS PILE INDENTED COTTISED COUNTER CHANGED
Radcliffe
PILE Indented Double COTTISED
Dutton
PILE surmounted by a ENGRAILED
Arden
FESS between 3 PILES in CHIEF wavy
Lucas
PALY of six a CHIEF DANCETTE ERMINE
Ward
Per CHIEF BENDY
Dodyngton
Two BARRS
Harcourt
2 BENDS ENGRAILED
Grenell
2 BENDS ENGRAILED in Base
Underwood
2 BENDS EMBRATTLED COUNTER EMBRATTLED
Bardsley
2 BENDS EMBRATTLED
Coffyn
2 BENDS BENDY
Ivery
2 BENDS PALE INDENTED
Sackville
2 BENDS FESS INDENTED
Lyon
2 Bends charged with a Barrulet dancetty a la Antique
Stanhope
3 BENDLETS RAISED
Heskett
3 BENDS COUPED
Helmsdale
BARRY of six
Hussey
2 BENDS COTTISED
Fortescue
2 Bendlets counter COTTISED PALY of six
Harewood
3 BENDLETS
Kirkham
3 Escutcheons CHARGED
Ebbett
BARRY of six surmounted by a BEND
Lyttelton
BENDY of nine COUNTER CHANGED
Savage
BARRY of 6 Ermine COUNTER CHANGED
Gill
PALY of six PALE COUNTER CHANGED
Lyon
PALE the MINDE BARRY of six
Cockayne
BARRY PALY of Perspective
Perspective
BARRY of six a PILE COUNTER CHANGED
Capell
BENDY of eight
Cranmer
PER CHEVRON
Lucas
CHEVRON
Stafford

HERALDRY.



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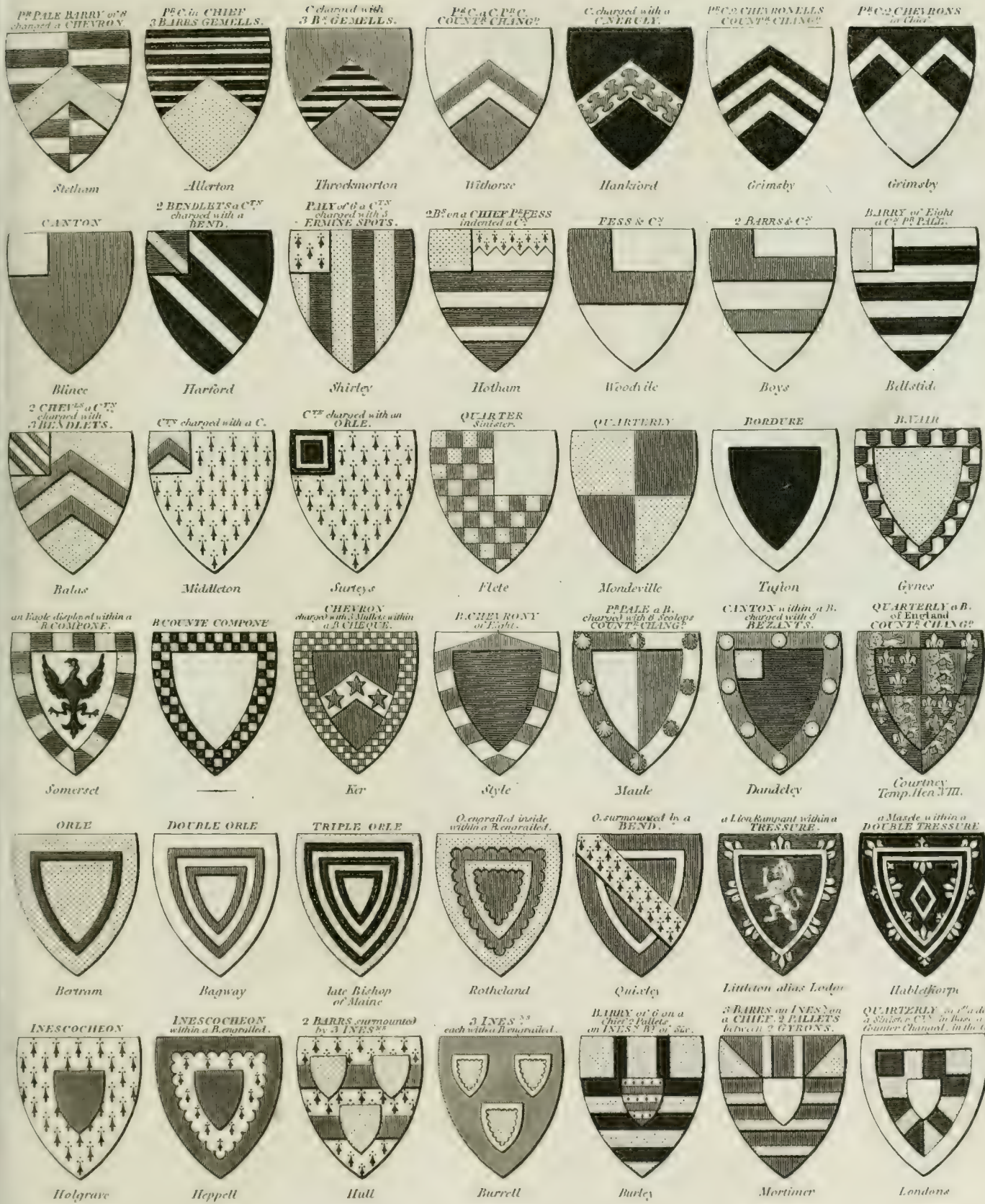
Milton

HERALDRY.



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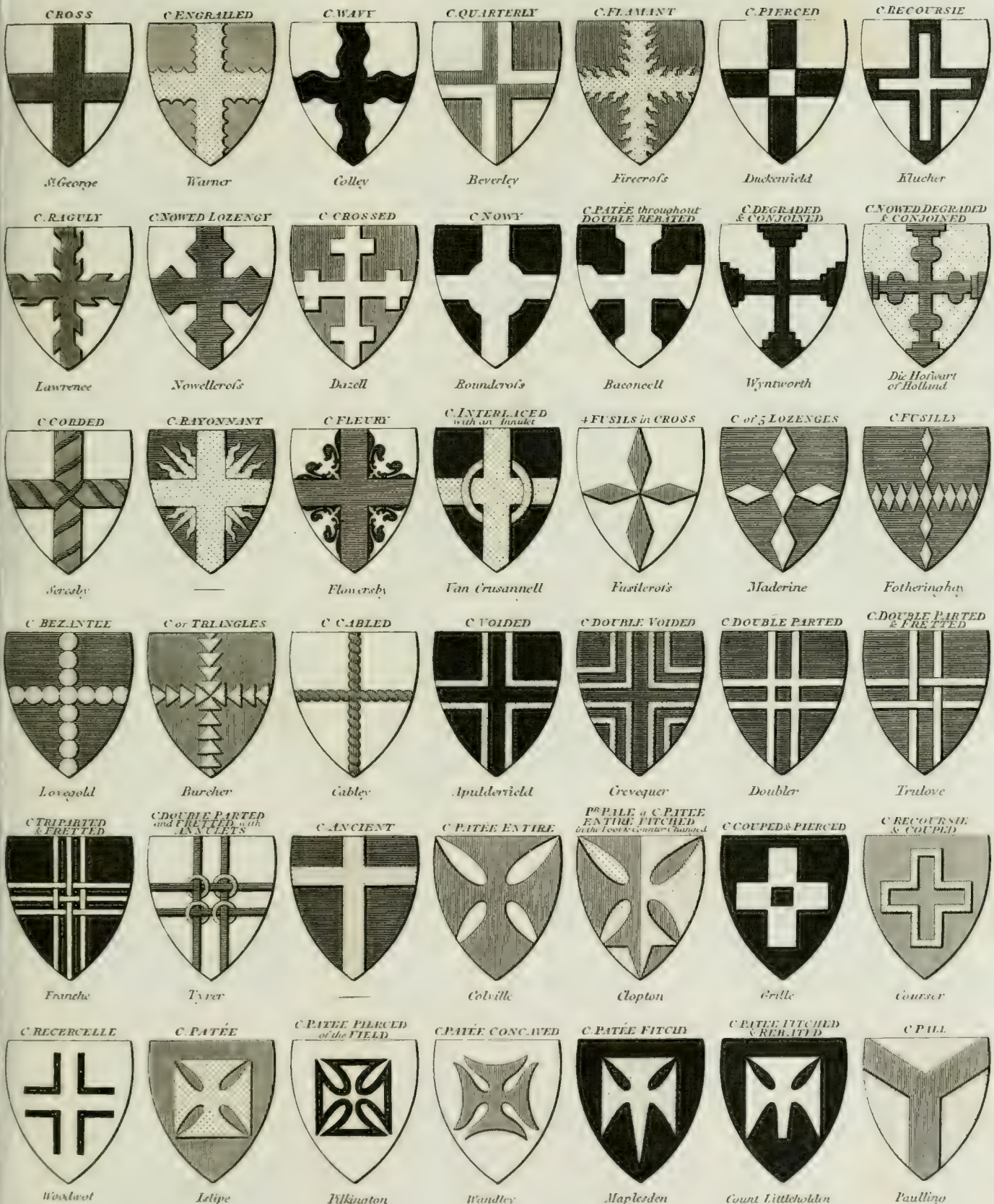

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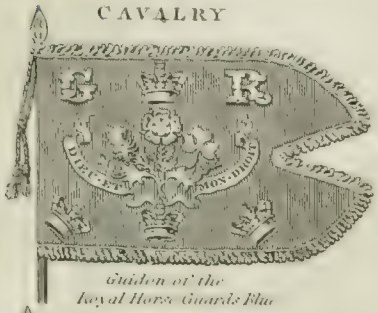
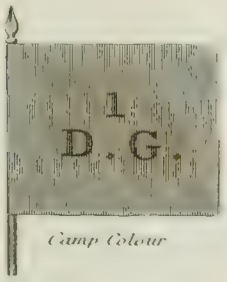
MILITARY AND NAVAL FLAGS, STANDARDS &c.

CAVALRY

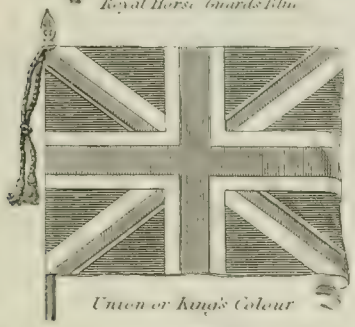
Standard of the Royal Horse Guards Blue



Guidon of the Royal Horse Guards Blue

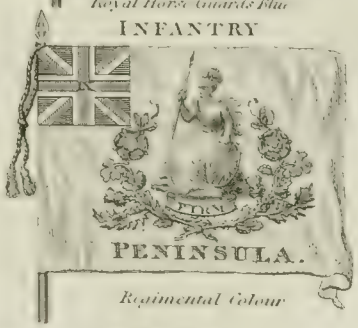


Camp Colour

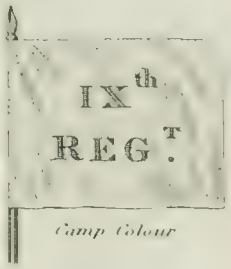


Union or King's Colour

INFANTRY

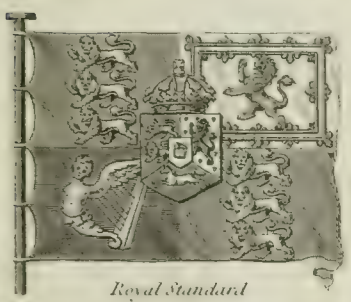


Regimental Colour

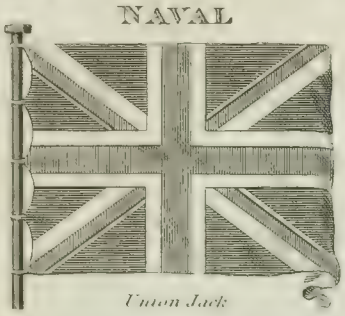


Camp Colour

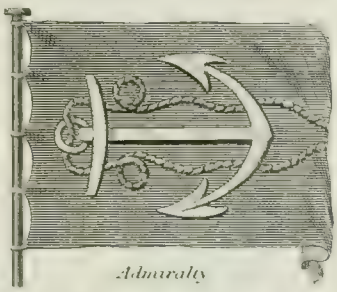
NAVAL



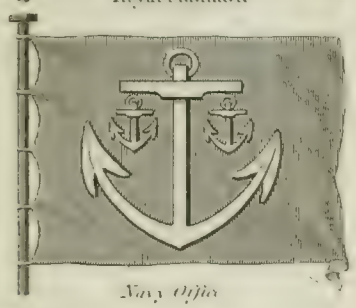
Royal Standard



Union Jack

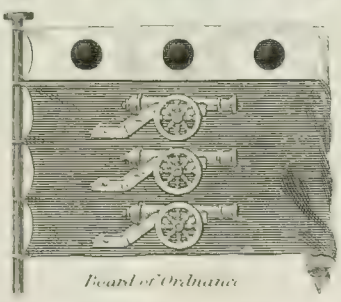


Admiralty

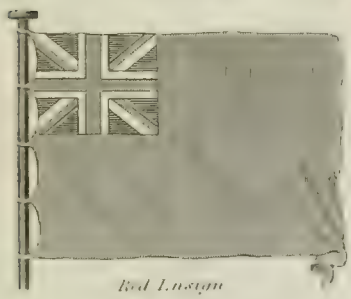


Navy Office

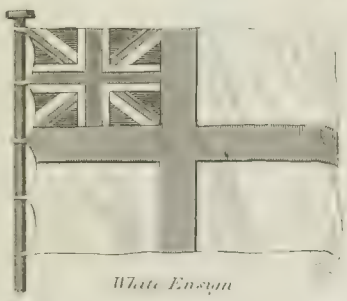
Victualling Office



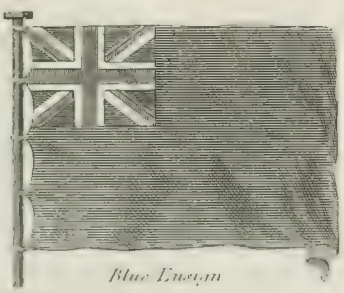
Board of Ordnance



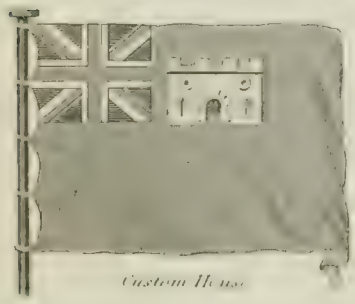
Red Ensign



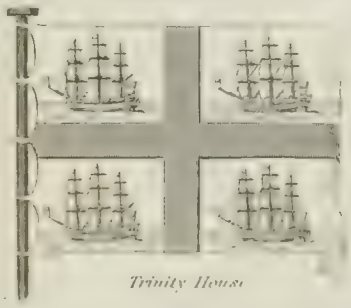
White Ensign



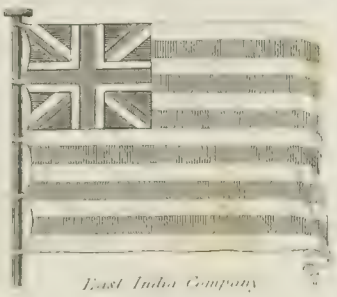
Blue Ensign



Custom House



Trinity House



East India Company

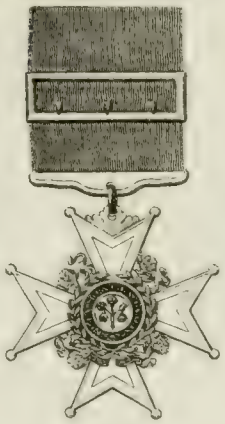
Published as the Act directs April 1.1819. by Longman, Hurst Rees Orme & Brown Paternoster Row.

HERALDRY.

ORDERS of KNIGHTHOOD.

Star Collar and Badge of the Order of the GARTER

Badge of a Companion of the Order of the BATH

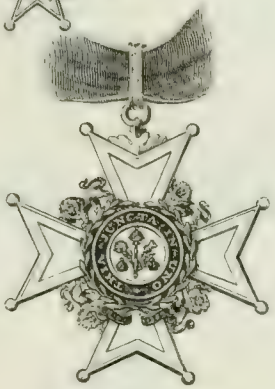


Star Collar and Badge of a Military Knight Grand Cross of the Order of the BATH

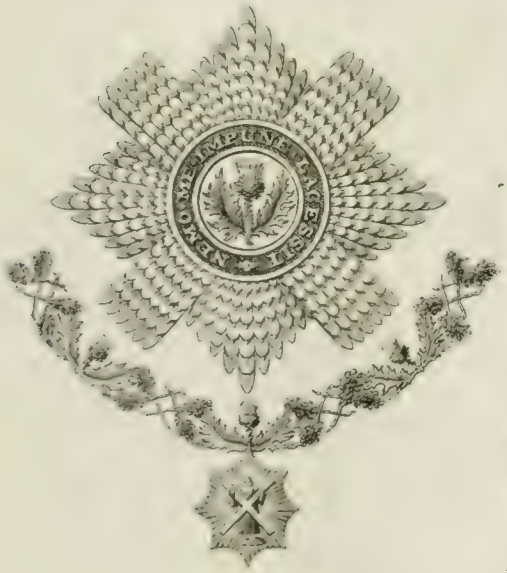
Star Collar and Badge of a Military Knight Grand Cross of the Royal Hanoverian Guelphic Order

Badge of a Military Commander of the Royal Hanoverian Guelphic Order

Badge of a Knight Commander of the Order of the BATH.



Star Collar and Badge of the Order of the THISTLE.



Badge of a Military Knight of the Royal Hanoverian Guelphic Order.

Star Collar and Badge of the Order of St. PATRICK

Milton sculp.

Published as the Act directs August 1.1820 by Longman, Hurst, Rees, Orme & Brown Paternoster Row

HERALDRY.

ORDERS OF KNIGHTHOOD.

Star Collar & Badge of a Civil Knight Grand Cross of the Order of the BATH.

Star Collar & Badge of a Civil Knight Grand Cross of the Royal Hanov.n GUELPHIC Order.

Star of a Civil Commander of the Royal Hanoverian GUELPHIC Order

Ribband & Badge of a Civil Commander of the Royal Hanov.n GUELPHIC Order

Reverse of the Ribband & Badge of the Royal Hanover.n GUELPHIC Order.

Badge of a Civil Knight of the Royal Hanov.n GUELPHIC Order

Star of a Knight Commander of the Order of the BATH.

Star of a Military Commander of the Royal Hanover.n GUELPHIC Order

Published as the Act directs Oct.r 1.st 1820 by Longman Hurst Rees Orme & Brown Paternoster Row

HERALDRY.

CROWNS, CORONETS AND MITRES

PLATE

Nephew of the King

Scotland

England

Hanover

Niece of the King

Younger Sons of the King

Prince of Wales.

Daughters of the King

Arch Bishop

Grand Daughters of the King

Prince Leopold of Saxe Coburg

Bishop

Duke

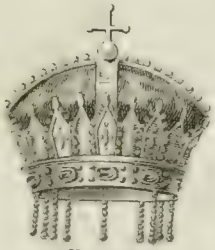
Marquess

Earl

Viscount

Baron

Count of Hanover



Hungary

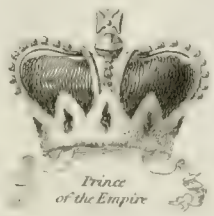
Austria

Bohemia

Baron of Hanover

Russia

Count of the Empire



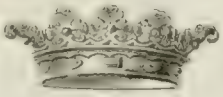
Prince of the Empire

Baron of Austria

France

Dauphin of France

French Prince of the Blood



Duke of France

Marquis of France

Charlemagne

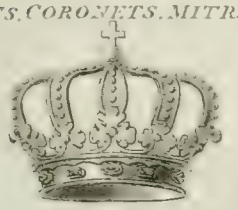
Published as the Act directs Aug^st 1 1819, by Longman, Hurst, Rees, Orme & Brown, Paternoster Row

Holmes sculp

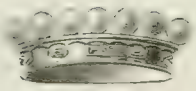
CROWNS, CORONETS, MITRES, &c.


Comte of France


Prussia


Spain


Sweden


Vicomte of France


Duke of Spain


Sicily


Portugal


Netherlands


Denmark


Wurttemburg


Bavaria


Grand Signior


Papal Tiara


Persia


Saxony


Sardinia


Hayti


Cardinal's Hat


Grand Duke of Hesse


Poland


Grand Duke of Saxe Wiemar

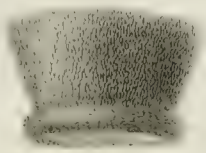

Landgrave of Hesse


Imperial Crown worn by Napoleon Buonaparte


Italy

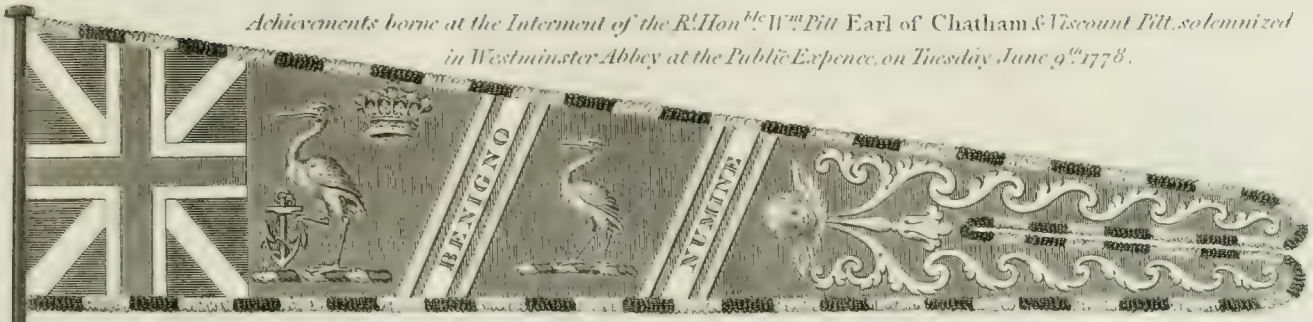

Doge of Venice


Grand Duke of Tuscany


Lord Mayor of London

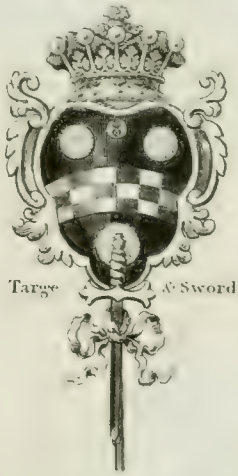
Published as the Act directs Jan.ʸ 1820 by Longman Hurst Rees. Orme & Brown Paternoster Row

Achievements borne at the Interment of the Rt Hon^ble Wm Pitt Earl of Chatham *& Viscount Pitt, solemnized in Westminster Abbey at the Public Expence, on Tuesday June 9th 1778.*



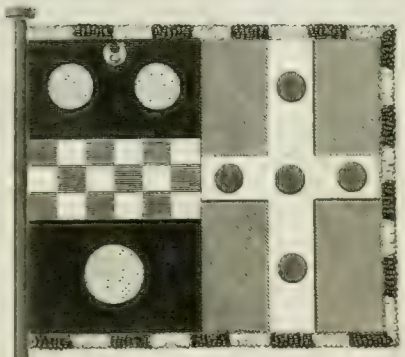
The Standard

The Banner of the
Barony of Chatham

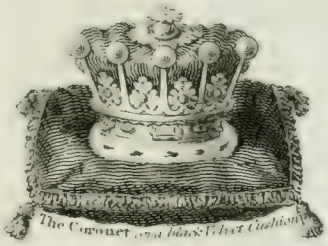


Targe & Sword

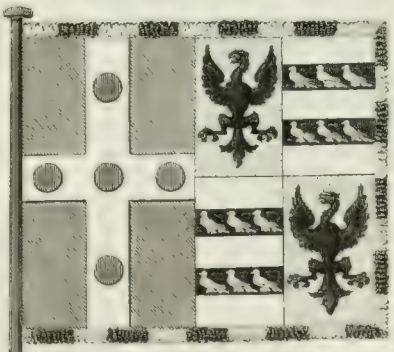
The Great Banner.



Banner of the Arms of
Pitt and Grenville



The Coronet *and Black Velvet Cushion*



Banner of the Arms of
Grenville and Temple

Helmet & Crest

Banner of the Crest
of Pitt with Emblems.

Surcoat

Banner of the Arms
of Pitt with Emblems

Published As the Act directs 1st Jan^y 1784 by Longman Hurst Rees Orme & Brown Paternoster Row

HERALDRY.

Funeral *Achievements*

Bachelor

Lamb

Peer

Earl of Waldegrave KG
Wife surviving

Spinster

Egerton

Husband

Beaumont & Evelyn
Wife surviving

Arch Bishop

Lord Rokeby
ARCH BISHOP of ARMAGH

Wife

Beaumont & Evelyn
Husband surviving

Husband & Wife

James & Anchor
both dead

Bishop

Harley
BISHOP of HEREFORD
& Vaughan his Wife surviving

Widow

Raper & Porter

Published as the Act directs Dec 1 1808 by Longman Hurst Rees Orme & Brown Paternoster Row.

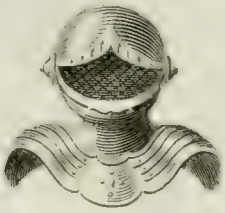
Milton sculp

HERALDRY.

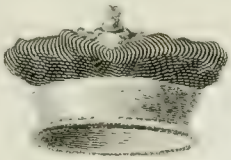
Heraldic Crowns Coronets and Helmets.

Nobility

King of Arms



Baronet & Knight



Ancient Barons Cap
worn previous to 1611.

Esquire

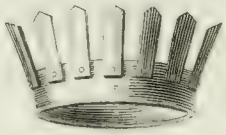
Helmet Creft *and* Mantlings *or* Lambrequin
of the
BRITISH SOVEREIGN.

Ducal

Mural

Naval

Vallarie



Palifado
or Castrensial.

Civic

Lattern

Chapeau
or Cap of Maintenance.

Celestial

Chaplet
or Garland

Wreath

Laureate

Obsidional

Olive

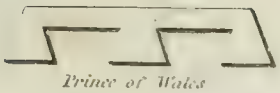
Trigonal

Published as the Act directs March 1803, by Longman & Rees Paternoster Row.

HERALDRY.

ROYAL DISTINCTIONS

PLATE XVI


Prince of Wales


Duke of York


Duke of Clarence

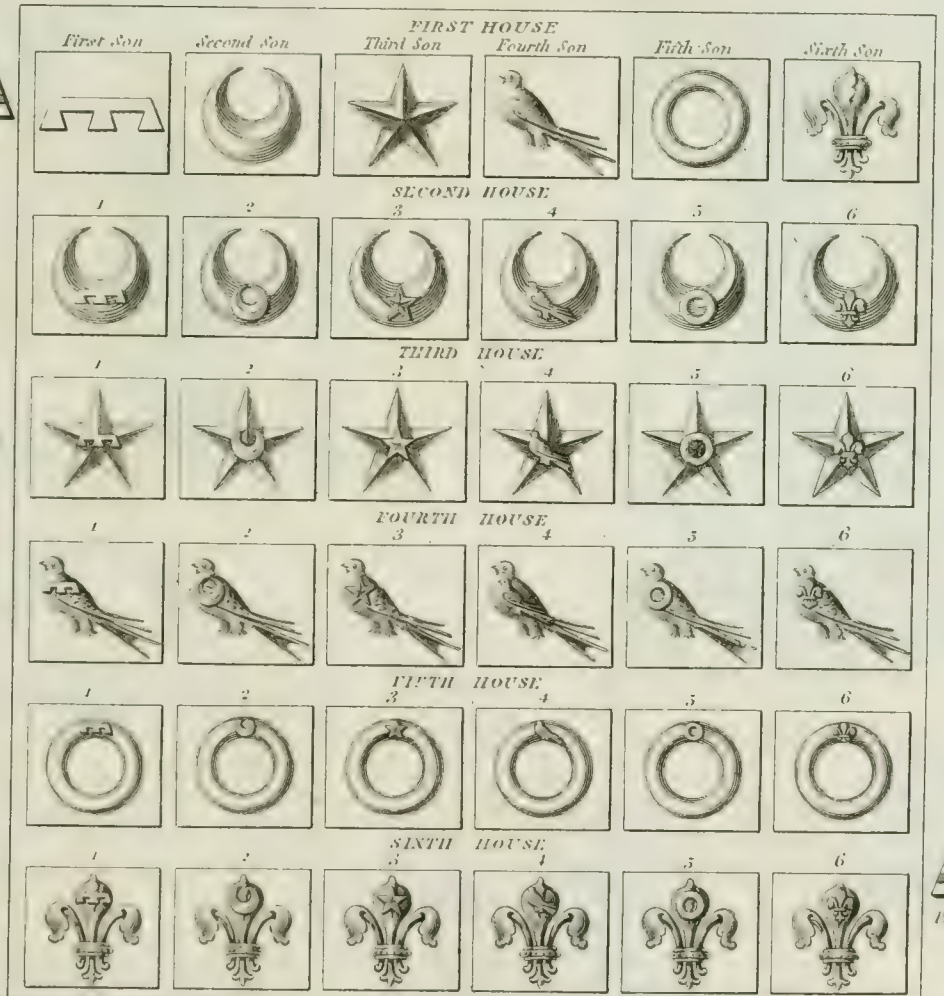

Duke of Kent

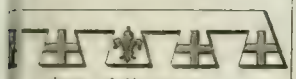

Duke of Cumberland


Duke of Sussex


Duke of Cambridge

DISTINCTIONS OF HOUSES




Duke of Gloucester


Princess Mary


Princess Royal
Charlotte Augusta Matilda


Princess Sophia

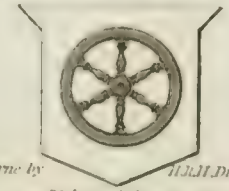

Princess Augusta Sophia


Princess Amelia


Princess Elizabeth


Princess Sophia Matilda of


Badge of Baronets
of England & Ireland.


Badge borne by H.R.H. Duke of York
as Bishop of Osnaburgh.


Badge of Baronets
of Nova Scotia.

Published as the Act directs June 1st 1809, by Longman Hurst Rees & Orme Paternoster Row.

ANCIENT CLEPSYDRÆ.

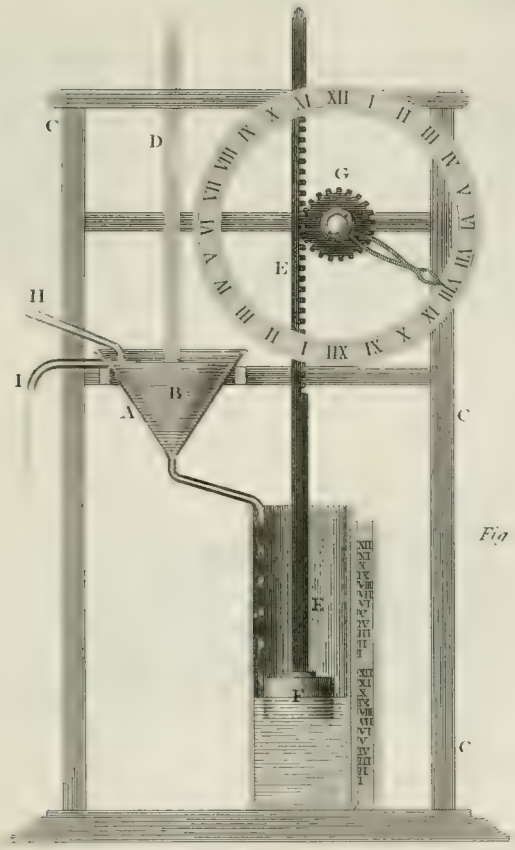


Fig 1.

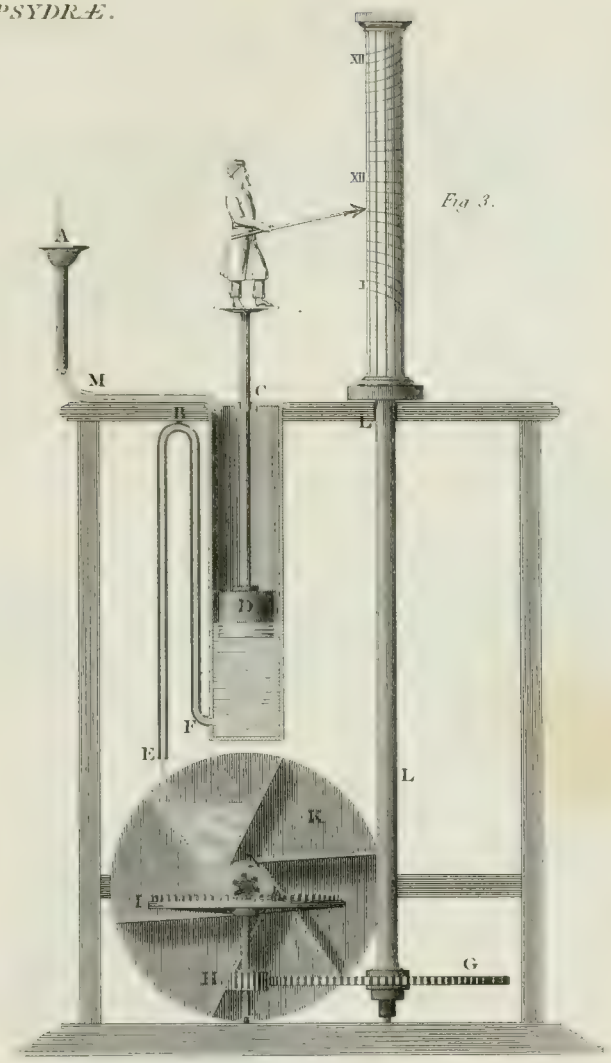


Fig 3.

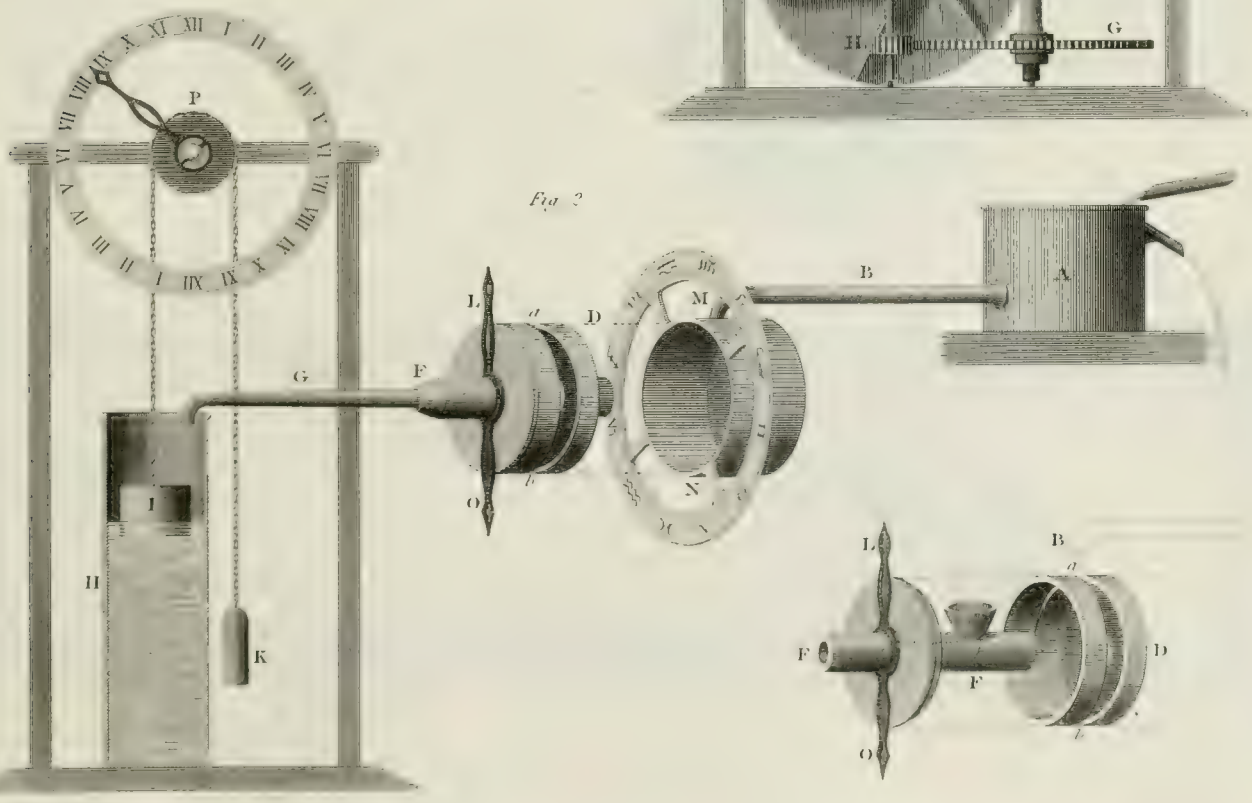


Fig 2

Pubblicata da Vito Lecchi Via Broletto Milano

HOROLOGY.

MODERN CLEPSYDRÆ.

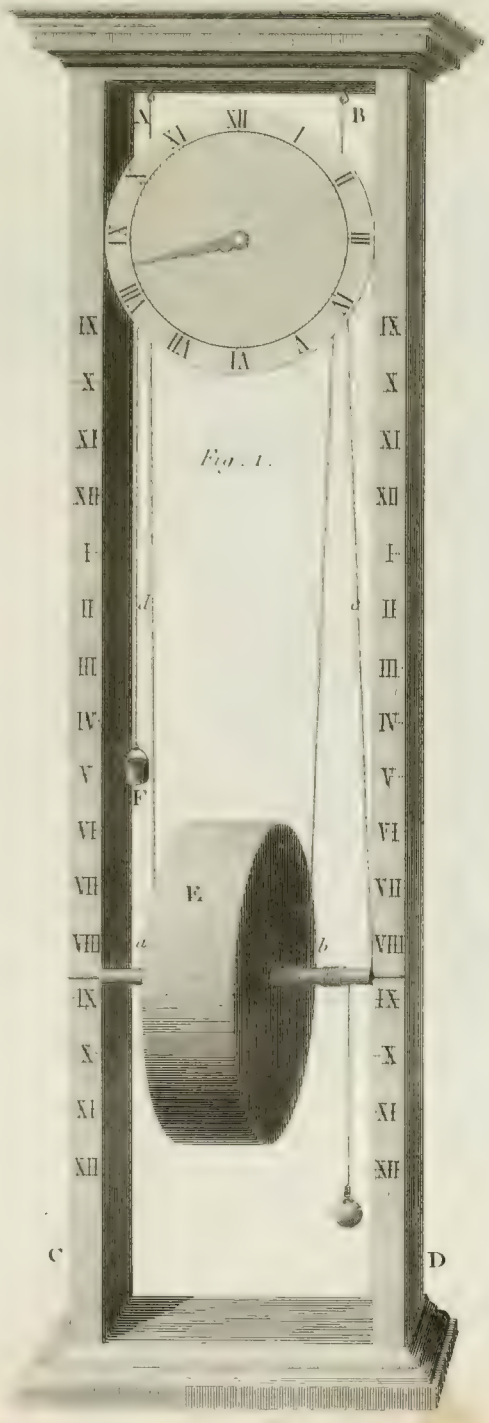


Fig. 1.

Fig. 4

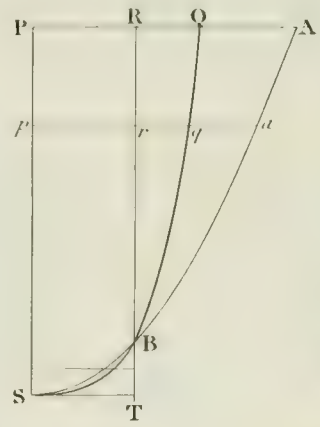


Fig. 5

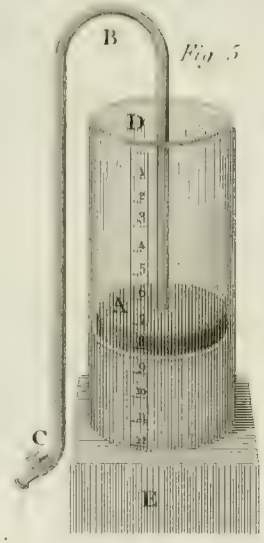


Fig. 2.

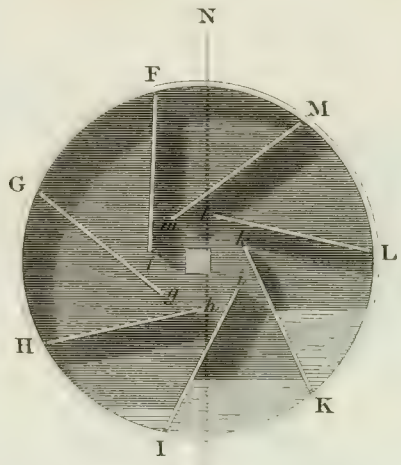
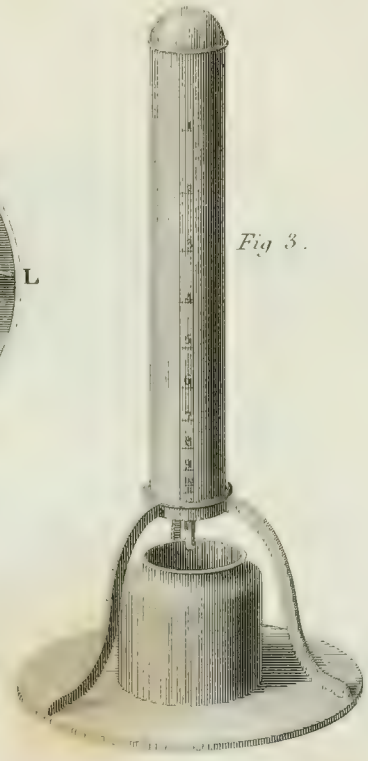


Fig 3.



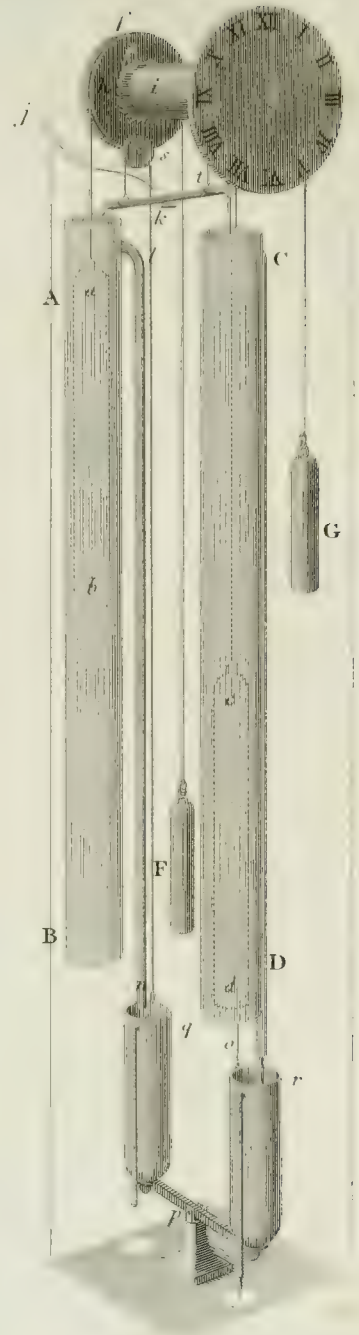


Fig. 6.

Published as the Act directs, March 1, 1806, by Longman, Hurst, Rees & Orme, Paternoster Row.

Engraved by Wilson Lowry.

HOROLOGY.

CLOCK-MOVEMENT.

Fig. 7

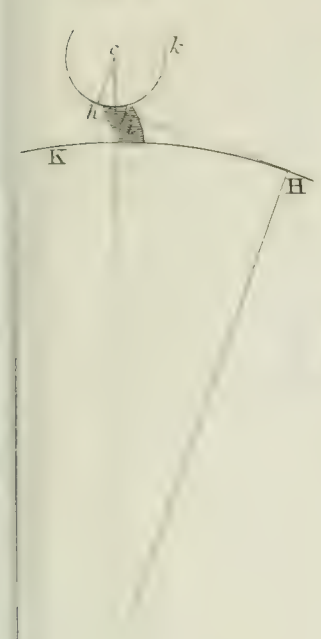


Fig. 1

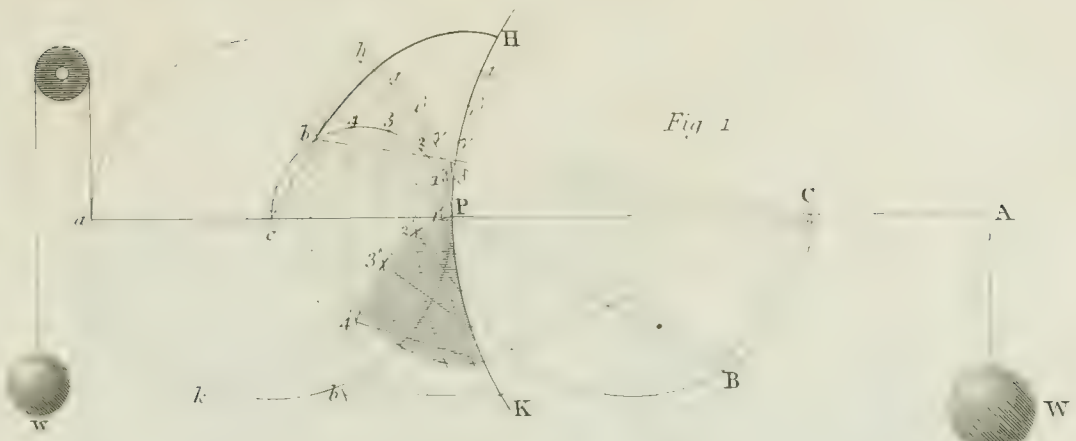


Fig. 2

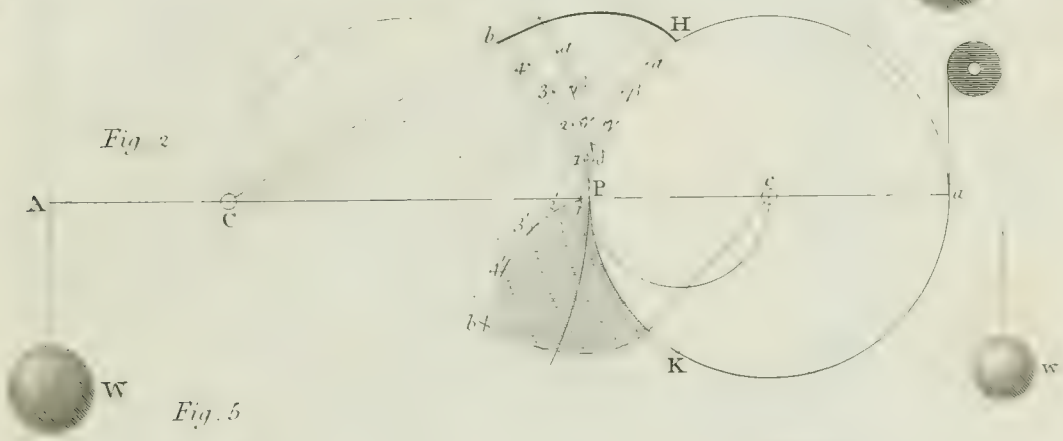


Fig. 5

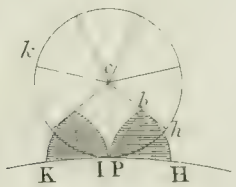


Fig. 4.

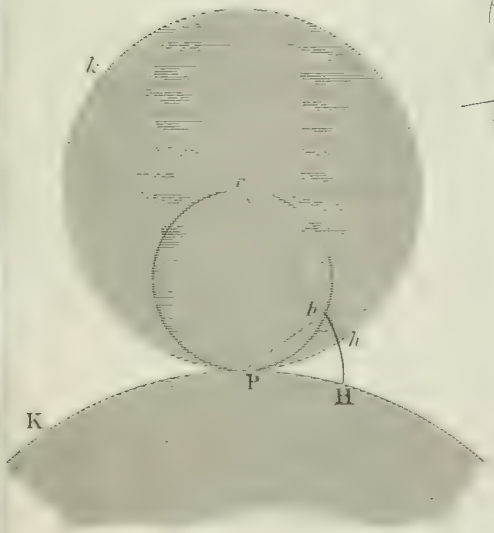


Fig. 3

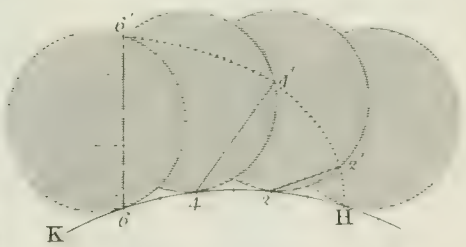
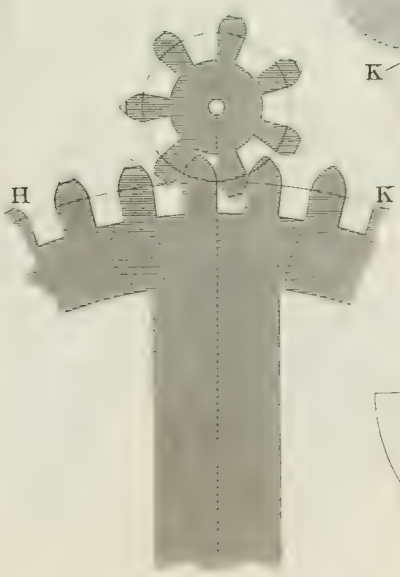
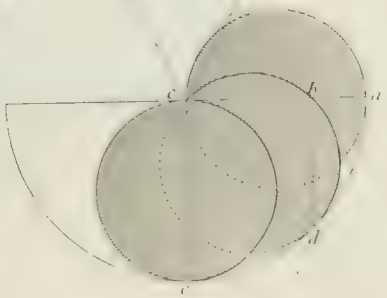


Fig. 6.



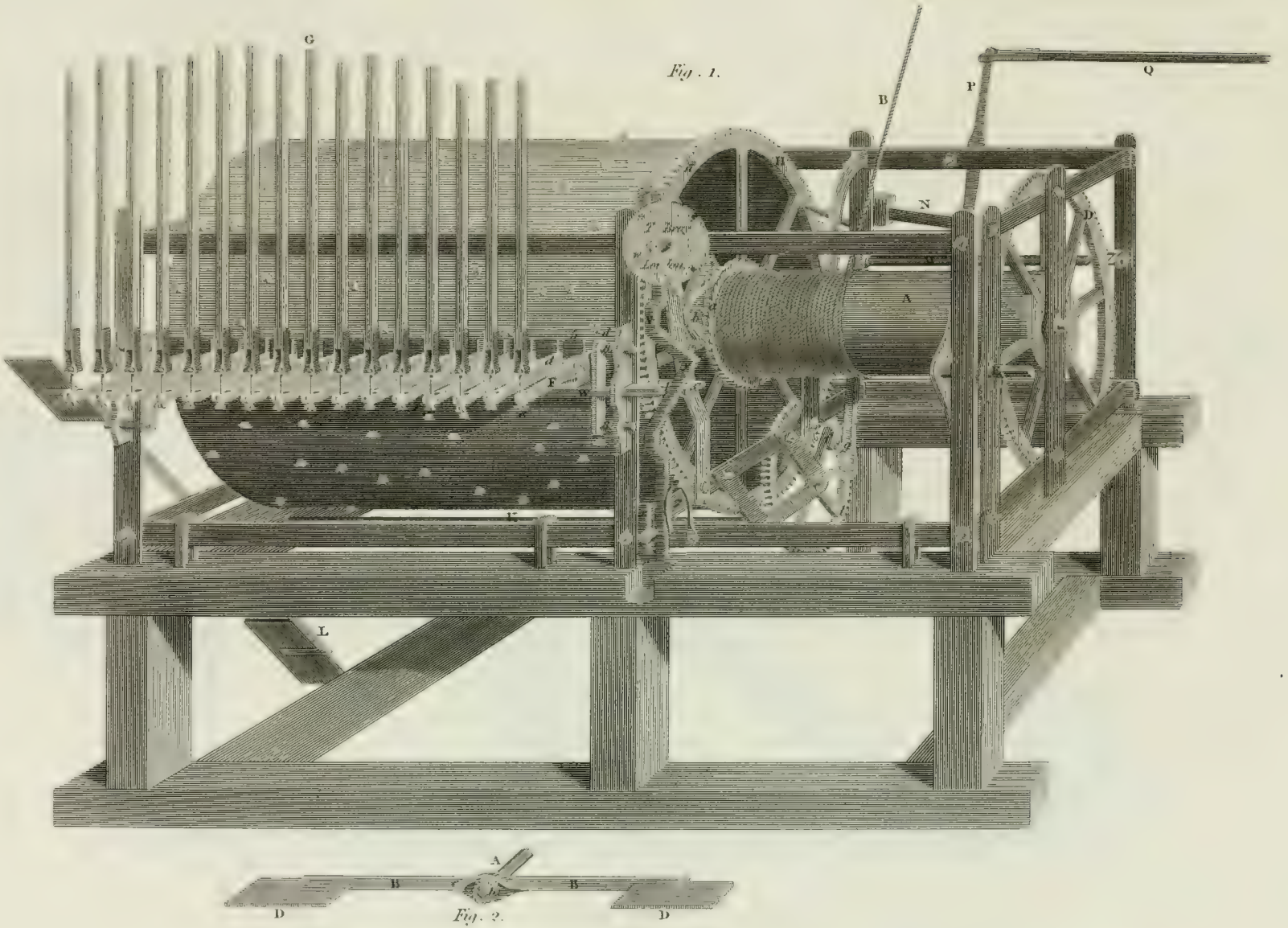


Published as the Act directs, June 2d 1806, by Longman, Hurst, Rees & Orme, Paternoster Row.

Engraved by Wilson Lowry.

Chime Work in the Clock Room

of St. Margaret's Church, Weſtminſter.



J. Farey Junr. delin.

Published as the Act directs, 1808, by Longman, Hurst, Rees & Orme, Paternoster Row.

Engraved by Wilson Lowry.

Chime Work in the Clock Room
of St. Margarets Church, Westminster.

Fig. 3.

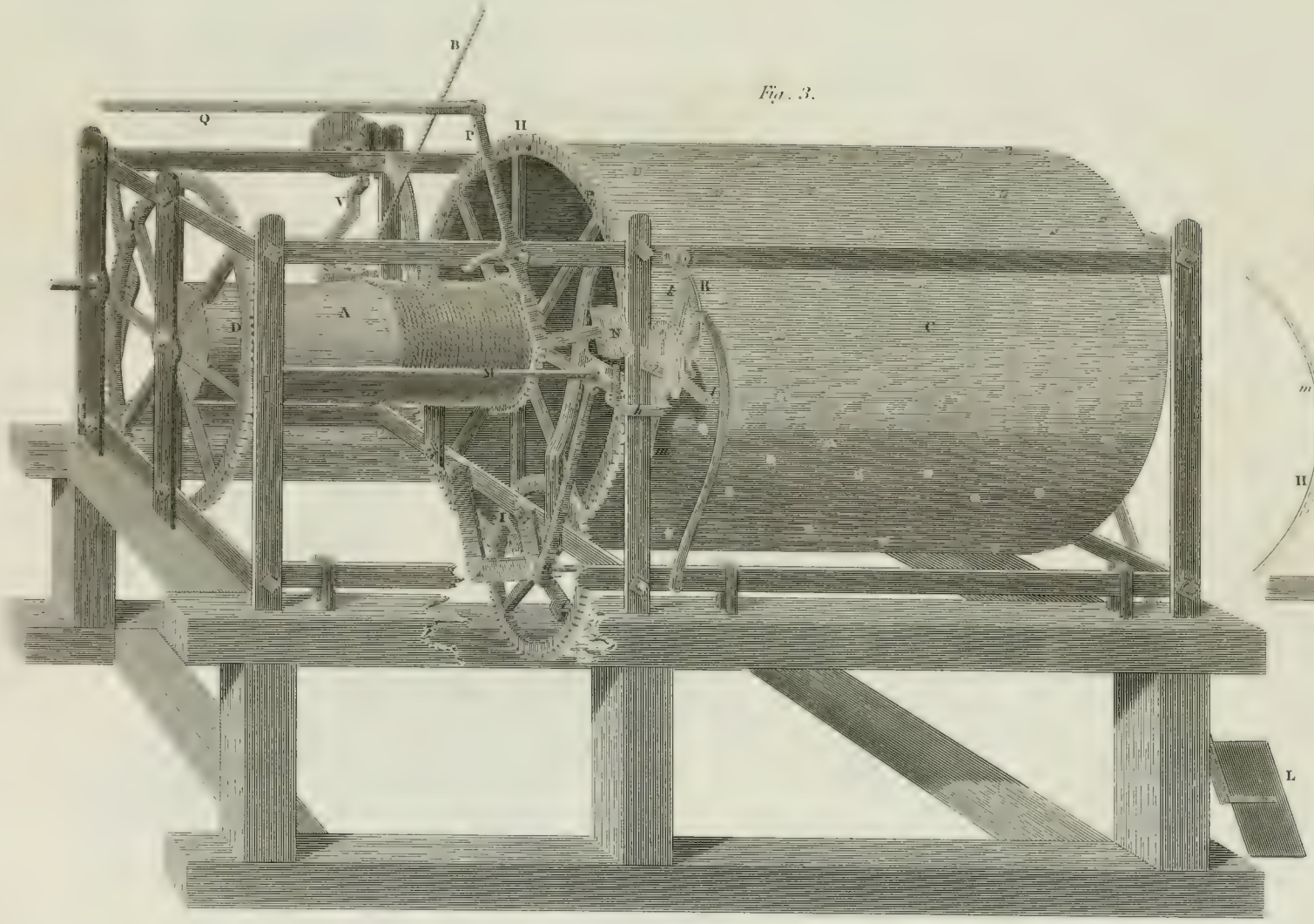
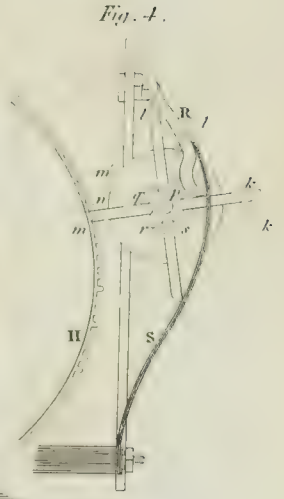


Fig. 4.



J. Farey Junr. delin.

Published as the Act directs, 1808, by Longman, Hurst, Rees & Orme, Paternoster Row.

Engraved by Wilson Lowry.

HOROLOGY.

CHIMES.

Pleyel's German Hymn.

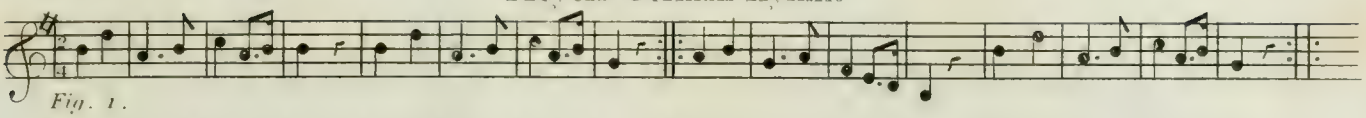


Fig. 1.

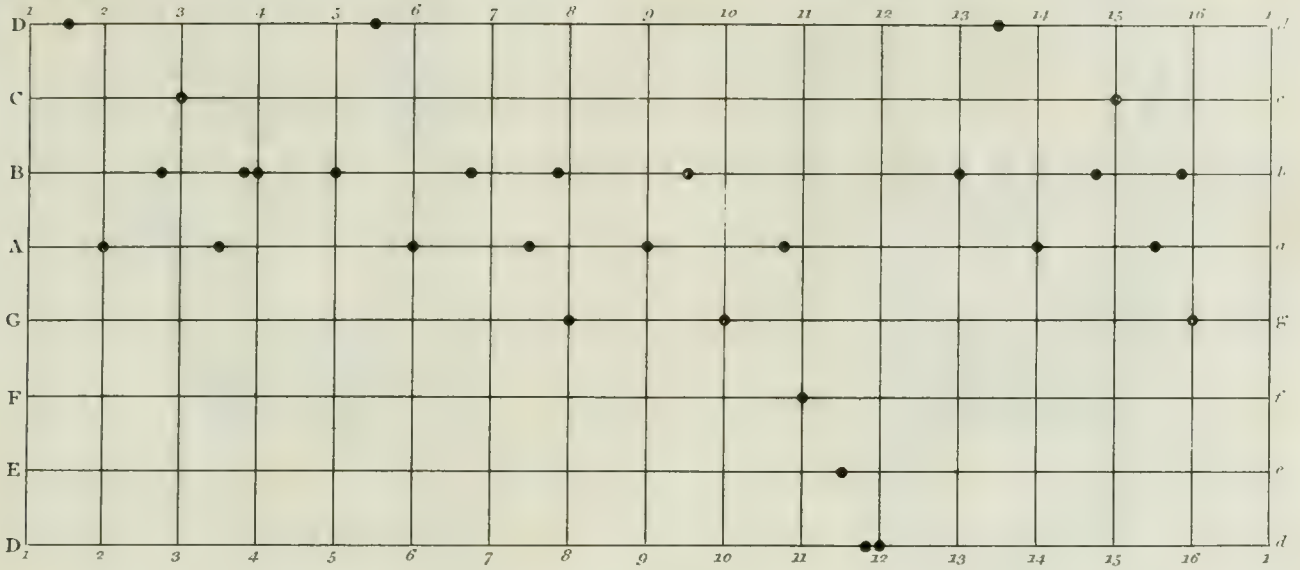


Fig. 4.

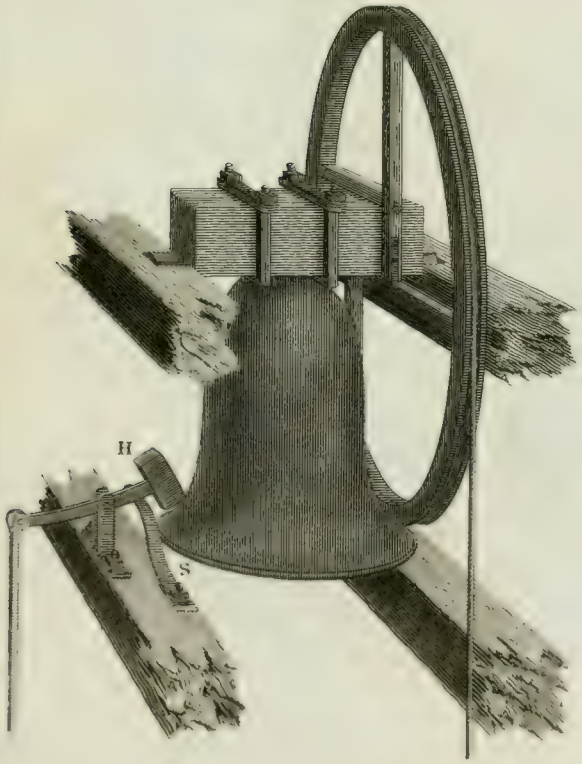


Fig. 3.

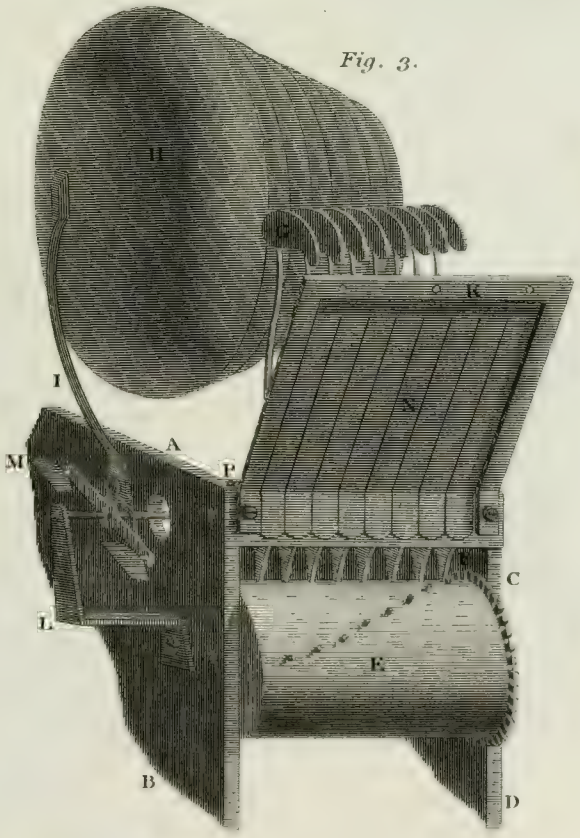
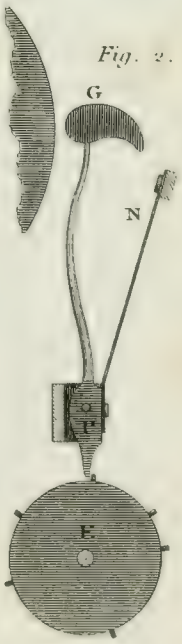


Fig. 2.



Published as the Act directs, April 1, 1807; by Longman, Hurst, Rees & Orme, Paternoster Row.

Engraved by Wilson Lowry

ANCIENT CLOCK BY HENRY DE WICK, IN 1370.

Fig. 1.

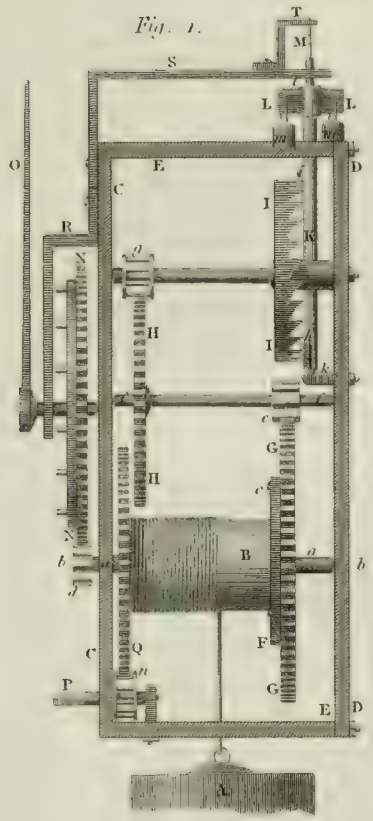


Fig. 3.

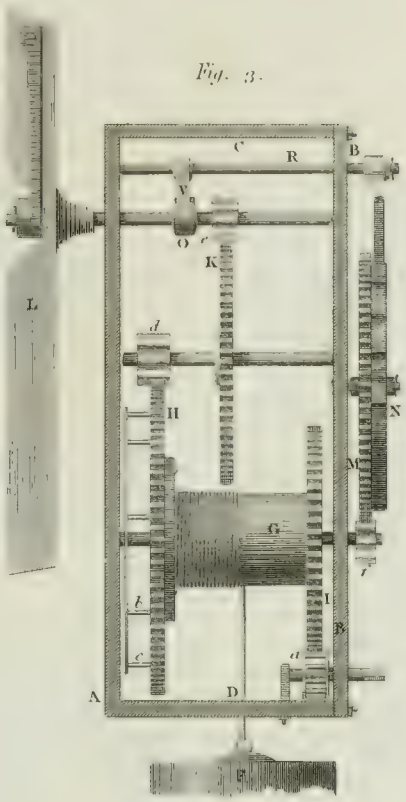


Fig. 2.

Fig. 4.

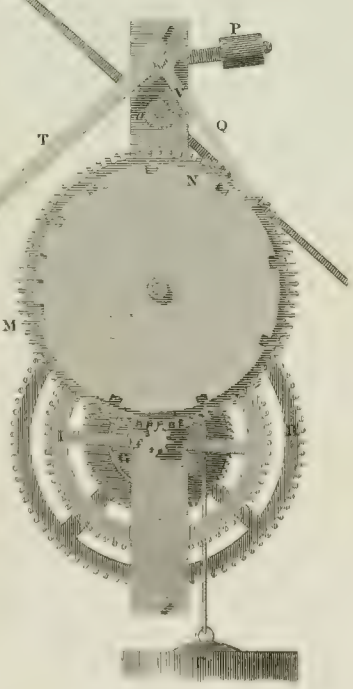
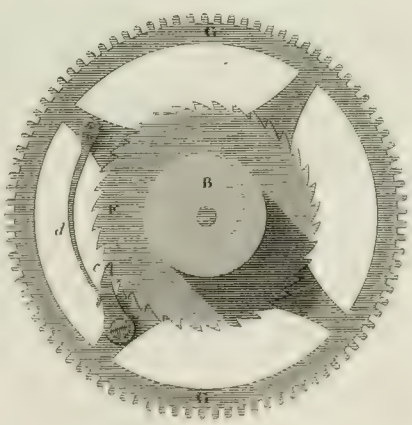


Fig. 5.



Published as the Act directs, 1808, by Longman, Hurst, Rees & Orme, Paternoster Row.

Engraved by Wilson Lowry.

A Thirty hours Clock with Alarum and Count Wheel Striking Work.

Fig.1.

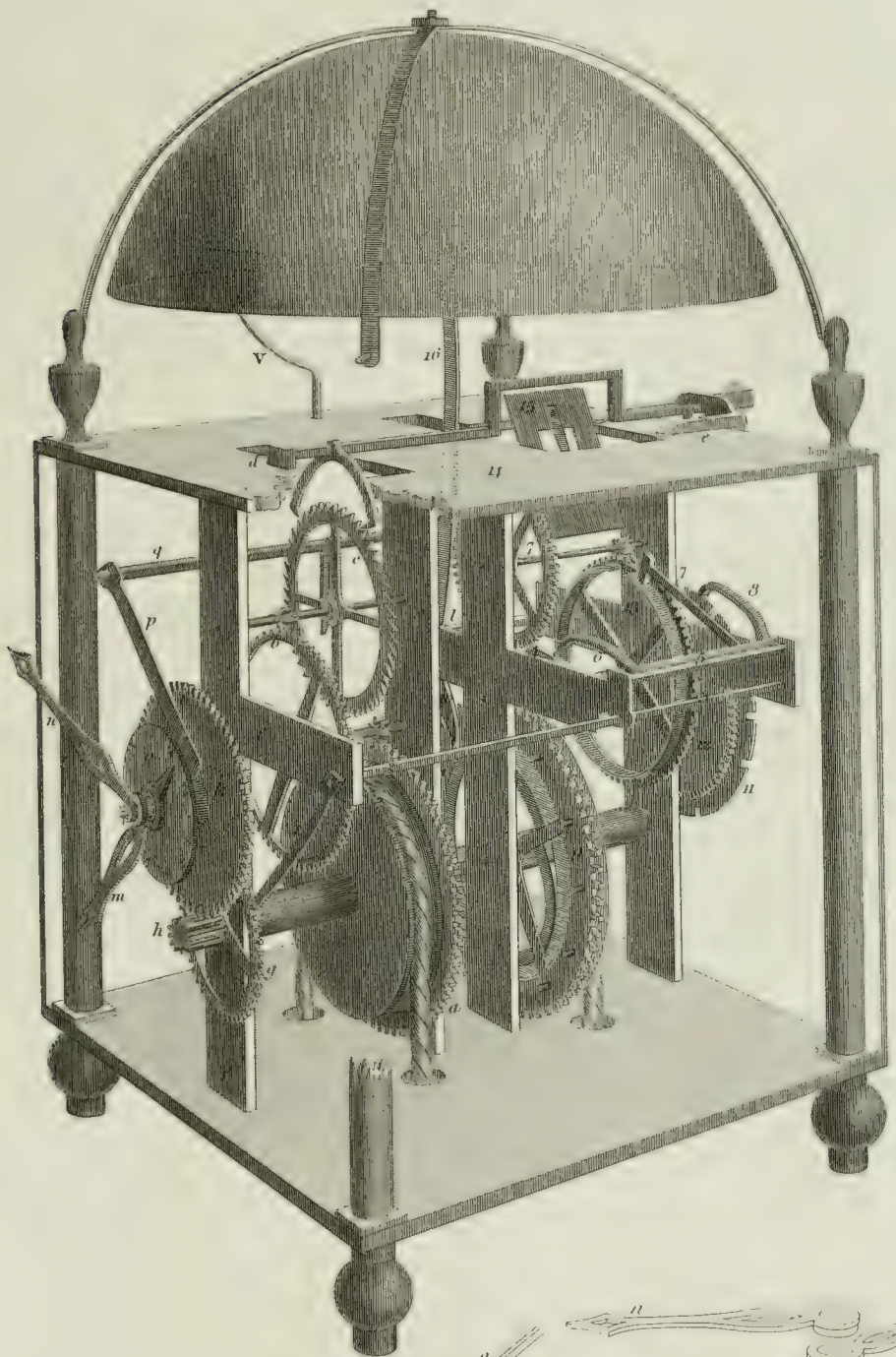


Fig.3.

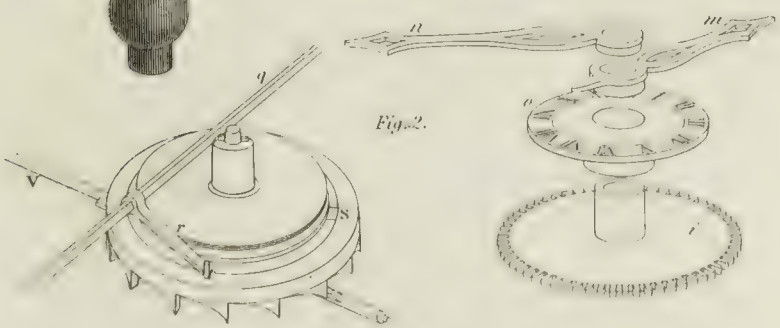


Fig.2.

I. Farey Jun. del.

Published as the Act directs, 1816, by Longman, Hurst, Rees, Orme, & Brown, Paternoster Row, London.

CALLIPERING.

(ART. CLOCK)

Fig. 1.

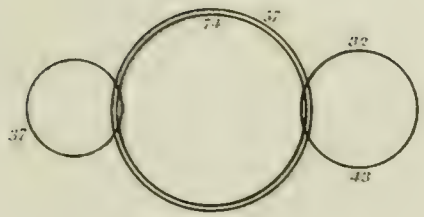


Fig. 2.

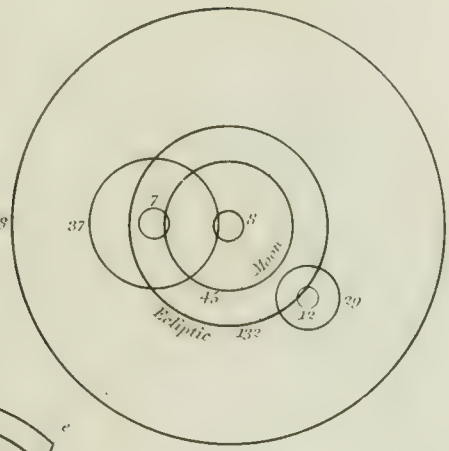
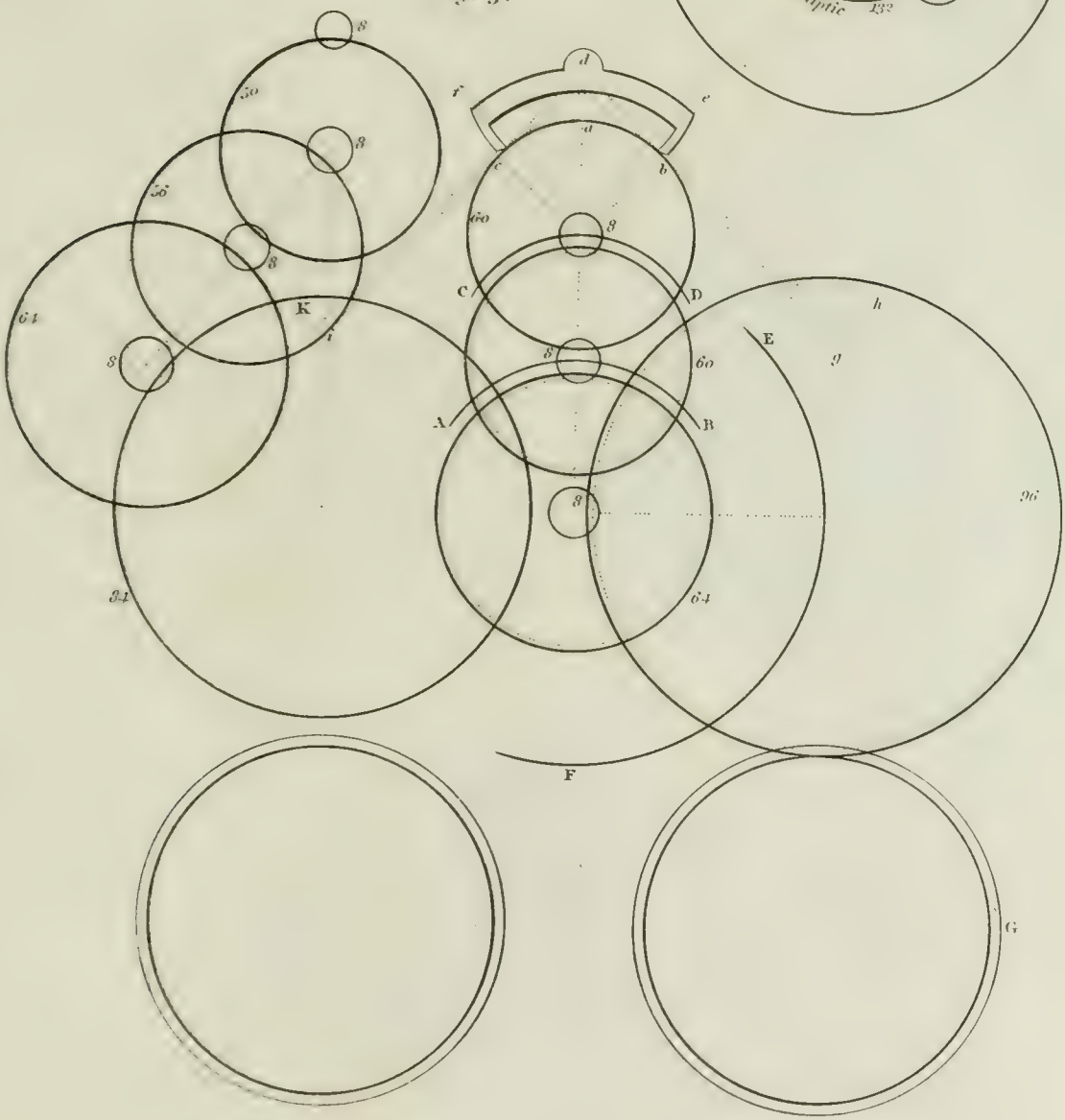


Fig. 3.



Published as the Act directs, 1808, by Longman, Hurst, Rees & Orme, Paternoster Row.

Engraved by Wilson Lowry.

Portable eight days Clock.

Fig 3.

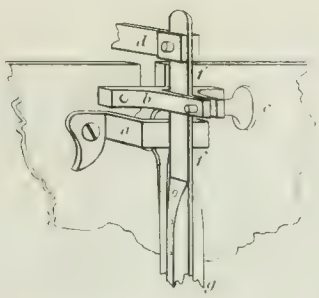
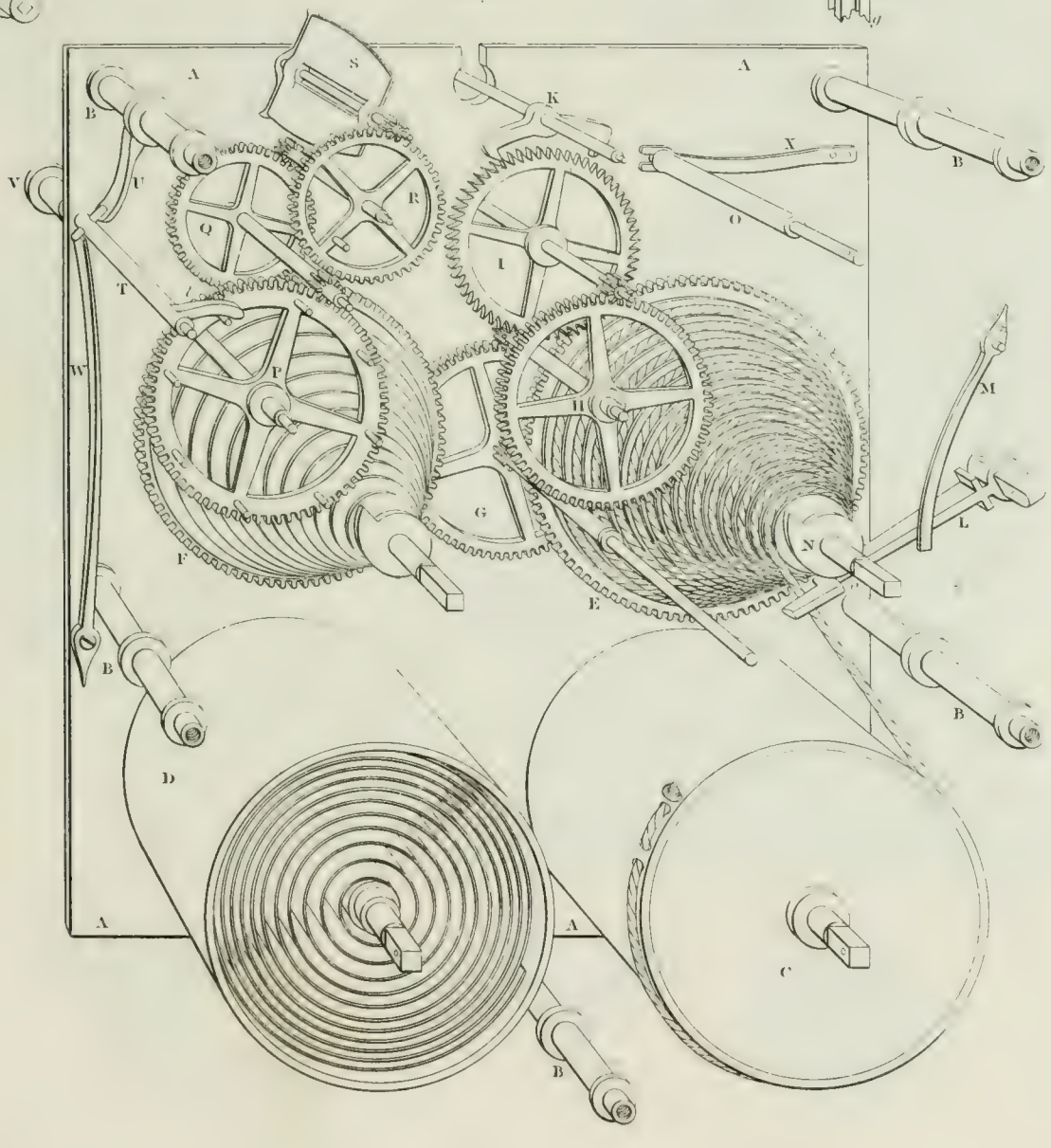


Fig 2.

Fig 1



J. Farey Junr. delin. Published as the Act directs, 1812, by Longman, Hurst, Rees, Orme & Brown, Paternoster Row. Engraved by W. Lowry.

HOROLOGY.

DIAL WORK AND STRIKING PART OF AN EIGHT DAYS CLOCK.

Fig. 1.

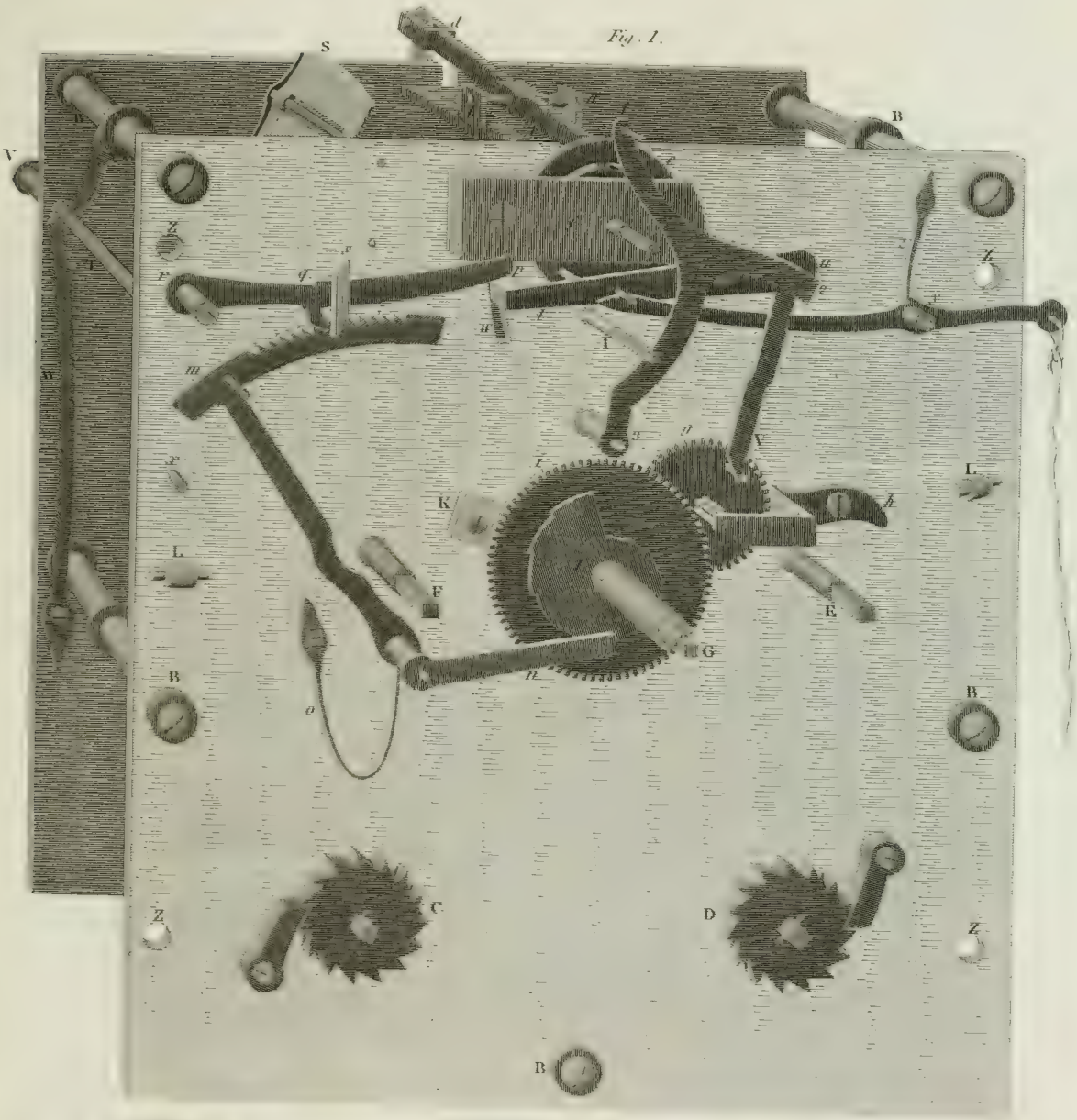
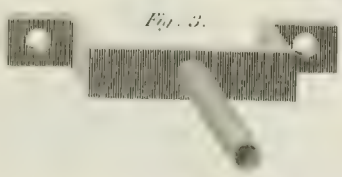


Fig. 2.

Fig. 3.



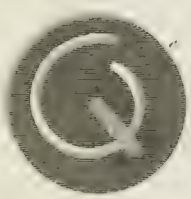


Fig. 4.

Drawn by J. Farey Junr.

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Engraved by Wilson Lowry.

Mr. Mudge's, TIME KEEPER.

Fig 3.

Fig 2.

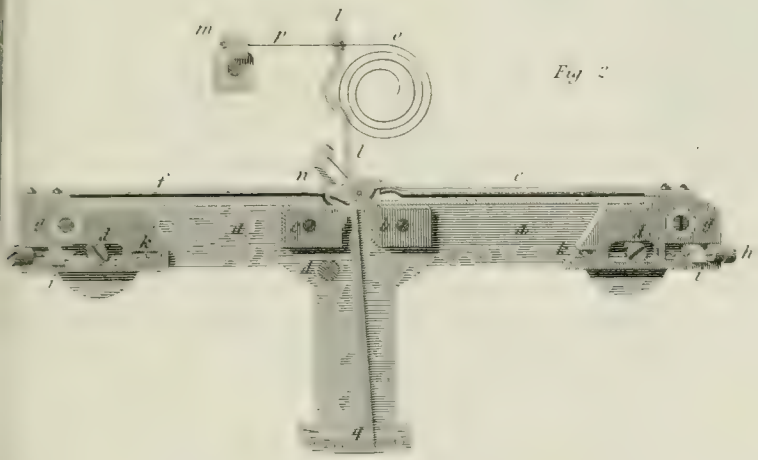


Fig 1.

Fig 5.

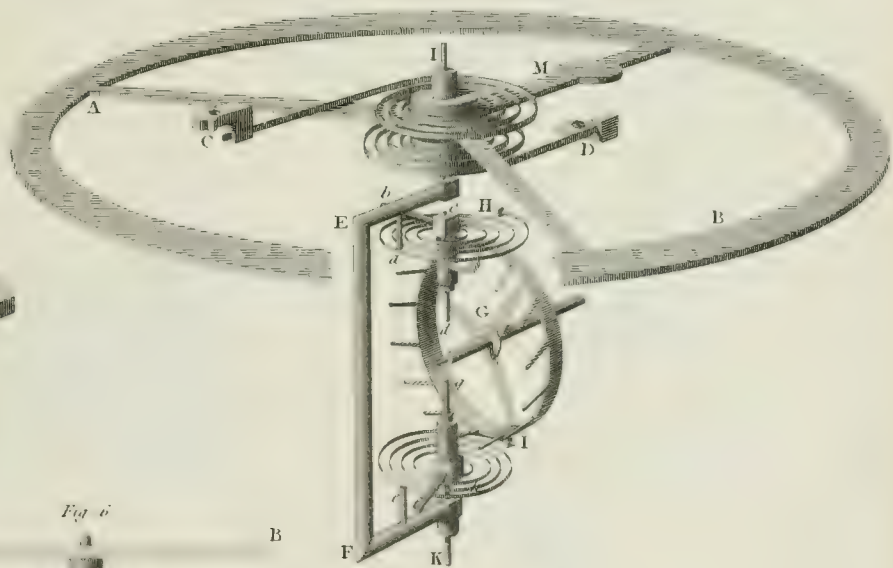


Fig 4.

Fig 7.

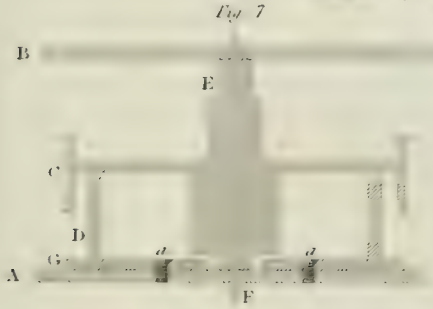
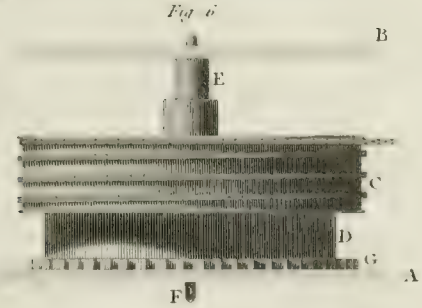
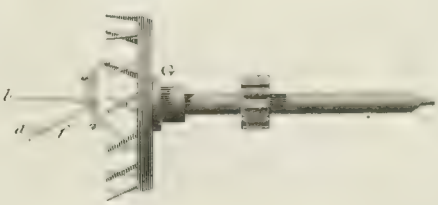


Fig 6.





Published as the Act directs, 1812, by Longman, Hurst, Rees, Orme & Brown, Paternoster Row.

ARNOLD'S AND EARNSHAW'S CHRONOMETERS.

Fig. 1.

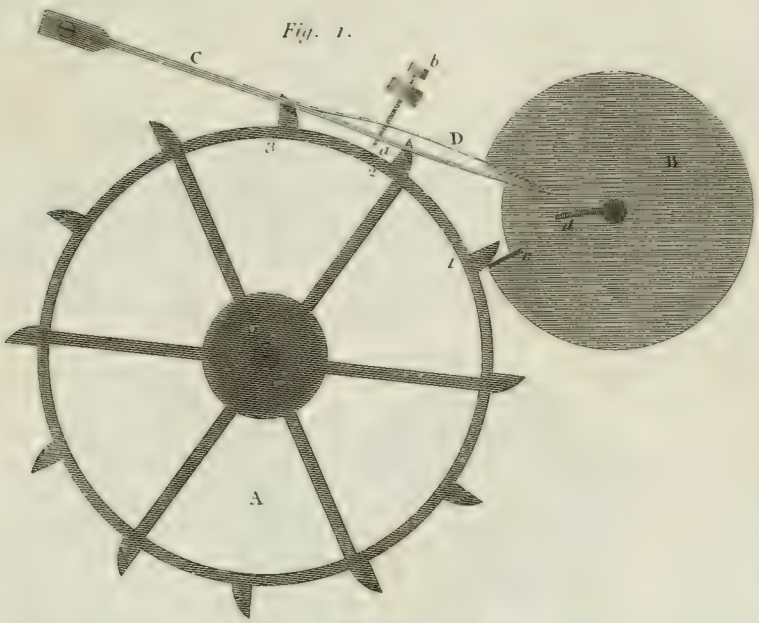


Fig. 2.

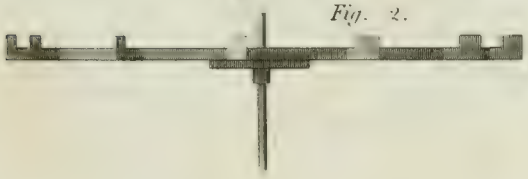


Fig. 3.

Fig. 4

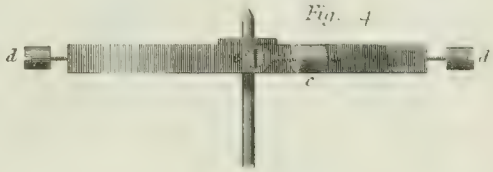


Fig. 5.

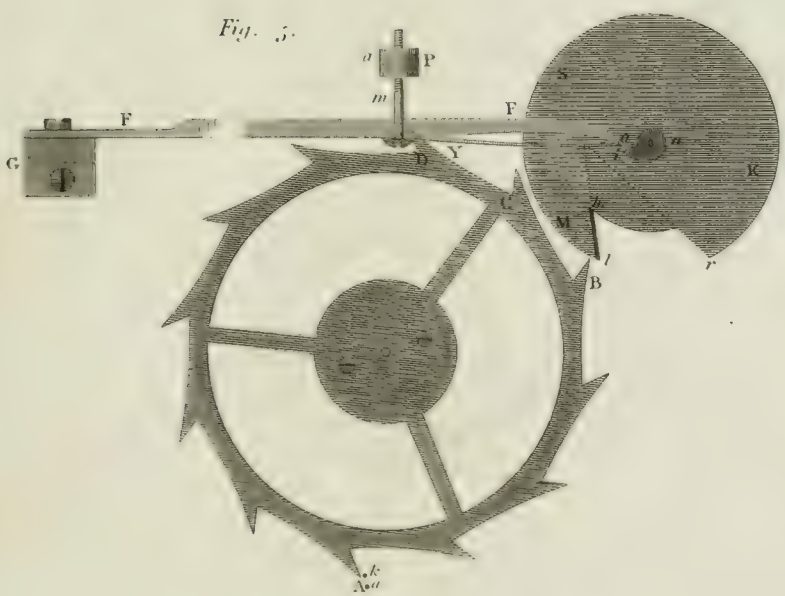
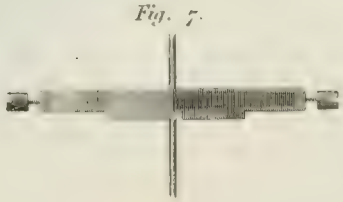


Fig. 6.

Fig. 7.



J. Farey Junr. delin.

Published as the Act directs, Decr. 1807, by Longman, Hurst, Rees & Orme, Paternoster Row

Engraved by Wilson Lon.

BROCKBANK'S CHRONOMETER.

Fig. 1.

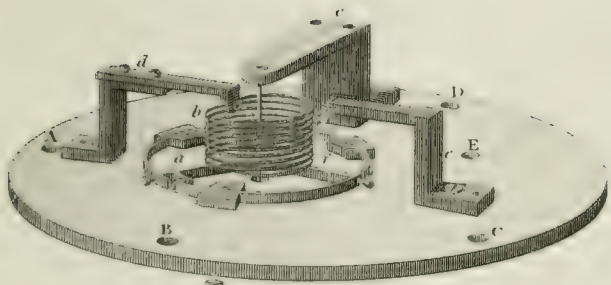


Fig. 3.

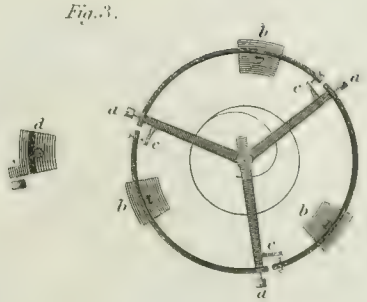


Fig. 2.

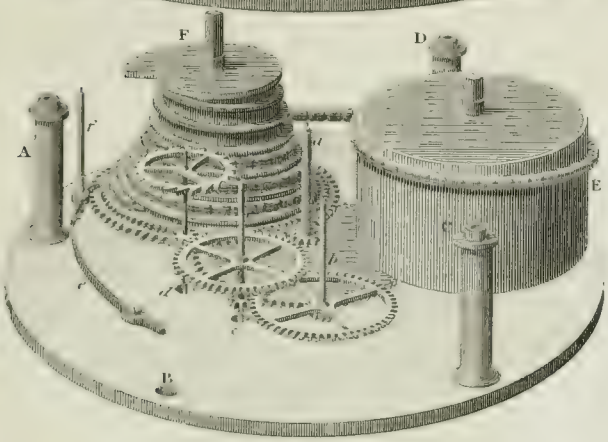


Fig. 4.

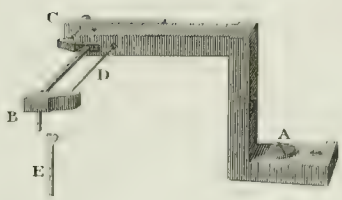


Fig. 7.

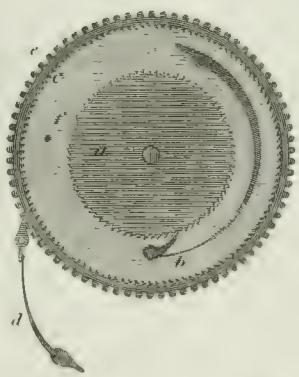
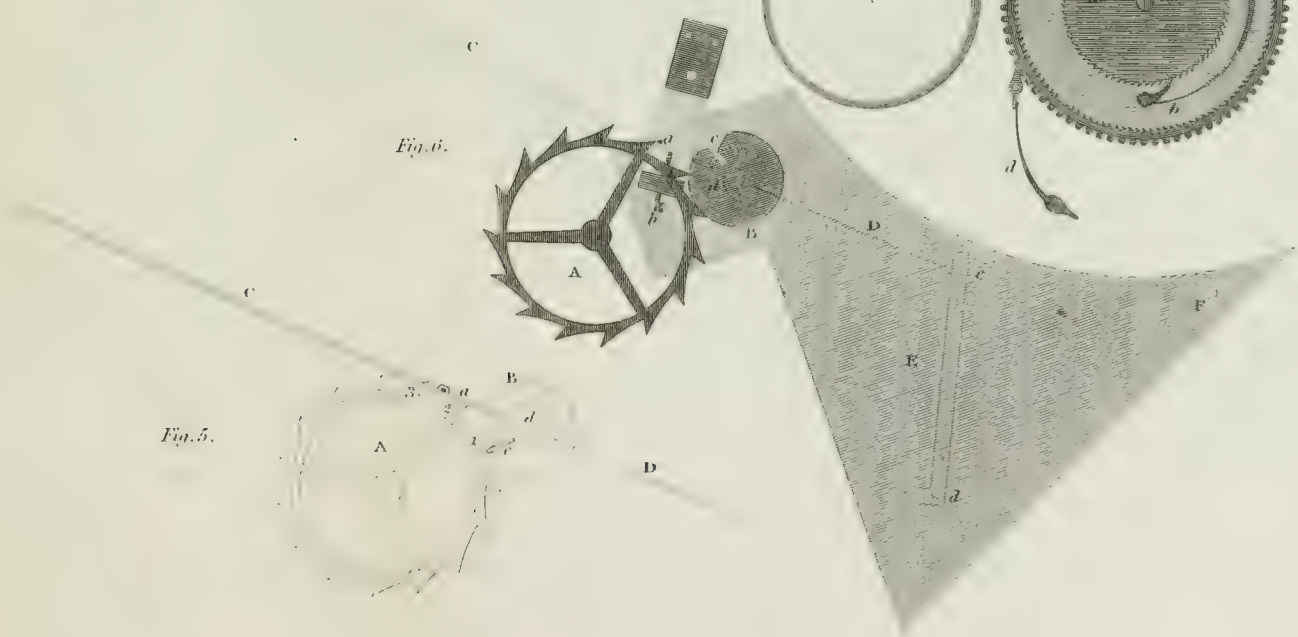


Fig. 8.

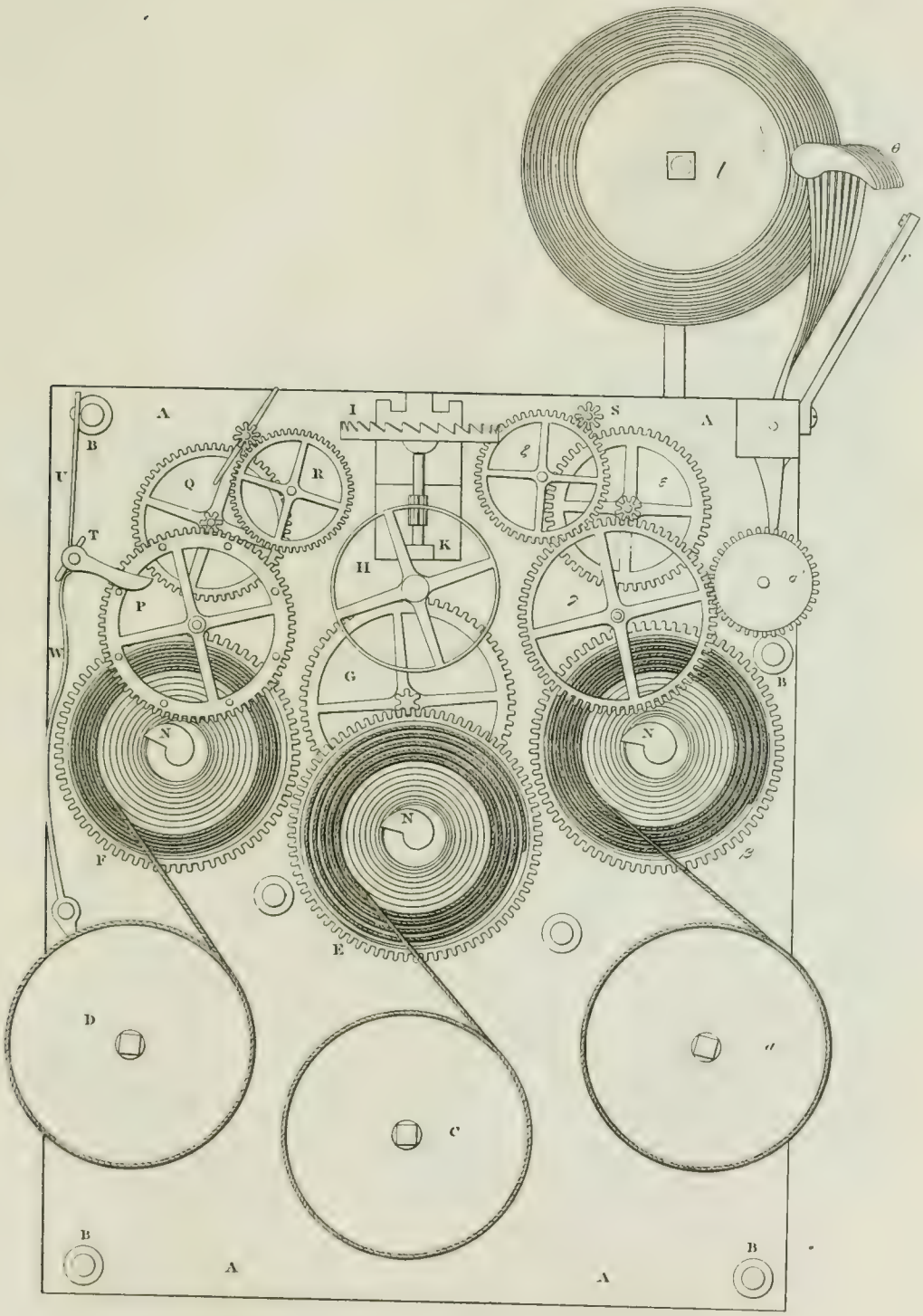
Fig. 6.

Fig. 5.



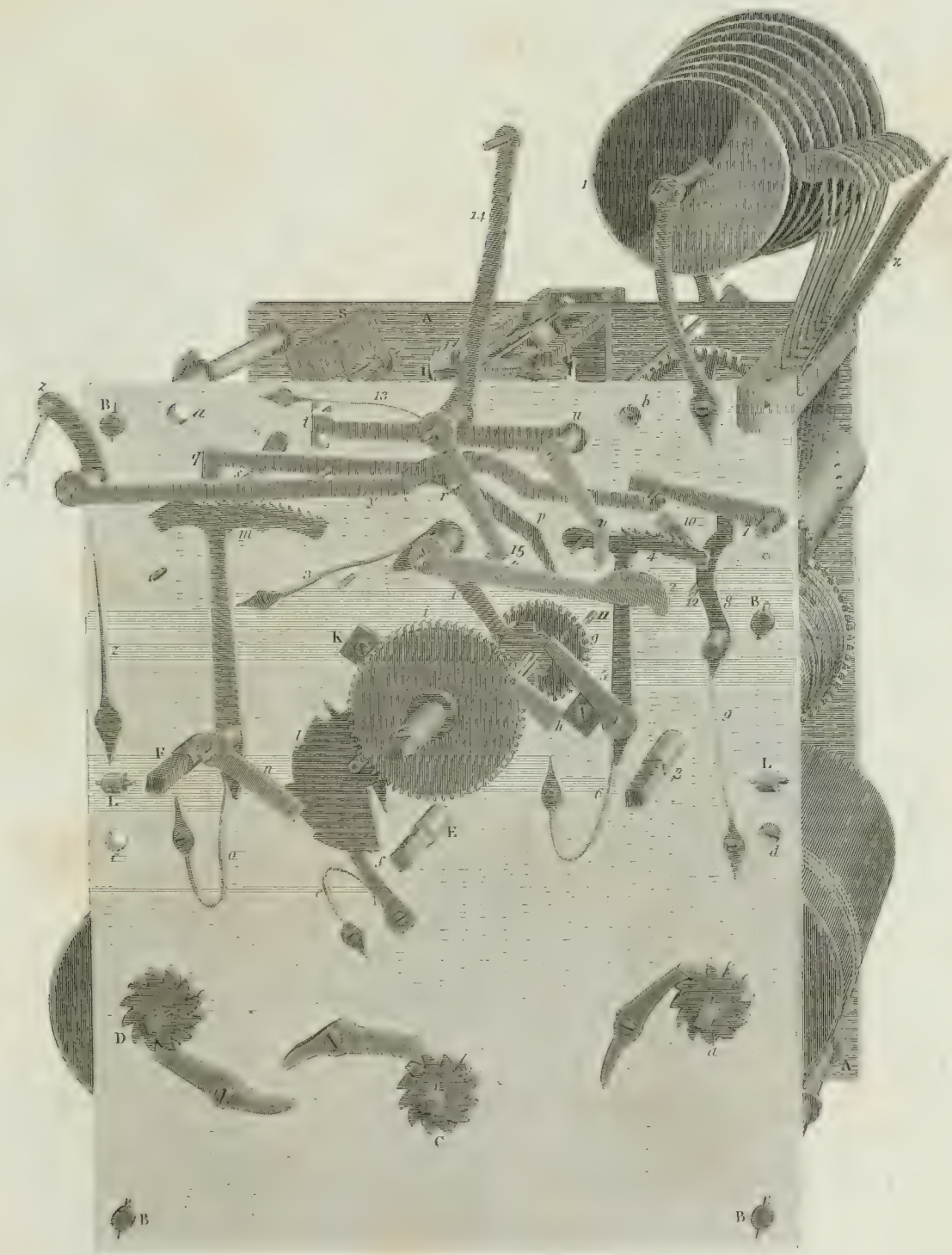
T. Farey Jun. del.
Published as the Act directs, 1817, by Longman, Hurst, Rees, Orme, & Brown, Paternoster Row, London.
Lowry sculp.

CLOCK WITH CHIMES.



J. Farey Jun.r delin. Published as the Act directs, 1808, by Longman, Hurst, Rees & Orme, Paternoster Row. Engraved by Wilson Lowry.

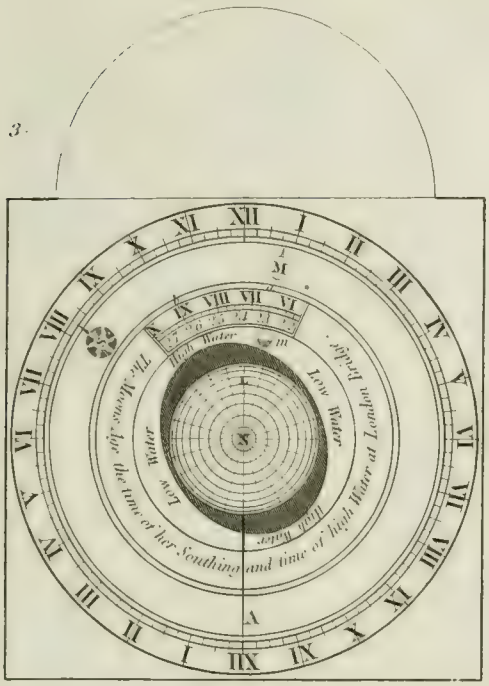
CLOCK WITH CHIMES.



J. Farey Jun.r delin. Published as the Act directs, 1808, by Longman, Hurst, Rees & Orme, Paternoster Row. Engraved by Wilson Lowry.

2nd Clock by Mr Ferguson

Fig. 3.



Clock by Dr Franklin

Fig. 1.

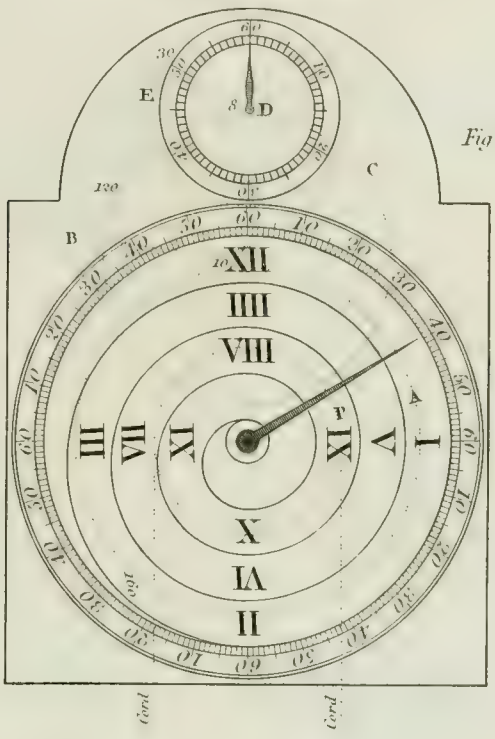


Fig. 4.

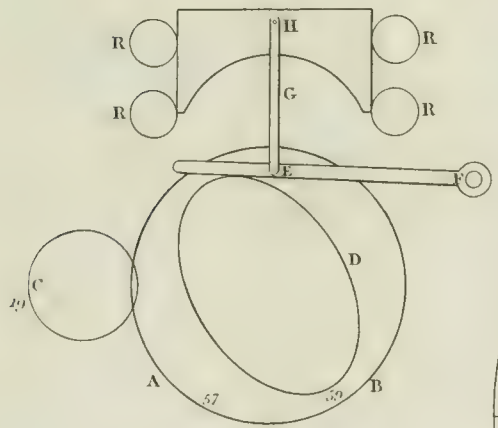
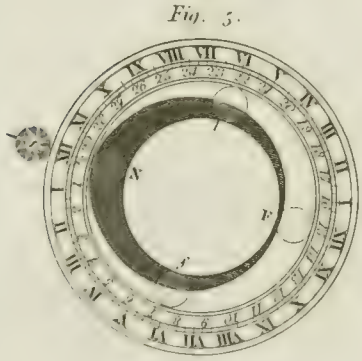
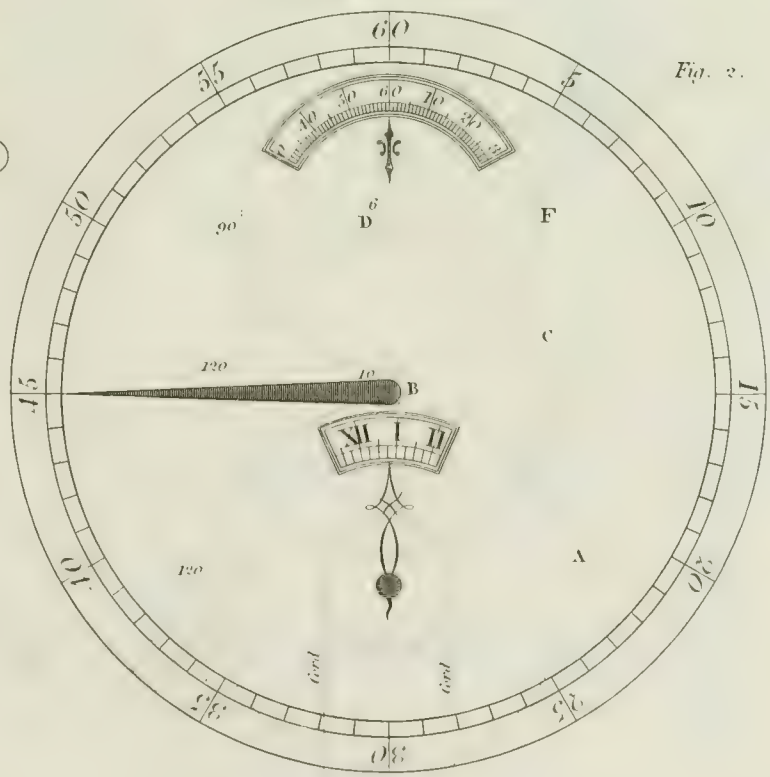


Fig. 5.



Clock by Mr J. Ferguson

Fig. 2.



Published as the Act directs, 1808, by Longman, Hurst, Rees & Orme, Paternoster Row.

Engraved by Wilson Lowry

Published as the Act directs, 1809, by Longman, Hurst, Rees and Orme, Paternoster Row.

Engraved by Wilson Lowry.

HOROLOGY.

CLOCK TOOLS.

Published by Longman, Hurst, Rees & Orme, Paternoster Row. March 1st 1809.

Engraved by Wilson Lowry.

HOROLOGY.

CLOCK TOOLS.

Fig 1.

Fig 10.

Fig 11.

Fig 2.

Fig 3

Fig 4.

Fig 5.

Fig 6.

Fig 12.

Fig 7.

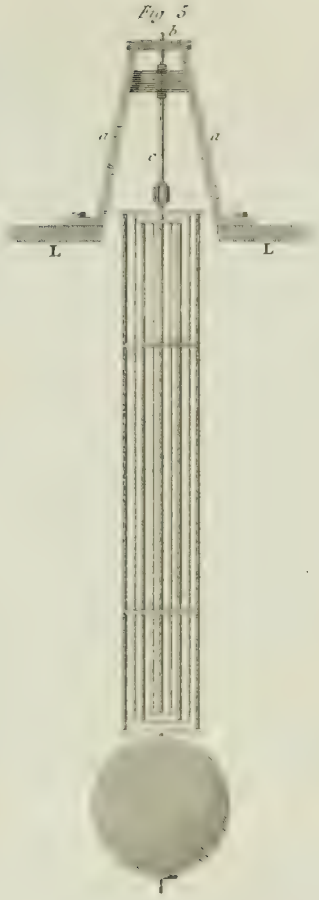
Fig 13. *Fig 14.* *Fig 15.* *Fig 16.* *Fig 17.*

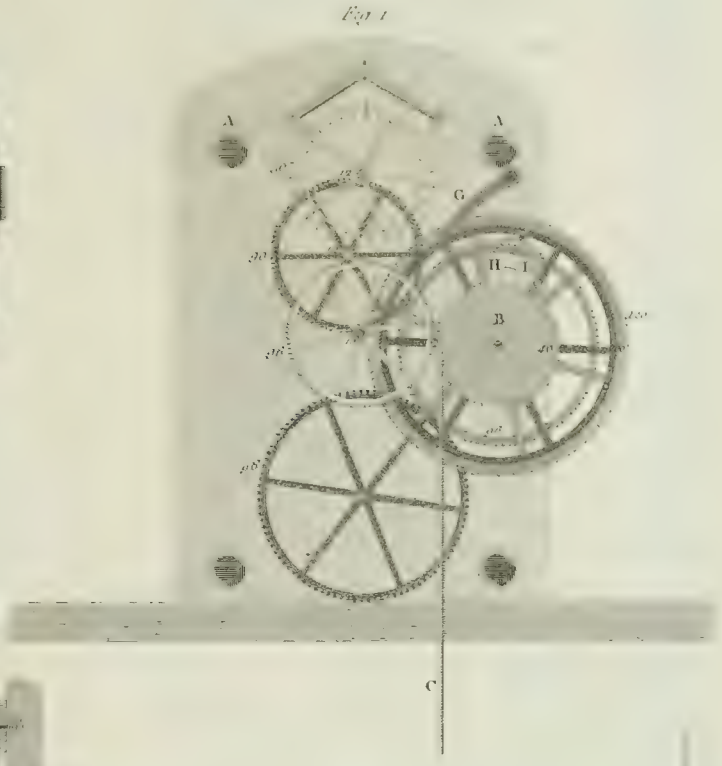
Fig 8.

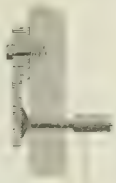
Fig 9.

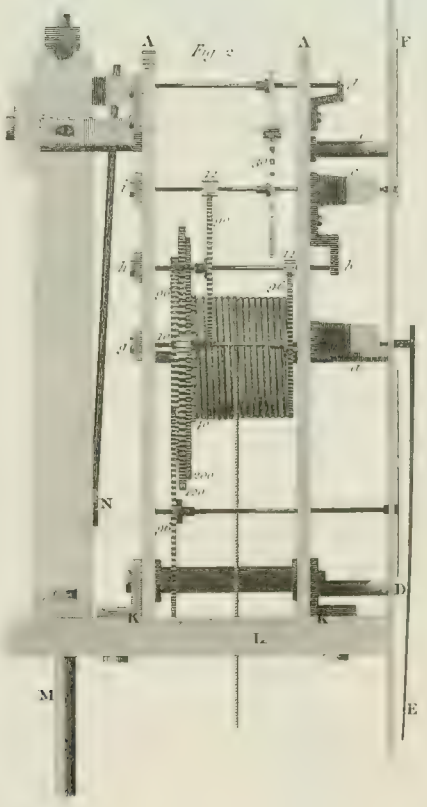
HOROLOGY.

Astronomical Clock by REID.









J. Farey Jun.r delin.r

Published as the Act directs, 1810, by Longman, Hurst, Rees & Orme, Paternoster Row.

Engraved by W. Lowry.

Astronomical Clock by Messrs. Brockbanks.

Fig. 1.

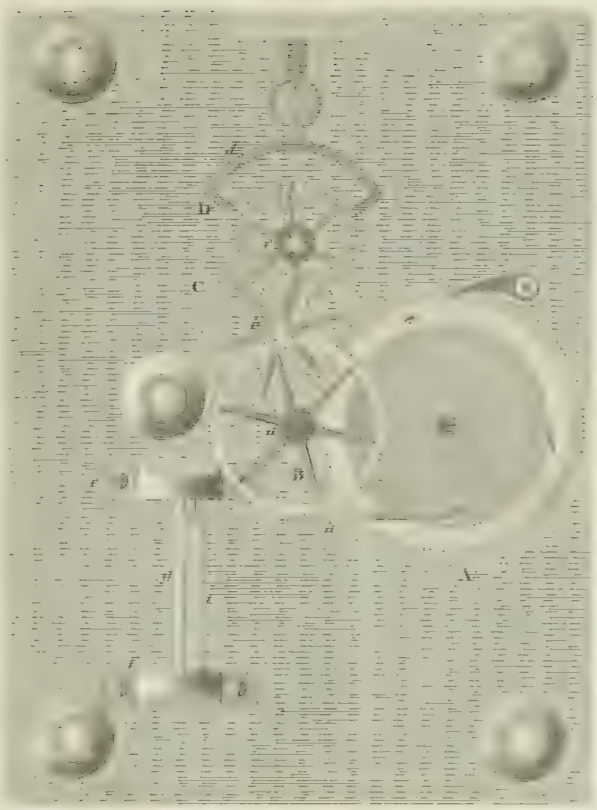


Fig. 2.

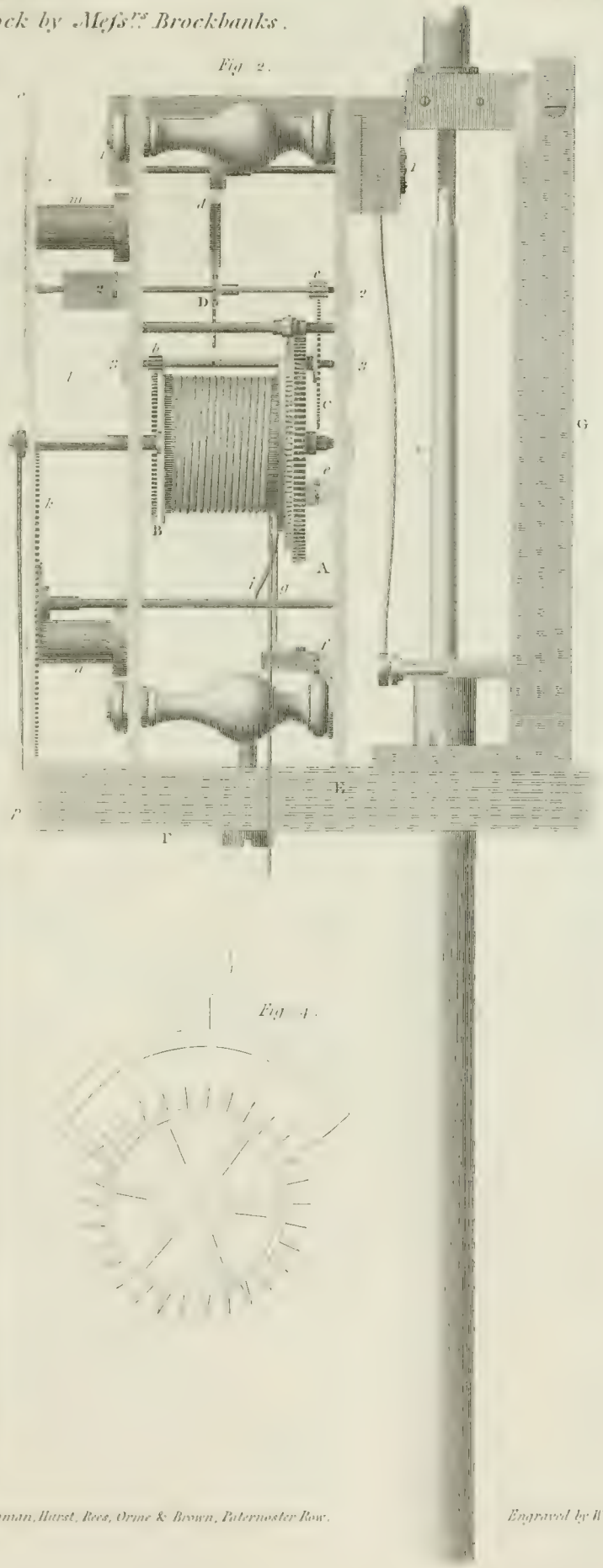


Fig. 3.

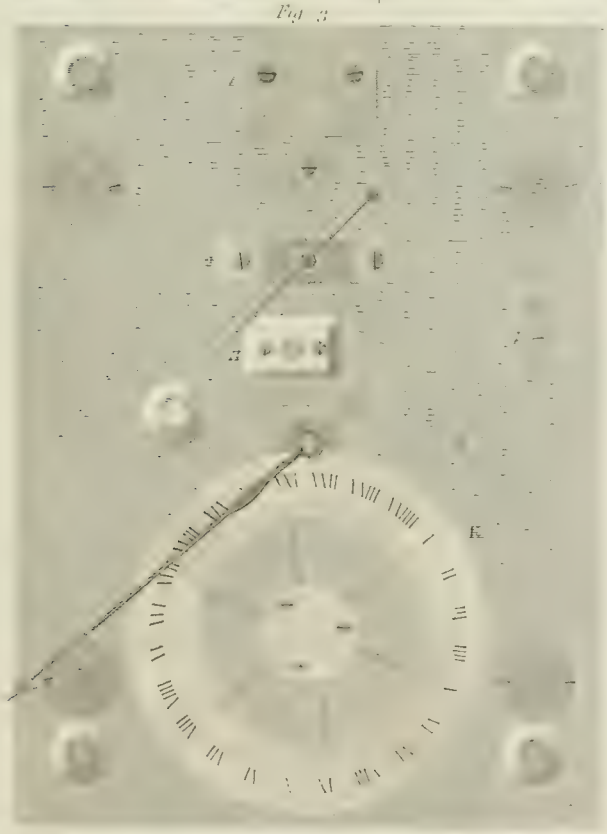


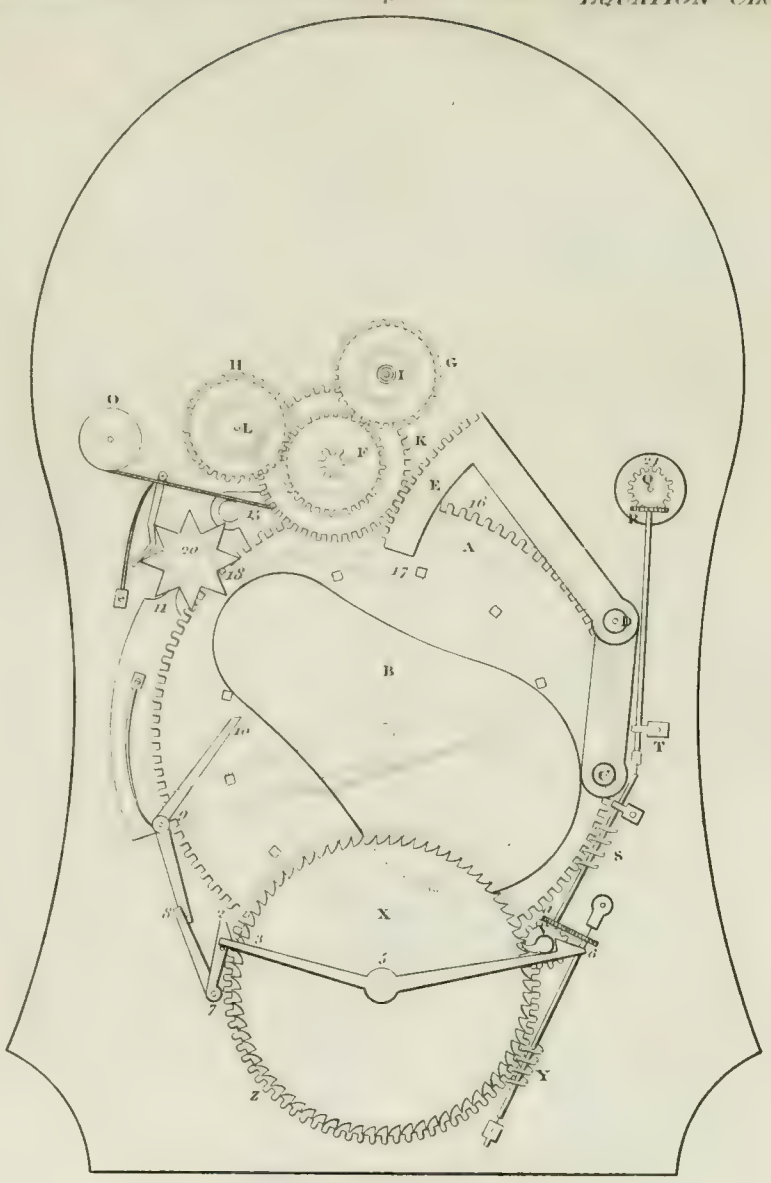
Fig. 4.

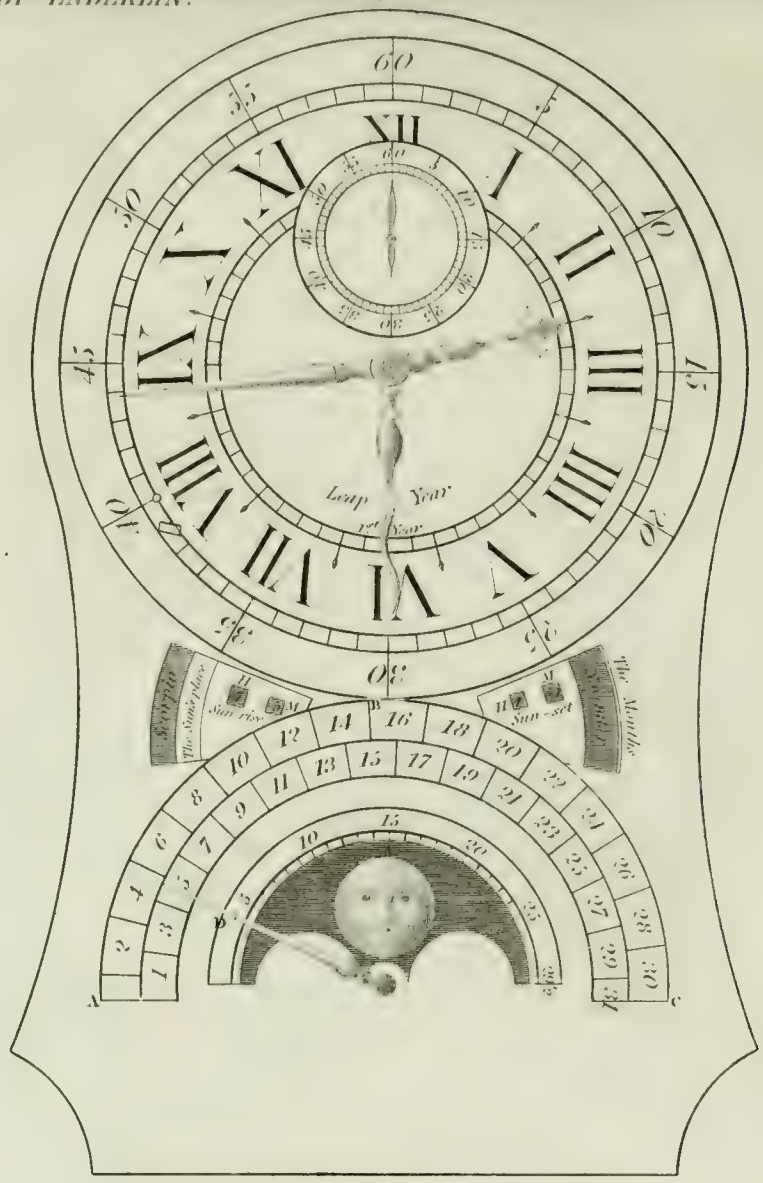
J. Farey delin. *Published as the Act directs, 1811, by Longman, Hurst, Rees, Orme & Brown, Paternoster Row.* *Engraved by W. Lowry.*

Fig. 1.

EQUATION CLOCK BY ENDERLIN.

Fig. 2.





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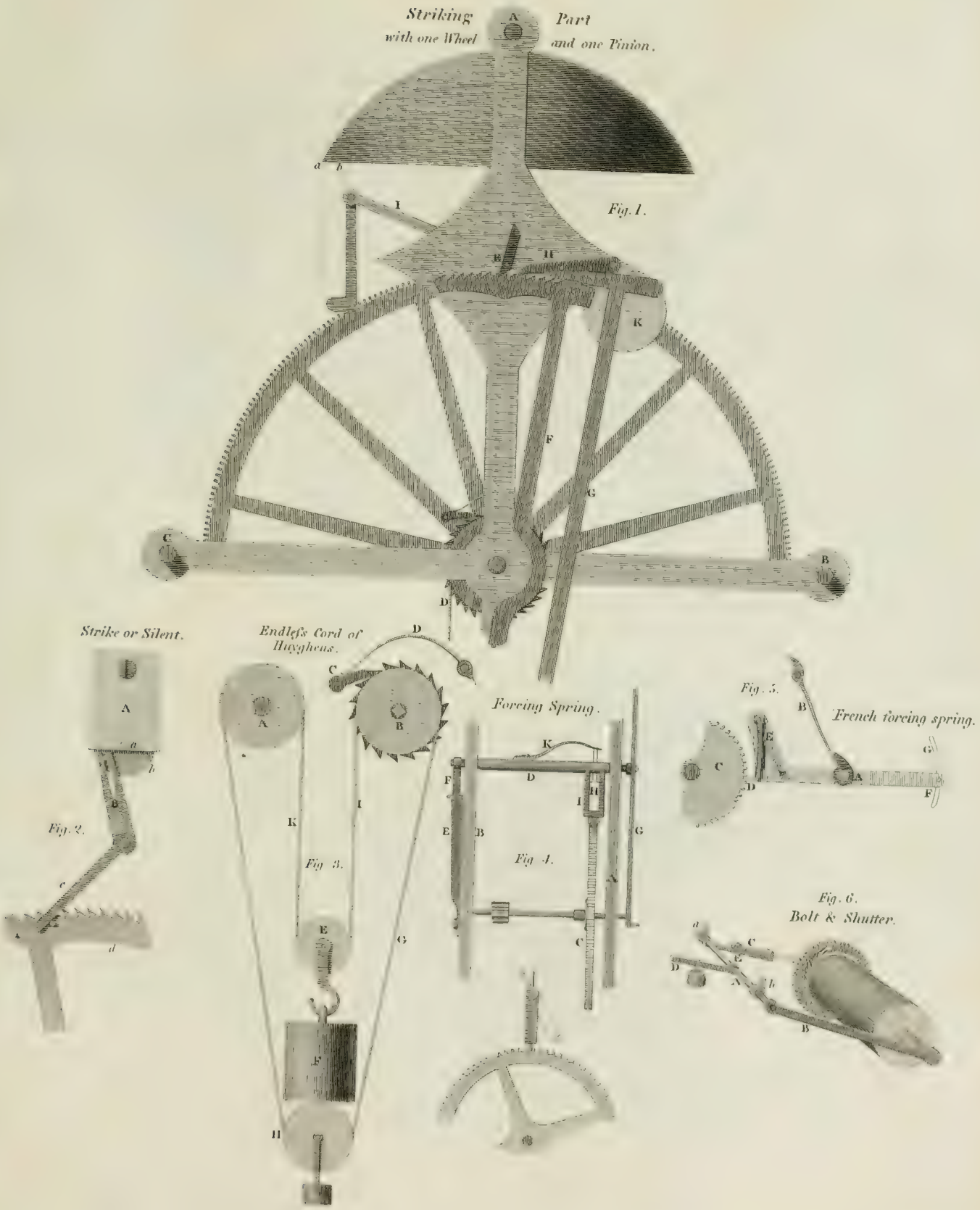

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HOROLOGY.

Fig. 1.

Massey's striking part.

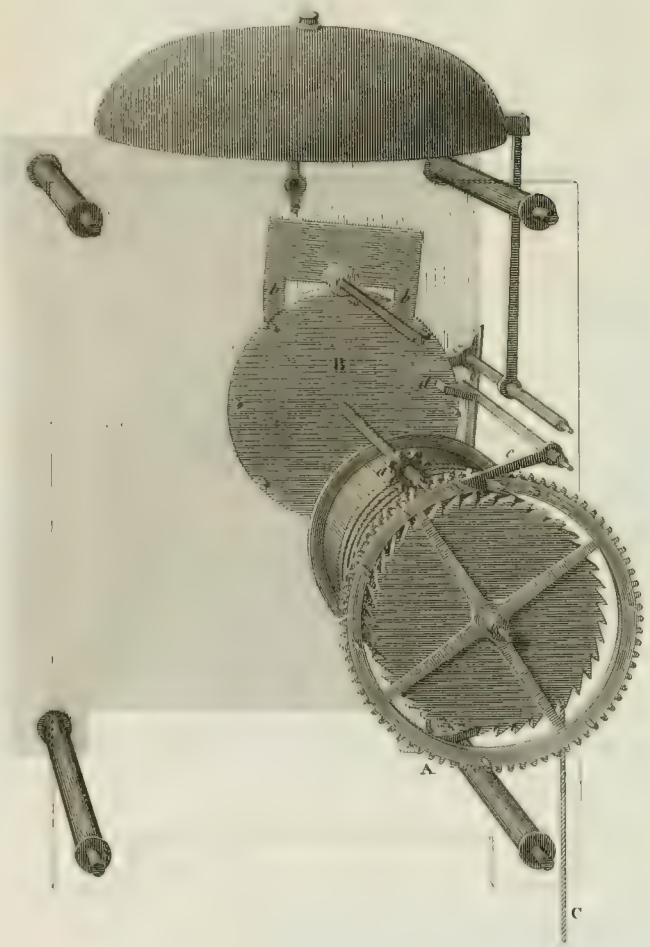

Fig. 2.

Prior's striking part.

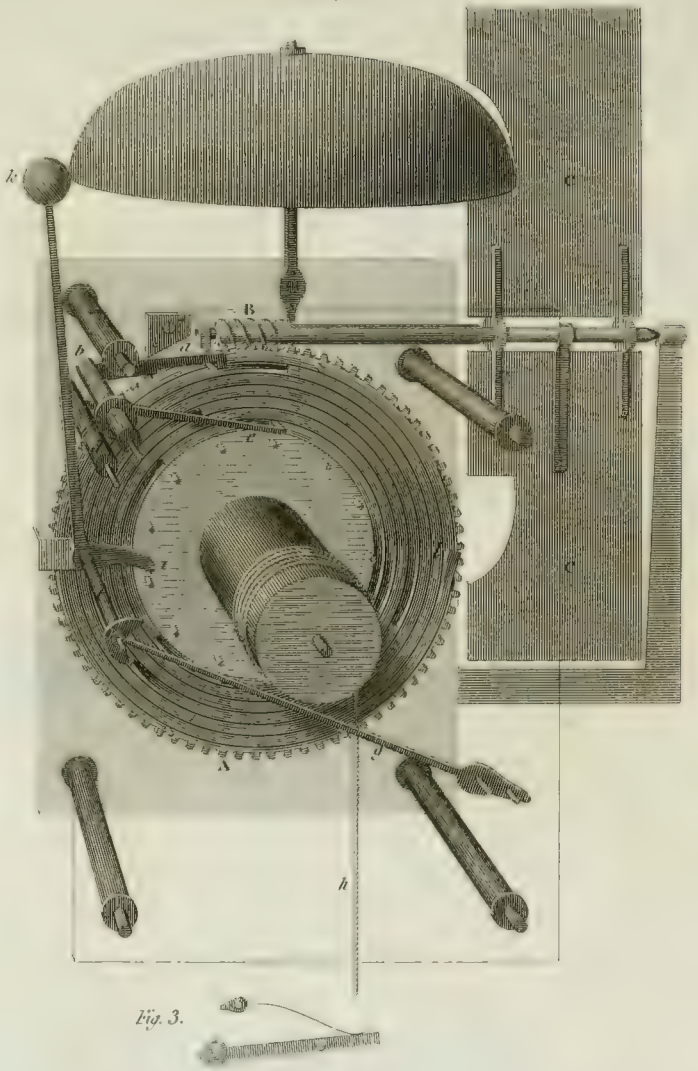

Fig. 3.

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Lowry sculp.

TROUGHTON'S PENDULUM.

Fig. 1.

Fig. 2.

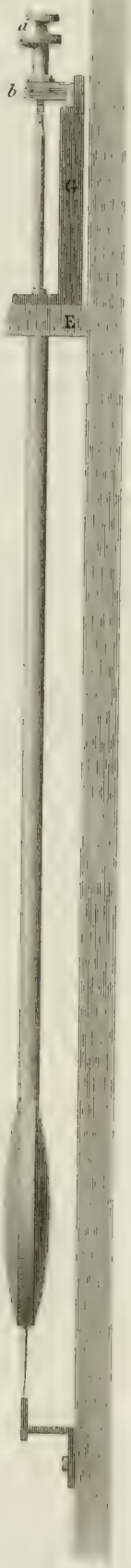


Fig. 4.

Fig. 9.

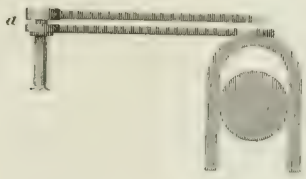


Fig. 3.

Fig. 5.

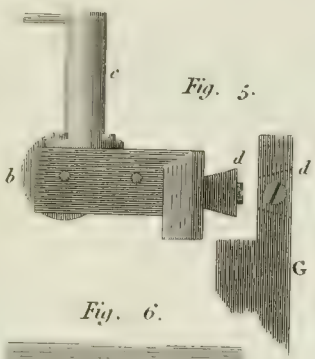


Fig. 6.

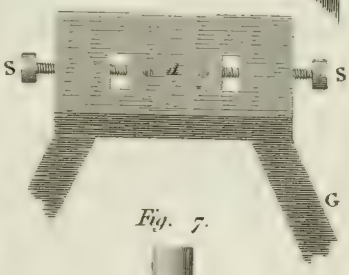


Fig. 7.

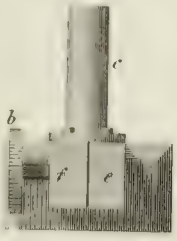
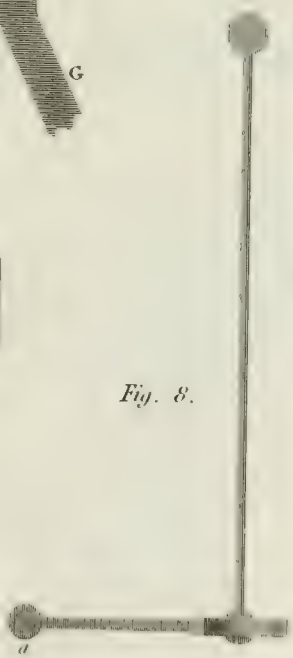


Fig. 8.



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HOROLOGY.

COMPENSATION CURBS.

Fig. 1

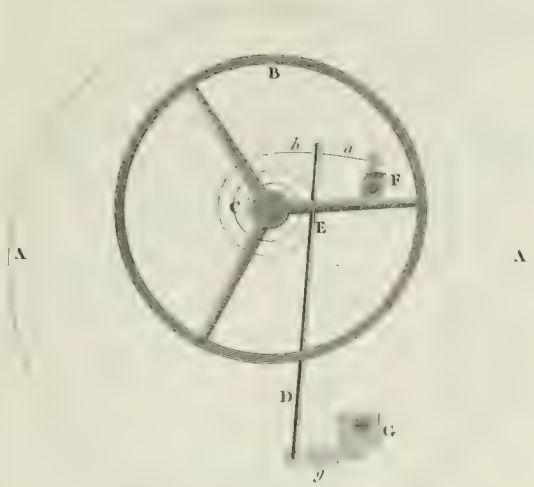


Fig. 3.

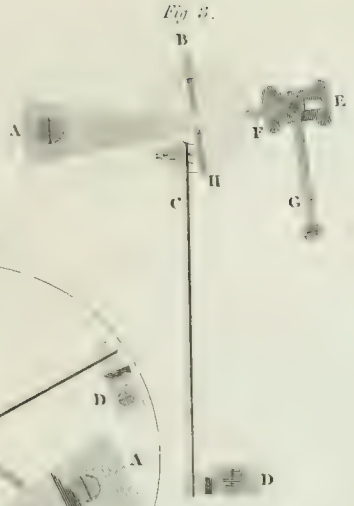


Fig. 4.

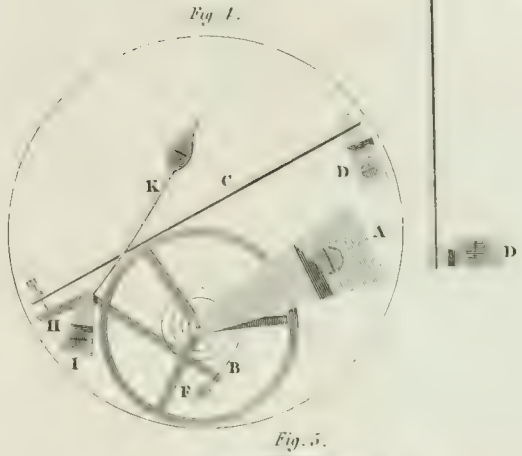


Fig. 2.

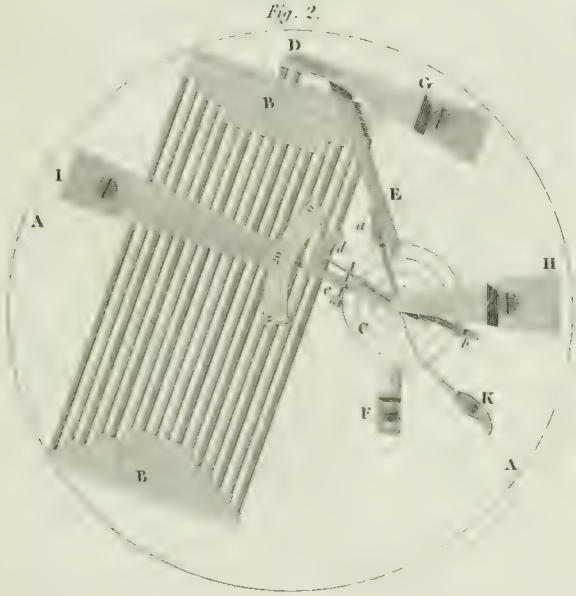


Fig. 5.

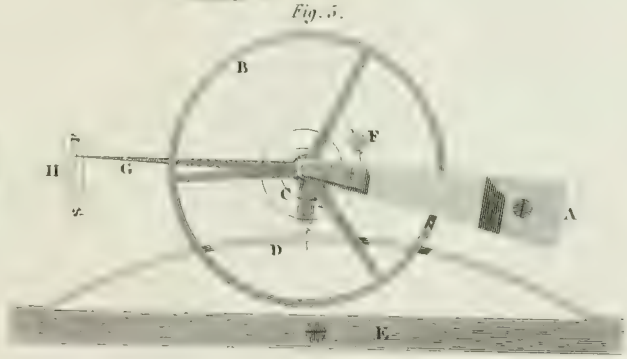
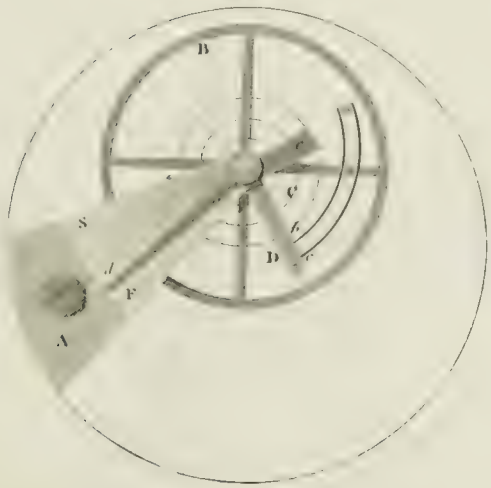


Fig. 6.

Fig. 7.



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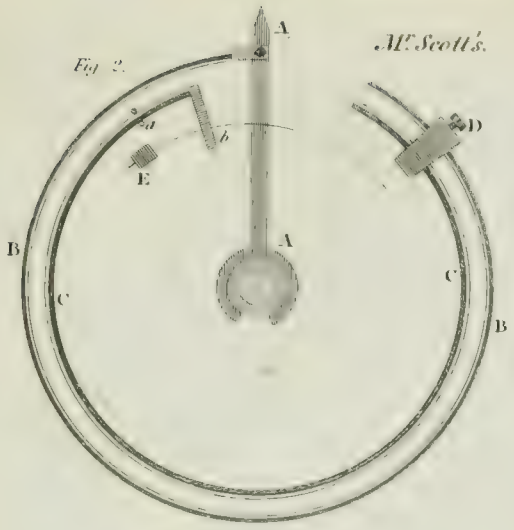
COMPENSATION CURBS AND BALANCES.

Mr. Scott's.

Fig 2.



Side View

Mr. Cumming's.

Fig 1

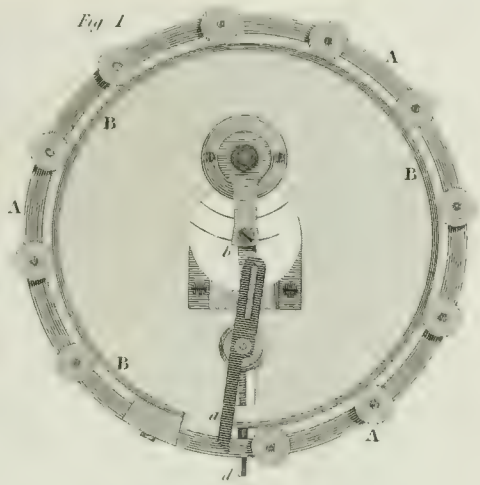
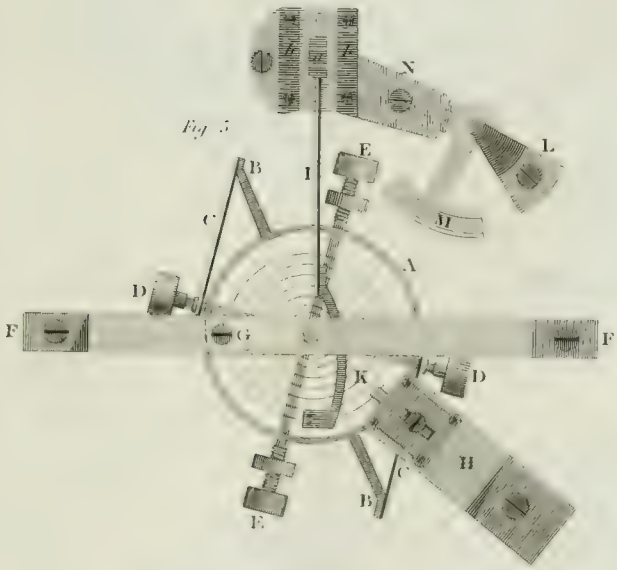


Fig 5



Mr. Hardy's balance.

Fig 3.

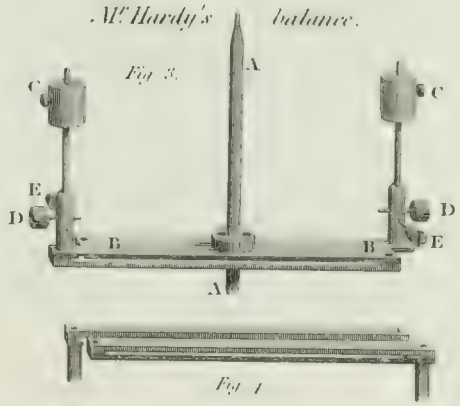
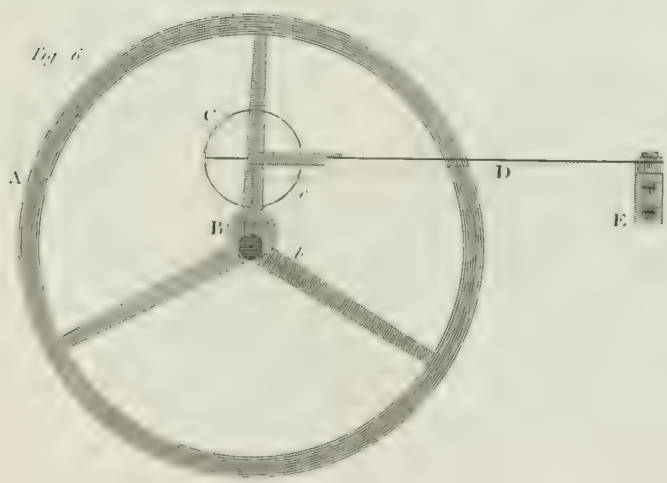


Fig 4

Berthoud's.

Fig 6



Mr. Hardy's, Isochronal compensation

Fig 7

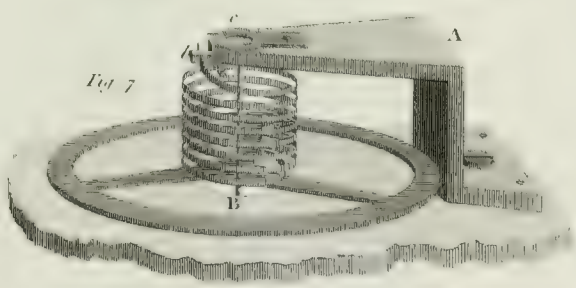


Fig 8.

J. Farey Junr. delin. Published as the Act directs, 1817, by Longman, Hurst, Rees, Orme & Brown, Paternoster Row. Lowry Sc.

DIAL WORK OF A CLOCK SHEWING THE MOONS AGE, PHASES &c.

Fig 1.

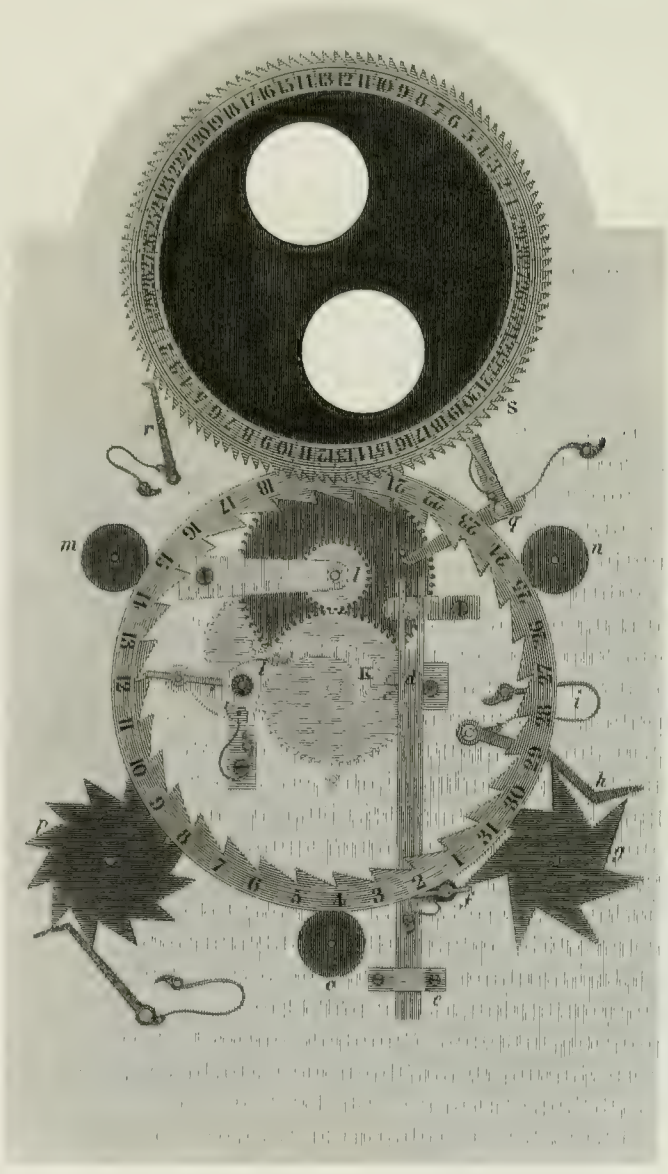
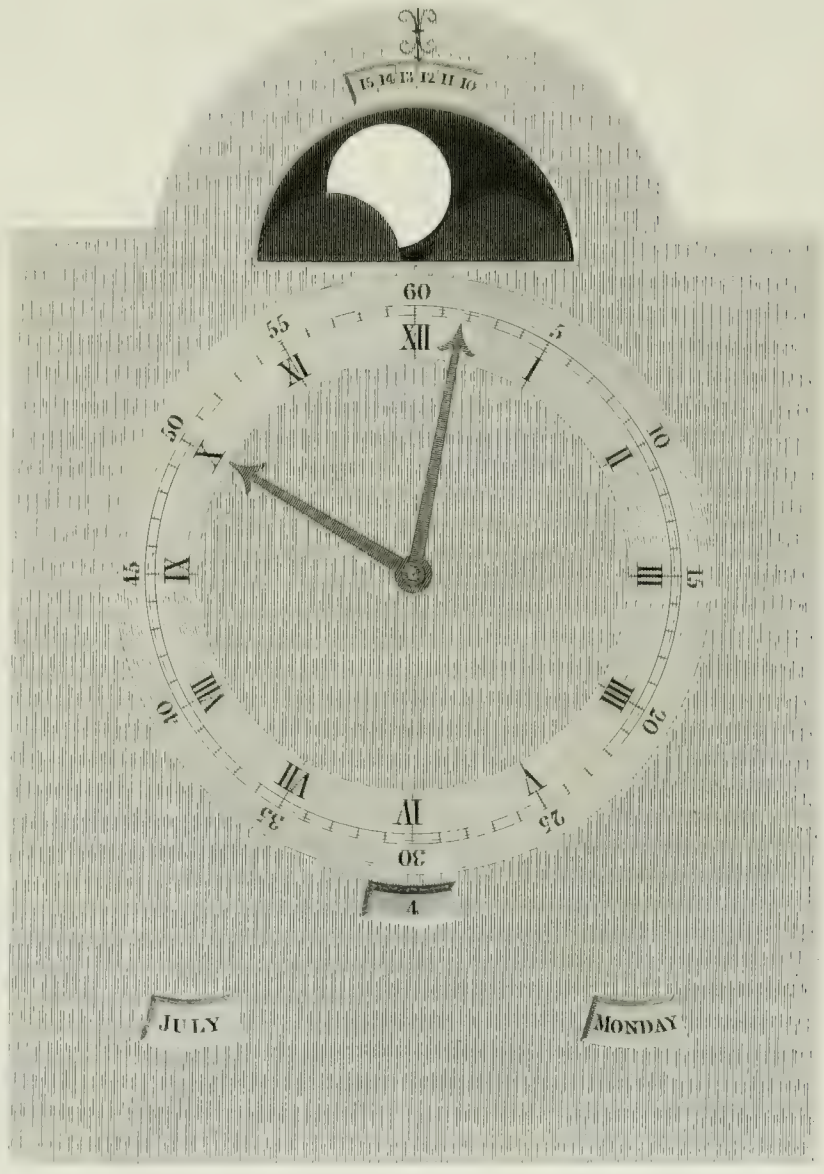


Fig. 2.



J. Farey Junr. delin. Published as the Act directs, 1809, by Longman, Hurst, Rees & Orme, Paternoster Row. Engraved by Wilson Lowry.

New DIAL work of a small spring Clock shewing the Phenomena of the Moon, &c.

Fig. 2.

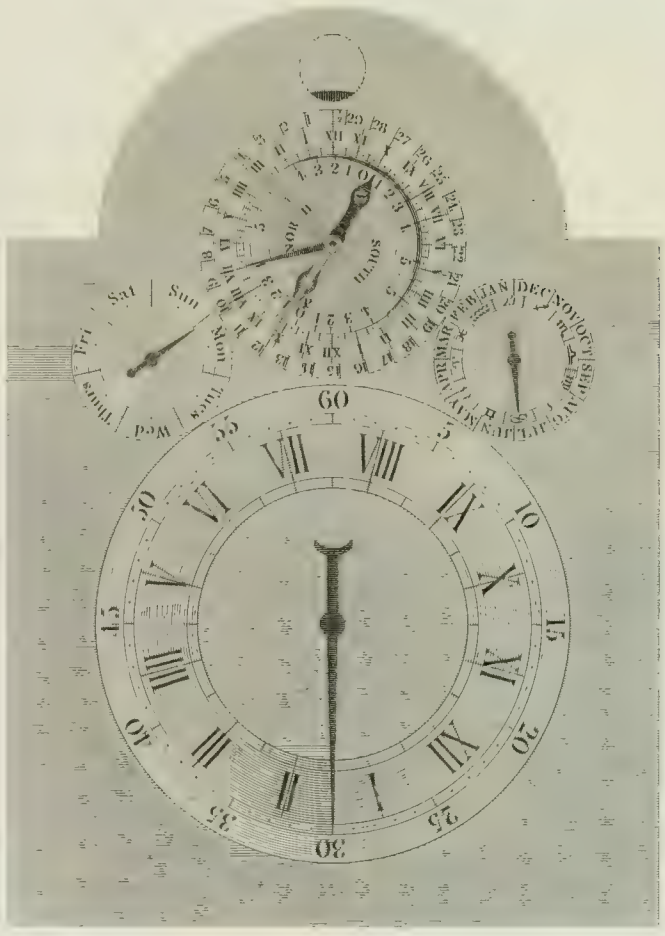
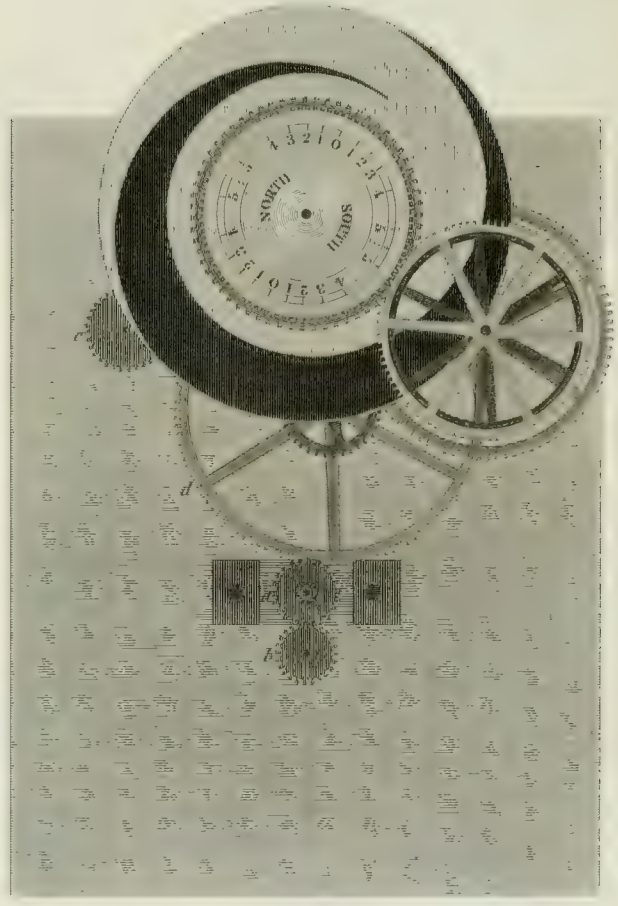


Fig. 1.



J. Varg. Jun.r delin.

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HOROLOGY.

Dial Work.

Fig. 1

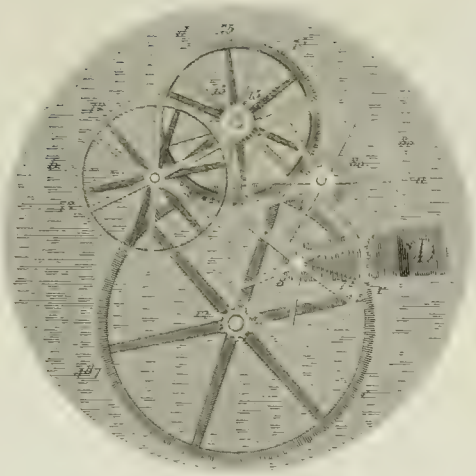
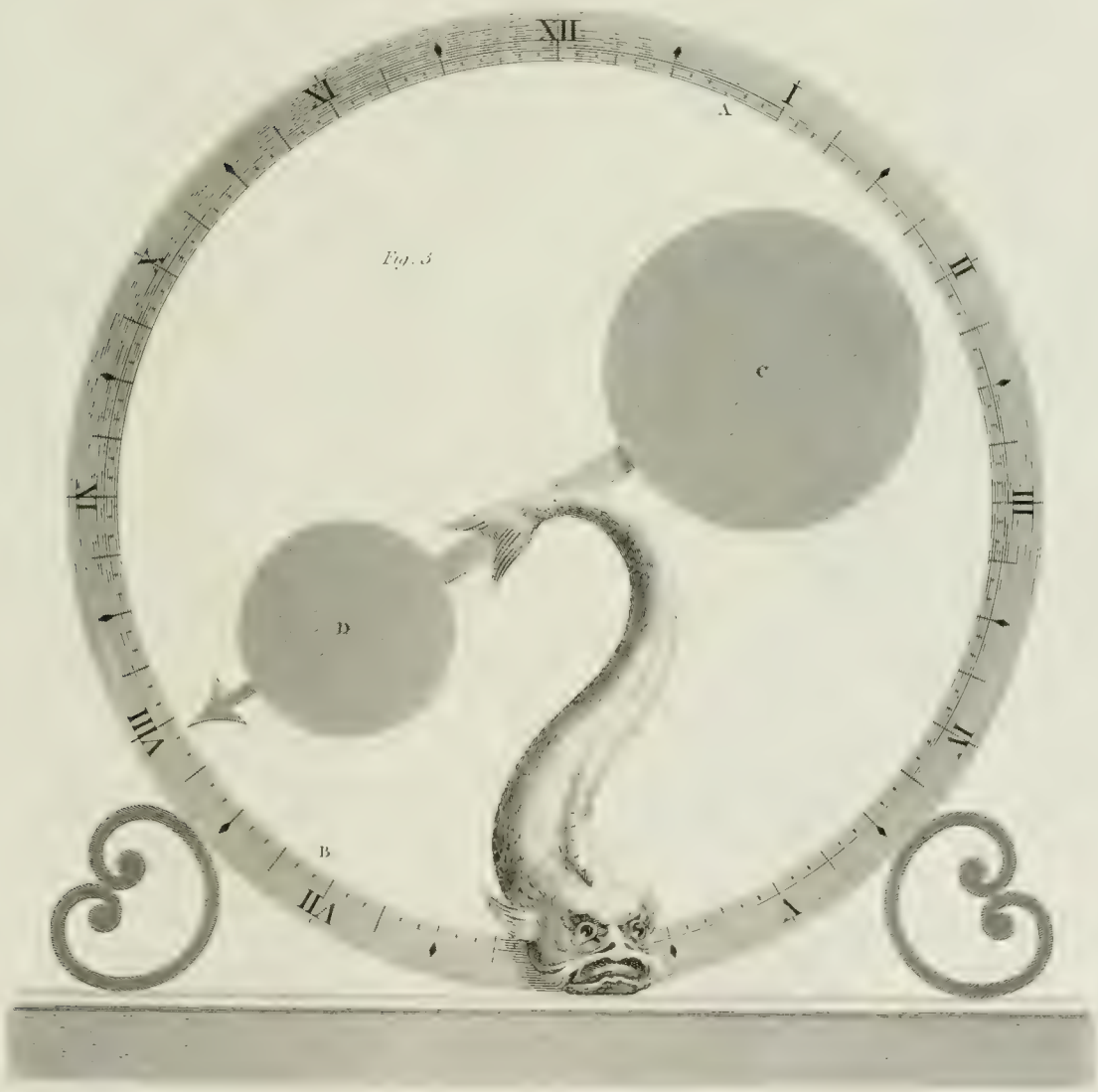


Fig. 2

Fig. 3



Drawn by J. Farey Junr.

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Fig. 1.

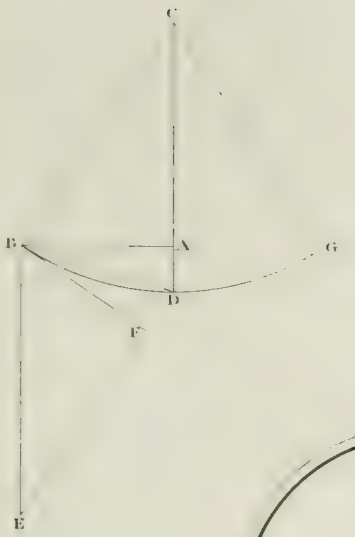


Fig. 2.

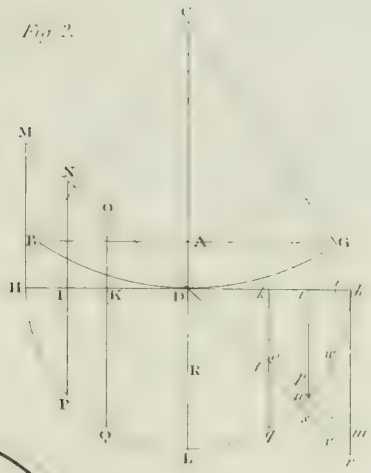
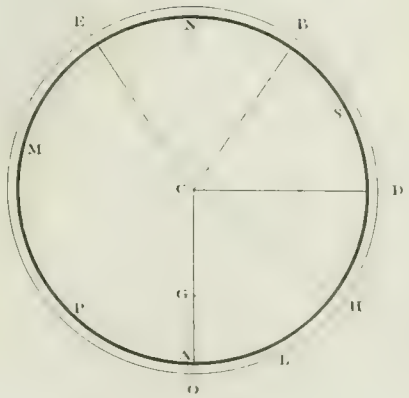


Fig. 3.



Mr. Atwood's Theory of the Balance.

Fig. 4.

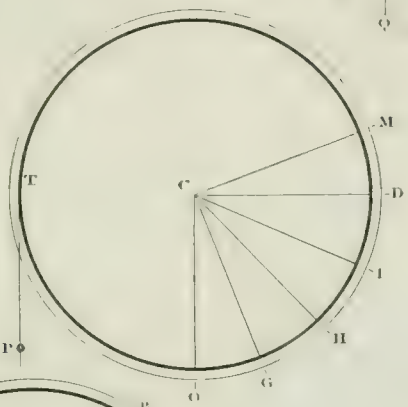
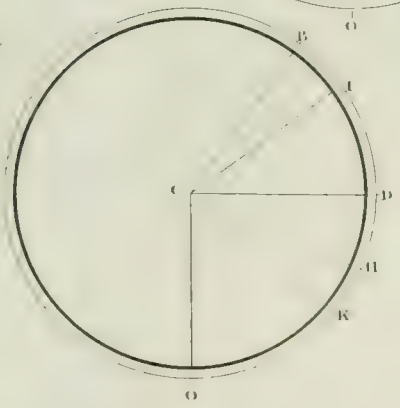
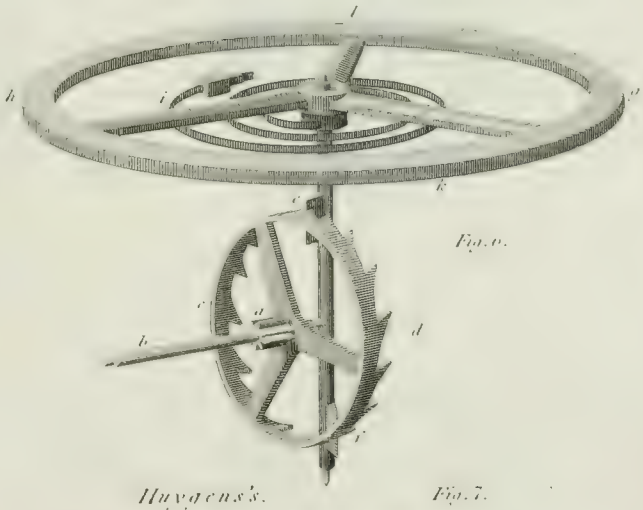


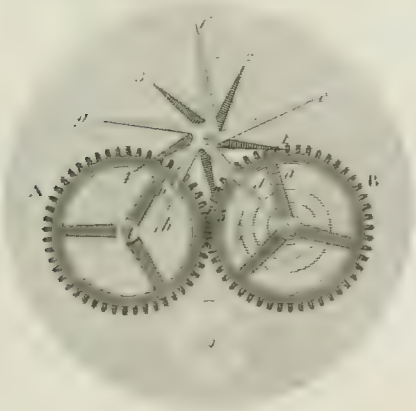
Fig. 5.



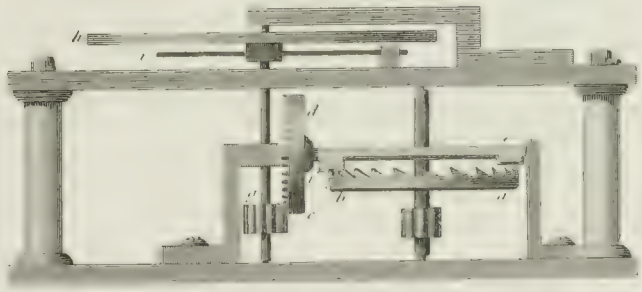
Crown Wheel.



Dr. Hooke's & Du Tertre's, Fig. 8.



Huygens's. Fig. 7.



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HOROLOGY.

ESCAPEMENTS.

Fig. 1.
Sully's.

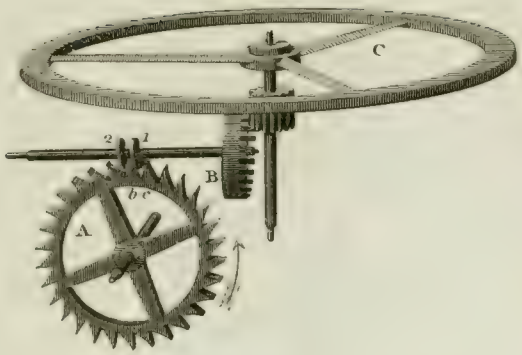


Fig. 2.
Graham's Horizontal.

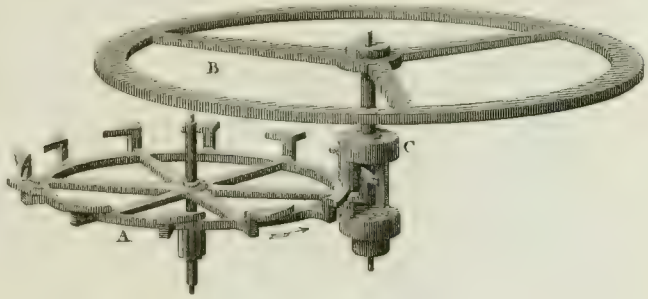


Fig. 3.
Anchor Escapement.

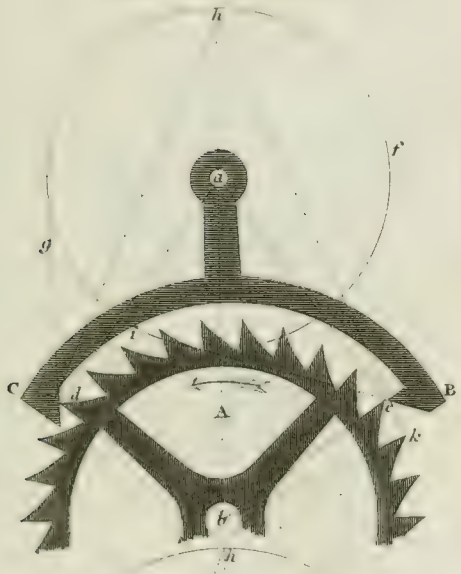


Fig. 5.

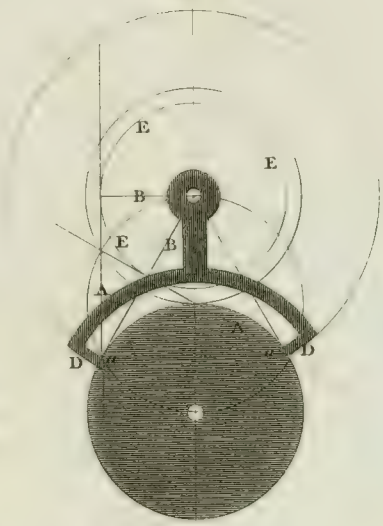


Fig. 7.
Bennet's Dead Beat.

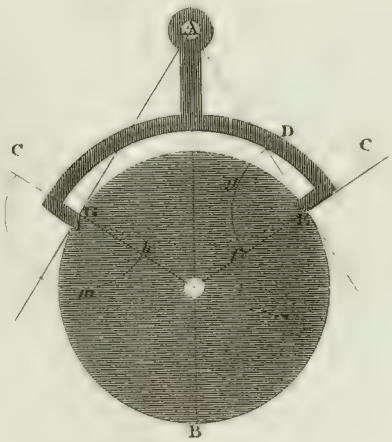


Fig. 6.
Grignon's Dead Beat.

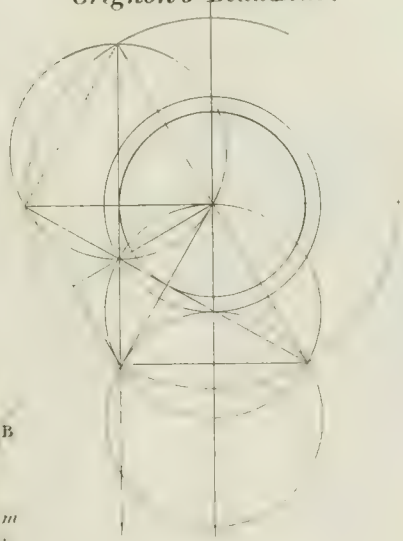
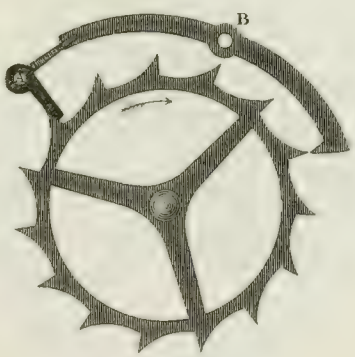


Fig. 4.
Graham's Dead Beat.

Fig. 8.
Thiout's.



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HOROLOGY.

ESCAPEMENTS.

Berthoud's.

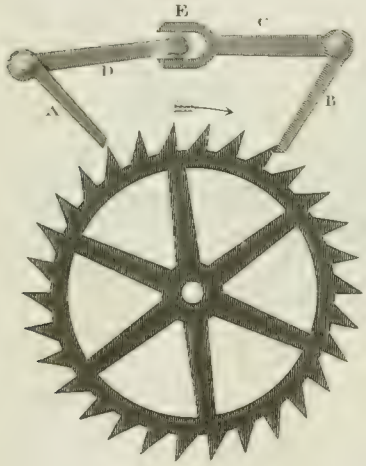
Fig. 1.

Smeaton's.

Fig. 2.

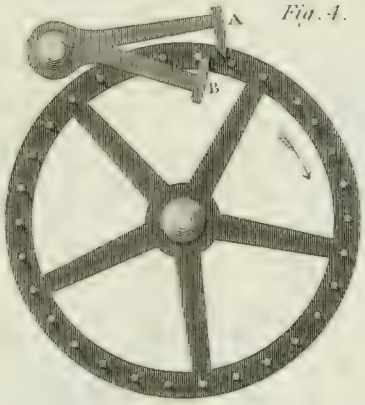
De Bethune's.

Fig. 3.



Amant's.

Fig. 4.



Harrison's.

Fig. 5.

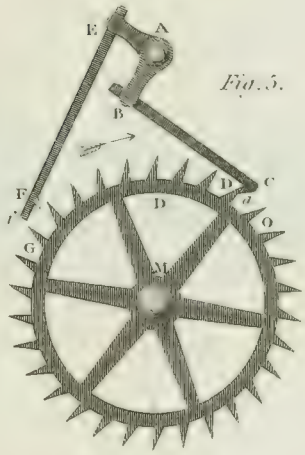
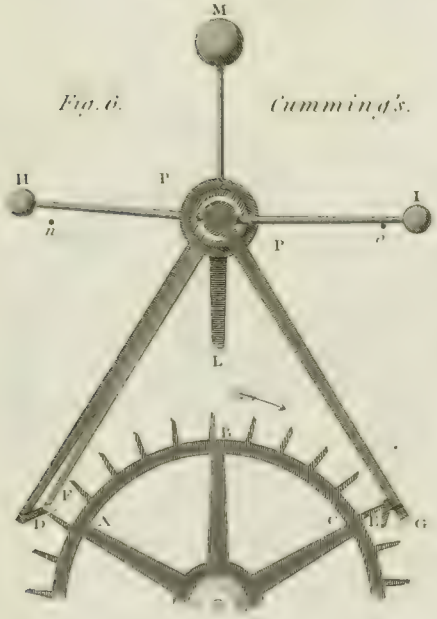
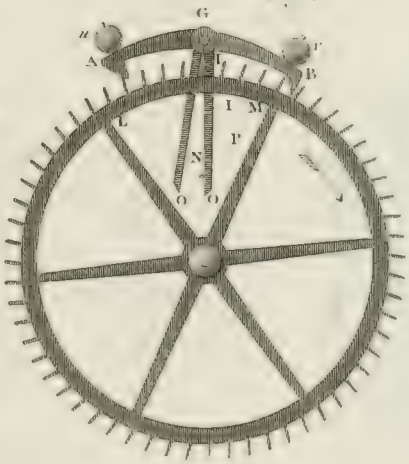


Fig. 6. *Cumming's.*



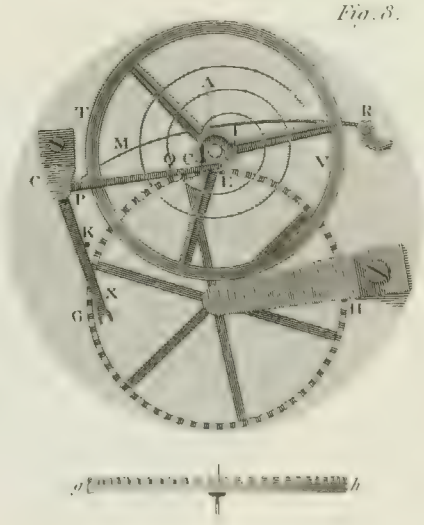
Mudge's.

Fig. 7.



Peter Le Roy's.

Fig. 8.



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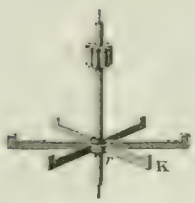
HOROLOGY.

FRENCH ESCAPEMENTS for Chronometers.

Fig. 1.



Peter le Roy's Improved

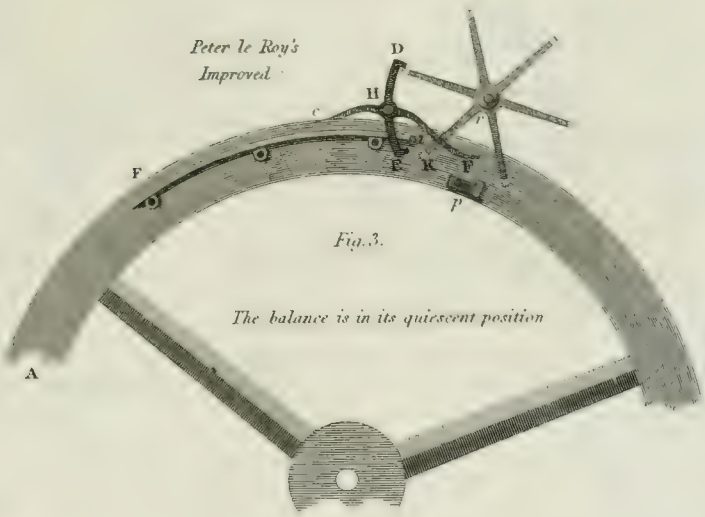
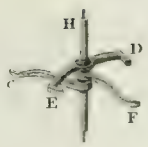


Fig. 3.

The balance is in its quiescent position

Fig. 2.



Berthoud's Detached

Fig. 4.

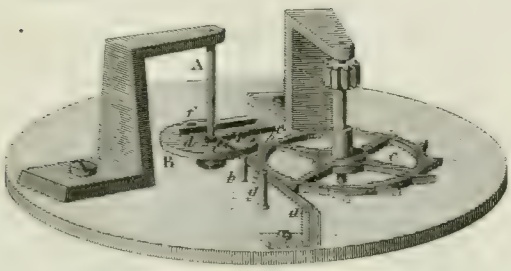


Fig. 6.

Berthoud's without a Spring

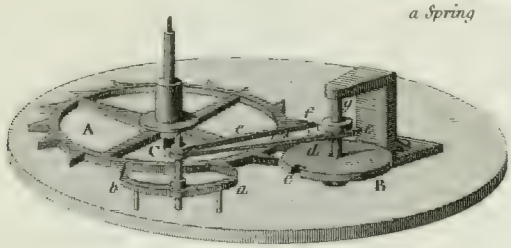


Fig. 5.

Berthoud's Improved N°60.

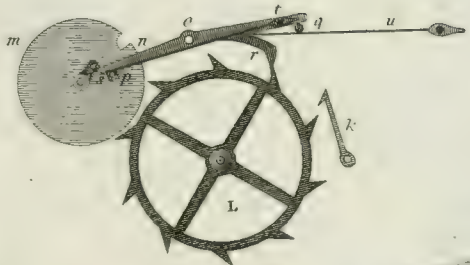


Fig. 8.

Berthoud's Isochronal

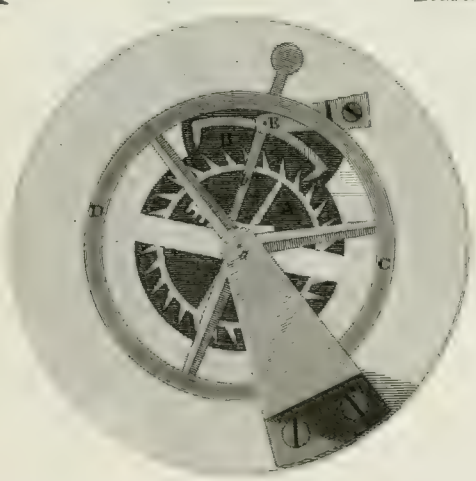
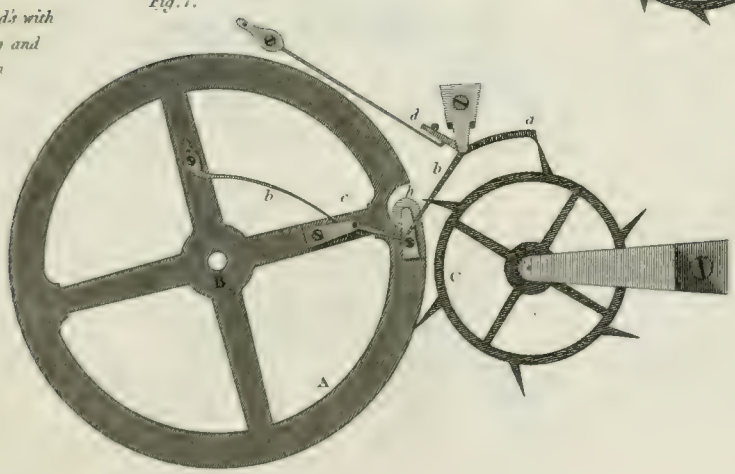


Fig. 7.

Berthoud's with a Spring and Detent in N°9.



J. Farey del.

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Lowry sculp.

ESCAPEMENTS.

Mudge's Fig. 1.

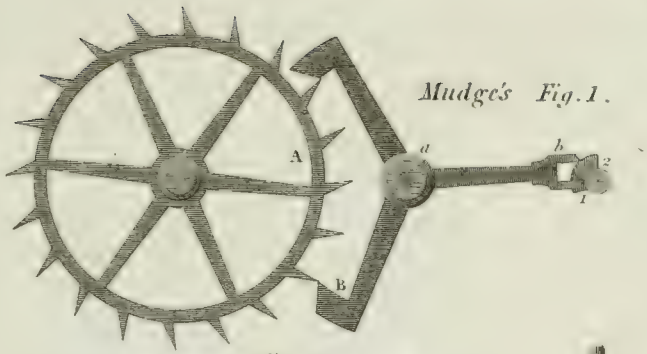
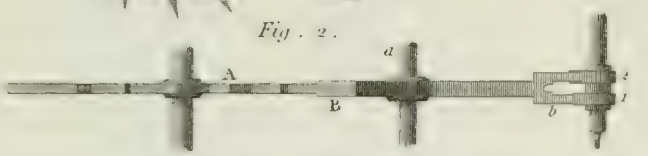
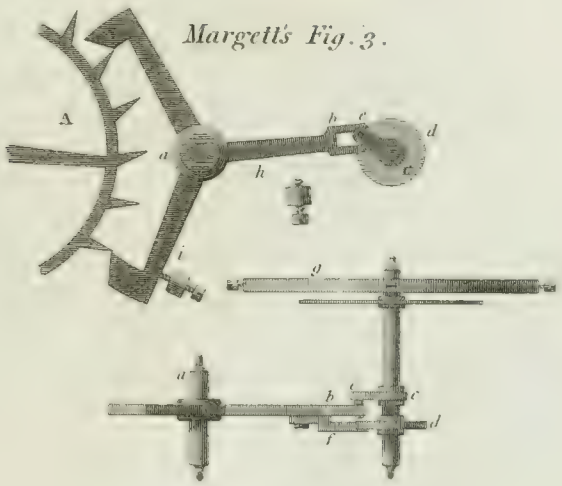


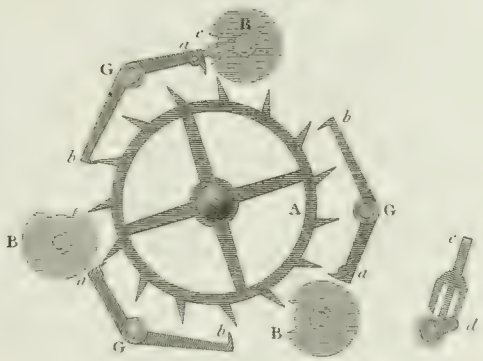
Fig. 2.



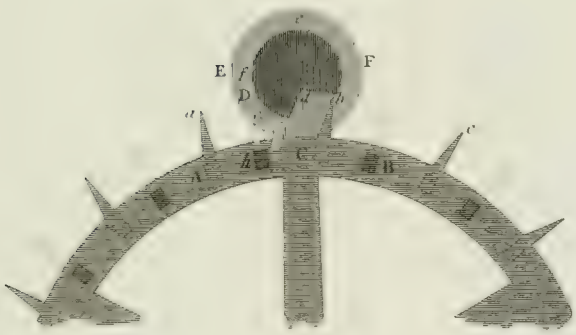
Margett's Fig. 3.



Robin's Fig. 4.

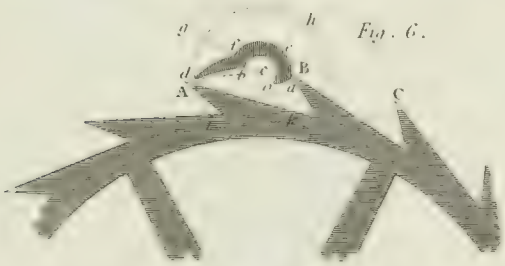


Duplex Fig. 5.



Escapement a Virgule

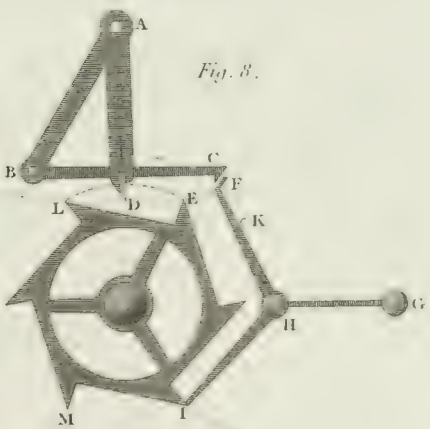
Fig. 6.



Tompion's Fig. 7.

Free for a Pendulum

Fig. 8.



J. Farey delin.: Published as the Act directs, 1813, by Longman, Hurst, Rees, Orme & Brown, Paternoster Row. Engraved by W. Lowry.

ESCAPEMENTS &c.

Fig. 1.

Berthoud's.

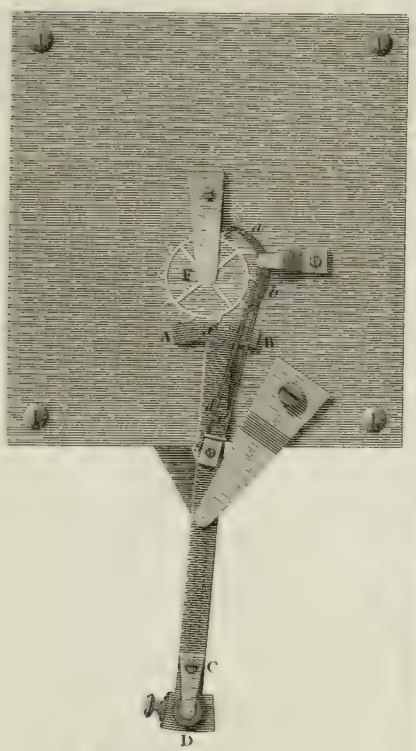


Fig. 2.

Nicholson's.

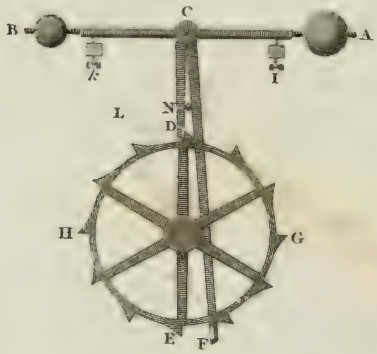


Fig. 5.

Mafsey's.

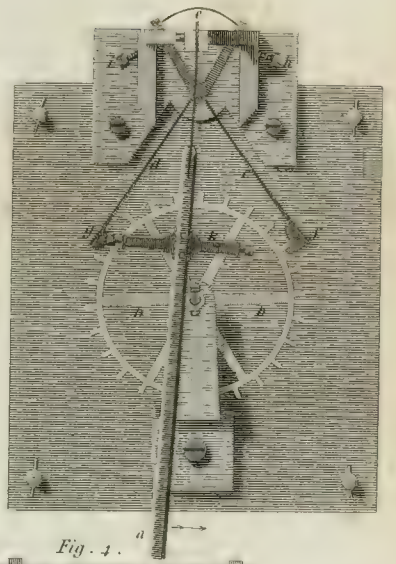


Fig. 3.

Goodriche's.

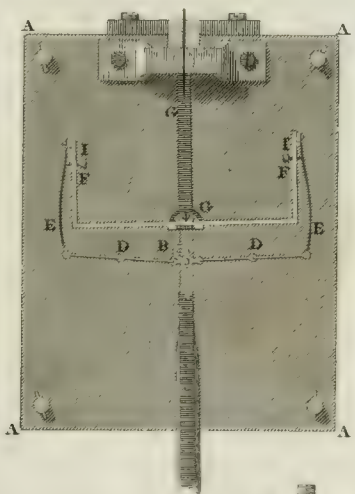


Fig. 4.

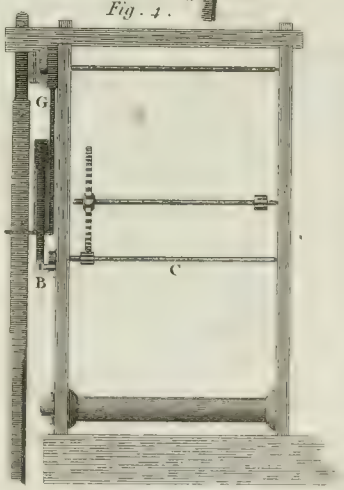
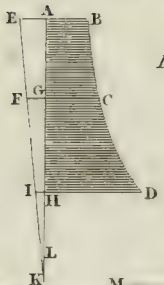


Fig. 6.



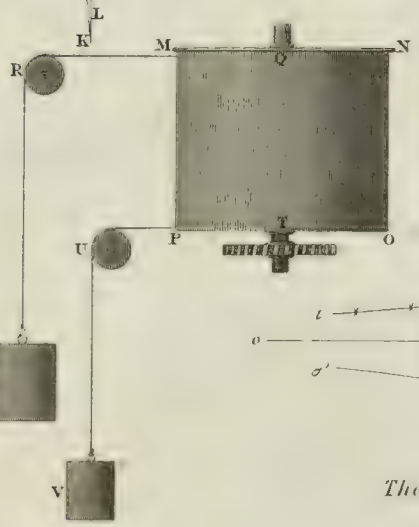
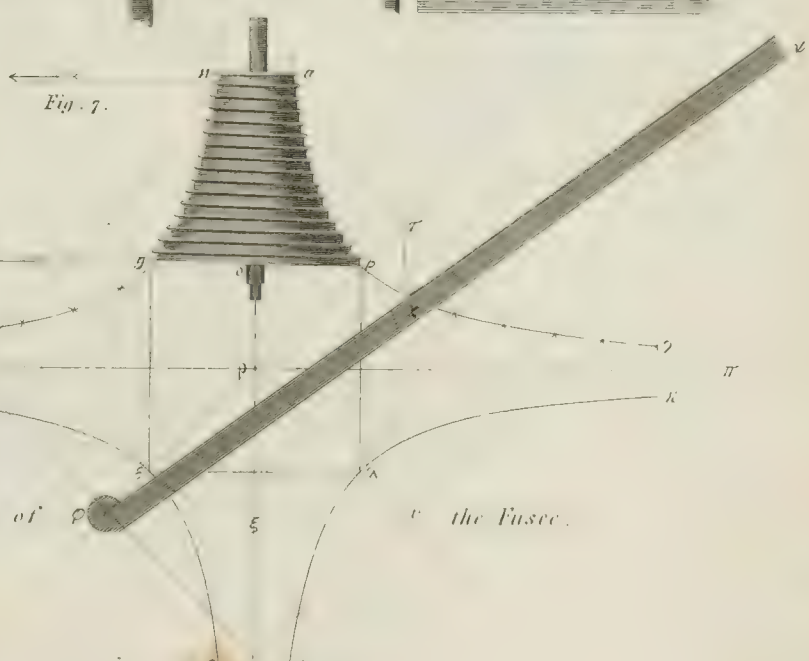


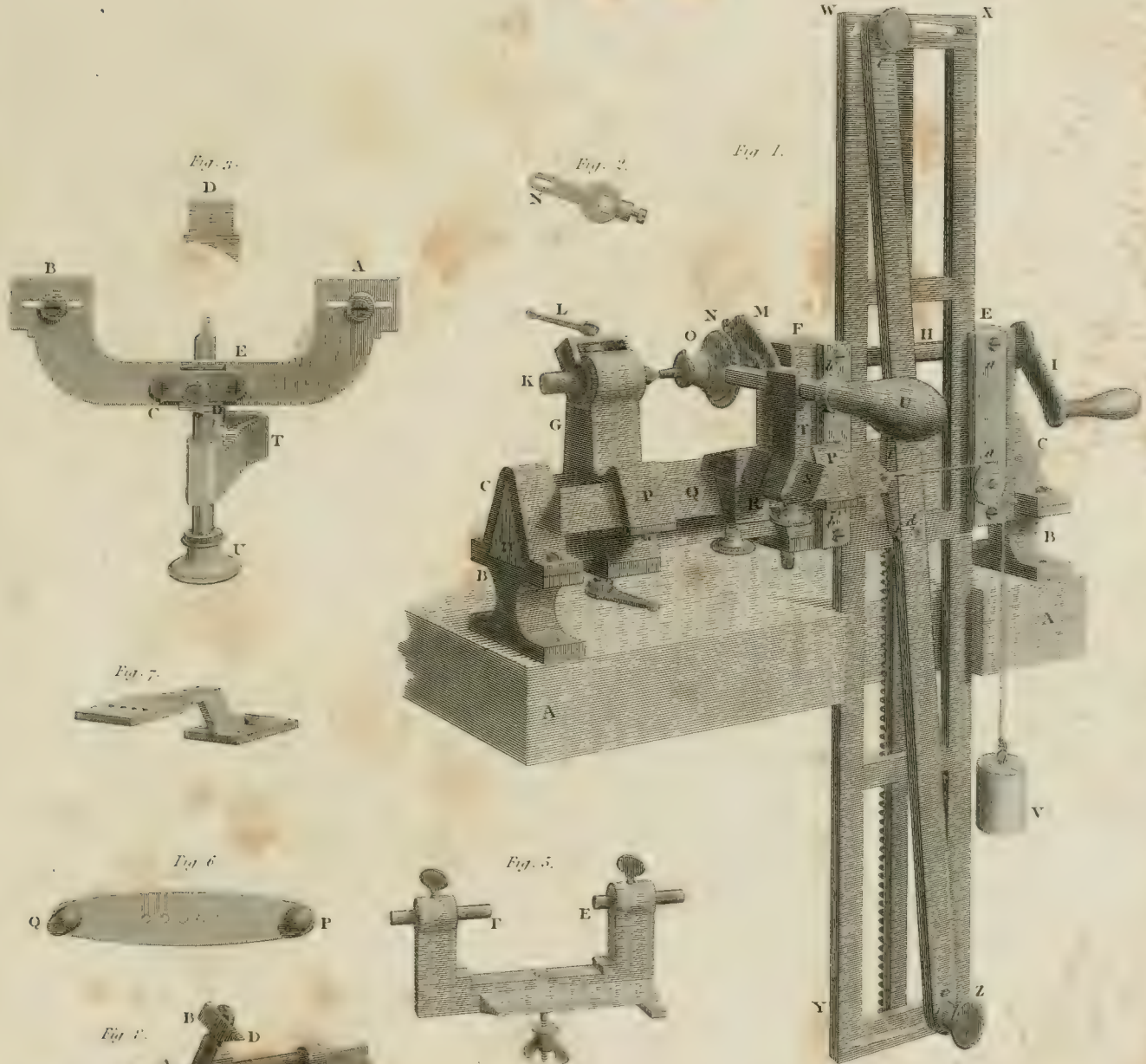
Fig. 7.



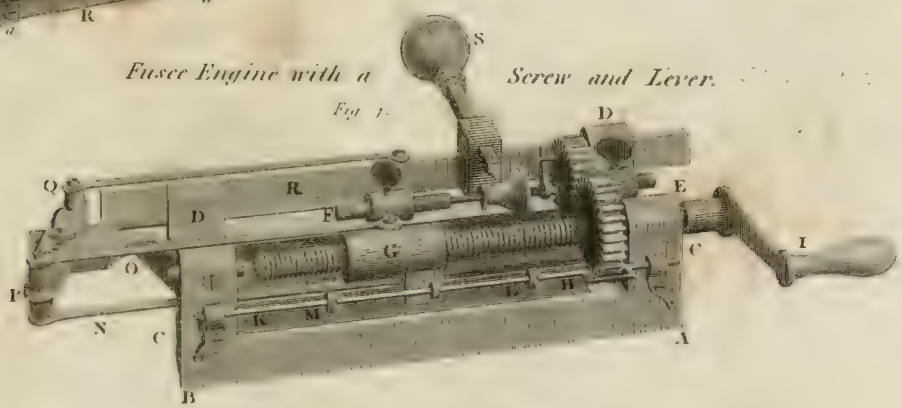
Theory of the Fusee.

J. Lowry delin. Published as the Act directs, 1812, by Longman, Hurst, Rees, Orme & Brown, Paternoster Row. Engraved by W. Lowry.

FUSEE ENGINE acting by an inclined Plane.



Fusee Engine with a Screw and Lever.

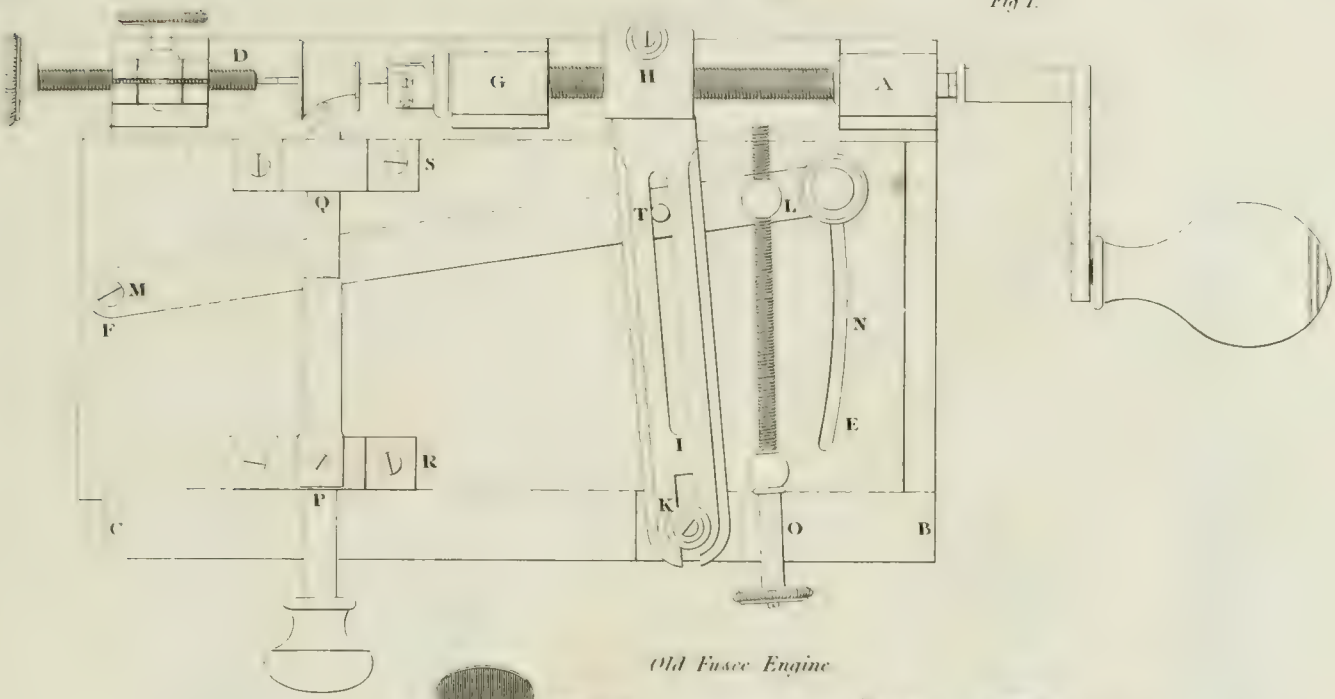


J. Farey del in. Published as the Act directs, 1817, by Longman, Hurst, Rees, Orme & Brown, Paternoster Row. Lowry Sc.

FUSEE ENGINES and FUSEE FRAME.

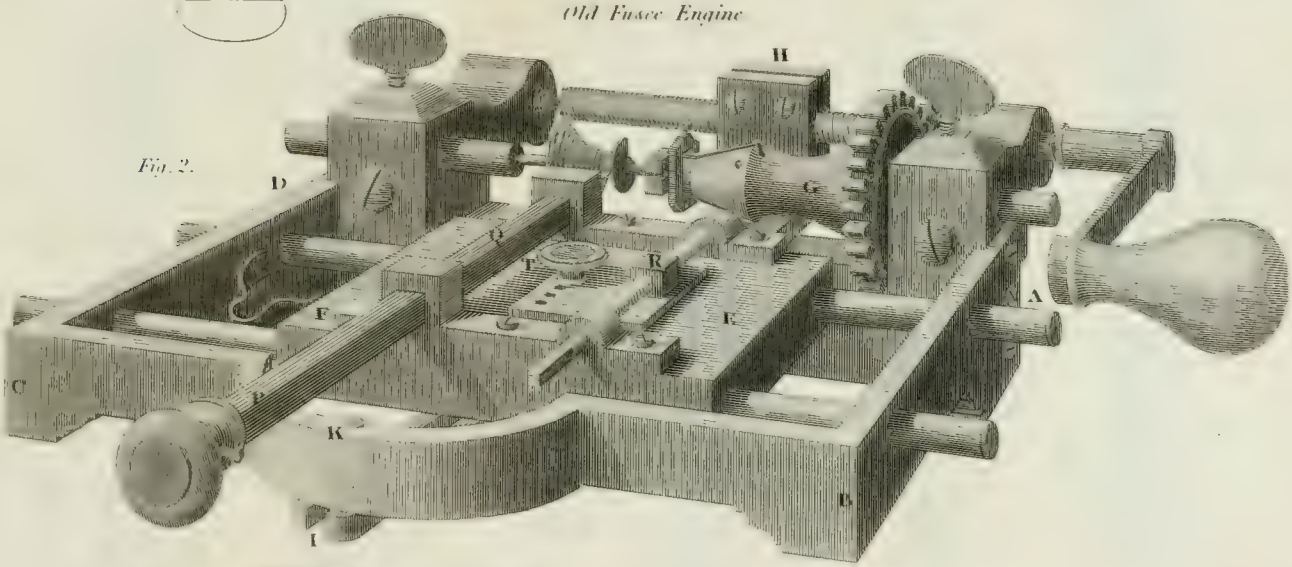
Common Fusee Engine

Fig 1.



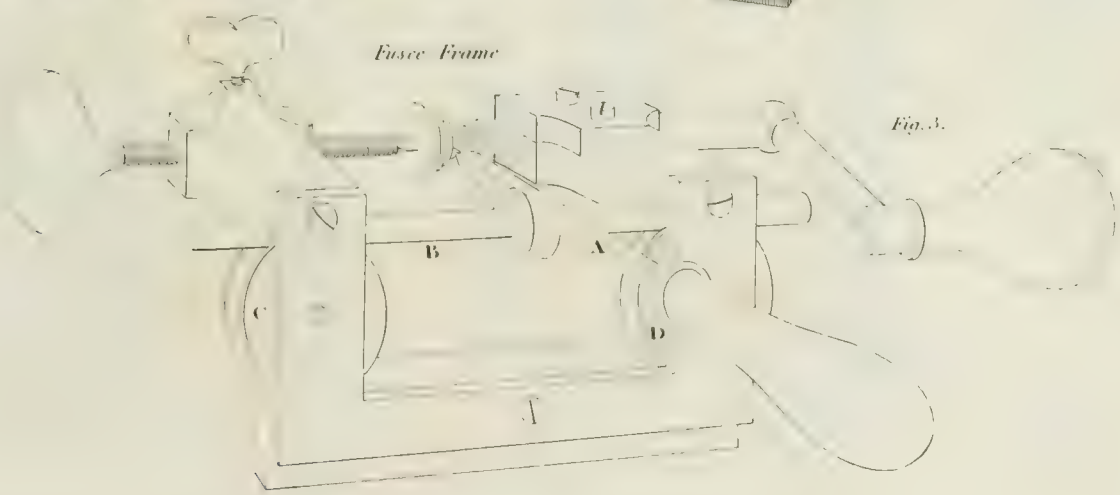
Old Fusee Engine

Fig. 2.



Fusee Frame

Fig. 3.



COMPENSATING PENDULUMS.

Fig. 1.

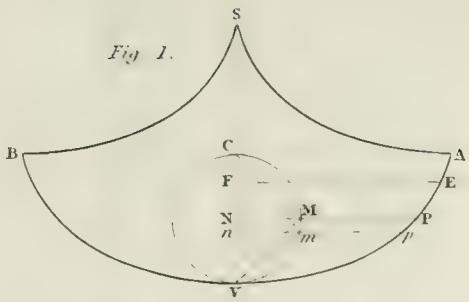


Fig. 2.

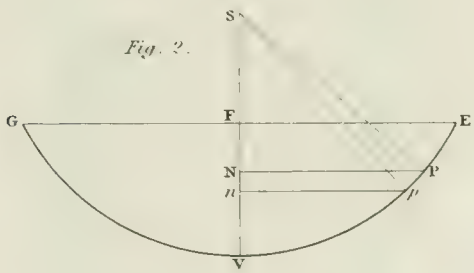


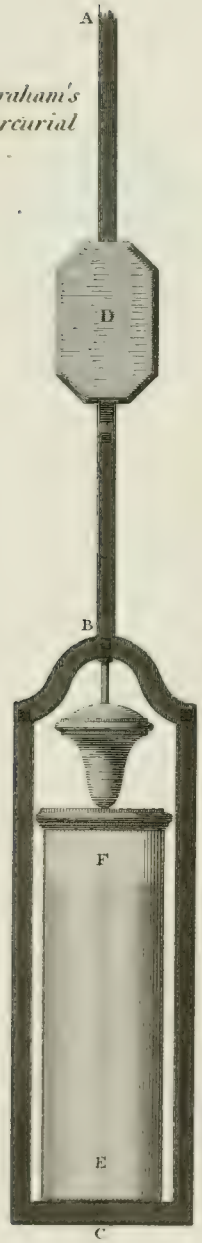
Fig. 3.

J. Le Roy's

Fig. 8.

Graham's Mercurial

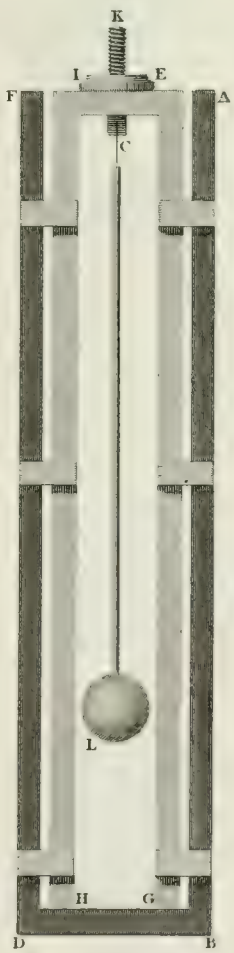
Fig. 4.



Regnauld's

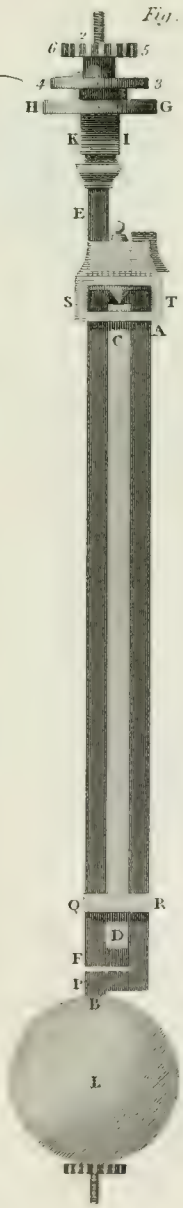
Fig. 5.

Fig. 7.



Deparcieux's

Fig. 6.



J. Farey Junr delin. Published as the Act directs, 1815, by Longman, Hurst, Rees, Orme & Cr Paternoster Row. Lowry sculp.

HOROLOGY.

COMPENSATING PENDULUMS.

Ellicott's

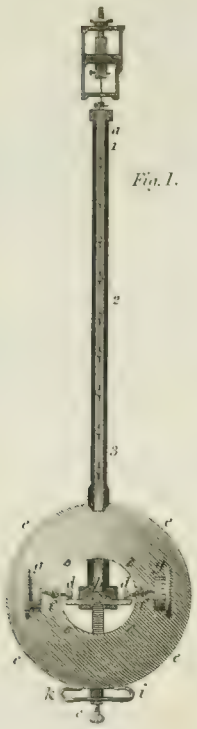


Fig. 1.

Troughton's Rhomboidal

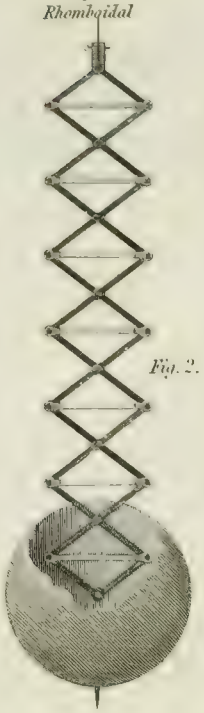


Fig. 2.

Berthoud's

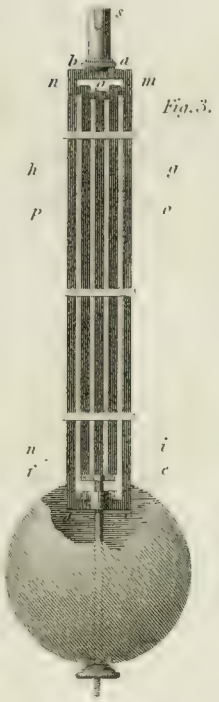


Fig. 3.

Troughton's Mercurial

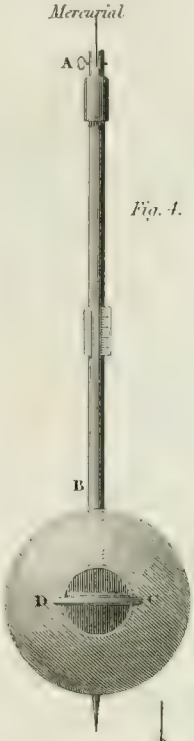


Fig. 4.

Dr. Fordyce's

Fig. 5.

Ritchie's

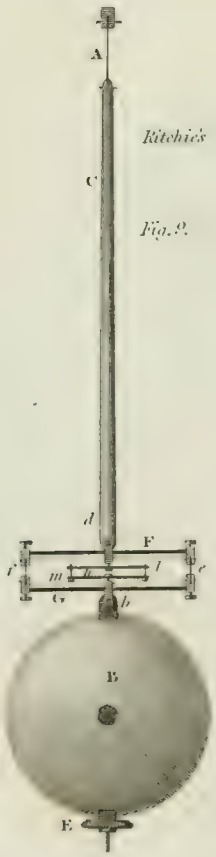


Fig. 9.

Ward's

Fig. 6.

Reid's

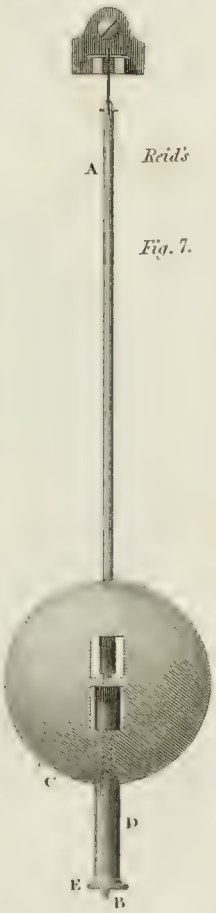
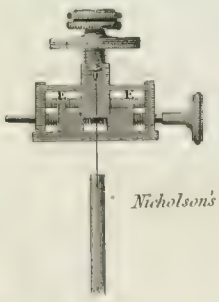


Fig. 7.

Doughty's

Fig. 8.

Fig. 10.



Nicholson's

J. Farey Junr. delin.

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Lowry Sc.

REMONTOIR ESCAPEMENTS.

Fig. 1. Halcyn's.

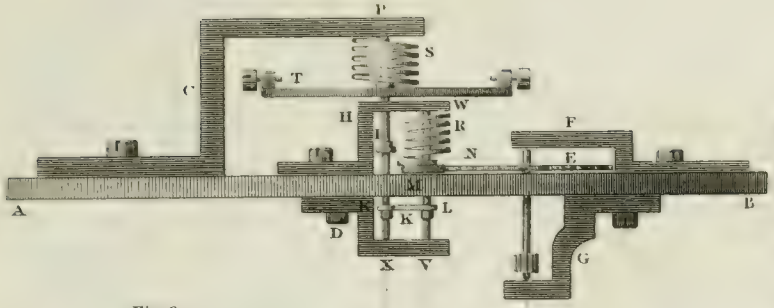


Fig. 3.

Fig. 2.

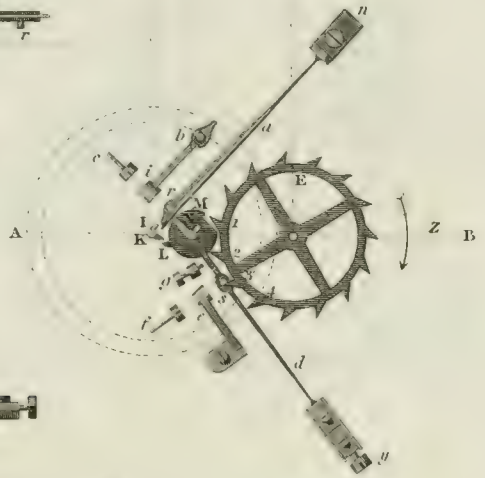


Fig. 4.

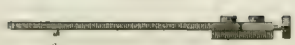


Fig. 6.

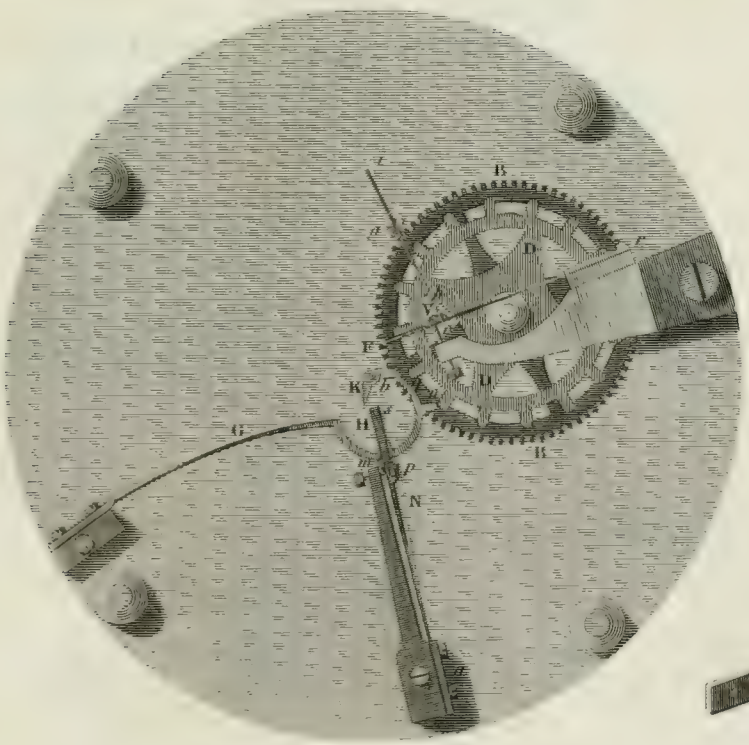
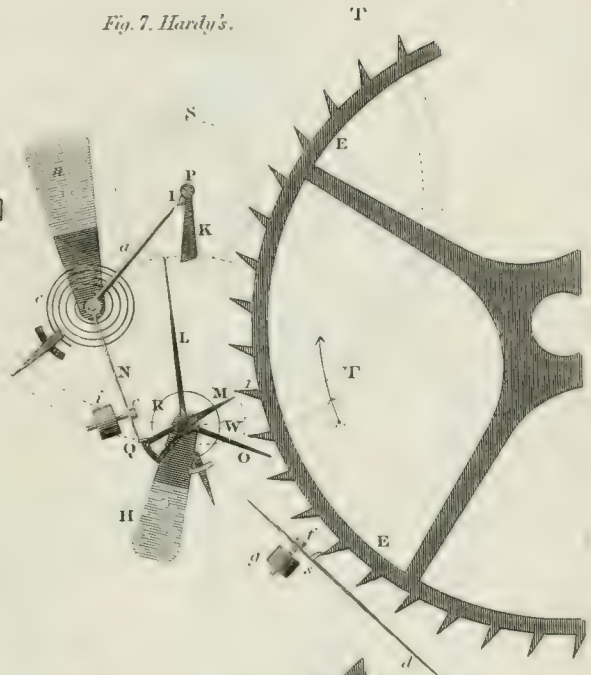


Fig. 7. Hardy's.



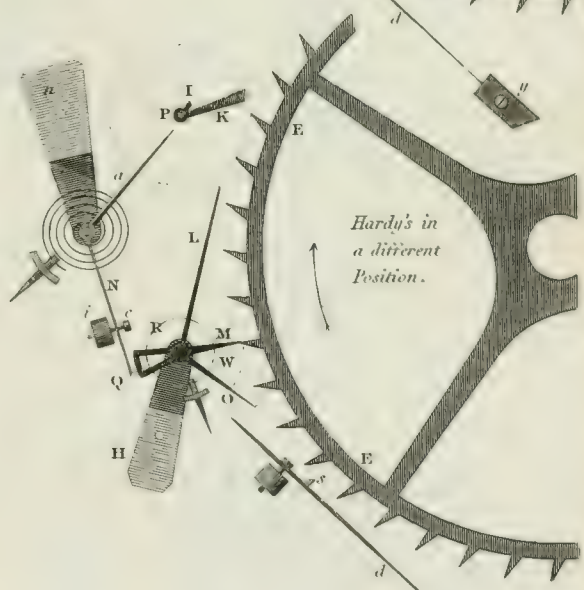
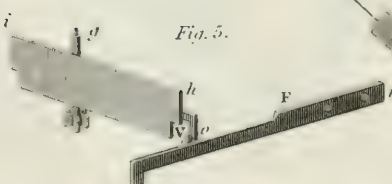


Fig. 5.



Breguet's

J. Farey del. Published as the act directs, 1826, by Longman, Hurst, Rees, Orme, & Brown, Paternoster Row, London. Lowry sculp.

Remontoire Escapements

Fig 1

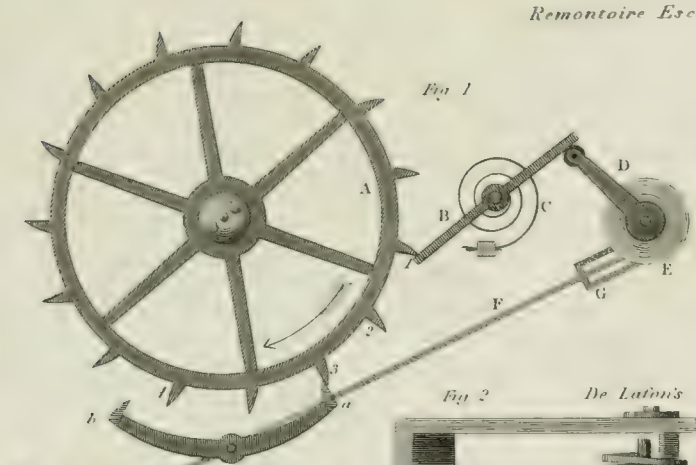


Fig 2 De Lalon's

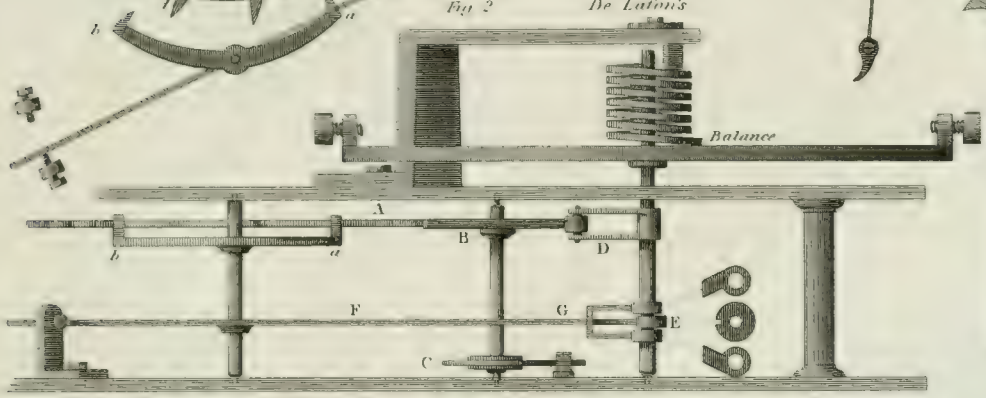


Fig 3 Massey's

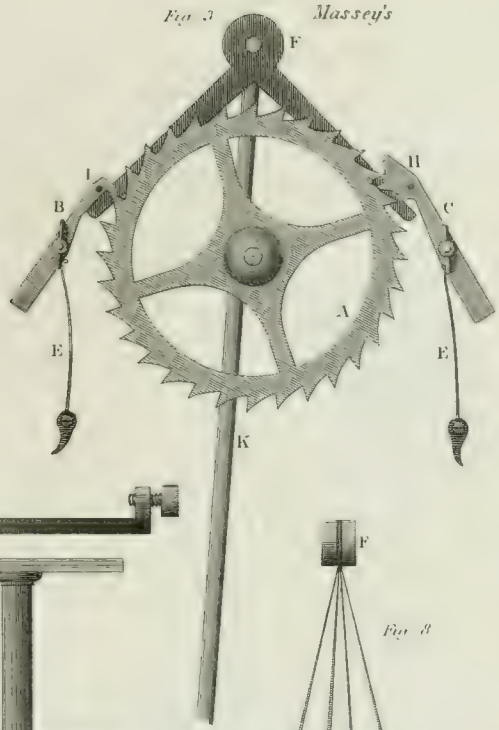


Fig 4 Mendham's

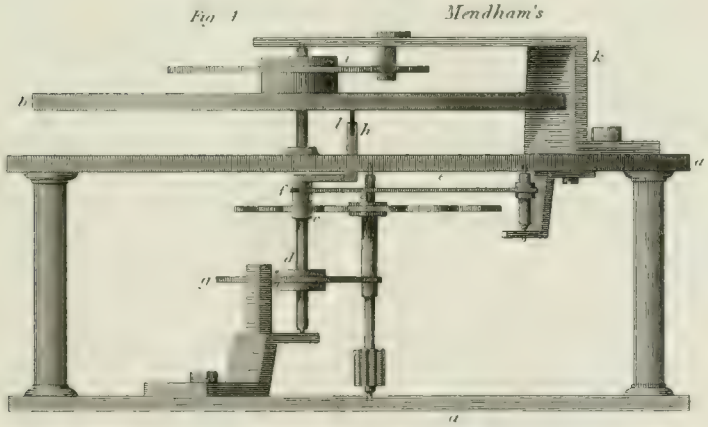


Fig 5

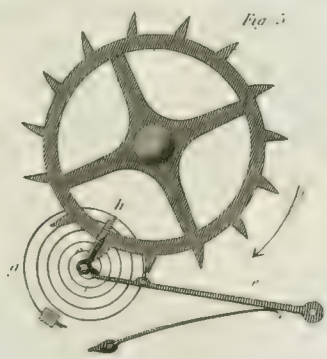


Fig 6

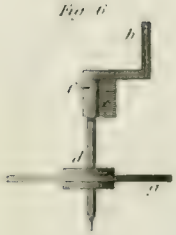
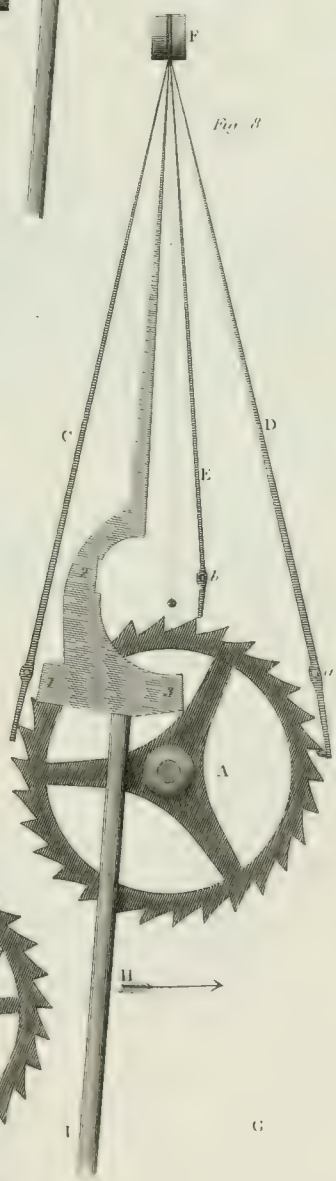


Fig 7 Prior's

Fig 8

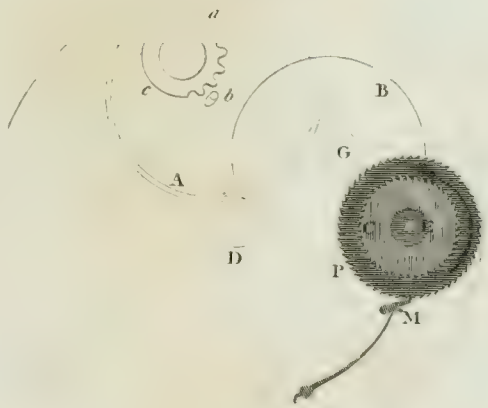


Recordon's Renovateur.

Fig 1

Fig 3.

Fig 2



WATCH with MUSIC.

Fig 4.

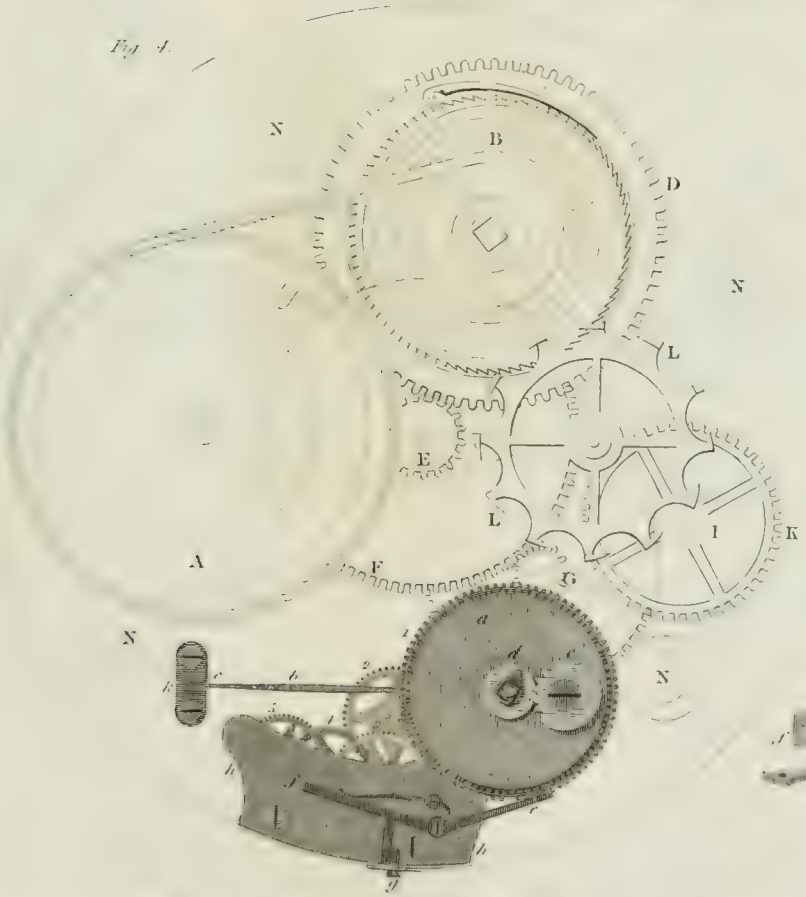


Fig 7

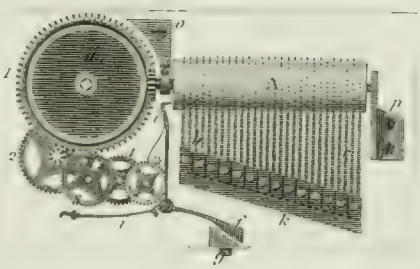


Fig. 8

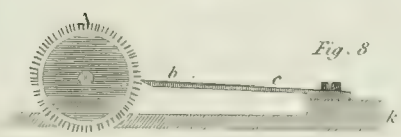


Fig. 9

Fig 6

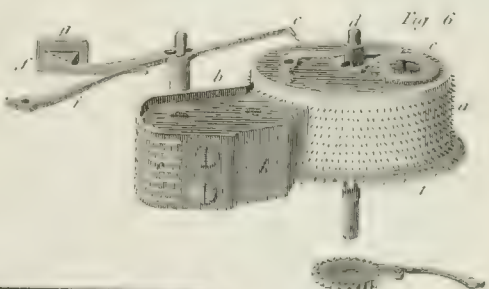
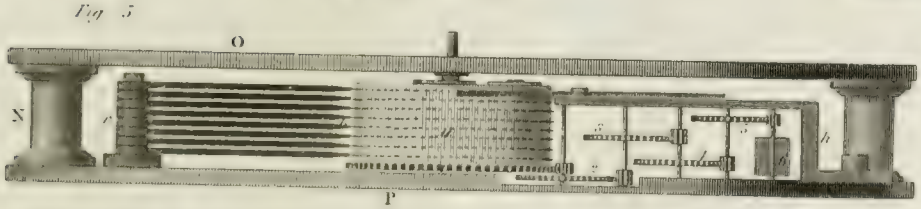


Fig 5



Farey delin.

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Lowry Sc

Fig. 7.

Fig. 5

COMMON WATCH

Fig. 1.

Fig. 3.

Fig. 4.

Fig. 6.

Fig. 2.

Fig. 8.

ALARUM

Fig. 12.

Fig. 9.

Fig. 10.

Fig. 13.

Fig. 14.

Fig. 11.

Fig. 17.

Fig. 18.

Fig. 15.

ROLLING WATCH

Fig. 16.

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REPEATING WATCH.

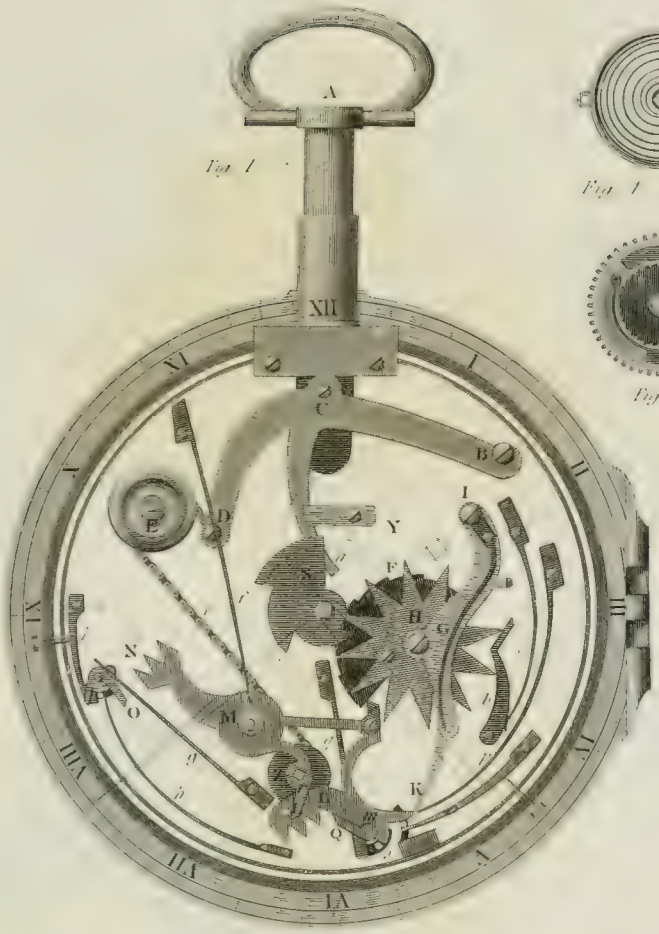


Fig. 1

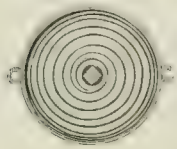


Fig. 4 Spring

Fig. 5

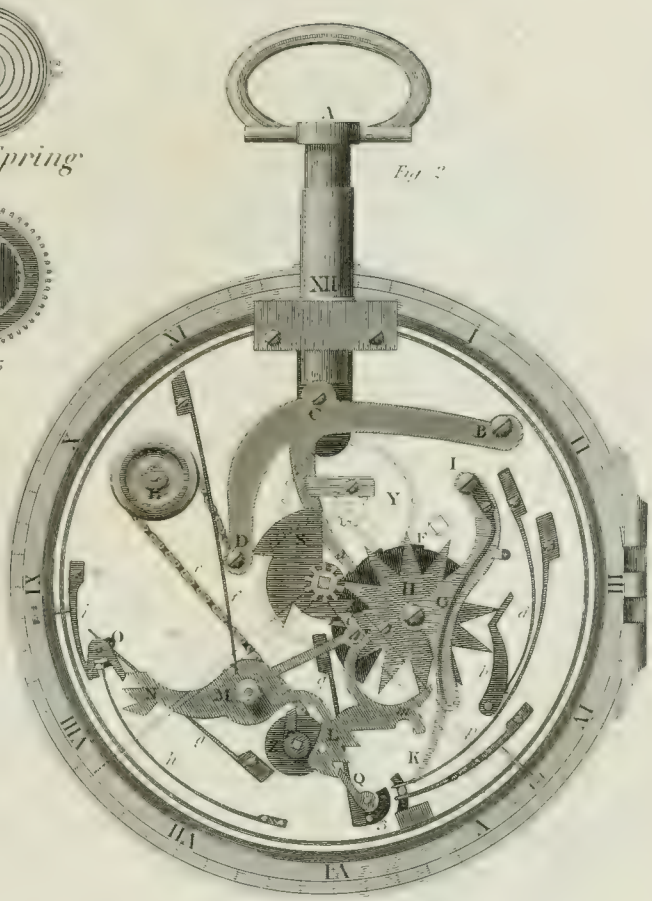


Fig. 2

Fig. 3.
WHEELWORK

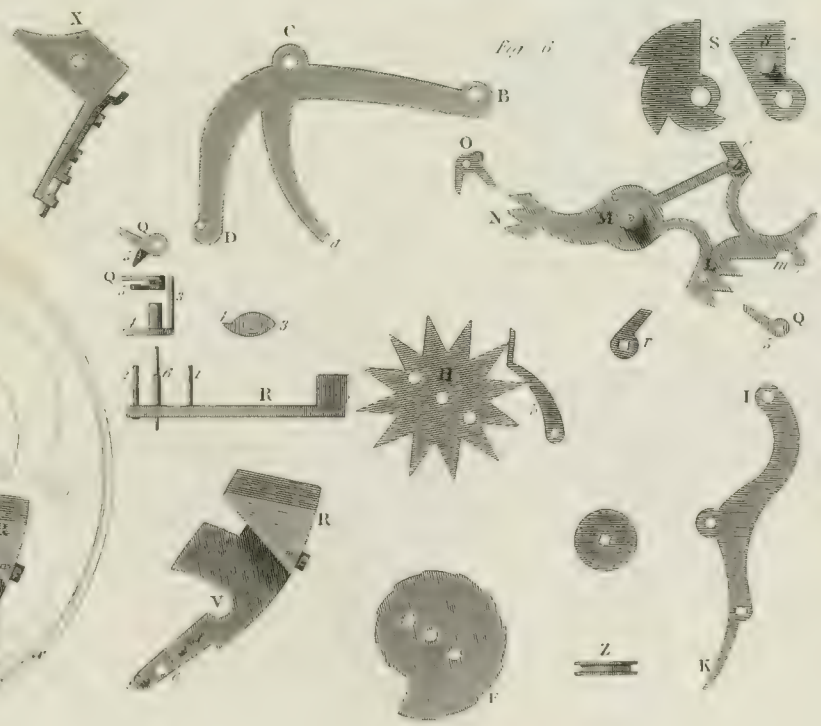


Fig. 6

HOROLOGY.

REPEATING and ALARUM WATCHES.

Fig. 1.

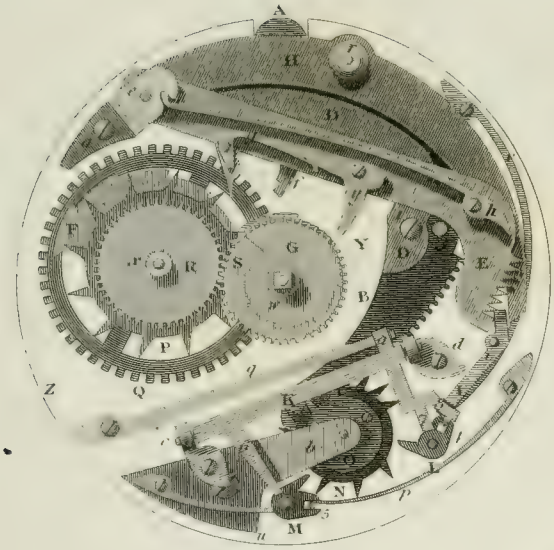


Fig. 5.

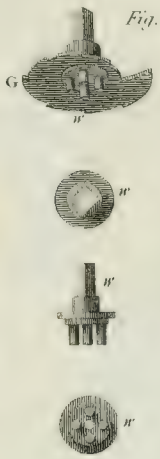


Fig. 2

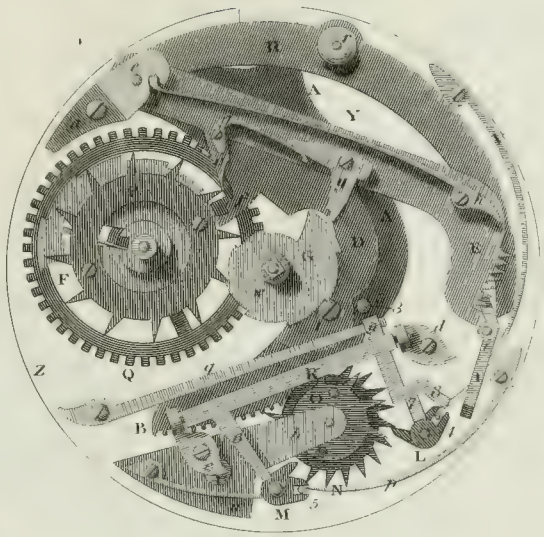


Fig. 7.

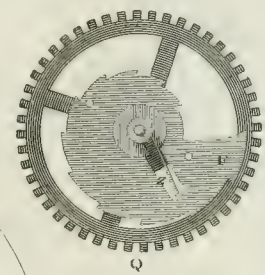


Fig. 8.

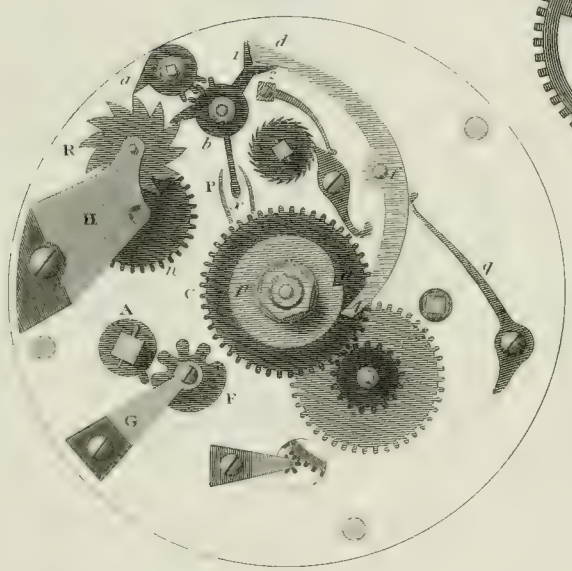


Fig. 3.

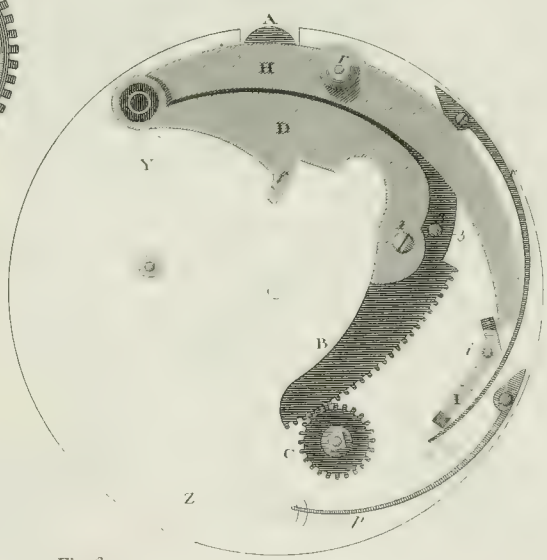
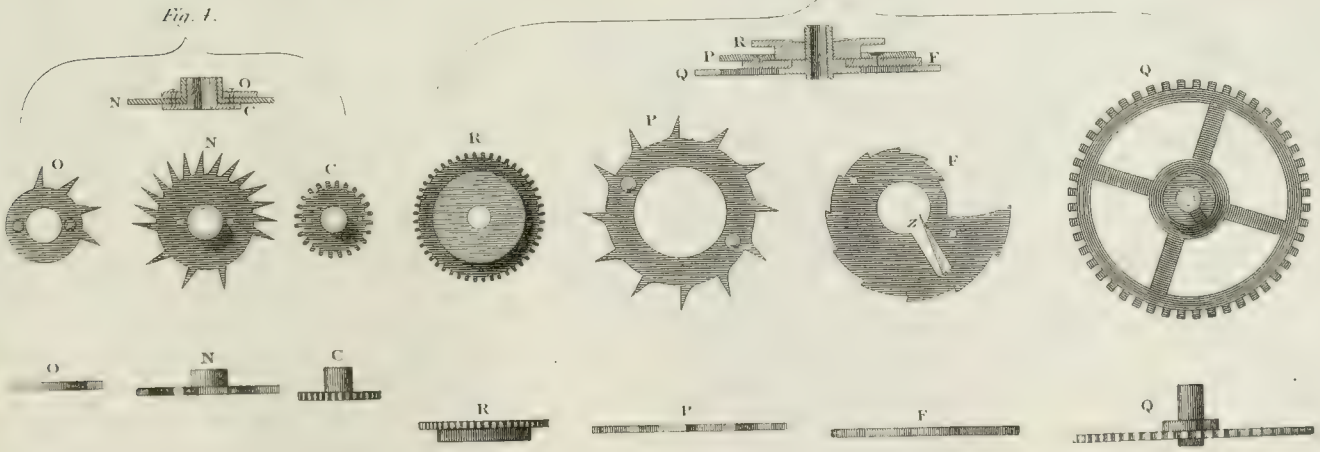


Fig. 6.

Fig. 4.



B. L. Vulliamy, Clock & Watch Maker, to the King, & Prince Regent, delin.

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HOROLOGY.
REPEATING WATCHES.

Fig. 4.

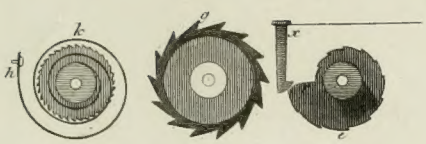


Fig. 5.

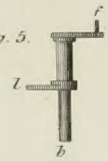
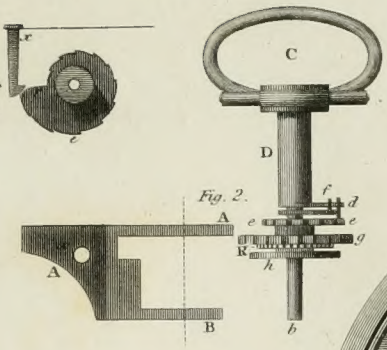


Fig. 2.



Mr. Elliot's Fig. 1.

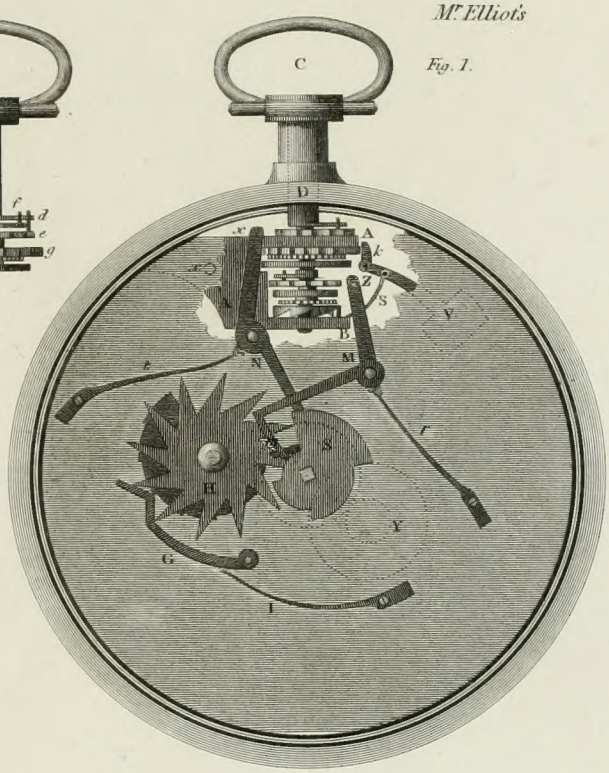
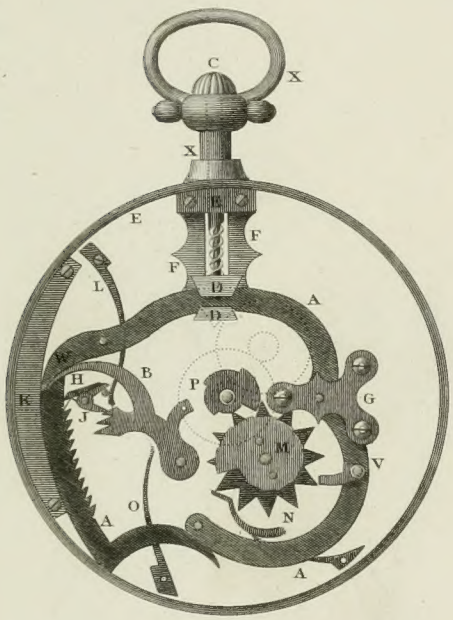


Fig. 3.

Infallible Repeater by M. Berrollas

Fig. 6.



Detached parts

Fig. 8.

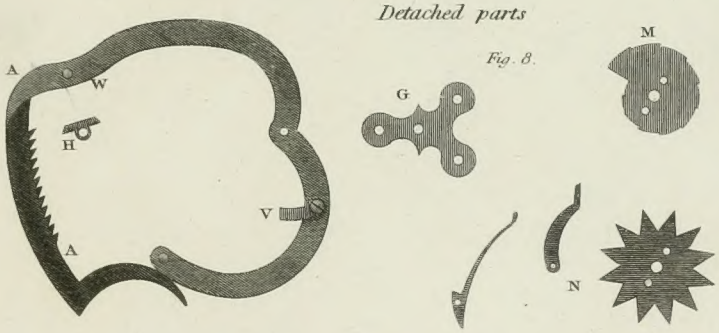
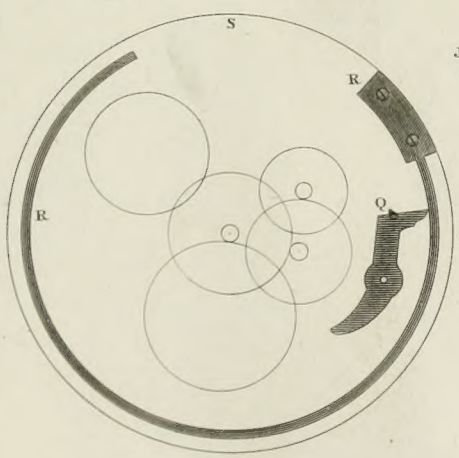
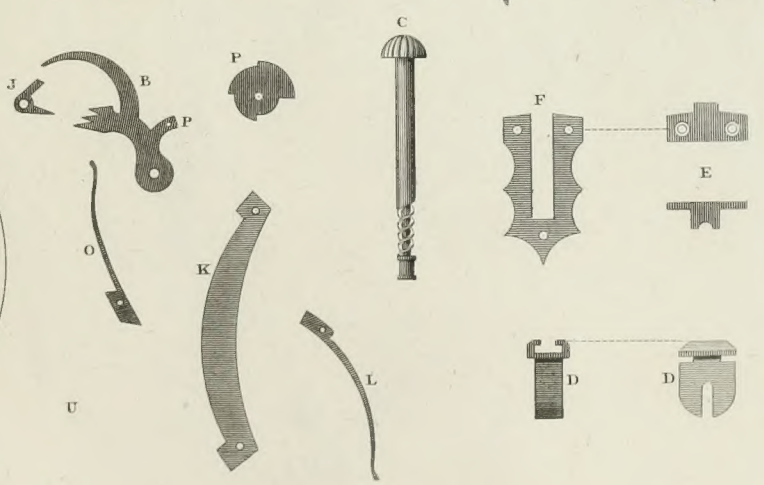


Fig. 7. Calliper





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