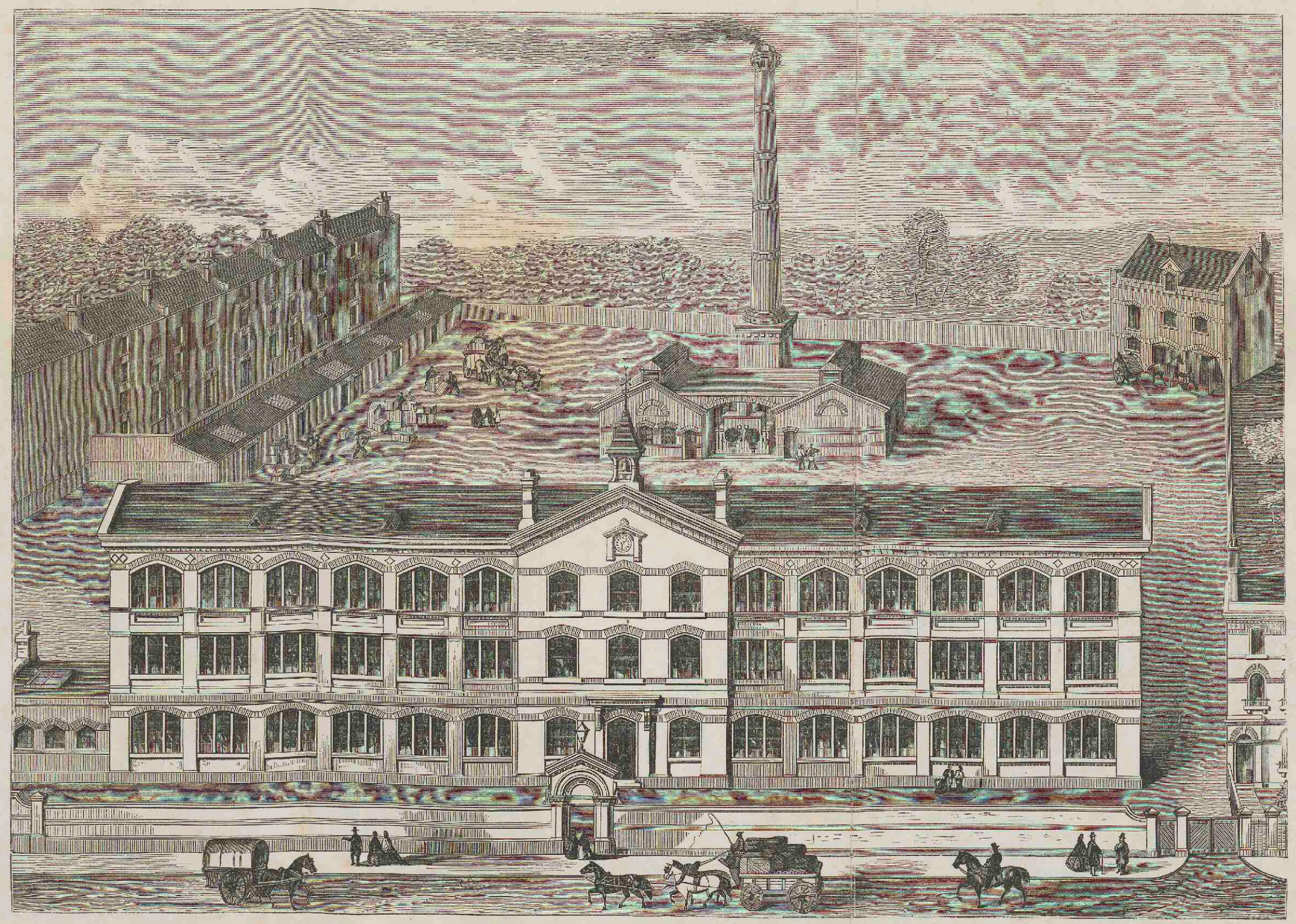
A catalogue of artificial teeth, dental materials, tools, furniture &c., manufactured, imported, and sold by Claudius Ash & Sons, 7, 8, & 9 Broad Street, Golden suare, London ...

C. ASH AND SONS'

DENTAL CATALOGUE.

1871.



CLAUDIUS ASH AND SONS' MANUFACTORY, KENTISH TOWN.

A CATALOGUE

OF

Artificial Teeth, Dental Materials, Instruments, Tools, Furniture, &c.,

MANUFACTURED, IMPORTED, AND SOLD BY

CLAUDIUS ASH & SONS,

7, 8, & 9, BROAD STREET, GOLDEN SQUARE,

LONDON.

1871.

C. ASH AND SONS,

CENTRAL DEPÔT,

7, 8, 9, BROAD STREET, GOLDEN SQUARE, W.,

LONDON.

BRANCHES:

England.

LIVERPOOL . . . . . 13, Mount Pleasant.
MANCHESTER . . . . . 82, Grosvenor Street.

France.

PARIS . . . . . 100, Rue de Richelieu.

Germany.

BERLIN . . . . . 18A, Carlsstrasse.
HAMBURG . . . . . 6, Bleichenbrücke.

Austria.

VIENNA . . . . . 27, Wollzeile.

CORRESPONDENCE IN FRENCH, GERMAN, SPANISH, AND ITALIAN.

On parle et on écrit le Français, l'Allemand, l'Espagnol, et l'Italien.

PRIZE MEDAL,

AWARDED TO C. ASH AND SONS,

AT THE INTERNATIONAL EXHIBITION, LONDON,
1862.

THE GOLD MEDAL

AWARDED TO C. ASH AND SONS

AT THE PARIS EXPOSITION,

1867.

PREFACE.

C. Ash and Sons, in preparing another edition of their Illustrated Catalogue, have endeavoured to make it complete as a Book of reference, so that Dentists in all parts of the world may be able to obtain whatever they require with the greatest ease and certainty. For this purpose the Wood Engravings have been considerably increased in number, and great care has been taken to represent the form, &c., of each article as accurately as possible. This will be found to be particularly the case with respect to Dental Instruments, where the different kinds used, and the immense variety of forms required, are illustrated with such exactness that Dentists will be able to make their selection of new kinds, or replace any which they have in use, as easily as if the actual stock of Instruments were before them to select from.

The increasing demand for C. Ash and Sons' manufactures is a satisfactory proof to them that their constant endeavours to meet the requirements of the profession have been appreciated; and while thankfully acknowledging past favours, they again solicit a continuance of that confidence and support which has always stimulated them to renewed exertion in order to maintain and extend the reputation they have obtained.

C. Ash and Sons give particular attention to every new development of the Dental Art, whether in its surgical or mechanical departments, in order that all new materials and appliances may be supplied without delay, and consequently their home and foreign depôts are repositories of the improvements of the age. It is their intention rigidly to adhere to those principles upon which for nearly sixty years their business has been conducted. They therefore look forward with confidence to an increasing share of those favours which they have so long enjoyed.

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SUNDRIES.

ERRATA.

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REMARKS ON ORDERING GOODS, &c.

When ordering Goods from the Catalogue the number of the page should always be given, and if the article is illustrated, the number of the illustration also.

A fresh line should be commenced for each article required.

The Address to which the Goods are to be sent should be distinctly written.

Dentists residing at a distance will find the Post a convenient and safe means for conveying Patterns for Gold, Teeth, &c.

Goods that can be distinctly specified can be ordered by Telegraph.

To facilitate the sending of orders, C. Ash and Sons supply to their Customers, on application, Printed Order Books with a counterfoil attached, so that a record can be kept of the goods ordered. Printed Envelopes addressed to "C. Ash and Sons" are also supplied if desired.

Goods obtained from other houses if required.

Orders received up to 3 o'clock are usually despatched by Post or Rail the same evening.

Postage is only charged upon heavy articles of small amount.

Precious metals exceeding twenty shillings in value, unless otherwise directed, are registered at the expense of the purchaser.

Goods to the Colonies and foreign parts are insured, if requested, at the expense of the purchaser, and the order should state whether the packing cases are to be lined with tin or not.

Orders from the Colonies and foreign parts must be accompanied by a remittance, unless an Agent in London is appointed, to whom the goods may be delivered on payment of the amount.

All goods are despatched at the risk of the purchaser.

Bankers' Drafts, Bank or Mercantile Bills, should be crossed "Union Bank of London."

Post-Office Orders should be made payable at the Chief Office, St. Martin's le Grand, London, to CLAUDIUS ASH and SONS. The cost of obtaining Post-Office Orders is allowed by C. ASH and SONS, who will supply, on application, printed forms for obtaining them.

Amounts under twenty shillings may be remitted in postage stamps.

C. ASH and SONS continue to purchase old Gold, Silver, Platinum, Board and Floor Sweep. They do not object to purchase small quantities, but as every lot has to be tested separately to ascertain its intrinsic value, the larger the quantity sent, the greater will be the advantage to their customers, the expense of a number of testing trials being thereby avoided.

Registers are kept by C. ASH and SONS—of "Partnerships and Practices for Disposal,"—of "Dentists requiring Assistants,"—and of "Dentists' Assistants" seeking Engagements.

No Charge is made for Registering, and Copies of the Registers are supplied Free of Cost on application.

Dentists' Assistants must produce a Certificate from their last or present employer, as to Ability and Character, before their names can be entered on the Register.

Hours of Business from 8·30 A.M. to 6·0 P.M. On Saturdays until 2·0 P.M.

C. ASH & SONS, in publishing a New Edition of their Catalogue, take this opportunity to invite DENTISTS to inspect, from time to time, their extensive and varied Stock of DENTAL INSTRUMENTS, APPLIANCES, CABINETS, OPERATING CHAIRS, &c., &c.

In their SHOW ROOMS will be found all the most recent improvements in Dentistry, and they and their Assistants will be happy to give any explanation or information that may be desired.

The Reduction in the Prices published in this Catalogue will commence July 1.

C. ASH & SONS are now preparing French and German Editions of their Catalogue for the convenience of Foreign Dentists.

LONDON, *May*, 1871.

MINERAL TEETH,

PREPARATIONS OF

GOLD, SILVER, PLATINUM, &c.

METALLIC AND OTHER STOPPINGS,

AND

PREPARATIONS OF DENTAL RUBBER

FOR VULCANITE WORK.

C. ASH AND SONS'

MINERAL TEETH.

C. ASH and SONS' stock comprises a most extensive assortment of Tube, Pivot, Vulcanite, and Flat Teeth, of various forms, sizes, and colours. These Teeth have long been esteemed for their excellence and similarity to Natural Teeth in form and colour, and also because they are free from porosity (or air-bubbles) in their texture, and can therefore be ground and polished to any extent that may be necessary to suit special cases.

The greatest care and attention is bestowed on this, the staple branch of their Manufactures, and new forms, sizes, and colours, are being continually added to their stock, in order to meet as far as possible the requirements of an art which has for its object the close imitation of Natural Teeth in their infinite varieties of form, colour, and general appearance.

When ordering Teeth it is necessary to specify distinctly the kind and size required;—whether they are to be Tube, Vulcanite, or Flat;—Large, medium, or small;—Long or Short Enamel;—whether the sets are to contain 6, 14, or 28 Teeth;—and when portions of sets are required for special cases, for which side of *the Patient's mouth* they are intended—and as far as convenient, patterns for colour should be sent.

Those Dentists who may desire it, can be supplied with rows of teeth of the colours and shades which are chiefly in demand, and Teeth of any of these colours can be obtained by writing the letter A, B, C, &c., for the colour, and the *number* of the tooth, for the degree of shade required; thus, B/3, D/4, &c. These rows of Teeth are not intended to represent all the colours or shades kept in stock, but they are useful as proximate shades, and may be found convenient as means of reference when patterns cannot be sent.

Japanned or leather cases, or nests of drawers, are supplied for keeping an assortment of Teeth.

A discount is allowed to Dentists purchasing Teeth in large quantities.

TUBE TEETH.

Upper Teeth . .	Incisors and Canines	In sets of 6 Teeth.
Lower „ . .	„ „	„ 6 „
Upper sets with .	Bicuspids and Molars . . .	„ 14 „
Lower „ „ .	„ „	„ 14 „
Upper and Lower sets Complete	. . . . .	„ 28 „
Upper Teeth . .	Thin, for close bites	„ 6 „
Ditto „ . .	Rounded for Bone	„ 6 „
Lower „ . .	„ „	„ 6 „
Incisors or Canines	Upper and Lower	. In Pairs.
Bicuspids or Molars	„ „	„
Ditto ditto	„ „	In sets of 8 Teeth.

Price 60*s.* per Hundred, or 8*d.* per Tooth.

TUBE TEETH WITH GUMS.

Upper or Lower Teeth	In sets of 6 Teeth.
Ditto ditto	„ 14 „
Upper and Lower sets Complete	„ 28 „
Incisors or Canines, Upper and Lower	. In Pairs.
Bicuspids or Molars „ „	„
Sectional Pieces . „ „	. Of 2, 3, and 4 Teeth.

Price 90*s.* per Hundred, or 1*s.* per Tooth.

Upper sets in one piece.	For Specimens	of 14 Teeth.
Lower „ „	Ditto to match . . .	„ 14 „

Price per Set of 14 Teeth, 20*s.*

TEETH FOR WOOD PIVOTS.

Price 40*s.* per Hundred, or 5*d.* per Tooth.

TEETH FOR VULCANITE.

Upper Teeth . .	Incisors and Canines . . .	In sets of 6 Teeth.
Lower „ . .	„ „ . . .	„ 6 „
Upper sets with .	Bicuspids and Molars . . .	„ 14 „
Lower „ .	„ „ . . .	„ 14 „
Upper and Lower sets Complete		„ 28 „

Incisors or Canines, Upper and Lower	In Pairs.
Bicuspids or Molars, „ „	„
Ditto ditto, „ „	In sets of 8 Teeth.

Price 40*s.* per Hundred, or 5*d.* per Tooth.

TEETH WITH GUMS FOR VULCANITE.

Upper or Lower Teeth	In sets of 6 Teeth.
Ditto ditto	„ 14 „
Upper and Lower sets Complete	„ 28 „
Incisors or Canines, Upper and Lower	In Pairs.
Bicuspids or Molars, „ „	„

(*In Sections.*)

Upper or Lower Teeth	In pieces of 2, 3, and 4 Teeth.
Upper or Lower sets of 14 Teeth . . .	„ 2, 3, and 4 „
Complete sets of 28 „ . . .	„ 2, 3, and 4 „

Price 60*s.* per Hundred, or 8*d.* per Tooth.

FLAT TEETH.

Upper Teeth . .	Incisors and Canines . . .	In sets of 6 Teeth.
Lower „ . .	„ „ . . .	„ 6 „
Upper sets with .	Bicuspids and Molars . . .	„ 14 „
Lower „ .	„ „ . . .	„ 14 „
Upper and Lower sets Complete		„ 28 „

Incisors or Canines, Upper and Lower	In Pairs.
Bicuspids or Molars, „ „	„
Ditto ditto, „ „	In sets of 8.

Price 40*s.* per Hundred, or 5*d.* per Tooth.

FLAT TEETH WITH GUMS.

Upper or Lower Teeth	In sets of 6 Teeth.
Ditto ditto	„ 14 „
Upper and Lower sets Complete	„ 28 „
Incisors or Canines, Upper and Lower	In Pairs,
Bicuspids or Molars, „ „	„

Price 60*s.* per Hundred, or 8*d.* per Tooth.

C. Ash and Sons' Flat Teeth are all made with long Platinum Pins, and can therefore be used either for Plate or Vulcanite work.

C. Ash and Sons have always in Stock a very extensive assortment of odd Teeth of all kinds, and every facility is afforded for selecting Teeth for special cases.

GOLD FOILS

PREPARED BY

C. ASH AND SONS.

C. Ash and Sons bestow great pains upon the preparation of the various kinds of Gold Foil used by Dentists, and the increasing demand for them is a satisfactory proof that their efforts to produce the best preparations are appreciated. Great care is taken, not only to obtain uniformity of thickness in the various kinds made by them, but also in the process of annealing, in order to obtain that amount of ductility which is so essential to the operator in producing compact and perfect stoppings.

		s.	d.		s.	d.
No. 1. Thick (12 grains).	per leaf	3	0	per oz.	105	0
No. 2. Medium (8 „).	„	2	3	„	115	0
No. 3. Thin (5 „).	„	1	6	„	125	0

NEUTRALIZED GOLD FOIL,

PREPARED BY C. ASH AND SONS, AFTER THE AMERICAN METHOD.

		s.	d.
No. 5. Thin	per oz.	120	0
No. 8. Medium	„	120	0
No. 12. Thick	„	120	0

ADHESIVE GOLD FOIL.

		s.	d.
No. 4.	per oz.	130	0
No. 5.	„	130	0
No. 6.	„	130	0
No. 8.	„	130	0

NON-ADHESIVE GOLD FOIL.

		s.	d.
No. 4.	per oz.	130	0
No. 5.	„	130	0
No. 6.	„	130	0
No. 8.	„	130	0

GOLD FOILS—*continued.*

HEAVY GOLD FOILS.

(ADHESIVE AND NON-ADHESIVE.)

		s.	d.
20 Grains per sheet	per oz.	115	0
25 „ „	„	115	0
50 „ „ and upwards	„	115	0

AMERICAN GOLD FOILS.

ADHESIVE.

(ABBEY AND SONS'.)

		s.	d.
No. 4	per oz.	140	0
No. 5	„	140	0
No. 6	„	140	0
No. 8	„	140	0

NON-ADHESIVE.

(ABBEY AND SONS'.)

		s.	d.
No. 4	per oz.	140	0
No. 5	„	140	0
No. 6	„	140	0
No. 8	„	140	0
Crystal Sponge Gold (Watts'), $\frac{1}{8}$ oz. 17*s.* 6*d.*	„	135	0

The above Foils, English and American, are supplied in $\frac{1}{8}$ oz., $\frac{1}{4}$ oz., $\frac{1}{2}$ oz. and 1 oz. packets.

The numbers 4, 5, 6, 8, 12, indicate the number of grains in each sheet.

TIN FOIL.

		s.	d.
C. Ash and Sons' Tin Foil	per book	2	0
Abbey and Sons' „	„	2	3

GOLD PLATE AND WIRE.

				s.	d.
20 carat Gold Plate, in large pieces			per oz.	78	0
20	„	„	„ cut to pattern	„	80	0
20	„	„	Wire	„	80	0
18	„	„	Plate, in large pieces	„	70	0
18	„	„	„ cut to pattern	„	72	0
18	„	„	Wire	„	72	0
17	„	„	Plate, alloyed with Platinum, for bands	„	72	0
17	„	„	Wire „ „ for hooks	„	72	0
16	„	„	Plate, in large pieces	„	64	0
16	„	„	„ cut to pattern	„	66	0
16	„	„	„ for bands or clasps	„	66	0
16	„	„	Wire, hard	„	66	0
16	„	„	„ in straight 6 in. lengths, for Mineral Teeth and Blocks, Pins, &c.	„	66	0
16	„	„	Wire (half round), for clasps	„	66	0
16	„	„	„ soft, for riveting	„	66	0
16	„	„	„ soft, for tying	„	66	0

C. Ash and Sons supply, free of charge, sets of Brass Patterns of the various sizes of Gold Plate and Wire kept by them; so that by sending the Number or Letter of Pattern the exact size can be obtained. In the other Metals all the sizes of Plate are kept in stock, but only Nos. 3, 4, 5, of the pattern sizes for Wire.

GOLD SOLDERS.

			s.	d.
Gold Solder.	No. 1.	Best quality	per oz.	63	0
„	No. 2.	Medium ditto	„	57	0
„	No. 3.	Most fusible	„	50	0
Fine Gold, flatted thin, for soldering Platinum			„	87	6

The Solders No. 1, 2, and 3, are much esteemed for their liquidity when in a state of fusion, and the perfect combination they effect between the parts united by them.

SWIVELS.

		s.	d.		s.	d.
Gold Swivels, with nuts	each	4	0	per set of four	16	0
„ „ on plates	„	4	0	„ „	16	0
„ „ plain	„	2	6	„ „	10	0
„ Loops or Eyes	„	1	6	„ „	6	0
„ Pins	„	1	0	„ „	4	0
Gold-Headed Swivels with D. Alloy Stems	„	1	6	„ „	6	0
„ Loops or Eyes „ „	„	0	11	„ „	3	8
„ Pins „ „	„	0	7	„ „	2	4
Gold-headed Swivels with Silver Stems	„	1	4½	„ „	5	6
„ Loops or Eyes „ „	„	0	10	„ „	3	4
„ Pins „ „	„	0	6½	„ „	2	2
Platinum Swivels	„	1	9	„ „	7	0
Dental Alloy Swivels	„	1	0	„ „	4	0
„ „ (second quality)	„	0	9	„ „	3	0
Silver Swivels	„	0	7	„ „	2	4
Gold Washers, round or square				„ „	0	8
Silver „ „				„ „	0	3

SPRINGS.

		s.	d.
Gold Springs (16 carat) size No. 7, weakest			
„ „ „ „ No. 8			
„ „ „ „ No. 9			
„ „ „ „ No. 10	per dwt.	4	0
„ „ „ „ No. 11	per oz.	80	0
„ „ „ „ No. 12, strongest			
„ „ „ „ No. 13, extra strong			
„ „ „ „ No. 14 „ „			
Gold Springs (13 carat) size No. 6½, weakest			
„ „ „ „ No. 7½			
„ „ „ „ No. 8½	per dwt.	3	6
„ „ „ „ No. 9½	per oz.	70	0
„ „ „ „ No. 10½, strongest			
Palladium Springs	per pair	5	0
Silver „	„	1	8
Ditto „ gilt	„	2	8

C. Ash and Sons' Gold Springs retain their elasticity even after long use, and for this reason have been extensively used by the Profession for more than forty years.

PLATINUM.

(HARD AND SOFT.)

		s.	d.
Platinum Plate, in large pieces, and wire in coil	per oz.	24	0
„ Wire, in coil, less than 1 oz.	„	25	0
„ „ in lengths, over 1 oz	„	26	0
„ „ „ less than 1 oz.	„	27	0
„ Plate, cut to pattern	„	27	0
„ Gauze	„	30	0
„ „ fine	„	32	0
„ Perforated, for strengthening vulcanite pieces	„	30	0
„ „ over 1 oz.	„	28	0

PALLADIUM.

		s.	d.
Palladium Plate in large pieces	per oz.	25	0
„ „ cut to pattern	„	27	0
„ Wire in coil, over 1 oz.	„	26	0
„ „ less than 1 oz.	„	27	0
„ „ in 6-inch lengths	„	27	0

DENTAL ALLOY.

		s.	d.
Dental Alloy Plate, cut to pattern (1st quality)	per oz.	17	0
„ „ in large pieces „	„	15	6
„ Wire, in coil, over 1 oz. „	„	15	6
„ „ in lengths „	„	17	0
Dental Alloy Plate, cut to pattern (2nd quality)	„	15	0
„ „ in large pieces „	„	13	6
„ Wire, in coil, over 1 oz. „	„	13	6
„ „ in lengths	„	15	0

SILVER.

		s.	d.
Sterling Silver Plate	per oz.	6	6
„ Wire	„	6	6
Silver Solder	„	6	0
Fine Silver	„	5	9

C. ASH AND SONS'

METALLIC PASTE.

FOR STOPPING TEETH.

This Metallic Stopping is a compound of intrinsic and unobjectionable Metals, requiring but a small quantity of Mercury to convert it into a paste, and when applied to the Tooth soon becomes a hard, compact body, that will not change colour or decompose in the mouth, provided Pure Mercury is used. When the cavity is filled, the Stopping will take a high polish by first smoothing with pumice and then finishing with a burnisher or precipitated chalk.

This Stopping, while it becomes sufficiently hard for the purpose of mastication, can if necessary be removed from the cavity by means of a sharp drill and excavator.

	s.	d.
Metallic Filings, per ounce	22	0
" " " ½ "	11	0
" " " ¼ "	5	6
" " in packets, with pure Mercury, each	9	0
Distilled and chemically purified Mercury,* per lb.	5	6
" " " 3 oz. in bottle	1	3

Ivory and other Bottles for Mercury. See p. 111.

This preparation, having been used by Dentists in England and abroad for the last twenty years, has now become established as a Paste-Stopping. The combination between the Mercury and the Metallic Compound is so perfect, that it becomes as one metal, and there is no possibility of the Mercury ever separating from it. Stoppings which have been eight or ten years in the mouth (after being slightly scratched on the surface) are found as bright and solid as when first applied.

* N.B. It is absolutely necessary that chemically pure Mercury be used for Metallic Paste-Stoppings: the Mercury commonly sold as pure is known to contain Lead, Antimony, &c., which impurities cannot be separated by mere distillation, and if used with the Filings alters the compound and causes it to become discoloured in the mouth.

C. ASH AND SONS' STOPPING.

(Second quality.)

PRICE:	s.	d.
Two-ounce packets	10	6
Twelve ounce „	60	0

With full directions for use.

This Metallic Stopping was originally introduced as C. Ash and Sons' "New Stopping." It is supplied only in packets. Each packet contains about the quantity of **Mercury** required to be mixed with the filings.

A two-ounce packet contains one ounce of Filings and one ounce of Mercury, and a twelve-ounce packet,—six ounces of Filings and six ounces of Mercury.

C. Ash and Sons have adopted this plan to prevent confounding it when ordered with their best **Metallic Paste Stopping**, and also to ensure the use of **pure** Mercury.

METALLIC AND OTHER STOPPINGS.

	s.	d.		s.	d.
Sullivan's Cement, for stopping Teeth, ½ oz. packet	2	6	per oz.	4	6
Roberts' Os Artificial, for stopping Teeth, per packet				4	6
Guillois' Cement „ „ „ .				8	0
Barber's Improved Artificial Ivory, for filling teeth, in packets	3	0	and	5	0
With drop bottle. . . . . extra				2	0
Jacobs' Gutta Percha Stopping . . . per dwt.	2	0	per oz.	40	0
Hill's „ „ „ . . ½ oz. packets				8	0
Oehlecker's White Stopping . . . per packet	4	0	and	7	6
„ Gutta Percha Stopping . „				5	0
„ Copper Amalgam * . . „				3	6

Other Stoppings obtained to order.

* This Stopping is principally used to take away the surplus Mercury from Metallic Paste Stoppings.

C. ASH AND SONS'

DENTAL RUBBERS.

The extensive and daily increasing use of Vulcanite as a base for Artificial Teeth, renders it of the utmost importance that Dentists should be able readily and with certainty to obtain those compounds of india-rubber or caoutchouc which are best adapted for the purpose, discredit having to some extent been cast upon the use of Vulcanite by inferior preparations.

C. Ash and Sons have, from the first introduction of Vulcanite, devoted especial attention to this branch of their manufactures, and having fitted up machinery of the best description, they continue to spare no pains or expense to obtain and compound the best and purest materials. The following Dental Rubbers are recommended to Dentists for their purity, strength, and excellence.

				s.	d.
Pink Dental Rubber		(deep), No. 1 x	per lb.	21	0
Ditto	ditto	(pale), No. 1.	„	21	0
Ditto	ditto	No. 2.	„	16	0
S.P.	ditto		„	16	0
White	ditto		„	16	0
Childs' G.	ditto	(Colour, Bright Red)	„	16	0
A.E.	ditto	(„ Brown)	„	16	0
Ordinary	ditto	(„ Deep Red)	„	12	0
Ditto	ditto	(„ Brown)	„	10	0
Orange	ditto		„	9	0
Red	ditto		„	9	0
Brown	ditto		„	9	0
Black	ditto		„	7	0
Pink	ditto	(extra thin), No. 1 and No. 1 x	„	24	0
Ditto	ditto	(soft), No. 1 x.	„	21	0
Ordinary	ditto	(soft)	„	12	0
Vela	ditto	(soft), for Artificial Palates	„	21	0

The Pink Dental Rubbers are the result of a long series of experiments, in the carrying out of which C. Ash and Sons obtained the assistance of some of the best chemists of the day. The knowledge they have thus acquired enables them to guarantee to the Profession the greatest amount of strength and solidity which can be obtained without the use of materials of a poisonous or deleterious nature.

The No. 1 and No. 1 x Pink Rubbers were considered by the Jurors of the International Exhibition of 1862 to be of "extreme excellence."

The S.P. Dental Rubber is manufactured to meet the exigencies of those cases in which greater strength is required than can possibly be obtained when the primary object is the production of so delicate a tint as that of the No. 1 or No. 1 x Pink Rubber. It contains but a little more than a fourth part of the foreign matter which is found in any other Pink Rubber. It is recommended for its good colour, and is much stronger than any Pink Rubber that has yet been made. If the colour is not considered sufficiently natural (or gum-like), it is easy to coat the exposed parts with the No. 1 or No. 1 x Pink Rubber; and a strong artificial piece can be made in this way, with only a slight and unobjectionable difference between the colour of the two kinds of Rubber used in its construction.

The White Dental Rubber is preferred by some Dentists on account of its approximation to the colour of bone. Its strength is about the same as that of the Pink Rubbers.

Childs' G. Dental Rubber is now so well known and extensively used that any remarks upon its strength and excellence are quite unnecessary. The original recipe is only in the possession of C. Ash and Sons.

The A. E. Dental Rubber is especially prepared by C. Ash and Sons for the use of those Dentists who prefer a more flexible material than the ordinary Dental Rubbers.

The soft Dental Rubbers are for lining palates for tender gums.

The above Rubbers are supplied in 1 lb. and ½lb. sealed packets, with directions for vulcanizing.

Sample packets, containing 2 oz. or 4 oz., will be forwarded on application.

FURNITURE AND INSTRUMENTS

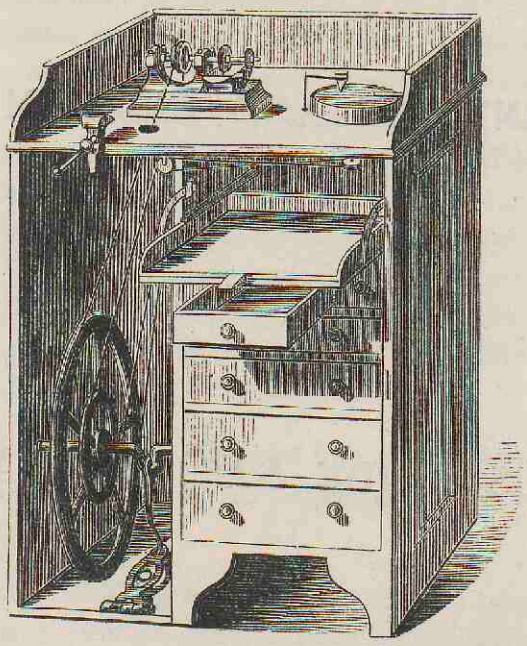
FOR

OPERATING ROOMS;

NITROUS OXIDE GAS APPARATUS, &c.

DENTAL CABINET.

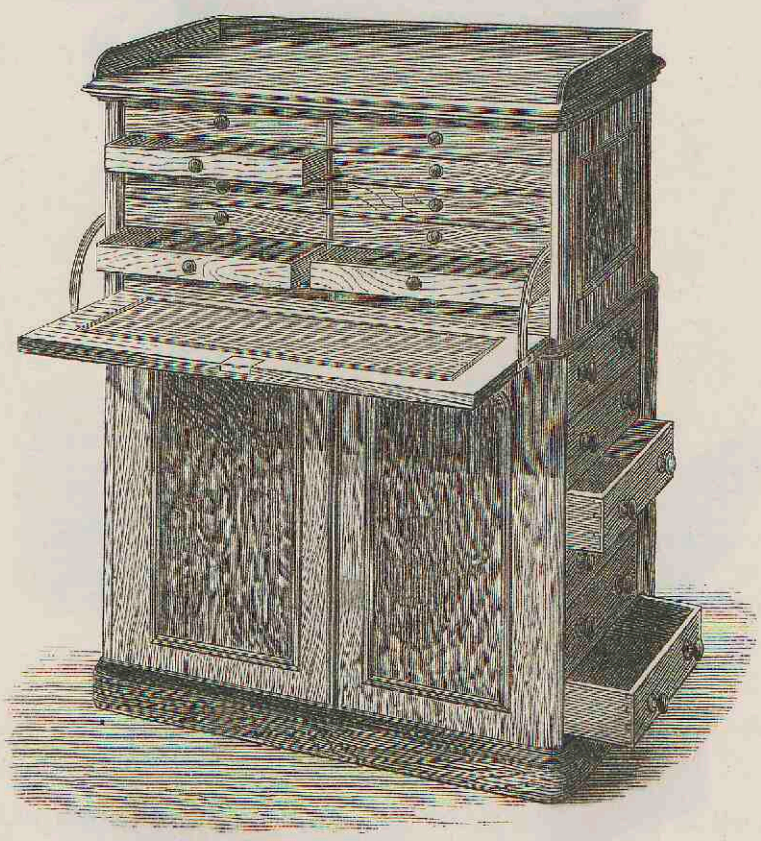
No. 1.



			s.	d.
DENTAL CABINET, for Operating Room, with Lathe, Circular Sharpening Stone, Horizontal Vice, Work-bench, and Drawers, in Mahogany	(Fig. 1.)	from	400	0
Ditto ditto with Folding Doors and Cover to enclose all, in Walnut Wood		„	500	0
Ditto ditto in Mahogany, with Folding Doors .		„	450	0
DENTAL CABINET, for Operating Room, with Lathe, Horizontal Vice, Work-bench, and Drawers, in Walnut Wood . .		„	380	0
Ditto ditto in Mahogany		„	350	0

DENTAL CABINET.

No. 2.

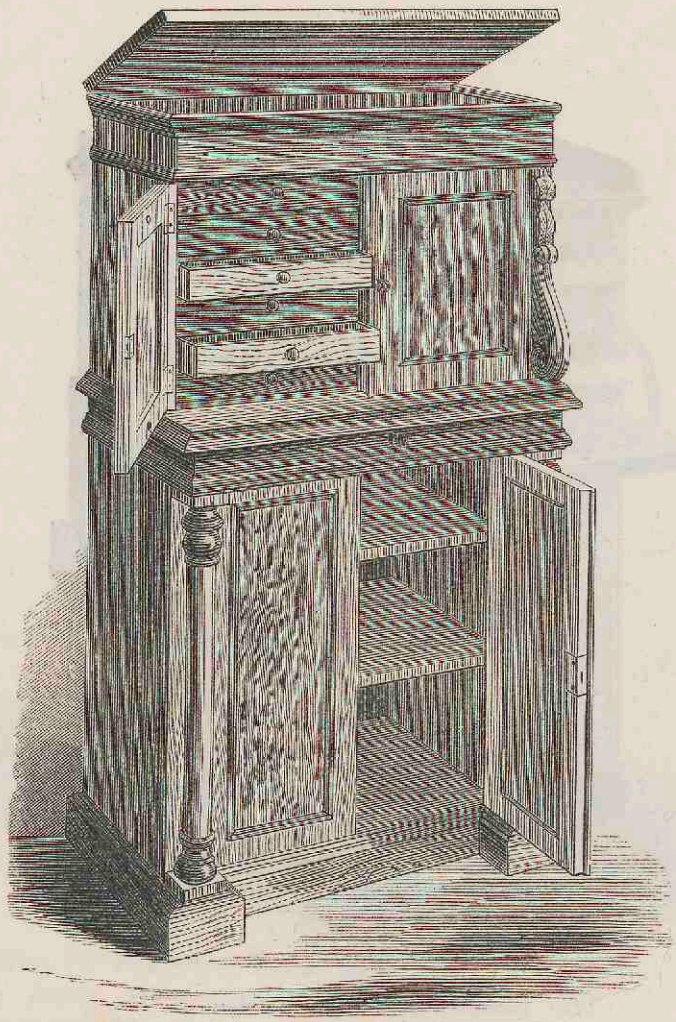


DENTAL CABINET in Walnut Wood . . . . . 300*s*.

The dimensions are as follows: 46 in. high, 33 in. wide, and 17 in. deep, and consists of a nest of 12 drawers for Instruments, lined with velvet, 13½ in. long, 14½ in. wide, 1¾ in. deep, outside measure, enclosed by a flap, which, when let down, forms a table upon which the Instruments in use can be laid. The lower part is fitted up with 6 drawers on one side, 15½ in. long, 15 in. wide, and 3⅞ in. deep outside; and on the other side the space is fitted up with shelves enclosed with a door.

DENTAL CABINET.

No. 3.

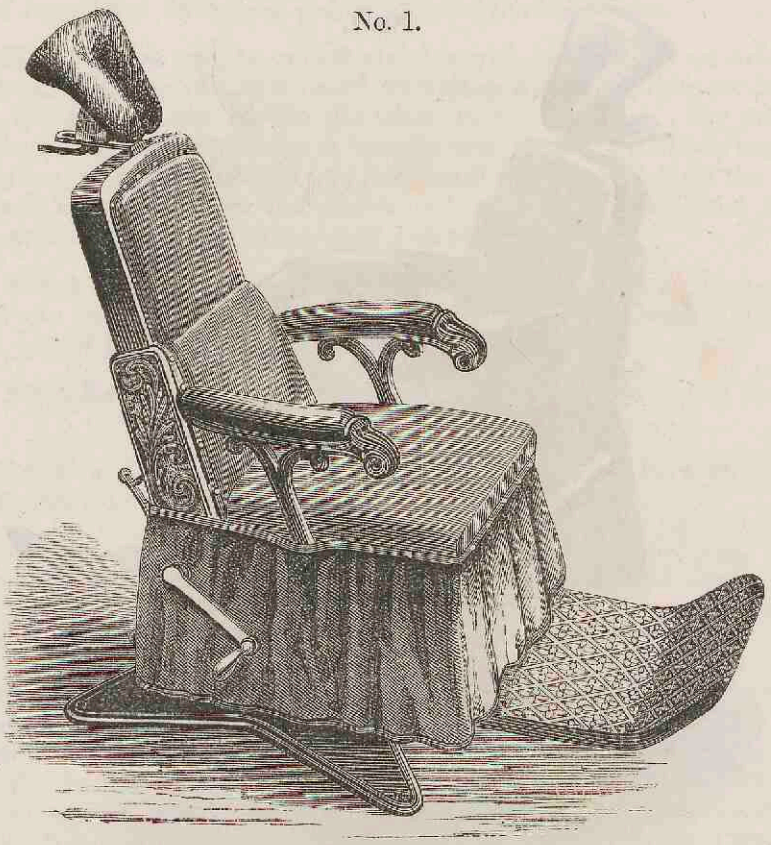


DENTAL CABINET in Walnut Wood . . . . . 260*s.*

The dimensions are as follows: 53 in. high, 27 in. wide, and 15 in. deep, and consists of a covered space or tray for Instruments at top, and one long drawer 2 in. deep. A nest of 12 drawers for Instruments, lined with velvet, 10 in. long by 12½ in. wide and 2½ in. deep, outside measure, enclosed with folding doors. The lower part fitted with shelves and folding doors, and a long drawer 2½ in. deep.

MORRISON'S PATENT DENTAL CHAIR.

No. 1.



This Engraving represents the Chair in an upright position, with the Back raised to its highest point, and the Seat almost at its lowest.

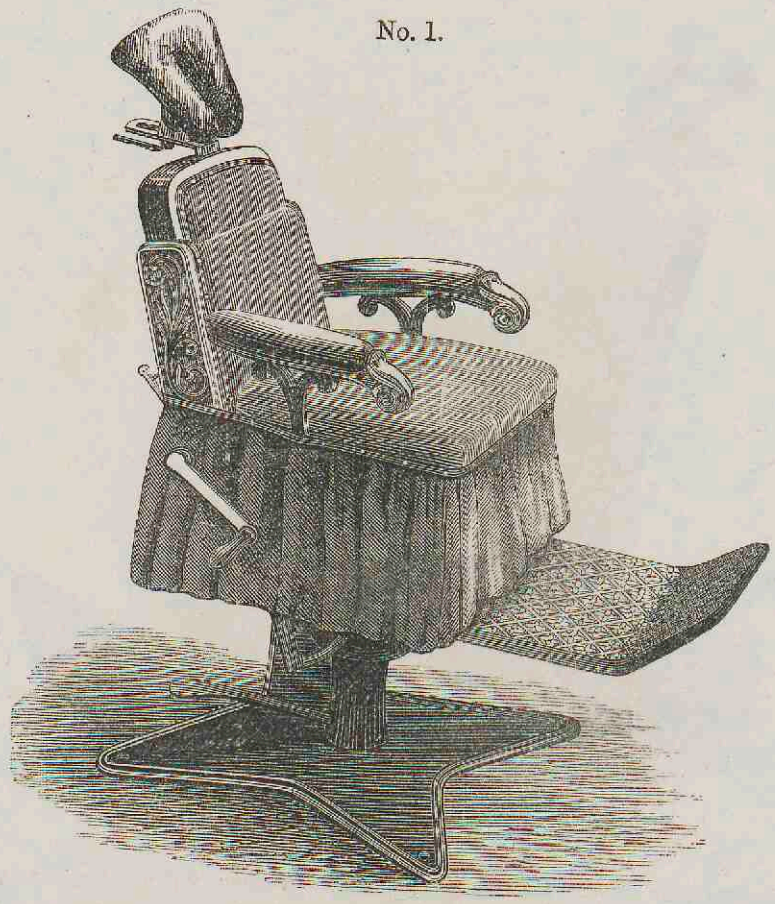
C. Ash and Sons being always desirous of introducing to the notice of the Profession any improvements in the art to which they have devoted their attention for so many years, have purchased from Mr. Morrison, at a considerable cost, the right to manufacture and supply these Chairs in Europe.

The Mechanical Arrangements of this Chair are such as to enable the Operator to place his patient in any position which it is possible for him to require; and yet the means employed are so simple and so much out of sight, that the general appearance of the Chair is not likely to alarm the most nervous patient.

MORRISON'S PATENT DENTAL CHAIR

(Continued).

No. 1.



This Engraving represents the Chair in an upright position, as arranged for Children, with the Seat almost at its highest point, and the Back at its lowest.

This Chair is so simple in appearance, and yet combines in itself such a variety of movements, and such facilities for adjusting and fixing them in any position, that it may well be considered one of the greatest improvements in Dental Chairs of the present day. A description of the several parts is as follows :—

The Body of the Chair can be rotated in any direction, either backward or forward, or from side to side, and be securely fixed at any point by means of a foot lever, so that the patient can be readily placed at any angle, from an upright to a recumbent position.

The Seat is so constructed that the patient can be raised, while sitting, from 18 to 41 inches from the ground, and can be lowered again with ease by a few turns of the handle.

The Back of the chair has a separate motion, so that it has a varying height of from 13 to 24 inches, independent of the head-piece.

The Head-Piece can be raised and lowered as may be required. It has a lateral, a backward and forward, as well as a rotary action, so that the head of the Patient can be brought close to the Operator. By *reversing* the head-piece a second cushion is brought into action, by which the head of the Patient is pushed forward and downward for operations on the lower jaw. Each and all of these movements are obtained in the most simple manner, and are securely fixed by means of a single handle.

The Arms of the Chair are made to slide up and down in a groove, so that they can be raised to any height, or be lowered to the level of the seat, if in the way of performing any operation.

The Foot Rest is attached to the body of the Chair, and rises and falls with it.

The Base or Foot of the Chair is so constructed, that the feet and legs of the Operator do not in any way come in contact with it.

This Chair is without its equal for operations upon children, as the Operator can lower the back to suit the youngest child, and can raise the seat to any height most convenient to himself, so that operations upon children can now be carried on at the same height as upon adults.

The great advantage to a Dentist of a Chair having all the movements enumerated above is this: that he can place his Patient so perfectly under his control, that he is not only able to perform operations while *standing*, without the fatigue consequent upon stooping or leaning over his patient, but he is enabled to perform in a *sitting* position, with the greatest ease, those operations which occupy a considerable time to execute them perfectly. While this advantage tends in no small degree to the preservation of the health and life of the Operator, it enables him at the same time to undertake more operations during the day than would be possible with any other chair now in use.

PRICES.

	£	*s.*	*d.*
In Walnut, covered with Green Velvet, with Bronzed Handles and Nails	40	0	0
With Double-foot Lever and extra Cog-wheels to raise Patient in Chair more easily . . . . . extra	2	0	0
Silver Plated Handles and Nails . . . . . „	2	0	0

These Chairs can be made in Mahogany and covered with velvet of any colour for about the same price.

PERKINS'S DENTAL CHAIR.

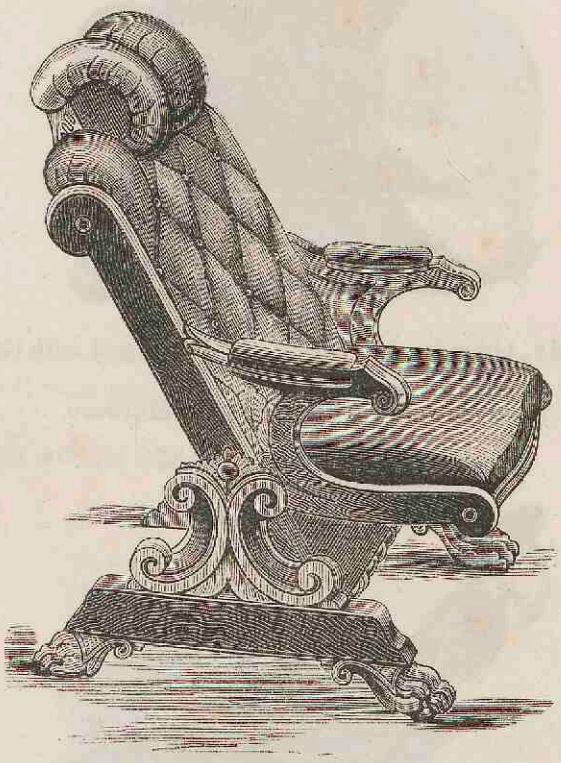
No 2.

These Chairs are made after the American pattern. The body of the Chair being fixed to the base by means of a ball and socket joint, can be rotated backwards, forwards, and from side to side, to suit any position that may be required, and is secured by pressing the crank down with the foot. The seat and footboard are raised by means of cranks. The head-rest can be raised or lowered, and can be moved backward or forward as well as laterally, and is secured in any position by set screws.

	s.	*d.*
In Walnut Wood, covered with Green Velvet	700	0

DENTAL CHAIR (MR. OWEN'S) IMPROVED.

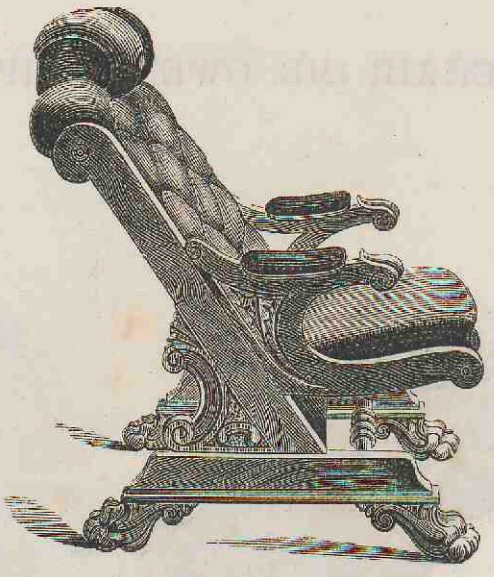
No. 3.



This Chair is made to work on two centres, so that by means of the foot lever the back can be moved backwards or forwards, and be fixed at any angle required. The seat and arms are raised or lowered by means of pulleys, turned by a handle at the side. The head-rest moves backward or forward, and is fixed at any point by means of a ratchet.

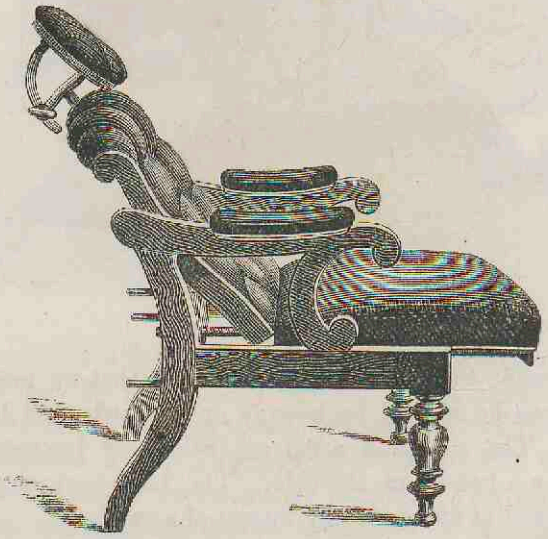
	s.	*d.*
In Walnut Wood, covered with Green Velvet	430	0
In Mahogany, covered with Velvet or Morocco	440	0

No. 4.



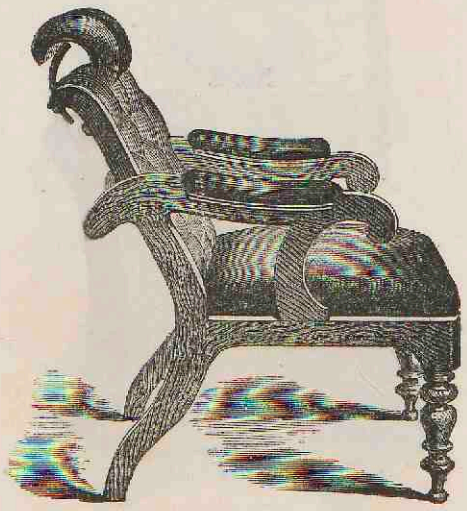
	s.	d.
DENTAL CHAIR (MR. OWEN'S), in Walnut Wood, covered with Green Velvet.	315	0
Ditto in Mahogany, covered with Velvet or Morocco . . .	325	0

No. 5.



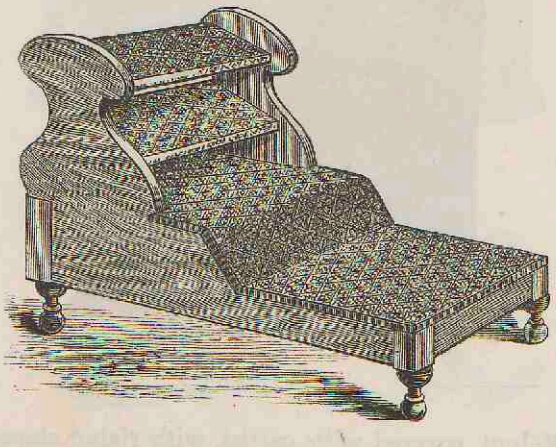
	s.	d.
DENTAL CHAIR, with sliding seat and falling back, worked by a screw and socket, with rising head-rest worked on a segment, in Walnut, covered with Velvet	231	0
Ditto ditto with cushion head-rest	180	0

No. 6.



		s.	d.
DENTAL CHAIR, with falling back fixed at any angle by means of a spring bolt and ratchet, with rising head-piece working on a segment		215	0
DENTAL CHAIRS without Mechanical Movements . . .	from	120	0

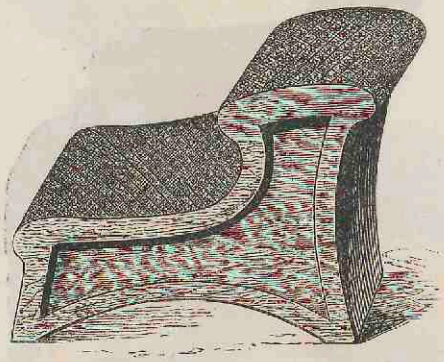
No. 1.



		s.	d.
FOOTSTOOLS, with four steps, covered with Carpet . . .	from	45	0
Ditto ditto ditto carved sides	„	55	0

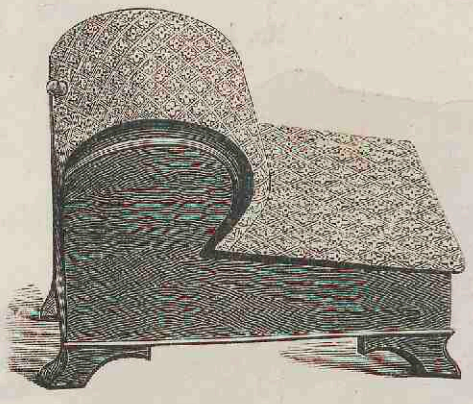
FOOTSTOOLS.

No. 2.



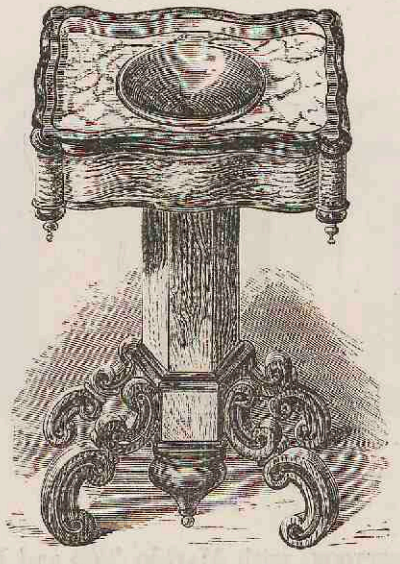
	s.	d.
Footstools in Walnut, covered with Carpet	35	0
Ditto ditto plain sides	30	0
Ditto ditto carved „	45	0

No. 3.



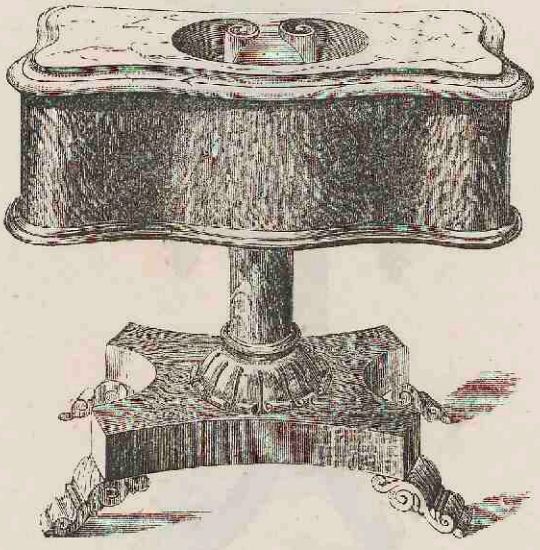
	s.	d.
Footstools in Walnut, covered with carpet, with rising steps fixed at different elevations by means of a ratchet	38	0
Ditto ditto ditto without ratchet action . .	28	0

No. 1.



SPITTOON, on Pillar and Carved Stand, in Walnut, with Marble Top, Glass Basin, and Zinc Receiver, with Walnut Cover, to form a Table . . . . . 180*s*.

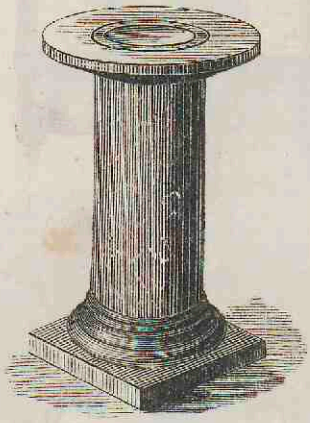
No. 2.



	s.	*d.*
SPITTOON, on Pillar and Stand in Walnut, with Marble Top, having a Shell-shaped Basin, with Zinc Receiver	240	0
Spittoon, in Walnut, with Marble Top, Glass Basin, and Zinc Receiver	190	0

SPITTOONS.

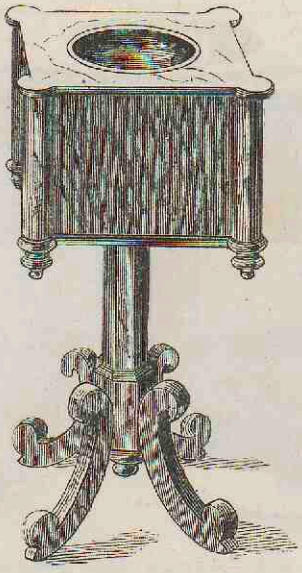
No. 3.



Scagliola Pedestal Spittoon, with Marble Top and Plinth, Glass Basin, and Zinc Receiver . . . . . 84*s*., 90*s*., and 100*s*.

These Pedestals are kept in Stock in a variety of Colours and Sizes.

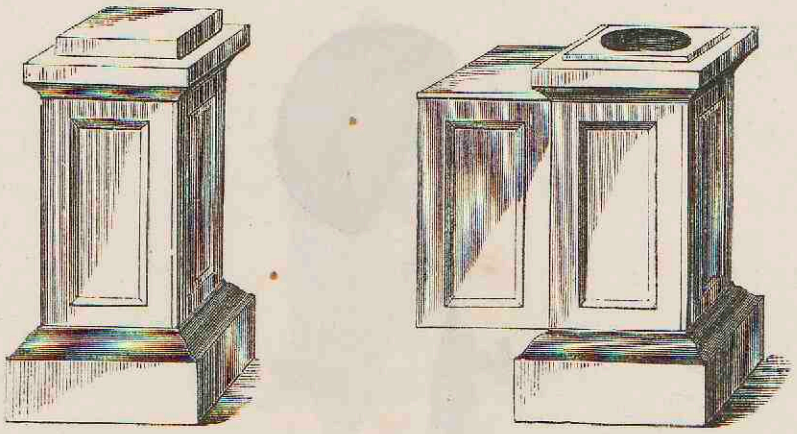
No. 4.



	s.	*d.*
Spittoon, in Walnut, with Blue Glass Basin and Zinc Receiver. .	75	0
Ditto in Stained Wood „ „ „ . .	45	0

SPITTOONS, &c.

No. 5.



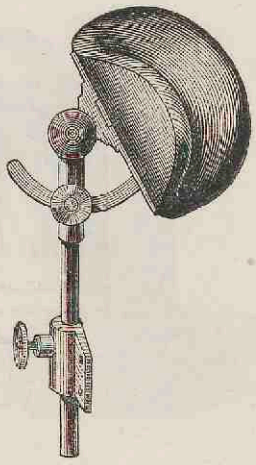
Closed. Open.

	s.	d.
SPITTOON, in Walnut, with Blue Glass Basin and Zinc Receiver .	84	0
Ditto in Mahogany	80	0
Ditto in Stained deal, varnished, not panelled	35	0

	s.	d.
DENTISTS' TABLES (Mr. Owen's), with 3 Trays for Instruments in use while operating, the top to let down and fasten	65	0
Ditto ditto ditto with 2 Trays	55	0
Ditto ditto ditto with 2 fixed Trays	45	0

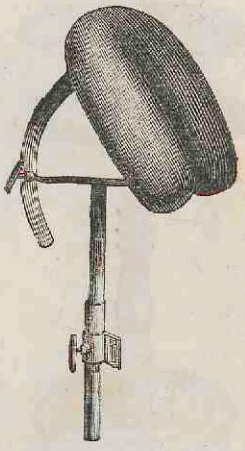
HEAD-RESTS.

No. 1.



HEAD-REST, to fix to any Dental Chair, with rising bar and head-piece working on a segment . . . . . 40*s*.

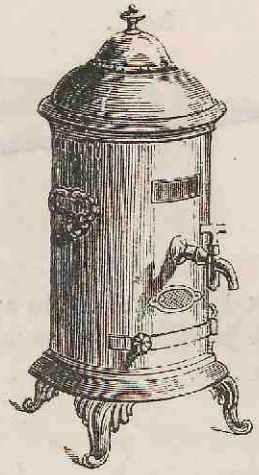
No. 2.



HEAD-REST, to fix to any Dental Chair, with rising bar and head-piece working on a segment . . . . . 35*s*.

HOT WATER APPARATUS.

No. 1.



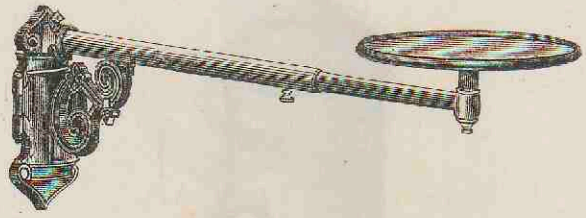
APPARATUS for keeping a supply of hot water in the Operating-room, by means of a gas jet . . . . . 42*s.*

No. 2.

APPARATUS for keeping water in the Operating-room hot for many hours without the use of gas,—the water being protected from external cold by means of an inner lining filled with a non-conducting medium . . . . . from 40*s.* to 70*s.*

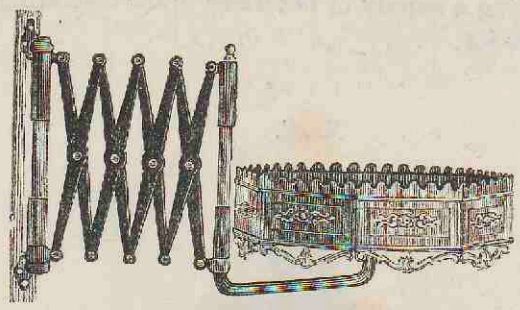
BRACKET TABLES.

No. 1.



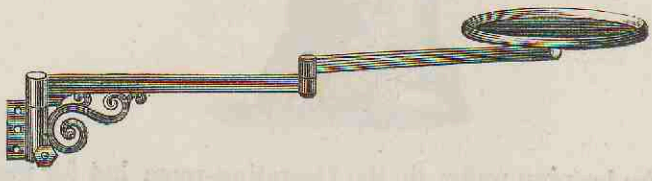
A BRONZED EXTENDING TABLE, to be attached to a wall. The Table is moved laterally from the joint, and is extended by means of a bar or rod sliding in a tube . . . . . 42*s.*

No. 2.



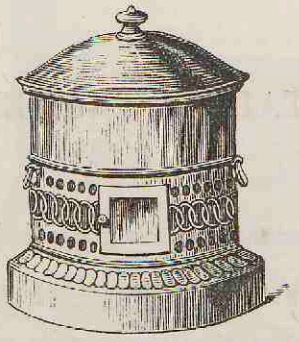
	s.	*d.*
A BRONZED EXTENDING TABLE, with Drawers for Instruments, &c.	100	0

No. 3.

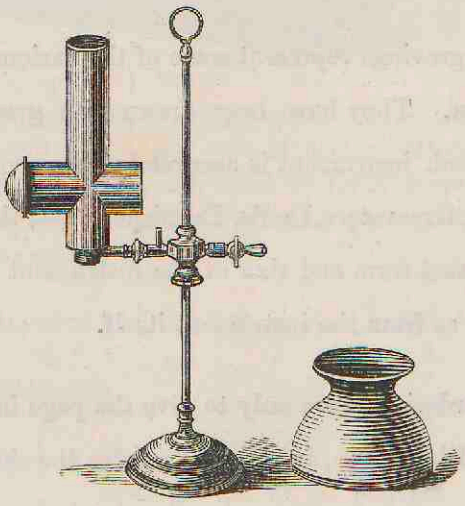


	s.	*d.*
A BRASS DOUBLE-JOINTED EXTENDING TABLE with lateral movements	30	0
Ditto ditto ditto plain	25	0

WAX WARMER.



HOT-WATER APPARATUS for Warming Wax and other compounds for taking impressions of the mouth, heated by means of a spirit lamp . . . . . complete 28*s*.



	s.	*d.*
DENTAL REFLECTOR, with magnifying lens and plated reflector, for lighting up the interior of the mouth. For Gas or Oil . from	55	0
Ditto ditto with (Mr. Stevens') improvements . . .	70	0

DENTAL INSTRUMENTS.

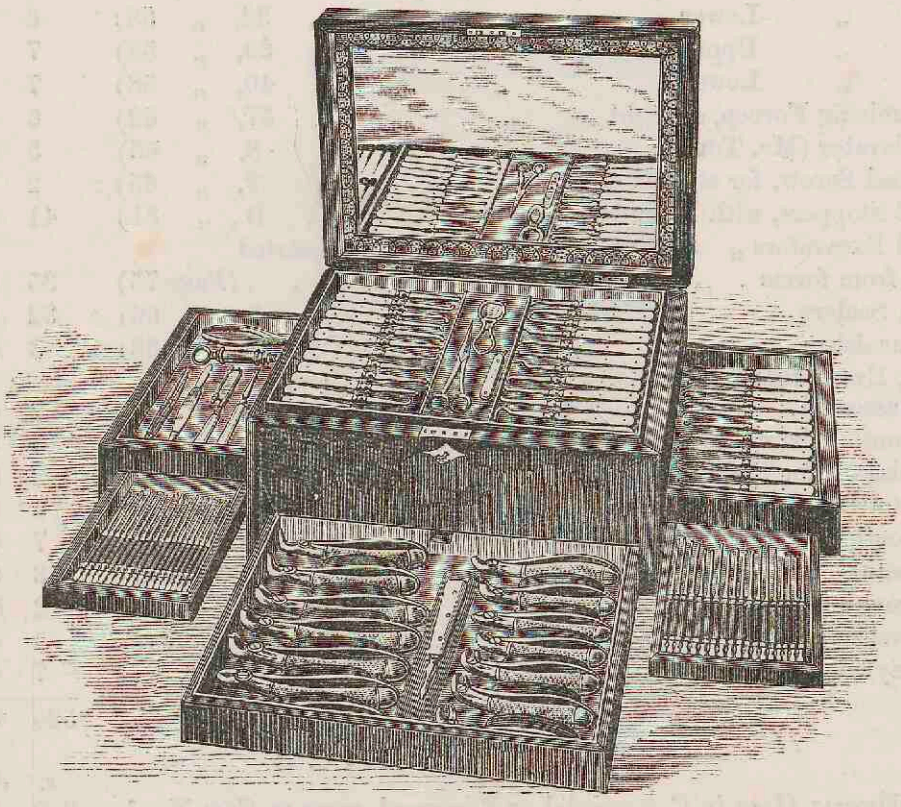
C. ASH AND SONS have for many years given their special attention to this branch of their business, knowing how much depends upon the shape of each instrument, the quality of the steel used in its manufacture, and the care which is exercised in the hardening and tempering; and so confident are they of the excellent quality of their instruments, that they will be most ready to exchange any sent from their Establishment, which may be found to be defective either in material, construction, or degree of hardness, provided such instruments are returned soon after they are purchased.

The following engravings represent some of the various instruments made under their direction. They have been drawn with great care, so that the form or shape of each instrument is accurately represented, and in the case of Stoppers, Scalers, Excavators, Drills, Burnishers, &c., the *actual* size is also given, so that the exact form and size of the instrument can be seen as well from the engraving as from the instrument itself.

Dentists, when ordering, have only to give the page in the Catalogue and the number of the Illustration, in order to receive the exact instrument they desire.

Dental Instruments sent to be repaired or repolished are returned with as little delay as possible.

No. 1.



DENTAL CASE in Coromandel or Rosewood, 15½ in. by 11½ in. and 8 in. high, bound with brass, with Reflecting Mirror or Glass in lid, two Trays and five Drawers fitted up for Forceps and other Instruments, Foils, Teeth, &c., lined with silk Velvet, with Bramah Lock and two Keys and Leather Cover . . . . . s. 209 d. 0

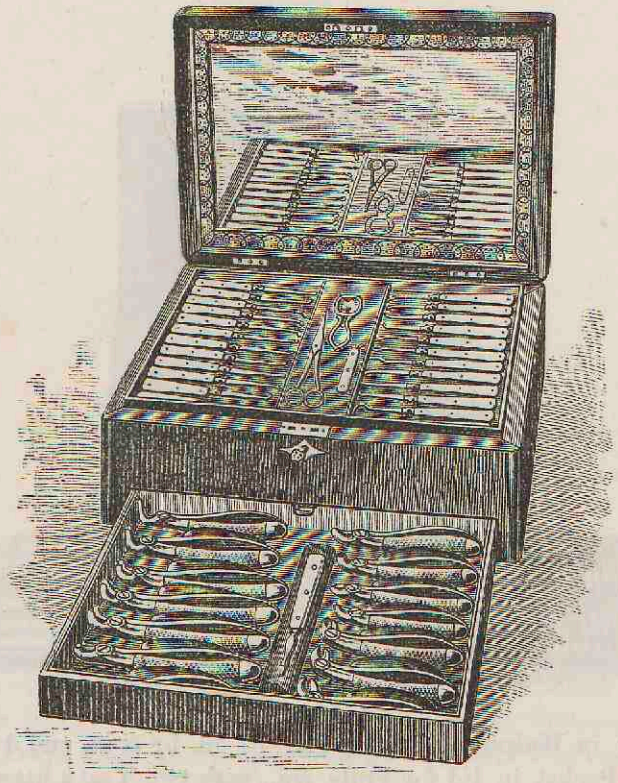
Forceps for	Upper Incisors and Canines . .	(Fig. 1, Page 52)	7	0
„	Lower „ „ . .	(„ 4, „ 52)	7	0
„	Upper Bicuspids	(„ 7, „ 53)	7	0
„	Lower „	(„ 8, „ 53)	7	0
„	Upper Molars, right	(„ 17, „ 55)	8	0
„	„ „ left	(„ 18, „ 55)	8	0
„	Lower „	(„ 21, „ 56)	8	0
„	Upper Wisdom	(„ 19, „ 55)	8	0
„	Lower „	(„ 20, „ 55)	8	0
„	Upper Stumps	(„ 30, „ 57)	7	0
„	Lower „	(„ 31, „ 57)	7	0

		s.	d.
Forceps for Upper Incisors and Canines (for Children)	(Fig. 37, Page 58)	6	6
„ Lower „ „	(„ 38, „ 58)	6	6
„ Upper Molars „	(„ 39, „ 58)	7	6
„ Lower „ „	(„ 40, „ 58)	7	6
Excising Forcep, straight „	(„ 57, „ 62)	6	6
Elevator (Mr. Tomes')	(„ 8, „ 65)	5	0
Steel Screw, for stumps	(„ 9, „ 65)	2	6
12 Stoppers, with Ivory Handles	(Set B., „ 81)	41	0
12 Excavators „ scale tang ivory handles—assorted from forms	(Page 75)	35	0
11 Scalers „ „	(Set A., „ 66)	32	0
Burnisher „ „	(Fig. 18, „ 88)	3	0
24 Excavators and Drills, with Octagon Steel Handles, gilt, assorted		22	0
Mouth Mirror (Kiessler's), to fold, silver		15	6
Scissors, for Gold Foil, &c.	(Fig. 1, Page 107)	3	6
Gum Lancet, 3 Blades, in Pearl	(„ 2, „ 102)	6	0
Mouth Saw, in Ivory Handle	(„ 5, „ 102)	7	0
Spatula „ „	(„ 1, „ 102)	3	0
Trephining Instrument and Forceps	(„ 3 & 4 „ 102)	12	0
Tweezers (Mr. Tomes'), Ivory Handle	(„ 6, „ 102)	5	0
1 Syringe, Electroplated, with 2 Nozzles		7	6
		525	6

DENTAL CASE. No. 2.

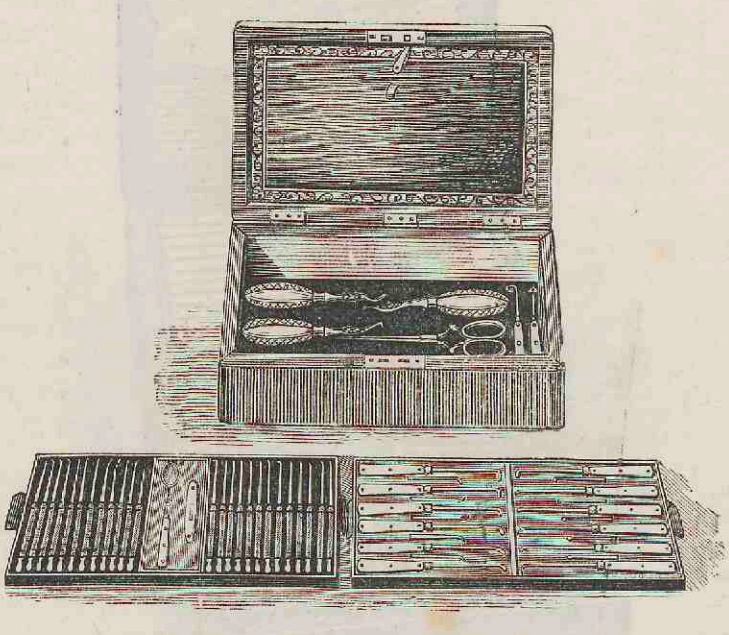
		s.	d.
A Dental Case in Coromandel or Rosewood, same as Case No. 1		209	0
Forceps, 16 pairs	ditto	116	6
Steel Screw for Stumps	ditto	2	6
Elevator, straight, with Octagon Ivory Handle		6	6
12 Stoppers, in large Octagon Ivory Handles, Silver Ferrules—assorted from forms	(C, Page 82)	60	0
12 Scalers „ „ „	(Set B, „ 67)	41	0
11 Enamel cutters „ „	(„ A, „ 70)	55	0
Burnisher „ „ „	(Fig. 18 „ 88)	5	0
24 Excavators and Drills, Octagon Steel Handles, Gilt, assorted		22	0
Mouth Mirror (Kiessler's), Silver Gilt, with Ivory Octagon Handle		20	0
Gum Lancet, 3 Blades, in Pearl		6	0
1 Pair Scissors, for Gold Foils, &c.	(Fig. 1, Page 107)	3	6
Trephining Instrument and Forceps	(„ 3 & 4 „ 102)	12	0
Mouth Saw, Ivory Handle	(„ 5 „ 102)	7	0
Tweezers (Mr. Tomes'), Ivory Handle	(„ 6 „ 102)	5	0
Spatula „	(„ 1 „ 102)	3	0
1 Syringe, Electroplated, with 2 Nozzles		7	6
		581	6

No. 3.



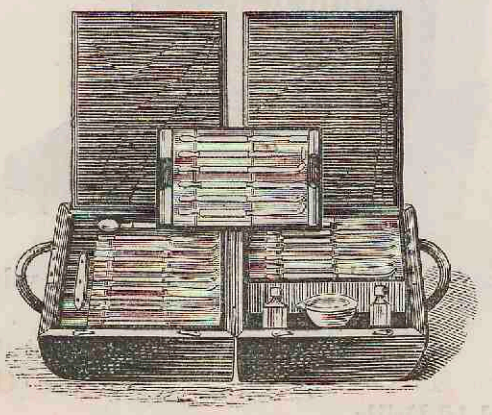
	s.	d.
DENTAL CASE in Coromandel or Rosewood, 15½ in. by 11 in. and 5½ in. high, bound with brass, with Reflecting Mirror or Glass in lid, two Trays and one Drawer fitted up for Forceps and other Instruments, Foils, Teeth, &c., lined with Silk Velvet, with Bramah Lock, 2 Keys, and Leather Cover	168	6
16 Forceps, as in Case No. 1, Page 45	116	6
12 Stoppers „ „ (Set B Page 81)	41	0
12 Scalers „ „ („ A „ 66)	35	0
24 Excavators and Drills, with Octagon Steel Handles, Gilt . .	22	0
Mouth Mirror (Kiessler's), to fold, in Silver	15	6
Gum Lancet, 3 Blades, in Pearl (Fig. 2, Page 102)	6	0
Scissors, for Foils, &c.	3	6
Elevator (Mr. Tomes'), in Ivory Handle	5	0
	413	0
The above can be had, if preferred, with the Stoppers, Scalers, and Elevators in Ivory Octagon Handles, and Kiessler's Silver Gilt Ball-and-Socket Mouth Mirror. . . . . extra	20	0

No. 4.



		s.	d.
Dental Case in Walnut or Mahogany, 13 in. by 8 in. and 4½ in. high, with Pocket in lid for Foils, &c., with two Trays fitted up for Instruments, lined with Silk Velvet, with Lock and two Keys		71	6
12 Stoppers, with tapered Ivory Handles and Silver Ferrules—assorted from forms	(C, Page 82)	41	0
12 Scalers „ „ „	(Set B, „ 67)	41	0
24 Excavators and Drills, Steel File-cut Handles, Gilt, assorted		24	0
Mouth Mirror (Kiessler's), German Silver Gilt, in Ivory Handle		12	0
Gum Lancet, 3 Blades, in Ivory Handle		5	6
Probe, Double End, File-cut Handle, Gilt		2	6
Spatula „ „		2	6
Tweezers (Mr. Tomes'), with Ivory Handle		5	0
Elevator „ „ „	(Fig. 8, Page 65)	5	0
Syringe, Electroplated, with 2 Nozzles „ „		7	6
		217	6
With Foil Scissors and 3 Elevators, as illustrated above (Mr. Thomson's)	(Figs. 1, 2, 3, Page 64) extra	20	6

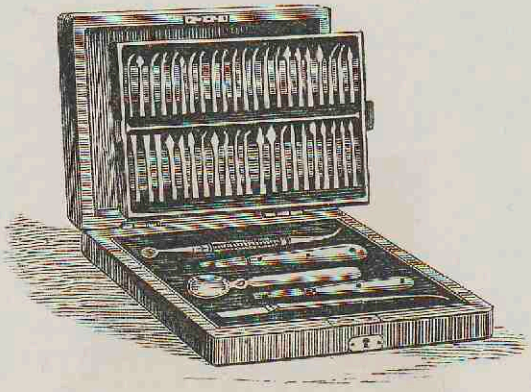
No. 5.



		s.	d.
PORTABLE DENTAL CASE, with handles, covered with leather. Dimensions when closed, 10½ in. by 8½ in., and 5 in. thick, lined with velvet, with three compartments for Forceps, Foils, Bottles, &c., also three Trays fitted up for Instruments, with padded covers on hinges to protect them. With lock and key		49	0
12 Stoppers, assorted, with steel gilt file-cut handles	as Page 86	16	0
24 Excavators and Drills „ „ assorted. . . .		24	0
11 Scalers „ „ „	(Set A, Page 66)	14	8
Burnisher „ „ „	(Fig. 18 „ 88)	1	4
Mouth Mirror, German Silver Gilt, in Ivory handle—	(Fig. 1 „ 96)	6	0
Gum Lancet, 2 blades, Tortoise-shell handle.		4	0
Tweezers, steel handle, gilt	(Fig. 3, „ 92)	2	6
Spatula „ „		2	6
		120	0

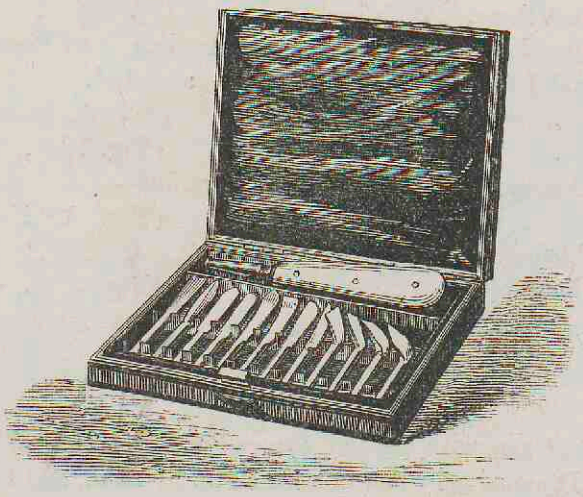
PORTABLE DENTAL CASE, with handles, covered with leather, and lined with velvet. Dimensions when closed, 12 in. by 9 in., and 3½ in. thick, with compartments for Forceps and other Instruments, Foils, Bottles, &c. with padded lids to protect Instruments. Lock and key . . . . . 28s.

No. 6.



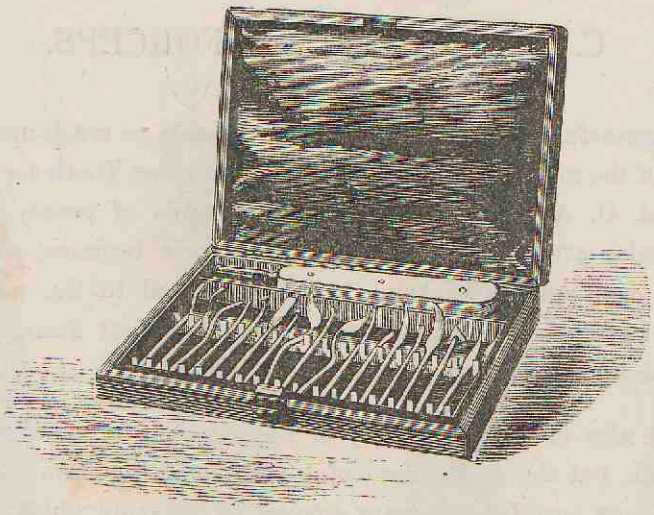
			s.	d.
A Dental Case, covered with leather, lined with silk velvet. With lock and key			16	0
12 Stoppers	(H. R. Ward's).	(Set B, Page 81)	12	0
12 Scalers	„ „	assorted from (C, „ 68)	12	0
12 Excavators and 12 Drills	„ „	„	14	0
2 Socket Handles for Instruments, Ivory		(Figs. 4, 5, Page 94)	10	0
Mouth Mirror, German Silver, in Ivory handle		(„ 1, „ 96)	4	6
Tweezers and Spatula			4	0
			72	6

No. 7.



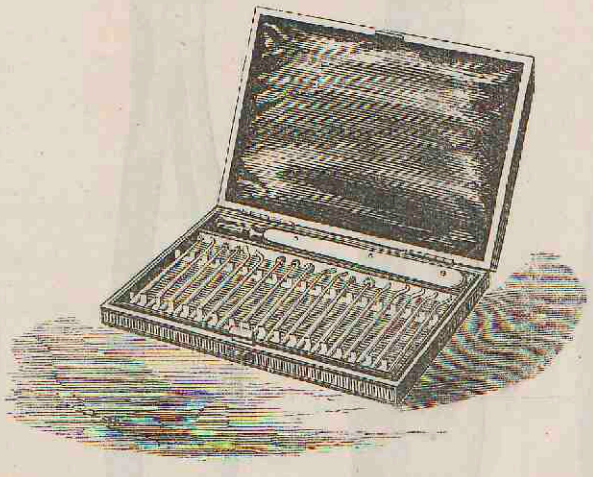
A Morocco Spring Case, lined with Velvet, containing one Ivory Socket Handle, and 12 Instruments to fit same, for cutting away the Enamel . . . . . 20*s.*

No. 8.



A Morocco Spring Case, lined with Velvet, containing 18 Stopping and Scaling Instruments, with socket handle to fit . . . . 20*s.*

No. 9.

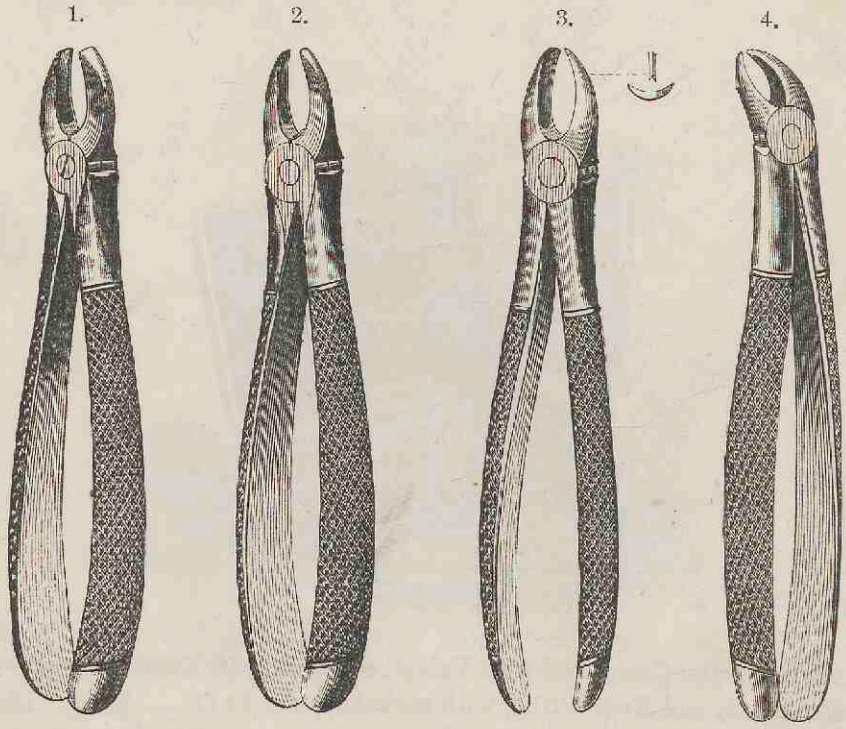


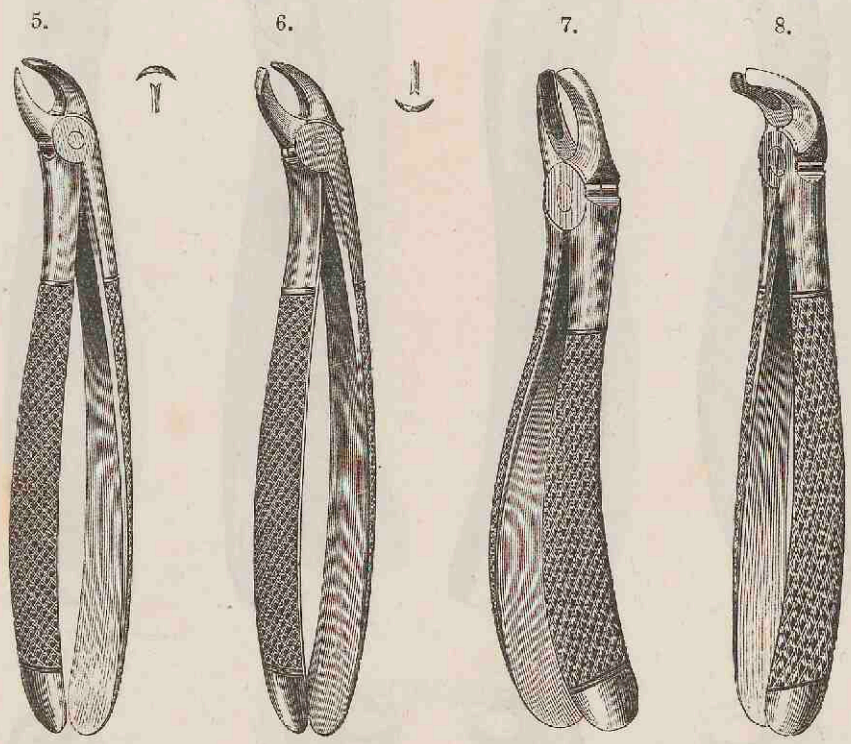
A Morocco Spring Case, lined with Velvet, containing 18 Excavating Instruments, and Rose Drills, with socket handle to fit . . . 18*s.*

C. ASH AND SONS' FORCEPS.

As the successful operation of extraction depends so much upon the exact adaptation of the mouths of Forceps to the particular Tooth for which they are intended, C. Ash and Sons have for upwards of twenty years given their particular attention to this branch of their business, so that their Forceps, in consequence of being accurately fitted to the necks of the Teeth, will be found to grasp the fangs with sufficient firmness for their removal, without the danger of crushing the crowns.

Great care also is taken, not only in the selection of the steel of which they are made, but also in the hardening and tempering them when finished, so that they may bear the necessary amount of pressure which is put upon them, without bending or breaking.

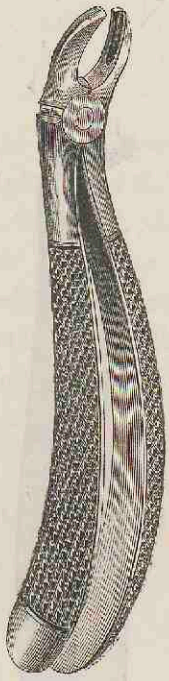




FORCEPS.

			s.	d.
For Upper Centrals and Canines	(Fig. 1.)	each	7	0
„ Laterals and Bicuspids	(Fig. 2.)	„	7	0
„ Incisors, crowded internally or externally	(Fig. 3.)	„	7	0
„ Lower Incisors and Canines	(Fig. 4.)	„	7	0
„ Incisors, crowded internally	(Fig. 5.)	„	7	0
„ „ „ externally	(Fig. 6.)	„	7	0
„ Upper Bicuspids	(Fig. 7.)	„	7	0
„ Lower Bicuspids	(Fig. 8.)	„	7	0

9.



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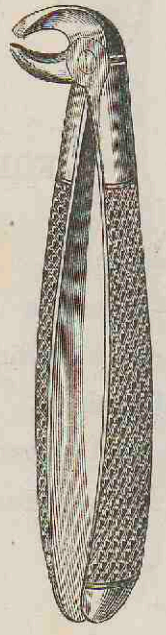
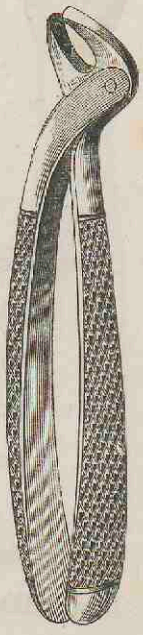
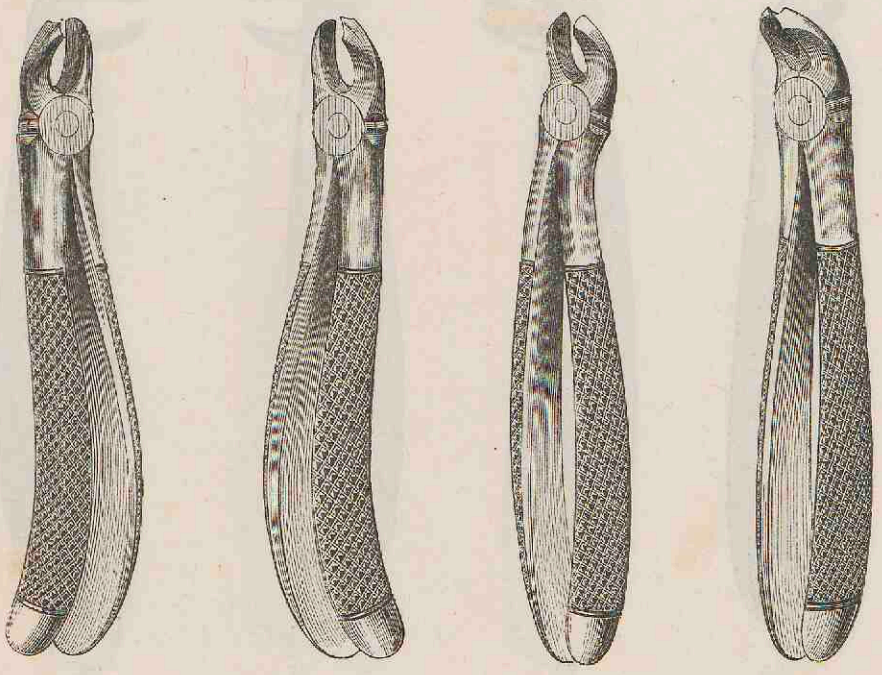


16.



17. 18. 19. 20.

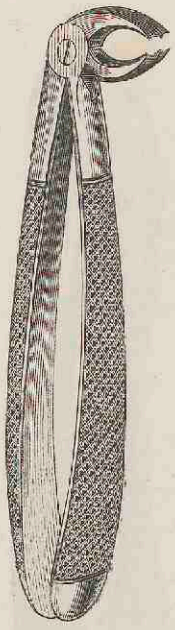


FORCEPS.

				s.	d.
For Upper Bicuspids, right	. . . . .	(Fig. 9.)	each	7	0
„ „ Bicuspids, left	. . . . .	(Fig. 10.)	„	7	0
„ Lower Bicuspids, right	. . . . .	(Fig. 11.)	„	7	0
„ „ Bicuspids, left	. . . . .	(Fig. 12.)	„	7	0
„ „ Bicuspids, straight (Hawk's Bill)	. .	(Fig. 13.)	„	7	0
„ „ Bicuspids, right „	. .	(Fig. 14.)	„	7	0
„ „ Bicuspids, left „	. .	(Fig. 15.)	„	7	0
„ „ Bicuspids (Box joint)	. . . .	(Fig. 16.)	„	7	0
„ Upper Molars, right.	. . . . .	(Fig. 17.)	„	8	0
„ „ Molars, left	. . . . .	(Fig. 18.)	„	8	0
„ „ Wisdom	. . . . .	(Fig. 19.)	„	8	0
„ Lower Wisdom	. . . . .	(Fig. 20.)	„	8	0

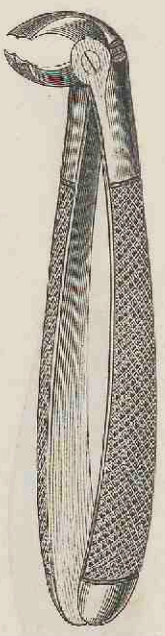
21.

22.



23.

24.



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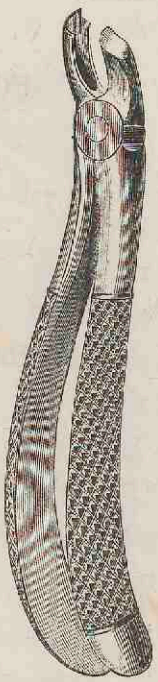
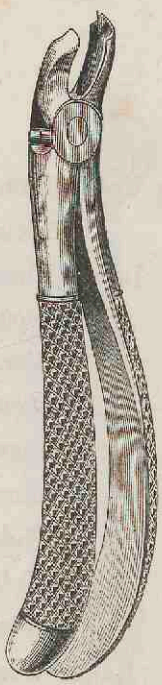
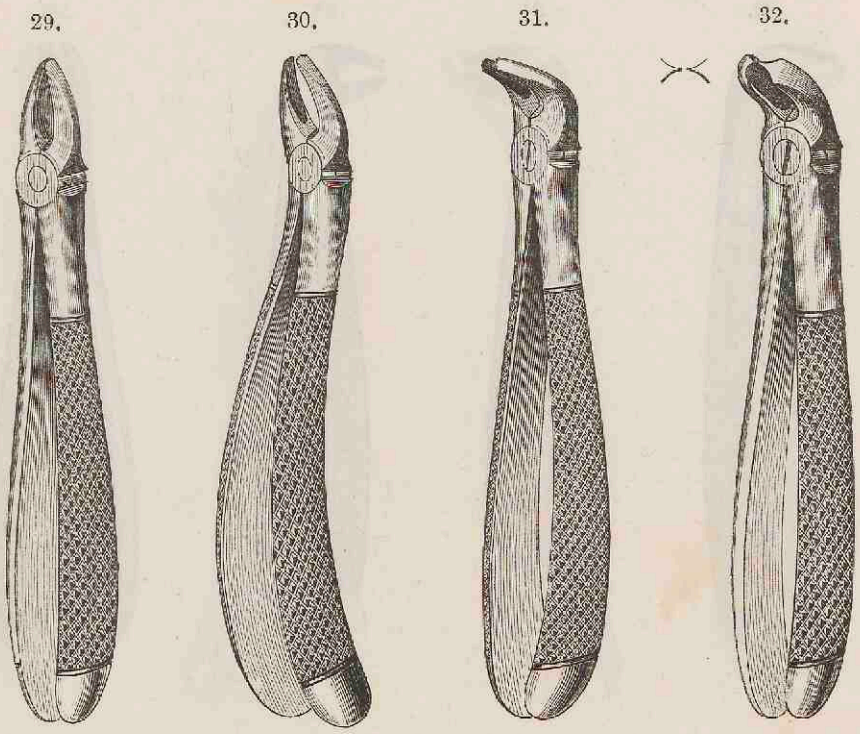


28.

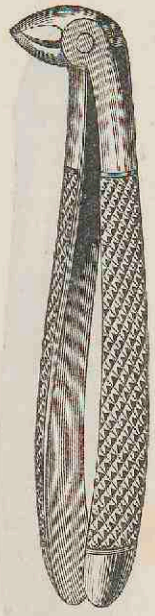




FORCEPS.

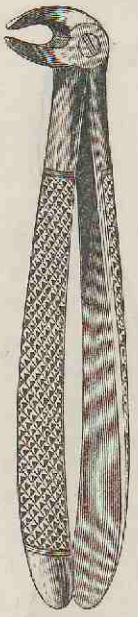
				s.	*d.*
For Lower Molars	(Fig. 21.)	each	8	0
,, ,, Molars, straight (Hawk's Bill) . .	(Fig. 22.)	,,	8	0
,, ,, Molars, right ,, . . .	(Fig. 23.)	,,	8	0
,, ,, Molars, left ,, . . .	(Fig. 24.)	,,	8	0
,, ,, Molars, right, ordinary	(Fig. 25.)	,,	8	0
,, ,, Molars, left ,, ...	(Fig. 26.)	,,	8	0
,, Upper Molar Stumps, right	(Fig. 27.)	,,	8	0
,, ,, Molar Stumps, left	(Fig. 28.)	,,	8	0
,, ,, Stumps, straight	(Fig. 29.)	,,	7	0
,, ,, Stumps, curved	(Fig. 30.)	,,	7	0
,, Lower Stumps	(Fig. 31.)	,,	7	0
,, ,, Molar Stumps	(Fig. 32.)	,,	8	0

33.

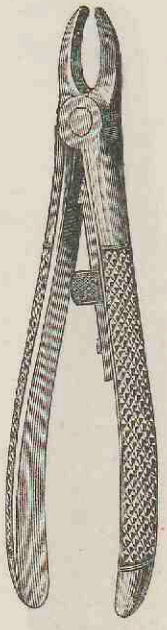


34.

35.



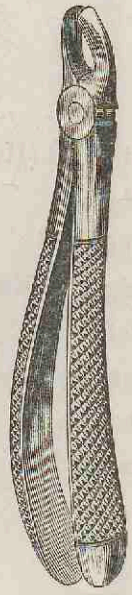
36.



37.

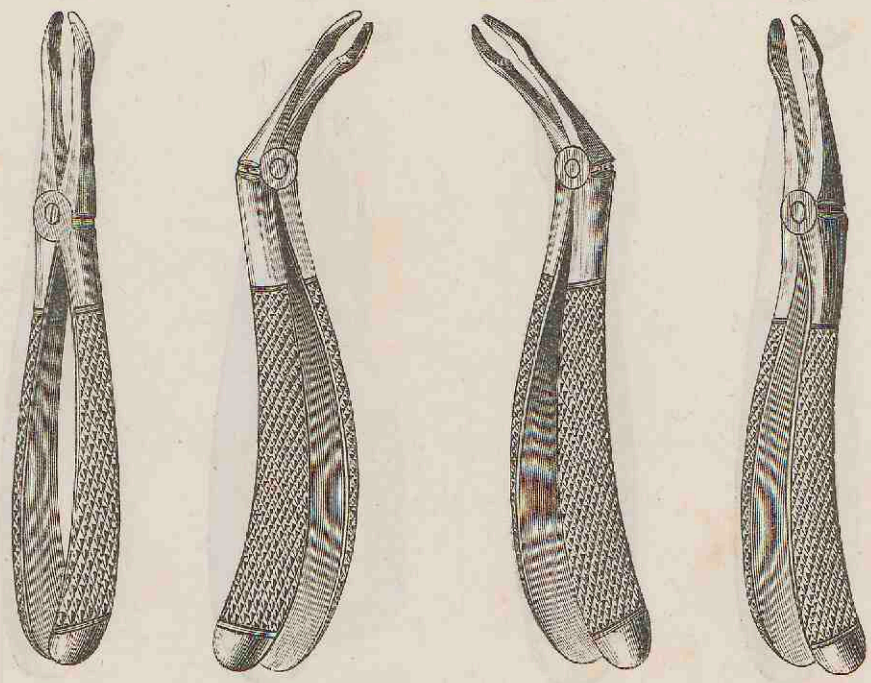
38.

39.



40.

41. 42. 43. 44.



FORCEPS.

			s.	d.
For Lower Stumps, straight (Hawk's Bill) . .	(Fig. 33.)	each	7	0
„ „ Stumps, right „ . .	(Fig. 34.)	„	7	0
„ „ Stumps, left „ . .	(Fig. 35.)	„	7	0
Alveolar Forceps, Mr. Cattlin's	(Fig. 36.)	„	10	6

(FORCEPS FOR CHILDREN'S TEETH.)

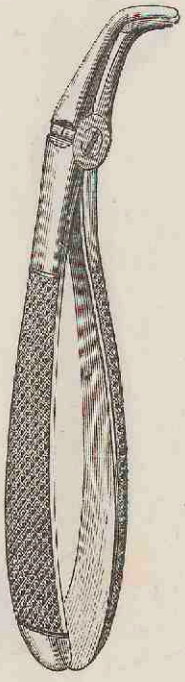
For Upper Incisors and Canines	(Fig. 37.)	each	6	6
„ Lower Incisors and Canines	(Fig. 38.)	„	6	6
„ Upper Molars	(Fig. 39.)	„	7	6
„ Lower Molars	(Fig. 40.)	„	7	6

(FORCEPS WITH LONG BEAKS.)

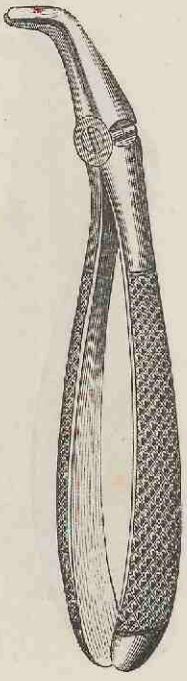
For Upper Stumps, straight	(Fig. 41.)	each	7	0
„ „ Stumps, left	(Fig. 42.)	„	7	0
„ „ Stumps, right	(Fig. 43.)	„	7	0
„ „ Stumps, curved	(Fig. 44.)	„	7	0

45.

46.



47.



48.

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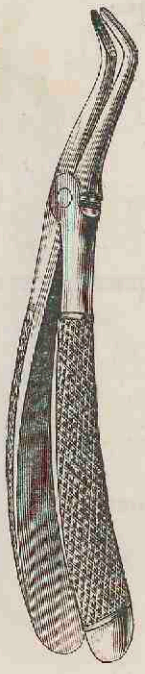
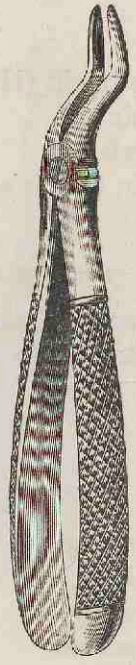
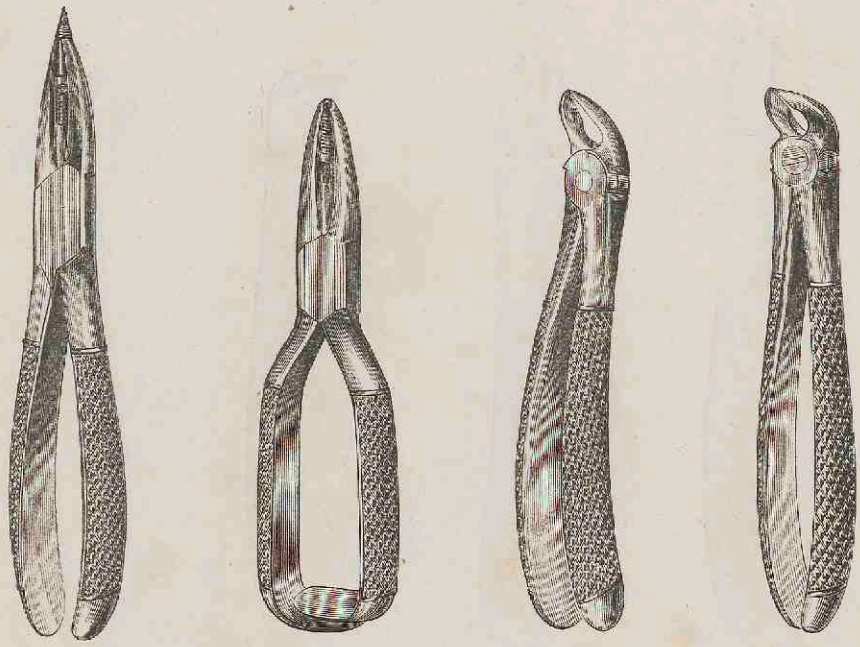


51.



52.

53. 54. 55. 56.



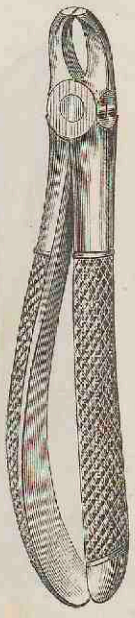
FORCEPS.

(WITH LONG BEAKS.)

				s.	d.
For Lower Stumps, bent	(Fig. 45.)	each	7	0
„ „ Stumps, right	(Fig. 46.)	„	7	0
„ „ Stumps, left	(Fig. 47.)	„	7	0
„ „ Stumps, curved	(Fig. 48.)	„	7	0
„ Upper Stumps (double bend), straight handles	(Fig. 49.)	„	7	0
„ „ Stumps „ curved handles	(Fig. 50.)	„	7	0
„ „ Stumps (Bayonet), narrow beaks	(Fig. 51.)	„	7	0
„ „ Stumps „ broader beaks	(Fig. 52.)	„	7	0
Screw Forceps (for Stumps), straight handles	(Fig. 53.)	„	10	6
„ „ (for Stumps), bent handles	(Fig. 54.)	„	10	6
Splitting „ for separating Upper Molar Roots	(Fig. 55.)	„	7	0
„ „ for separating Lower Molar Roots	(Fig. 56.)	„	7	0
Forceps for three-fanged Stumps (Mr. Baly's)		„	10	6
Ditto „ „ (Mr. Stevens')		„	9	6

57.

58.



59.

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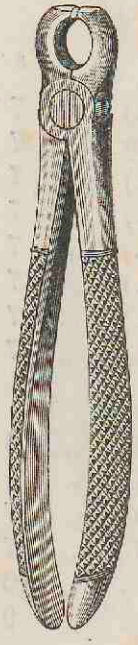

62.

63.

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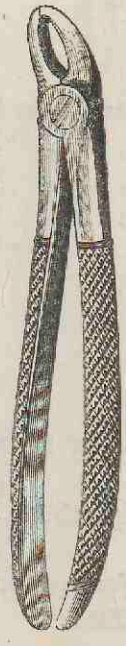


EXCISING FORCEPS.

			s.	d.
Upper, straight (flat cutting edges)	(Fig. 57.)	each	6	6
„ curved „	(Fig. 58.)	„	7	0
Lower, bent „	(Fig. 59.)	„	7	0
„ ditto for Incisors „	(Fig. 60.)	„	7	0
Upper, straight (round cutting edges)	(Fig. 61.)	„	7	6
„ curved „	(Fig. 62.)	„	8	0
Lower, bent „	(Fig. 63.)	„	8	0
„ ditto for Incisors „	(Fig. 64.)	„	8	0

All the above Excising Forceps are made in three widths, Broad, Medium, and Narrow, except Nos. 60, 64.

SMALL EXCISING FORCEPS.

			s.	d.
Upper, straight (flat cutting edges)	(Fig. 57.)	each	6	0
„ curved „	(Fig. 58.)	„	6	6
Lower, bent „	(Fig. 59.)	„	6	6
„ ditto for Incisors „	(Fig. 60.)	„	6	6
Upper, straight (round cutting edges)	(Fig. 61.)	„	7	0
„ curved „	(Fig. 62.)	„	7	6
Lower, bent „	(Fig. 63.)	„	7	6
„ ditto for Incisors „	(Fig. 64.)	„	7	6

Forceps for Extracting or Excising of various other patterns kept in stock.

Forceps of any pattern, English or American, made to order.

Electroplated Forceps, made to order.

N.B. The right or left side *in* the Patient's mouth is meant when speaking of right and left Forceps.

STUMP ELEVATORS.

1.

2.

3.

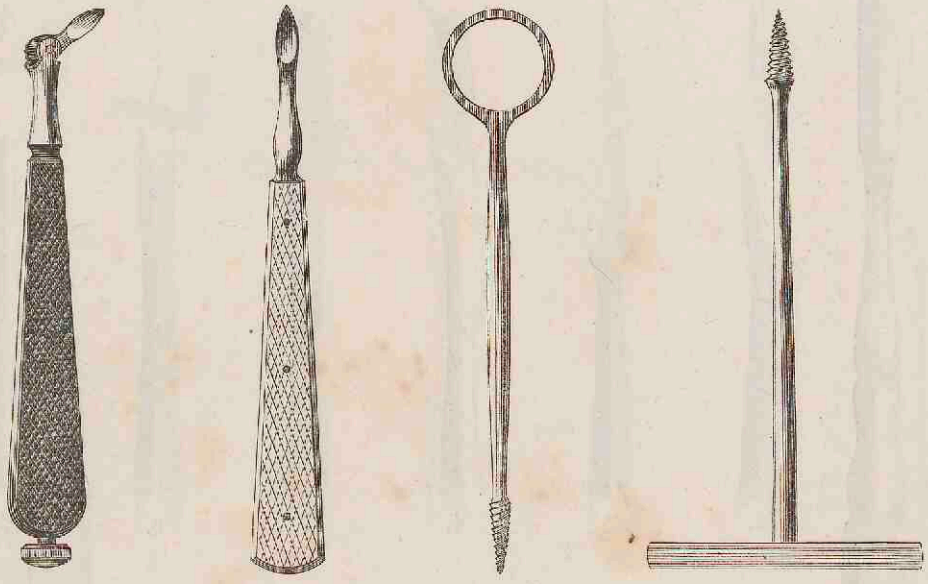
4.

5.

6.

STUMP ELEVATORS.

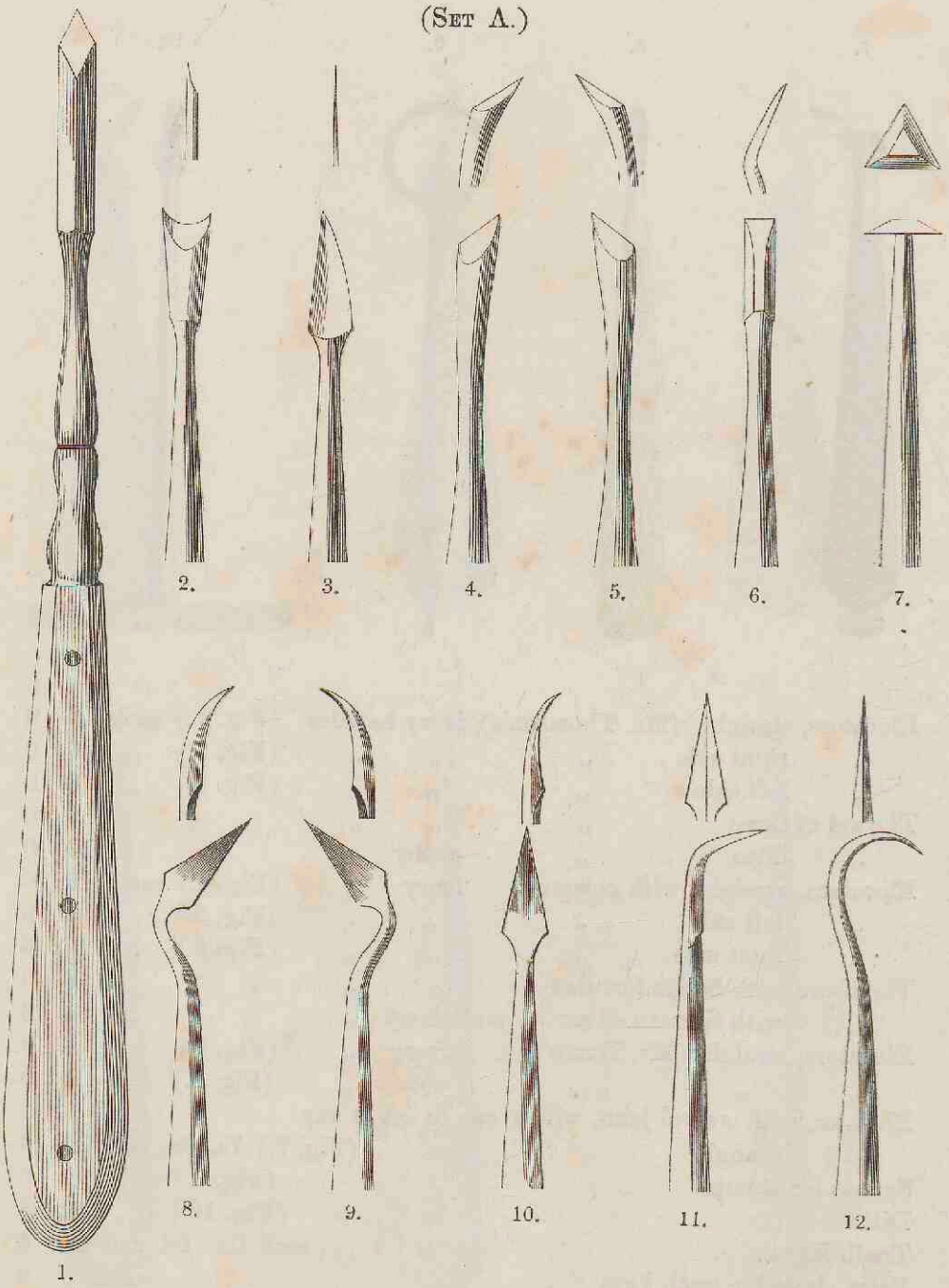
7. 8. 9. 10.



						s.	d.
Elevators, straight (Mr. Thomson's),			ivory	handles	(Fig. 1.) each	6	0
„	right side	„	„	„	(Fig. 2.) „	6	0
„	left side	„	„	„	(Fig. 3.) „	6	0
The set of three		„	„	„	. . . . .	17	0
„	ditto	„	ebony	„	. . . . .	13	0
Elevators, straight, with octagon			ivory	„	(Fig. 4.) each	5	6
„	left side	„	„	„	(Fig. 5.) „	5	6
„	right side	„	„	„	(Fig. 6.) „	5	6
The above with Silver ferrules			„	„	. . . . . „	6	6
„	with German silver	„	and ebony	„	. . . . . „	4	3
Elevators, straight (Mr. Tomes'),			ivory	„	(Fig. 8.) „	5	0
„	„	„	ebony	„	(Fig. 8.) „	4	0
Elevator, with swivel joint, which can be set at any angle					(Fig. 7.) 7*s.* 6*d.* and	10	6
Screws for stumps					(Fig. 9.) „	2	6
Ditto					(Fig. 10.) „	2	6
Tooth Keys					each 10*s.* 6*d.* and	12	6
Extra claws for tooth keys					. each	0	9

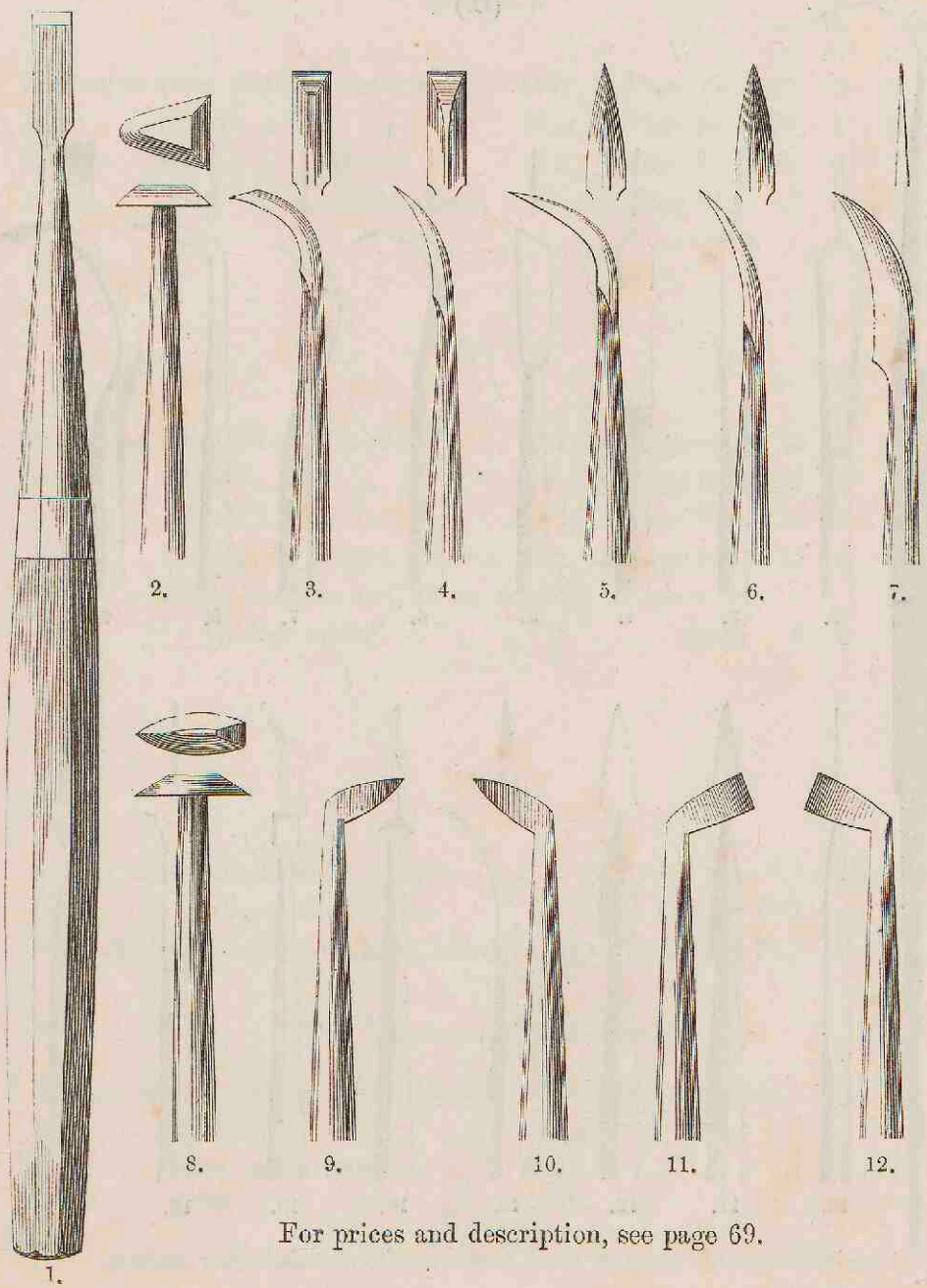
SCALERS.

(SET A.)



SCALERS.

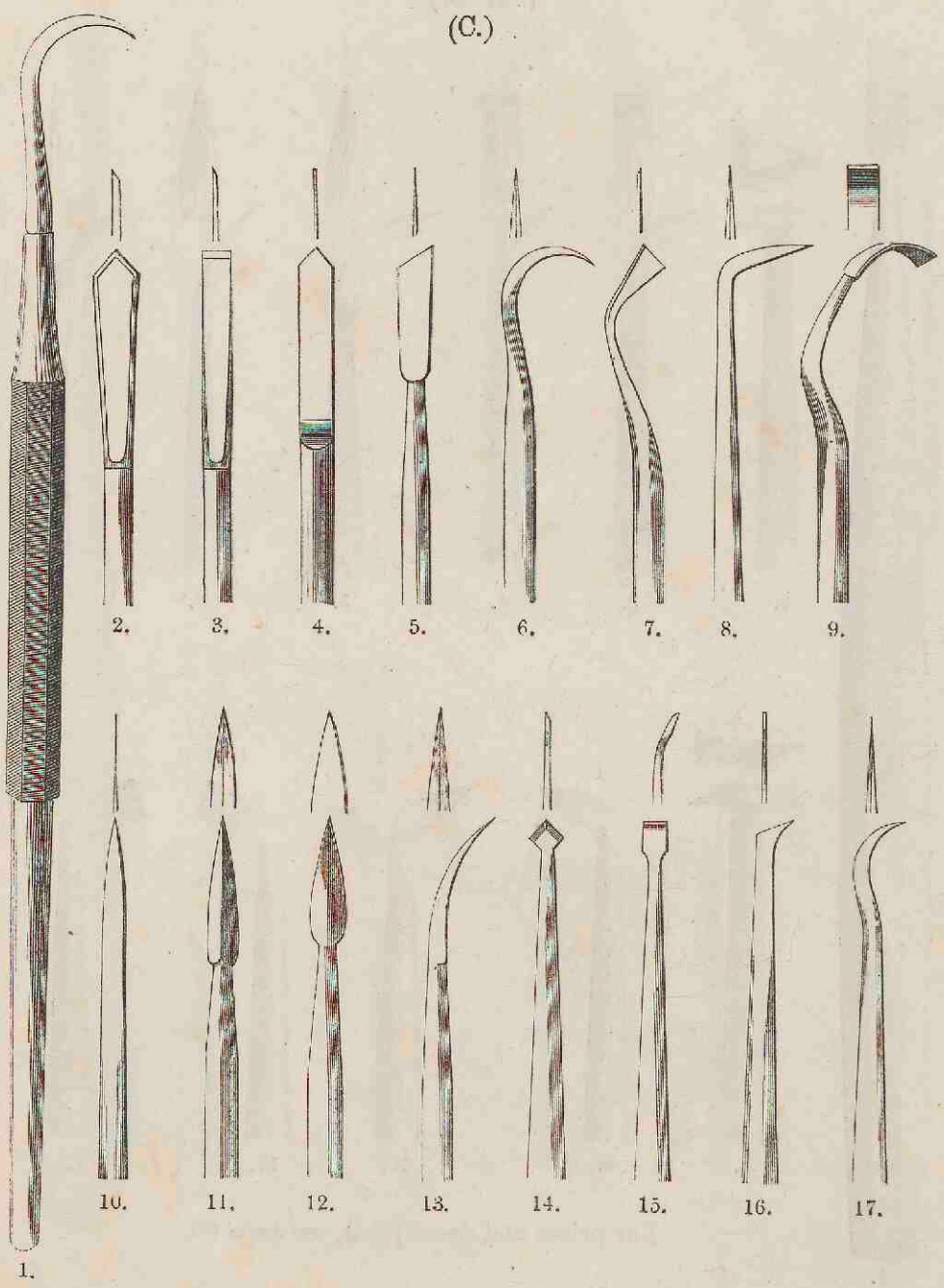
(SET B.)



For prices and description, see page 69.

SCALERS.

(C.)



SCALERS.

(Set A.)

				Set of 12.		Each.	
				s.	*d.*	*s.*	*d.*
Scalers, in ivory handles, scale tang			(Fig. 1, Page 66.)	35	0	3	0
Ditto	ebony	„	„ (Fig. 1, Page 66.)	27	0	2	4
Ditto	steel	„	file cut (Fig. 1, Page 86.)	14	0	1	2
Ditto	ditto	„	plain octagon (Fig. 1, Page 84.)	13	0	1	1

(Set B.)

			Set of 12.		Each	
			s.	*d.*	*s.*	*d.*
Scalers, in ivory octagon handles		(Fig. 1, Page 67.)	35	0	3	0
Ditto	ebony „ „	(Fig. 1, Page 67.)	29	0	2	6
Ditto	steel, file cut „	(Fig. 1, Page 86.)	14	0	1	2
Ditto	ditto, plain octagon handles	(Fig. 1, Page 84.)	13	0	1	1
Ditto	ivory handles, and silver ferrules in place of German silver	extra	6	0		

(C.)

			s.	*d.*
Scalers, with steel handles, file cut	(Fig. 1, Page 68.)	each	2	0
Ditto	ditto, plain octagon (Fig. 1, Page 73.)	„	0	10
Ditto (H. R. Ward's), for socket handles	(Figs. 5 & 6, Page 94.)	„	1	0

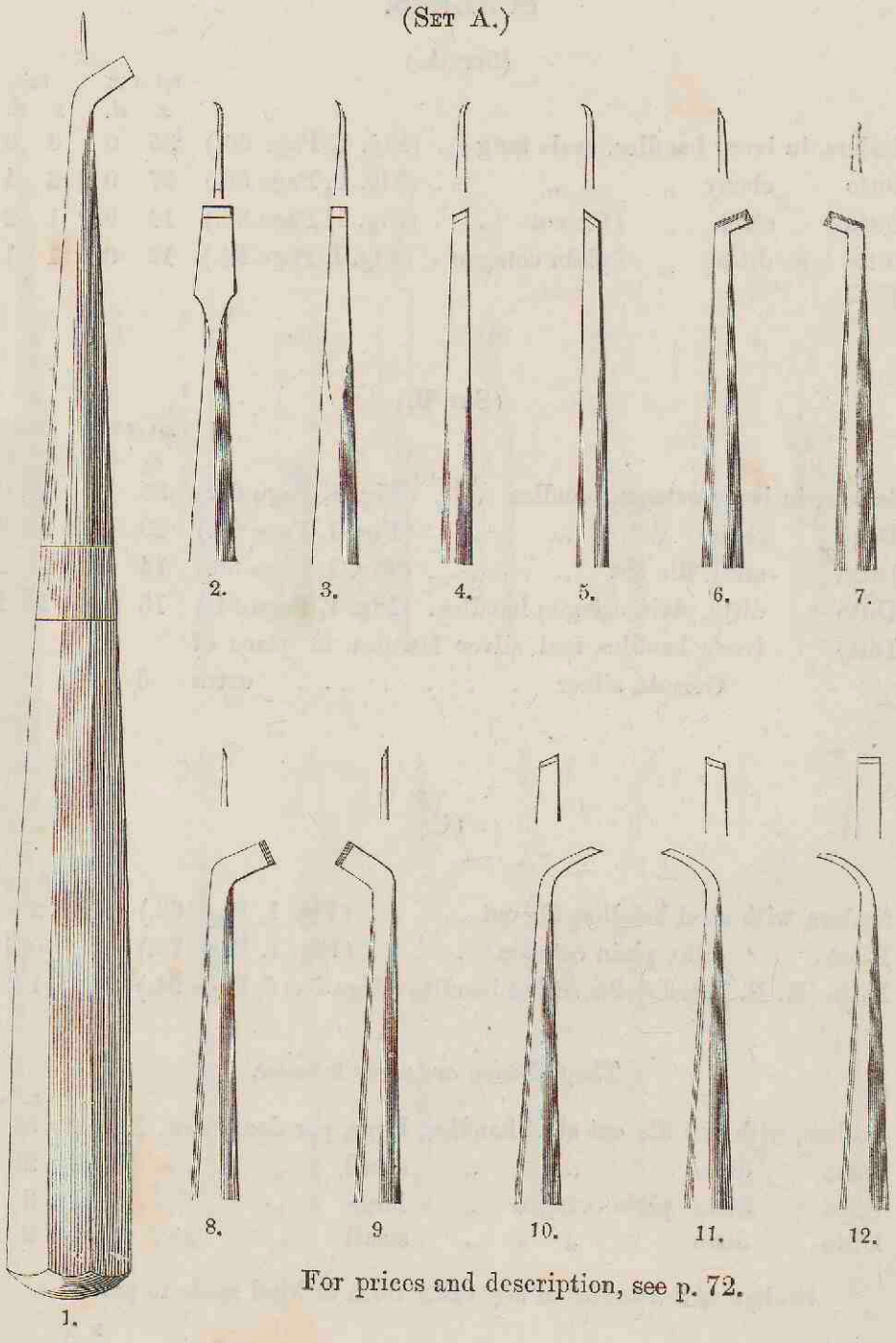
The following are made to order.

						s.	*d.*
Scalers, with gilt file cut steel handles, large, per doz. extra						3	0
Ditto	ditto	„	„	small	„ „	2	6
Ditto	ditto	plain octagon	„	large	„ „	3	0
Ditto	ditto	„	„	small	„ „	2	6

Scalers with handles of any other form or kind made to pattern.

ENAMEL CUTTERS.

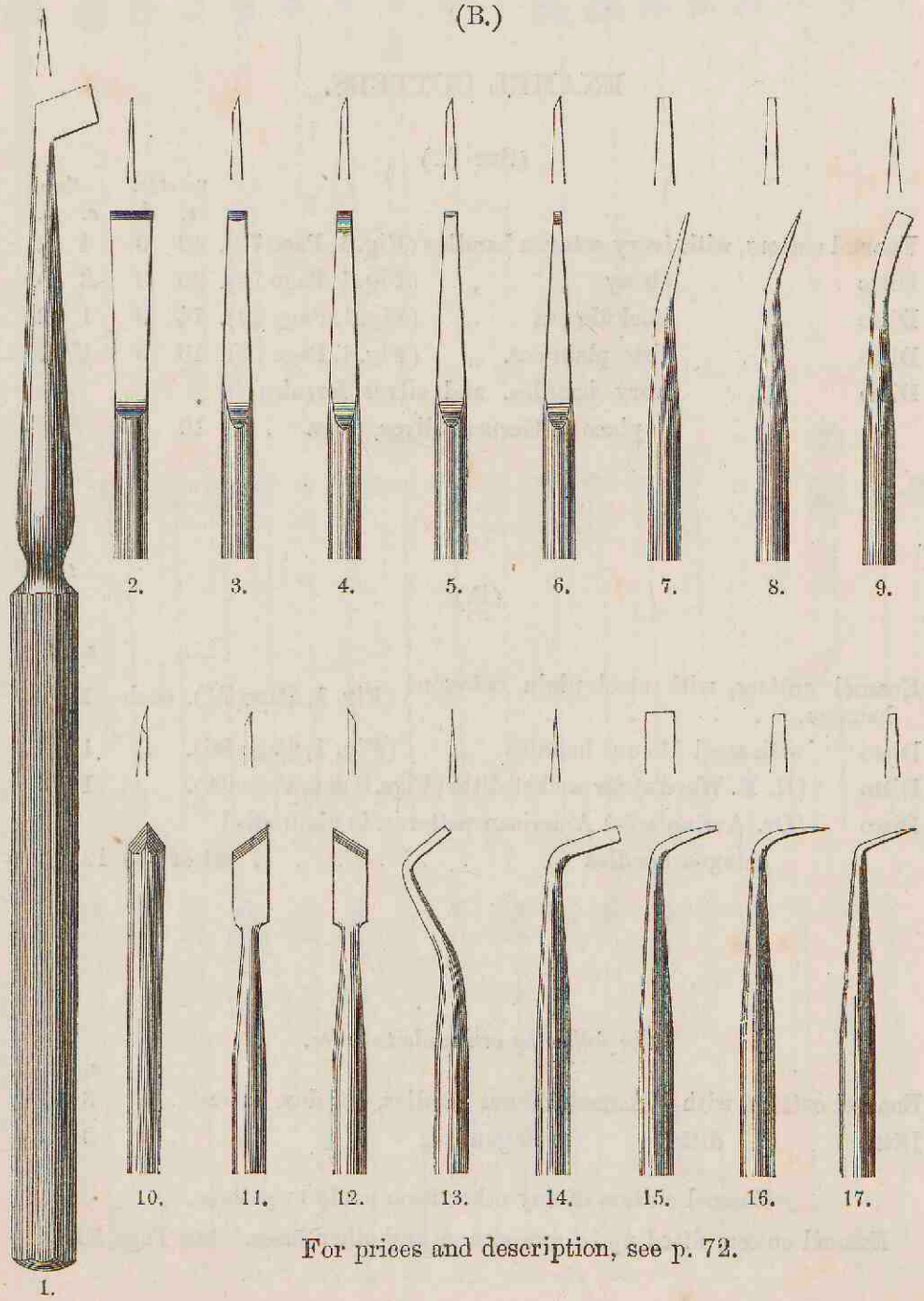
(SET A.)



For prices and description, see p. 72.

ENAMEL CUTTERS.

(B.)



For prices and description, see p. 72.

ENAMEL CUTTERS.

(SET A.)

	Set of 12.		Each.	
	s.	*d.*	*s.*	*d.*
Enamel cutters, with ivory octagon handles (Fig. 1, Page 70).	49	0	4	2
Ditto „ ebony „ „ (Fig. 1, Page 70).	35	0	3	0
Ditto „ steel file cut „ (Fig. 1, Page 88).	14	0	1	2
Ditto „ ditto plain oct. „ (Fig. 1, Page 71).	13	0	1	1
Ditto „ ivory handles, and silver ferrules in place of German silver, extra . .	10	0		

(B.)

	s.	*d.*
Enamel cutters, with steel plain octagon handles. . . . . (Fig. 1, Page 71). each	1	1
Ditto with steel file cut handles . . (Fig. 1, Page 86). „	1	2
Ditto (H. R. Ward's) for socket ditto (Figs. 5 & 6, Page 94). „	1	0
Ditto (Dr. Arrington's) American patterns, in plain steel octagon handles . . . . . (set of 18)	19	6

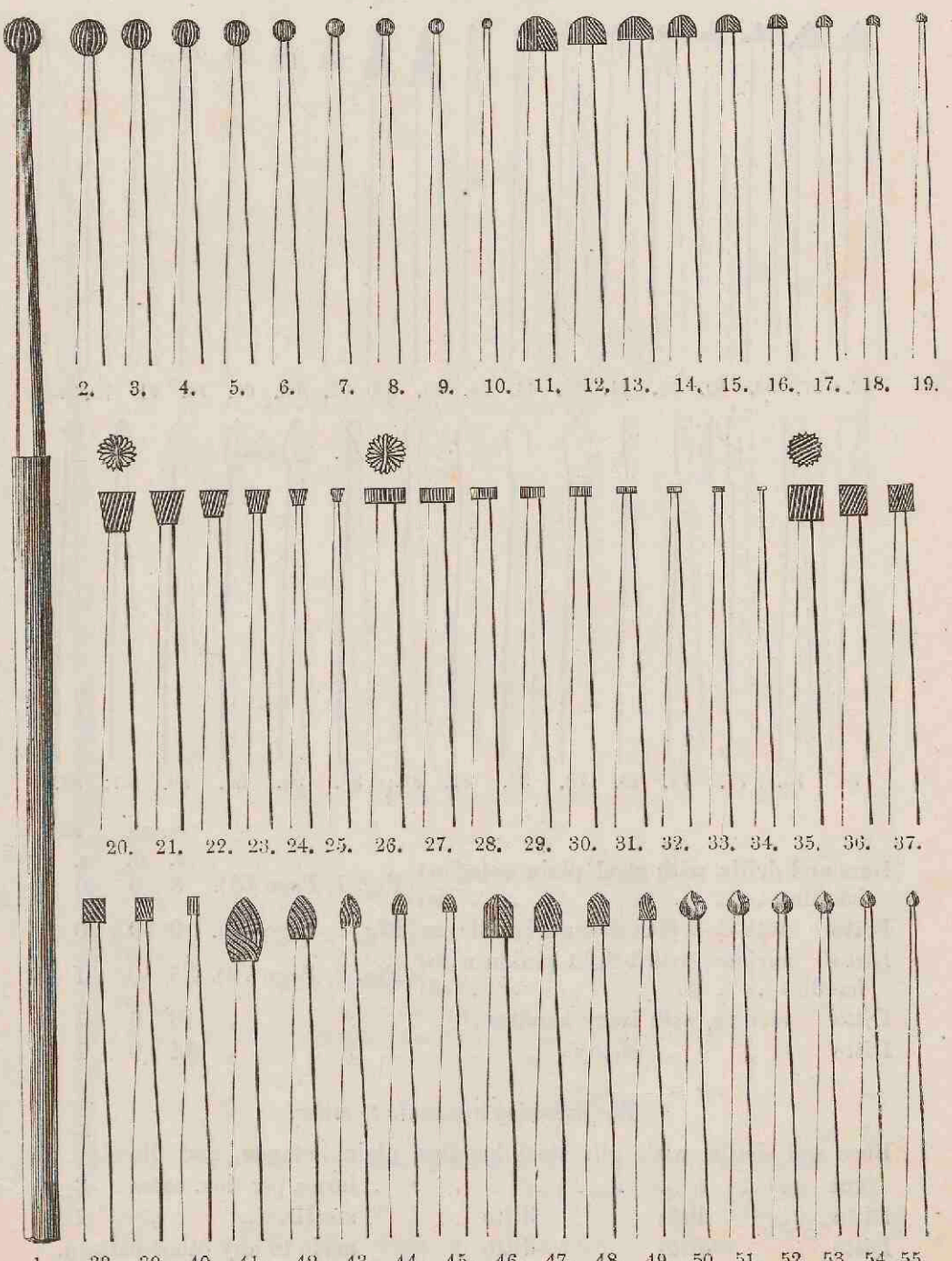
The following are made to order.

	s.	*d.*
Enamel cutters, with gilt steel file cut handles, per doz. extra . .	3	0
Ditto ditto octagon „ „ „ . .	3	0

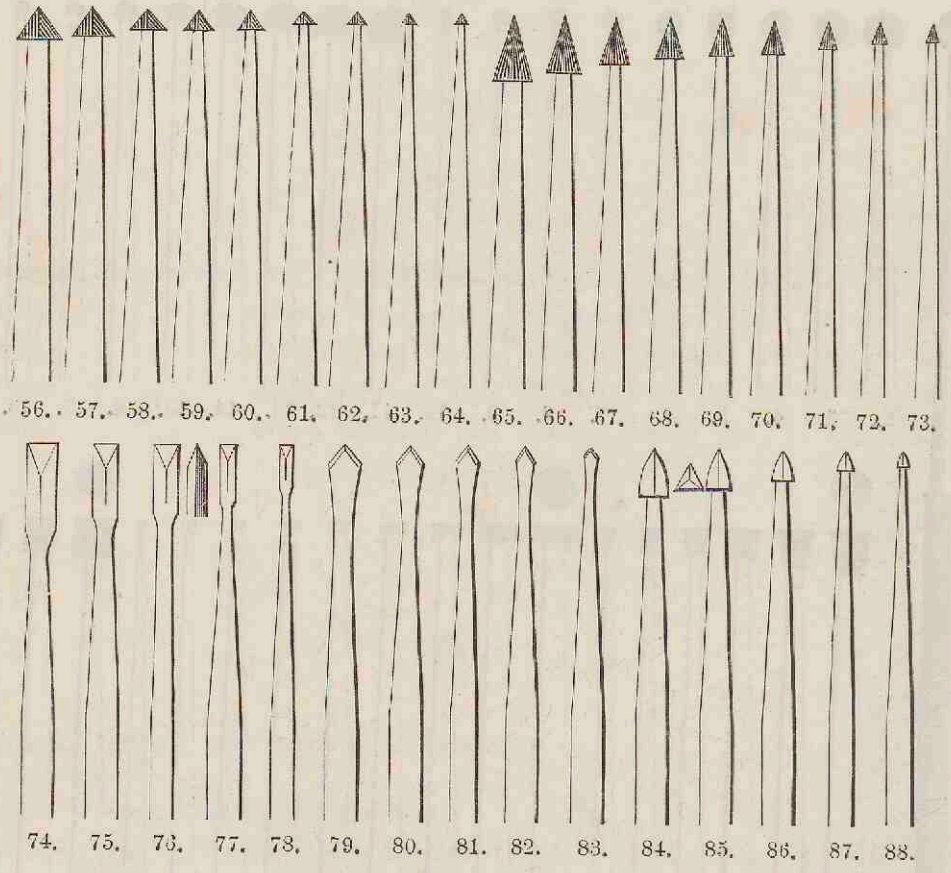
Enamel cutters of any other form made to pattern.

Enamel cutters fitted up in morocco or any other cases. See Page 50.

BURS AND DRILLS.



BURS AND DRILLS.

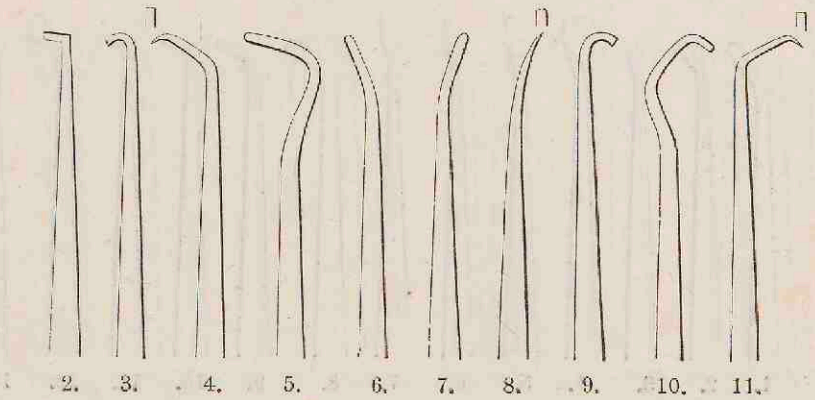


		Per doz.		Each.	
		s.	*d.*	*s.*	*d.*
Burs and drills, with steel plain octagon handles . . . . . as	(Fig. 1, Page 73).	8	0	0	8
Ditto with steel file cut small handles as	(Fig. 1, Page 86).	9	0	0	9
Ditto various, with bright pinion wire handles . . . . . as	(Fig. 1, Page 79).	15	0	1	3
Ditto various, with ivory handles		18	0	1	6
Ditto „ „ ebony „		14	0	1	2

The following are made to order.

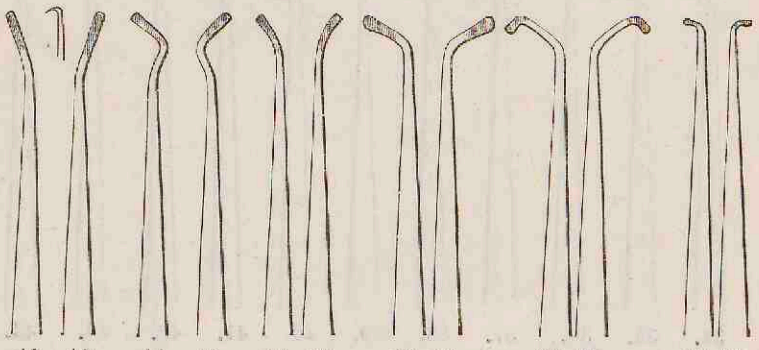
	s.	*d.*
Burs and drills, with gilt steel handles, plain octagon, and file cut . . . . . large, per doz. extra	3	0
Ditto ditto ditto small „ „	2	6
Ditto ditto ditto made to any other pattern.		

EXCAVATORS.



2. 3. 4. 5. 6. 7. 8. 9. 10. 11.

Flat, and cut either way.



12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23.

Curved right and left sides.

				s.	d.
Excavators (1 to 23)	in ivory handles	as (Fig. 1, p. 75)	each	2	3
Ditto	„ ebony „	„ (Fig. 1, p. 75)	„	1	9
Ditto	„ ivory „	„ (Fig. 1, p. 81)	„	3	0
Ditto	„ ebony „	„ (Fig. 1, p. 81)	„	2	4
Ditto	„ small file cut „	„ (Fig. 1, p. 86)	„	0	9
Ditto	„ plain octagon „	„ (Fig. 1, p. 73)	„	0	8
Ditto	(H. R. Ward's) to fit socket „	„ (Pages 93, 94)	„	0	7

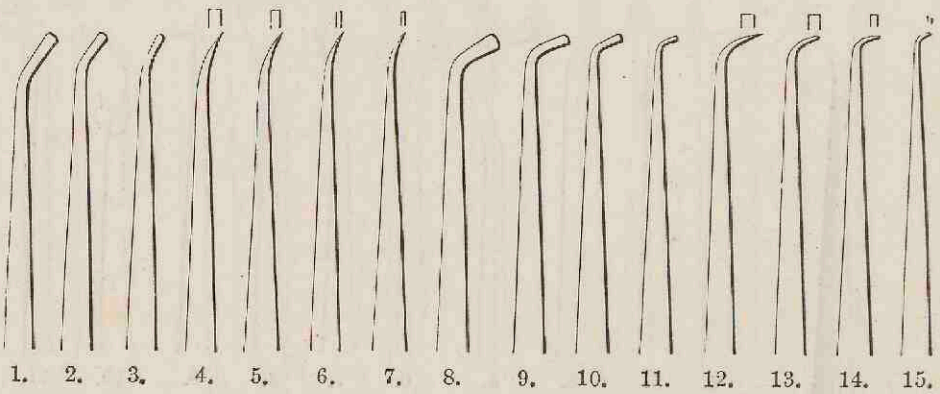
The following are made to order.

		s.	d.
Excavators, with gilt steel handles, plain octagon and file cut	large size, per doz., extra	3	0
Ditto ditto „	small „ „ „	2	6
Ditto of any other shape or handle made to pattern.			

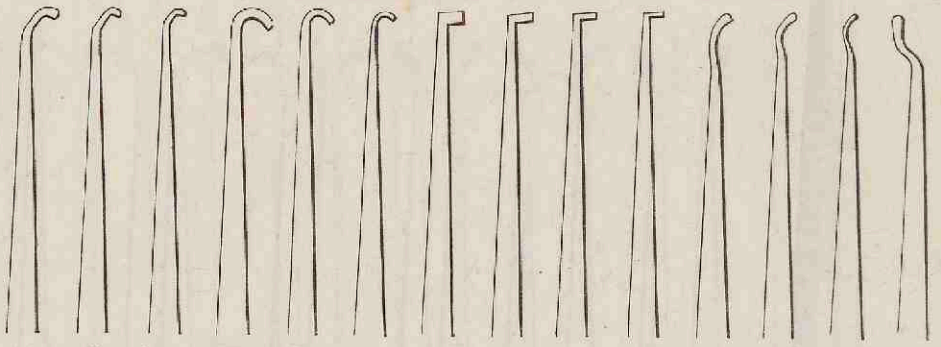
1.

EXCAVATORS.

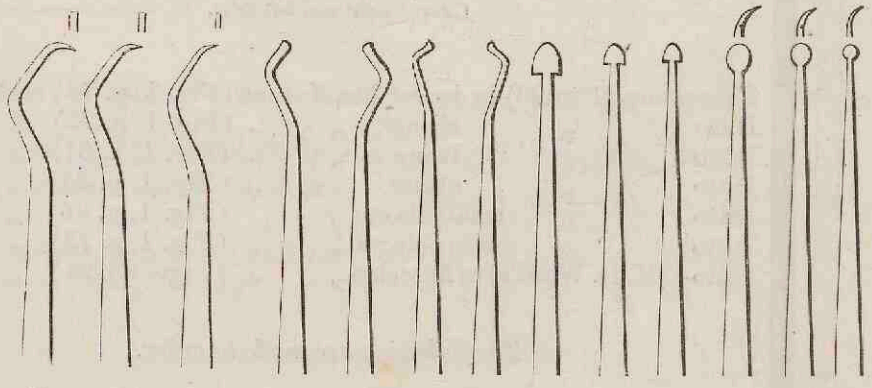
1.



1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15.



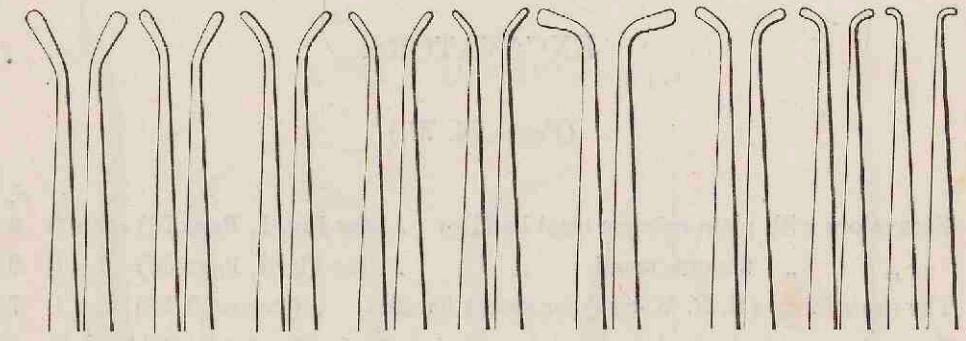
34. 35. 36. 37. 38. 39. 40. 41. 42. 43. 44. 45. 46. 47.



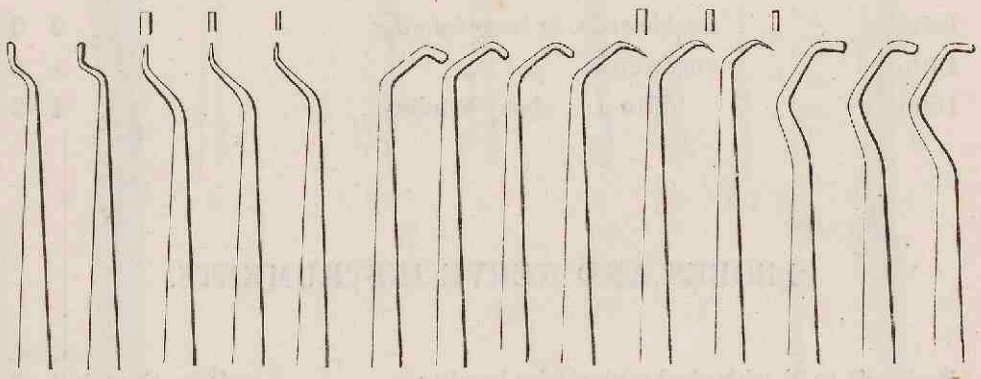
62. 63. 64. 65. 66. 67. 68. 69. 70. 71. 72. 73. 74.

Nos. 65 to 68 are curved right and left.
All others on this page are flat, and cut either way.
For prices, &c., see page 78.

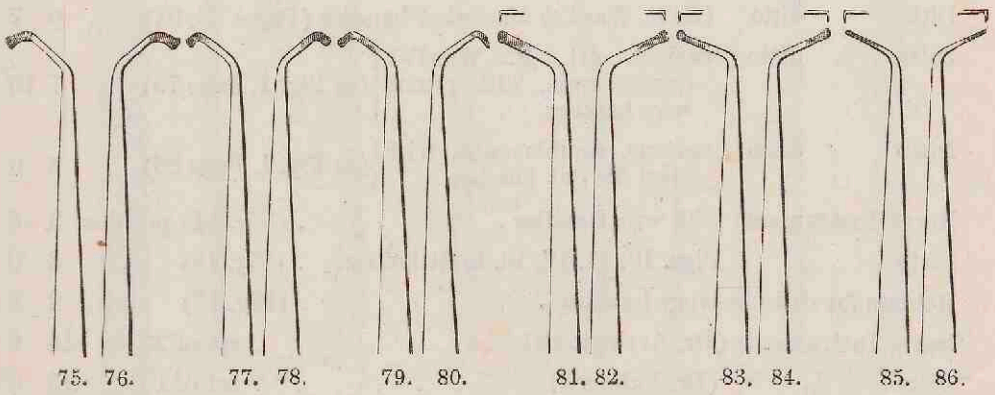
EXCAVATORS—*continued.*



16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. 32. 33.



48. 49. 50. 51. 52. 53. 54. 55. 56. 57. 58. 59. 60. 61.



75. 76. 77. 78. 79. 80. 81. 82. 83. 84. 85. 86.

Nos. 16 to 33 are curved right and left.
„ 75 „ 86 are double curved right and left.
„ 48 „ 61 are flat, and cut either way.

EXCAVATORS.

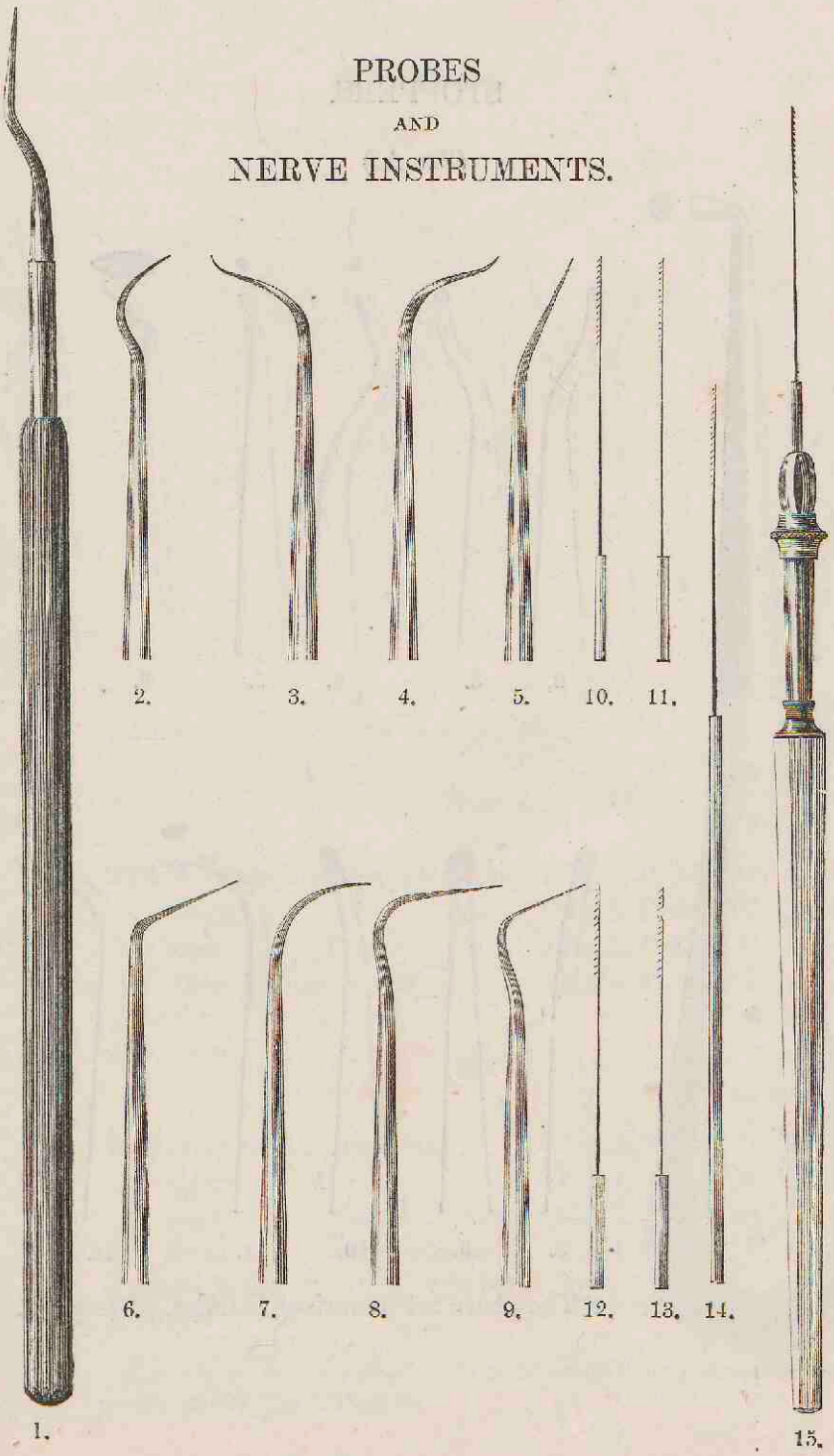
(Pages 76, 77.)

			s.	d.
Excavators with plain octagon steel handles	.	(as Fig. 1, Page 76) each	0	8
„ „ file cut, small	„	. (as Fig. 1, Page 86) „	0	9
The same forms (H. R. Ward's) for socket handles		. (Pages 93, 94) „	0	7
Excavators, various, single ends, pinion wire handles		(as Fig. 1, Page 79) „	1	3
Ditto „ double ends „	„	(as Fig. 1, Page 79) „	1	10
Ditto „ double ends, in ivory handles		. . . . . „	2	0
Ditto „ single ends „		. . . . . „	1	6
Ditto „ ditto ebony handles		. . . . . „	1	2

PROBES AND NERVE INSTRUMENTS.

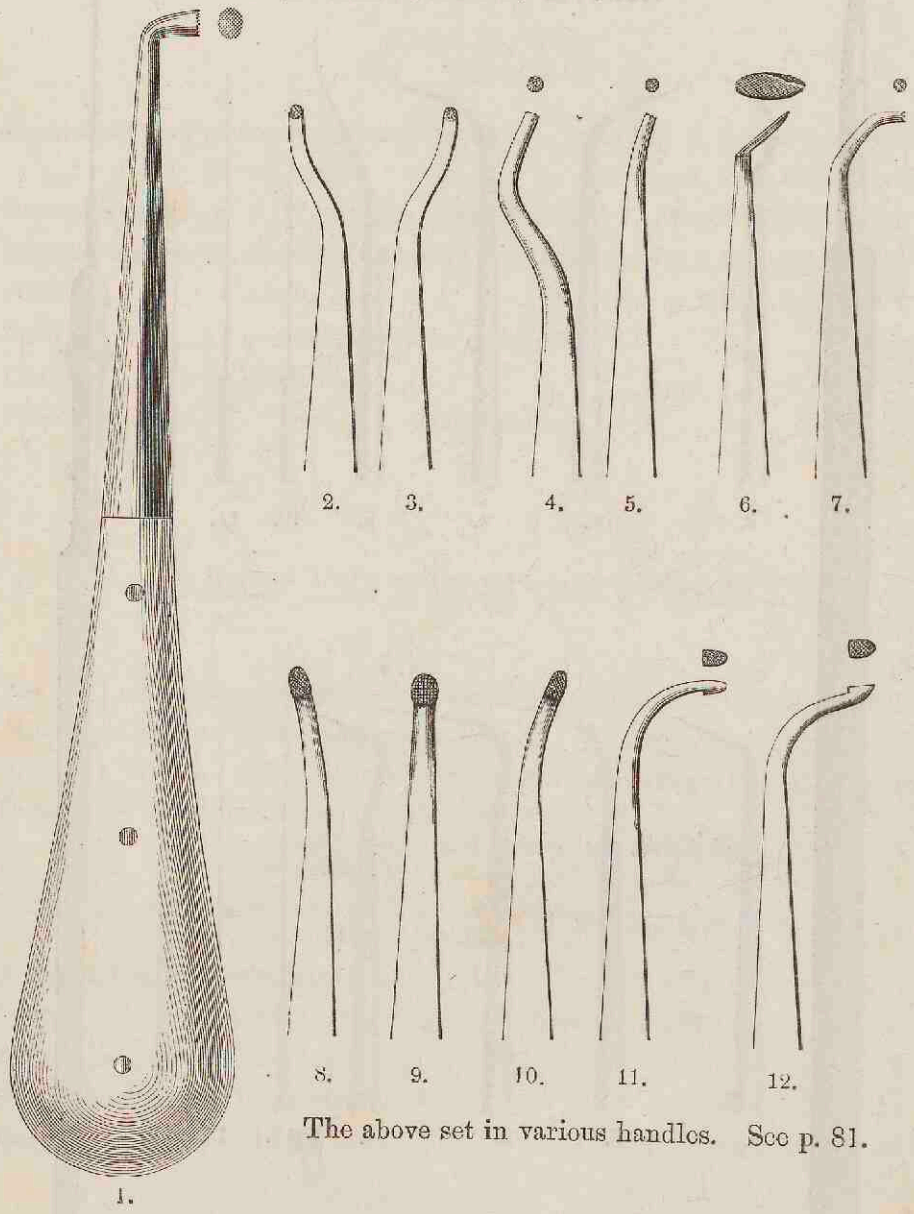
			s.	d.
Probes (1 to 9) with steel pinion wire handles		. . . . (Fig. 1) each	1	3
Ditto ditto plain octagon handles		. (as Fig. 1, Page 76) „	0	8
Ditto ditto (H. R. Ward's) for socket handles		(Pages 93, 94) „	0	7
Ditto ditto various (H. R. Ward's), double ends, with pinion wire handles	. .	(as Fig. 1, Page 79) „	1	10
Ditto ditto various, double ends, with steel file cut handles	.	(as Fig. 1, Page 86) „	2	0
Nerve Instruments with wire handles		. . . . . (Fig. 14) per doz.	3	6
Ditto „ Figs. 10, 11, 12, 13, to fit holder		. (Fig. 15) „	3	0
Holders for ditto in ivory handles		. . . . . (Fig. 15) each	2	6
Nerve Instruments (Dr. Arrington's)		. . . . . set of 24	14	6
Ditto „ (Dr. Palmer's)		. . . . . set of 15	13	0

PROBES
AND
NERVE INSTRUMENTS.



STOPPERS.

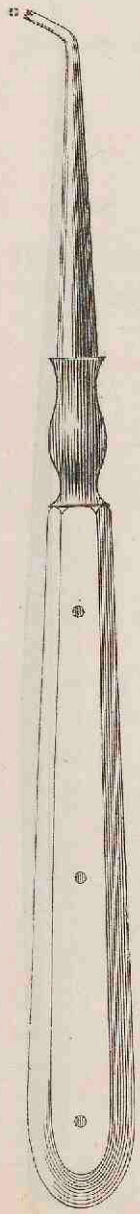
(SET A.)



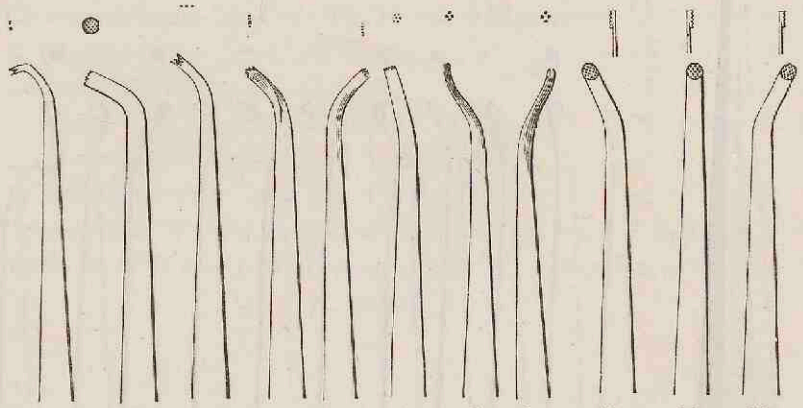
The above set in various handles. See p. 81.

STOPPERS.

(SET B.)



1.



2. 3. 4. 5. 6. 7 8. 9. 10. 11. 12.

STOPPERS.

(SET A.)

	Set of 12. s.	Set of 12. d.	Each. s.	Each. d.
With ivory handles (large), scale tang (Fig. 1, P. 80)	49	0	4	2
„ ebony „ „ „ (Fig. 1, P. 80)	35	0	3	0
„ steel „ file cut . . . (Fig. 1, P. 86)	14	0	1	2
„ ditto „ plain octagon . . (Fig. 1, P. 71)	13	0	1	1

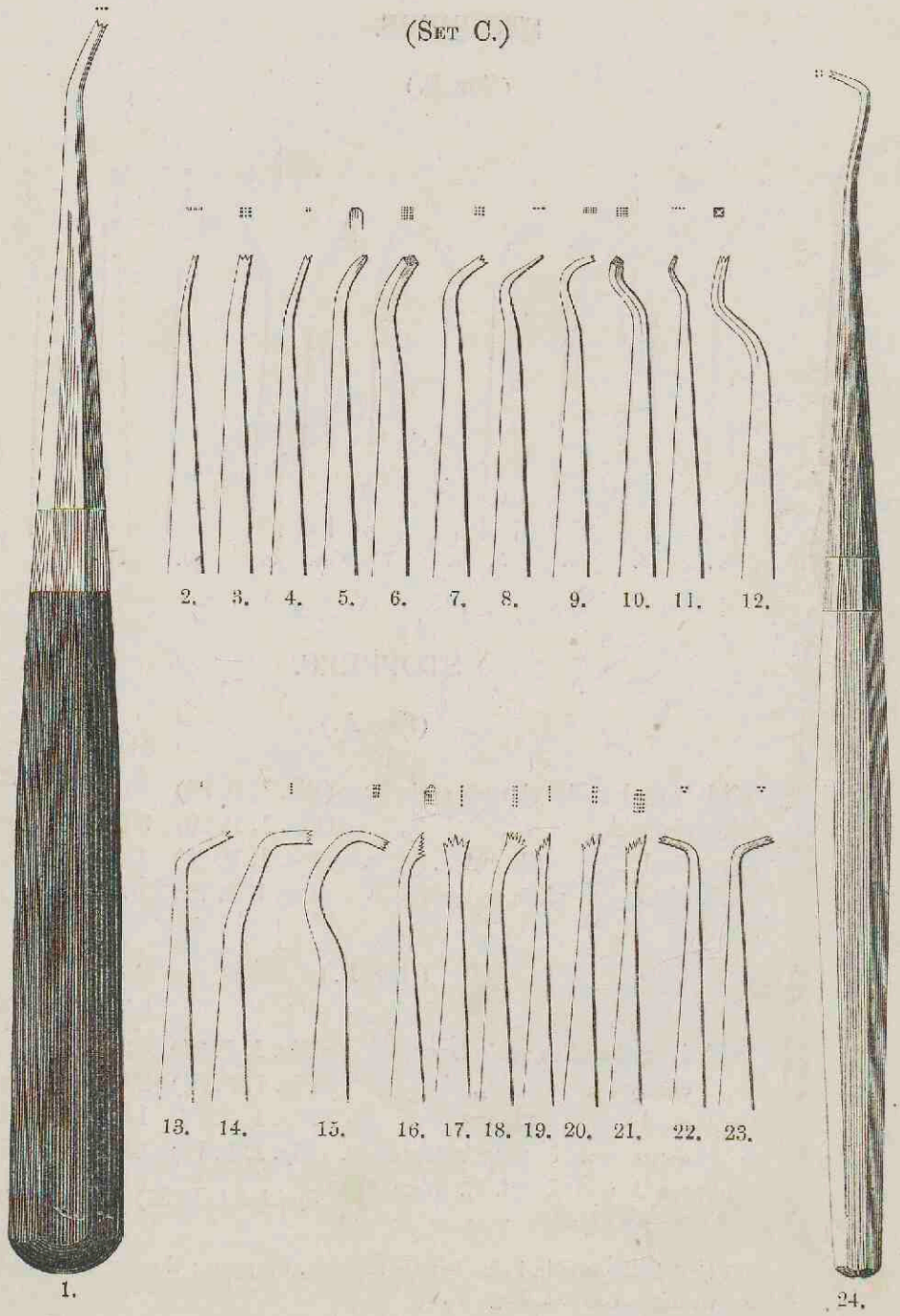
(SET B.)

	Set of 12. s.	Set of 12. d.	Each. s.	Each. d.
With ivory handles, scale tang . . . (Fig. 1, P. 81)	41	0	3	6
„ ebony „ „ . . . (Fig. 1, P. 81)	29	0	2	6
„ steel „ file cut . . . (Fig. 1, P. 86)	14	0	1	2
„ ditto „ plain octagon . (Fig. 1, P. 71)	13	0	1	1
Stoppers A and B (H. R. Ward's), for socket handles . . . . . (Figs. 5 & 6, P. 94)			1	0

Fig. 1 is the smallest size handle made for Stoppers; those usually sent are the size of Fig. 1, Page 66.

STOPPERS.

(SET C.)



STOPPERS.

(C.)

		s.	d.		s.	d.
Stoppers with ivory octagon handles (Fig. 1)	set of 12 selected	49	0	each	4	2
„ „ ebony „ „ (Fig. 1)	„ „	35	0	„	3	0
„ „ ivory taper „ (Fig. 24)	„ „	35	0	„	3	0
„ „ ebony „ „ (Fig. 24)	„ „	29	0	„	2	6
„ „ steel file cut „ (as Fig. 1, Page 86)	„	14	0	„	1	2
„ „ ditto plain oct. „ (as Fig. 1, Page 71)	„	13	0	„	1	1
Ditto, same forms (H. R. Ward's) for socket handles (Figs. 5 & 6, P. 94)				„	1	0
Silver ferrules to ivory or ebony handles, large size . .	per doz. extra				10	0
Ditto „ „ „ small „ . .	„ „				6	0

STOPPERS.

(Forms various, Pages 84, 85.)

		s.	d.
Stoppers with steel file cut handles	(as Fig. 1, Page 86) each	1	2
„ „ plain octagon handles . .	(as Fig. 1, Page 84) „	1	1
Ditto (H. R. Ward's) for socket handles .	(Figs. 5 & 6, Page 94) „	1	0
Ditto „ for small „ . .	(as Fig. 4, Page 94) „	0	9
Ditto „ various, double ends, with pinion wire handles .	„	1	10
Ditto „ ditto single ends „ „ . .		1	3

		s.	d.
Stoppers with steel handles, gilt, made to order, large, extra .	per doz.	3	0
„ „ ditto „ small, „ .	„	2	6

Stoppers of any form or handle made to order.

STOPPERS.

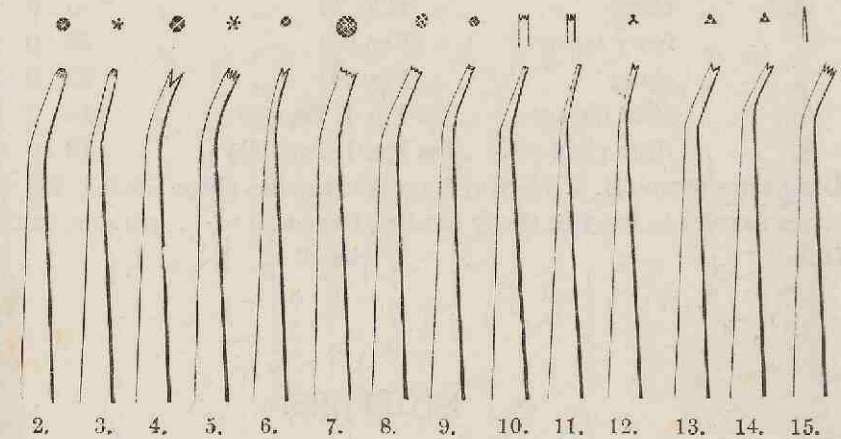
(To be used with Mallet, Fig. 4, Page 90.)

Stoppers, various, with steel plain octagon handles	each	1	3
Ditto (Dr. Butler's) „ „	„	2	0
Ditto (Dr. Varney's) „ „	„	2	3

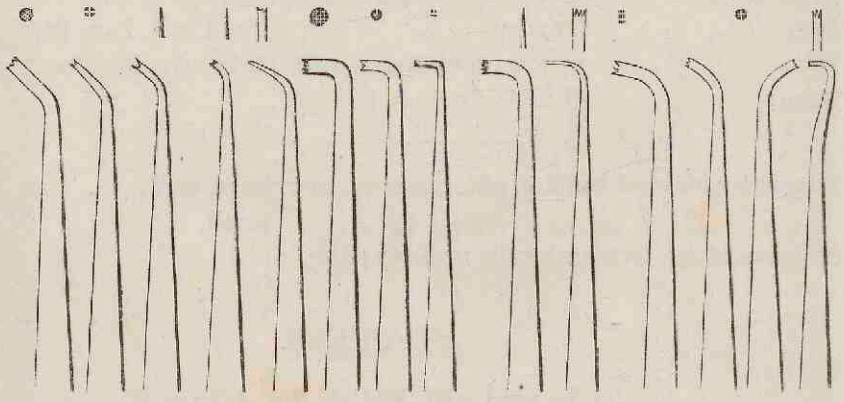
STOPPERS.

(1 to 74.)

1.

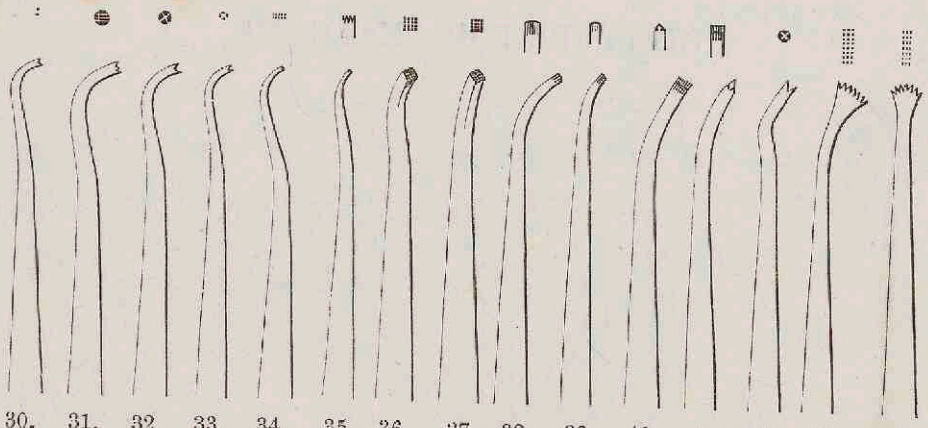


2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15.

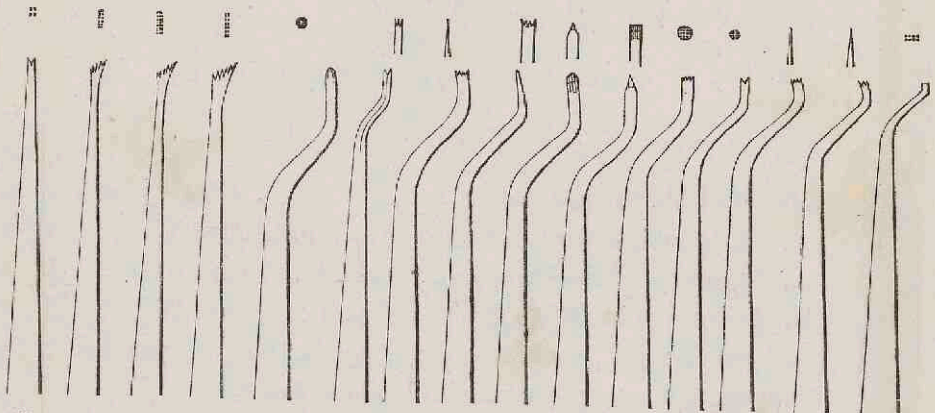


16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29.

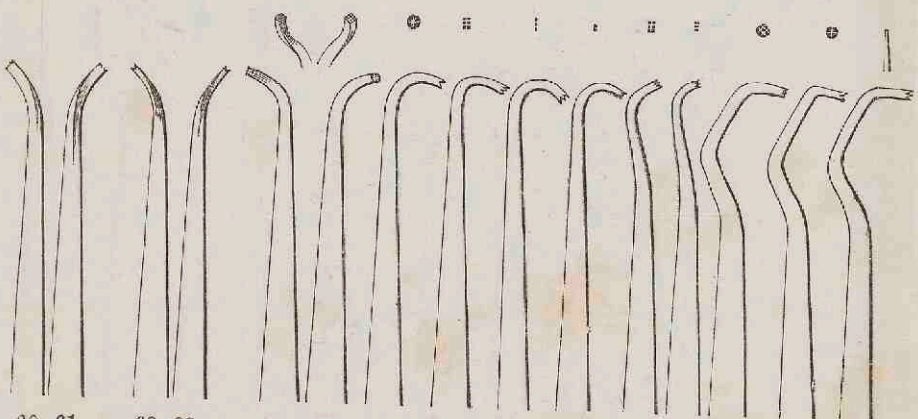
For prices and description of these Stoppers, see page 83.



30. 31. 32. 33. 34. 35. 36. 37. 38. 39. 40. 41. 42. 43. 44.



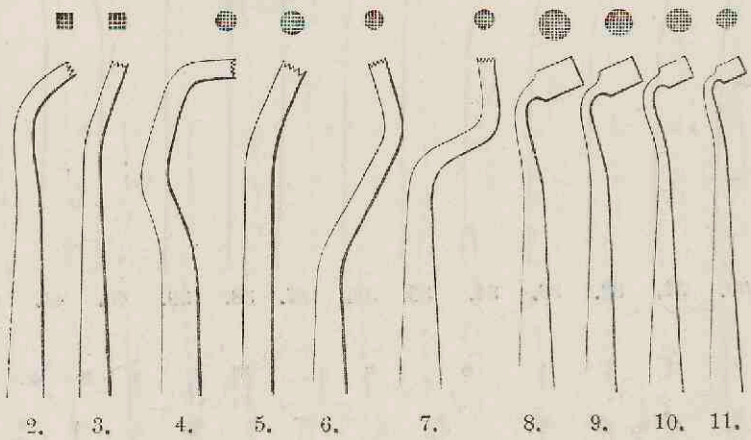
45. 46. 47. 48. 49. 50. 51. 52. 53. 54. 55. 56. 57. 58. 59.



60. 61. 62. 63. 64. 65. 66. 67. 68. 69. 70. 71. 72. 73. 74.

STOPPERS FOR AMALGAMS.

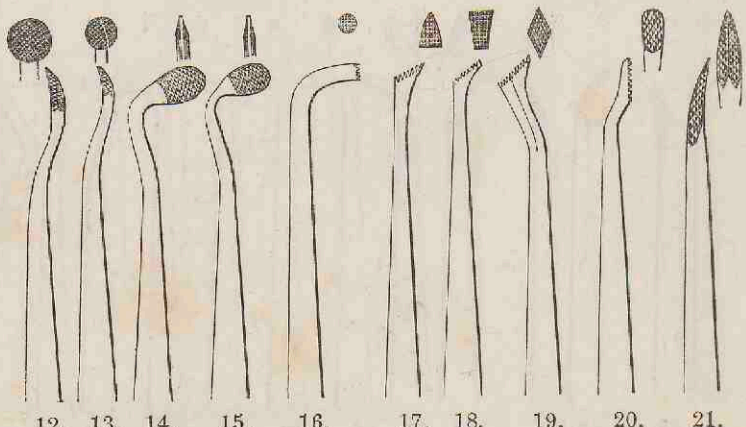
1.



2. 3. 4. 5. 6. 7. 8. 9. 10. 11.

		s.	d.
With steel file cut handles	(Fig. 1) each	1	2
„ ditto plain octagon handles	(as Fig. 1, Page 84) „	1	1
„ ebony „ taper handles .	(as Fig. 1, Page 67) „	2	6
(H. R. Ward's) to fit handles .	(Figs. 5 & 6, Page 94) „	1	0
Steel handles, gilt, made to order, large, extra .	per doz.	3	0

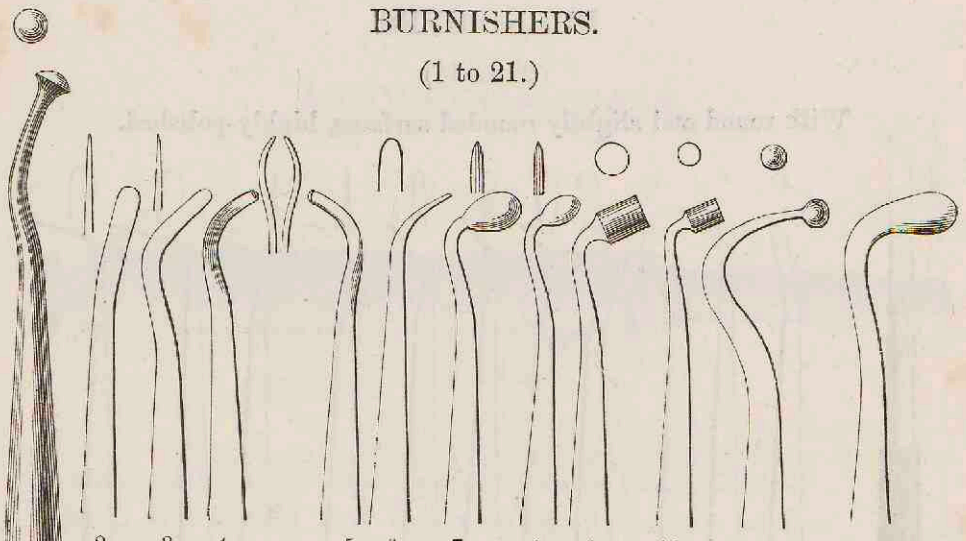
Stoppers with any other handles made to order.



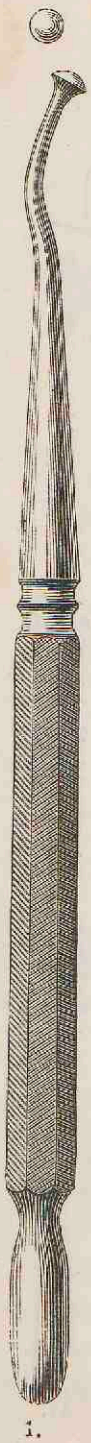
12. 13. 14. 15. 16. 17. 18. 19. 20. 21.

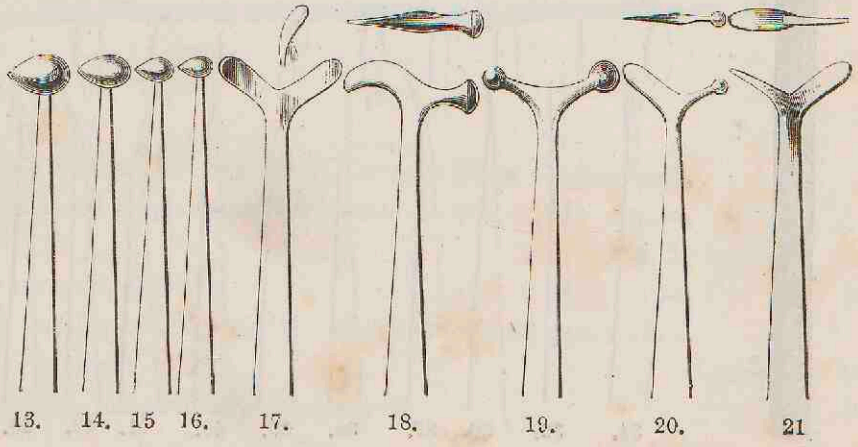
BURNISHERS.

(1 to 21.)



			s.	d.
With steel file cut handles	(Fig. 1)	each	1	2
„ plain octagon handles. .	(as Fig. 1, Page 84)	„	1	1
Various, in ivory taper „ . .	(as Fig. 1, Page 67)	„	3	0
„ ebony „ . .	(as Fig. 1, Page 67)	„	2	6
„ ivory scale tang „ . . .	(Fig. 1, Page 66)	„	3	0
Ditto (H. R. Ward's) to fit handles	(Figs. 5 & 6, Page 94)	„	1	0


1.

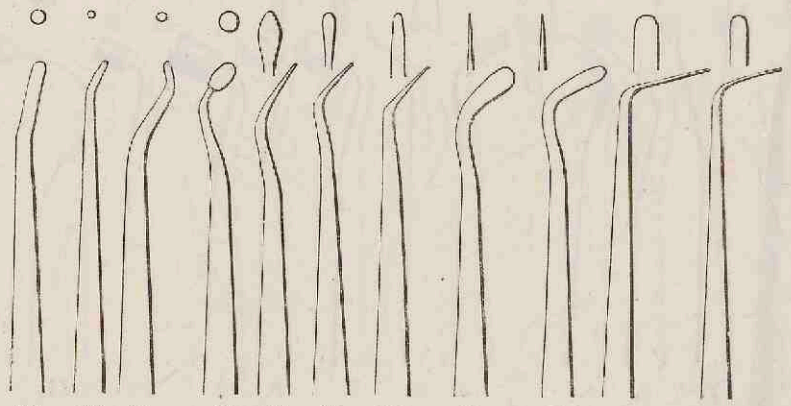


BURNISHERS.

(22 to 44)

With round and slightly-rounded surfaces, highly-polished.

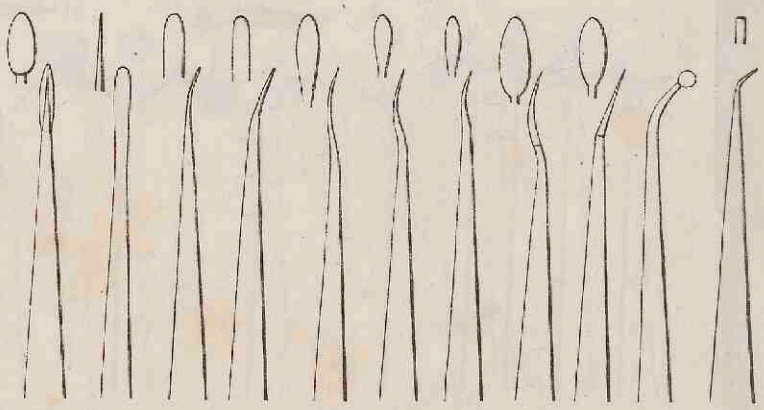
22.



23. 24. 25. 26. 27. 28. 29. 30. 31. 32. 33.

			s.	d.
With plain octagon steel handles	(Fig. 22)	each	0	10
„ small file cut „ .	(as Fig. 1, Page 86)	„	1	0
„ ebony octagon handles . .	(as Fig. 1, Page 75)	„	2	0
(H. R. Ward's) to fit handles . .	(Figs. 5 & 6, Page 94)	„	1	0
Ditto to fit handle . .	(Fig. 4, Page 94)	„	0	9
Ditto various forms with pinion wire handles . . .	(as Fig. 1, Page 79)	„	1	3

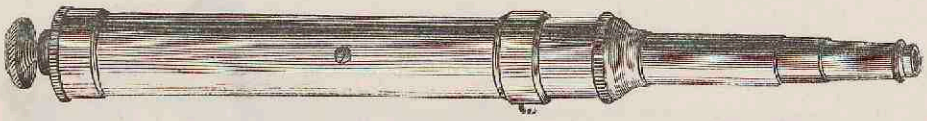
Burnishers made with other handles to order.



34. 35. 36. 37. 38. 39. 40. 41. 42. 43. 44.

AUTOMATIC MALLETS.

1.



5½ in. long.

		s.	d.
Automatic Mallet (Snow and Lewis'), German silver electroplated, with tapered steel socket for small Stoppers with conical ends	(Fig. 1) each	30	0
Stoppers for the above	per doz.	12	0
Leather Case to hold Automatic Mallet and 24 Stoppers, lined with silk velvet	each	7	0

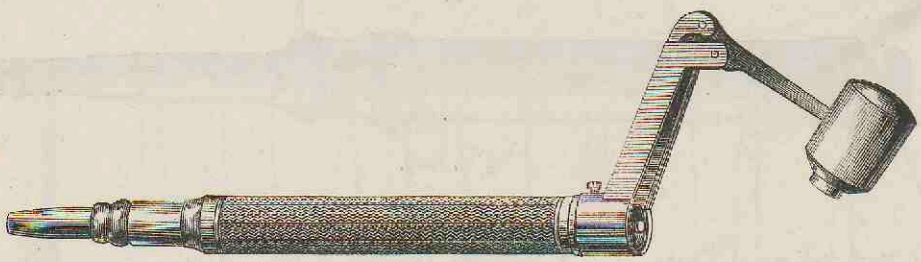
2.

6 in. long.

		s.	d.
Automatic Mallet (Dr. Salmon's), German silver electroplated, with tapered steel socket for small Stoppers with conical ends	(Fig. 2) each	36	0
Stoppers for the above	per doz.	12	0
Leather Case to hold Automatic Mallet and 24 Stoppers, lined with silk velvet	each	7	0
Bronzed Iron Racks to hold 24 Stoppers	„	5	0

AUTOMATIC MALLET.

3.

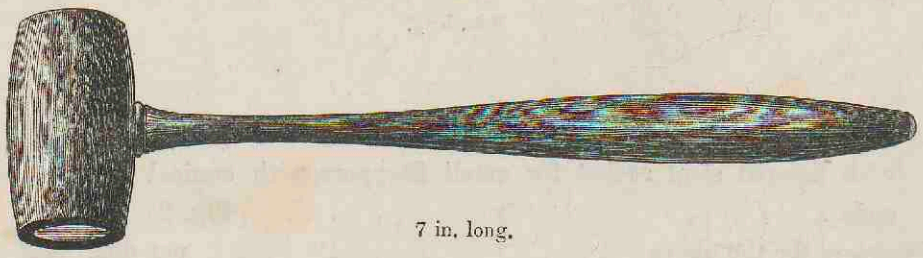


5½ in. long.

		s.	d.
Automatic Mallet (Mr. S. A. Kirby's) German silver electroplated, with steel socket for small Stoppers, conical ends	(Fig. 3) each	30	0
Ditto ditto with lever action	„	38	0
Stoppers for ditto (H. R. Ward's)	per doz.	12	0
Leather Case to hold Automatic Mallet and 24 Stoppers . .	each	9	0

MALLET FOR PLUGGING.

4.



7 in. long.

		s.	d.
Hand Mallet used with Plugging Instruments. The heads of these mallets are made of tough wood filled with lead, 1¾ inch long and ⅞ inch in diameter	(Fig. 4) each	3	3

LINT HOLDERS.

1.

6 in. long.

			s.	d.
Lint Holder, steel	(Fig. 1)	each	3	0
Ditto, silver plated		„	4	6
Cotton Wool		per lb.	3	6
Ditto		per oz.	0	3

2.

6½ in. long.

			s.	d.
Lint Holder, ivory handle	(Fig. 2)	each	4	0
Ditto ebony „	(Fig. 2)	„	3	3

The above Lint Holders are constructed to hold the cotton wool, &c., while wiping out the cavity of the tooth, without the usual pressure of the fingers required with ordinary tweezers.

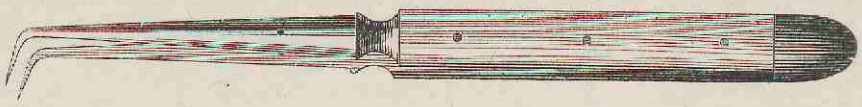
TWEEZERS.

1.

6 in. long.

		s.	d.
Tweezers and Plugger combined, flat steel handle . .	(Fig. 1) each	6	6
Ditto " " octagon " . .	(Fig. 1) "	6	6

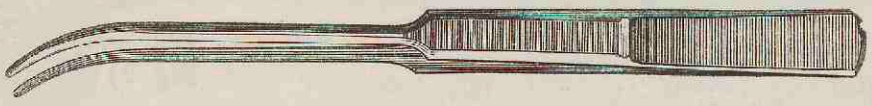
2.



6 in. long.

		s.	d.
Tweezers (Mr. Tomes'), in ivory, of various angles .	(Fig. 2) each	5	0
Ditto " in ebony " .	(Fig. 2) "	4	0

3.



5½ in. long.

		s.	d.
Tweezers, all steel	(Fig. 3) each	2	0
Ditto, plated	"	3	6

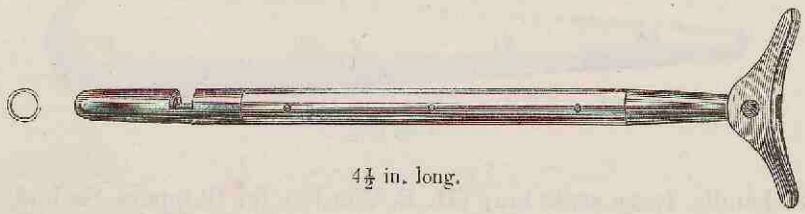
SOCKET HANDLES.

1.

4½ in. long.

	s.	d.
Socket handle, pinion wire (H. R. Ward's), double end (Fig. 1) each	3	6
Ditto „ „ „ single „ . . . . „	2	6

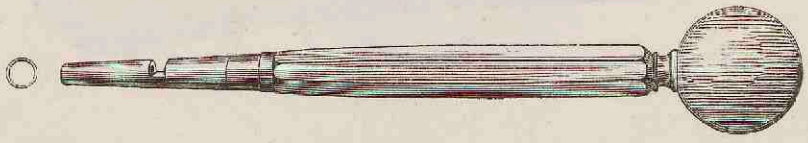
2.



4½ in. long.

	s.	d.
Socket handle in ivory (H. R. Ward's), with Crutch. (Fig. 2) each	7	6
Ditto „ with shifting Crutch . . . . . „	8	6
Ditto „ pinion wire, „ . . . . . „	5	0

3.



4½ in. long.

	s.	d.
Socket handle in ivory, with revolving ball . . . (Fig. 3) each	7	6
Ditto „ ebony „ „ . . (Fig. 3) „	6	0

NOTE—The inner circles of the above engravings represent the exact sizes of the holes in the socket handles.

SOCKET HANDLES.

4.

4¼ in. long.

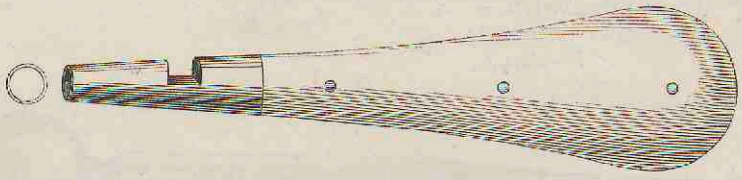
		s.	d.
Socket handle, ivory scale tang (H. R. Ward's), for Excavators, Drills, small Stoppers and Burnishers	(Fig. 4) each	4	6
Ditto „ ebony ditto . . .	(Fig. 4) „	3	6

5.

4 in. long.

		s.	d.
Socket handle, ivory scale tang (H. R. Ward's), for Stoppers, Scalers, and Burnishers	(Fig. 5) each	5	6
Ditto „ ebony ditto . . .	(Fig. 5) „	4	6

6.



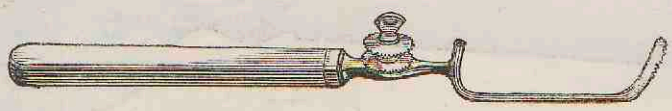
4 in. long.

		s.	d.
Socket handle, ivory scale tang (H. R. Ward's), for Stoppers, Scalers, Enamel Cutters, and Burnishers.	(Fig. 6) each	6	6
Ditto ebony ditto . . .	(Fig. 6) „	5	6
Ditto in buckhorn, large size	„	5	0
Ditto „ small „	„	4	0

NOTE—The inner circles of the above engravings are the exact sizes of the holes in the socket handles.

TAPE CARRIERS.

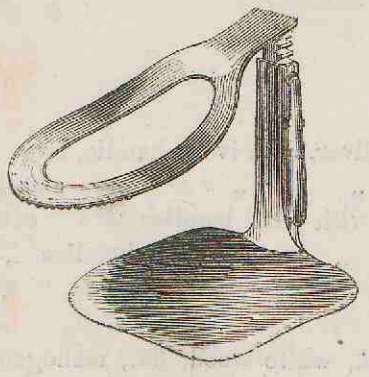
1.



	s.	d.
Tape Carrier, with ivory handle for holding Corundum, Buckhorn, Silex, or Waterproof Tapes, for polishing Stoppings (Fig. 1) each	10	6
Ditto „ ditto in ebony handle . . . . . „	9	0
Tapes for ditto . . . . . per piece	0	6

TONGUE COMPRESSORS, &c.

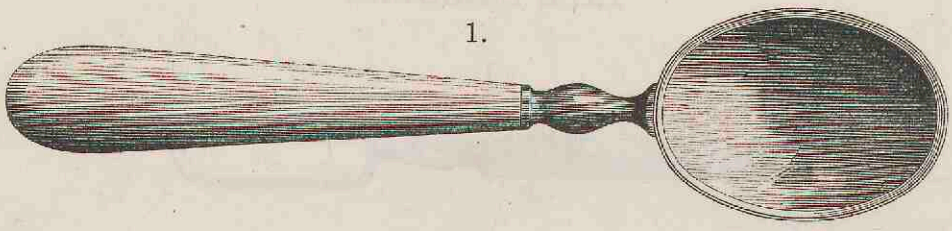
2.



	s.	d.
Tongue Compressor, German silver plated, for holding the tongue down during the operation of plugging . . . (Fig. 2) each	7	6
Ditto „ ditto (Dr. Smith's) . . . . 15*s.* to	20	0
Ditto „ ditto various.		
Coffer-dam Holders, various . . . . . from	4	0
Ditto „ punches, steel file cut handles . . . . . each	2	0
Coffer-dam Rubber, in 4 oz. packets	2	6

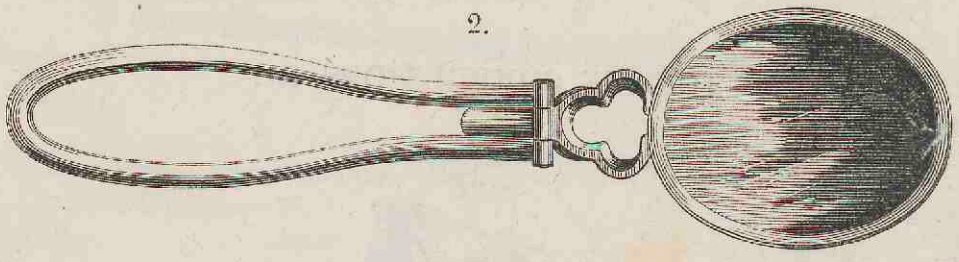
MOUTH MIRRORS.

1.



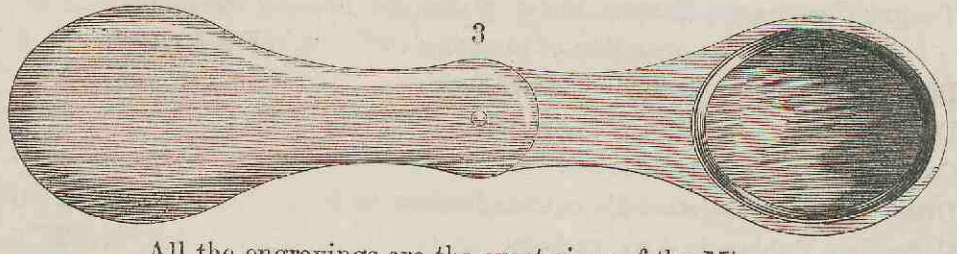
			s.	d.
Mirror, German silver, with ivory handle . . .	(Fig. 1)	each	4	6
" " " gilt " . . .	(Fig. 1)	"	6	0
" " " pearl " . . .	(Fig. 1)	"	6	6
Folding Mirror, German silver " . . .	(Fig. 2)	"	6	0
Ditto " gilt " . . .	(Fig. 2)	"	7	6

2.



			s.	d.
Folding Mirror, ivory	(Fig. 3)	each	3	6
Mirror (Mr. Rogers'), silver, with ivory handle, large size . .		"	9	6
" " " " " small " . . .		"	7	6
Polished steel Mirrors, with pearl handles		each 2s. 6d. and	3	0
" " " " tortoise-shell handles		" 2s. 3d. "	2	6
Mirrors in pearl frames		"	4	9
" ivory "		" 2s. 6d. "	3	0
Ditto rosewood, 8d., white wood, 6d., mahogany		0s. 4d. "	0	5

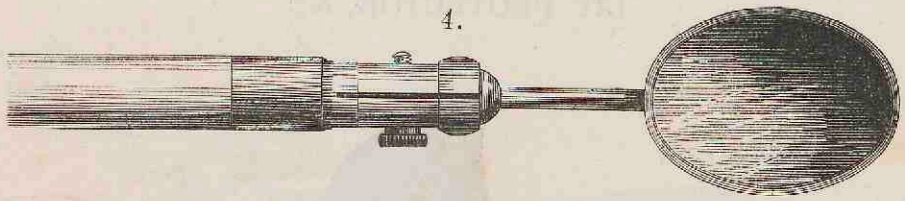
3



All the engravings are the exact sizes of the Mirrors.

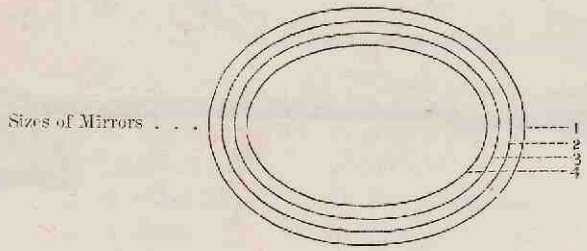
MOUTH MIRRORS.

4.



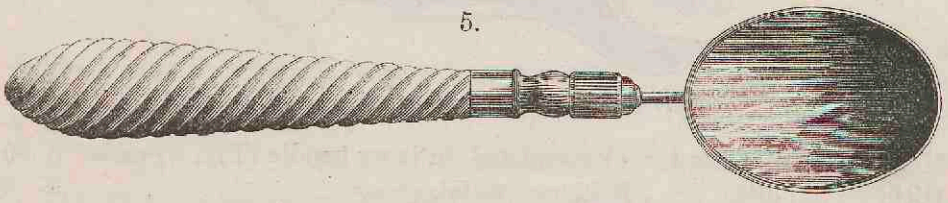
		Sizes	1	2	3	4
Mirror (Kiessler's) with ball and socket action, silver gilt, in ivory handle (Fig. 4)			21/0	20/0	19/0	18/0
Ditto	„	ditto, German silver gilt (Fig. 4)	13/6	13/0	12/0	11/0
Ditto	„	ditto, silver plated . (Fig. 4)	12/0	11/6	10/6	9/6
Ditto	„	silver, to fold for pocket			15/6	..
Ditto	„	without ball and socket action, German silver, with ivory handle			6/6	

These Mirrors can be had with the same ball and socket action as Fig. 5, at the above prices.



				s.	d.
Mirror (Kiessler's) with ball and socket action, electroplated, with pearl handle . . . . (Fig. 5)				12	0
Ditto	„	ditto	ivory „ . . . . (Fig. 5)	11	0
Ditto	„	ditto	electroplated, to fold for pocket .	15	0
Ditto	„	ditto	ditto, with fixed handle	13	
Ditto	„	ditto	in ivory handle, the back to open with hinges, for putting in new glasses	15	0

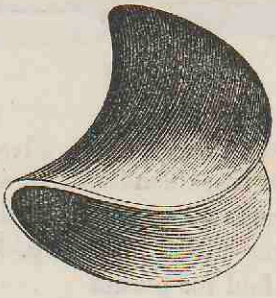
5.



Glasses for the above Mirrors, covered on the backs with a copper coating to prevent injury from moisture, 15, 16, 17, and 18 pence each.

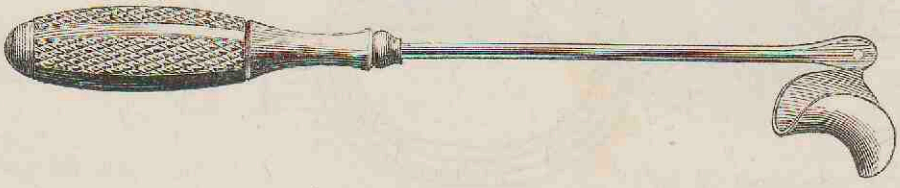
LIP PROTECTOR, &c.

1.



Lip Protector, silver plated. This contrivance is useful in protecting the lips when using files, drills, or other cutting instruments . . . . . (Fig. 1) each — s. 2 d. 9

2.



9 in. long.

Mouth or lip distender, silver plated, with ebony handle. This instrument is held by the patient during operations in the mouth (shield same size as Fig. 1) . . . . . (Fig. 2) each — s. 6 d. 0

3.

5⅝ in. long.

				s.	d.
Mouth or Lip Distender, electroplated, in ivory handle			(Fig. 3) each	8	0
Ditto	ditto	Britannia metal, ebony	„ . . . . „	3	0
Ditto	ditto	ditto metal	„ . . . . „	1	9
Lip Distender or Cheek Holder, in pearl			„	2	3

NAPKIN HOLDERS, &c.

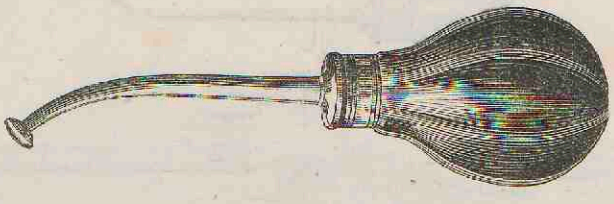
1.

		s.	d.
Napkin Holder, German silver, in ebony handle . .	(Fig. 1) each	5	0
Ditto „ electroplated „ . .	(Fig. 1) „	6	6

2.

		s.	d.
Napkin Holder, German silver, in ebony handle . .	(Fig. 2) each	5	0
Ditto „ electroplated „ . .	(Fig. 2) „	6	6
Ditto „ other shapes, with ivory handles	„	5	0
Ditto „ ditto „ ebony „	„	3	3

3.

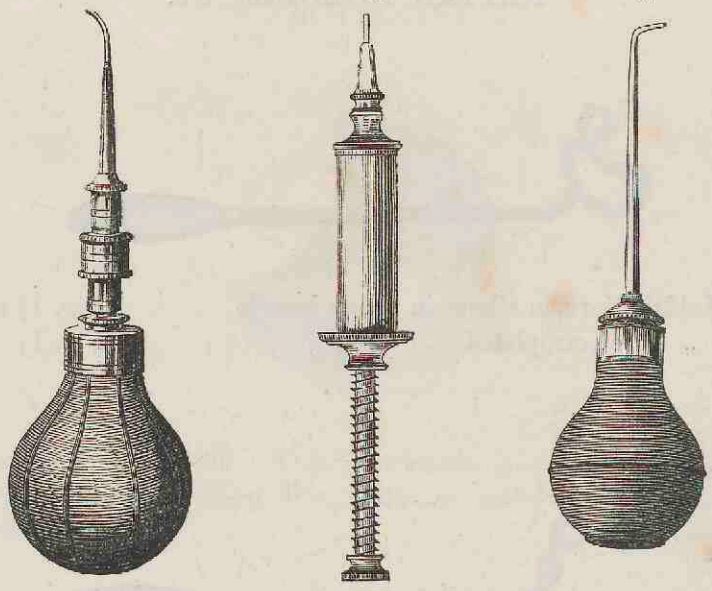


		s.	d.
Saliva Pump, silver plated, with flexible ball . . .	(Fig. 3) each	8	6
Ditto ditto with valve to prevent the saliva returning into the mouth	„	10	6

The saliva is drawn up through the perforated nozzle by merely compressing the india-rubber ball and then allowing it to expand.

SYRINGES.

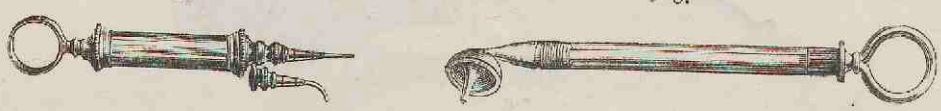
1. 2. 3.



			s.	d.
Syringe (Mr. Tomes'), electroplated, with valve and flexible ball, and 2 nozzles	(Fig. 1)	each	10	6
Ditto ditto without valve	(Fig. 3)	„	7	0
Ditto ditto „ small size	(Fig. 4)	„	5	0
Ditto (Mr. Hunt's) self-filling, electroplated, with spiral spring, straight and bent nozzles, in case	(Fig. 2)	„	12	0

4.

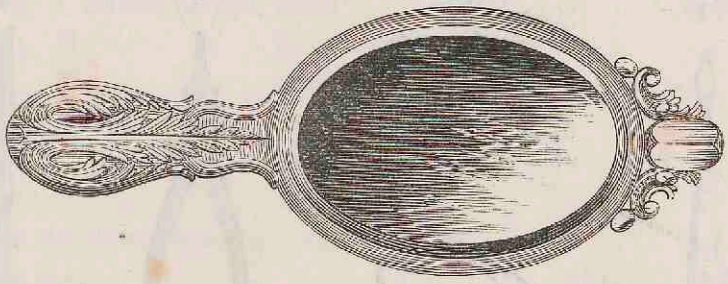
5. 6.



			s.	d.
Syringe, electroplated, with two nozzles, in case, small size	(Fig. 5)	each	7	6
Ditto large size		„	9	0
Ditto, Vulcanite, with curved nozzle		„	2	9
Glass Syringes	(Fig. 6)	„	2	0

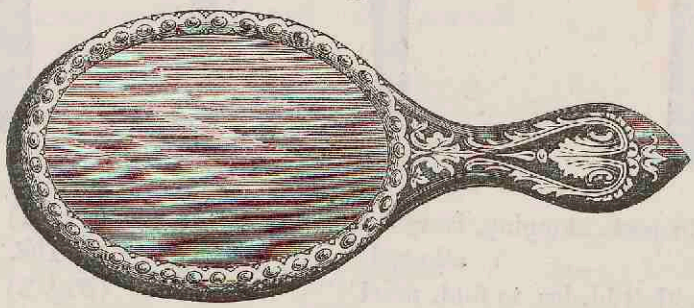
HAND MIRRORS.

1.



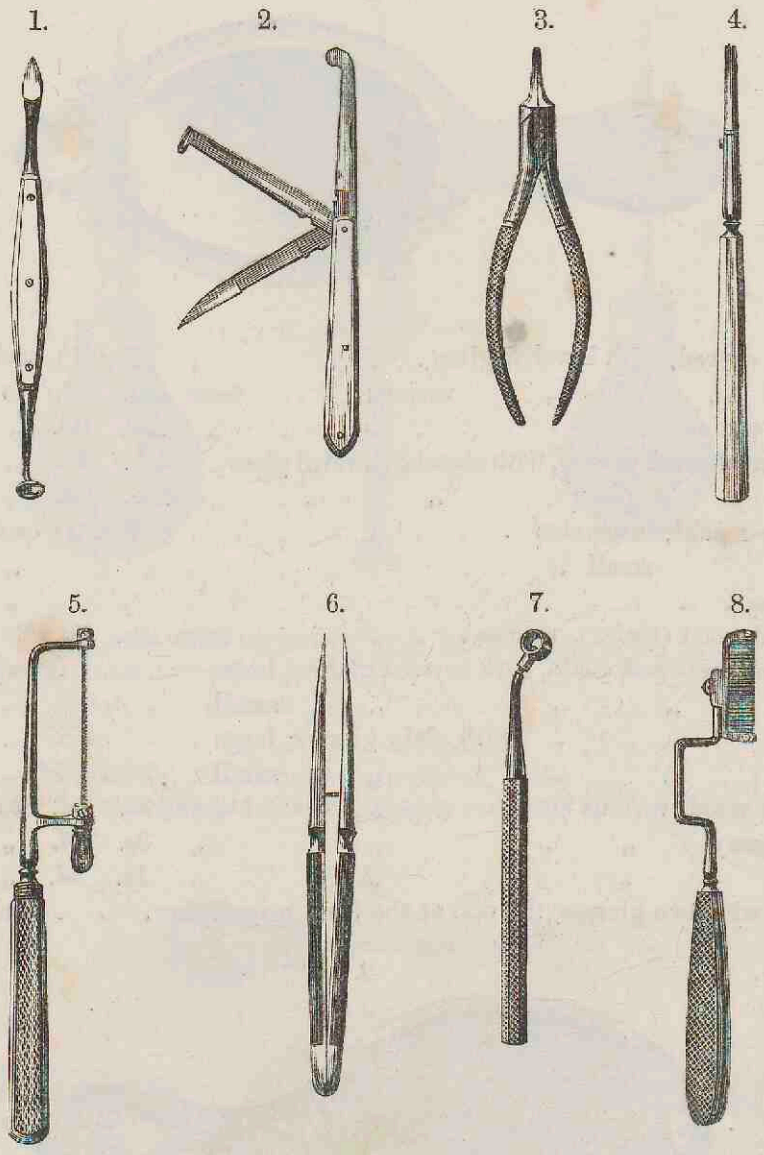
						s.	d.
Ivory, carved, with beveled glass					(Fig. 1) each	45	0
Ditto	„	„	various	from	45s. 0d. to	60	0
Ditto plain				„	20s. 0d. „	35	0
Mother-of-pearl, carved, with circular beveled glass				„	40s. 0d. „	50	0
Ditto	plain			„	22s. 0d. „	30	0
Papier-maché, large size					(Fig. 2) each	7	6
Ditto	small	„			„	6	0
Ivorine					„	5	6
Carved wood (Swiss), various				from	10s. 6d. to	25	0
Satin or rosewood, plain, with beveled glasses, large					each	7	6
Ditto	„	„	„	small	„	5	6
Ditto	„	„	with plain glasses, large		„	5	6
Ditto	„	„	„	small	„	3	3
White wood, various sizes			„	from	3s. 0d. to	3	6
Mahogany	„	„	„	„	3s. 0d. „	5	0
Ditto	„	„	„	„	1s. 3d. „	2	9
Ditto with two glasses, the one at the back magnifying					each	5	0

2.



The average size of the oval glasses in the above mirrors is 6 in. by 4 in. for the large, and 5 in. by 3½ in. for the small.

INSTRUMENTS, VARIOUS.



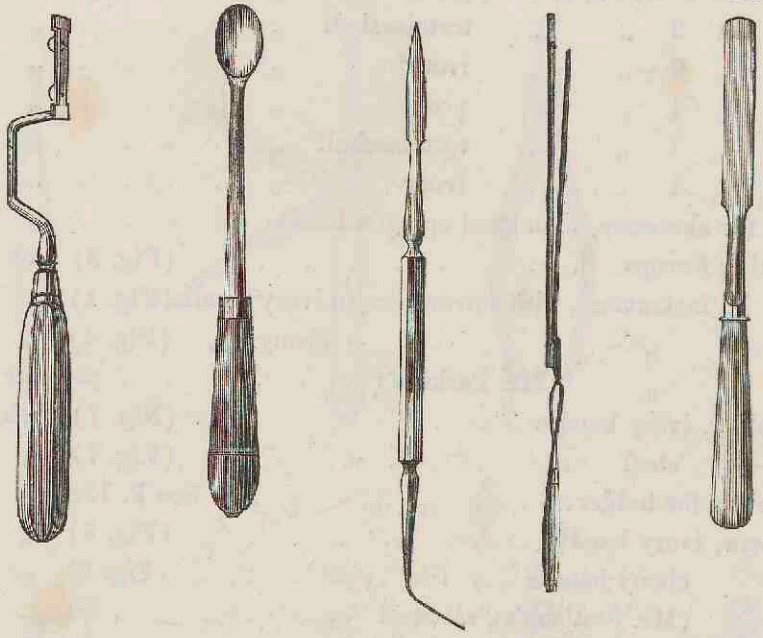
			s.	d.
Spatula for paste stopping, ivory scale tang handle	.	(Fig. 1) each	3	0
Ditto „ all steel	.	from 10*d.* to	2	3
Lancet, with 3 blades, to fold, pearl handle	.	(Fig. 2) each	6	0
Ditto „ 3 „ „ tortoiseshell „		(Fig. 2) „	5	6
Ditto „ 3 „ „ ivory „		(Fig. 2) „	5	6

LANCETS, &c.

			s.	d.
Lancet with 2 blades, to fold, pearl handle		each	4	3
Ditto „ 2 „ „ tortoiseshell „		„	4	0
Ditto „ 2 „ „ ivory „		„	4	0
Ditto „ 1 „ „ pearl „		„	2	9
Ditto „ 1 „ „ tortoiseshell „		„	2	3
Ditto „ 1 „ „ ivory „		„	2	3
Ditto for abscesses, with steel octagon handle		„	1	0
Trephining forceps	(Fig. 3)	each	5	6
Ditto instrument, with two cutters, in ivory handle	(Fig. 4)	„	6	6
Ditto „ „ ebony „	(Fig. 4)	„	5	0
Ditto „ (Mr. Perkins')		per pair	2	6
Cane holder, ivory handle	(Fig. 7)	each	3	3
Ditto steel „	(Fig. 7)	„	2	3
Cane points for holder	See P. 138.			
Mouth saw, ivory handle	(Fig. 5)	„	7	0
Ditto ebony handle	(Fig. 5)	„	5	6
Ditto (Mr. Statham's), all steel		„	2	3
Saw blades for mouth saws		per doz.	0	6
File carrier, ivory handle	(Fig. 8)	each	8	6
Ditto ebony „	(Fig. 8)	„	7	6
Files for ditto		„	0	4
Tweezers (Mr. Tomes'), ivory scale tang	(Fig. 6)	„	5	0
Ditto „ ebony	(Fig. 6)	„	4	0
File carrier, ivory handle	(Fig. 9)	„	9	0
Ditto ebony handle	(Fig. 9)	„	7	6
Ladle for heating Sullivan's, and other cements, ivory handle	(Fig. 10)	„	3	0
Ditto ditto ebony handle	(Fig. 10)	„	2	0
Spatula, for Osteoplastic stoppings	(Fig. 11)	„	1	9
Ditto „ „ with platina blade, in ivory handle		„	3	6
Instrument for rolling gold foil	(Fig. 12)	„	6	0
Pallet knife for paste stoppings, ivory handle	(Fig. 13)	„	1	9
Ditto „ ebony „	(Fig. 13)	„	1	6
Ditto „ all ivory		„	1	0

INSTRUMENTS, VARIOUS.

9. 10. 11. 12. 13.



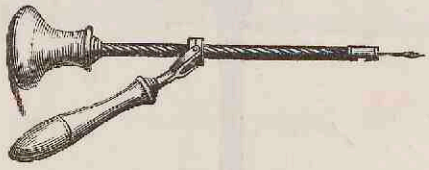
BUR THIMBLES.

15.

					s.	d.
Bur Thimble, for placing on the first or second finger, to receive the ends of drills, &c, to which a rotary motion is to be given, in plain steel	(Fig. 15)	each	1	3
Ditto ditto German silver electroplated .	(Fig. 15)	,,	1	9
Ditto ditto ,, ,, ,, .	with hinge	,,	2	0

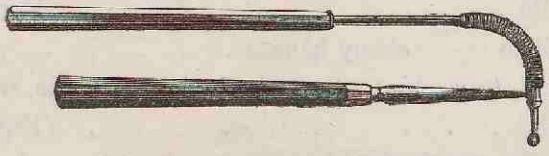
DRILLS.

1.



			s.	d.
Archimedian Drill, ivory handle, with six drills .	(Fig. 1)	each	7	6
Ditto „ ebony „ „ . .	(Fig. 1)	„	5	6
Drill (Mr. Jacob's), to work at a right angle, with six drills .		„	23	0
„ (Mr. Perkins'), with handle to work at different angles .		„	10	6
„ (Mr. Merry's), with six drills	(Fig. 2)	„	8	6
Archimedian Drill (Fig. 1), Mr. Meakin's improved, . . .		extra	1	6

2.



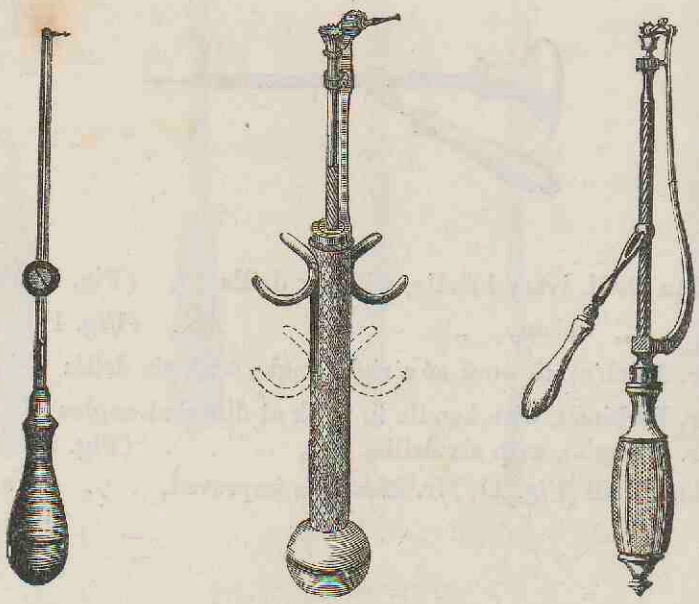
		s.	d.
Drill, spiral, in German silver cylinder, and six drills . . .	each	6	6
Ditto, Mr. Harrington's "Erado," in wood case*	„	126	0

* This excavating instrument (when wound up) revolves by means of a strong spring acting upon cog-wheels.

		s.	d.		s.	d.
Drills (extra) for the above drill stocks . . .	per doz.	2	6	and	3	0

DRILLS.

3. 4. 5.



			s.	d.
Drill (Mr. Coghlan's) worked by means of a gut, ivory handle, and six drills	(Fig. 3)	each	8	0
Ditto ditto ebony handle		„	5	6
Archimedian drill, to work at any angle, in ivory handle, with twelve drills	(Fig. 5)	each	33	0
Spring Archimedian drill (Hickley's), to work with one hand, in German silver and steel, electroplated, with six drills*	(Fig. 4)	each	30	0

* This drill is constructed to work with one hand, thereby leaving the other at liberty. It is made to work at any angle, and is particularly useful for drilling the posterior caries of molar teeth. Printed directions are sent with each drill.

		s.	d.
Drills (extra) to the above stocks	per doz.	3	0

HOLDERS, &c.

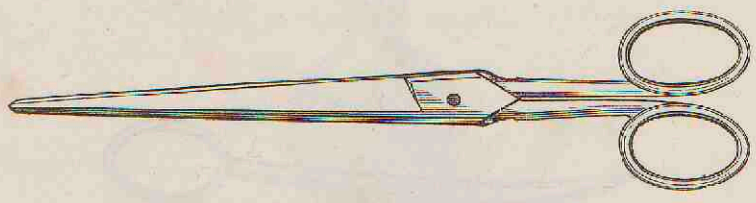
A.

		s.	d.
Steel holder, to carry Corundum points, &c., for polishing stoppings	each	3	3
Corundum points for same	per doz.	0	6

B.

		s.	d.
Annealing Lamp for softening gold foils immediately before plugging	each	8	6

1.



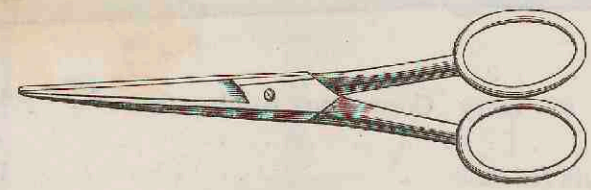
8 in. long.

		s.	d.
Scissors for cutting foil	each	3	6
Ditto, silver plated	„	5	0

The blades of these scissors are made sufficiently long to divide the leaf at one cut.

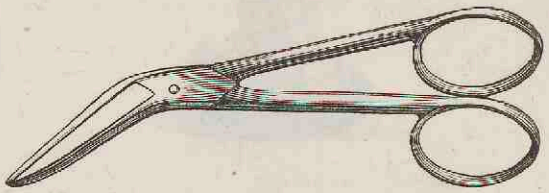
SCISSORS—*continued.*

1.



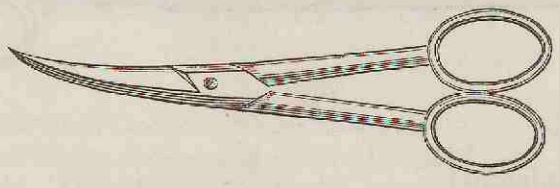
			s.	d.
Straight scissors, 4½ inches	. . . . .	(Fig. 1) each	1	6
Ditto „ silver plated	. . . . .	„	2	6

2.



			s.	d.
Bent scissors, 4½ inches	. . . . .	(Fig. 2) each	3	0
Ditto „ silver plated	. . . . .	„	4	0

3.



			s.	d.
Curved scissors, 4½ inches	. . . . .	(Fig. 3) each	2	0
Ditto „ silver plated	. . . . .	„	3	0

HAND SPITTOONS.

1.

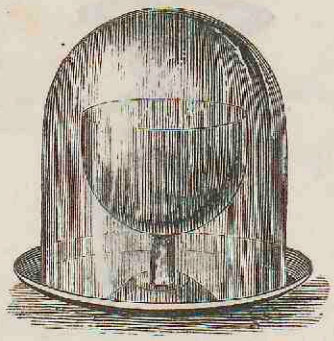
			s.	d.
Hand Spittoons, in Jet or Malachite, large . .	(Fig. 1)	each	12	6
Ditto „ „ „ medium .	(Fig. 1)	„	11	6
Ditto „ „ „ small . .	(Fig. 1)	7s. 6d. and	9	6
Ditto „ „ „ large . .	(Fig. 2)	each	10	6
Ditto „ „ „ medium and small	(Fig. 2)	8s. 6d. and	6	6
Jug and bottle for water, to match.		the pair	12	6

2.

			s.	d.
Hand Spittoons in Majolica (with handle), large . . .		each	8	6
Ditto „ „ „ medium . . .		„	7	6
Ditto „ „ „ small . .	4s.	0d. and	5	6
Jug and bottle for water, to match		the pair	7	6

SUNDRIES.

1.



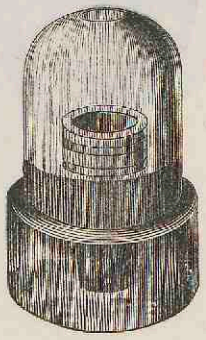
			s.	d.
Glass Vessel and Cover for solarizing pink vulcanite work. The shade stands in water to prevent the evaporation of the spirit	(Fig. 1)	each	4	6
Pestles and Mortars, wedgwood, $3\frac{1}{4}$ in. diameter . .	(Fig. 2)	„	1	8
„ „ „ $2\frac{1}{2}$ „ . .	(Fig. 2)	„	1	4
„ „ „ 2 „ . .	(Fig. 2)	„	1	0
„ „ glass $2\frac{1}{4}$ „ . .	(Fig. 2)	„	1	0
Cups for holding instruments in use, walnut, with metal holder, to be attached to operating table . . .	(Fig. 3)	„	2	3
Bottle for mastic or other cements, &c., with glass cover to prevent evaporation	(Fig. 4)	„	2	6

2.

3.

SUNDRIES.

4.

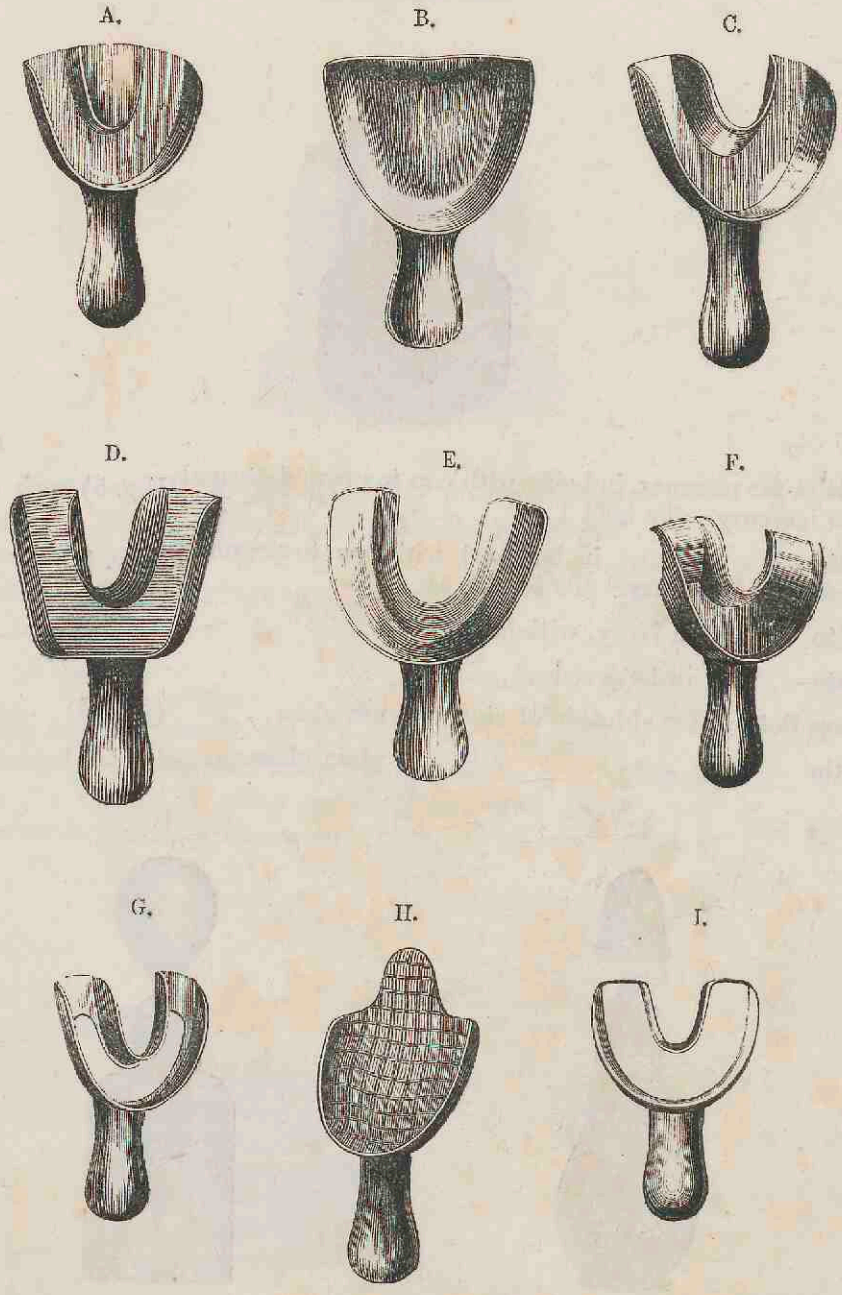


			s.	d.
Bottles for mercury, in ivory, with cap to prevent escape of mercury. To hold 1 oz.	(Fig. 5)	each	3	6
Ditto „ in boxwood, with cap to prevent escape of mercury. To hold 1 oz.	(Fig. 5)	„	1	0
Ditto „ in ivory, without cap		„	2	6
Ditto „ in boxwood „		„	0	6
Drop Bottles, for chloride of zinc, &c., cut glass	(Fig. 6)	„	2	3
Ditto „ „ plain glass	(Fig. 6)	„	1	3

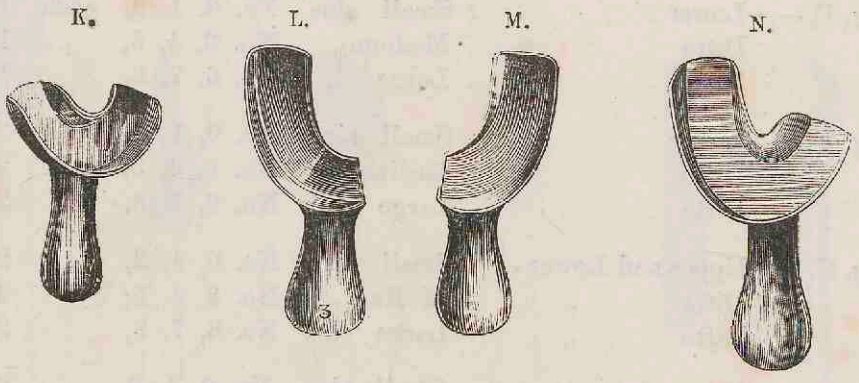
5.

6.

IMPRESSION TRAYS.



IMPRESSION TRAYS.



BRITANNIA METAL TRAYS.

					s.	d.
Fig. A.	Upper	Small size	No. 0, 1, 2,	each	2	0
	Ditto	Medium „	No. 3, 4, 5,	„	2	0
	Ditto	Large „	No. 6, 7, 8,	„	2	0
Fig. B.	Upper	Small size	No. 0, 1, 2,	„	1	6
	Ditto	Medium „	No. 3, 4, 5,	„	1	6
	Ditto	Large „	No. 6, 7, 8,	„	1	6
Fig. C.	Upper	Small size	No. 0, 1, 2,	„	1	6
	Ditto	Medium „	No. 3, 4, 5,	„	1	6
	Ditto	Large „	No. 6, 7, 8,	„	1	6
Fig. C.	Lower, with bent ends	Small size	No. 0, 1, 2,	„	1	6
	Ditto „	Medium „	No. 3, 4, 5,	„	1	6
	Ditto „	Large „	No. 6, 7, 8,	„	1	6
Fig. D.	Lower	Small size	No. 0, 1, 2,	„	2	0
	Ditto	Medium „	No. 3, 4, 5,	„	2	0
	Ditto	Large „	No. 6, 7, 8,	„	2	0

BRITANNIA METAL TRAYS—*continued.*

					s.	d.
Fig. E.——	Lower	Small size	No. 0, 1, 2,	each	1	6
	Ditto	Medium „	No. 3, 4, 5,	„	1	6
	Ditto	Large „	No. 6, 7, 8,	„	1	6
Fig. F.——	Lower	Small size	No. 0, 1, 2,	„	2	0
	Ditto	Medium „	No. 3, 4, 5,	„	2	0
	Ditto	Large „	No. 6, 7, 8,	„	2	0
Fig. G.——	Upper and Lower . .	Small size	No. 0, 1, 2,	„	2	0
	Ditto „ . .	Medium „	No. 3, 4, 5,	„	2	0
	Ditto „ . .	Large „	No. 6, 7, 8,	„	2	0
Fig. H.——	Upper	Small size	No. 0, 1, 2,	„	2	3
	Ditto	Medium „	No. 3, 4, 5,	„	2	3
	Ditto	Large „	No. 6, 7, 8,	„	2	3
Fig. I.——	Upper and Lower Bite Trays	Small size	No. 0, 1, 2,	„	2	0
	Ditto „	Medium „	No. 3, 4, 5,	„	2	0
	Ditto „	Large „	No. 6, 7, 8,	„	2	0
Fig. K.——	Upper and Lower Front Pieces	Small size	No. 1,	„	1	0
	Ditto „	Medium „	No. 2,	„	1	0
	Ditto „	Large „	No. 3,	„	1	0
Fig. L. M.—	Upper and Lower Side Pieces	Small size	No. 1, 2,	„	1	0
	Ditto „	Medium „	No. 3, 4,	„	1	0
	Ditto „	Large „	No. 5, 6,	„	1	0
Fig. N.——	Upper or Lower three-quarter Trays, Right and Left sides . .	Small size	No. 1, 2,	„	1	4
	Ditto ditto	Medium „	No. 3, 4,	„	1	4
	Ditto ditto	Large „	No. 5, 6,	„	1	4
Porcelain Impression Trays				„	1	0
Ditto front and side pieces				„	0	10

Impression Trays of any other forms made to order.

10 per cent. off the above prices when purchased by the dozen.

RIFFLERS.

(WITH DOUBLE ENDS.)

1.

2.

3.

4.

5.

6.

7.

8.

9.

10.

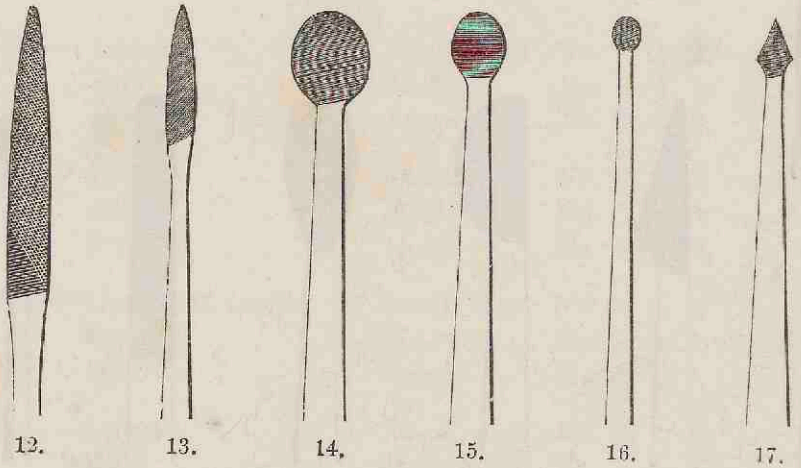
11.

RIFFLERS.

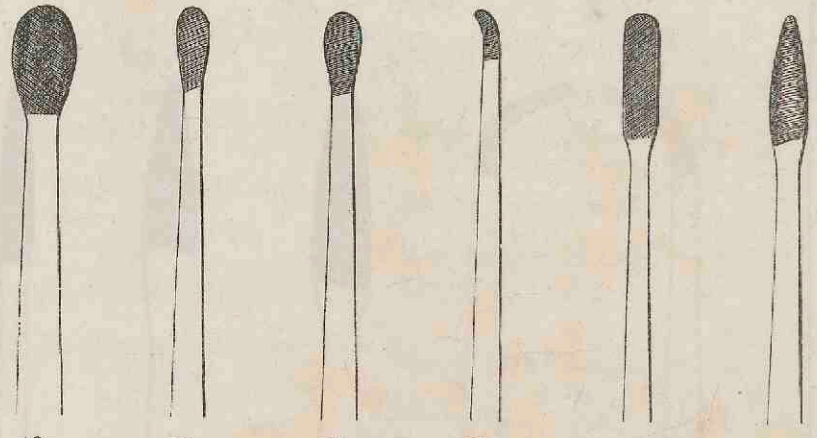
		Per doz.		Each	
		s.	*d.*	*s.*	*d.*
Flat, with double ends . . .	(Figs. 1 to 6)	7	0	0	7
Half round „ . . .	(Figs. 7 to 17)	7	0	0	7
Oval „ . . .	(Figs. 18 to 23)	7	0	0	7
Ditto thin „ . . .	(Figs. 24 to 26)	7	0	0	7

RIFFLERS—*continued.*

(WITH DOUBLE ENDS.)



12. 13. 14. 15. 16. 17.



18. 19. 20. 21. 22. 23.

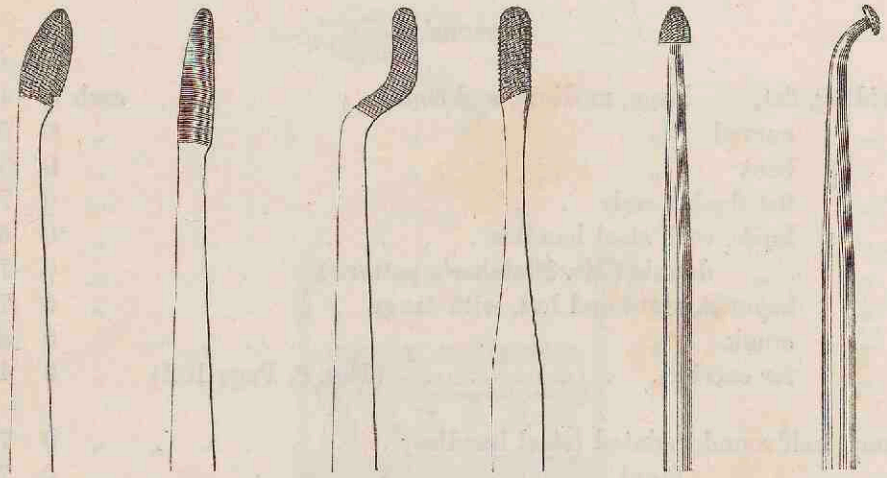
RIFFLERS.

			s.	*d.*		*s.*	*d.*
Round Rifflers, double ends	(Figs. 27 to 29)	per doz.	7	0	each	0	7
Dividing files, with crank handles, right and left	(Fig. 30)	„	8	0	„	0	8
Ditto, bayonet handles, with tangs	(Fig. 31)	„	7	6	„	0	7½
Rifflers, double ends, various (some very small)		„	7	0	„	0	7

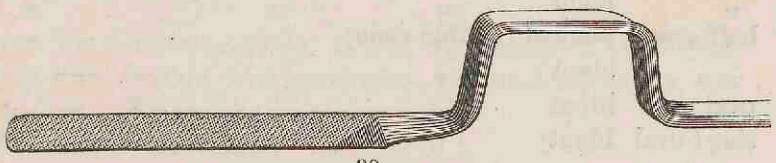
Ditto ditto large, for vulcanite work, see p. 183.

RIFFLERS—*continued.*

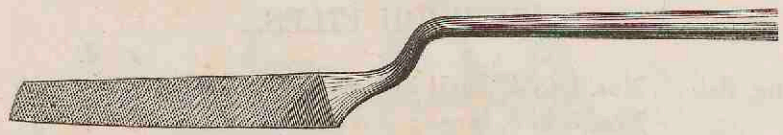
(WITH DOUBLE ENDS.)



24. 25. 26. 27. 28. 29.



30.



31.

FILES AND BURS.

(FOR FINISHING STOPPINGS.)

	s.	*d.*		*s.*	*d.*
Pointed files, straight and curved, with steel handles, per doz.	5	6	each	0	6
Blunt „ „ „ „ „	5	6	„	0	6
Various „ „ (Ward's) to fit small socket handles	9	6	„	0	10
Burs, various forms and sizes, with steel octagon handles			„	2	6

FILES FOR THE MOUTH.

(STUBS'.)

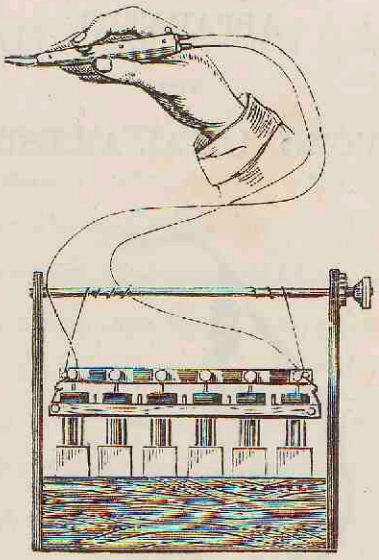
				s.	d.
Dividing, flat,	large, medium, and small	. . . . .	each	0	4
„ curved	„ „ „	. . . . .	„	0	5
„ bent	„ „ „	. . . . .	„	0	5
„ flat double ends		. . . . .	„	0	7
„ knife, with steel handles		. . . . .	„	0	6½
„ „ double (Mr. Fletcher's pattern)		. . . . .	„	0	7½
„ bayonet, right and left, with tangs		. . . . .	„	0	7½
„ crank „ „ „		. . . . .	„	0	8
„ for carrier		. . . . . (Fig. 8, Page 102)	„	0	4
Stump, half round, pointed (steel handles)		. . . . .	„	0	7½
„ „ blunt „		. . . . .	„	0	7½
„ oval pointed „		. . . . .	„	0	7½
„ „ blunt „		. . . . .	„	0	7½
„ half round, pointed (double ends)		. . . . .	„	0	8
„ „ blunt „		. . . . .	„	0	8
„ oval blunt „		. . . . .	„	0	8
„ short oval blunt „		. . . . .	„	0	7

5 per cent. discount taken off when purchased by the dozen.

FRENCH FILES.

			s.	d.		s.	d.
Dividing, flat,	Nos. 1 to 4, small and medium,	per doz.	3	3	each	0	3½
„ „	Nos. 5 to 8, large	„	3	4	„	0	3½
„ curved,	Nos. 1 to 6, „	„	3	9	„	0	4
„ knife,	pointed, with steel handles. .	„	5	6	„	0	6
„ „	blunt „ „ . .	„	5	6	„	0	6
„ bayonet	„ tangs . .	„	7	0	„	0	7½
Stump, half round,	pointed, straight or curved, steel handles	„	5	6	„	0	6
Ditto half round,	blunt ditto ditto	„	5	6	„	0	6
Ditto oval	pointed ditto ditto	„	5	6	„	0	6
Ditto „	blunt ditto ditto	„	5	6	„	0	6
Ditto half round, one end pointed, the other blunt		„	7	0	„	0	7½
Ditto oval	„ „ „ „	„	7	0	„	0	7½

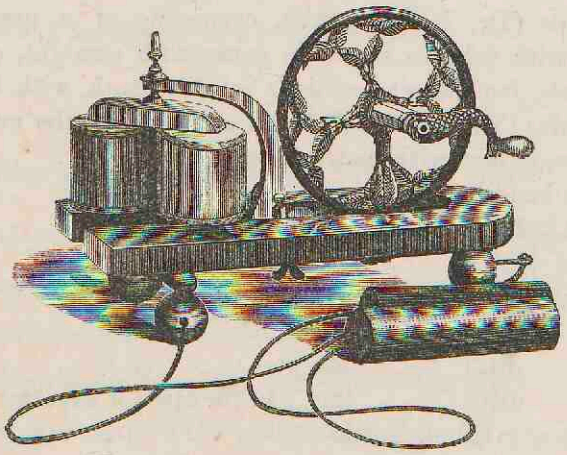
1.



	s.	d.
Apparatus for Cauterizing the Nerve, consisting of a six-plate battery, with flexible wire conductor, and instrument for conveying electric heat to the nerve . . . . . (Fig. 1)	65	0

Galvanic batteries, various.

2.

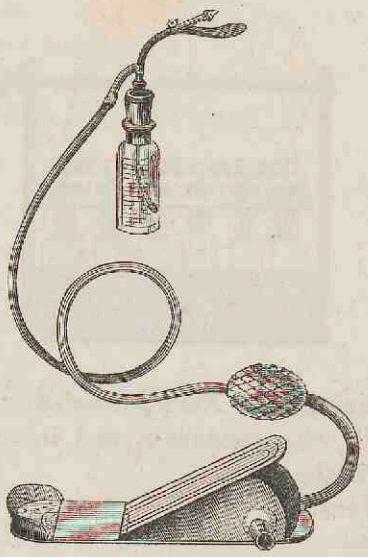


	s.	d.		s.	d.
Magneto-Electric Apparatus, for Neuralgia, &c. (Fig. 2)	21	0	and	25	0
Ditto, in mahogany box, with tooth conductor . . .	27	0	„	33	0
Ditto ditto with various conductors . .	36	0	„	42	0

APPARATUS

FOR

PRODUCING LOCAL ANÆSTHESIA.



		s.	d.
Ether Apparatus (Dr. Richardson's), consisting of a graduated glass bottle, with tube to insert in same, with straight, curved, and double jets, for various positions in the mouth, with tongue or cheek holder (Mr. Welsh's), elastic connecting tube and foot bellows, in wood box, with instructions	each	34	0
The same, with hand bellows	„	26	0
Ditto with foot bellows and no tongue holder	„	30	0
Ditto with hand „ „ „	„	24	0
Compound Anæsthetic Ether in 4 oz. bottle	„	2	0
Ditto ditto 10 „ „	„	4	0
Ditto ditto 20 „ „	„	7	0
Ditto ditto 20 „ in tin case for exportation	„	7	6
Methylated ether, in 20 oz. bottle	„	4	0

Special advantages of Compound Anæsthetic Ether—Lower Specific Gravity and boiling-point than pure Sulphuric Ether, less odour, quicker action in producing insensibility, and less uneasiness to the patient.

NITROUS OXIDE GAS.

NITROUS OXIDE being now so extensively used in Dental Surgery as a means for producing Anæsthesia, C. ASH & SONS have given considerable time and attention to the manufacture of the best kinds of apparatus employed in making this gas, and for administering the same to patients; and, in order that the profession may have the fullest means of obtaining information upon the subject, they have set apart one of their Show Rooms, not only for the exhibition of all the most approved apparatus and appliances yet known, but also for the occasional *manufacture* of the Gas,* in order that those Dentists intending to make it themselves may be instructed in the best way of doing so.

C. ASH & SONS will avail themselves of any improvements which increased experience may suggest, whether originating at home or abroad, and will take care that due notice be given of the same from time to time.

The following is a description of the most approved apparatus yet known, and the manner of using it. For prices, see Page 133.

DIRECTIONS

For setting up the Apparatus, and for making Nitrous Oxide Gas.

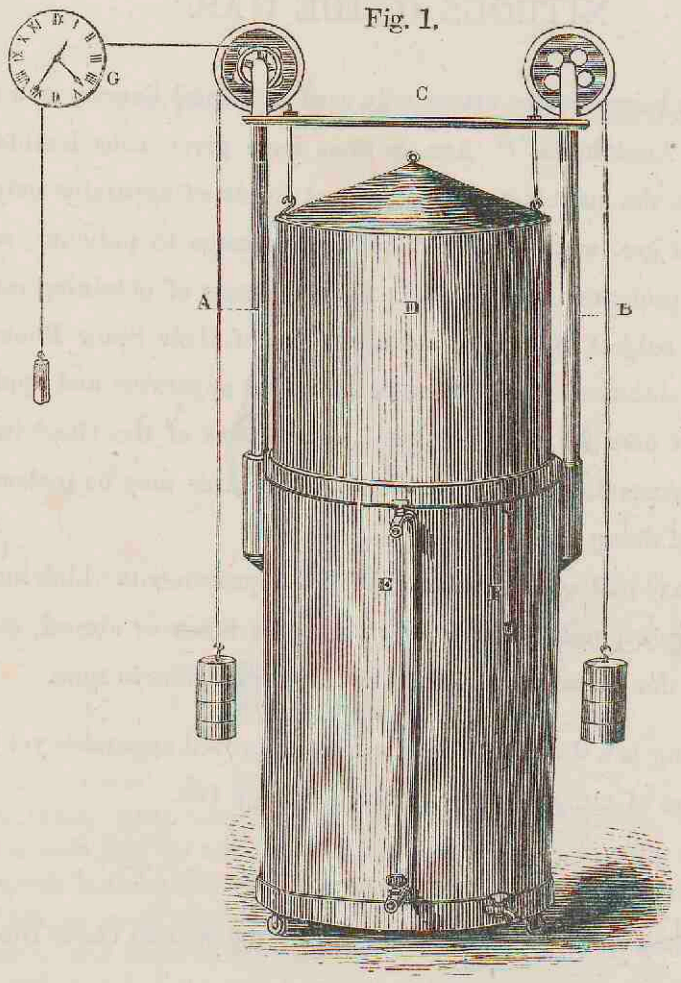
Place the Gasometer, Fig. 1, on level ground, then put the tubes A and B, with the lettered ends downwards, into their respective sockets. Then put the stems of the wheels A and B into their proper holes in the cross-piece C, and drop them into the upper ends of the tubes A and B.

Then attach each cord to the hooks on the top of the gasholder D, and

* The days appointed for the present are Mondays and Fridays, between Three and Five o'clock.

GASOMETER.

Fig. 1.

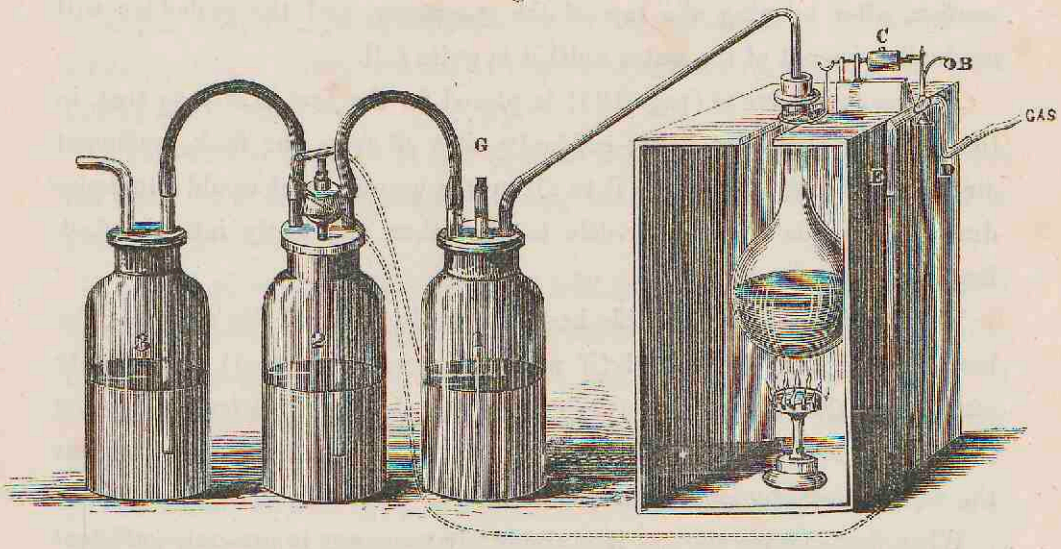


DIRECTIONS—*continued.*

after passing them over their respective wheels attach to the other ends their sets of weights. Then fill up the lower half of the gasometer with water to within an inch of the top of the glass tube or water gauge. Before using the gasometer, press down the holder as far as it will go, so as to empty it as much as possible of the atmospheric air. Then shut the top tap in pipe E and open the bottom tap, through which the Nitrous Oxide Gas has to pass.

APPARATUS FOR GENERATING THE GAS.

Fig. 2.



Put into the flask, one, two, or more pounds of nitrate of ammonia. Then suspend it inside the glazed wooden case by means of the wire cramp to the iron hook on the top of the case, or to Kirby's Extinguisher, if that is used. Then arrange the three wash-bottles in a row, connecting them one with the other, as shown in Fig. 2: then half-fill the bottle No. 1 with water, No. 2 with a solution of iron, and No. 3 with a solution of potash. The iron solution is made by dissolving three ounces of proto-sulphate of iron in a pint and a half of water. For the potash solution dissolve one ounce of caustic potash in a pint and a half of water.

When all the connections are made, light the gas-burner, or spirit lamp under the flask, and gently get up the heat. As soon as the nitrate of ammonia begins to melt, the heat may be gradually increased. When the

nitrous oxide gas begins to be evolved, which will be known by the appearance of bubbles of gas passing through the wash-bottles, care must be taken to so regulate the heat that nitric or nitrous acid, &c., is not generated. When either of these acids are being evolved, dense white fumes will appear in the first and second wash-bottles.

The connection between the last bottle and the gasometer should not be made until the nitrous oxide emanating from it will reignite the red embers of a newly extinguished match. As soon as it will do this, make the connection, after opening the tap of the gasometer, and the gasholder will gradually rise out of the water until it is quite full.

The vacuum valve G (page 123) is placed in the first bottle, so that, in the event of the heat being suddenly shut off from the flask, sufficient air will be admitted through it to fill up the vacuum that would otherwise draw the liquids from one bottle to the other, and lastly into the flask itself, and cause it to burst.

When sufficient nitrous oxide has been made, turn off the gas from the burner under the flask, and (if no vacuum valve is used) immediately after, break the connection between the first and second bottles by slipping the india-rubber pipe off the end of one of the glass tubes so as to prevent the vacuum forming as described above.

When first making the gas it is absolutely necessary to generate sufficient to fill the gasholder, in order to saturate the water in the tank. Water will take up about its own volume of gas, therefore in starting a 50-gallon gasometer (without a centre core), it will be necessary to make 50 gallons of gas, which will take about 2½ lbs. of nitrate of ammonia; the gradual descending of the gasholder will indicate the action of the water in absorbing the gas. Care however should be taken to make a fresh supply before the gasholder has quite descended, otherwise a vacuum will be formed, and the weight of the atmosphere pressing on the outside of the gasholder will crush it in, besides doing other injuries. When the water is once charged with gas it will last many months without taking up scarcely any more.*

* C. Ash & Sons' Gasometers, with three-quarter cores or inner chambers, require but a small quantity of water to fill them, and consequently absorb much less gas.

The operation of gas-making should be concluded when the nitrate of ammonia in the flask is reduced to about six ounces, to prevent the danger of generating impure gas by the too great heat upon the smaller quantity of ammonia. By using Mr. Kirby's Extinguisher (see p. 126) this danger is entirely avoided.

Two pounds of nitrate of ammonia will produce in one hour at least 40 gallons of pure nitrous oxide gas, provided constant attention is given in regulating the heat, so that nitrous or nitric acid cannot be formed. Nitrous oxide gas, when pure, should have a slightly agreeable odour, and a pleasant sweetish taste. When it tastes of copper or is pungent, it is not pure, and should not be used.

After the gas is made it should stand in the gasometer in contact with the water for several hours before being used. Some prefer it when it is two or three days old.

The iron solution in the wash-bottle will last for some weeks, but should be renewed when a quantity of red precipitate collects at the bottom of the bottle. The potash solution will also last a long time, but should be renewed when crystals of nitrate of potash are deposited on the sides of the bottle.

The action of heat upon nitrate of ammonia is as follows:—It fuses at 226°, boils at 360°, evolves gas at from 460° to 485°, at 500° and upwards it gives off nitrous and nitric acids, accompanied sometimes with an explosion.

MR. STEVENSON'S INDICATOR.

(See G, Fig. 1, Page 122.)

The use of this invention is to indicate to the operator the exact quantity of nitrous oxide gas inhaled by the patient.

The Indicator not only registers the total quantity inhaled, but also the quantity breathed at each inspiration. It is also most useful for ascertaining that the patient is inhaling gas and not merely drawing in the surrounding atmosphere, from the face-piece not fitting accurately, or from any

other cause; this is often difficult to ascertain, and especially so when the gasometer is in an adjoining room.

The Indicator G (Fig. 1, Page 122) is an enamelled dial in oak frame, numbered up to ten gallons, each gallon being divided into quarts. It has also a smaller dial on the same face, numbered to fifty gallons, so that one circuit of the large hand immediately registers ten gallons on the small dial, and so on up to fifty gallons. The movable hand attached to the glass front should be turned to where the large hand stops at the finish of each operation: it will then show the starting point for the next inhalation.

Pulleys and cord are supplied to make the connection between the indicator and gasometer.

MR. S. A. KIRBY'S GAS EXTINGUISHER.

(See Fig. 2, Page 123.)

The use of this self-acting apparatus is to shut off the coal gas from the burner when the nitrate of ammonia in the flask is reduced to six ounces. It is considered desirable never to have less than this quantity in the flask, for heat acts so rapidly upon a small quantity that, without constant watching, the temperature rises quickly to 500°, and the consequence is the generation of nitrous or nitric acids, ammoniacal gases, or other impurities.

DIRECTIONS.

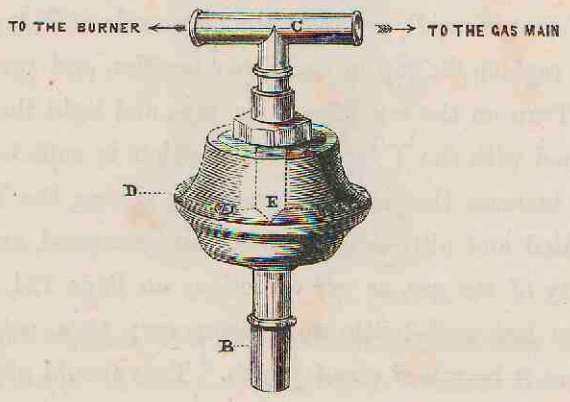
When first starting with a new flask, put into it six ounces of nitrate of ammonia, then hang it on to the hook at the end of the apparatus by means of the flask cramp, then slide the movable weight C (Fig. 2, Page 123) to the other end of the bar, until it exactly balances the flask with its contents. When this is done, fix the weight by means of the screw provided for that purpose. Then put into the flask, in addition to the six ounces, one, two, or more pounds of nitrate of ammonia, hang it again on the hook, and open the tap A of the Extinguisher by bringing the projecting piece of wire on the

balance handle B, in contact with the projecting end of the bar on which the weight slides. Then attach a piece of flexible tubing from the gas supply pipe to the end of the tube D, and another piece from tube E to the gas-burner F;* then light the burner, and proceed with the gas-making. As soon as the contents of the flask are reduced to just below six ounces, it being lighter than the weight on the end of the lever, the weight moves downwards, and the balance-handle attached to the tap falls and shuts off the coal gas. When once the weight is adjusted to the flask it need not be touched, so long as that particular flask lasts; but, as flasks differ in size, the weight must be set when a new flask is used.

* If the Thermo-Regulator is used, the flexible tubing from tube E must be attached to one end of the ⊤ piece of the Thermo-Regulator, and another piece of tubing from the other end of ⊤ piece to the burner, so that the coal gas must pass through the Regulator before it reaches the burner.

ASH'S THERMO-REGULATOR.

Fig. 3.



The use of the above invention is to regulate the supply of coal gas to burner, when making the nitrous oxide gas, that the right temperature may always be kept in the flask, thus ensuring pure nitrous oxide being made, and also preventing breakages.

DESCRIPTION OF REGULATOR.

The Regulator consists of two chambers, divided through the centre by a diaphragm of indiarubber, D. Into the upper chamber is inserted a T tap, C and E, which is divided through its length, so that the coal gas entering on one side, passes down into the chamber and up the other side to the burner. Into the lower chamber is inserted a tube (open at the end) which is in direct communication with the pressure in the wash-bottle. The pressure is caused by a small plug placed in the exit tube of the second bottle, so that if the gas is generated faster than it can escape through this plug there is a pressure in the bottle, which acts upon the Regulator, and so partially cuts off the supply of coal gas to burner. The T tap has a small hole through its division, which admits sufficient gas to burner to prevent the flame being at any time entirely extinguished.

DIRECTIONS FOR USE.

Take out the T piece or tap of Regulator and attach to one side of it (either will do) a piece of indiarubber tube from gas main (or from Kirby's Extinguisher, if that is used), and from the other side of T tap, another piece to burner, then replace the tap in its former position and press down as far as it will go. Turn on the tap of service pipe and light the gas at burner; the flame obtained with the T tap in this position is sufficient to warm up the flask; then increase the flame by gradually raising the T tap until the ammonia is melted and nitrous oxide is being generated, and after having tested the purity of the gas, as per directions on Page 124, make the connection between last wash-bottle and gasometer; then set the T tap of Regulator so that it be raised about $\frac{3}{8}$ inch. This should give a nice steady flame to burner, and the Regulator is then self-acting. At no time should the T tap be left raised so as to show the line marked on it, as it would be out of reach of the indiarubber diaphragm.

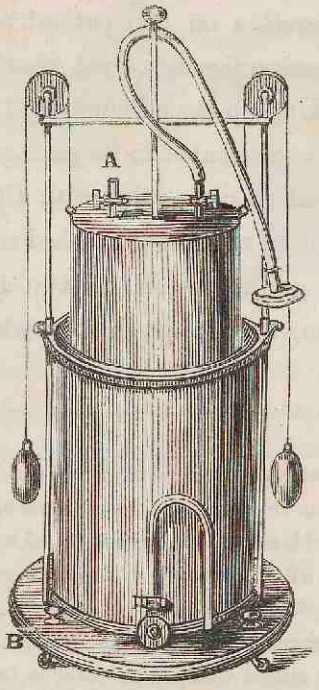
P.S. The vacuum valve is now separated from the Regulator and placed in the first bottle, as described on Page 124.

BARTH'S ECONOMISING APPARATUS

FOR

ADMINISTERING NITROUS OXIDE.

Fig. 4.



This apparatus consists of a japanned zinc gas-holder and water tank with an interior core. These are secured on a mahogany tablet by three binding screws, or by turn buttons. The gasometer has an inhaling tap, C, suitable inhaling tube, and a face-piece and stop-cock; also a scale rod, divided into quarts and gallons of capacity. In the inside of the gasometer there is a double net surrounding the opening of the inhaling cock; and on the core of the well or water-holder is a zinc vessel to contain the solution

of caustic potash or lime water for removing carbonic acid if the gas after being inhaled is returned again to the gasometer. The small tap, A, on the gas-holder is intended to allow gas to be let in from any store receptacle. When used with a bottle of compressed or liquid gas, the bottle is placed on the tablet within the core of the well or water-holder, and connected with the interior of the gas-holder by screwing the union joint B of the metal pipe to the joint of the gas-bottle.

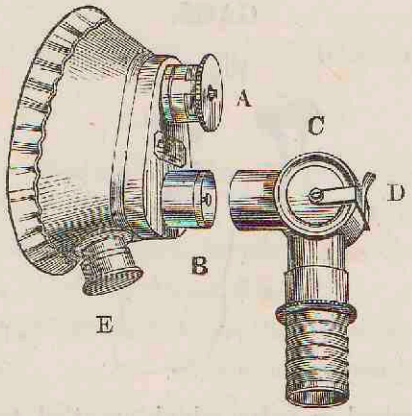
This inhaling apparatus is for the purpose of economising the nitrous oxide gas by enabling the patient to breathe the same gas over and over again, about a gallon and a half being sufficient to produce the anæsthetic condition for a short operation on one patient. As the gas is breathed backward and forward it passes through a net charged with freshly-slacked lime, for the purpose of taking up the carbonic acid gas and other impurities with which it has become impregnated in its passage through the lungs.

If this apparatus is used in connection with Clover's Face-piece for the administration of gas which is not to be breathed over again, then it will be necessary to pass into the gas-holder one or two additional gallons of gas during the administration, as the gas-holder when filled contains only $3\frac{1}{2}$ gallons.

For making the caustic potash solution, dissolve one drachm potassa fusa in one pint of water. For caustic lime solution take four ounces of *recently-burnt* lime, slake it with water, as soon as cool add a sufficient quantity of water to bring it to the consistence of thin cream, nearly fill the zinc vessel on the top of the core with it, sprinkle two drachms of crystals of sulphate of soda on the solution, and it will be ready for use. This solution will, on the average, suffice for twelve patients; it must then be renewed. The nets should be frequently rinsed with clean water to free them from the carbonate of lime which accumulates after use. Always observe that all joints and connections are made and kept air-tight, and that the valve of the gas-bottle is tightly and securely screwed up when left, or the gas may leak out. If the taste of the inhaling tube be complained of as unpleasant, a teaspoonful of tincture of lavender, or eau de cologne poured into it will partly cover the taste. The tube and gas-holder should be occasionally washed out with Condy's Ozonized Water in a diluted form, in order to mitigate as far as possible the defect of all economising apparatus, viz., that the inhaling tube and gas-holder being used for the *returned* gas, they are liable to be impregnated with impurities from the lungs of the various patients breathing into them.

MR. CLOVER'S FACEPIECE.

Fig. 5.



This Facepiece is made of sheet-lead covered with leather, so as to be easily moulded to the face, and is edged with india-rubber tubing, filled with air or water, so that the nose and mouth may be covered with an air-tight cap. It has two valves, one for inhaling, the other for exhaling the gas.

DIRECTIONS FOR USE.

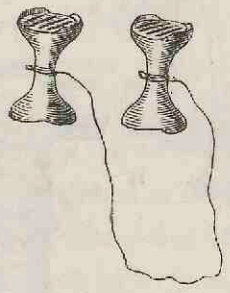
Push the short tube of the two-way stopcock C on the tube B, or inspiratory valve, of the Facepiece, and connect the long tube by means of an india-rubber pipe to the gas-holder. The mouth gag is then placed in the mouth of the patient, to keep it open during the inhalation of the gas. The Facepiece is then put on and adjusted to the face. While this is being done the patient is supplied with atmospheric air by a movement of the slide D downwards, which opens a hole for the admission of air, at the same time closing the one for the admission of gas. When the patient is ready, a reverse movement of the slide, viz. upwards, closes the air-hole and admits the gas. When a supplemental bag is used to economize the gas, it must be attached to tube E of the Facepiece.

DIRECTIONS—*continued.*

The tap of bag should be opened after about the fourth or fifth inhalation, the operator's finger being placed upon the expiratory valve A, the expired gas will then pass into the supplemental bag, and be breathed backwards and forwards from it. Some Facepieces have a spring stop attached to the valve A, to be used instead of the finger of the operator.

GAGS.

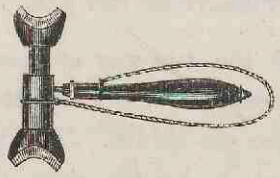
Fig. 6.



These Gags are supplied in pairs, which are tied to each end of a piece of silk cord, in order to prevent the possibility of the patient swallowing one, while inhaling the Nitrous Oxide Gas, without the operator knowing it.

MR. Mc ADAM'S GAG.

Fig. 7.



Mr. McAdam's Mouth Props, Fig. 7, are made on the same principle as Mr. Clover's, viz. in two parts, with spring or elastic body intervening, but they have the advantage of soft rubber pads for the teeth. The Gag is placed in the mouth with the handle inserted, which keeps it at its shortest position. When securely placed between the teeth, the handle is removed, so that, should the patient open his mouth while inhaling the gas, the Gag will rise, and thus be prevented from falling into the mouth.

PRICE LIST

OF

NITROUS OXIDE GAS APPARATUS, &c.

	£	s.	d
Apparatus for the Manufacture of Nitrous Oxide Gas, consisting of a Japanned Zinc Gasometer, best make, (50 gallons capacity*), Flask, Wash Bottles, Bunsen's Gas Burner, Wood Shield, Zinc Tray, Flexible Tubing, &c.	10	0	0
Ditto ditto, Gasometer 40 gallons capacity . . .	9	0	0
Ditto ditto, „ 30 gallons capacity . . .	8	0	0
Gas Indicator (Mr. Stevenson's)	1	15	0
Thermo Gas Regulator (C. Ash and Sons')	0	15	0
Gas Extinguisher (Mr. S. A. Kirby's)	0	15	0
Lining Wood Shield with Tin . . . . . extra	0	4	0
Barth's Patent Inhaling Apparatus for economizing the Gas, with Flexible Tube, Facepiece, Stopcock, and means for purifying the Gas for repeated inhalation	6	16	6
Barth's simple Mouthpiece	0	7	6
Mr. Cattlin's Bag and Union for Bottles	0	17	6
Inhaling Apparatus, complete (Mr. Clover's), consisting of Three different sized Facepieces, One supplemental Bag and Stopcock, Two-way Stopcock, Cattlin's Bag and Union, in case. . . . . No. 1 . .	5	17	6
Ditto, complete as above, but with Two Facepieces, No. 2 . .	4	12	6
Ditto ditto, but with One Facepiece . . No. 3 . .	3	7	6
No. 1, without Mr. Cattlin's Bag	5	0	0
No. 2 ditto ditto	3	15	0
No. 3 ditto ditto	2	10	0

* Gasometers of larger capacity made to order.

	£	s.	d.
Facepiece (Mr. Clover's), with double valve, and supplemental Bag and Stopcock	1	15	0
Ditto, without supplemental Bag and Stopcock	1	3	6
Ditto, without attachment for supplemental Bag	1	1	0
Two-way Stopcock	0	10	6
Cases for Facepieces, &c. 4*s.* 6*d.* and	0	6	6
Indianette Bags with Wood Mounts for conveying the gas, holding from 6 to 26 gallons from 17*s.* 6*d.* to	1	10	0
Mr. Coleman's Apparatus, consisting of Economizer, Two Indianette Bags, India-rubber Tubing and Union	2	12	6
Tripod for ditto	0	3	6
Facepiece for ditto	1	1	0
Mouthpiece for ditto	1	5	0
Two-way Stopcock	0	10	6
Spring Vulcanite Mouth-prop (Mr. Clover's)	0	4	0
Ditto ditto, with soft pads for the teeth (Mr. McAdam's)	0	6	0
Mouth-gags or props, various 9*d.* and	0	1	0
Nose Clamps from	0	1	6
Wood shield, glazed, lined with tin, with zinc tray at bottom	0	14	6
Ditto ditto with Mr. Kirby's Extinguisher attached	1	9	6
Flexible Tubing, per foot from 4*d.* to	0	1	9
Ditto (Mr. Williamson's), made especially to stand heat, per foot	0	0	6
Glass Tubing per lb.	0	1	8
Bunsen's Gas Burners	0	5	0
Gasometer, zinc, japanned, best make, 50 gallons capacity	6	10	0
Ditto ditto ditto 40 ditto	5	17	0
Ditto ditto ditto 30 ditto	5	5	0
Ditto with Core, strengthened with Iron Cylinder extra 16*s.* to	1	2	0
Glass Flask, 50 oz. capacity	0	1	9
Ditto 100 oz. ditto	0	2	4
Ditto 140 oz. ditto	0	3	2
Wash Bottle, with 1 neck, with hermetically-sealed top and fixed tubes in india-rubber bungs each	0	6	6
Ditto ditto the set of three, with bent tube for last bottle	0	19	6
Ditto (Mr. Blandy's) each	0	16	0
India-rubber Bungs for Flasks from	0	0	9
Leather Case to take 45 gallon Iron Bottle	1	7	6

COMPRESSED NITROUS OXIDE GAS.

	£	s.	d.
Iron Bottles, with perfectly made taps, and filled with—			
15 gallons of compressed gas	1	1	0
45 „ „ „	2	4	3
90 „ „ „	3	7	6
Tripods for 45 or 90 gallon bottles . . . . . each	0	6	6
Mr. Clover's No. 1 Inhaling Apparatus, consisting of—			
Three Facepieces (large, medium, and small)			
Two-way Stopcock			
Supplemental Bag and Stopcock	5	10	0
Mr. Cattlin's Bag and Union			
Ditto ditto No. 2, with two Facepieces	4	6	6
Ditto ditto No. 3, with one Facepiece	3	3	0

LIQUID NITROUS OXIDE GAS.

The liquid gas is contained in wrought-iron bottles of the following dimensions. Bottles holding 200 or 500 gallons can be supplied at a short notice.

	£	s.	d.
Iron Bottle, about 12 inches long, by 3 inches diameter, weighing about 11 lbs., and charged with 100 gallons of gas	3	10	0
Ditto ditto about 9 inches by 3 inches, weighing about 6 lbs., and charged with 50 gallons of gas	2	5	0
Ditto ditto about 6 inches by 2 inches, weighing about $3\frac{1}{2}$ lbs., and charged with 25 gallons of gas	1	10	0
Inhaling Apparatus, No. 1 (Mr. Clover's), consisting of—			
Three Facepieces (large, medium, and small)			
Two-way Stopcock			
Supplemental Bag and Stopcock	6	2	6
Mr. Cattlin's Bag and Union, the whole complete in case, to hold Bottle of liquid gas			
Ditto ditto No. 2, with two Facepieces, &c.	4	19	0
Ditto ditto No. 3, with one Facepiece, &c.	3	15	6
Spring Gags (Mr. Clover's), the set of three	0	12	0

CHEMICALS.

C. ASH AND SONS are now prepared to supply the best Nitrate of Ammonia, &c., at the following prices:—

Nitrate of Ammonia, 150*s.* per cwt., per lb. 1*s.* 6*d.* (in jars containing 7, 14, and 28 lbs).

		s.	*d.*
Protosulphate of Iron in ½ lb. and 1 lb. bottles . . .	8*d.* and	1	4
Caustic Potash in ¼ lb. „ ½ lb. „ . . .	1*s.* „	2	0

SUNDRIES

FOR THE OPERATING ROOM.

		s.	*d.*
Acid, Nitric	See p. 179.		
Acid, Sulphuric			
Acid, Hydrochloric or Muriatic			
Acid, Carbolic, No. 1	per bottle	1	3
Acid, ditto No. 2	„	0	10
Amadou, or spunk, for drying cavities	per oz.	0	6
Arkansas stones, in mahogany cases	from 3*s.* to	6	0
Arkansas slips „ „	from 1*s.* to	2	6
Arkansas stones, circular	See p. 167.		
Articulating paper, black, broad . .	per book 2*d.*, per doz. books	1	6
Articulating ditto „ narrow . .	„ 1½*d.*, „	1	0
Articulating ditto red, for black vulcanite, broad	„ 2*d.*, „	1	6
Articulating ditto ditto narrow	„ 1½*d.*, „	1	0
Asbestos	per oz. 4*d.*, per lb.	2	6
Azotine, for destroying nerves (Mr. Rowney's). . . .	per packet	5	0
Azotine ditto ditto large size .	„	10	6

SUNDRIES—*continued.*

		s.	d.
Beeswax (pure), in cakes, for impressions	per lb.	3	0
Bibulous Paper, for drying cavities	per book	0	4
Bibulous ditto ditto French.			
Bottles for Mercury, Cement, &c. See p. 111.			
Bunter's Nervine	packet 1*s.*, per doz. packets	11	0
Camphor	per oz. 2*d.*, per lb.	2	0
Carbolic Glycerine	per bottle	0	10
Caustic Nitrate of Silver, in sticks	6*d.*, 7*d.*, and	1	2
Caustic holder, electroplated	each	4	6
Caustic point, in ebony holder	„	0	5
Caustic „ in walnut „	„	0	4
Cement (Mastic) thick, for temporary stoppings	per bottle	0	9
Cement „ thin, for fastening teeth	„	1	0
Cement, sulphur	„	0	6
Chalk, Precipitated	per lb.	0	8
Chalk, Prepared	„	0	3
Chloralum	per bottle	0	4
Chloroform	per oz.	0	8
Coffer dam Rubber, in 4 oz. packets		2	6
Coffer ditto holders	each	3	6
Compounds for Impressions. See Impression Compounds.			
Condy's Ozonized Water	per doz. bottles, 20*s.*, per bottle	1	9
Cotton wool, finest	per oz. 3*d.*, per lb.	3	6
Cutters, for making wood wedges, for regulating teeth		7	6
Creasote	per lb. 6*s.*, per oz.	0	6
Creasote, Instrument for applying		2	6
Dentist's Silk Twist	per skein	0	9
Dentist's ditto	per oz.	5	0
Dragon Canes, Red, White, or Purple	per doz.	1	0
Dragon points „ „ „	„	0	6
Dragon roots „ „ „	„	3	0
Etherial Solution, Hopkinson's	per bottle	5	0

SUNDRIES—*continued.*

		s.	d.
Filing Tray, with rim	each	3	9
Filing „ without rim	„	3	3
Floss Silk, Nos. 1, 2, 3	per reel	0	4
Galvanic Batteries.			
Glass Slabs for white stoppings	6*d.* and	0	8
Gutta Percha Compound for Impressions	per lb.	6	0
Gutta Percha, refined for Artificial Gums (Mr. Truman's)	per oz.	4	0
Gutta Percha „ white „	„	7	6
Gutta Percha for stopping teeth	See p. 22.		
Hickory Wood, compressed, for Pivots	per box	1	0
Impression Compound (Stent's)	per lb.	6	0
Impression ditto „ (in packets of 10 lbs.)	„	5	0
Impression ditto (Hind's)	„	6	0
Impression ditto „ in powder	„	4	0
India-rubber rings for regulating teeth	per box	0	6
India-rubber bulbs for syringes	2*s.*, 1*s.* 6*d.*, and	1	0
Leech Glasses	each	0	4
Mercury, distilled, in stone bottles	per lb.	5	6
Mercury ditto in glass „	3 ozs.	1	3
Mercury ditto in boxwood bottles	1 oz.	0	10
Myrrh, Gum	per lb.	3	6
Myrrh, Tincture	per pint	4	6
Orris Root	per lb.	1	6
Palette Knives, 8 in.	each	2	0
Palette ditto 7 in.	„	1	9
Palette ditto 6 in.	„	1	6
Palette Knives, with Ivory Scale Tang Handles	„	1	9
Palette ditto all Ivory	„	1	0

SUNDRIES—*continued.*

		s.	d.
Pestles and Mortars, Wedgwood. See p. 110.			
Pestles ditto glass		1	0
Phenol Sodique	per bottle	1	9
Pouches, in leather, lined with velvet or chamois leather, to hold 16 Forceps	each	10	6
Pouches ditto to hold 14 Forceps	„	9	6
Pouches ditto „ 12 ditto	„	8	6
Pouches ditto „ 8 ditto	„	6	6
Pouches ditto „ 4 ditto	„	5	0
Pouches ditto for 16, 14, or 12 Forceps, with strap, extra	„	1	6
Pumice Powder, superfine	per lb.	0	6
Saw Blades for Mouth Saws. See p. 103.			
Spatulas, various. See pp. 103, 104.			
Sponge, cut thin for set Cases	per piece, from 9*d.* to	1	3
Sponge, ditto half-set Cases	„ from 4*d.* to	0	9
Spittoon Basins, Blue Glass	from 4*s.* 6*d.* to	7	6
Spittoon Basins, Electro-plated	each	22	0
Spittoon Basins, Britannia Metal	„	8	6
Styptic Colloid	per bottle	2	6
Tannin	per oz.	0	9
Tapes, Buckhorn, Corundum, Silica, Waterproof, for polishing Stoppings	per piece	0	6
Tape Holders	9*s.* and	10	6
Toothpicks (Mr. Palmer's), Gold, sliding in Ivory Handles	each	6	0
Toothpicks ditto with Silver Caps	„	3	0
Toothpicks ditto engraved „	„	4	6
Toothpicks, Silver-fluted, double ends	„	2	3
Turkey Stones, in Mahogany Cases	4*s.*, 4*s.* 6*d.*, and	5	0
Turkey ditto in slips	9*d.* to	2	0
Wax, for impressions, in cakes (pure beeswax)	per lb.	3	0
Wedgwood Pestles and Mortars. See p. 110.			

Sundries for the Work-room. See Page 167.

FLATTING MILLS,

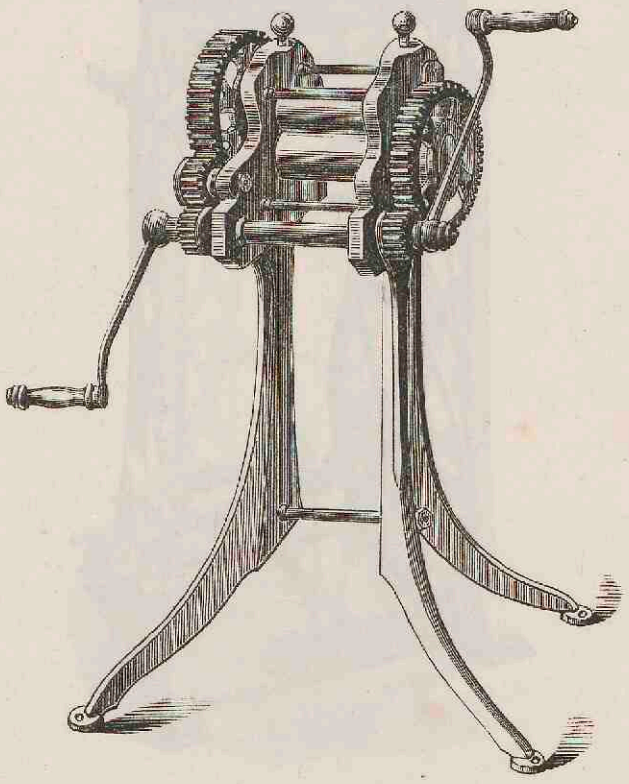
LATHES, TOOLS, &c.,

FOR THE

WORK-ROOM.

FLATTING MILLS.

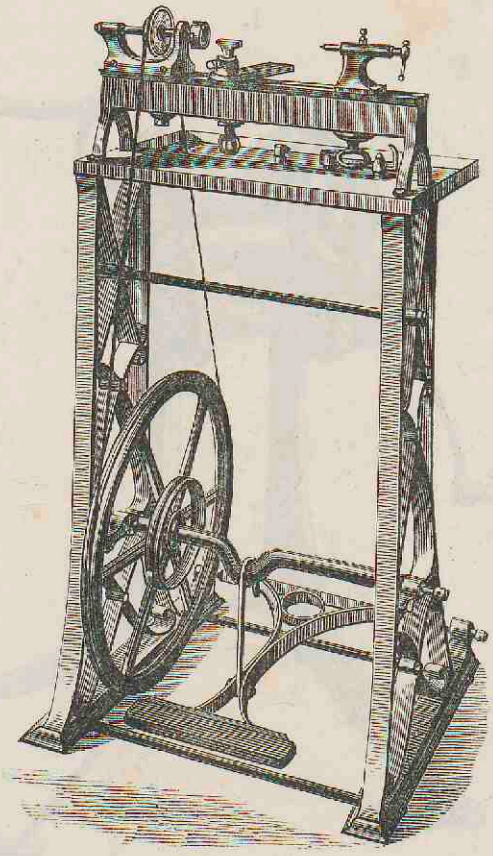
1.



	s.	d.
FLATTING MILL on iron stand to fasten to the floor, with hardened rollers 4 inches long and $2\frac{1}{4}$ inches diameter, with a double set of cog-wheels for multiplying the power, and two handles (Fig. 1)	200	0
Ditto without stand and multiplying wheels	105	0

LATHES.

2.



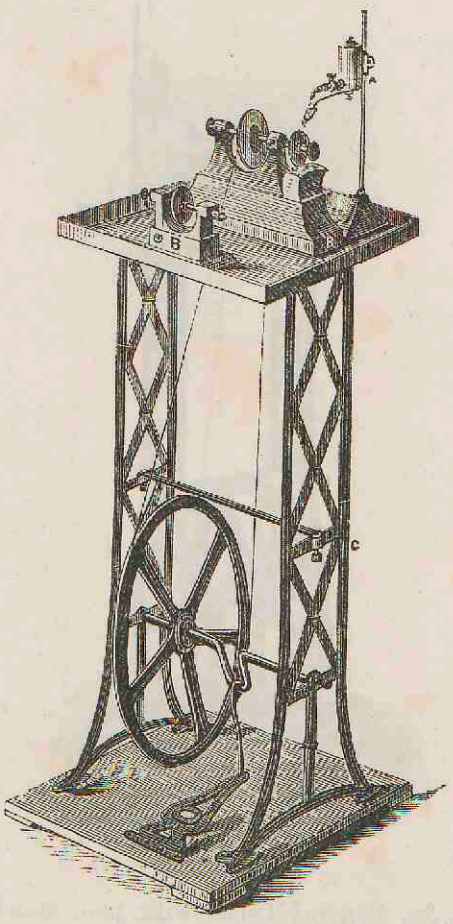
	s.	d.
TURNING LATHE on iron stand, with chucks, rest, and sliding centre (Fig. 2)	240	0

Brass and wood chucks made to order.

Turning tools made to order.

LATHES.

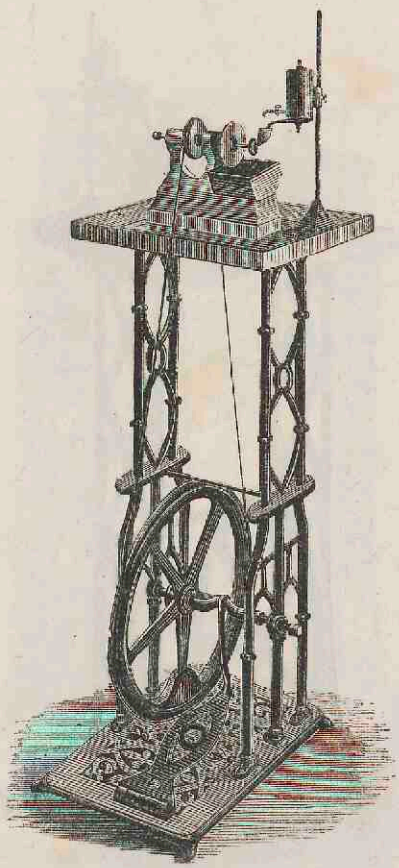
3.



	s.	d.
LATHE for grinding, &c. Mineral Teeth, with oak stand and top corundum wheels and gut attached	76	0
Ditto, with polished mahogany stand and top, bronzed iron wheels and standards	96	0
Ditto, with oak stand and top, countersinking tool, water apparatus, &c. . . . . (Fig. 3)	98	6

LATHES.

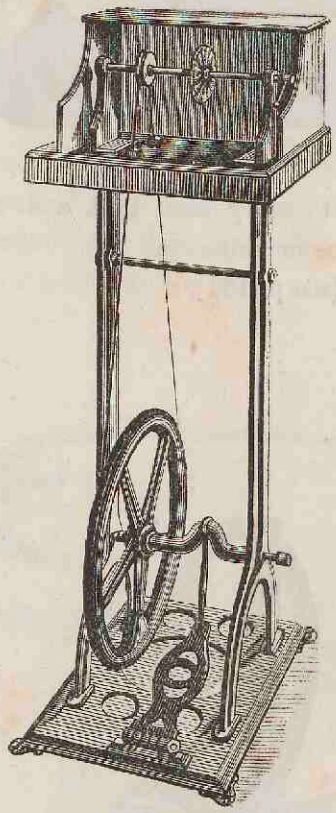
4.



	s.	d.
LATHE for grinding, &c. Mineral Teeth, with iron stand and oak top, corundum wheels, and water apparatus . . . (Fig. 4)	84	6
Ditto ditto with lathe-head (Fig. 23, Page 150), to carry corundum wheels and brush	94	6
Water Apparatus (A, Fig. 3, Page 143), for supplying water to corundum wheels	8	6
Countersinking Tool (B, Fig. 3, Page 143), for corundum points and very small wheels	13	6

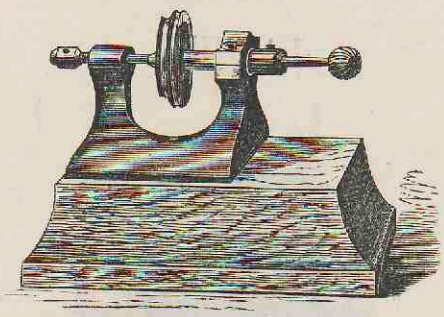
LATHES.

5.



			s.	d.
LATHE, same as Fig. 4, without water apparatus.	each		76	0
Water Apparatus and splash-board combined, tin japanned. .	„		7	6
Lathe for polishing vulcanite work, &c., on iron standards, with treadle and splash-board, top covered with zinc .	(Fig. 5)	„	65	0
Splash-boards, wood, as above		„	5	6
Extra mandril with pulley and brush		„	5	0

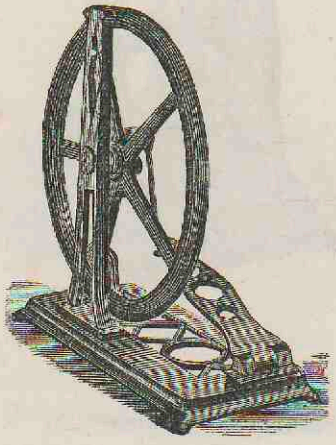
6.



LATHE-HEAD, with socket to carry steel burs and wheels for cutting down rapidly bone or vulcanite . . . (Fig. 6) each 20 0

Burs and wheels for ditto (see p. 184).

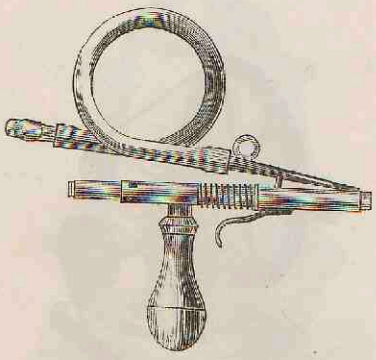
7.



WHEEL, CRANK, AND TREADLE, to give motion to Lathe-head on Workbench . . . . . (Fig. 7) 35 0

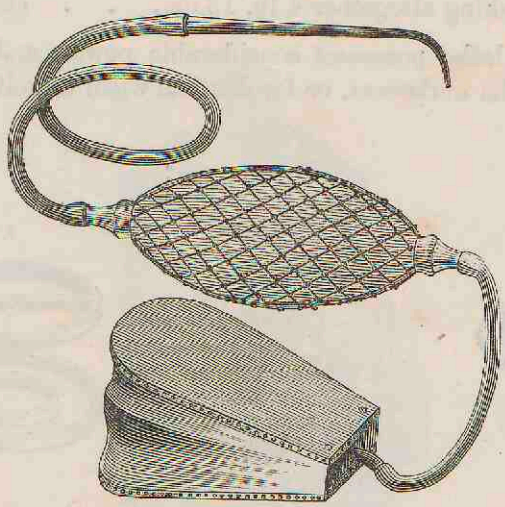
Lathe-heads for grinding and polishing, with single and double mandrils (See p. 152).

12.



Blowpipe (Snow's) for gas and air, in brass, with spring trigger to regulate the flame, and valve inside tube to partially shut off the gas, so as to admit only sufficient to keep it alight when hung up by the ring attached to the upper tube (Fig. 12) . . each 7 6

13.

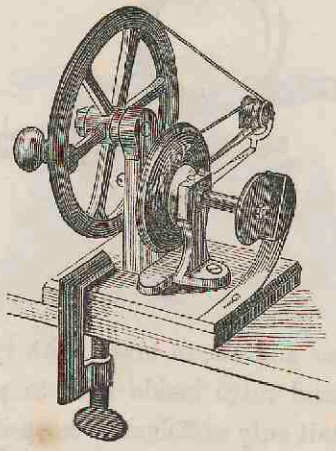


Improved Blowing Apparatus, with air-bag, which, when filled, keeps up a continuous blast with very little pressure from the bellows . . . . . (Fig. 13) each 20 0

Ditto with Mr. Owen's regulating pipe (Fig. 31, Page 154) „ 25 0

Blowing Apparatus, with circular bellows, in round iron case, with tubing and ordinary blowpipe . . . . . „ 37 0

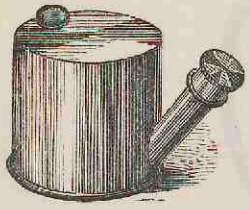
8.



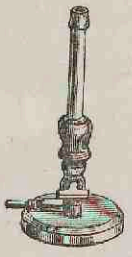
Portable Lathe (Mr. Williams'), with corundum wheel, sponge-holder, and iron clamp with thumb-screw to fasten to work-bench or table, enclosed in a mahogany box 6 in. by 6 in. and 7 in. deep, weighing altogether 4 lb. 13 oz.. . . (Fig. 8) each 42 0

This portable lathe possesses considerable power, and is useful in the operating room, the workroom, or for dentists when travelling.

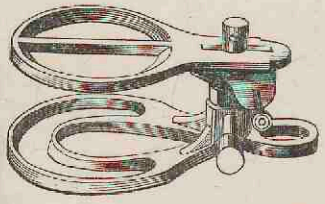
9.



10.

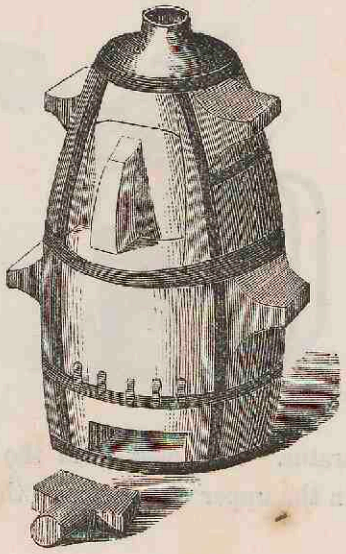


11.



					s.	d.
Soldering Lamp, brass, for spirit				(Fig. 9) each	6	6
Bunsen's Gas-burner, in brass, for modelling, &c.				(Fig. 10) „	5	6
Articulators, for arranging the bite				(Fig. 11) „	7	0
Ditto	ditto	„	(Hayes')	„	8	6
Ditto	ditto	„	(Smith's)	„	4	0
Ditto	ditto	„	plain	„	3	6
Ditto	ditto	„	(Mr. Clough's)	„	1	3

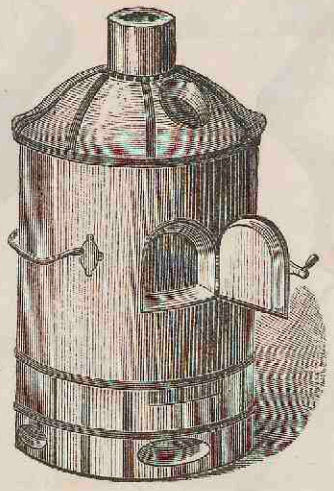
14.



						s.	d.
Furnace for melting gold, silver, &c.,		in. $9\frac{1}{4}$	diameter,	in. $17\frac{1}{2}$	high	each 30	0
Ditto	ditto	11	„	22	„	„ 45	0

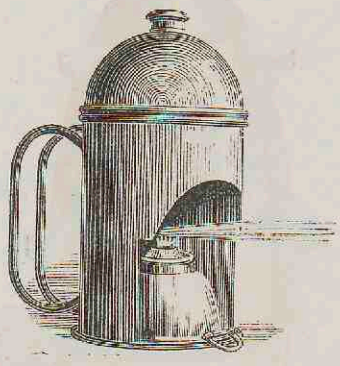
Melting Pots of various kinds and sizes. See Page 187.

15.



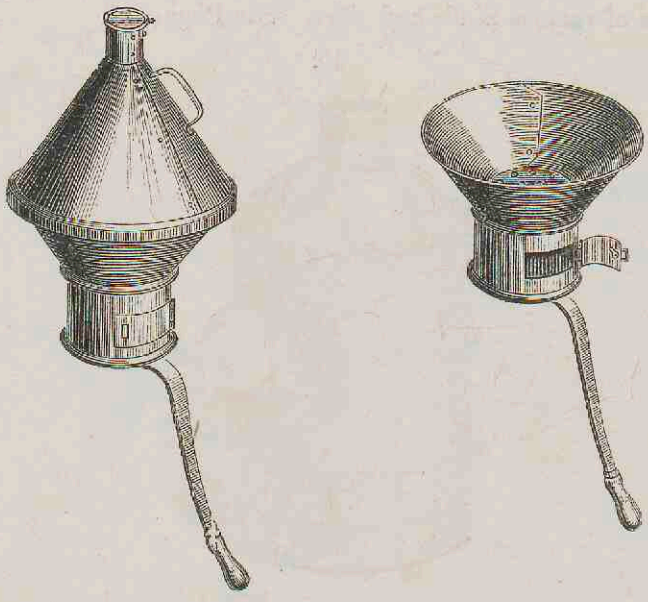
						s.	d.
Muffle Furnace for gum work, &c. . .		in. 13	diameter,	in. 25	high	each 53	0
Ditto	ditto . .	$15\frac{1}{2}$	„	$28\frac{1}{2}$	„	„ 70	0
Muffles for ditto		large 3s. 6d.,				small „ 3	0
Muffle plates or slabs for ditto . . .		„ 1s. 0d.				„ „ 0	8
Gum Enamel						per oz. 10	6
Body for gum work						„ 6	0

16.



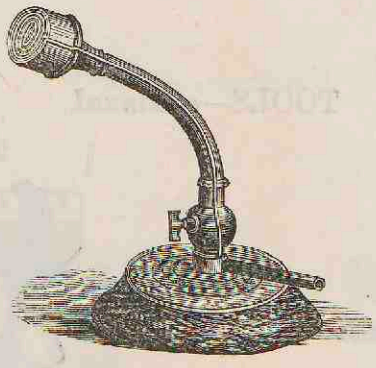
Spirit Soldering Apparatus. The heat from the lamp below vaporizes the spirit in the upper chamber and then ignites it — *s.* 7 *d.* 6 each

17.



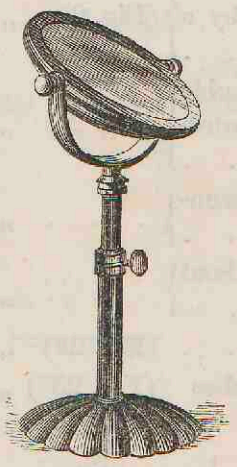
Soldering Pan, with Cover, for gradually warming up pieces with mineral teeth before soldering, and also for gradually cooling them afterwards. The handle has a loose pivot, to allow the pan to revolve . . . . . — *s.* 5 *d.* 6

18.

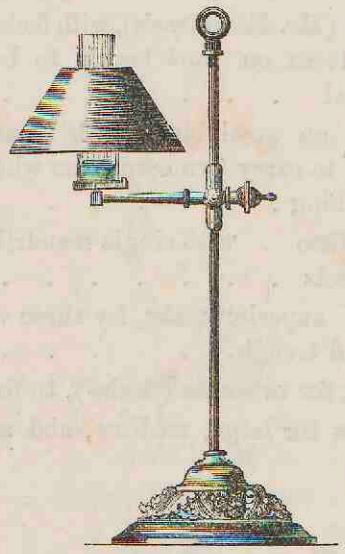


			s.	d.
Soldering Lamp, for gas	(Fig. 18)	each	7	6
Soldering Lamp, for oil		„	5	6

19.



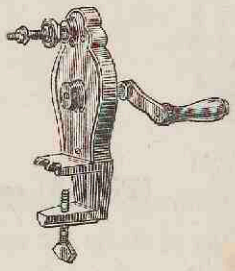
20.



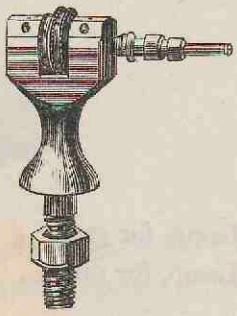
			s.	d.
Glass Reflector, with rising stand, for concentrating the light upon the work-bench	(Fig. 19)	each	10	6
Ditto ditto large size		„	12	6
Board Lamp for gas, with Argand burner, figured stand, and green shade, complete	(Fig. 20)	„	12	6
Ditto ditto with plain stand		„	10	0

TOOLS—*continued.*

21.

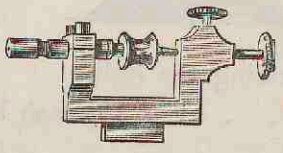


22.

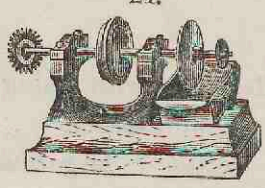


			s.	d.
Portable Hand Lathe, with multiplying wheels . .	(Fig. 21)	each	15	0
Lathe-head (Mr. Rowntree's), with 5 chucks and water trough, to fix on work bench, to be turned by a foot-wheel	(Fig. 22)	„	35	0
Lathe-head on wood block, with trough and double mandril, to carry two corundum wheels and brush for polishing	(Fig. 24)	„	34	0
Ditto ditto with single mandril for two corundum wheels	. . . .	„	24	0
Ditto superior make, for three wheels, without block and trough.	. . . .	„	30	0
Drill-stock for broaches (Stubs'), to fix in vice . .	(Fig. 23)	„	6	6
Drill-stocks for large, medium, and small broaches	(Fig. 23*)	„	1	6

23.



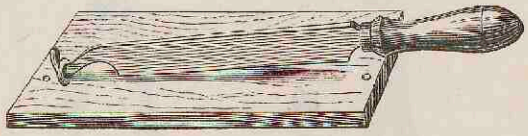
24.



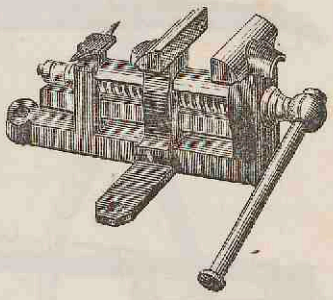
23*.

TOOLS—*continued.*

25.



26.



		s.	*d.*
Plaster Knife, on board	(Fig. 25) each	4	0
„ to fix on bench	(Fig. 27) „	6	6
„ for hand	(Fig. 28) „	0	10
„ „ large size	„	1	10
Horizontal Vice to fix on bench	Weight 3½ lbs. (Fig. 26) „	20	0
„ „ „	„ 4 „ „	21	0
„ „ „	„ 4½ „ „	22	0
„ „ „	„ 5 „ „	23	0
„ „ „	„ 5½ „ „	25	0
Tail Vices	10*s.* 6*d.*, 12*s.* 6*d.*,	14	0
Boiling Pans, copper	oval, 6 in. by 3½ in. each	1	8
„ „	„ 5½ in. „ 3 in. „	1	6
„ „	„ 5 in. „ 2½ in. „	1	4
„ „	round, 4 in. diameter „	1	8
„ „	„ 3½ and 3 1*s.* 6*d.* and	1	4

27.

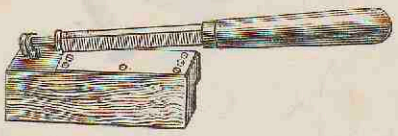
28.

TOOLS—*continued.*

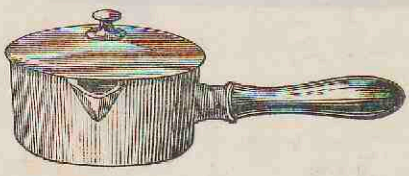
29.

30.

31.



32.



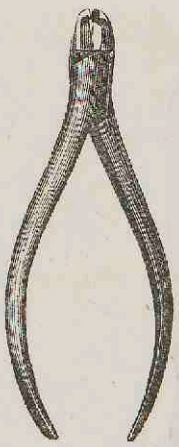
			s.	*d.*
Blowpipe (Mr. Owen's) for regulating the flame . .	(Fig. 29)	each	5	6
„ ordinary, with ivory mouthpiece		„	1	6
„ with hollow chamber and 2 nozzles . .	(Fig. 30)	„	2	6
Blowpipes, plain, 7 to 15 in. long, price one penny per inch.				
Blowpipes of various kinds kept in stock.				
Chipping Tool for mineral teeth, with lead or copper face, to fix in vice	(Fig. 31)	each	4	0
Ditto ditto with double cutter on iron stand, with spring	. . .	„	7	6
Boiling Pans, porcelain 4 in. diameter	(Fig. 32)	„	2	9
„ „ 3½ in. „	(Fig. 32)	„	2	6
„ 3 in. „	(Fig. 32)	„	2	0
Perforators, best make, with half a dozen pins . .	(Fig. 33)	„	7	6
„ second quality „ . .	(Fig. 33)	„	5	6
Extra pins for ditto, well tempered		per doz.	2	0

TOOLS—*continued.*

33.

34.

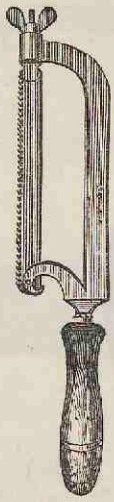
35.



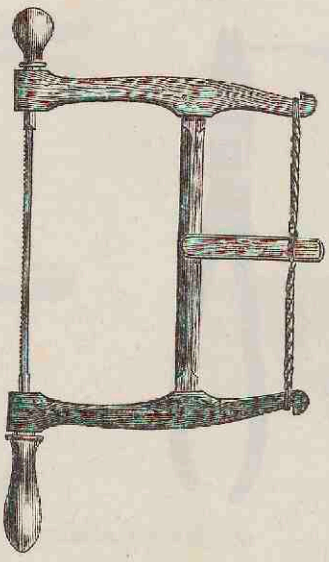
			s.	d.
Shears (Stubs'), curved, 6 in.	(Fig. 34)	each	3	6
,, ,, ,, 7 in.	(Fig. 34)	,,	4	0
,, ,, ,, 8 in.	(Fig. 34)	,,	4	6
,, ,, straight 6 in.		,,	3	3
,, ,, ,, 7 in.		,,	3	9
,, ,, ,, 8 in.		,,	4	0
,, (Thewlis and Griffiths') curved, 6 in.	(Fig. 34)	,,	3	3
,, ,, ,, ,, 7 in.	(Fig. 34)	,,	3	9
,, ,, ,, ,, 8 in.	(Fig. 34)	,,	4	3
,, ,, ,, straight, 6 in.		,,	2	6
,, ,, ,, ,, 7 in.		,,	3	0
,, ,, ,, 8 in.		,,	3	6
Cutting Nippers (Stubs'), with round noses, for cutting off pins inside plates	(Fig. 35)	,,	4	0

TOOLS—*continued.*

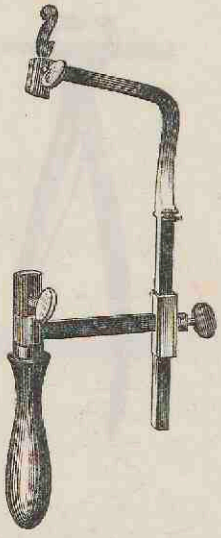
36.



37.



38.



Saw Frames (Fig. 36) for saws of the following lengths: 5 in. 3*s.* 3*d.*, —6 in. 3*s.* 6*d.*,—7 in. 4*s.*,—8 in. 4*s.* 6*d.*,—9 in. 5*s.*,—10 in. 5*s.* 6*d.*, —11 in. 6*s.*,—12 in. 6*s.* 6*d.*

Saw Blades for the above, one penny per inch.

		s.	*d.*
Bow Saw Frames for 9 in. saws	(Fig. 37)	3	0
„ „ for 10 in. „	(Fig. 37)	3	6
„ „ for 12 in. „	(Fig. 37)	4	0

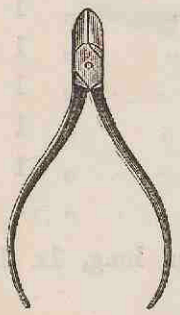
Blades for ditto,—9 in. 6*d.*,—10 in. 7*d.*,—12 in. 9*d.*

Piercing Saw Frames	(Fig. 38)	2*s.* 6*d.* to	4 0
Piercing Saws	per gross, 5*s.*, per doz.		0 6
Circular Saws for lathe, 4 in. diameter			4 0
„ „ „ 3 in. „			3 0
„ „ „ 2 in. „			2 0
„ „ „ 1 in. „			1 0
Cutting Nippers, with flat face	(Fig. 39)		2 0

Ditto „ various kinds. See Page 159.

TOOLS—*continued.*

39.



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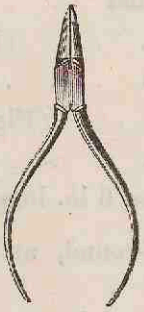

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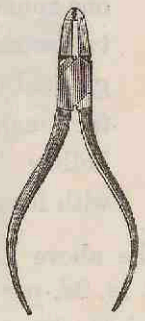
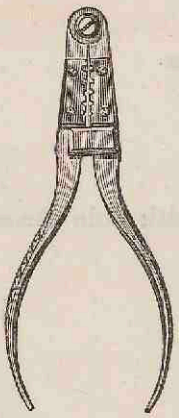


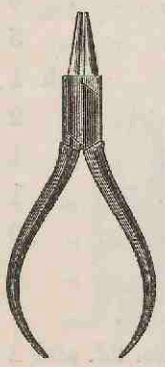
42.

43.

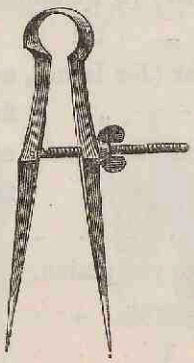


44.

45.



46.



47.

TOOLS—*continued.*

			s.	d.
Pliers, flat pointed	(Fig. 40)	4 inches, each	1	0
„ „ broad		4 „ „	1	0
„ half round		4 „ „	1	0
„ one round nose and one flat		4 „ „	1	0
„ two round noses	(Fig. 45)	4 „ „	1	0
„ grooved for holding pins		„	1	3
„ for roughing pins	(Fig. 41)	„	1	9
„ hollow		„	1	9
„ with long broad flat noses, 6 in. long		„	1	9

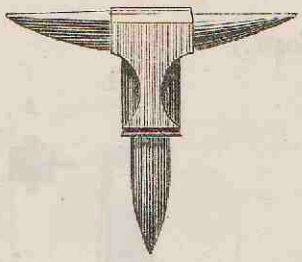
The above pliers (flat, half-round, and round), 4½ in. long, 1*s.* 1*d.*, 5 in. 1*s.* 2*d.* per pair.

Bright pliers are twopence per pair extra.

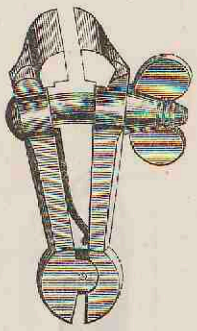
Gauges for plate	(Fig. 42)	each	4	6
Screw Dies with taps	(Fig. 43)	„	16	6
Screw Plates, notched, with taps	(Fig. 44)	„	4	8
„ plain		„	3	3
Dividers, 4½ in.	(Fig. 46)	„	2	3
„ 5 in.	(Fig. 46)	„	2	6
Pin Vice (Stubs'), all steel, with hole through the handle	(Fig. 47)	„	4	6
Pin Vices in ebony handles		„	4	6
Sliding Tongs, square nose		„	2	6
„ round „		„	2	6
Callipers		„	2	6
„ various.				
Moulds for plaster models, set of 3, Britannia metal			8	3
„ „ „ tin			5	3
Brass Scratch Brushes, circular (for lathe), coarse		each	1	8
„ „ „ „ „ fine		„	2	0
„ „ „ straight (for hand), coarse		„	1	0
„ „ „ „ „ fine		„	1	4
Plate Benders (Mr. Tomes')		„	10	6
„ American, for upper plates		„	5	6
„ „ for lower „		„	5	6
Ingot Moulds for wire		each	2*s.* 9*d.* and	2 3

TOOLS—*continued.*

48.

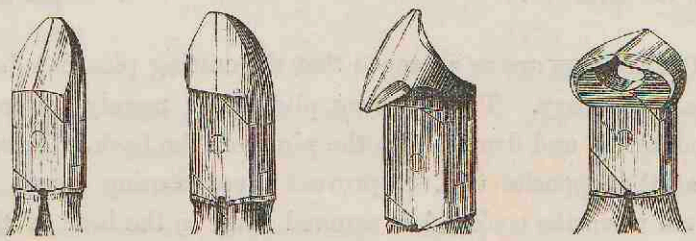


49.



		s.	d.
Beck Irons, large	(Fig. 48) each	2	9
„ medium	„ „	2	6
„ small	„ „	2	3
Hand Vices, 4 in. long	(Fig. 49) „	2	6
„ 4½ in. „	„ „	3	0
„ 5 in. „	„ „	4	0
Cutting Nippers, black	(Fig. A.) each	2	0
„ „	(Fig. B.) „	2	0
„ „	(Fig. C.) „	2	0
„ „	(Fig. D.) „	2	0

Cutting Nippers, of either kind, bright all over, are 6*d.* each extra.

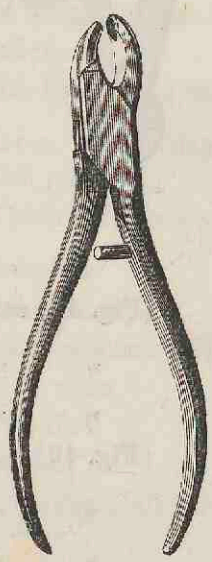


A. B. C. D.

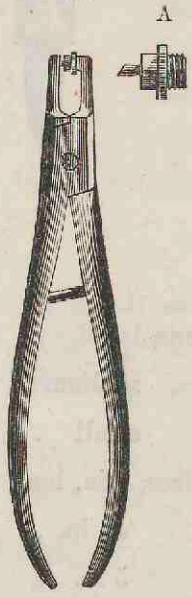
PLATE CUTTERS, &c.

(C. Ash and Sons'.)

50.



51.

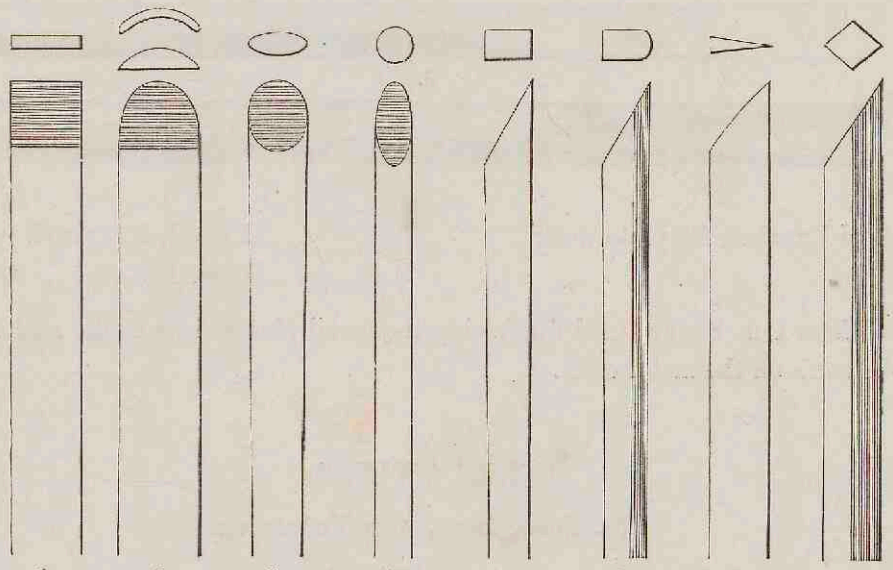


			s.	d.
Plate Cutters, large	(Fig. 50)	each	4	6
„ medium	(Fig. 50)	„	4	6
„ small	(Fig. 50)	„	4	6
„ with straight nose		„	4	6
Pin Nippers (improved), for punching metal backings for flat teeth, and 6 extra pins	(Fig. 51)	„	5	0
Extra pins for ditto		per doz.	2	0

These Pin Nippers are so arranged that the cutting pins can be renewed as often as necessary. This is accomplished by merely unscrewing the movable socket A, and dropping in the pin from the back. These pins are flattened at the opposite end, to prevent them turning round or falling through, and when the socket A is screwed home in the head of the nippers the pin is perfectly secure.

SCULPTORS.

(C. Ash and Sons'.)



Flat Sculptors, broad, medium, and narrow . .	(Fig. 1)			
Half-round Sculptors ditto with flat backs	(Fig. 2)	per doz.	s. 4	d. 6
Oval ditto ditto . .	(Fig. 3)	each	0	5
Round ditto ditto . .	(Fig. 4)	Polished.		
Flat Edge ditto ditto . .	(Fig. 5)	per doz.	5	0
Round Edge ditto ditto . .	(Fig. 6)	each	0	6
Sharp Edge ditto	(Fig. 7)			
Gravers.	(Fig. 8)			
Sculptors (Stubs'), same patterns as above .		per doz. 3s. 3d., each	0	3½
„ (Ward's), various		„	0	9
„ various.				
Half-round Sculptors or Gouges with hollow backs, broad, medium, and narrow	(Fig. 2)	„	0	6

PUNCHES.

1.

2.

3.

			s.	d.
Steel Punches, for plate work	(Figs. 1, 2, 3)	each	0	9
Brass „ „	(Figs. 1, 2, 3)	„	0	6

These Punches are used for forcing the metal plates close to the necks of the teeth on the metal casts.

FILES (STUBS')

For Gold, Bone, and Vulcanite.

	Inches.		Rough and extra rough. s.	d.		Bastard. s.	d.		Smooth s.	d.
Half-round . .	3 . .	each	0	4½	each	0	5	each	0	5½
„ . .	3½ . .	„	0	5	„	0	5½	„	0	6
„ . .	4 . .	„	0	5½	„	0	6½	„	0	7½
„ . .	4½ . .	„	0	6½	„	0	7	„	0	8
„ . .	5 . .	„	0	7	„	0	7½	„	0	8½
„ . .	6 . .	„	0	9	„	0	9½	„	0	11
„ . .	7 . .	„	0	11	„	1	0	„	1	1
„ . .	8 . .	„	1	0½		..			..	
„ . .	9 . .	„	1	2½		..			..	
„ . .	10 . .	„	1	5		..			..	
„ . .	11 . .	„	1	8		..			..	
„ . .	12 . .	„	1	10		..			..	

The above files, from 3 to 6 inches, can be had with steel handles, halfpenny each extra.

FILES—*continued.*

Inches.		Rough and extra rough.		Bastard.		Smooth.	
		s.	*d.*		*s.*		*d.*		*s.*	*d.*
3	Round	each	0	$4\frac{1}{2}$	each	0	5	each	0	$5\frac{1}{2}$
$3\frac{1}{2}$	„	„	0	5	„	0	$5\frac{1}{2}$	„	0	6
4	„	„	0	$5\frac{1}{2}$	„	0	6	„	0	$6\frac{1}{2}$
$4\frac{1}{2}$	„	„	0	6	„	0	$6\frac{1}{2}$	„	0	7
5	„	„	0	$6\frac{1}{2}$	„	0	7	„	0	$7\frac{1}{2}$
6	„	„	0	$7\frac{1}{2}$	„	0	8	„	0	$8\frac{1}{2}$
5	Half-round, double ended . . .	„	0	7	„	0	$7\frac{1}{2}$	„	0	$8\frac{1}{2}$
6	„ „ . . .	„	0	9	„	0	$9\frac{1}{2}$	„	0	11
7	„ „ . . .	„	0	11	„	1	0	„	1	1
8	„ „ . . .	„	1	$0\frac{1}{2}$	„	1	$1\frac{1}{2}$	„	1	$2\frac{1}{2}$
6	Flat or Pillar	Smooth . . .						„	0	$9\frac{1}{2}$
7	„	„ . . .						„	0	$10\frac{1}{2}$
8	„	„ . . .						„	0	$11\frac{1}{2}$
4	Saw Files	Bastard, each				0	$6\frac{1}{2}$		..	
$4\frac{1}{2}$	„	„	„			0	7		..	
5	„	„	„			0	$7\frac{1}{2}$		..	

RASPS (STUBS').

Inches.			*s.*	*d.*
3	Half-round . .	each	0	$4\frac{1}{2}$
$3\frac{1}{2}$	„ . .	„	0	5
4	„ . .	„	0	6
$4\frac{1}{2}$	„ . .	„	0	$6\frac{1}{2}$
5	„ . .	„	0	$7\frac{1}{2}$
6	„ . .	„	0	$9\frac{1}{2}$
7	„ . .	„	0	$11\frac{1}{2}$
8	„ . .	„	1	$1\frac{1}{2}$
9	„ . .	„	1	$3\frac{1}{2}$
10	„ . .	„	1	$5\frac{1}{2}$
11	„ . .	„	1	$7\frac{1}{2}$
12	„ . .	„	1	$10\frac{1}{2}$

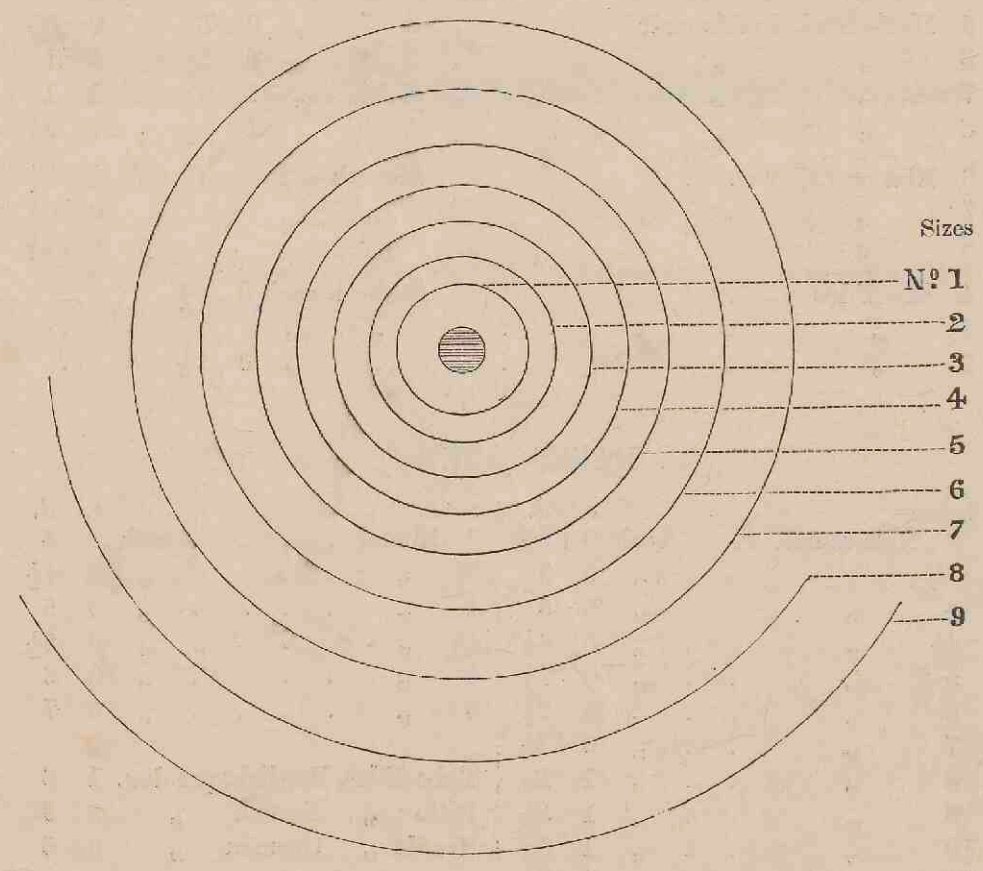
Inches.			*s.*	*d.*
3	Round	each	0	4
$3\frac{1}{2}$	„	„	0	$4\frac{1}{2}$
4	„	„	0	5
$4\frac{1}{2}$	„	„	0	$5\frac{1}{2}$
5	„	„	0	6
6	„	„	0	7
Tube Files, English, per doz.			1	6
Ditto „ French „			2	9
Needle „ German „			0	6

Rasps 3, $3\frac{1}{2}$, 4, $4\frac{1}{2}$, 5, and 6 inches, can be had with steel handles, one halfpenny each extra.

5 per cent. discount off the above when purchased by the dozen, except Tube Files.

C. ASH AND SONS'

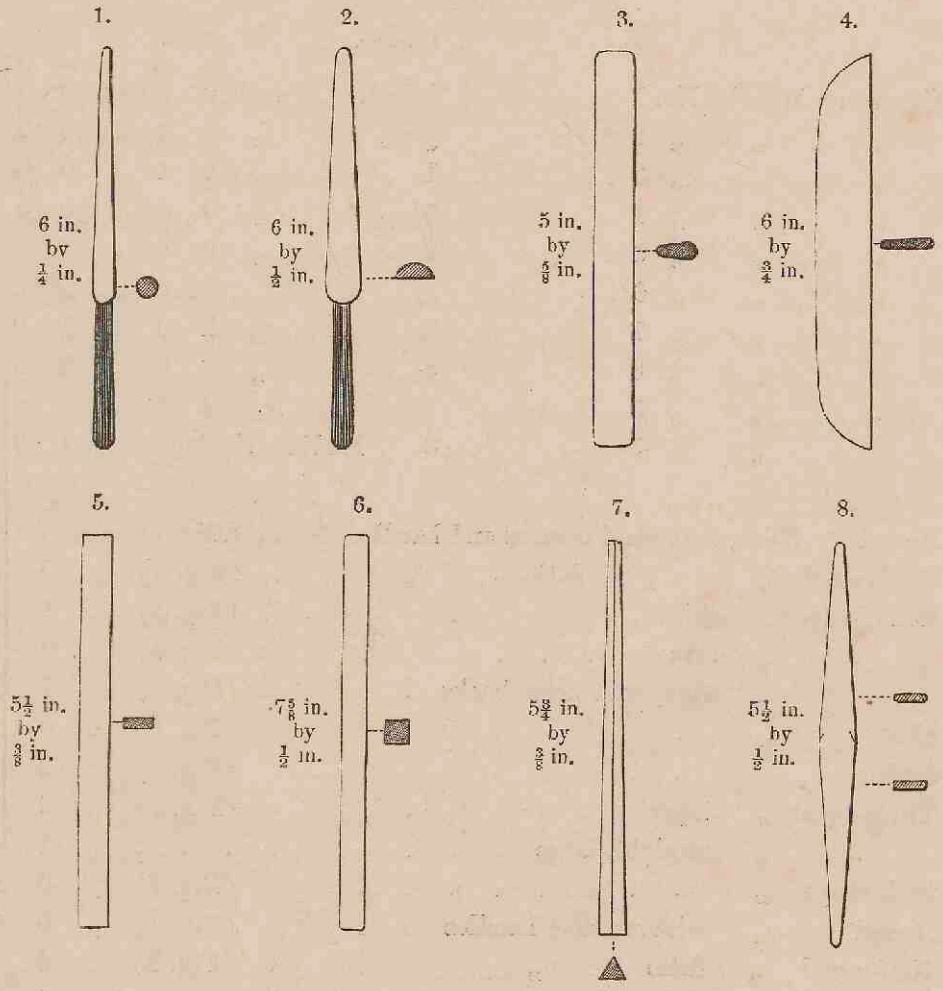
CORUNDUM WHEELS.



C. Ash and Sons, from their long experience in the use of corundum, know how to select the kind and quality best adapted for dental purposes. Their method of crushing it, prevents as much as possible dulling the sharp edges of the particles while reducing them to their several grits. It is this cutting quality which has obtained for this manufacture the high estimation in which it is held both in England and abroad. For prices, &c., see page 166.

C. ASH AND SONS'

CORUNDUM FILES.



C. Ash and Sons' Corundum Files are used very extensively in the mouth for cutting down stumps, &c. Not only do they cut rapidly, but there is much less vibration than with a steel file, and consequently the operation is less disagreeable to the patient. They should be dipped in water frequently whilst in use. For prices, see page 166.

CORUNDUM WHEELS, FILES, &c.

(Coarse, Medium, and Fine.)

	Size.	Diameter.	Thick.		Thin.	
			s.	*d.*	*s.*	*d.*
Corundum Wheels, No.	1	½ inch each	0	2	0	1½
„ „ „	2	¾ „ „	0	3	0	2
„ „ „	3	1 „ „	0	4	0	3
„ „ „	4	1½ „ „	0	6	0	5
„ „ „	5	2 „ „	0	8	0	7
„ „ „	6	2¼ „			0	9
„ „ „	7	3 „ „	2	0	1	0
„ „ „	8	3¾ „ „	3	0	2	0
„ „ „	9	4½ „ „	4	6		
„ „ „	7	3 „ Medium thickness			1	6

			s.	*d.*
Round Files, with steel centres and handles		(Fig. 1) each	0	9
Half-round „ „ ditto „		(Fig. 2) „	0	9
Round-edged „ thick		(Fig. 3) „	1	0
„ „ thin		(Fig. 4) „	0	8
„ „ thin, with brass backs		(Fig. 4) „	1	0
Flat „		(Fig. 5) „	0	8
Square „		(Fig. 6) „	2	0
Three-square „ tapering		(Fig. 7) „	0	8
„ „ straight, large		„	1	6
Fish shape „		(Fig. 8) „	0	8
Round „ without steel handles		(Fig. 1) „	0	6
Half-round „ ditto „		(Fig. 2) „	0	6
Countersinks, Corundum (⊙···▭), for mineral teeth, per doz.			1	0
Points, to fit in holders	(See Fig. A, p. 107)	„	0	6
Slabs, for sharpening tools		each	2	6

10 per cent. discount off the above when purchased by the dozen, and amounting to five shillings and upwards.

SUNDRIES

FOR THE WORK-ROOM.

		s.	d.
Acid, Nitric	per lb.	1	0
Acid, Sulphuric	„	0	6
Acid, „ (common)	„	0	3
Acid, Muriatic	„	0	6
Anvils, large	per cwt.	40	0
Anvils, small	per lb., from 6*d.* to	1	0
Arkansas Stones, in mahogany cases, with covers	from 3*s.* 6*d.* to	6	0
Arkansas „ slips	from 1*s.* to	2	6
Arkansas „ circular, for lathe, 3 in. diameter	each	10	6
Arkansas „ ditto „ $2\frac{1}{2}$ in. „	„	8	6
Arkansas „ ditto „ $2\frac{1}{4}$ in. „	„	7	6

Articulators. See Page 148.

Blowpipes. See Pages 147, 154.			
Board Pins	each	0	3
Bole Armenia	per lb. 1*s.*, per oz.	0	1
Borax	per lb. 1*s.* 6*d.*, per $\frac{1}{4}$ lb. packet	0	5
Borax Slabs, Stone	each 1*s.* and	1	4
Boxes for gold filings and old gold	1*s.* 1*d.*, 1*s.* 3*d.*	1	6
Broaches, various sizes	per doz.	2	0
Brushes, for lathe, 6 rows, hard or soft, $3\frac{1}{2}$ in. diameter	each	1	6
„ „ 5 „ „ $3\frac{1}{4}$ „ „	„	1	3
„ „ 4 „ „ $3\frac{1}{4}$ „ „	„	1	0
„ „ 3 „ „ $3\frac{1}{4}$ „ „	„	0	9
„ „ 2 „ „ $3\frac{1}{4}$ „ „	„	0	7
„ „ 4 „ „ $2\frac{5}{8}$ „ „	„	0	10
„ „ 3 „ „ 2 „ „	„	0	7
Brushes „ 4 „ goat's hair	„	1	6

SUNDRIES—*continued.*

		s.	d.
Brushes, for lathe, 3 rows, goat's hair	each	1	3
„ „ 2 rows „	„	1	0
Brushes, long, with handles, 4 rows, hard or soft	„	1	2
„ „ „ 3 rows „	„	0	10
Brushes, short „ 6 rows „	„	1	2
Brushes, camel's hair, large, medium, and small	per doz.	0	6
Buff Wheels, for lathe	each	1	0
Buff Sticks, for polishing, flat or round	per doz. 1*s.* 4*d.* „	0	1½
Burnishers for Plate, steel, double ends		1	6
Burnishers for Plate, „ in wood handles		0	10
Callipers (Stubs')		2	6
Callipers, various	from 3*s.* 6*d.* to	7	6
Canada Balsam	per bottle	1	0
Casting Sand	per bag	1	4
Casting Troughs	14*s.* and	16	0
Casting Rings, diameter 5½ in., 5 in., 4 in.	1*s.* 4*d.*, 1*s.* 2*d.*, and	1	0
Casting Die Rings „ 4½ in., 4 in.	2*s.* 6*d.* and	2	3
Casting Moulds (Mr. Thomson's)	each	1	8
Cement, for mending plaster models	per stick	0	2
Cement, Mastic, thin, for fixing teeth on pins	per bottle	1	0
Cement for refixing teeth broken from vulcanite base	„	1	0
Cement, Sulphur, for fixing teeth	„	0	6
Collodion, for vulcanite work	„	2	0
Copper Frames, for soldering mineral teeth (large)	each	0	8
Copper Frames, for „ „ „ medium and small	„	0	6
Corn Tongs (or Spring Tongs), polished	per pair	0	10
Corn Tongs „ common	„	0	5
Crocus, for polishing	per lb. 1*s.*, per oz.	0	1
Crucibles. See Melting Pots, p. 170.			
Cutters for Plate, bright	each	5	0
Cutters, straight nose, for plate, black	„	3	0
Cuttlefish Powder	per lb.	1	8
Draw Plates, for round wire, (30 holes)	each	10	0

SUNDRIES—*continued.*

			s.	d.
Draw Plates, for half-round wire, 30 holes		each	17	6
Drawing Tongs	7 in. long	„	2	9
Drawing „	8 in. „	„	4	0
„ Pliers	6 in. „	„	1	9
Drill Bows, steel,	14 in. „	„	4	0
Drill Bows „	12 in. „	„	3	6
Drill Bows „	10 in. „	„	3	0
Drill Bows, whalebone,	24 in. „	„	1	3
Drill Bows, „	21 in. „	„	1	0
Drill Bows, „	18 in. „	„	0	9
Fibrine (Mr. Rowney's), for fixing teeth on plaster models,		per bottle	1	0
File Cleaners		each	0	6
French Chalk		per lb.	0	8
Fusible Plugs for Vulcanizer		per doz.	2	0
Gas Apparatus, for heating flasks			10	0
Gas Stove, for melting zinc		from	32	0
Glass Cloth, coarse, medium, or fine		per sheet 1*d.*, per quire	1	8
Grindstones, with treadles		23*s.* to	30	0
Grindstones, in iron cases, with handles		4*s.*, 6*s.* 6*d.* and	8	6
Grindstones, in wood cases,	„	from	4	6
Grindstones, for lathe, 4 in., $3\frac{1}{2}$ in., 3 in. diameter		1*s.* 6*d.*, 1*s.* 4*d.*,	1	2
Gum Enamel, for continuous gum work		per oz.	10	6
Gum Body, for	ditto	„	6	0
Gum Stain, for bone		per bottle	1	3
Gut, for lathes, large	No. 1	per hank	2	0
Gut for lathes, medium	No. 2	„	1	6
Gut for lathes, „	No. 3	„	1	3
Gut for lathes, small	No. 4	„	0	10
Gut for drill bows, large, medium, and small		per hank 3*d.*, $2\frac{1}{2}$*d.*,	0	2
Gutta Percha, for lathe bands		per lb.	6	0
Hammers, for striking up plates, weight 5 lbs.			6	0
Hammers, „ „ „	5 lbs. (double-faced)		7	0

SUNDRIES—*continued.*

		s.	*d.*
Hammers for riveting, large size		1	3
Hammers for „ medium size		1	2
Hammers for „ small „		1	1
Hammers for „ bright	extra	0	2
Handles, wood, for files	each 3*d.*, 2*d.*	0	1½
Handles, ebony, for broaches	each	0	2
Handles, ordinary „	„	0	1
Handles, „ for sculptors	„	0	1
Handles, „ for rivetting hammers	„	0	4
Hooks and Eyes, for gut, Nos. 1, 2, 3, 4	per pair	1	3
India-rubber Tubing. See Page 134.			
India-rubber Finger-stalls	each	0	2
India-rubber Bulbs, for syringes	1*s.*, 1*s.* 6*d.*	2	0
India-rubber Washers or Collars . No. 1A, $10\frac{7}{8}$ in. diameter	each	1	9
„ „ „ . No. 1, $7\frac{1}{2}$ in.	„ „	1	0
„ „ „ . No. 2, $8\frac{3}{4}$ in.	„ „	1	3
India-rubber Washers „ thick, No. 3, $7\frac{1}{2}$ in.	„ „	1	0
India-rubber ditto „ thin, No. 3, $7\frac{1}{2}$ in.	„ „	0	8
India-rubber ditto for portable vulcanizers $4\frac{1}{2}$ in.	„ „	0	2
India-rubber packings for Lewis', Hayes', and Whitney's Vulcanizers	per piece	0	6
Ingot Moulds, for wire	2*s.* 9*d.* and	2	3
Iron Wire, thick, for clamps or cramps	per hank	0	1½
Iron Wire, medium, for pins	„	0	1½
Iron Wire, thin, for binding	„	0	2
Ladles, iron, $4\frac{1}{2}$ in. diameter	each	0	9
Ladles „ 5 in. „	„	1	4
Ladles „ $5\frac{1}{2}$ in. „	„	1	7
Ladles „ 6 in. „	„	2	2
Ladles „ $6\frac{1}{2}$ in. „	„	2	8
Ladles „ (Mr. Thomson's)	„	2	0
Lycopodium	per oz.	0	6
Magnets	9*d.* to	3	0

SUNDRIES—*continued.*

		s.	d.
Mallets, boxwood	each 9*d.*, 8*d.*, and	0	7
Mallets, horn		1	8

MELTING POTS.

Plumbago Pots. Height.	Each. s.	d.	*Skittle Pots.* Height.	Each. s.	d.	*Crucibles.* Height.	Per doz. s.	d.
$2\frac{3}{4}$ in.	0	$4\frac{1}{2}$	4 in.	0	$2\frac{1}{2}$	$1\frac{3}{4}$ in.	0	5
$3\frac{3}{4}$ in.	0	8	5 in.	0	$3\frac{1}{2}$	$2\frac{1}{8}$ in.	0	6
$4\frac{1}{4}$ in.	1	0	6 in.	0	$4\frac{1}{2}$	$2\frac{1}{2}$ in.	0	8
$4\frac{5}{8}$ in.	1	4	7 in.	0	5	$2\frac{3}{4}$ in.	1	0
$5\frac{1}{4}$ in.	1	8	8 in.	0	6	$3\frac{1}{4}$ in.	1	2
6 in.	2	0	9 in.	0	8	$3\frac{3}{8}$ in.	1	4

		s.	d.
Metal Patterns, for forming air-chamber in vulcanite pieces, thick and thin	per doz.	1	3
Modelling Wax, pink or brown, for vulcanite work	per lb.	5	0
Moulds for plaster models, set of 3,—Britannia metal	per set	8	3
Moulds „ set of 3,—Tin	„	5	3
Non-adhesive Liquid	per bottle	1	0
Oil Cans, copper, japanned	each	1	4
Oil Cans, zinc	„	1	0
Oil Cans, tin	„	0	10
Orris Root, in powder	per lb.	1	6
Palette Knives, 6 in., 7 in., 8 in. long	1*s.* 6*d.*, 1*s.* 9*d.*	2	0
Pattern Lead	per lb.	0	6
Plaster of Paris, superfine	per cwt.	8	0
Plaster of Paris, fine	„	5	0
Plaster of Paris, superfine, in soldered cases, for exportation, each case containing 14 lbs.	each	3	0
Plaster of Paris, superfine, in soldered cases, for exportation, each case containing 7 lbs.	each	1	6
Plaster of Paris, superfine	7 lbs. in bag	0	7
Plaster of Paris, fine	7 lbs. „	0	5

SUNDRIES—*continued.*

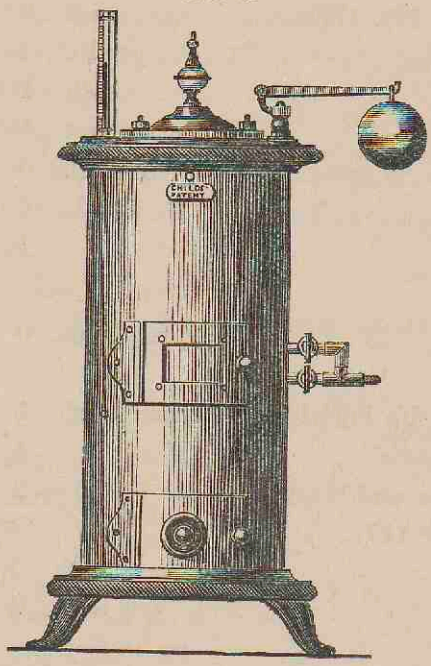
		s.	d.
Plaster Pins	per box	0	6
Plate Benders (Mr. Tomes')	each	10	6
Plate Benders, American (upper and lower)	„	5	6
Polishing Stones	9*d.* and	1	0
Precipitated Chalk	per lb.	0	10
Prepared Chalk	„	0	5
Pumice Powder, superfine	„	0	6
Pumice Powder, fine	„	0	4
Pumice Powder, coarse	„	0	3
Pumice Blocks, for soldering upon	each	0	10
Rottenstone	per lb.	0	3
Rouge, in powder	„	4	6
Rouge „	per box	0	7
Scales, with Pillar, Beam, &c., to enclose in drawer of mahogany stand, $10\frac{1}{2}$ in. × $5\frac{1}{2}$ in.		23	6
Scales, enclosed in box, $9\frac{1}{4}$ in. × $4\frac{3}{4}$ in.		15	6
Scales, common . . $9\frac{1}{4}$ in. × $4\frac{3}{4}$ in.		8	6
Sets of Cup Weights, Troy,	from $\frac{1}{4}$ oz. to 8 oz. per set	6	6
Sets of Troy Weights	„ $\frac{1}{2}$ oz. to 4 oz. „	3	9
Sets of Pennyweights (in brass figures)	„ 1 dwt. to 10 dwt.	7	6
Sets of Pennyweights „	„ 1 dwt. to 5 dwt.	1	9
Sets of Grains „	„ 1 gr. to 6 grs.		
Sets of Drachms and Scruples		1	3
Scratch Brushes, circular, for lathe	coarse 1*s.* 3*d.* fine	1	8
Scratch Brushes, for hand	coarse 1*s.* 0*d.* fine	1	4
Silex, in powder	per lb.	1	6
Silex, in liquid	per bottle	1	3
Shellac Gum	per lb.	2	6
Skellets, for Plate	6*s.* 6*d.*	5	6
Slate Slips	per piece	0	1
Sliding Tongs (Stubs')	each	2	6
Soft Solder	per piece	0	2
Soldering Lamps, tin, for oil		5	6

SUNDRIES—*continued.*

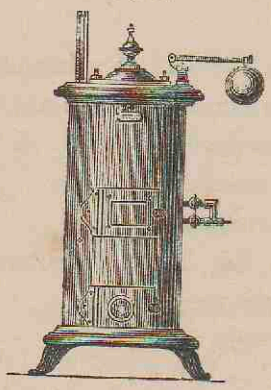
		s.	*d.*
Soldering Lamps, glass, for spirit	2*s.* 6*d.* and	3	0
Spanners, for vulcanizers. See Pages 176, 177.	each	0	9
Sponge, for lathe or laboratory use	per lb.	4	0
Sponge Holder, for water apparatus	each	1	3
Steel Figures, for numbering plates	per set	5	0
Steel Figures or Letters, for name, &c., to order	each	0	6
Stent's Impression Compound	per lb.	6	0
Stearine	„	1	4
Talc, for door of vulcanizer	per piece	0	6
Thermometers. See p. 181.			
Thermometer Tubes and Scales, for Ash's Portable Vulcanizer,	each	5	0
Thermometer „ „ for Lewis'	„ „	4	0
Thermometer „ „ Hayes' and Whitney's	„ „	2	6
Tin, Bar, Plate, and Grain. See Page 187.			
Tongs for crucibles	from 2*s.* to	3	0
Troughs for lathes	each	2	3
Vermilion	per oz.	0	6
Water Apparatus, for lathe. See Page 143	each	8	6
Water of Ayr Stones	per slip 2*d.* and	0	2½
Wax, for impressions, in cakes (pure Beeswax)	per lb.	3	0
Wedgwood Pestles and Mortars. See Page 110.			

C. ASH AND SONS' VULCANIZERS.

No. 1.



No. 3.



Dimensions: No. 1, 32 in. by 11½. No. 2, 26 in. by 8¼. No. 3, 22 in. by 7½.

	No. 1.	No. 2.	No. 3.
Vulcanizers, with Thermometers, for gas	110*s.*	90*s.*	70*s.*
Ditto ditto for charcoal or spirit. . .	110*s.*	90*s.*	70*s.*
Ditto, with double application, viz., gas and charcoal, or gas and spirit, extra			10*s.*
Vulcanizers, with Bunsen's Smokeless Gas Burner		„	15*s.*

These Vulcanizers are fitted with graduated safety valves and fusible metal plugs, and can be used either for steam generated from free water or wet plaster.

They are tested before sent out far beyond the pressure required for vulcanizing (viz., 300 pounds to the square inch), and are, therefore, perfectly safe so long as ordinary care is exercised; but no Vulcanizer, however strong, should be left in the charge of a *careless or incompetent person.*

The Graduated Safety Valve.—By means of this valve the pressure of steam actually employed at any time is easily ascertained, by merely sliding the weight upon the lever of the valve, until the steam begins to escape. No india-rubber washer being required to keep it steam-tight, it is exempt from the danger of becoming so firmly fixed as to render it useless as a means of safety.

THE FUSIBLE METAL PLUG.—This plug is so placed in the cover that if, from negligence or any other cause, the heat should rise to 350° Fahrenheit, the metal will melt and the steam blow off. These plugs can be renewed at any time by rivetting in a piece of the metal wire supplied with each Vulcanizer.

C. ASH and SONS now make their No. 1, or largest size Vulcanizer, of the same shape as Nos. 2 and 3, believing the castings of that form to be much stronger than those formerly made. No. 1 will hold 6 flasks, No. 2, 3 flasks, No. 3, 2 flasks.

DIRECTIONS FOR USE.

If wet plaster only is used for the generation of steam, the quantity contained in two flasks will be found sufficient; but if only one flask is put in, then a lump of wet plaster should be put with it into the Vulcanizer. When free water is preferred, half a pint for the No. 1, one-third of a pint for No. 2, and a quarter of a pint for No. 3, will be sufficient.

The surface of the large india-rubber washer should be thoroughly chalked before the cover is screwed down, in order to prevent adhesion.

The safety valve should be wiped each time with an oiled rag, as the least particle of dirt would allow the steam to escape, and so spoil the work. A very slight escape of steam is of no consequence so long as there is sufficient retained to keep up the required pressure. The tube in which the thermometer is placed must be half filled with mercury, so as to obtain a correct register of the heat.

TO SCREW DOWN THE COVER.—So place the flasks in the Vulcanizer that neither the cover nor the tube attached to it presses upon them; then screw down the nuts with the thumb and finger, and afterwards tighten them, first one and then the other, so as to prevent any unequal strain upon the screws.

TO BLOW OFF THE STEAM.—When the vulcanization is completed, the steam can be blown off by sliding back the weight on the lever of the valve. This should be done gradually, and the screws of the cover should not be loosened while any pressure of steam remains in the Vulcanizer, in order to prevent an unequal strain upon them from the enormous pressure of the steam within.

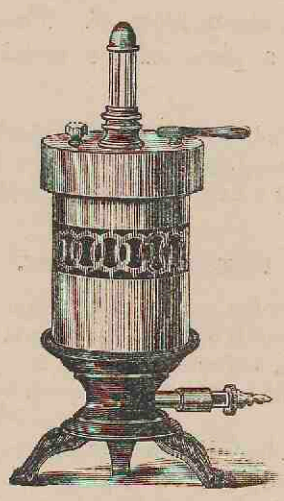
REMARKS ON STEAM PRESSURE.—Especial attention is called to the fact that whenever, from negligence, the temperature is allowed to rise above the degree required, the pressure of steam increases in a rapidly increasing ratio, as may be seen by the following Table, which shows proximately the pressure of ordinary steam at the several degrees of temperature:—

250°	Fahrenheit,	30	lbs.	pressure on the square inch.
275°	"	45	"	"
300°	"	67	"	"
325°	"	94	"	"
350°	"	130	"	"
375°	"	175	"	"
400°	"	240	"	"

The above shows that, while the increase of pressure for the first 25° is 15 lbs., the increase of the last 25° is 75 lbs.

As the chemical action of the sulphurous vapour upon the inner surface of Vulcanizers will in time reduce them in thickness, it is recommended that they should be examined and tested from time to time.

C. ASH AND SONS' SMALL VULCANIZERS.



Dimensions: height, 15 inches; diameter, 5¼ inches.

			s.	d.
Vulcanizer, complete, with 3 flasks and thermometer, for gas . .			115	0
Ditto	ditto	ditto „ spirit .		
Ditto	complete, with 2 flasks and thermometer, for gas . .		105	0
Ditto	ditto	ditto „ spirit .		

These Vulcanizers are manufactured to supply the continually-increasing demand for small Vulcanizers, whether for use in the work-room, or for dentists when travelling, and also for those who prefer to have them without the ordinary safety valve.

Hitherto C. Ash and Sons have met this demand by supplying those made by other manufacturers; but the recurrence of fearful explosions and serious accidents, arising from the use of insufficiently tested or badly constructed Vulcanizers, has determined them to manufacture, regardless of cost, small as well as large Vulcanizers, which can only be exploded by carrying the steam pressure far beyond that required for vulcanizing.

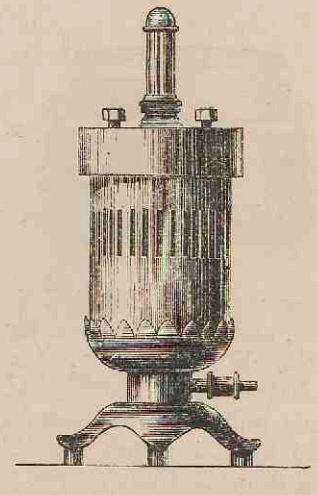
The vulcanizing chamber is made of *wrought* copper, nearly a quarter of an inch thick, and the *malleable* iron cover is held down by means of a strong *wrought* iron screw collar with set screws.

The thermometer registers 350° Fahrenheit, and the small fusible metal plug inserted in the cover will only blow out when that degree of heat is exceeded.

These Vulcanizers are tested, before leaving their factory, to a pressure of upwards of 600 lbs. to the square inch, or nearly *seven* times the degree of pressure usually required in the process of vulcanization. An iron ring with handle is sent with each Vulcanizer, to hold the boiler while screwing on the wrought iron screw collar. It is useful also for turning out the flasks when the vulcanizing is complete. The india-rubber packing requires renewing occasionally to keep the chamber steam-tight.

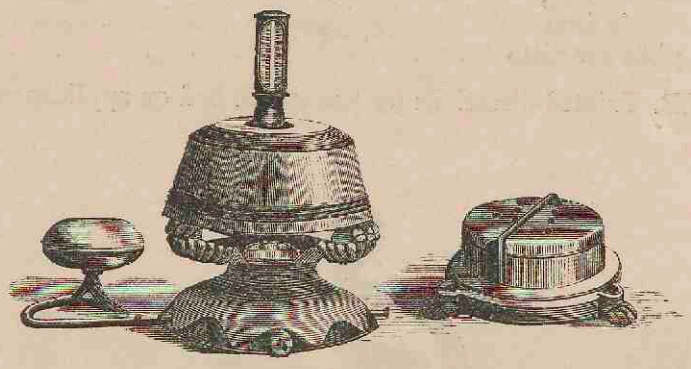
VULCANIZERS.

5.



		s.	d.
Vulcanizer (Lewis'), with cast gun metal chamber, 3 flasks and thermometer, complete, for gas or spirit	(Fig. 5)	70	0
Ditto for 2 flasks		67	0
Vulcanizer (Whitney's), copper chamber, with 3 flasks &c., complete, for spirit	(See Fig. 1, Page 180)	67	0
Ditto for 2 flasks	„ „	63	0

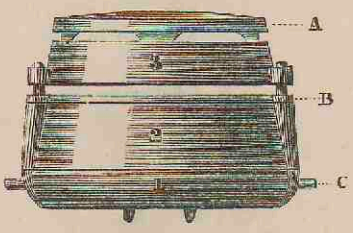
6.



					s.	d.
Vulcanizer (Hayes'), iron chamber, with 1 flask &c., for spirit				(Fig. 6)	52	0
Ditto	„	„	2 flasks	„ (Fig. 6)	57	0
Ditto	„	„	3 „	„ (Fig. 6)	63	0

FLASKS.

1.



This flask is made in three sections (Nos. 1, 2, 3), after a pattern designed by Messrs. Bell and Turner, and is constructed for the purpose of avoiding the evil complained of in the old kinds—viz., that of leaving a stratum of vulcanite between the two halves of the mould, and thus altering the articulation of the piece; and not only this, but causing often a derangement of the arch or position of the teeth, through the difficulty of getting the two halves of the mould to shut down in their proper position.

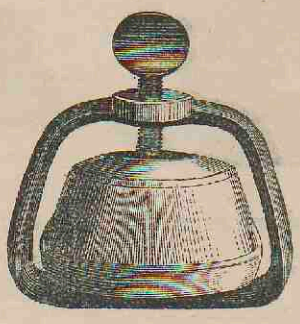
By the use of the intervening plate B, (the invention of Mr. Bennett) an exact fac-simile of the palate of the patient can be produced upon the external surface of the vulcanite piece. It is considered by some that this improves the general appearance of the artificial piece, and enables the wearer to articulate with greater distinctness.

PRICES.

			s.	d.
The new flask, in gun-metal, with wrought iron ring	. .	(Fig. 1)	9	6
" " "	.	smaller size	8	6
" in iron "	. . . . .		6	6
Gun-metal plate for ditto	. . . . .		1	0

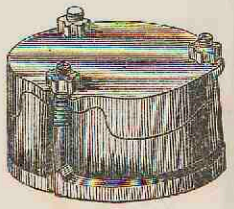
N.B. Printed directions for use can be had on application.

2.



FLASKS.

3.



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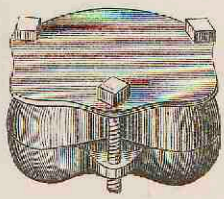
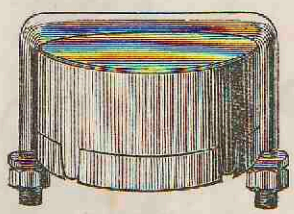


				s.	d.
Gun Metal	Flask, with wrought-iron ring	(Fig. 2)	each	8	0
Ditto	ditto „ „ small size .	(Fig. 2)	„	7	0
Iron	ditto „ „ large and small	(Fig. 2)	„	4	6
Ditto	ditto (Hayes')	(Fig. 3)	„	3	6
Ditto	ditto (Whitney's)	(Fig. 4)	„	3	6
Gun Metal	ditto „	(Fig. 4)	„	5	6
Iron	ditto (Lawson's)	(Fig. 5)	„	3	6
Gun Metal	ditto (Lewis')	(Fig. 6)	„	7	6
Ditto	ditto „ small	(Fig. 6)	„	5	6
Iron	ditto „ large and small	(Fig. 6)	5s. 0d. and	4	0
Gun Metal	ditto (Jordan's) „ „ . .		6s. 0d. „	5	0
Iron	ditto „ „ „		each	3	0

5.



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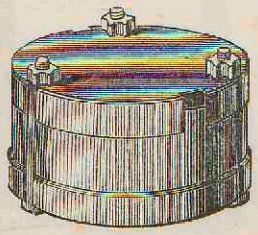
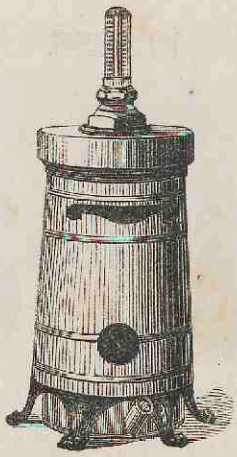
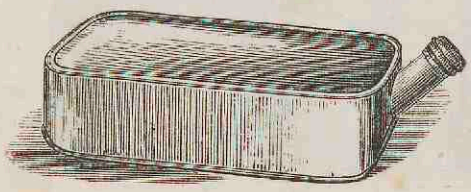


1.



		s.	d.
Vulcanizer (Whitney's) with 3 Flasks	(Fig. 1) each	67	0
Ditto „ „ 2 „	(Fig. 1) „	63	0
Gun Metal Valves for Ash's Vulcanizers	„	8	6
Ditto „ graduated for ditto	„	14	6
Ditto Plugs for Valves . . . No. 1, 1/6,—No. 2, 1/4,—No. 3		1	3
Hot Water Plate for softening Dental Rubber. . .	(Fig. 2) each	4	0
Washers for Valves . . per box, No. 1, 1/6,—No. 2, 1/3,—No. 3		1	0
Fusible Metal Plugs for Vulcanizers	per doz.	2	0
Ditto „ „ ditto (Hayes' and Whitney's)	per packet	2	0
India-rubber Collars and Packings for Vulcanizers. See p. 169.			
Spirit Lamps, tin, for heating small Vulcanizers	each	3	6
Ditto „ glass, for modelling, &c. . .	(Fig. 3) 2*s.* 6*d.* and	3	0

2.



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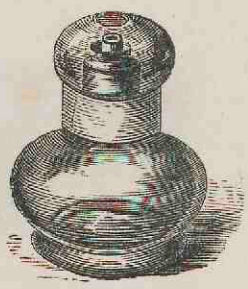

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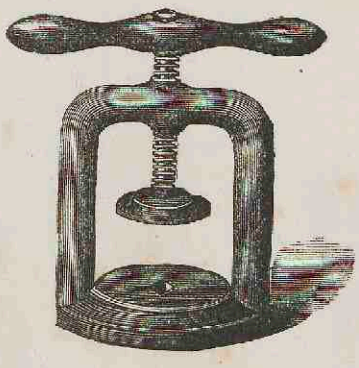
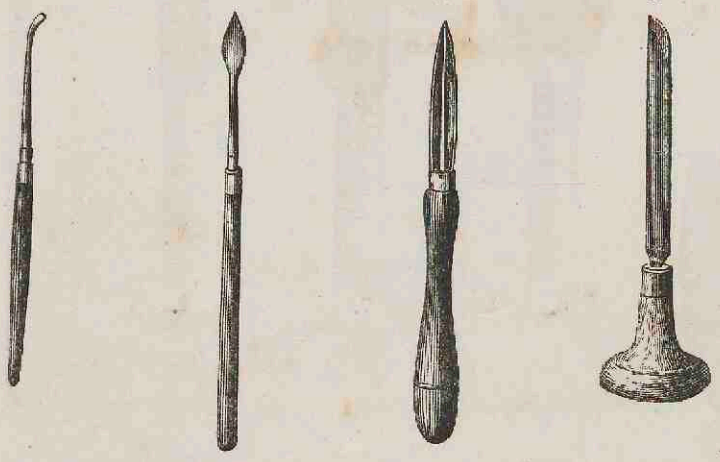


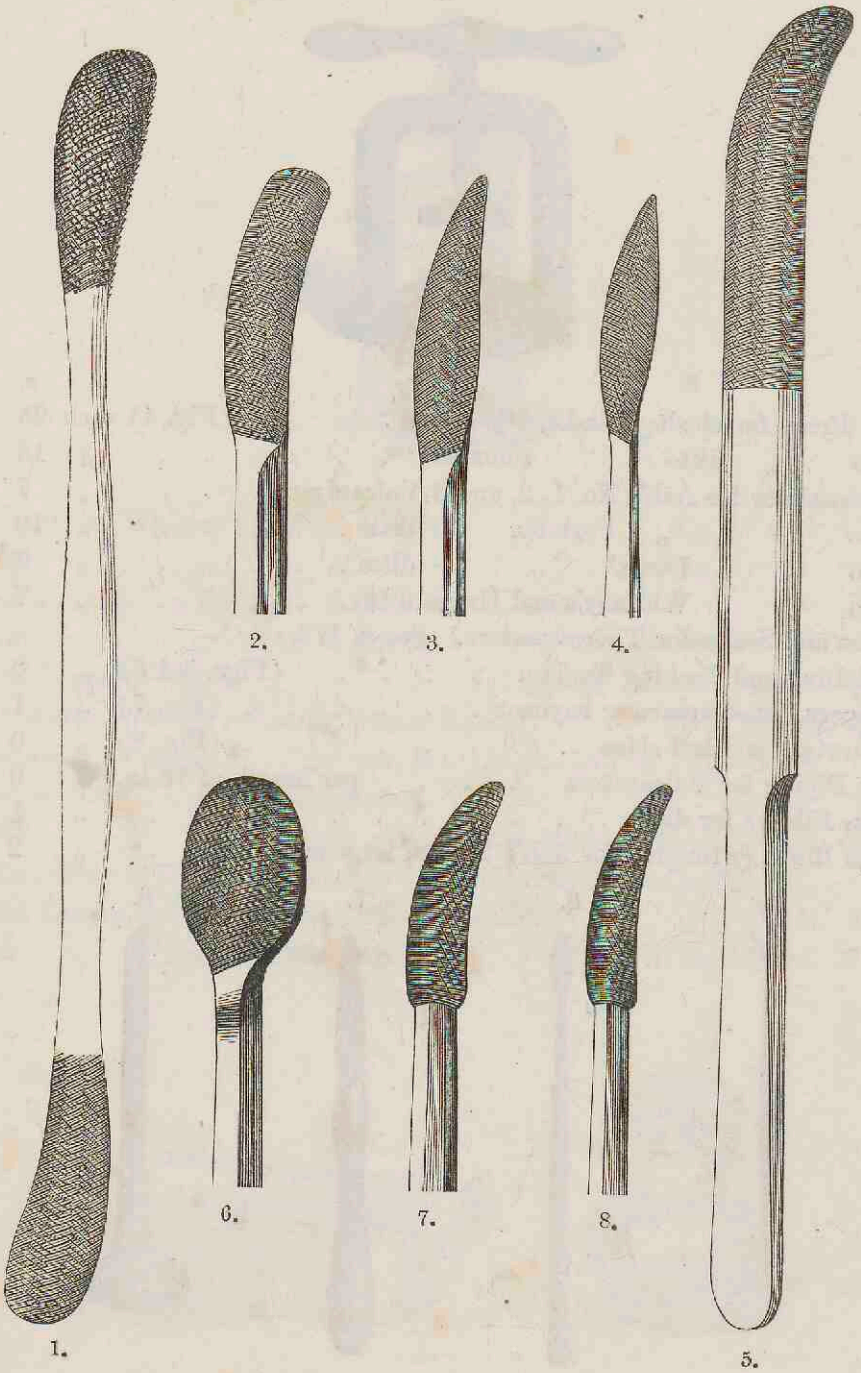
			s.	d.
Iron Press, for closing Flasks, best make	(Fig. 4)	each	25	0
Ditto ditto common		„	15	0
Thermometer for Ash's No. 1, 2, and 3 Vulcanizers . . .		„	7	6
Ditto „ „ Portable ditto		„	10	6
Ditto „ Lewis' ditto		„	7	6
Ditto „ Whitney's and Hayes' ditto		„	7	0
Tubes and Scales for Thermometers. See p. 172.				
Modelling and Packing Tools	(Figs. 5 & 6)	„	0	10
Scrapers, three-square or bayonet	(Fig. 7)	„	1	8
Ditto right and left sides	(Fig. 8)	„	0	7
Iron Piping for Vulcanizers . . . per length of 18 in.		„	0	9
Ditto Elbows for ditto		„	1	0
Ditto Rings (wrought) for Ash's Flasks, large and small . .		„	2	0

5. 6. 7. 8.



RIFFLERS.

(For Vulcanite Work, &c.)



FILES AND RIFFLERS FOR VULCANITE OR BONE.

RIFFLERS.

				s.	d.
Thin, oval, double end,	cut on both sides	. . .	(Fig. 1) each	0	7
Half-round „	ditto on one side	. . .	(Fig. 2) „	0	7
Ditto „	ditto „	. . .	(Fig. 3) „	0	7
Ditto „	ditto „	. . .	(Fig. 4) „	0	7
Ditto single end,	cut on one side	. . .	(Fig. 5) „	0	7
Flat double end,	ditto „	. . .	(Fig. 6) „	0	7
Round ditto	cut all over	. . .	(Fig. 7) „	0	7
Ditto ditto	ditto on one side	. . .	(Fig. 8) „	0	7
Rifflers, various other patterns	. . . . .		„	0	7
Riffler Rasps, various patterns	. . . . .		„	0	8

FILES.

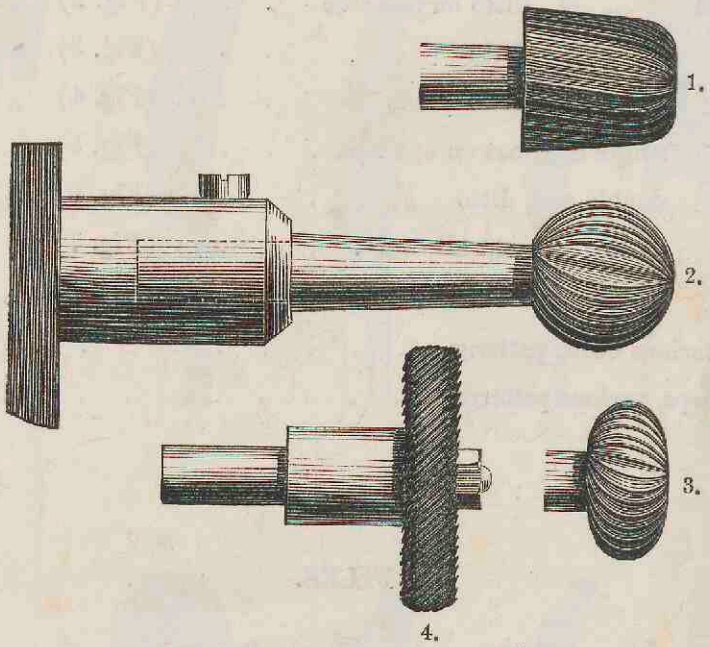
(Rough and Extra Rough.)

			s.	d.
Half-round Files, with Tangs	. . . . .	4 in. each	0	5½
Ditto ditto	. . . . .	4½ in. „	0	6½
Ditto ditto	. . . . .	5 in. „	0	7
Ditto ditto	. . . . .	6 in. „	0	9
With steel handles, one halfpenny each extra.				
Half-round Files, double-ends (rough)	. . . . .	8 in. „	1	0½
Thin Oval „ ditto „	. . . . .	8 in. „	1	1½

5 per cent. discount off the above when purchased by the dozen.

CUTTING BURS AND WHEELS.

(For Vulcanite Work, &c.)

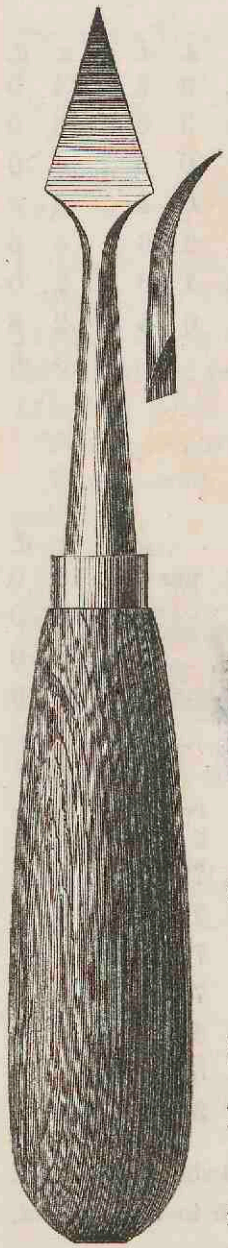


					s.	d.
Steel Burs	the exact size and form of		(Fig. 1)	each	3	9
„	„	„	(Fig. 2)	„	3	9
„	„	„	(Fig. 3)	„	3	9
Steel Wheels, 1¼ in. diameter	„	„	(Fig. 4)	„	4	0
„ 1½ in. ditto	„		(Fig. 4)	„	4	6
„ 2 in. ditto	„		(Fig. 4)	„	5	0

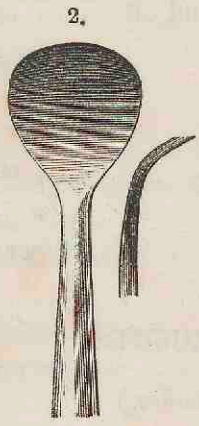
These Cutting Burs and Wheels are made of the best steel, and are finished in a superior manner. They are made to fit C. Ash and Sons' Lathe Head, Fig. 6, page 144, and are useful for cutting Vulcanite or Bone.

SCRAPERS.

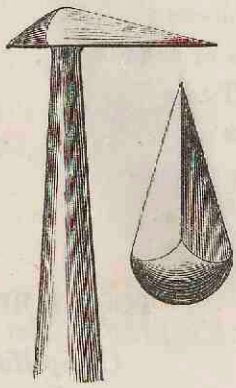
(For Vulcanite Work.)



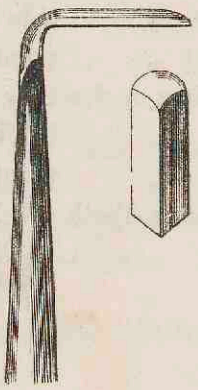
1.



2.



3.



4.

5.

			s.	d.
Steel Scrapers in Wood Handles	(Fig. 1)	each	0	10
„ „ „	(Fig. 2)	„	0	10
„ „ „	(Fig. 3)	„	0	10
„ „ „	(Fig. 4)	„	0	10
Steel Scrapers in Sculptor Handles (right)	(Fig. 5)	„	0	7
Ditto ditto (left)	(Fig. 5)	„	0	7

These Scrapers will be found very useful in preparing the surface of Vulcanite Work for polishing with pumice, &c.

SUNDRIES.

ANIMALS' TEETH.

		s.	d.		s.	d.
Hippopotamus or Sea-Horse Teeth	per lb.	3	6	to	14	0
„ blocks with enamel ground off . .	each	3	0	„	25	0
„ side blocks „	„	0	6	„	4	0
„ points or ends „	„	0	4	„	2	9
Walrus or Sea-Cow Tusks	per lb.	2	6	„	4	0
„ blocks	each	1	0	„	7	0
„ points or ends	„	0	6	„	2	6
Whale's Teeth	per lb.	..			3	6

TOOTH BRUSHES.

(Ivory Handles.)

		s.	d.
Tooth Brushes, Assorted patterns	per doz.	18	0
Ditto „ Plain, Vandyked, or Castellated . . .	„	18	0
Ditto „ Palate	„	18	0
Ditto „ Children's, various	„	14	0

(Bone Handles.)

	Per gross.		Per doz.	
	s.	d.	s.	d.
Tooth Brushes, Assorted Patterns (1st quality) . . .	72	0	6	6
Ditto „ Plain or Vandyked ditto	72	0	6	6
Ditto „ Castellated ditto	72	0	6	6
Ditto „ Palate ditto	72	0	6	6
Ditto „ Children's ditto	48	0	4	6
Ditto „ Same patterns as above (2nd quality) .	54	0	5	0
Ditto „ for Children ditto . . .	38	0	3	6

Tooth Brushes made to any pattern. Name and address stamped without extra charge. Steel Punches for name and address made to order at 6*d.* per letter.

TOOTH-POWDER BOXES.

(Varnished.)

		s.	d.
Projecting Tops, large size	per gross	23	0
Plain „ „	„	23	0
Projecting „ medium size	„	19	0
Plain „ „	„	19	0
Projecting „ small size	„	16	0
Plain „ „	„	16	0
Plates for Tooth-powder Boxes made and engraved to any design, and 150 Labels printed from them	12*s.* to	18	0
Printing Labels from Plates	extra per 100, 1*s.* to	2	0
Labels printed (without Plates)	per 100, 2*s.* to	4	6
Labelling Boxes	per gross	1	0

Tooth-powder Pots to order.

Tooth-powder prepared to any receipt, put in boxes, and labelled to order.

METALS.

		s.	d.
Fine Silver, in grain	per oz. (troy)	5	7
Ditto Copper	per lb. (troy)	3	0
Zinc, best quality	per cwt. 30*s.* per lb.	0	3½
Lead	„ 32*s.* „	0	4
Ditto thin, for patterns, &c.	„	0	6
Grain Tin	„	1	9
Bar Tin	„	1	6
Tin-foil for Vulcanite Work	„	3	6
Soft Metal for ditto	„	2	6

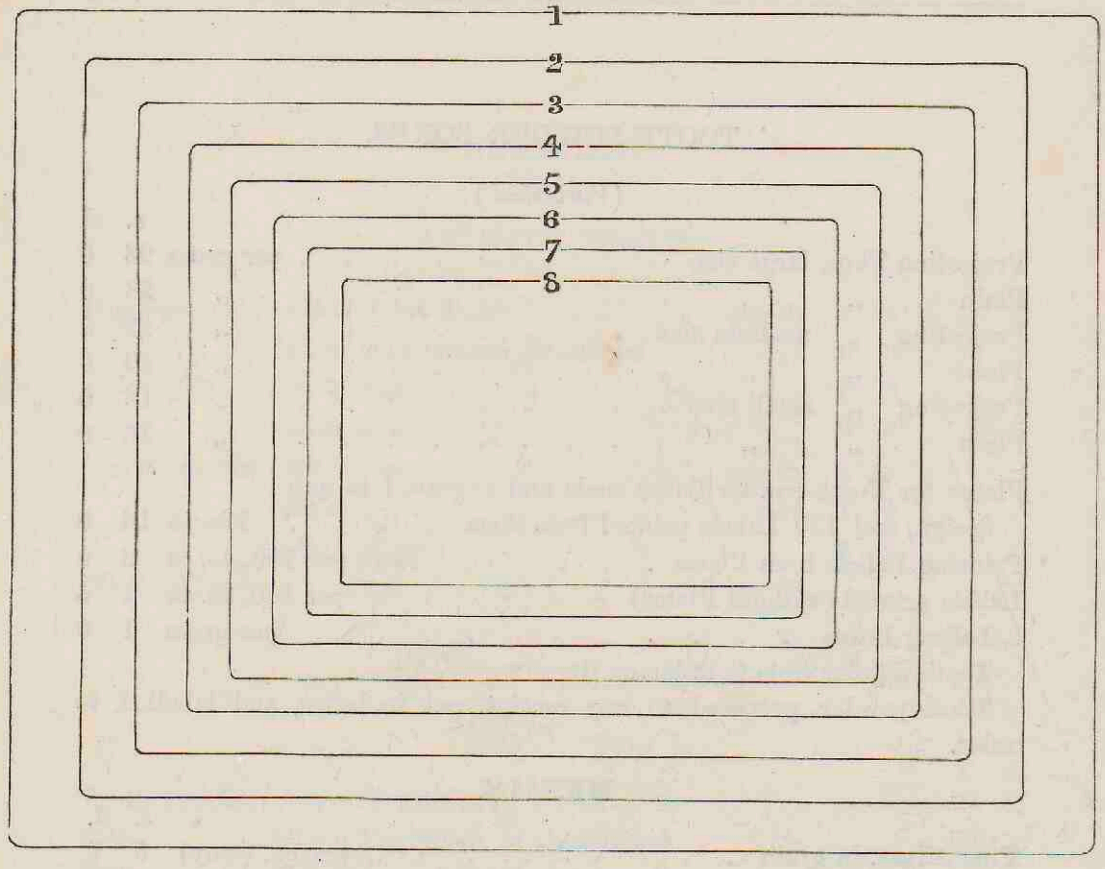
Aluminium.

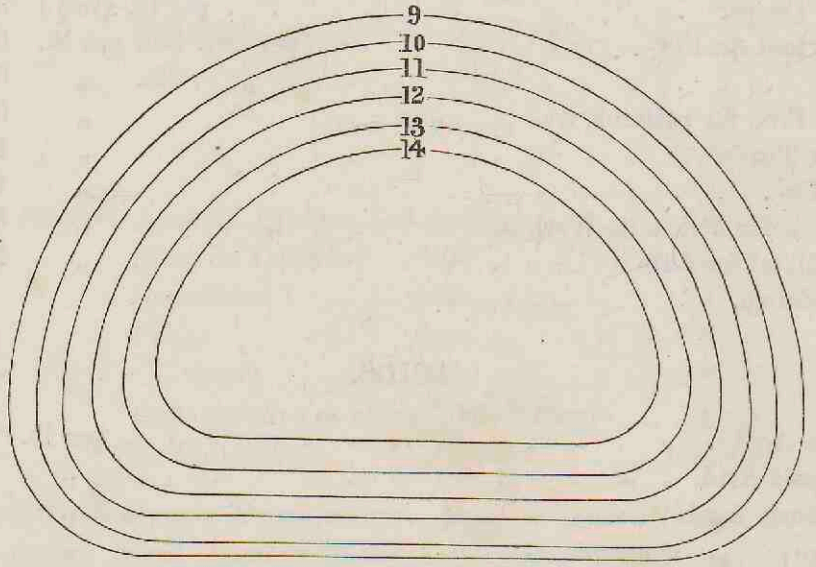
ACIDS.

		s.	d.
Nitric Acid	per lb.	1	0
Muriatic Acid	„	0	6
Sulphuric Acid	„	0	6
Ditto „ common	„	0	3

For other Chemicals, Drugs, &c, see Lists of Sundries, pages 136, 167.

SIZES OF CASES.





The above sizes represent the *outside* dimensions of each Case, so that, in ordering Leather Cases, it is necessary to allow $\frac{3}{16}$ of an inch all round for the thickness of the Case.

LEATHER CASES.

Square.

	Sizes	1	2	3	4	5	6	7	8
With Lock (1st quality)	each	5/0	4/6	3/6	3/3	3/0	.	.	.
„ Spring „	„	2/6	2/3	2/0	1/9	1/6	.	.	.
„ Hook „	„	2/2	2/0	1/9	1/2	1/0	11*d.*	10*d.*	10*d.*
With Spring (2nd quality)	each	2/3	1/10	1/8	1/6	1/3	.	.	.
„ Hook „	„	1/10	1/6	1/3	1/1	10*d.*	9*d.*	8*d.*	8*d.*

			s.	*d.*
Square Cases in Leather (or Walnut or Mahogany), with glass tray, lock and key		extra large . . .	14*s.* to 16	0
Ditto	ditto	Size No. 1	13	0
Ditto	ditto	„ No. 2	12	0

Half Oval.

	Sizes	9	10	11	12	13	14
With Lock (1st quality)	each	9/3	.	.	.	.	.
„ Spring „	„	1/6	1/5	1/4	.	.	.
„ Hook „	„	1/2	1/1	1/0	11*d.*	9*d.*	9*d.*
With spring (2nd quality) . . .	each	1/2	1/1	1/1	.	.	.
„ Hook „	„	1/0	11*d.*	10*d.*	9*d.*	8*d.*	8*d.*

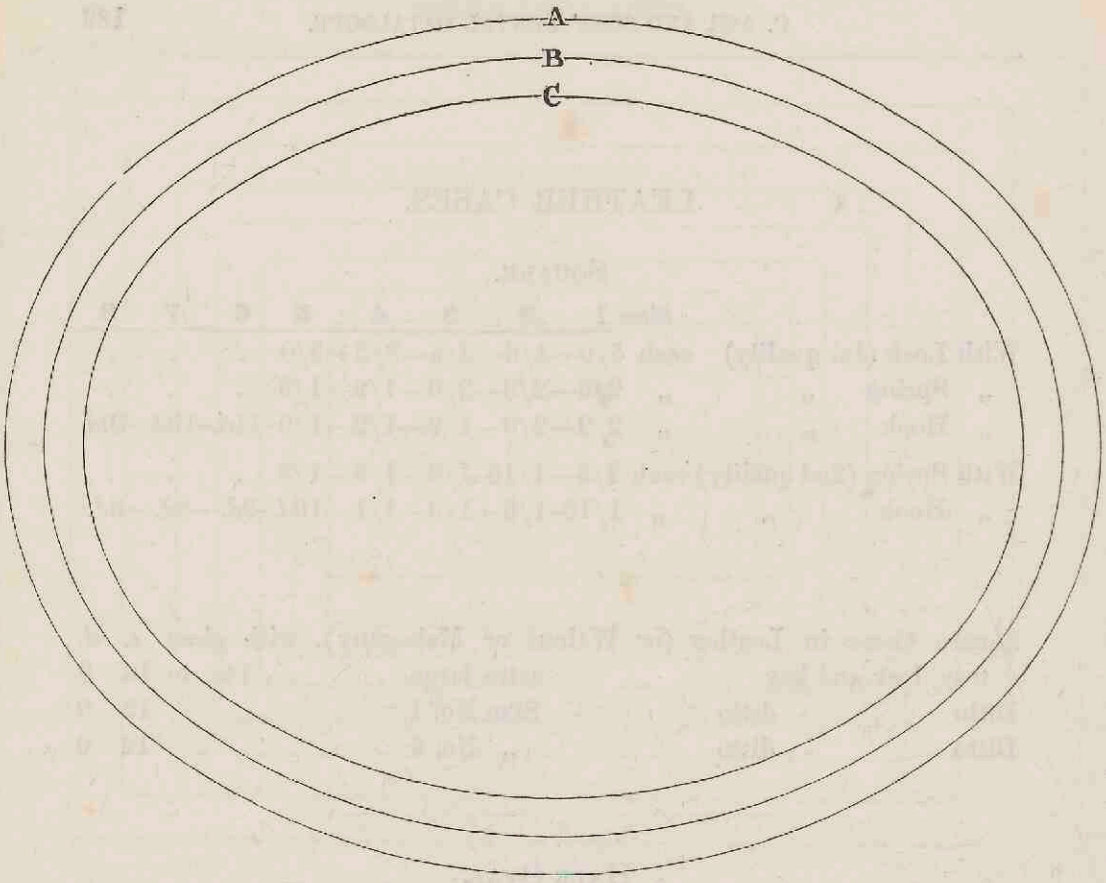
BRITANNIA METAL CASES.

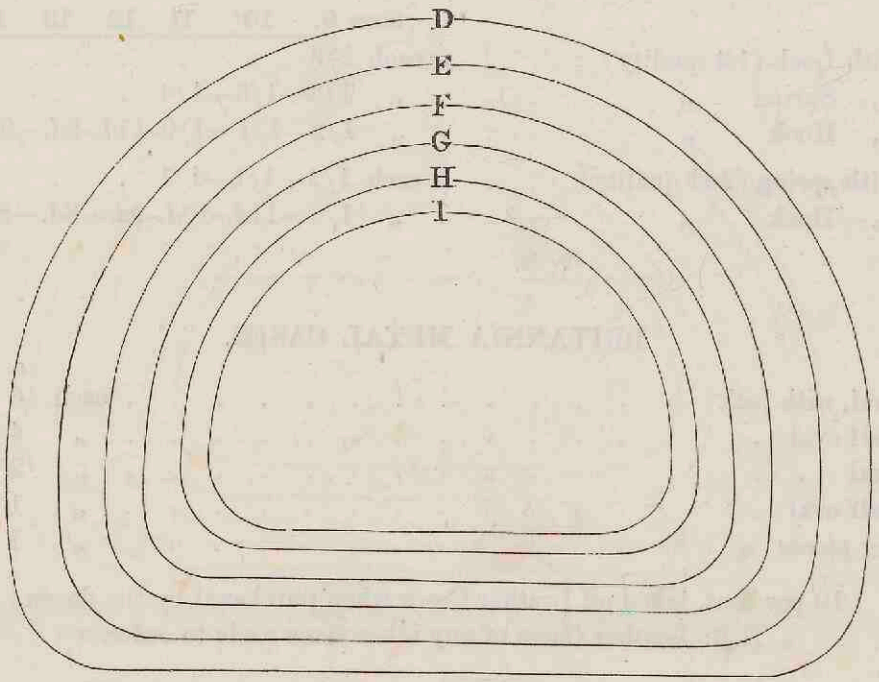
		s.	*d*
Oval, with lock	each	5	0
Half oval „	„	4	0
Oval	„	2	0
Half oval	„	1	8
For pieces	„	1	4

10 per cent. taken off Leather Cases when purchased by the dozen.

N.B. Leather Cases of any other sizes made to order.

SIZES OF CASES.





N.B. See Note to page 188, on thickness of Cases to be allowed for.

LEATHER CASES.

Oval.

	Sizes	A	B	C
With Lock (1st quality), and metal box inside . .	each	11/3	10/0	9/6
„ Spring „	„	2/6	2/3	2/0
„ Hooks „	„	1/10	1/9	1/6
With Spring (2nd quality)	„	1/10	1/9	1/7
„ Hooks „	„	1/4	1/3	1/1

Half Oval.

	Sizes	D	E	F	G	H	I
With Lock (1st quality), and metal box	each	9/6	.	.	.	.	.
„ Spring „	„	1/10	1/7	1/5	.	.	.
„ Hooks „	„	1/3	1/2	1/1	10*d.*	9*d.*	9*d.*
With Spring (2nd quality)	„	1/4	1/3	1/1	.	.	.
„ Hooks „	„	1/0	11*d.*	10*d.*	9*d.*	8*d.*	8*d.*

CARD AND WOOD BOXES.

	Sizes	1	2	4	7
Card Boxes (drab, with red edges)	each	5½*d.*	5*d.*	3*d.*	2*d.*
„ (white, with green edges) . . .	„	4*d.*	3*d.*	2*d.*	1½*d.*

		A	B	C	E	F
Card Boxes (drab, with red edges) . .	each	7*d.*	6½*d.*	6*d.*	4½*d.*	4*d.*
„ (white, with green edges) . „		6*d.*	5½*d.*	5*d.*	1*d.*	3½*d.*

Card Boxes (white, with green edges)	per nest of 3	9*d.*
„ „ „	Oval, for pieces . . .	each 2½*d.*
„ (drab, with red edges)	ditto	„ 3*d.*

				s.	d.
Wood Boxes (pegged), round corners, for sets			each	0	6
„ „ „ „	half sets . . .	„	0	4½
„ „ „ „	pieces . . .	„	0	4
„ (shouldered) square „	sets	„	0	4
„ „ „ „	half sets . . .	„	0	3
„ „ „ „	pieces . . .	„	0	2

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A Preparation showing half the right side of the face, *viz*., the Upper and Lower Jaws, and Orbit of the Eye, with all the ramifications of the Nerves. . . . . Price 55*s*.

Ditto ditto showing the Arteries and Blood vessels, &c. . Price 70*s*.

Each preparation is mounted on a Black Stand, and covered with a Glass hade.

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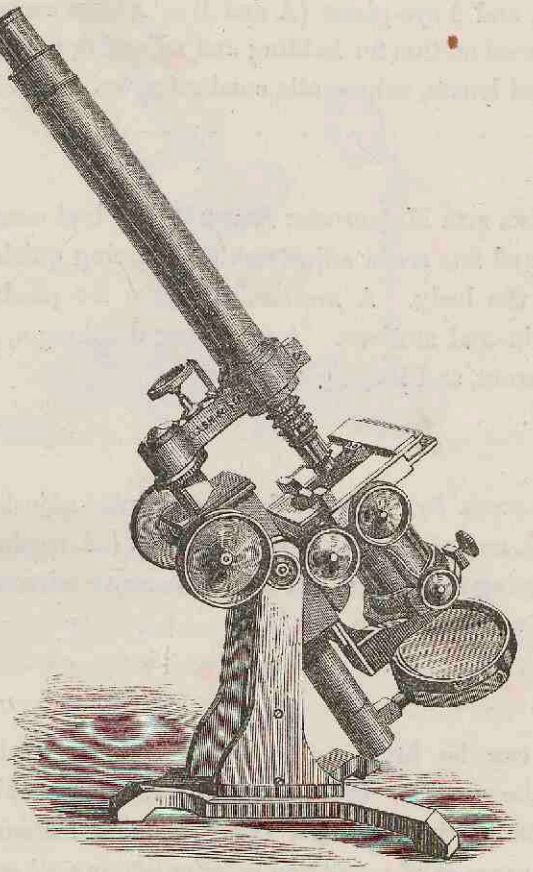
ACHROMATIC MICROSCOPES.

Fig. 1.



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C.—A Microscope Stand, with fine and coarse adjustments for giving quick and slow motion to the body. A mechanical stage with revolving diaphragm. Flat and concave mirrors, and 2 eye-pieces (A and B). Price	13	0	0

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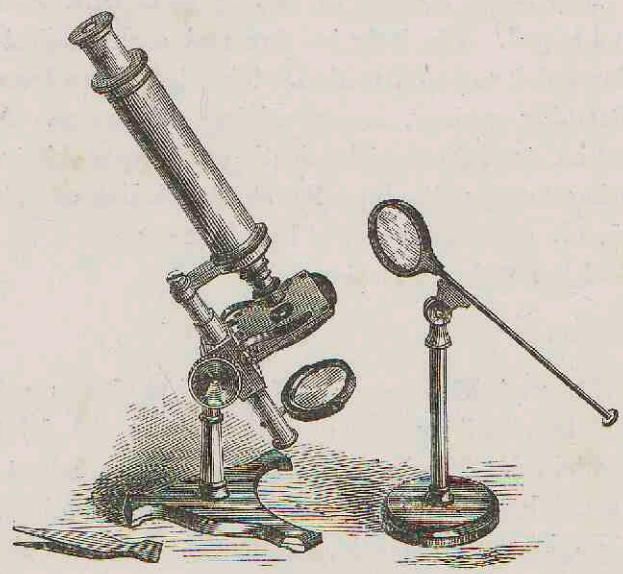
Spanish Mahogany Cabinet, with drawers for apparatus, for instrument . . . . . **A**	5	0	0
Ditto „ for instrument **B**	2	8	0
Ditto „ for instrument **C** without drawers . . .	1	18	0

ACHROMATIC MICROSCOPES—*continued.*

Fig. 2.



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ACHROMATIC OBJECT GLASSES FOR MICROSCOPES.

Object Glasses.	Angular Aperture.	Magnifying Power with the various Eye Glasses.				Price.		
		A.	B.	C.	D.	£	s.	d.
3 inch	12 degrees	17	26	35	45	2	10	0
2 „	15 „	20	30	40	60	2	15	0
1½ „	20 „	40	55	70	90	2	18	0
1 „	25 „	60	80	100	120	3	5	0
½ „	65 „	100	130	180	220	4	15	0
¼ „	95 „	220	350	500	620	5	0	0
⅙ „	135 „	320	510	700	910	6	10	0
⅛ „	150 „	400	670	900	1200	7	15	0
1/21 „	170 „	600	870	1200	2000	10	0	0

Each object glass is packed in a brass box for security.

APPARATUS FOR COMPOUND MICROSCOPES.

		s.	d.
Side Reflector, for illuminating opaque objects	each	24	0
Lieberkühns—Two-inch, packed in brass box	„	19	0
One-inch-and half „ „	„	16	6
One-inch „ „	„	14	6
Half-inch „ „	„	10	0
Quarter-inch „ „	„	9	0
Micrometer Eye-piece	„	22	0
Erecting Eye-piece, for dissecting with the compound microscope	„	16	0
A., B., Eye-pieces	„	15	0
C., D., „	„	18	0
Camera Lucida (Wollaston), plain, for taking drawings of objects	„	18	0
„ best, with double frame	„	30	0
Plate for fixing fish, frogs, &c., for exhibiting the circulation of the blood	„	12	0
Stage Micrometers for measuring the diameter of various objects, 100ths and 1000ths of an inch	„	6	6

		s.	d.
Large Condensing Lens on stand	each	20	0
" " " with ball and socket joint	"	28	0
Polarizing Apparatus	"	20	0
" "	"	25	0
" " best, with extra large prisms, packed in box	"	42	0
Darker's Revolving Selenite Stage, with set of three revolving selenites in brass box	"	42	0
Plain Selenite Stage with one tint	"	7	0
Animalculæ Cages, with best screwed caps	6s., 9s., and	12	0
Set of three Animalculæ Tubes, in morocco case	"	1	6
Set of six ditto, in best case	"	5	0
Stage Forceps	"	8	6
Glass Troughs, for holding polyps, &c.	4s. 6d. to	8	0
Glass Stage Plates	"	0	8
Gillett's Achromatic Condenser on a new combination of principles, for the illumination of transparent objects	"	120	0
Plain Achromatic Condenser, with adjusting tubes	"	37	0
Paraboloid in setting, for dark-ground illumination	"	30	0
Rainey's Light Modifier	"	6	6
Side Condensing Lens with double joints	"	14	0
Lister's Dark Wells and fittings	"	12	6
Best Lever Compressorium	"	30	0
" "	"	15	0
" for high powers	"	7	6
Spotted Lens, for black-ground illumination	8s. and	12	0
Curved Phial Forceps, per pair	3s. and	4	6
Brooke's double Nose-piece, for changing either of two object glasses	"	30	0
Wood-cutting Machine	"	15	0
Instrument for making cells of gold size and other fluids	"	6	6
Small Brass Table and Lamp for heating objects in mounting	"	9	0
Microscope Lamp for gas	"	12	0
Flexible Tubing "	per foot	0	8

CABINETS, &c., FOR OBJECTS.

		s.	d.
Mahogany Cabinet to hold 500 objects	each	80	0
" " 280 "	"	60	0
Case to hold 12 dozen objects	"	13	0
Ditto 6 "	"	7	6
Ditto 3 "	"	3	6

MICROSCOPIC OBJECTS.

		s.	d.
A set of (12) slides, illustrating the growth and structure of human bone	the set 21s. to	25	0

		s.	d.
Injected preparations, and other animal tissues . . .	each slide	2	6
Transverse and vertical sections of recent and fossil bones of mammals, reptiles, birds, and fish	„	1	6
Transverse and vertical sections of recent and fossil teeth	„	1	6
Teeth—Human, transverse and vertical section . . .	1*s.* 6*d.* to	2	6
Sections of teeth cut to order.			
Blood Disks, Pigment Cells, Skin, &c.	each slide	1	6
Blood Disks—Syren and Lepidosyren.	„	2	6
Sections of Lime-stones, Oolites, Flints, Agates, &c.. .	„	1	6
Spicules and Gemmules of Sponges and Gorgonias . .	„	1	6
Shells, sections of various species	„	1	6
Echinus Spines, sections in great variety	„	1	6
Entomological Preparations :—			
Antennæ, Eyes, Feet, Hairs, Scales, Skins, Spiracles, Stings, Stomachs, Tongues, Tracheæ, Wings, Acari, and Parasites	„	1	6
Vegetable Preparations :—			
Sections of Woods, Petals, Siliceous Cuticles, Spiral and other Vessels, Ducts, Spores, Pollens, Hairs, &c.	„	1	6
Fossil :—Sections of various exogenous and endogenous Woods	each section	1	6
Sections of Coal (many varieties)	„	1	6
Diatomaceæ—Recent and Fossil, in great variety . .	each slide	1	6
Test Objects	„	1	6
„ for $\frac{1}{8}$th and $\frac{1}{12}$th object glasses	„	2	6
Polariscope Objects, selected from vegetable, animal, and mineral substances	„	1	6
Set of Selenites (3).	„	6	0

MATERIALS USED IN MOUNTING OBJECTS.

		s.	d.
Canada Balsam, Asphalt, Gold Size, Glycerine, &c. . .	per bottle	1	0
Thin Glass, in squares	per ounce	4	0
„ in circles	„	6	0
Plate Glass Slips—polished edges, 3 in. by 1 in.. . .	per gross	9	0
Best Flatted Crown ditto	„	7	6
Cells, ready for use.	per dozen	6	0

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