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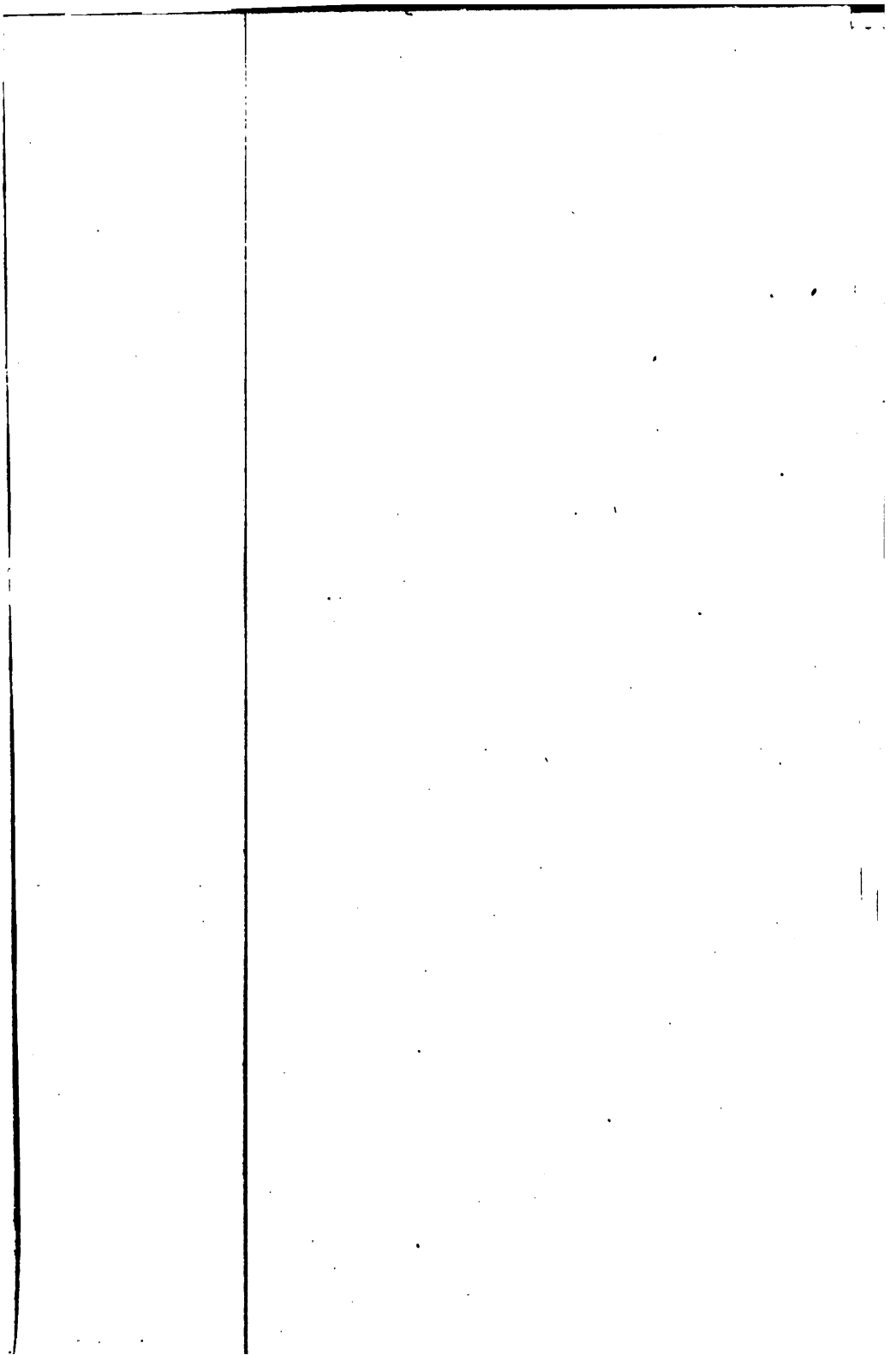
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A CATALOGUE

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.

1875.

SECOND EDITION, 1880.

Dental  
RK  
686  
A82  
1880  
cip. 2

C. ASH & SONS,

CENTRAL DEPÔT,

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

LONDON.

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BRANCHES :

*England.*

LIVERPOOL ... .. 83, Mount Pleasant.

MANCHESTER ... .. 82, Grosvenor Street.

*France.*

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

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Authenticity  
Gift  
8-5-66  
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PRIZE MEDAL  
AWARDED TO C. ASH AND SONS,



NOTICE.

*ON and AFTER the 1st of JANUARY, 1880, all Precious Metals supplied from our Establishments will be weighed according to the Decimal System of Troy Weight, in compliance with the "Weights and Measures Act, 1878."*

*A Table, showing Equivalents between the Old and New Systems, will be found at page 4 of the 1879 Appendix.*

*For a complete List of Goods introduced since 1875, see the Appendix at the end of this Catalogue.*

C. ASH & SONS.

December, 1879.



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 and an enlarged Edition of their Illustrated Catalogue, have endeavoured to make it as complete a Book of Reference as possible, in order that Dentists in all parts of the world may be able to obtain with the greatest ease and certainty whatever they require. To effect this many Wood Engravings have been added to those found in their Catalogue published in 1871, and the Appendix which was published in 1873. Great care has been taken in all the Illustrations to represent the form, &c., of every article as accurately as possible, and this is particularly the case with respect to Dental Instruments; for the different kinds used, and the great variety of forms required, are illustrated with such exactness that Dentists will be able to select new kinds, or replace any which they have in use, as easily as if the Stock of Instruments were actually before them for selection.

The great and 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 still continue to 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 that their home and foreign depôts may be repositories of the improvements of the age. It is their intention rigidly to adhere to those principles upon which for more than sixty years their business has been conducted. They therefore look forward with confidence to an increasing share of those favours which it has been their happiness to enjoy so long.

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**REMARKS ON ORDERING GOODS, &c.**

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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, and if any particular conveyance or route be preferred the same should be named. When no forwarding instructions are given the Goods will be sent the best way, according to judgment and experience.

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, English or American, obtained from other houses to order.

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

Postage is only charged upon heavy articles of small value.

Precious metals exceeding fifteen 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. All orders should state whether the packing cases should be lined with zinc 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 dispatched 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 9.0 A.M. to 6.0 P.M. On Saturdays until 2.0 P.M.

---

\* In order that these Registers may always be as correct as possible, C. ASH and SONS will be obliged by Dentists immediately informing them when they have engaged an Assistant, stating the name, so that it may be taken off their books. Assistants, when engaged, should inform them in like manner.

**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 generally so free from porosity (or air-bubbles) in their texture, that they can 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 5 rows of teeth, 5 teeth in each row, riveted on slips of brass attached to a split ring, price 10s. 6d., representing 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* 1, 2, 3, 4, or 5, 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. (See p. 15.)

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

### C. ASH & SONS' TUBE TEETH.

Upper Teeth	...	Incisors and Canines	...	...	In sets of 6 Teeth.
Lower	„	„	„	...	„ 6 „
Upper sets with	...	Bicuspid 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.
Bicuspid or Molars	„	„	...	...	„
Ditto	ditto	„	„	...	In sets of 8 Teeth.

Price 60s. per Hundred, or 8d. 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.
Bicuspid or Molars	„	„	...	...	„
Sectional Pieces	„	„	...	...	Of 2, 3, and 4 Teeth.

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

Upper sets in one piece,	For Specimens	...	...	...	Of 14 Teeth.
Lower	„	to match ditto	...	...	„ 14 „

Price per Set of 14 Teeth, 20s.

### TEETH FOR WOOD PIVOTS.

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

### TEETH FOR VULCANITE.

Upper Teeth	...	Incisors and Canines	...	...	In sets of 6 Teeth.
Lower	„	„	„	...	„ 6 „
Upper sets with	...	Bicuspid and Molars	...	...	„ 14 „
Lower	„	„	„	...	„ 14 „
Upper and Lower sets Complete	...	...	...	...	„ 28 „
Incisors or Canines, Upper and Lower	...	...	...	...	In Pairs.
Bicuspid and Molars	„	„	...	...	„
Ditto ditto	„	„	...	...	In sets of 8 Teeth.

Price 40s. per Hundred, or 5d. 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.
Bicuspid and Molars	„	„	...	...	„

(In Sections.)

Upper or Lower Teeth	...	...	In blocks 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 60s. per Hundred, or 8d. per Tooth.



## FLAT TEETH.

Upper Teeth	...	Incisors and Canines	...	...	In sets of 6 Teeth.
Lower	„	„	„	...	„ 6 „
Upper sets with	...	Bicuspid and Molars	...	...	„ 14 „
Lower	„	„	„	...	„ 14 „
Upper and Lower Sets Complete	...	...	...	...	„ 28 „
Incisors or Canines, Upper and Lower	...	...	...	...	In Pairs.
Bicuspid or Molars	„	„	...	...	„
Ditto ditto	„	„	...	...	In sets of 8.

Price 40s. 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.
Bicuspid or Molars	„	„	...	...	„

Price 60s. 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.

A very extensive assortment of odd Teeth of all kinds is kept in Stock, and every facility is afforded for selecting them to suit special cases.

						<i>s.</i>	<i>d.</i>
Cases (Japanned) for Assortment of Teeth, to hold 5000, with lock and key...	...	...	...	...	...	28	0
Ditto ditto	„	„	„	3000	„	25	0
Ditto ditto	„	„	„	2000	„	21	0
Ditto covered with Leather	„	„	„	500	„	9	0
Ditto ditto	„	„	„	300	„	6	9
Ditto covered with Cloth	„	„	„	300	„	3	6
Wax in sheets for holding or arranging Teeth on	...	...	per lb.			5	0

American Teeth (S. S. White's and Justi's) kept in stock.

## 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.

				<i>s.</i>	<i>d.</i>	<i>s.</i>	<i>d.</i>
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

## NEUTRALISED GOLD FOIL,

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

						<i>s.</i>	<i>d.</i>
No. 5. Thin	...	...	...	...	per oz.	120	0
No. 8. Medium	...	...	...	...	„	120	0
No. 12. Thick	..	...	...	...	„	120	0

## ADHESIVE GOLD FOIL.

						<i>s.</i>	<i>d.</i>
No. 4. Thin	...	...	...	...	per oz.	130	0
No. 5. ...	...	...	...	...	„	130	0
No. 6. ...	...	...	...	...	„	130	0
No. 8. Thick	...	...	...	...	„	130	0

## NON-ADHESIVE GOLD FOIL.

						<i>s.</i>	<i>d.</i>
No. 4. Thin	...	...	...	...	per oz.	130	0
No. 5. ...	...	...	...	...	„	130	0
No. 6. ...	...	...	...	...	„	130	0
No. 8. Thick	...	...	...	...	„	130	0

GOLD FOILS—*continued.*

HEAVY GOLD FOIL.

(ADHESIVE AND NON-ADHESIVE.)

							<i>s.</i>	<i>d.</i>
20 Grains per sheet	...	...	...	...	...	per oz.	115	0
25   "   "	...	...	...	...	...	"   "	115	0
50   "   "	and upwards	...	...	...	...	"   "	115	0

AMERICAN GOLD FOIL.

ADHESIVE.

(ABBEY AND SONS'.)

							<i>s.</i>	<i>d.</i>
No. 4 Thin	...	...	...	...	...	per oz.	140	0
No. 5	...	...	...	...	...	"   "	140	0
No. 6	...	...	...	...	...	"   "	140	0
No. 8 Thick	...	...	...	...	...	"   "	140	0

NON-ADHESIVE.

(ABBEY AND SONS'.)

							<i>s.</i>	<i>d.</i>
No. 4 Thin	...	...	...	...	...	per oz.	140	0
No. 5	...	...	...	...	...	"   "	140	0
No. 6	...	...	...	...	...	"   "	140	0
No. 8 Thick	...	...	...	...	...	"   "	140	0
Crystal Sponge Gold (Watt's), $\frac{1}{2}$ oz.	17s. 6d.	...	...	...	...	"   "	135	0
Morgan's Plastic Gold	$\frac{1}{2}$ " 18s. 6d.	...	...	...	...	"   "	148	0
Williams' Gold Cylinders	$\frac{1}{2}$ " 17s. 6d.	...	...	...	...	"   "	140	0

Messrs. S. S. White's, Johnston's, and the Eureka Foils are also kept in stock.

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, &c., indicate the number of grains in each sheet.

TIN FOIL.

						<i>s.</i>	<i>d.</i>
C. Ash and Sons' Thick, Medium, and Thin	...	...	...	...	per book	2	0
Abbey and Sons'	...	...	...	...	"   "	2	6
White's	...	...	...	...	"   "	2	2
Ditto (Extra Tough), 4, 6, 8, 10, 14, 18, 20	...	...	...	...	"   "	3	3

## GOLD PELLETS.



GOLD prepared in the form of Pellets or Cylinders is considered by many to be a great improvement upon Gold Foil for stopping teeth, for the Gold being already in a compacted form, the valuable time of the operator is saved, and the necessary soiling and hardening of the Gold is avoided consequent upon the twisting, rolling or folding, &c., of the foil, in order to prepare it for the cavity. Gold, in either of these forms has also this advantage over Foil, namely, that there is but little if any waste in using it.

The Pellets are placed in the cavity one after the other by means of a sharp pointed instrument or a pair of tweezers, thus avoiding any contact with the fingers. They can be made more adhesive, if required, by annealing them over a spirit lamp *immediately* before placing them in the cavity.

## GOLD CYLINDERS.



THE Cylinders are made of soft Foil and of two degrees of density, **A** being *open* or loosely rolled, and **B** *compact* or closely rolled. Both kinds can be made adhesive when required by annealing them over a spirit lamp *immediately* before placing them in the cavity.

Cylinders **A** being loosely rolled can be used with or without annealing, either as pellets or for "Cylinder Filling proper," viz., by placing each Cylinder against the side of the cavity, so that the several layers of the foil run at right angles with the bottom of the cavity. If annealed just before using, then they are made sufficiently adhesive for filling from the bottom of the cavity upwards, when each succeeding layer is required to adhere absolutely to the one which preceded it.

Cylinders **B** contain about twice the quantity of gold that there is in Cylinder **A**, consequently the cavities are filled up much more rapidly. The smallest sizes may be used with or without annealing, according as they are required to be used, adhesively, or non-adhesively.

These **Pellets** and **Cylinders** are made in four sizes, Nos. 1, 2, 3, 4 (No. 4 being the largest). Each size is supplied separately in boxes containing  $\frac{1}{8}$  oz. The sizes most in demand are Nos. 2 and 3.

					s.	s.	d.
Pellets or Cylinders ...	...	...	...	per oz.,	140	$\frac{1}{8}$ oz.	17 6
Sample boxes of $\frac{1}{8}$ oz. containing all the four sizes	...	...	...	..	..	..	17 6

## GOLD PLATE AND WIRE.

						<i>s.</i>	<i>d.</i>
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, 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				
16 " " Perforated for strengthening Vulcanite pieces	"	73	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.

						<i>s.</i>	<i>d.</i>
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 Nos. 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 AND WASHERS.

	<i>s.</i>	<i>d.</i>	<i>s.</i>	<i>d.</i>
Gold Swivels, with nuts (16 carat) ...	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 Swivels, plain, Second Quality (13 carat)				
Large and small Stems    ...    "	1	10½	"	7 6
"    Loops or Eyes, do.    ...    ...    "	1	1	"	4 4
"    Pins    do.    ...    ...    "	0	9½	"	3 2
"    Washers, round or square    ...    ...    "			"	0 8
Gold-headed Swivels with D. Alloy Stems				
"    Loops or Eyes    ...    ...    "	1	6	"	6 0
"    Pins    ...    ...    ...    "	0	11	"	3 8
"    Pins    ...    ...    ...    "	0	7	"	2 4
Gold-headed Swivels with Silver Stems				
"    Loops or Eyes    "    "    "	1	4½	"	5 6
"    Pins    ...    ...    ...    "	0	10	"	3 4
"    Pins    ...    ...    ...    "	0	6½	"	2 2
Platinum Swivels				
"    "    with short large stem    "	1	9	"	7 0
"    "    with short small    "    "	1	3	"	5 0
"    "    with short small    "    "	1	2	"	4 8
Dental Alloy Swivels				
"    "    "    with short large stems    "	1	0	"	4 0
"    "    "    with short large stems    "	0	9	"	3 0
"    "    "    with short small do.    "	0	8	"	2 8
"    "    "    with screw pins...    "	0	8¼	"	2 10
"    "    "    with shields    ...    "	0	11	"	3 8
Dental Alloy Washers				
...    ...    ...    ...    "			"	0 4
Silver Swivels				
...    ...    ...    ...    "	0	7	"	2 4
Silver Washers				
...    ...    ...    ...    "			"	0 3

**C. ASH and SONS** continue to allow the full intrinsic value for **Old Gold, Silver, Platina, &c.**, either in large or small quantities. They should be advised of all lots as soon as they are sent off.

SPRINGS.

Gold Springs (16 carat) ...	size No. 7, weakest	}	per oz.	s. d.	80 0
" " " ...	" No. 8				
" " " ...	" No. 9				
" " " ...	" No. 10				
" " " ...	" No. 11				
" " " ...	" No. 12, strongest				
" " " ...	" No. 13, extra strong	}	per oz.	70 0	
" " " ...	" No. 14, " "				
Gold Springs (13 carat)*	size No. 6½, weakest				
" " " ...	" No. 7½				
" " " ...	" No. 8½				
" " " ...	" No. 9½				
" " " ...	" No. 10½, strongest				

\* The 13 carat are made in 2 sizes, viz., Large and small Mandrels.

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 sheet, and wire in coil ...	... ..	per oz.	34 0
" " " " " over 10 ozs. ...	" ..	"	32 0
" Wire in lengths, over 1 oz. ...	... ..	"	37 0
" " " less than 1 oz. ...	... ..	"	37 0
" Plate, cut to pattern ...	... ..	"	37 0
" Gauze ...	... ..	"	39 0
" Perforated, for strengthening vulcanite pieces ...	... ..	"	37 0

N.B.—The price of Platinum fluctuates.

PALLADIUM.

Palladium Plate in large pieces ...	... ..	per oz.	26 0
" " cut to pattern ...	... ..	"	28 0
" Wire in coil, over 1 oz. ...	... ..	"	27 0
" " " less than 1 oz. ...	... ..	"	28 0
" " in 6-inch lengths ...	... ..	"	28 0
" Precipitate, for stopping teeth, see page 24.			

## DENTAL ALLOY.

	1st quality.		2nd quality.	
	s.	d.	s.	d.
Plate cut to patterns ... .. per oz.	20	0	18	0
„ in sheet ... .. „	18	6	16	6
Wire in coil, over 1 oz. ... .. „	18	6	16	6
„ in lengths ... .. „	20	0	18	0
Plate, or Wire in coil, over 10 ozs. ... .. „	17	9	15	9

## SILVER.

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

## C. ASH AND SONS'

## METALLIC PASTE STOPPING.

## (FIRST QUALITY.)

This Metallic Stopping is a compound of Gold and other 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, &c.

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, either by the hand or with the Dental Engine.

	s.	d.
Metallic Fillings, per ounce, in Bottles or Envelopes ... ..	22	0
„ „ „ $\frac{1}{2}$ „ „ „ ... ..	11	0
„ „ „ $\frac{1}{4}$ „ „ „ ... ..	5	6
Distilled and chemically purified Mercury,* per lb. ... ..	10	0
„ „ „ 3 oz. in glass bottle ... ..	2	3
„ „ „ 1 oz. in wood bottle... ..	1	2

Mercury Bottles in Ivory, Wood, &c., see page 167.

Full directions are sent with C. ASH and SONS' Metallic Stoppings.

See page 23, "N.B."



FIRST QUALITY—*Continued.*

This Stopping having been used by Dentists in England and abroad for more than twenty years, has now a long reputation 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 to be 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. The varying price of Mercury is governed by the fluctuations in the market.

## C. ASH AND SONS'

## METALLIC STOPPING.

(SECOND QUALITY.)

This Metallic Stopping has been in use for nearly twenty years, and the sale increases every year, so that it has become an established stopping. It is composed of unobjectionable metals, and requires but a small quantity of Mercury to make it into a paste; it soon sets in the tooth, and will take a high polish, and does not change colour or decompose in the mouth.

						<i>s.</i>	<i>d.</i>
1 oz. of Filings in Envelope	...	...	...	...	...	9	6
2 oz. Packet of Filings and Mercury	...	...	...	...	...	10	6
12 oz. " " "	...	...	...	...	...	60	0

The Envelopes contain one ounce of Filings; the Two-ounce packet contains one ounce of Filings and one ounce of Mercury, in bottles; and the Twelve-ounce packet, six ounces of Filings and six ounces of Mercury, in bottles.

AMALGAM, CEMENT, and GUTTA PERCHA STOPPINGS—*see next page.*

## AMALGAM STOPPINGS.

	s.	d.
ARRINGTON's New Amalgam ... .. $\frac{1}{2}$ oz. 8/0, per oz.	16	0
DAVIS's Gold Amalgam ... .. $\frac{1}{2}$ oz. 12/6, per oz.	25	0
FLETCHER's Platinum Amalgam (Fine or Medium cut), $\frac{1}{2}$ oz. 10/0, per oz. ... ..	20	0
FLETCHER's Expanding Amalgam (Extra Plastic), $\frac{1}{2}$ oz. 10/6, per oz. ... ..	21	0
LAWRENCE's Amalgam ... .. $\frac{1}{2}$ oz. 6/0 per oz.	12	0
OEHLECKER's Copper Amalgam (used chiefly for absorbing Mercury from Metallic Paste Stoppings) ... per packet	3	6
Palladium Precipitate, in $\frac{1}{4}$ oz., $\frac{1}{2}$ oz., and 1 oz. bottles ... per oz.	147	0
SULLIVAN's Cement ... .. $\frac{1}{2}$ oz. packet 2/6, per oz.	4	6
TOWNSEND's Improved Amalgam ... .. $\frac{1}{2}$ oz. 6/0, per oz.	12	0

## CEMENT STOPPINGS.

FLETCHER's White Enamel... .. per packet	8	6
FLETCHER's Dentine for Nerve Capping ... .. "	6	0
FRANZELIUS' Neue Cement Plombe, light, medium, and dark .. "	7	6
GUILLOIS' Cement, 3 Colours in one box, with Drop Bottle .. "	9	6
GUILLOIS' Cement, light, medium, and dark colours .. "	8	0
GUTENSOHN's Osteoplastic Cement ... .. "	3	0
OEHLECKER's Plombe, light, medium, and dark in packets 4/0 and	7	6
ROBERT's Os-Artificiel (Improved), light, medium, and dark .. "	4	6
ROSTANG's Cement obtained to order.		
ROWNEY's Odontine ... .. in packets 6/6 and	8	6
ROWNEY's Zincic Oxide (dense) for temporary stopping ... ..	2	6
Colouring Matter for altering the shades of Fletcher's and Rowney's Stopping ... .. per packet	1	0

## GUTTA PERCHA STOPPINGS.

HILL's Gutta Percha ... .. $\frac{1}{2}$ oz. 8/0; per oz.	16	0
JACOB's .. Improved, light and dark, per dwt. 2/0 .. "	40	0
OEHLECKER's .. .. per packet	5	0
Liquid extra, for above Cement Stoppings, see Liquids, page 201.		
Pestles and Mortars, Diss Makers, Slabs, &c., for Mixing Stoppings, page 166.		

**Note.—For other Stoppings see Appendix.**

C. ASH AND SONS'  
DENTAL RUBBERS.

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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 for their purity, strength, and solidity.

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 to produce a delicate tint throughout the piece by making it entirely of either of the Pink Rubbers. 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 any of the Pink Rubbers; 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, and the Vela Dental Rubber is used for the artificial velum or cleft palate cases.

The Ordinary Rubbers are much approved of for their strength and fine texture.

The Whalebone and (W.) Rubbers are prepared with much care, in order to obtain the greatest amount of strength and elasticity; they are also extremely plastic, and consequently are easily packed in the moulds.

The Orange, Red, and Brown Rubbers were made to meet the requirements of those who wished for cheap Rubbers, and will be found to be quite equal if not superior to any others made and sold at the same price.

C. ASH and SONS' Dental Rubbers are supplied in  $\frac{1}{2}$ -lb. and  $\frac{1}{4}$ -lb. packets: 2-oz. samples can be had on application, or be sent by post, if required. Full directions are enclosed in each packet.

C. ASH AND SONS'  
DENTAL RUBBERS.

	Colour.	Degrees Fahrenheit.	Time.		Price per lb.	
			H.	M.	s.	d.
*Improved Pink (shade 1), colour of the gums		310	1	15	30	0
*Pink, N.V. No. 1 (without vermilion) ...		310	1	15	25	0
Ditto No. 1 x ... .. deep pink		310	1	15	21	0
Ditto No. 1 ... .. pale do.		310	1	15	21	0
Ditto Nos. 1 x and 1, extra thin, ... ..		310	1	15	24	0
Ditto No. 2 ... .. light do.		310	1	15	16	0
S.P. ... .. deep do.		315	1	45	16	0
White, for side Blocks, &c. white ...		315	1	15	16	0
Childs' G. ... .. bright red		315	2	0	16	0
A.E. Elastic ... .. dark brown		310	1	15	16	0
Soft 1 x for tender Gums deep pink		310	1	15	21	0
Ditto Ordinary ,, ... dark red		310	1	15	12	0
Vela for Artificial Palates dark brown		270	6	0	21	0
Ordinary ... .. dark red		315	2	0	12	0
Ditto ... .. dark brown		315	2	0	10	0
Whalebone, No. 1, very strong, light brown		320	0	50	16	0
Ditto No. 2 do. dark brown		320	0	50	14	0
W. Elastic ... .. do. do.		310	1	15	16	0
Orange ... .. orange ...		315	1	15	9	0
Red ... .. red ...		315	1	15	9	0
Brown ... .. brown ...		315	1	15	9	0
Black ... .. black ...		315	2	0	9	0

American and other Rubbers obtained to order.

Ten per cent. discount allowed off the above, if purchased in quantities  
of not less than 10 lbs.

\* For particulars of these new Rubbers see page 28.

**Note.—For other Rubbers see Appendix.**

C. ASH AND SONS'  
IMPROVED PINK DENTAL RUBBER.

(GUM COLOUR.)

C. ASH and SONS have great pleasure in informing the Dental Profession that, after long and expensive experiments, they have succeeded in producing a Dental Rubber, which resembles so closely the natural colour of the human gums, that it is scarcely to be distinguished from them.

This Rubber is quite equal in strength to any of C. ASH and SONS' Pink Rubbers; and, being lighter, more pieces can be made from the same weight; it requires the same temperature and time to vulcanize (viz., 310° for 75 minutes).

When placed in spirits of wine, and exposed to the sun in the usual way, the pink colour soon begins to be developed, but the *exact tint* required depends upon the length of time the piece is exposed to the sun; if the day is clear and sunny the colour can often be brought up in one hour, but if the weather is dull a longer time is required. The pieces should be taken out of the spirits as soon as the exact tint is obtained, as the colour becomes too much of a rose tint to be natural, if exposed longer than necessary on a clear sunny day.

Price 30s. per pound.

C. ASH AND SONS'



DENTAL RUBBER.

No. 1.

(WITHOUT VERMILION.)

As some have objected to the use of Vermilion as a colouring matter in Dental Rubber, C. ASH and SONS take this opportunity of stating that, in the course of their numerous experiments, they have found it possible to produce Dental Rubbers somewhat approximating the natural colour of the gums, without the use of Vermilion. It is quite equal in strength to their No. 1 x Pink Rubber—it requires the same temperature and time to vulcanize (viz., 310° for 75 minutes), and when exposed to the sun in the usual manner it approximates very closely to the colour of the human gum.

Price 25s. per pound.

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## ON VULCANIZING.

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C. ASH and SONS take this opportunity of urging upon Dentists the necessity of accurately observing the directions for Vulcanizing sent with each kind of Rubber. The great object to be obtained in Vulcanizing is not to see in how short a time the wonderful chemical changes which take place in the process of Vulcanization can be effected, but to conduct the operation in such a manner that the greatest amount of strength and elasticity can be obtained.

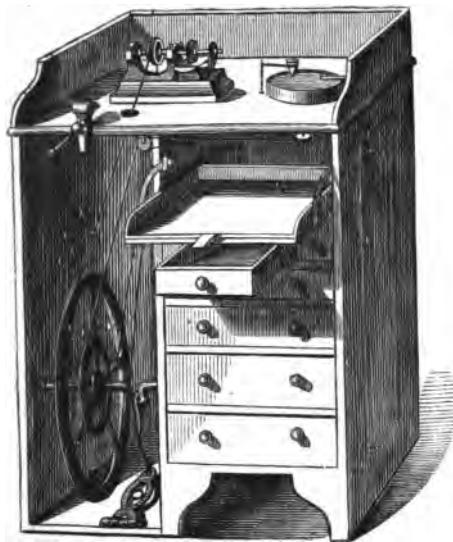
With respect to C. ASH and SONS' Pink Rubbers when used as a Coating to Rubbers which require a different degree of temperature and length of time to vulcanize them than that which they recommend for their Pink Rubbers, such variation in temperature and time does not injure them; but as many Dentists prefer to make the entire piece of Pink Rubber, instead of using it merely as a Coating, it is then most important that the directions for Vulcanising the Pink Rubbers should be strictly observed, because any deviation therefrom does not add to, but rather takes from their strength, which when used as a coating is of no importance, as the strength is dependent upon the Rubber used for the body, and *not* upon that which is used as a Coating.

Great care is necessary to see that Vulcanizers are always steam-tight; that Thermometers register correctly; that the heat is not got up too rapidly for the first half-hour, and that when up it is never allowed to exceed the degree recommended. The non-observance of these particulars is the cause of porosity and brittleness.

For Vulcanizers and Vulcanizing Apparatus see pp. 240 to 254.

## DENTAL CABINETS.

1.



	<i>s.</i>	<i>d.</i>
DENTAL CABINET, in Mahogany, 42 in. high, 32 in. wide, and 20 in. deep, for Operating Room, with Lathe, Circular Sharpening Stone, Horizontal Vice, Work-Bench and Drawers ... .. (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.

2.



DENTAL CABINET, in Walnut Wood, 46 in. high, 33 in. wide, and 17 in. deep, consisting of a nest of 12 drawers for Instruments, lined with cloth,  $13\frac{1}{2}$  in. long,  $14\frac{1}{2}$  in. wide,  $1\frac{1}{4}$  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,  $15\frac{1}{2}$  in. long, 15 in. wide, and  $3\frac{3}{4}$  in. deep outside; and on the other side the space is fitted up with shelves enclosed with a door ... .. (Fig. 2) 300s.

## DENTAL CABINET.

3.



DENTAL CABINET, in Walnut Wood, 53 in. high, 27 in. wide, and 15 in. deep, consisting 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 cloth, 10 in. long by  $12\frac{1}{2}$  in. wide and  $2\frac{1}{2}$  in. deep, outside measure, enclosed with folding doors. The lower part fitted with shelves and folding doors, and a long drawer  $2\frac{1}{2}$  in. deep.... .. (Fig. 3) 260s.

## MORRISON'S PATENT DENTAL CHAIR.

4.



*This Engraving represents the Chair in an upright position, with the Back raised to its highest point, and the Seat almost at its lowest. For other position see next page.*

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).

4.



*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.

In Walnut, covered with Green Velvet, with Bronzed Handles	£	s.	d.
and Nails ... .. (Fig. 4)	35	0	0
With extra Cog-wheels to raise Patient in Chair more easily, extra	2	0	0
With Metal parts Nickel-plated... .. extra	2	2	0
With Movable Footboard, which is raised or lowered by means of Cog-wheels ... .. extra	2	10	0
Holland Covers for chairs ... .. each	0	5	6

These chairs are made in two sizes—the seat measuring 20 in. in the largest size, and 18 in. in the smallest (the widest is generally preferred). They can be made in Mahogany and covered with velvet of any other colour for about the same price.

N.B.—C. ASH and SONS have greatly improved the action of these chairs by turning the large ball and socket perfectly true, which gives motion to the body of the chair and fixes it at any required angle.

THE S. S. WHITE  
IMPROVED PEDAL LEVER CHAIR.

5A.



VALUABLE improvements have been made in this chair, particularly in the Back and Head-Rest. It may be used with equal facility by either a right or left handed operator, being so constructed that all its principal movements may be made from either side.

Full description sent on application.

	<i>s.</i>	<i>d.</i>
In best quality Green, Crimson, or Maroon Plush ... ..	700	0
In Green or Crimson Plain Turkey, Morocco, or Leather ...	700	0
Boxing ... .. extra	20	0

## DENTAL CHAIR (MR. OWEN'S) IMPROVED.

6.



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.

		<i>s.</i>	<i>d.</i>
In Walnut Wood, covered with Green Velvet...	... (Fig. 6)	460	0
In Mahogany, covered with Velvet or Morocco	... (Fig. 6)	470	0
Holland Covers for ditto	... each	5	6

7.



<b>DENTAL CHAIR</b> (Mr. Owen's), with seat to rise or fall, and movable head-rest, same as Fig. 6, in Walnut Wood, covered with Green Velvet ... .. (Fig. 7)	s. d.
	336 0
Ditto in Mahogany, covered with Velvet or Morocco (Fig. 7)	345 0
Holland Covers for ditto ... .. each	5 6

8.



<b>DENTAL CHAIR</b> , 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 ... .. (Fig. 8)	s. d.
	231 0
Ditto ditto with fixed cushion head-rest ... ..	180 0
Holland Covers for ditto ... .. each	5 6



9.



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 ... .. (Fig. 9)	s. d. 215 0
*HOSPITAL CHAIRS as supplied to the London Dental Hospital ...	170 0
Holland Covers for Chairs ... .. each	5 6
DENTAL CHAIR (Wilkerson's) Pedal Lever, crimson or green plush	700 0
Boxing ... ..	30 0
DENTAL CHAIR (S. S. White's), Swinging, green plush ... ..	430 0
Boxing ... ..	20 0

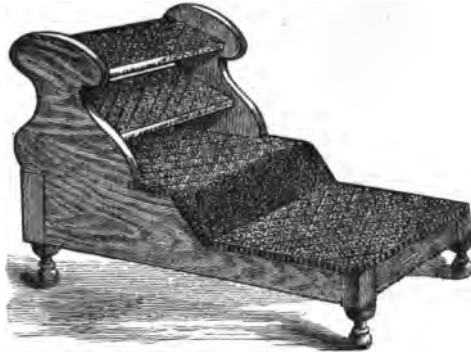
Other American Chairs, Morrison's Iron, Harris's, Archer's &c., obtained to order.

\* The above price is to Hospitals and Charitable Institutions only.

NOTE—Illustration and full description of Wilkerson's, S. S. White's Swinging, and the Hospital Chairs, sent on application.

## FOOTSTOOLS.

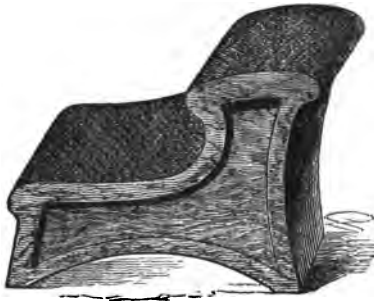
10.



Footstool in Walnut, 30 in. long by 18 in. wide, with four steps	s.	d.
carpeted. Highest step 19 in. high, lowest step 7 in. high.		
(Fig. 10) ... .. from	45	0
Ditto ditto ditto with carved sides ... .. „	55	0

Footboards for Morrison's Chairs, see page 35.

11.



Footstool in Walnut, 18 in. long by 15½ in. wide, with two steps	s.	d.
covered with carpet. Highest step 15 in. high, lowest step		
7 in. high ... .. (Fig. 11)	37	0
Ditto ditto uncovered ... ..	32	0
Ditto ditto with plain sides ... ..	30	0
Ditto ditto with carved ditto ... ..	45	0

FOOTSTOOLS—*continued.*

12.



Footstool in Walnut, 20 in. long by 16½ in. wide, with two steps						s.	d.
covered with carpet, which can be raised or lowered, and							
fixed at different elevations by means of a spring ratchet.							
Highest step 12 in., which can be raised to 15 in.; lowest step							
5 in., which can be raised to 7 in. ... .. (Fig. 12)						42	0
Ditto	ditto	not covered.	...	...	...	34	0
Ditto	ditto	without ratchet action	...	...	...	30	0

SPITTOONS.

13.



SPITTOON, on Pillar and Carved Stand, in Walnut, with Marble Top, Glass Basin, and Zinc Receiver, with Walnut Cover, to form a Table, 28½ in. high, top 20 in. long by 15½ in. wide (Fig. 13) 180s.

15.



SCAGLIOLA PEDESTAL SPITTOON, with Marble Top and Plinth, Glass	<i>s.</i>	<i>d.</i>
Basin, and Zinc Receiver; Large size; height 28 in. (Fig. 15)	110	0
Ditto ditto " Medium " "	(Fig. 15) 100	0
Ditto ditto " Small " "	(Fig. 15) 90	0

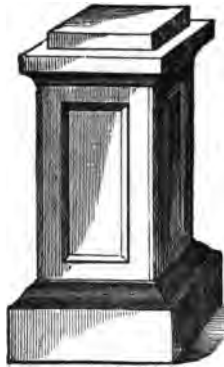
The above are kept in stock in a variety of colours, and are highly recommended, as they can be easily cleaned.

16.



SPITTOON, in Walnut, with Blue Glass Basin and Zinc Receiver,	<i>s.</i>	<i>d.</i>
height, 31½ in., top part 15 in. square ... ..	(Fig. 16) 75	0
Ditto ditto ditto in Stained Wood ... ..	(Fig. 16) 45	0

17.



Closed.

	<i>s.</i>	<i>d.</i>
SPITTOON; in Walnut, 33 in. high, widest part 14 in. square, with		
Blue Glass Basin and Zinc Receiver ... .. (Fig. 17)	86	0
Ditto in Mahogany ... .. (Fig. 17)	82	0
Ditto in Stained Deal, varnished, not panelled ... ..	from 35	0
Spittoon Basins for Spittoons, Figs. 13 to 17, in Blue Glass, from 4/6 to 7/6 ea.		

17.



Open.

SPITTOON BASINS, Britannia Metal... ..	from 9/6	each
Ditto ditto Nickel-plated ... ..	18/0	,

NOTE.—When ordering Glass Basins extra, please state the extreme diameter, including the rim. The Metal Basins are 8 in., 8½ in., and 9 in. diameter.

**HAND SPITTOONS.**

18.



SPITTOONS coloured to imitate Jet, Malachite, &c., in four sizes, No. 4 being the smallest	No. 1.	No. 2.	No. 3.	No. 4.
	<i>s. d.</i>	<i>s. d.</i>	<i>s. d.</i>	<i>s. d.</i>
Jet or Malachite, with handles ... (Fig. 18)	12 0	10 0	9 0	7 6
Ditto ditto without handle ... (Fig. 18)	10 0	8 6	7 6	6 6
Majolica " " ... (Fig. 18)	7 6	6 6	5 6	4 6
Ditto with 1 handle... ... (Fig. 18)	8 6	7 6	6 6	5 6
Jet or Malachite... ... (Fig. 20)	10 0	8 6	7 6	6 6

19.



20.



21.



	<i>s. d.</i>	<i>s. d.</i>
HOT WATER JUGS, Jet or Malachite, with metal lid	6 9	without lid 5 0
Ditto " Majolica "	5 6	" 4 0
Ditto " Metal, Electro-plated, from	28 0	to 35 0
WATER BOTTLES with PLATES, Jet or Malachite, to match above ...		7 6
Ditto " Majolica "		... 6 0

The heights of the above vary from about 8 to 12 inches.

**HAND SPITTOONS.**

(NEW SHAPES, &c.)

	<i>s.</i>	<i>d.</i>
Jet with Gold Scroll Ornamentations, 2 handles, medium size, each	12	0
Jet or Malachite, with Gold Line „ „ „ „	9	0
Dull Black with Painted Human Figures „ „ „	15	0
White „ Gold Line Ornamentation „ „ „	9	0
Blue or Lilac „ „ „ „ „ „	12	0

**HOT WATER JUGS.**

(To Match Above.)

	With Metal Lids.		With Earthenware Lids.		With Plated Lids.	
	<i>s.</i>	<i>d.</i>	<i>s.</i>	<i>d.</i>	<i>s.</i>	<i>d.</i>
Jet with Gold Scroll, &c. ... (Fig. 19)	4	9	4	0	6	9
Jet or Malachite, Gold Line, &c. (Fig. 19)	4	6	3	0	6	0
Dull Black, with Painted, &c. ... (Fig. 19)	4	9	4	6	6	6
White „ Gold Line, &c. (Fig. 19)	4	6	3	0	6	0
Blue or Lilac „ „ (Fig. 19)	4	9	4	0	6	6

The above Jugs with earthenware lids have the "Patent Lids," which are loose, but do not fall off when the Jugs are turned downward for pouring out the water.

**WATER BOTTLES, AND PLATES.**

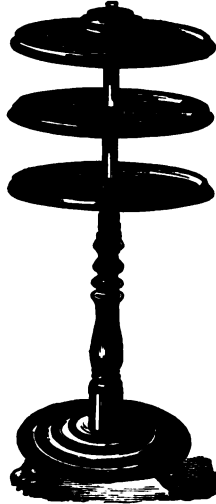
(To Match Above.)

	<i>s.</i>	<i>d.</i>
Jet, with Gold Scroll, &c.... ... (Fig. 21) each	7	6
Jet, Malachite, or White ... (Fig. 21) „	6	6
Dull Black, with Painted, &c. ... (Fig. 21) „	10	6
White, with Gold Line, &c. ... (Fig. 21) „	6	6
Blue or Lilac „ ... (Fig. 21) „	7	6

Heights of above—Spittoons, 10 in. ; Jugs, 7 in. ; and Bottles, 12 in.

DENTAL TABLES.

22.



WALNUT TABLE (Mr. Owen's), with 3 Trays to hold Instruments, &c., full height 53 in., lowest 45 in., Trays 14½ in. in diameter, with Box and pad on top tray for Gold stoppings. By pressing a spring the top will let down and fasten with lock and key

s. d.

			(Fig. 22)	70	0
Ditto	ditto	with 2 Trays, lock and key	(Fig. 22)	60	0
Ditto	ditto	with 2 fixed Trays ...	(Fig. 22)	45	0

BRACKET TABLE.

23



A WALNUT TABLE, diameter 14 in., covered with green cloth, revolving in a Bronzed Iron Extending-Rod and Bracket, which has a lateral motion. Full length, 43 in.; shortest length, 29 in. ... .. (Fig. 23)

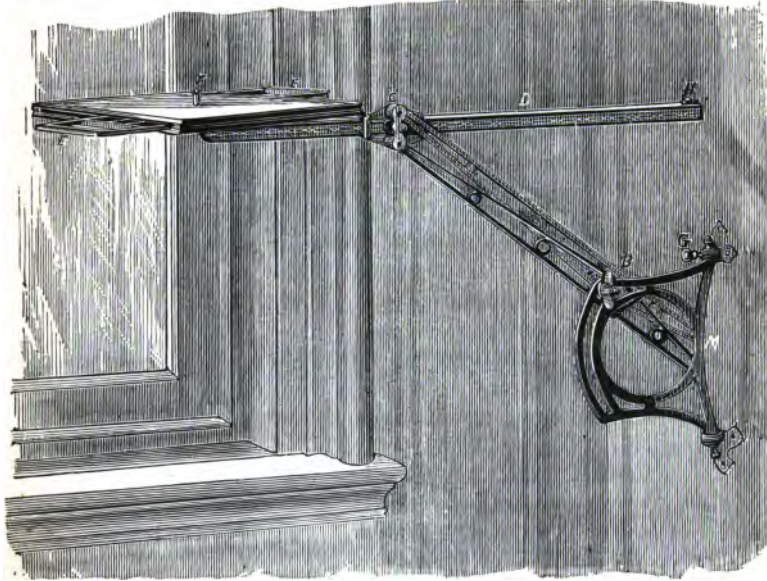
s. d.

36 0



## MORRISON'S DENTAL BRACKET.

24.



THE above Illustration represents the table in its highest position, and distant from the wall a little more than half the distance it is capable of taking. By loosening the thumb-screw B, and allowing it to rest in the bottom of the slot (instead of at the top as represented here), the table will occupy a position as much below M as it now does above the same point. The extreme range, that is the distance between the table when at its highest and its lowest position, is 24 inches.

M represents a metal frame which is secured to the wall or other support by screws. It swings from side to side as a gate on its hinges. C, M, represent light but strong metallic arms, hinged at M as a centre and moving up or down. At B is a thumb-screw passing through a slot in the frame M. By it the arms can be firmly clamped at any desired height.

At C is a slide-rest through which the hollow rod D passes freely, and may be clamped at any distance from its ends. At one end of this bar a square table is supported, having in it foil and instrument drawers. This table is capable of rotation round F, which is the burner of an alcohol lamp, the alcohol being contained in D and introduced at its further extremity H. Among the advantages of this bracket are these:

- 1st. It combines a greater variety of range and movement than any other.
- 2nd. It is rigid in whatever position it is clamped, and will hold 15 lbs. with steadiness.
- 3rd. It provides a receptacle for foil and instruments.
- 4th. It has a square table, which is more convenient as an instrument stand than a round one.
- 5th. Its drawers extend through the table and can be opened from either side.
- 6th. To those having a Morrison Chair it is almost indispensable, as it will follow the chair to either its lowest or its highest position.

Handsomely ornamented and Nickel plated throughout, price 110s.

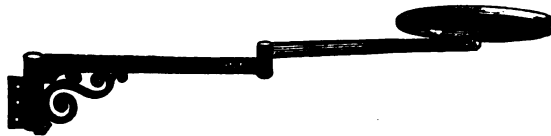
BRACKET TABLES—*continued.*

25.

*s. d.*

A WALNUT TABLE, diameter 14 in., covered with green cloth, with 4 Drawers for Instruments, Stoppings, &c., revolving on a Bronzed Iron Extending Bracket. Full length, $45\frac{1}{2}$ in.; shortest length, 25 in. ... .. (Fig. 25)	90	0
Ditto ditto, with 4 Drawers and 4 Cups (as Fig. 97, Page 166), for Instruments ... ..	100	0
Boxes, circular, in Walnut, with pads for holding stoppings, ea. 6/6, 7/, 8/- Walnut Cups, and Rings, extra, to fit on Tables, see page 166.		
Walnut Stand (Mr. Hele's), Revolving, for holding Instruments ...	14	0

26.

*s. d.*

A WALNUT TABLE, diameter 10 in., covered with green cloth, re- volving in a double-jointed lacquered Brass Bracket, which has a lateral motion. Full length, 30 in. ... .. (Fig. 26)	30	0
Ditto ditto diameter 9 in., with plain double-jointed lacquered Brass Bracket, &c. Full length, 29 in. ... ..	25	0
Dual Brackets, with Table, Gas Burner, and Light Condenser, &c. to fix against the wall ... ..	from 50	0
Nickel-plated Brackets and other Brackets and Tables made to order.		

27.



HEAD-REST, in Walnut with Velvet pad, to fix to any Dental Chair, with lacquered brass rising bar and head-piece working on a segment ... .. (Fig. 27)	s. d.
	40 0
Ditto with shallow cushion and flat wood back ... ..	35 0
American Head-Rests in iron to drop on to an ordinary chair, each	35 0

28.



ADJUSTABLE STOOL (Dr. Lyons'), the base of this stool is of cast iron, and the shaft is so arranged that it can be moved and fixed at any angle that may be desired, and can be raised or lowered to any required height. The iron-work is japanned black with gold bands, &c., and the seat is covered with green velvet; full height, 34 in.; shortest, 28 in. (Fig. 28)	s. d.
	70 0

29.



APPARATUS, Bronzed tin, with Brass Tap, for keeping a supply of hot water in the Operating-room, by means of a gas jet, height, 24 in. ; to hold  $1\frac{3}{4}$  gallon ... (Fig. 29) s. d.  
47 0

30.



APPARATUS in Japanned tin, with wood top and plinth and plated tap, 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 ; height, 21 in., to hold  $1\frac{1}{2}$  gallon (without the spittoon, as shown on top) ... (Fig. 30) from s. d.  
55 0

For Prices, &c., of Spittoons as shown on top of Apparatus, see pp. 44 & 45.

31.



**WAX WARMER**, 11 in. by 8 in., for softening wax and other compounds used for taking impressions in the mouth. The water is heated by a spirit flame. The stand is made of tin, ornamented and japanned, and has a door to open, &c. The upper part, lid and strainer inside, are made of Britannia metal, highly polished. With glass Spirit Lamp complete (Fig. 31)

s. d.  
30 0

### DENTINAL DESICCATOR.

32.



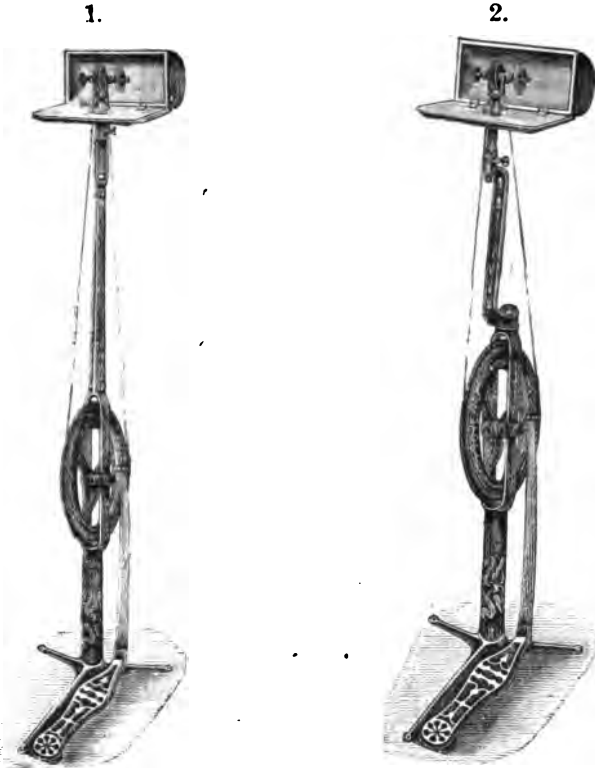
**DENTINAL DESICCATOR** (Mr. Owen's), for drying cavities previous to stopping. With printed directions ... (Fig. 32) s. d.  
25 0

This Apparatus consists of a chamber made of tin covered with leather, Mahogany top and bottom, held by means of brass rods and thumb-screws, and containing 6 to 7 ounces of Chloride of Calcium through which the air passes and becomes so perfectly dry that when, by pressure of the foot upon the India-rubber ball it is forced through the jet-tube or mouth-pipe into the cavity of the tooth, the cavity is deprived of all moisture, and is ready for the stopping.—See *British Journal of Dental Science* for October, 1873.

The air can be warmed, if necessary, by heating the bulb of the jet-tube or mouth-piece over a spirit lamp.

Chloride of Calcium (dry) for the above,  $\frac{1}{2}$  lb. in bottle 1/2.

## S. S. WHITE'S OFFICE LATHES.



Suitable for light work in the Operating-room, or when travelling.

No. 1 is 3 ft. 8 in. high to the centre of the pulley-head and requires the operator to stand while using it.

No. 2 is 2 ft. 11 in. high to the centre of the pulley-head, and, to permit the operator to sit while using it, the pulley-head has been brought forward 5 in. from the perpendicular line.

						<i>s.</i>	<i>d.</i>
No. 1	with set of 6	Corundum	Wheels	...	...	86	0
No. 2	„	6	„	„	...	84	0

Lathes for grinding and polishing, with complete set of 6 Chucks, and large circular Arkansas stone for sharpening instruments, fitted in strong Teak Box, specially designed for the use of dentists who have a travelling practice, and suitable for both heavy and light work, made to order; prices from 240/- to 300 0 .

For other Lathes see pp. 204 to 210.

DENTAL REFLECTOR.

34.



DENTAL REFLECTOR (Mr. Stewart's), consisting of an Iron Stand and upright 5 feet high, with a corrugated Glass Reflector which slides up and down the stand, and has a lateral movement, so that the light can be directed as may be required. The position of the Reflector does not require to be changed with every movement of the Patient, as the whole face and upper part of the Chair are illuminated ... (Fig. 34) s. d. 42 0

Holland Cover for ditto ... .. 2 0

Light Condenser, with Dual Bracket, 32 in. long, to fix against the wall, for same purpose as above, with a small round Table; suspended, for Instruments, &c. ... from 50 0

Dental Reflectors are most useful adjuncts to Operating-rooms for use on dark days, and for operations after sunset.

## 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.

In this Edition the names and prices of many new Instruments have been added, and C. ASH and SONS beg to call special attention to the immensely increased variety they keep in stock in order to suit the requirements of all their Customers, and they invite Dentists to inspect the same at their convenience.

Having made considerable improvements as to form, temper, and finish, they feel no hesitation in saying that for quality and price they are unequalled.

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.

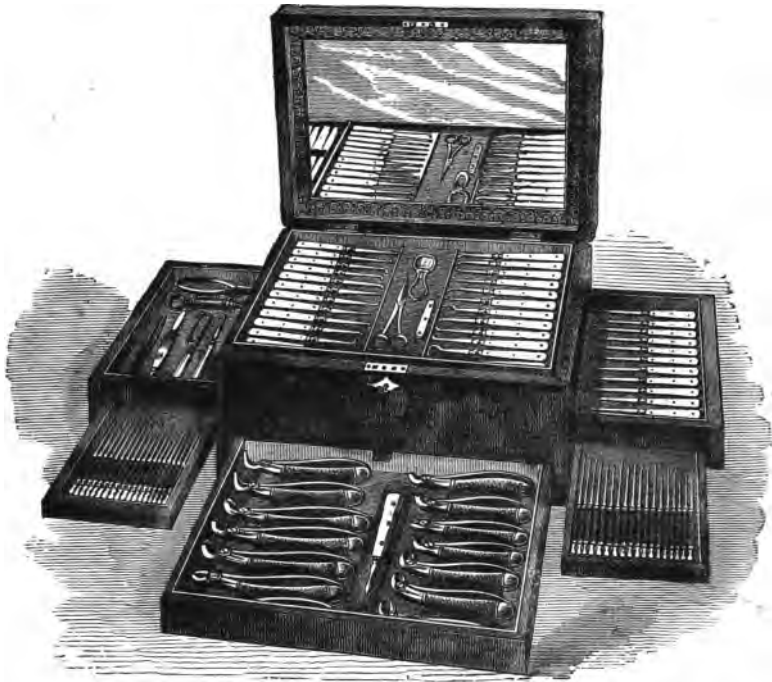
Dentists, when ordering, have only to give the page in the Catalogue and the number of the Illustration, in order to receive the exact Instrument they desire.

Cases of Instruments made and fitted up to special directions.

Dental Instruments Repaired or Re-polished with the least possible delay.



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 blue Silk Velvet, Bramah Lock, two Keys, and Cover ... s. d. 240 0

<b>Forceps for Upper Incisors and Canines, Nickel-plated (Fig. 1, P. 64)</b>	9	3
" Lower " " " (" 4, " 64)	9	3
" Upper Bicuspid " " (" 7, " 65)	9	3
" Lower " " " (" 8, " 65)	9	3
" Upper Molars, right " " (" 17, " 67)	10	3
" " left " " (" 18, " 67)	10	3
" Lower " " " (" 21, " 68)	10	3
" Upper Wisdom... " " (" 19, " 67)	10	3
" Lower " " " (" 20, " 67)	10	3
" Upper Stumps " " (" 30, " 69)	9	3
" Lower " " " (" 31, " 69)	9	3
" Upper Incisors and Canines (Children's), Nickel-plated... " " (" 37, " 70)	8	3

<i>Continued.</i>				<i>s.</i>	<i>d.</i>
Forceps for Lower Incisors (Children)	Nickel-plated	(Fig. 38, P. 70)		8	3
"    Upper Molars	"    "	(    "    39, "    70)		9	3
"    Lower	"    "	(    "    40, "    70)		9	3
Excising Forceps, straight	"    "	(    "    57, "    74)		8	9
Elevator, straight, in Ivory, octagon handle & Silver	(    "    4, "    92)		7	6	
12 Stoppers	"    "    from forms	(C.    "    120)	65	0	
11 Enamel Cutters	"    "    "	(A.    "    99)	65	0	
1 Burnisher	"    "    "	(Fig. 20, "    129)			
12 Scalars	"    "    "	(Set B, "    95)	50	0	
24 Burs, Drills, and Excavators, Steel, Nickel-plated—assorted	...	...	25	0	
Steel Screw for Stumps	... ..	(Fig. 9, P. 93)	3	3	
Mouth Mirror, Silver, to fold	... ..	(Size 3, "    151)	16	6	
Mouth Saw, in Ivory handle	... ..	(Fig. 69, "    156)	10	6	
Scissors, 8-inch, for cutting Foils, plated	... ..	(    "    83, "    160)	6	0	
"    4½-inch, curved, for cutting Gum, plated	... ..	(    "    86, "    162)	4	9	
Gum Lancet, 3-bladed, in Ivory	... ..	(    "    81, "    160)	5	6	
Spatula, with Spoon	"    "    "    "	(    "    17, "    138)	3	0	
Tweezers and Plugger, Steel octagon, Nickel-plated	(    "    11, "    136)		7	9	
Trephining Instrument and Forceps	"    "	(    "    72&73, "    157)	13	3	
Syringe, with 2 Nozzles, plated	... ..	(    "    47, "    149)	9	0	

Price, complete ... .. 682 0

Case No. 1, with same Instruments, *not plated*, price, complete ... 648 0

#### DENTAL CASE. No. 2.

A DENTAL CASE in Coromandel or Rosewood, same as Case No. 1	240	0
Forceps, 16 pairs, not Nickel-plated	...	130 6
Elevator (Mr. Tomes') in Ivory handle	(Fig. 8, P. 93)	6 6
Steel Screw for Stumps	(    "    9, "    93)	2 9
12 Stoppers in ½-in. octagon, Ivory handles, with Silver Ferrules,	57 0	
assorted from forms		(C,    P. 120)
11 Enamel Cutters, ditto, assorted from forms	(A,    "    99)	57 0
1 Burnisher,	(Fig. 20, "    129)	
12 Scalars, Tapered, Ivory handles	(Set B, "    95)	50 0
24 Burs, Drills, and Excavators, Nickel-plated, assorted	...	25 0
Mouth Mirror (Mr. Rogers'), No. 3 size, in German Silver, Nickel	11 0	
plated, with oval Ivory handle...		(Fig. 55, P. 151)
Gum Lancet, 3-bladed, in Pearl	(    "    81, "    160)	6 6
Scissor, 8-inch, for Foils, &c.	(    "    83, "    160)	4 6
Trephining Instrument and Forceps	(    "    72&73, "    157)	12 0
Mouth Saw, in Ivory handle	(    "    69, "    156)	10 6
Tweezers (Mr. Tomes'), in Ivory handle	(    "    12, "    136)	6 6
Spatula, with Spoon	(    "    17, "    138)	3 0
Syringe, with 2 Nozzles, plated	(    "    47, "    149)	7 6

Price, complete ... .. 628 0

Case No. 2, if preferred, with ⅝-in. Octagon Stoppers, Enamel Cutters and Burnisher, and Octagon Elevator, in Ivory, price extra ... 17 0

Solid Leather Cases, with Strap to slip over Cases Nos. 1 and 2, when travelling, extra, each from ... .. 25 0

No. 3.



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 blue Silk Velvet, with Bramah Lock, 2 Keys and Cover		s.	d.
	... ..	196	0
16 Forceps, Nickel-plated, same forms, &c., as in Case No. 1	... ..	150	6
Elevator, straight, in Ivory Octagon handle and Silver ferrule	... .. (Fig. 4, Page 92)	7	6
12 Stoppers in ½ in. ditto ditto forms	(Set B, ,, 119)	57	0
11 Scalars in ½ in. " " "	(,, B, ,, 95)	57	0
1 Burnisher in ½ in. " " "	(Fig. 20. ,, 129)		
24 Burs, Drills, and Excavators, Steel Nickel-plated, assorted	... ..	25	0
Mouth Mirror, Ball and Socket, Silver	... (Size 3, Page 151)	17	6
Gum Lancet, 3-bladed, in Pearl	... (Fig. 81, ,, 160)	6	6
Scissors (8 in.) for cutting Foils, plated	... (,, 83, ,, 160)	6	0
Price, complete		522	0

Case No. 3, with same Instruments *not plated*, price, complete ... 493 0

Cases Nos. 1 to 3, fitted up with different Instruments to those named, to special directions. Solid Leather Cases with Strap, to slip over Cases No. 3 when travelling, extra, each, from 20s.

No. 4.



DENTAL CASE in Walnut or Mahogany, 13 in. by 8 in. by 4½ in., with Pocket in lid for Foils; &c., with two Trays fitted up for Instruments, and divisions for Forceps, &c., lined with blue Silk Velvet, with Lock and two Keys ... ..	s.	d.
	82	0
12 Stoppers, with tapered Octagon Ivory handles and Silver Ferrules, assorted from forms ... .. (C, Page 120)	50	0
11 Scalers " " (B, " 95)	50	0
1 Burnisher " " (Fig. 20, " 129)	25	0
24 Burs, Drills, and Excavators, Steel, File-cut, Gilt handles ...	12	0
Mouth Mirror (Ball and Socket, Size 3), German Silver Gilt, in Ivory handle ... .. (Fig. 58, Page 153)	5	6
Gum Lancet, 3-bladed, in Ivory handle ... ( " 81, " 160)	2	6
Probe, double-ended, Steel File-cut, Gilt centre ... ..	2	6
Spatula " " " " " " " "	6	6
Tweezers slightly curved (Mr. Tomes'), Ivory handle (Fig. 12, Page 136)	6	6
Elevator " " " " " " " " ( " 8, " 93)	9	0
Syringe, with curved and Straight Nozzles, Plated ( " 47, " 149)	4	6
Scissors (8 in.) for cutting Foils ... .. ( " 83, " 160)	256	0
Price, complete ... ..	256	0

The above Case fitted up with Nickel-plated Burs, Drills, &c., at the same price.

Leather Cases with Strap for above, for use when travelling, supplied to order.

**C. ASH AND SONS'**  
**PORTABLE, OR STUDENTS' CASE.**

No. 5.

Suitable either for the Operating-room, for Dentists when travelling, or for Students of Hospitals, &c.

Made of Mahogany, 15 in. by 10 in. by 5 in., fitted up with two	<i>s. d.</i>
Trays for Forceps and other Instruments, with compartments for Bottles, Files, Canes, &c., with Pocket in Lid for Foils, Bibulous Paper, &c. Lined throughout with blue Cloth, with Lock and 2 Keys, and handle in front, used when carrying	70 0
Containing the following :—	
Tomes' Elevator, in Ebony handle ... (Fig. 8, Page 93)	5 0
Gum Lancet, 2-bladed, in shell „ ... ..	4 0
Scissors (8 in.) for cutting Foils ... ( „ 83, „ 160)	4 6
6 Forceps, Nos. 1, 4, 7, 8, 30, and No. 31 ... (Pages 64 to 69)	48 0
4 „ Nos. 17, 18, 21, and No. 58 ... ( „ 67 to 74)	34 6
1 Plugging Tweezers, Steel Octagon ... (Fig. 11, Page 136)	6 6
1 Spoon Spatula „ ... ..	2 3
1 Probe, double-ended „ „ ... ..	1 2
Mouth Mirror (Mr. Rogers') Size 3, German Silver, Nickel-plated, in Ivory handle ... .. (Fig. 55, Page 151)	11 0
8 Burs and Drills, Steel Octagon handles, assorted ... ..	6 0
12 Excavators „ „ „ ... ..	8 0
6 each Enamel Cutters and Scalers „ „ ... ..	14 0
5 Stoppers and 1 Burnisher „ „ ... ..	7 3
8 Mallet Pluggers (Mr. Stevens'), selected from Set of 10, Page 123	18 0
1 dozen Canes, 4 Coils Tape, 1 Quire Bibulous Paper ... ..	2 9
Assortment of Riffers, Dividing and Stump Files ... ..	11 5
Syringe, $\frac{1}{2}$ oz., with Flexible Ball ... (Fig. 49, Page 149)	5 6
Arkansa Stone, in Case ... ..	4 0
Glass Slab and Mercury Bottle ... ..	1 9
Pestle and Mortar for mixing Stoppings ... ..	0 9
5 Cut Glass Bottles for Tooth Preparations ... ..	5 0
$\frac{1}{4}$ Yard Cofferdam Rubber ... ..	1 8
Price, complete ... ..	<u>273 0</u>

Leather Cases, with Leather handles, can be supplied, to slip over the above for travelling.

NOTE.—Ten per Cent. Discount allowed to Students, Hospitals, &c.

**INSTRUMENTS FOR STUDENTS.**

*(Patterns recommended by Mr. C. S. Tomes.)*

4 Enamel Cutters, various forms, in pear-shape Ebony handles ... .. each	s. d.	3 3
4 Stoppers, various forms, in tapered octagon Ebony handles	,,	2 6
4 Mallet Stoppers, various forms, with polished swell-end Steel handles ... ..	,,	3 0
2 Burnishers, different forms, in pear-shape Ebony handles	,,	3 6
12 Excavators, various forms, in plain octagon Steel handles	,,	0 8
1 Tweezers and Pluggers combined (Fig. 10, Page 135)	,,	8 0

The Set complete 54/0.

Cheaper Style made to order.

**LEATHER CASES TO ROLL UP.**

Students' Roll-up Leather Cases for Pocket ... .. each	s. d.	12 0
Ditto ditto ditto with extra loops for Socket Points	,,	13 6

**LEATHER POUCHES FOR FORCEPS, &c.**

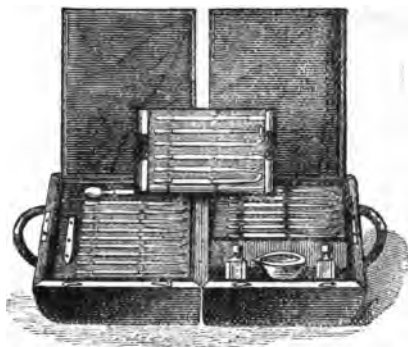
Pouches to hold	4.	6.	8.	10.	12.	Forceps.
	s. d.	s. d.	s. d.	s. d.	s. d.	
Pouches lined with Crimson or } Blue Velvet ... .. }	4 6	5 9	7 3	9 0	10 6	each
Ditto with Chamois Leather ...	4 6	5 9	7 3	9 0	10 6	,,
Ditto with Strap ... .. extra	0 9	0 9	0 9	1 0	1 0	,,

Pouches to hold	14.	16.	18.	20.	Forceps.
	s. d.	s. d.	s. d.	s. d.	
Pouches lined with Crimson or } Blue Velvet ... .. }	12 0	13 6	15 6	18 6	each.
Ditto with Chamois Leather ...	12 0	13 6	15 6	18 6	,,
Ditto with Strap ... .. extra	1 0	1 6	1 6	1 6	,,

Leather Pouches to hold Forceps, Stoppers, Scalars, Excavators, &c., in same, made to order.

Brief or other Bags, fitted up with pockets and Loops for Forceps, &c., to order.

No. 6.



PORTABLE DENTAL CASE, with handles, covered with Leather.

Dimensions when closed,  $10\frac{1}{2}$ -in. by  $8\frac{1}{2}$ -in., and 5-in. thick, lined with blue 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

	<i>s.</i>	<i>d.</i>
12 Stoppers, assorted, with Steel file-cut gilt handles (as Fig. 1, Page 127)	18	0
24 Excavators and Drills	25	0
11 Scalers	18	0
Burnisher	6	6
Mouth Mirror, German Silver Gilt, in Ivory handle	4	0
Gum Lancet, 2 blades, Tortoise-shell handle	3	0
Tweezers, Steel handle, Gilt	2	6
Spatula	0	9
Pestle and Mortar for Mixing Stoppings	4	0
4 Cut Glass Bottles for Tooth Preparations	136	0
Price, complete		

PORTABLE DENTAL CASE (No. 7), with handles covered with Leather, and lined with Velvet. Dimensions when closed, 12-in. by 9-in., and  $3\frac{1}{2}$ -in. deep, with compartments for Forceps and other Instruments, Foils, Bottles, &c., with padded lids to protect Instruments. Lock and Key...

*s.* *d.*  
30 0

## No. 8.



A PORTABLE DENTAL CASE, $7\frac{1}{2}$ in. by $5\frac{1}{2}$ in., $1\frac{3}{4}$ in. deep, covered with Leather, lined with Silk Velvet. With Lock and Key	s. d.
12 Stoppers, assorted, to fit Socket handles ... ..	17 0
7 Scalers, 4 Enamel Cutters, and 1 Burnisher to fit Socket handle	12 0
24 Burs, Drills, and Excavators assorted ... ..	16 0
2 Ivory Socket handles for above ... (Figs. 43 & 44, Page 148)	11 0
Mouth Mirror, German Silver Gilt, Ivory handle (Fig. 60, ,, 154)	6 6
Steel Tweezers, Fig. 14, and file-cut Spatula ... ..	4 6
Price, complete ... ..	<u>79 0</u>

## No. 9.



POCKET MOROCCO SPRING CASES, $4\frac{1}{2}$ in. by $3\frac{1}{2}$ in., $1\frac{1}{2}$ in. deep, lined with Velvet, containing 1 Ivory Socket handle, and 12 Instruments to fit same, for cutting away the Enamel from	s. d.
	20 0



No. 10.



POCKET MOROCCO SPRING CASES, 5 in. by 3¼ in., 1 in. deep, lined		<i>s.</i>	<i>d.</i>
with Velvet, containing 18 Stopping and Scaling Instruments,			
with Socket handle to fit	... ..	from	25 0
Ditto ditto 4½ in. by 3½ in., 1 in. deep, with 12 Stoppers		„	19 0
Ditto ditto ditto ditto with 12 Scalars		„	19 0

No. 11.



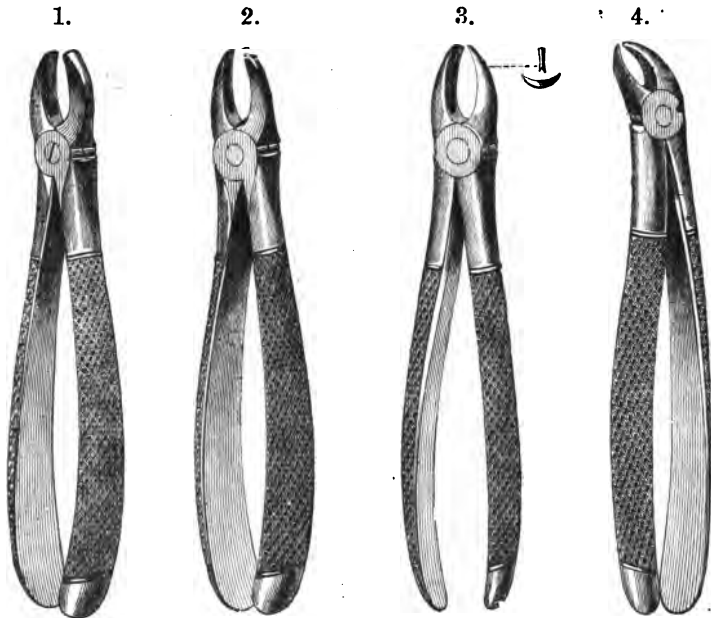
POCKET MOROCCO SPRING CASES, 4½ in. by 2½ in., 1 in. deep, lined		<i>s.</i>	<i>d.</i>
with Velvet, containing 18 Excavators, Burs and Drills, with			
Socket handle to fit	... ..	from	18 0

### C. ASH AND SONS' FORCEPS.

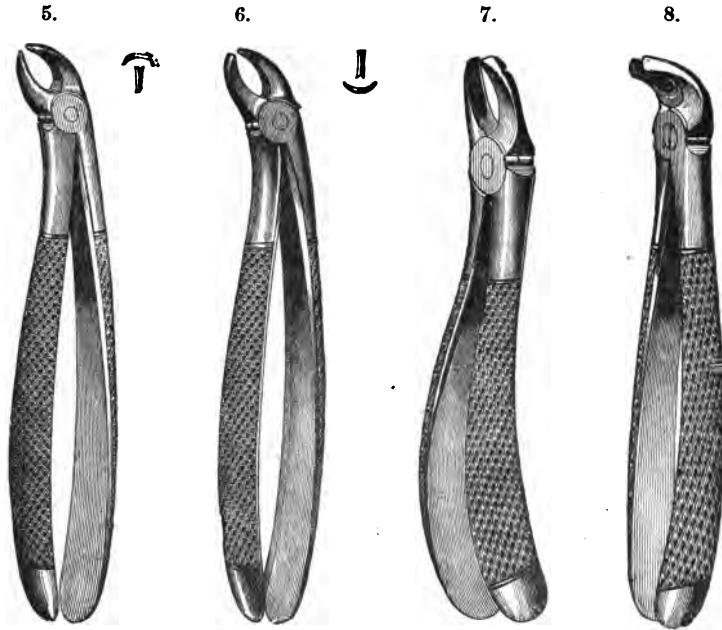
As the successful operation of extraction depends so much upon the exact adaptation of the mouths of Forceps to the particular Tooth for which they are intended, C. ASH and SONS have for upwards of twenty years given their particular attention to this branch of their business, so that their Forceps, 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.

Their Stock of Forceps principally consists of those forms which are used and recommended by the best operators.

Great care also is taken, not only in the selection of the Steel of which they are made, but also in 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. Should any prove defective, C. ASH and SONS will exchange them if returned soon after they are purchased.



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



FORCEPS.

				<i>s.</i>	<i>d.</i>
For Upper Centrals and Canines	...	...	(Fig. 1)	each	8 0
„ „ Laterals and Bicuspid	...	...	(Fig. 2)	„	8 0
„ „ Incisors, crowded internally or externally	...	...	(Fig. 3)	„	8 0
„ Lower Incisors and Canines	...	...	(Fig. 4)	„	8 0
„ „ Incisors, crowded internally	...	...	(Fig. 5)	„	8 0
„ „ „ „ externally	...	...	(Fig. 6)	„	8 0
„ Upper Bicuspid for either side	...	...	(Fig. 7)	„	8 0
„ Lower Bicuspid „	...	...	(Fig. 8)	„	8 0

Nickel-plated, extra each, 1/3.

9.



10.



11.



12.



13.



14.

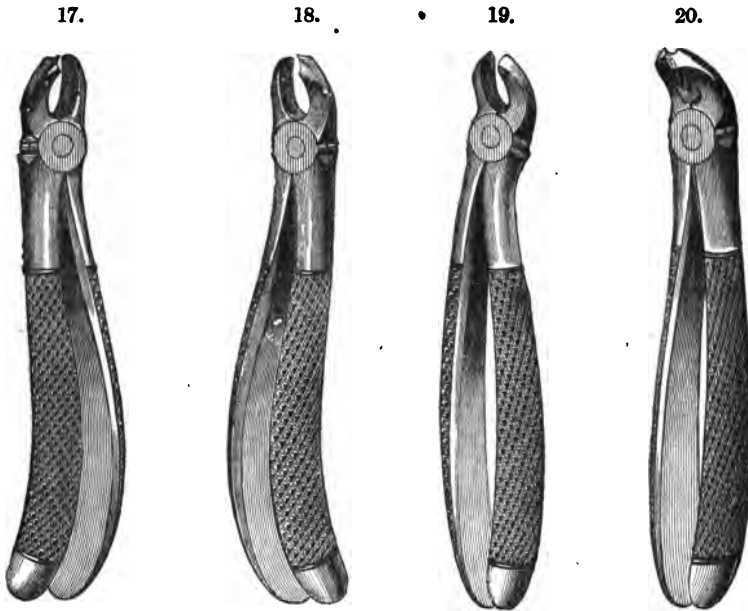


15.



16.





FORCEPS.

						<i>s.</i>	<i>d.</i>
For	Upper Bicuspids, right	...	...	...	(Fig. 9)	each	8 0
"	" Bicuspids, left	...	...	...	(Fig. 10)	"	8 0
"	Lower Bicuspids, right	...	...	...	(Fig. 11)	"	8 0
"	" Bicuspids, left	...	...	...	(Fig. 12)	"	8 0
"	" Bicuspids, straight (Hawk's Bill)	...	...	...	(Fig. 13)	"	8 0
"	" Bicuspids, right	"	...	...	(Fig. 14)	"	8 0
"	" Bicuspids, left	"	...	...	(Fig. 15)	"	8 0
"	" Bicuspids (Box joint)	...	...	...	(Fig. 16)	"	8 0
"	Upper Molars, right	...	...	...	(Fig. 17)	"	9 0
"	" Molars, left...	...	...	...	(Fig. 18)	"	9 0
"	" Wisdom, for either side	...	...	...	(Fig. 19)	"	9 0
"	Lower Wisdom	"	...	...	(Fig. 20)	"	9 0

Nickel-plated, extra each, 1/3.

21.



22.



23.



24.



25.



26.

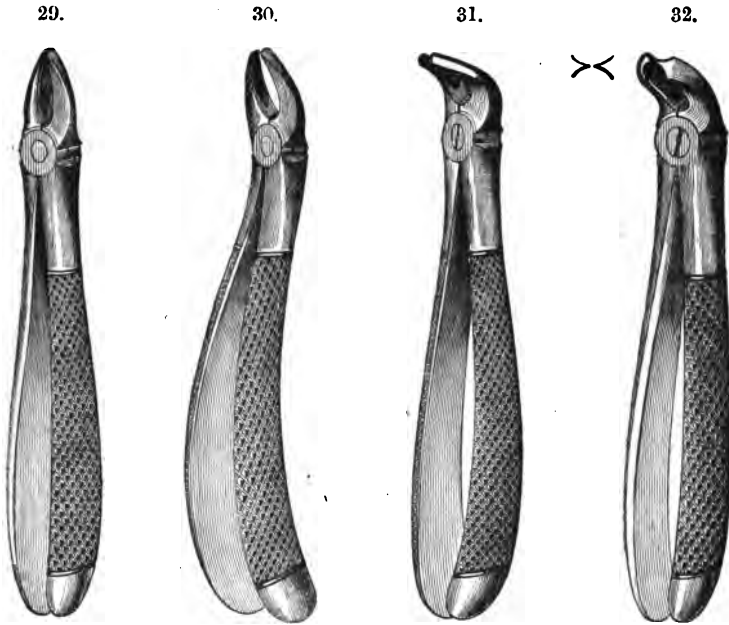


27.



28.





FORCEPS.

				<i>s.</i>	<i>d.</i>
For Lower Molars, on either side	...	...	(Fig. 21)	each	9 0
„ „ Molars, straight (Hawk's Bill)	...	...	(Fig. 22)	„	9 0
„ „ Molars, right	„	...	(Fig. 23)	„	9 0
„ „ Molars, left	„	...	(Fig. 24)	„	9 0
„ „ Molars, right, ordinary	...	...	(Fig. 25)	„	9 0
„ „ Molars, left	„	...	(Fig. 26)	„	9 0
„ Upper Molar Stumps, right	...	...	(Fig. 27)	„	9 0
„ „ Molar Stumps, left...	...	...	(Fig. 28)	„	9 0
„ „ Stumps, straight, for either side	...	...	(Fig. 29)	„	8 0
„ „ Stumps, curved	„	...	(Fig. 30)	„	8 0
„ Lower Stumps	„	...	(Fig. 31)	„	8 0
„ „ Molar Stumps	„	...	(Fig. 32)	„	9 0

Nickel-plated, extra each, 1/3.

33.



34.



35.



36.



37.



38.



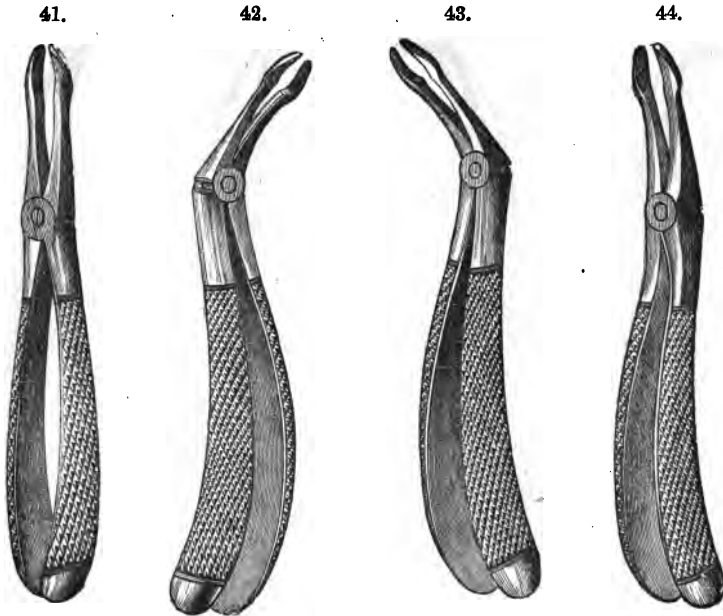
39.



40.







FORCEPS.

					s.	d.
For Lower Stumps, straight (Hawk's Bill) ...	(Fig. 33)	each	8	0		
"    "    Stumps, right    "    ...	(Fig. 34)	"	8	0		
"    "    Stumps, left    "    ...	(Fig. 35)	"	8	0		
Alveolar Forceps, Mr. Cattlin's, with File-cut, and Saw-edged beaks for enlarging the opening and cutting deeply into the Alveolus, so as to grasp firmly teeth which are much decayed (Fig. 36)		each	10	6		

(FORCEPS FOR CHILDREN'S TEETH.)

For Upper Incisors and Canines ... ..	(Fig. 37)	each	7	0
"    Lower Incisors and Canines ... ..	(Fig. 38)	"	7	0
"    Upper Molars, for either side ... ..	(Fig. 39)	"	8	0
"    Lower Molars ... ..	(Fig. 40)	"	8	0
"    "    Molars (Hawk's Bill) ... ..	...	"	8	0

(FORCEPS WITH LONG BEAKS.)

For Upper Stumps, straight ... ..	(Fig. 41)	each	8	0
"    "    Stumps, left ... ..	(Fig. 42)	"	8	0
"    "    Stumps, right ... ..	(Fig. 43)	"	8	0
"    "    Stumps, curved ... ..	(Fig. 44)	"	8	0

Nickel-plated, extra each, 1/3.

45.



46.



47.



48.



49.



50.

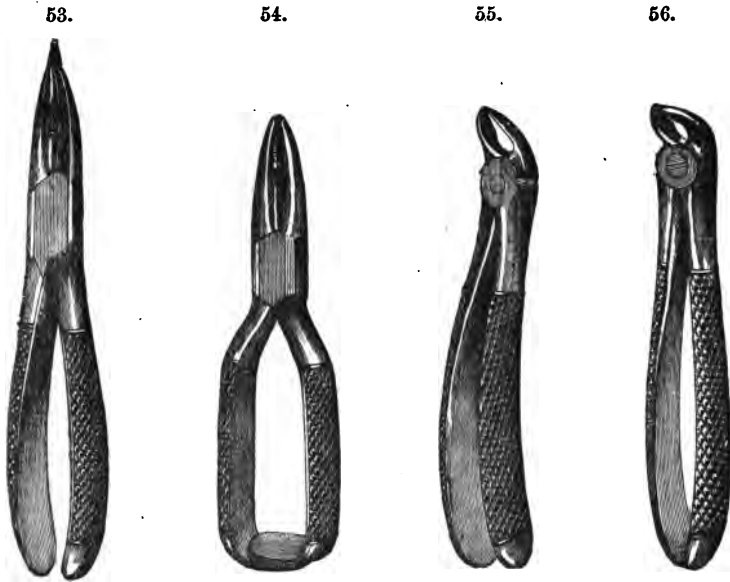


51.



52.





FORCEPS.

(WITH LONG BEAKS.)

			<i>s.</i>	<i>d.</i>
For Lower Stumps, on either side...	...	... (Fig. 45)	each	8 0
„ „ Stumps, right ...	...	... (Fig. 46)	„	8 0
„ „ Stumps, left ...	...	... (Fig. 47)	„	8 0
„ „ Stumps, curved, for either side	...	... (Fig. 48)	„	8 0
„ Upper Stumps (double bend), straight handles				
for either side ...	...	... (Fig. 49)	„	8 0
„ „ Stumps „ curved handles, do. ...	...	... (Fig. 50)	„	8 0
„ „ Stumps (Bayonet), narrow beaks, do....	...	... (Fig. 51)	„	8 0
„ „ Stumps „ broad beaks ...	...	... (Fig. 52)	„	8 0
<hr/>				
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)	„	8 0
„ „ for separating Lower Molar Roots	...	(Fig. 56)	„	8 0

Nickel-plated, extra each, 1/3.

57.



58.



59.



60.



61.



62.



63.



64.



## EXCISING FORCEPS.

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

Figs. 57, 58, and 59, are kept in Extra Broad, Broad, Medium, and Narrow widths.

Fig. 60 „ in Medium and Narrow widths.

Figs. 61, 62, and 63, „ „ „

Fig. 64, „ „ „

Figs. 57, 58, and 59, „ with hollow or concave cutting edges, made to order.

## EXCISING FORCEPS.

(SMALLER AND LIGHTER THAN ABOVE.)

				<i>s.</i>	<i>d.</i>
Upper, straight (flat cutting edges)	...	...	(Fig. 57) each	7	0
„ 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	0
„ curved	„	...	(Fig. 62) „	7	0
Lower, bent	„	...	(Fig. 63) „	7	0
„ ditto for Incisors	„	...	(Fig. 64) „	7	0

These Forceps are kept in Medium and Narrow widths only.

Nickel-plated, extra each, 1/3.

## FORCEPS FOR UPPER MOLAR STUMPS.

65.



66.



**FORCEPS (Mr. Stevens'), Fig. 65,** for extracting Stumps with 3 fangs when the crowns are very much broken down. The palatine blade is divided into two points, which slide on each side of the palatine root, grasping it so firmly that it cannot slip.

Right and left sides ... .. each	<i>s.</i> 9 <i>d.</i> 0
----------------------------------	----------------------------

**Forceps (Mr. Baly's), Fig. 66,** for the same purpose as the above, but constructed so that the buccal blade passes between the two fangs and splits them if required. The palatine blade is roughened to prevent slipping, and the stop is to prevent the jaws closing too much when it is possible to extract the three roots at once.

Right and left sides ... .. each	10 6
The above Nickel-plated, extra ... .. „	1 3

## FORCEPS, VARIOUS.

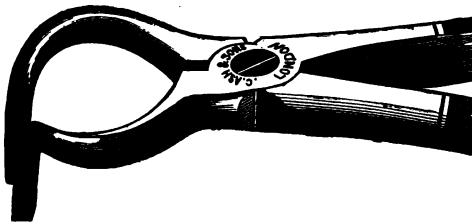
67.



FORCEPS, Fig. 67, Bayonet Upper Wisdom, used for either side, are much liked on account of the long bend from the shaft, which enables the operator to reach to the back of the mouth and extract the wisdom teeth more readily.

Per pair, 9/0 ; Nickel-plated, 10/3.

68.

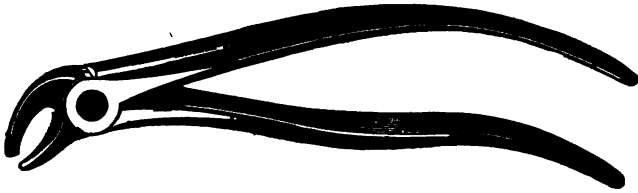


FORCEPS, Fig. 68 (Mr. Ryding's), Lower Stump, used for either side, are so constructed as to keep the cheek away from the beaks, and to enable the operator to see more clearly the stump he is about to extract.

Per pair, 9/0 ; Nickel-plated, 10/3.

## FORCEPS, VARIOUS.

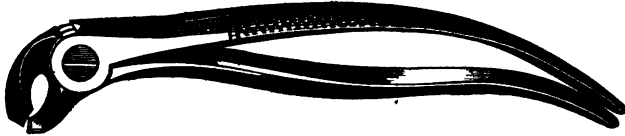
69.



FORCEPS, Fig. 69 (King's College), Lower Stump, used for either side. The handles of these are bent away from the beaks so that the operator can see the teeth to be extracted better than with the ordinary form, and they are considered very useful when quick extractions (during anæsthesia, &c.) are necessary.

Per pair, 9/0 ; Nickel-plated, 10/3.

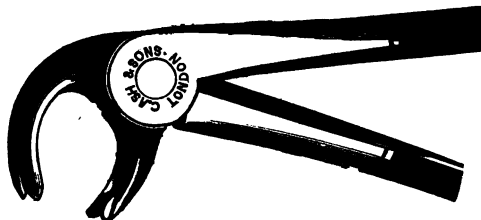
70.



FORCEPS, Fig. 70 (King's College), Lower Molars, used for either side, made with the same bend, and for the same object as Fig. 69.

Per pair, 10/0 ; Nickel-plated, 11/3.

71.



FORCEPS, Fig. 71 (Mr. Hutchinson's), Lower Molar Stump, are made right and left. The beaks are so formed and grooved as to fit on each side of the two fangs of a Lower Molar Stump.

Per pair, 9/0 ; Nickel-plated, 10/3.



## FORCEPS, VARIOUS.

*(Extra Patterns.)*

		<i>s.</i>	<i>d.</i>
FORCEPS, Mr. Hepburn's Upper Molar, rights and lefts	per pair	9	0
„ Mr. Underwood's Lower Molar, for either side	„	9	0
„ „ Upper Bicuspid ... ..	„	8	0
„ King's College Lower „ ... ..	„	8	0
Upper Molar Forceps, right and left, Figs. 17, 18, page 67, bent like Fig. 19, page 67	„	9	0

## FORCEPS, WITH LOOSE JOINTS.

*(MR. SAUNDERS'.)*

These Forceps are made specially with loose joints so that they may easily adjust themselves to the various forms of the Teeth.

		<i>s.</i>	<i>d.</i>
For Upper Molars, rights and lefts ... ..	per pair	9	0
„ Lower „ for either side ... ..	„	9	0
„ Upper Bicuspid „ ... ..	„	8	0
„ „ Centrals „ ... ..	„	8	0
„ Lower Bicuspid „ ... ..	„	8	0

The above Forceps, Nickel-plated, extra each, 1/3.

Forceps extra long, or extra strong, or made to special patterns, &c.,  
from 1s. per pair extra.

Forceps Insulated, as used in connexion with Apparatus for producing local  
anæsthesia by electricity, recommended by Mr. SNARE, see page 197.

Forceps Repaired and Re-polished at Moderate Charges.

Forceps sent to be Repaired or Re-polished are returned as quickly as  
possible.

AMERICAN PATTERN FORCEPS.

1.



2.



3.



35.



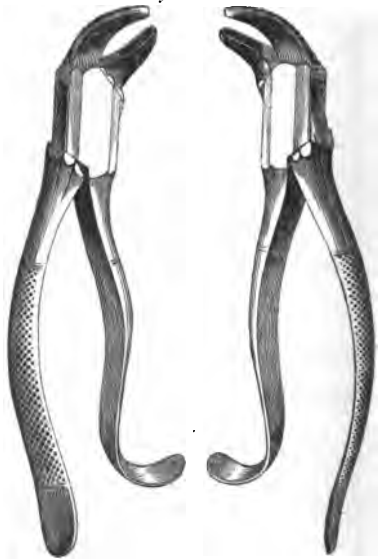
7.



49.



50.



68.



32.



33.



34.



39.



52.



58.



44.



American Pattern Forceps. For Description, &c., see page 89.

42.



43.



41.



61.



64.



36.



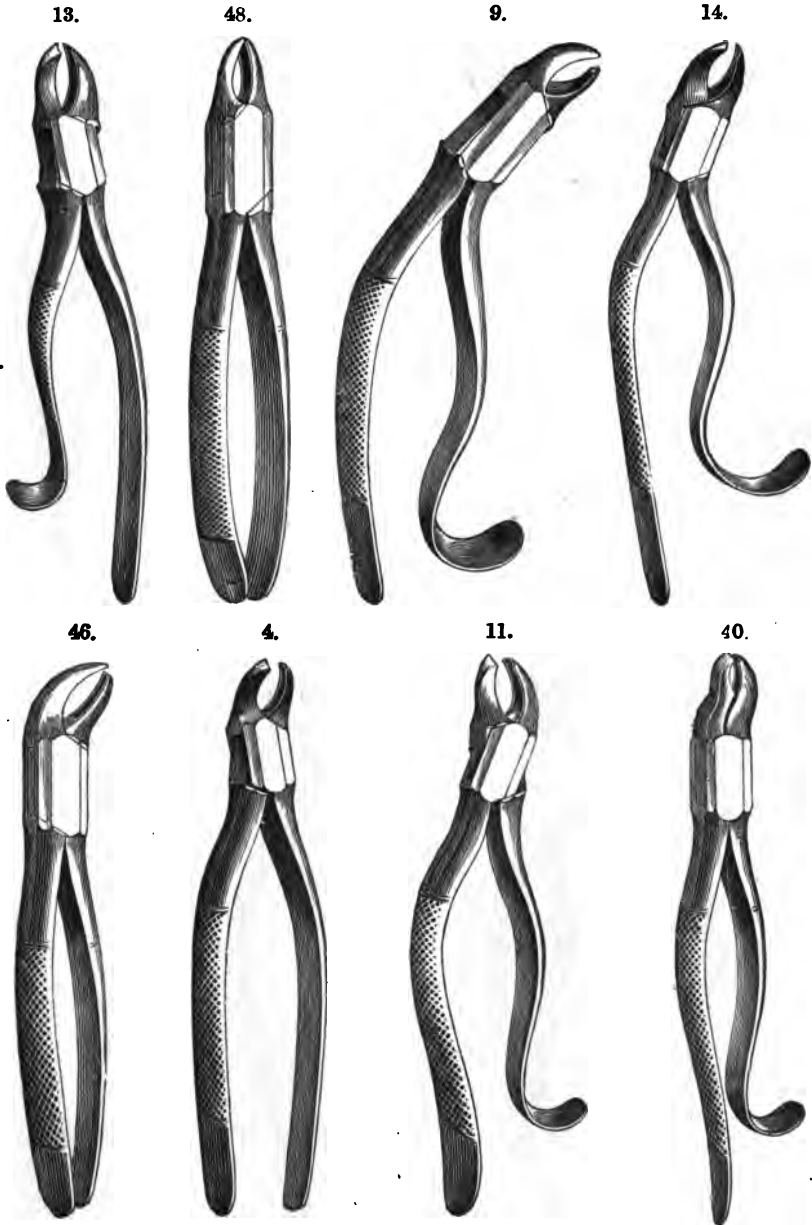
37.



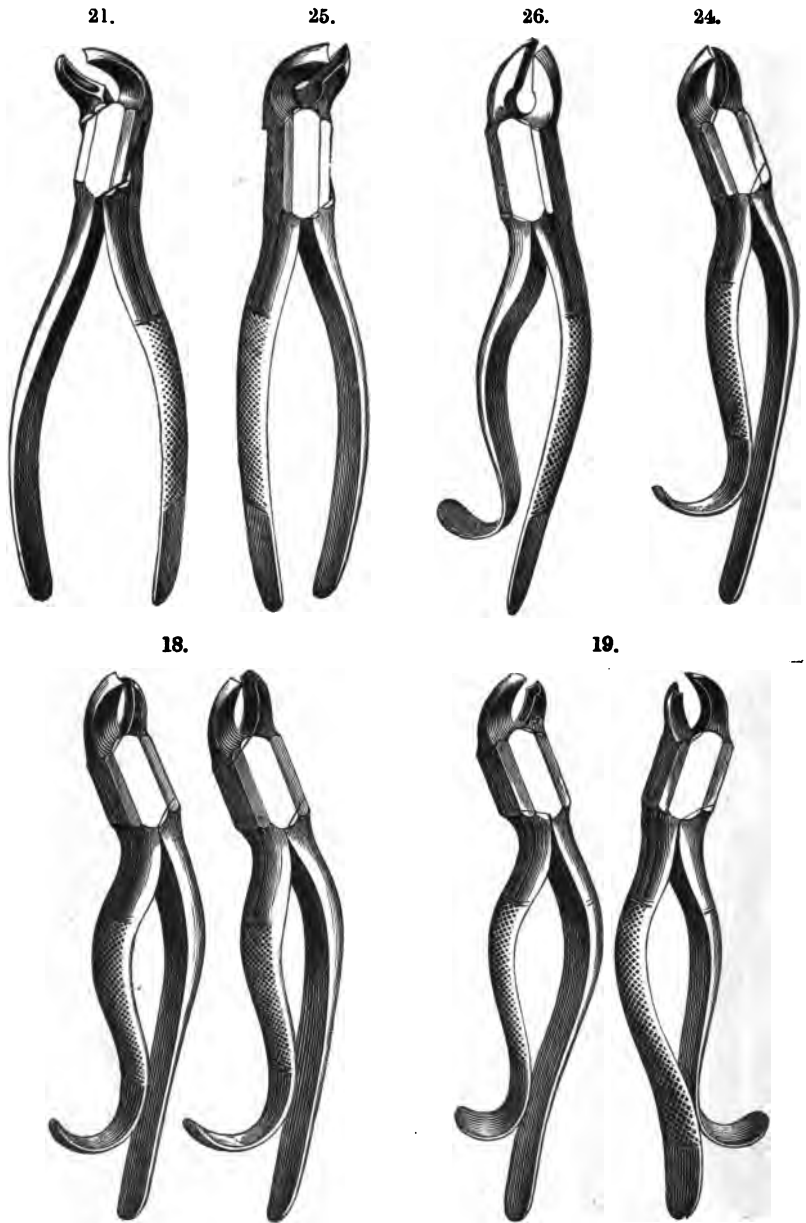
38.



American Pattern Forceps. For Description, &c., see pages 89 and 90.



American Pattern Forceps. For Description, &c., see page 90.



American Pattern Forceps. For Description, &c., see page 90.

53.



20.



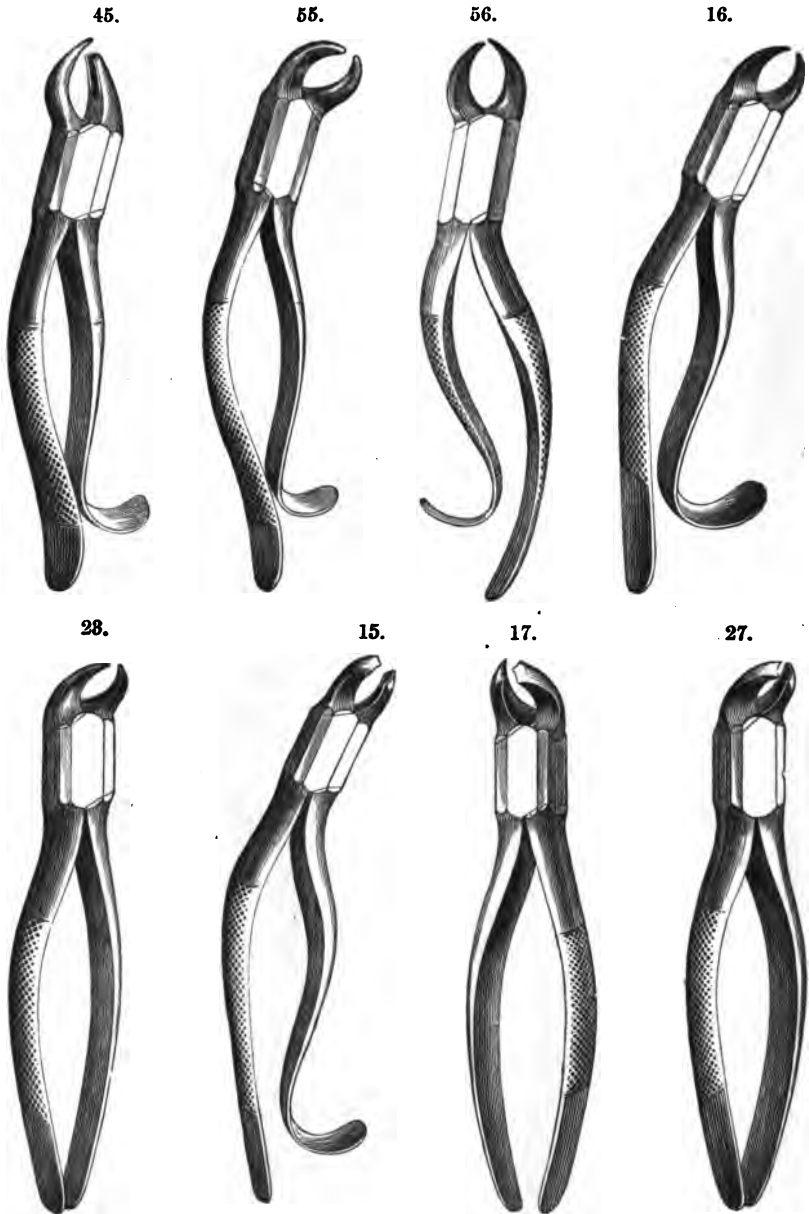
57.



59.

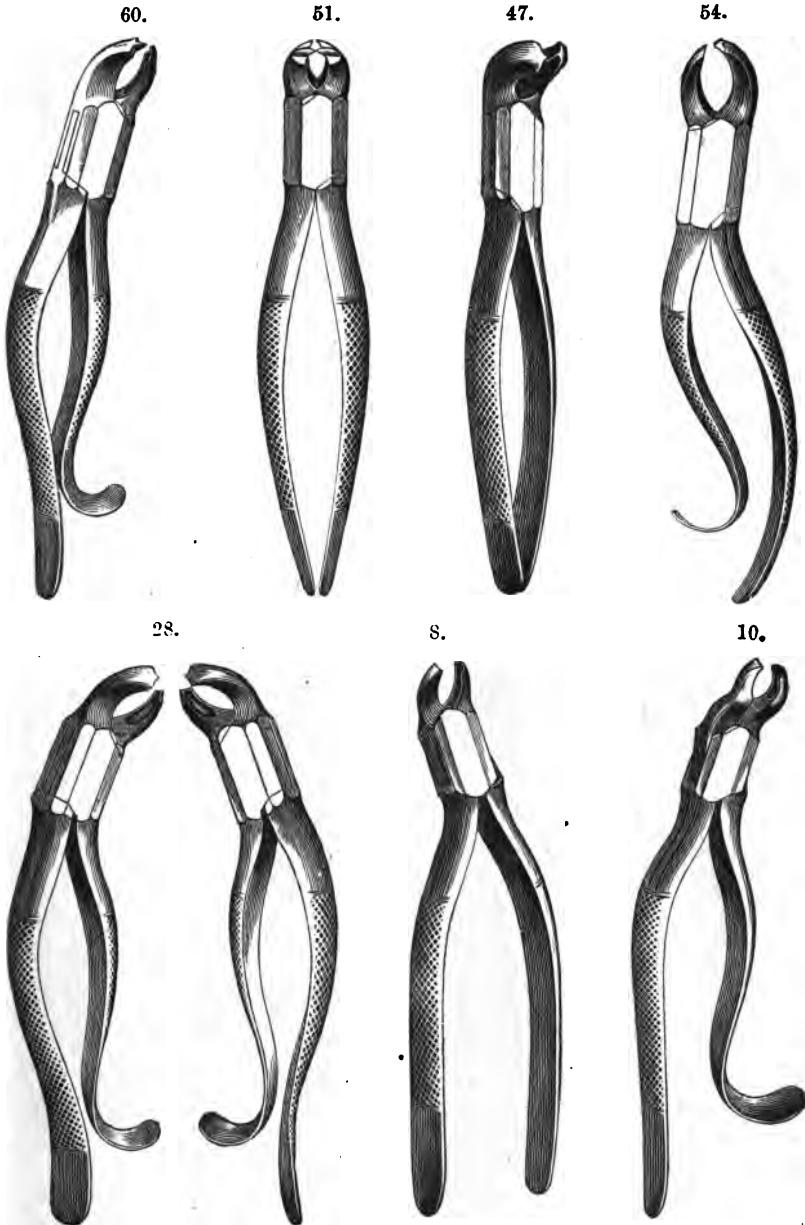


American Pattern Forceps. For Description, &c., see page 90.



American Pattern Forceps. For Description, &c., see pages 90 and 91.





American Pattern Forceps. For Description, &c., see page 91.

5.



22.



12.



31.



6.



62.



30.



29.



American Pattern Forceps. For Description, &c., see page 91.

PRICES OF  
AMERICAN PATTERN FORCEPS.

(See Illustrations, pages 80-88.)

FORCEPS FOR STUMPS OR ROOTS.

Upper Front Root, straight...	...	...	No. 1.	Page 80
„ and Lower Root, half curved	...	...	„ 2.	„ „
Lower Front Root, full curved	...	...	„ 3.	„ „
Upper Root, Bayonet	...	...	„ 35.	„ „
„ Back Root (Universal)	...	...	„ 7.	„ „
Lower Molar „ (with Crowns)	...	...	„ 49.	„ „
„ „ right and left	...	...	„ 50.	„ „
Universal Spicula	...	...	„ 63.	„ 81

FORCEPS—ALVEOLA.

Upper (Parmly's) Bayonet-shape, Alveola	...	...	No. 32.	Page 81
„ „ Straight Beak	„	...	„ 33.	„ „
Lower „ Curved „	„	...	„ 34.	„ „
Upper „ Half-curved Beak	„	...	„ 39.	„ „
Lower „ for either side	„	...	„ 52.	„ „
Upper Incisors and Canines	„	...	„ 58.	„ „
Lower Long Beak, full curved	„	...	„ 44.	„ „
Upper Back Long Beak	„	...	„ 42.	„ 82
„ Straight „	„	...	„ 43.	„ „
„ Half-curved Long Beak	„	...	„ 41.	„ „
„ Back, Alveola Nipping, for cutting away process after extraction...	...	...	„ 61.	„ „
„ Front ditto ditto			„ 64.	„ „

Per pair, 10/6; Nickel-plated, 11/9.

## AMERICAN PATTERN FORCEPS—*continued.*

### FORCEPS FOR CROWDED TEETH.

Upper Narrow Beak, half-curved, for Crowded Teeth	No. 36.	Page	82
Lower       "       full       "       "       "	" 37.	"	"
Upper       "       straight       "       "       "	" 38.	"	"

### FORCEPS FOR INCISORS.

Upper Incisor       ...       ...       ...       ...	No. 13.	Page	83
"   Lateral Incisor       ...       ...       ...       ...	" 48.	"	"
Lower Incisor, Hawk's Bill ...       ...       ...       ...	" 9.	"	"
"       "       and Bicuspid, for either side       ...       ...	" 14.	"	"
"       "       and for Crowded Teeth, Hawk's Bill	" 46.	"	"

### FORCEPS FOR BICUSPIDS.

Upper and Lower Bicuspid, half-curved       ...       ...       ...	No. 4.	Page	83
"   Bicuspid and Canine ...       ...       ...       ...	" 11.	"	"
"       "       and Incisor ...       ...       ...       ...	" 40.	"	"
Lower       "       and Canine ...       ...       ...       ...	" 21.	"	84
"       "       Safety       ...       ...       ...       ...	" 25.	"	"
Upper       "       "       ...       ...       ...       ...	" 26.	"	"

### FORCEPS FOR MOLARS.

Upper Molar, for either side...       ...       ...       ...	No. 24.	Page	84
"       "       right and left...       ...       ...       ...	" 18.	"	"
"       "       "       ...       ...       ...       ...	" 19.	"	"
"       "       "       ...       ...       ...       ...	" 53.	"	85
"       "       "       cow-horn       ...       ...       ...	" 20.	"	"
"       "       "       "       ...       ...       ...	" 57.	"	"
"       "       "       "       ...       ...       ...	" 59.	"	"
"       "       either side       "       ...       ...       ...	" 45.	"	86

Per pair, 10/6; Nickel-plated, 11/9.

FORCEPS FOR MOLARS—*continued.*

Lower Molar (Cow-horn), for right side	...	...	No. 55.	Page 86
"          "          for left side	...	...	" 56.	" "
"          "          for either side	...	...	" 16.	" "
"          "          "          "	...	...	" 23.	" "
Lower Molar (Harris')	"	...	" 15.	" "
"          "	"	...	" 17.	" "
"    Plain Beak	"	...	" 27.	" "
"    (Wolverton's)	"	...	" 60.	" 87
"          "	"	...	" 51.	" "
Lower Molar (Hutchinson's)	"	...	" 47.	" "
"    for left side	...	...	" 54.	" "
(No. 28 is used for the right side to this.)				
Lower Molar, for right and left	...	...	" 28.	" "

FORCEPS FOR WISDOM TEETH.

Upper Wisdom, for either side	...	...	No. 8.	Page 87
"          "          "	...	...	" 10.	" "
"          "          (Physicks)...	...	...	" 5.	" 88
Lower " for either side	...	...	" 22.	" "

FORCEPS FOR EXCISING.

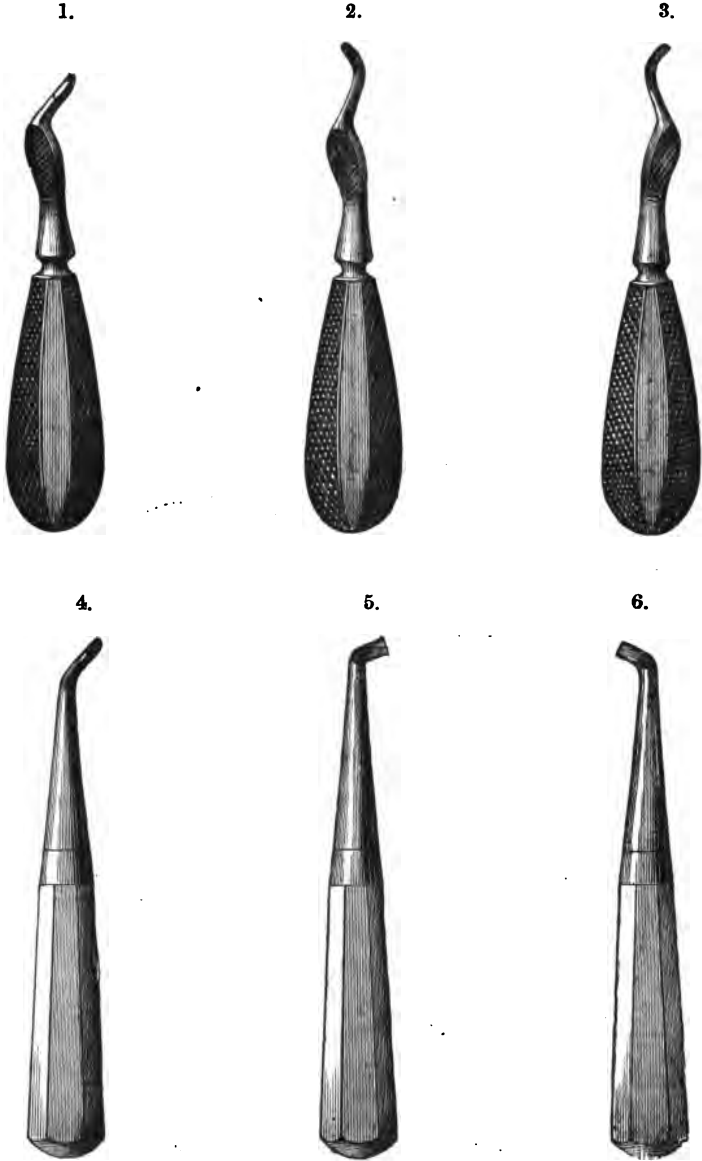
Upper Excising, Straight Beaks	...	...	No. 12.	Page 88
Lower " Curved "	...	...	" 31.	" "
Upper and Lower Dividing or Splitting	...	...	" 6.	" "

FORCEPS FOR CHILDREN'S TEETH.

Child's and Universal Root	...	...	No. 62.	Page 88
"    Upper Straight, Incisor, &c....	...	...	" 30.	" "
"    Lower Curved	"	...	" 29.	" "

Per pair, 10/6 ; Nickel-plated, 11/9.

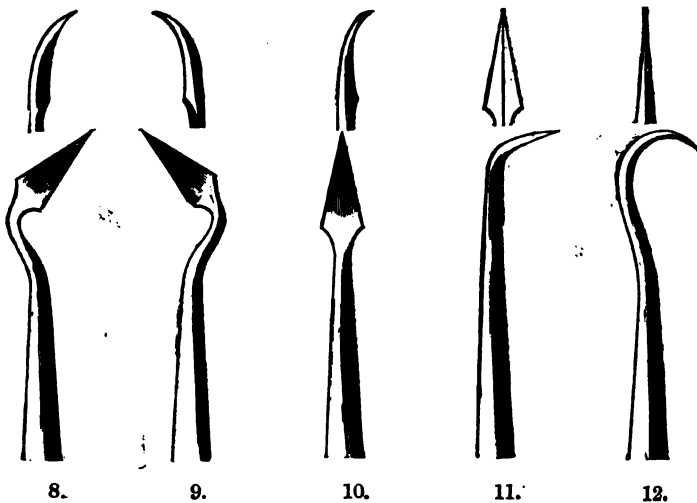
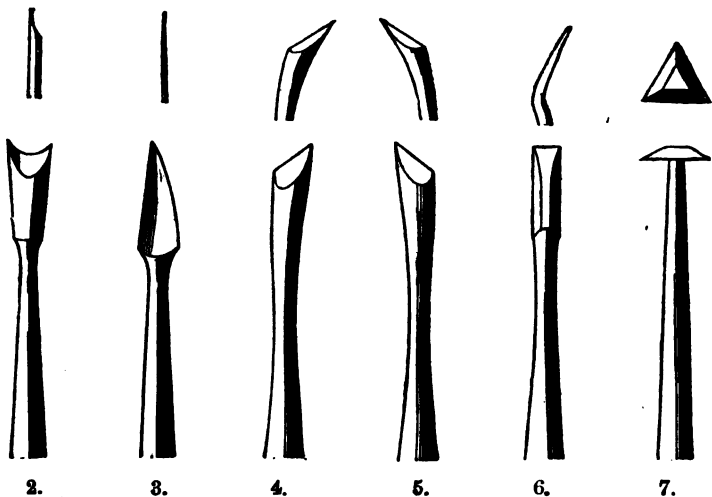
STUMP ELEVATORS.





SCALERS.

(SET A.)



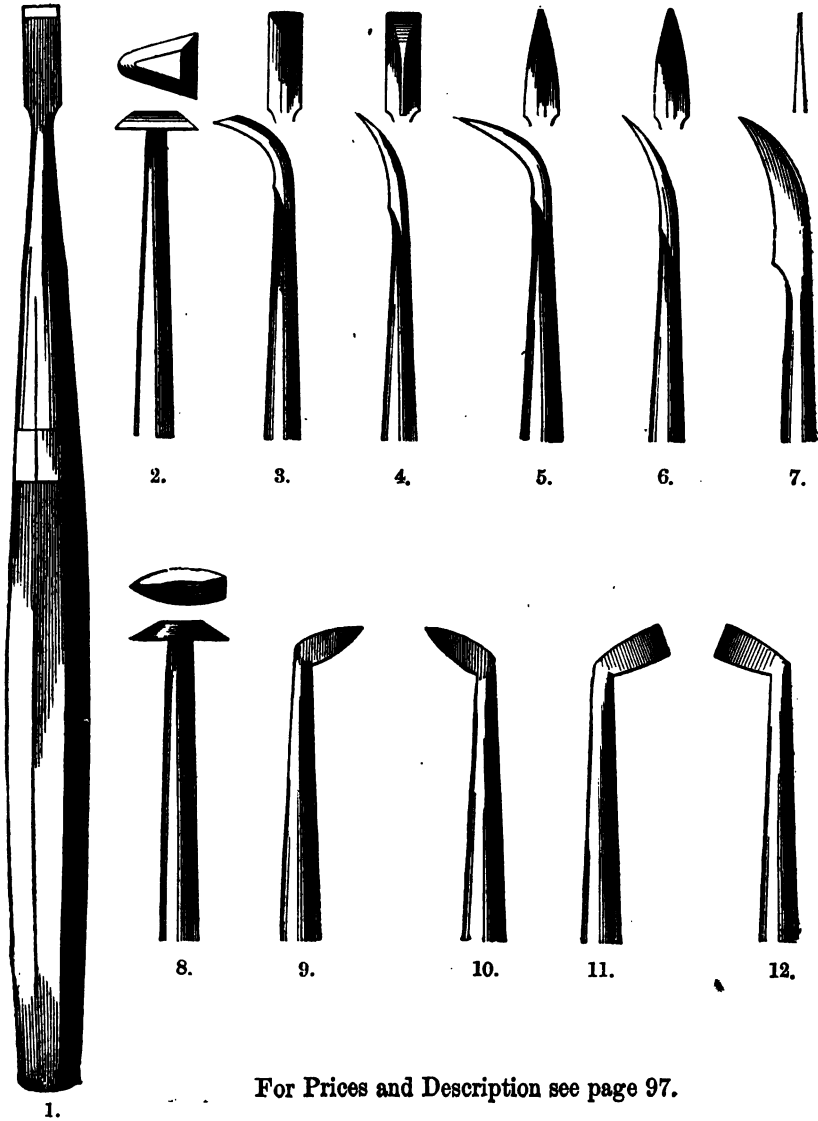
1.

For Prices and Description see page 97.



SCALERS.

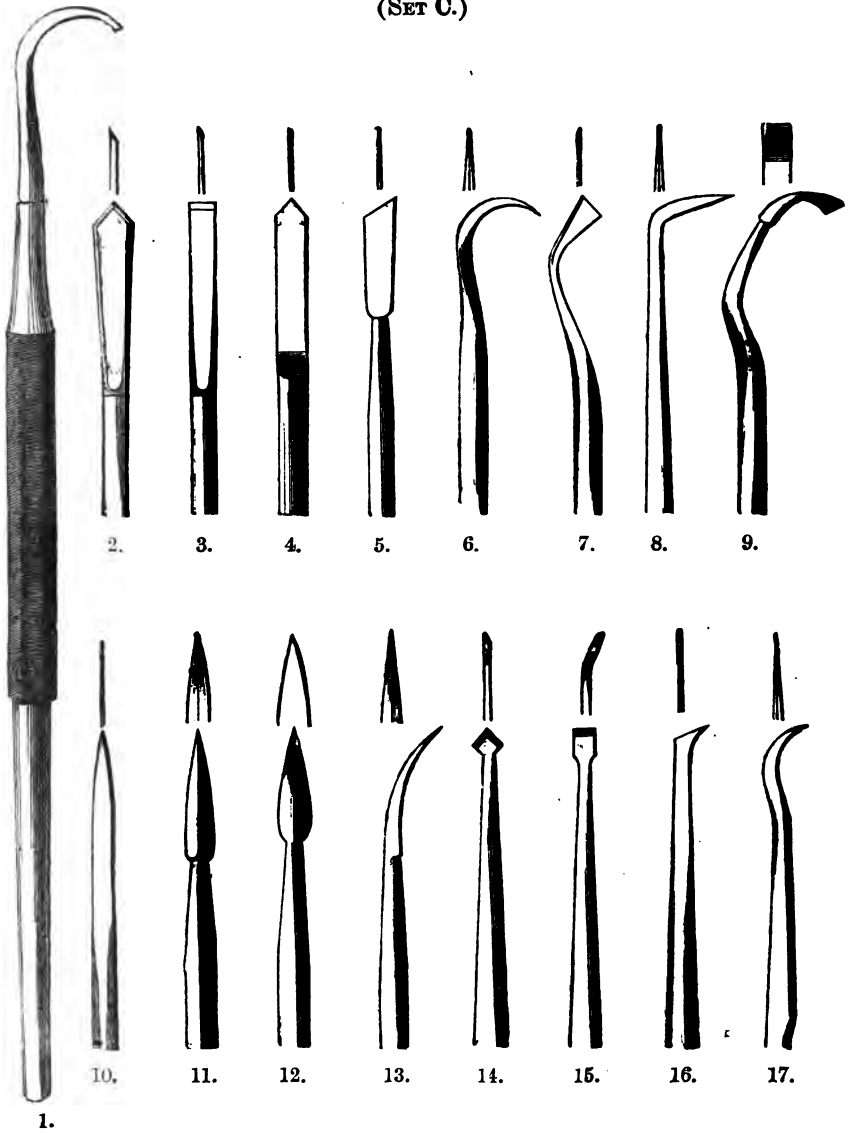
(SET B.)



For Prices and Description see page 97.

SCALERS.

(SET C.)



For Prices and Description see page 97.

## SCALERS.

(SET A., Page 94.)

	Set of 12.		Each.	
	s.	d.	s.	d.
SCALERS, with Steel plain octagon handles ... .. (Fig. 1, Page 94)	14	0	1	2
Ditto, with Steel file cut handles ... (as Fig. 1, Page 127)	14	0	1	2
Ditto, in Ivory or Ebony handles ... (as Fig. 1, Page 95)	made to order.			

(SET B., Page 95.)

	Set of 12.		Each.	
	s.	d.	s.	d.
Scalers, in Ivory octagon handles ... (Fig. 1, Page 95)	44	0	3	9
Ditto ,, Ebony ,, ,, ... (Fig. 1, Page 95)	29	0	2	6
Ditto with Steel, file cut ,, (as Fig. 1, Page 127)	14	0	1	2
Ditto ,, Steel, plain octagon handles (as Fig. 1, Page 94)	14	0	1	2
Ditto ,, Ivory handles and Silver ferrules ... extra	6	0		
Ditto, in $\frac{1}{2}$ in. Ivory handles with Silver ferrules ... .. (as Fig. 1, Page 119)	57	0		

(SET C., Page 96.)

		s.	d.
Scalers, with Steel file cut handles ... (Fig. 1, Page 96)	each	2	0
Ditto Steel, plain octagon handles ... .. (as Fig. 1, Page 104)	,,	1	0
Ditto, to fit into large bore socket handles (Pages 147 and 148)	,,	1	0
Ditto Steel, octagon, Nickel-plated, to order, extra per doz.		4	0

Scalers of any other form made or obtained to order.

Scalers in Cases, see Pocket Cases, page 63.

## FINE SCALERS.

(DR. HOWE'S.)

				<i>s. d.</i>
A SET of five very fine Scalars, consisting of two pairs curved Rights and Lefts and one Straight, for getting into very narrow spaces and between irregular teeth.				
With small Steel plain octagon handles	...	...	set of 5	4 6
Ditto	ditto	Nickel-plated	... .. „	6 0

## SCALERS, SCRAPERS, &amp;c.

(Patterns introduced by Mr. GREENFIELD. Originally designed by  
DRS. C. PALMER and BUTLER.)

THIS set of Instruments has been added to C. ASH and SONS' Stock, and consists of the following advantages:—

Nos. 1 and 2 are intended to supply a want universally experienced, being specially designed to supersede the file in reducing fillings on proximal surfaces without lacerating the gums. No. 1 can also be used for scaling.

Nos. 3, 4, 5, and 6 are right and left sided chisels, for cutting away the enamel, gold, &c.

Nos. 7 and 8 are designed for scaling and removing decay from proximal cavities; 9 and 10 can also be used for the latter purpose.

The remaining six will be found generally useful, and can be employed according to the fancy of the operator

In Steel octagon handles, per set of 16, 27*s.*; each 1*s.* 9*d.*

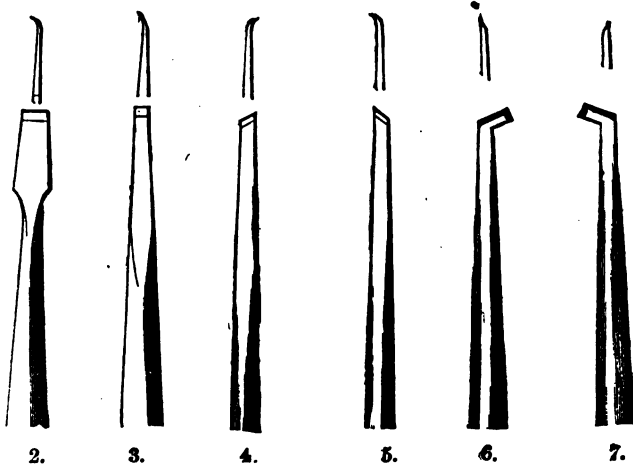
ABBOTT'S, S. S. WHITE'S, and other forms of Scalars made or obtained to order.

ENAMEL CUTTERS.

(SET A.)



1.



2.

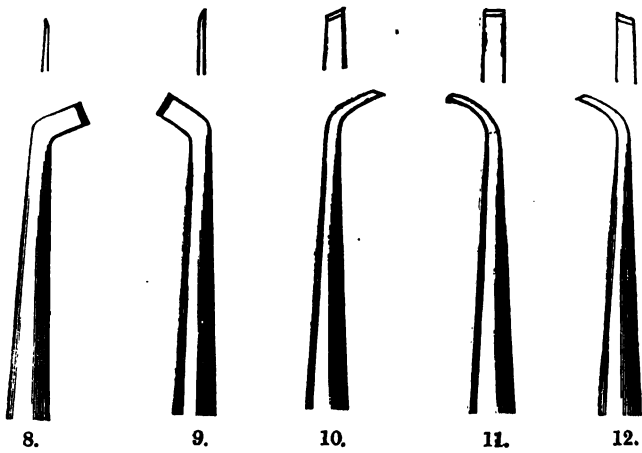
3.

4.

5.

6.

7.



8.

9.

10.

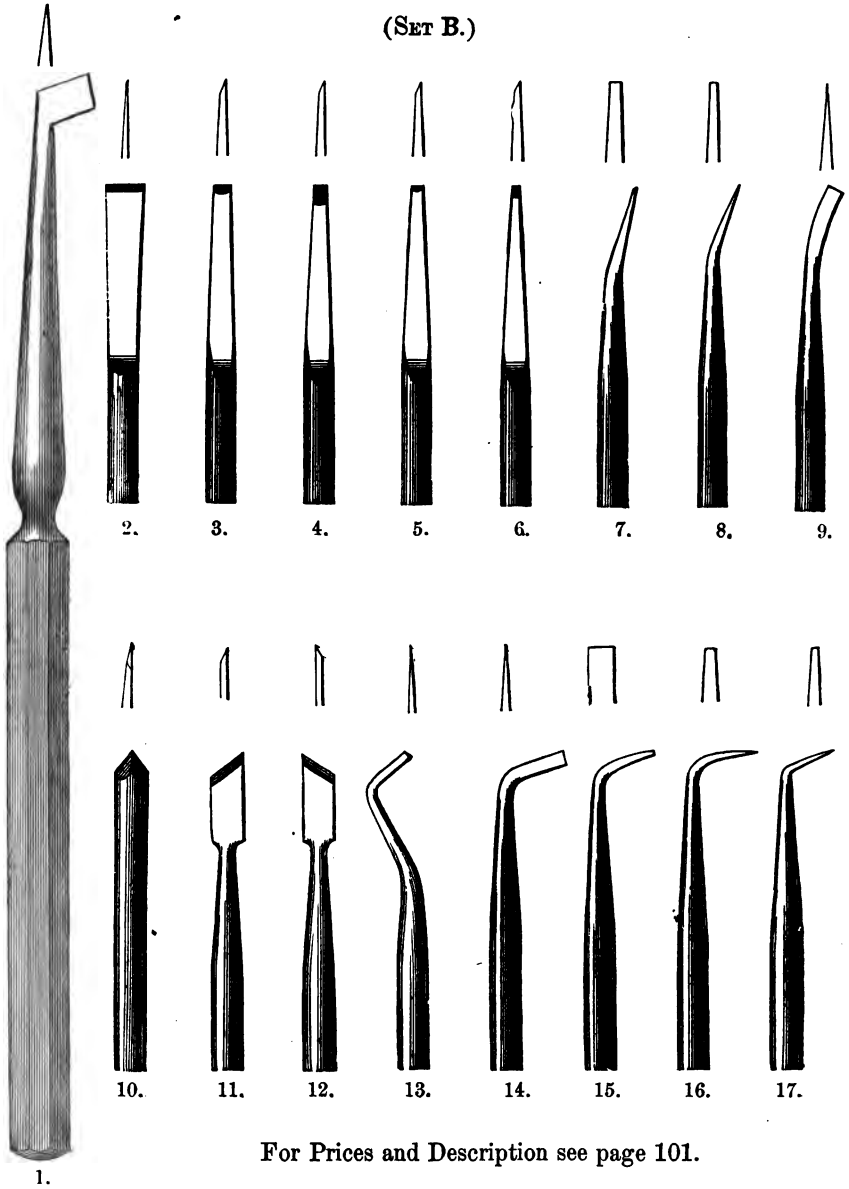
11.

12.

For Prices and Description see page 101.

ENAMEL CUTTERS.

(SET B.)



For Prices and Description see page 101.

## ENAMEL CUTTERS.

(SET A., Page 99.)

	Set of 12.	Each.
	s. d.	s. d.
ENAMEL CUTTERS, in Ivory octagon handles (Fig. 1, Page 99)	55 0	4 9
Ditto „ „ Ebony „ „ (Fig. 1, Page 99)	35 0	3 0
Ditto „ with Steel file cut „ (as Fig. 1, Page 127)	14 0	1 2
Ditto „ „ Steel plain oct. „ (as Fig. 1, Page 100)	14 0	1 2
Ditto „ in Ivory handles, and Silver ferrules in place of German Silver, extra ... ..	10 0	

(FORM B., Page 100.)

	s. d.
Enamel Cutters, with Steel plain octagon handles ... .. } (Fig. 1, Page 100) each	1 2
Ditto „ with Steel file cut handles (as Fig. 1, Page 127)	1 2
Ditto „ to fit into large bore Socket handles (Pages 147-8)	1 0
Ditto „ Dr. Arrington's American patterns, in plain Steel octagon handles, made to order (set of 18)	21/0 „ 1 2

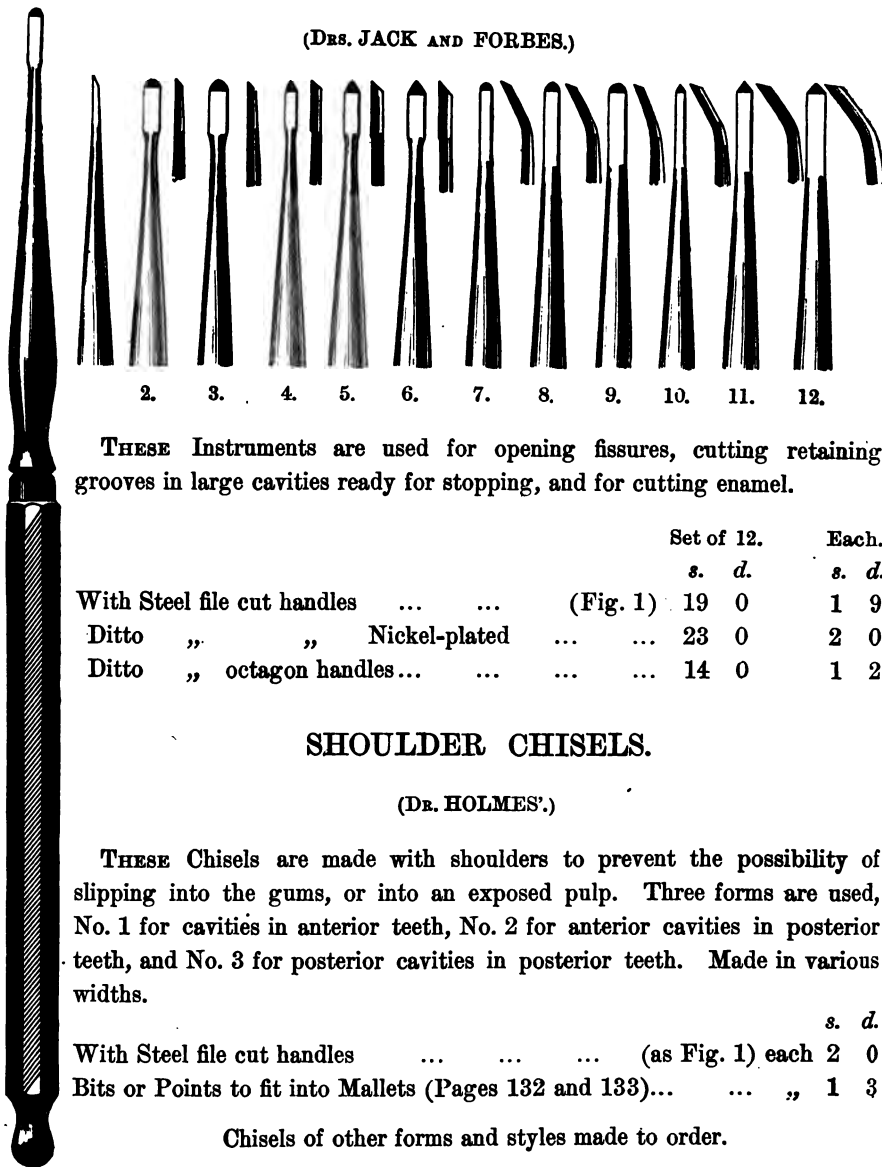
Enamel Cutters, Steel octagon, Nickel-plated, to order, extra  
per doz. 4/0.

Enamel Cutters of any other form made to order.

Enamel Cutters in Cases, see Pocket Cases, page 62.

## PARABOLOID AND GOUGE CHISELS.

(DRS. JACK AND FORBES.)



THESE Instruments are used for opening fissures, cutting retaining grooves in large cavities ready for stopping, and for cutting enamel.

	Set of 12.	Each.
	<i>s.</i> <i>d.</i>	<i>s.</i> <i>d.</i>
With Steel file cut handles ... .. (Fig. 1)	19 0	1 9
Ditto „ „ Nickel-plated ... ..	23 0	2 0
Ditto „ octagon handles... ..	14 0	1 2

## SHOULDER CHISELS.

(DR. HOLMES'.)

THESE Chisels are made with shoulders to prevent the possibility of slipping into the gums, or into an exposed pulp. Three forms are used, No. 1 for cavities in anterior teeth, No. 2 for anterior cavities in posterior teeth, and No. 3 for posterior cavities in posterior teeth. Made in various widths.

	<i>s.</i> <i>d.</i>
With Steel file cut handles ... .. (as Fig. 1) each	2 0
Bits or Points to fit into Mallets (Pages 132 and 133)... .. „	1 3

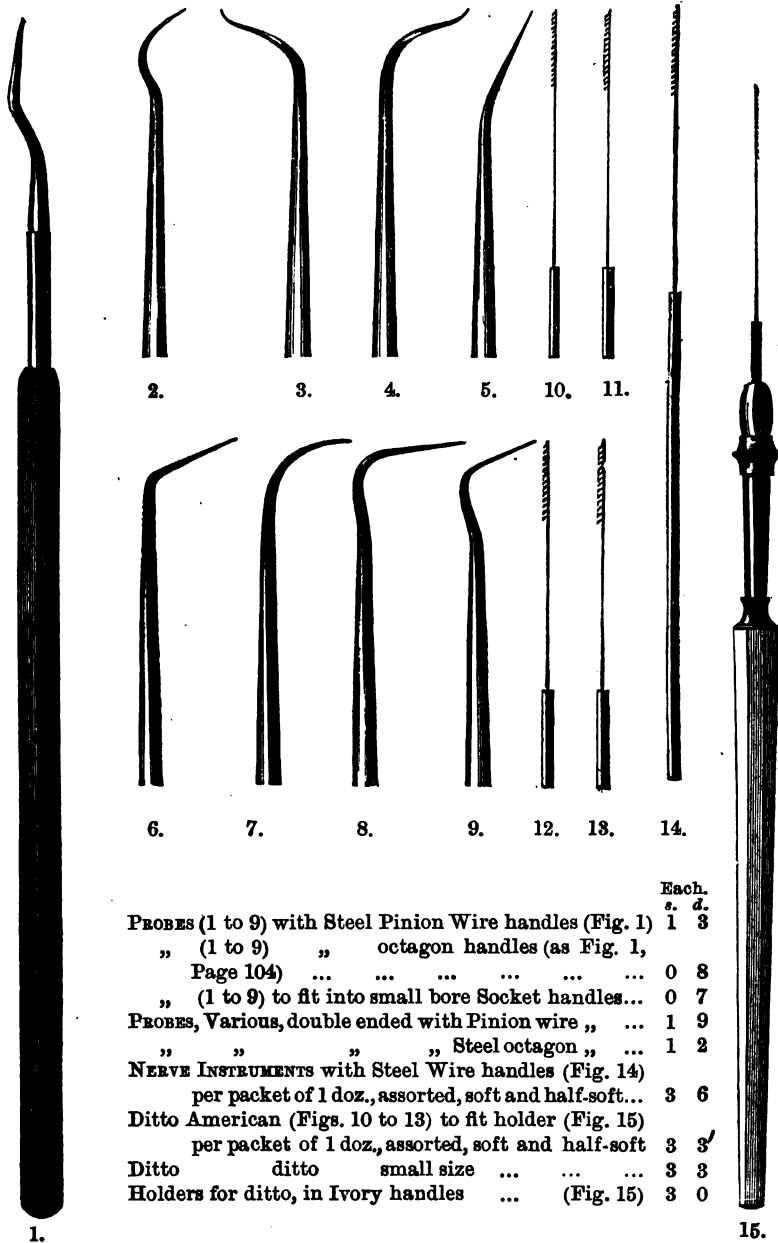
Chisels of other forms and styles made to order.

1.

Arkansas Stones for sharpening Chisels, &c., see page 202.



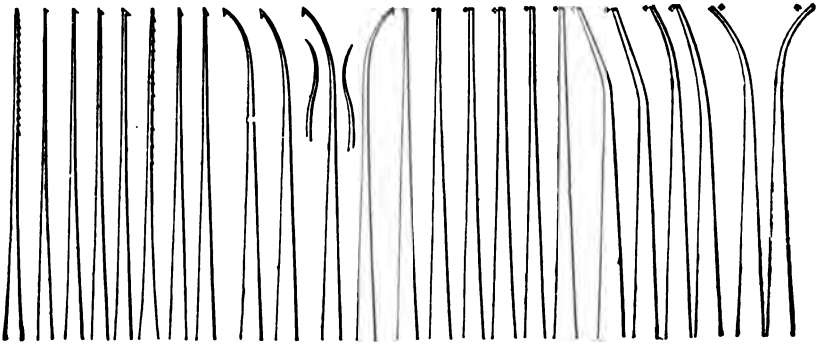
PROBES AND NERVE INSTRUMENTS.



	Each.
	s. d.
PROBES (1 to 9) with Steel Pinion Wire handles (Fig. 1)	1 3
" (1 to 9)   " octagon handles (as Fig. 1, Page 104) ... ..	0 8
" (1 to 9) to fit into small bore Socket handles...	0 7
PROBES, Various, double ended with Pinion wire "	1 9
"         "         " Steel octagon "	1 2
NERVE INSTRUMENTS with Steel Wire handles (Fig. 14)	
per packet of 1 doz., assorted, soft and half-soft...	3 6
Ditto American (Figs. 10 to 13) to fit holder (Fig. 15)	
per packet of 1 doz., assorted, soft and half-soft	3 3
Ditto ditto small size ... ..	3 3
Holders for ditto, in Ivory handles ... (Fig. 15)	3 0

**NERVE INSTRUMENTS.**

(DR. ARRINGTON'S.)



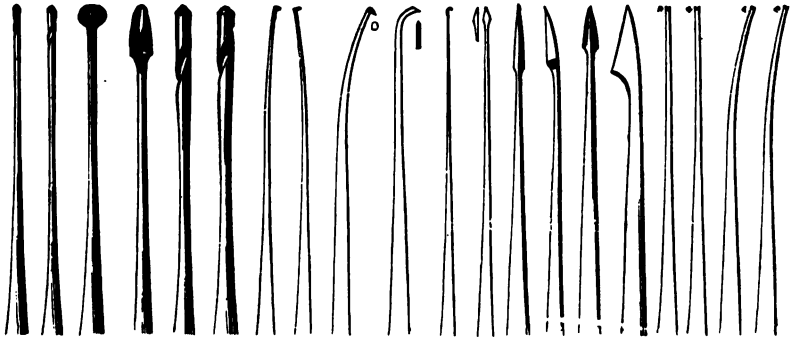
1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24.

*s. d.*

Nerve Instruments (Dr. Arrington's), Steel handles, per set of 24 . 17 6

Ditto ditto Various, with small square Steel handles,  
per doz. 8/6; each 0 9

(DR. PALMER'S.)



2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21.

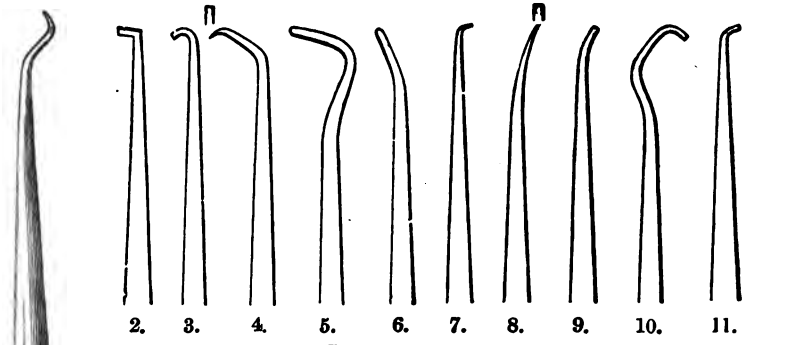
*s. d.*

Nerve Instruments (Dr. Palmer's), Steel handles, per set of 21 ... 19 0

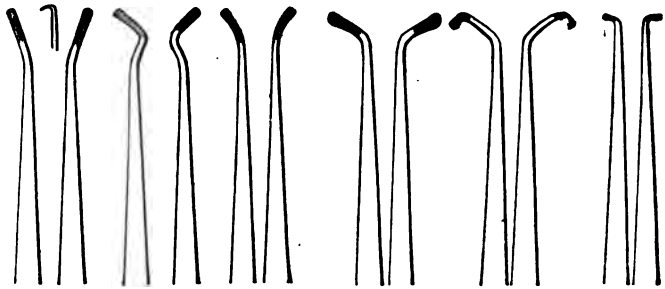
Nerve and Bur Drills (Dr. Gates') " " 42 ... 32 0

Nerve Broaches (Stubs') ... per doz. 2s. 4d.; each 0 2½

EXCAVATORS.



Flat, and cut either way.



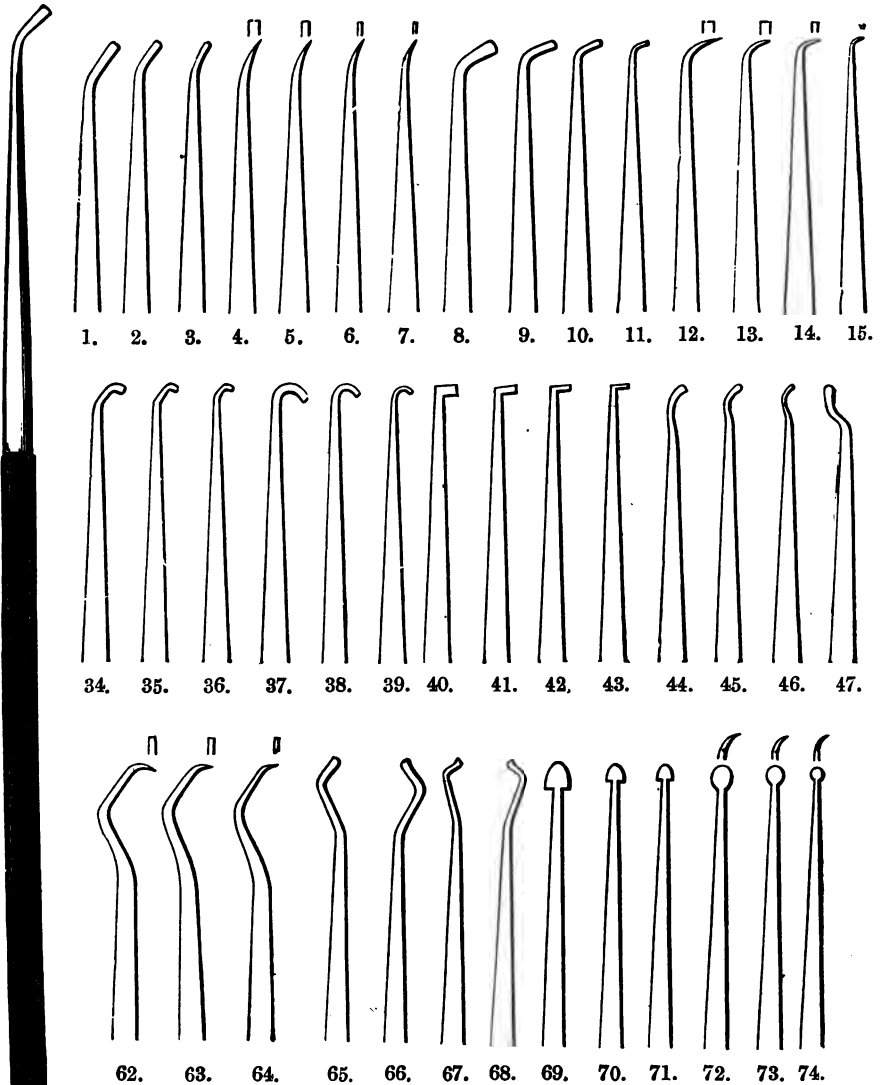
Curved right and left sides.



1.

|   |   |
|---|---|
| EXCAVATORS (1 to 23) in Ivory handles and German Silver ferrules                      | <i>s. d.</i>                              |
|   | (Fig. 1) each 2 3                         |
| "    (1 to 23) in Ebony   | "    "    (Fig. 1) " 1 9                  |
| "    (1 to 23) Steel octagon handles  | (Fig. 1, p. 104) " 0 8                    |
| "    (1 to 23) to fit small Socket handles (Pages 147, 148)                           | "    "    "    " 0 7                      |
| Excavators (1 to 86) and finer (Pages 106, 107), with Steel octagon handles ... ..    | each 0 8                                  |
| "    (1 to 86) Steel file cut handles   | "    "    "    " 0 8                      |
| "    (1 to 86) to fit into small bore Socket handles (Pages 147, 148) ... ..          | each 0 7                                  |
| Excavators various, Single end, with Pinion Wire handles (as Fig. 1, page 103) ... .. | each 1 3                                  |
| "    "    Double  | "    "    Pinion Wire or plain oct. " 1 9 |
| "    "    Single  | "    "    Ivory handles ... " 1 9         |
| "    "    Double  | "    "    Ivory " ... " 2 6               |
| "    "    Single  | "    "    Ebony " ... " 1 3               |
| "    "    Double  | "    "    Ebony " ... " 1 9               |
| Excavators, with Nickel-plated handles, to order, extra per doz. ...                  | 4 0                                       |

EXCAVATORS—*continued.*



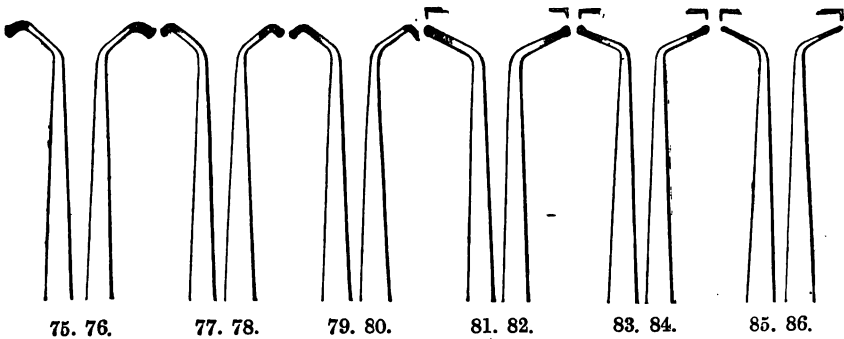
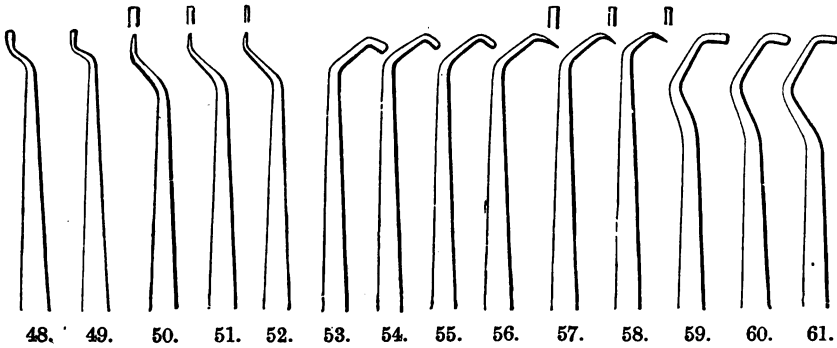
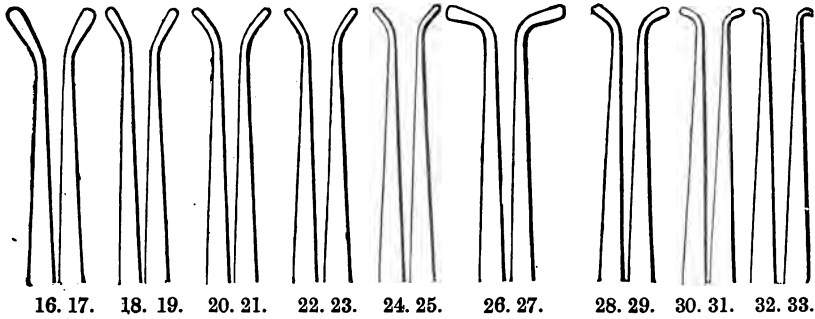
For Prices and Description see page 105.

Nos. 65 to 68 are curved right and left.

All others on this page are flat, and cut either way.

1. A variety of Smaller or Finer Sizes than those illustrated kept in stock.

EXCAVATORS—*continued.*



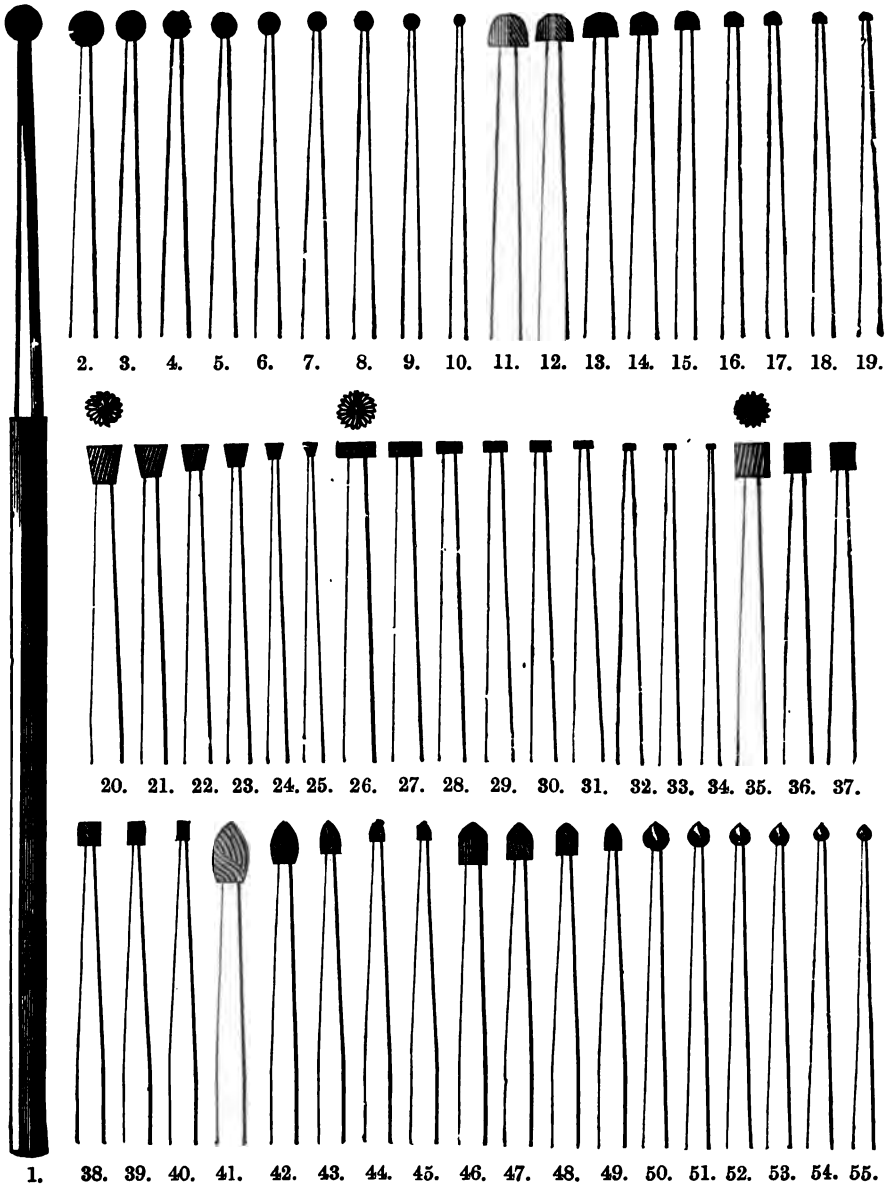
Nos. 16 to 33 are curved right and left.

„ 75 to 86 are double curved right and left.

„ 48 to 61 are flat, and cut either way.

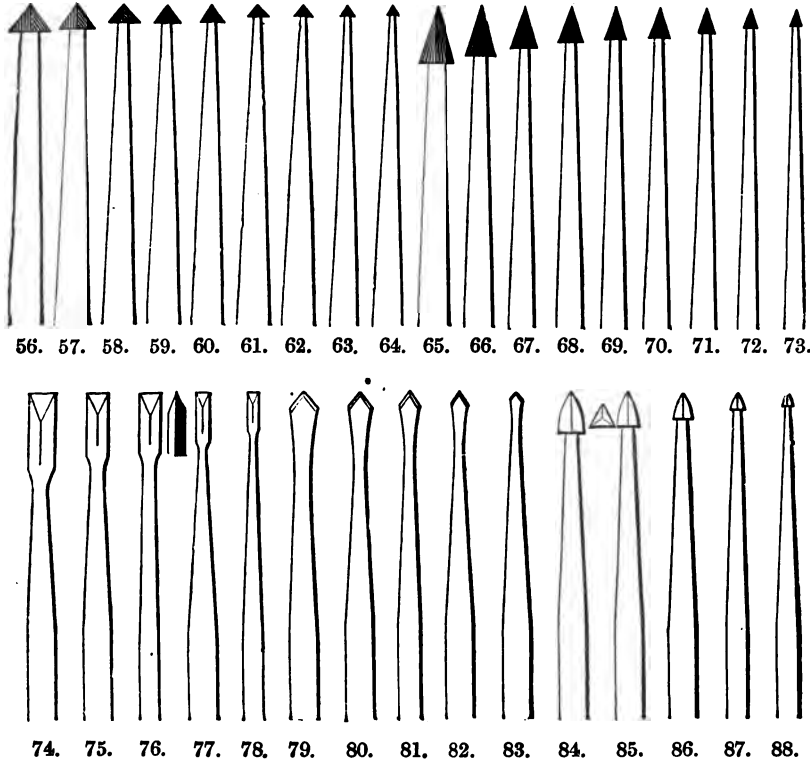
A variety of Smaller or Finer Sizes than those illustrated kept in stock.

BURS AND DRILLS.



A variety of Smaller Sizes than those illustrated are kept in stock.

BURS AND DRILLS.



|  |                       | Per doz. | Each. |
|--|-----------------------|----------|-------|
|  |                       | s. d.    | s. d. |
| Burs and Drills (1 to 88, and smaller), with Steel octagon handles     | (Fig. 1)              | 8 6      | 0 9   |
| „ „ (1 to 88, and smaller), „ small file cut handles                   |                       | 8 6      | 0 9   |
| „ „ small and medium size heads, to fit into small bore Socket handles | (Pages 147 and 148)   | 8 6      | 0 9   |
| „ „ large heads, to fit into same Socket handles                       | ...                   | 13 6     | 1 2   |
| Burs and Drills, various sizes and forms, with Pinion Wire handles     | (as Fig. 1, Page 103) | 14 6     | 1 3   |
| „ „ various, with Plain Ivory handles                                  | ... ..                | 20 0     | 1 9   |
| „ „ „ „ Ebony „  | ... ..                | 14 0     | 1 3   |

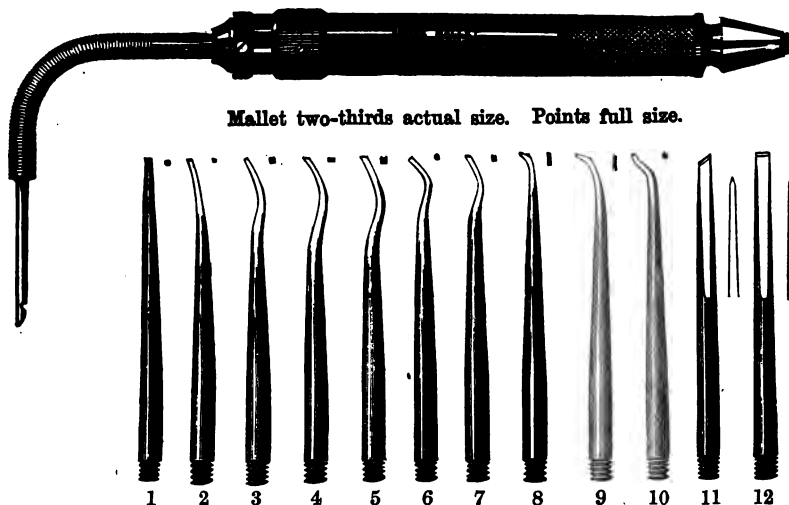
Burs and Drills, Steel octagon handles, Nickel-plated, to order, extra per doz., 4s.

Bur Thimbles, see page 116.

Burs and Excavators in Pocket Cases, see pages 62 and 63.

## POWER'S ENGINE MALLET.

For use with any Dental Engine.



This Mallet has been introduced to the Profession after a lengthened course of Experiments, and has been tested and highly commended by many of the leading Practitioners.

For lightness and rapidity of blow it is far superior to any other Mallet used with the Engine, approaching very nearly the blow given by the Electric-Mallet.

The force of the blow is entirely under the control of the Operator, being regulated by the split ring on the spring end of the case.

On the point end of the case there is a sliding collar—not illustrated—for stopping the blow while the Engine is in motion, so as to enable the Operator to pick up gold, or to use it temporarily as a Hand-Plugger.

The Mallet is made to carry most of the points used with the existing Automatic Mallets, but very fine and shallow serrations will be found best adapted for producing solid fillings, the coarser kinds being liable to chop up the gold.

The Points illustrated are taken from Dr. Webb's Electric-Mallet Pluggers.

The Mallet can be adapted for any Engine; when ordering, please state for which it is required.

For more conveniently holding the Mallet it is supplied with a Finger Ring at a slight additional cost.

Directions sent with each Mallet.

|                           |     |     |       | <i>s.</i> | <i>d.</i> |
|---------------------------|-----|-----|-------|-----------|-----------|
| Mallet, as illustrated    | ... | ... | ...   | 55        | 0         |
| „ fitted with Finger Ring | ... | ... | extra | 4         | 0         |
| „ Points with Screw ends  | ... | ... | each  | 1         | 6         |

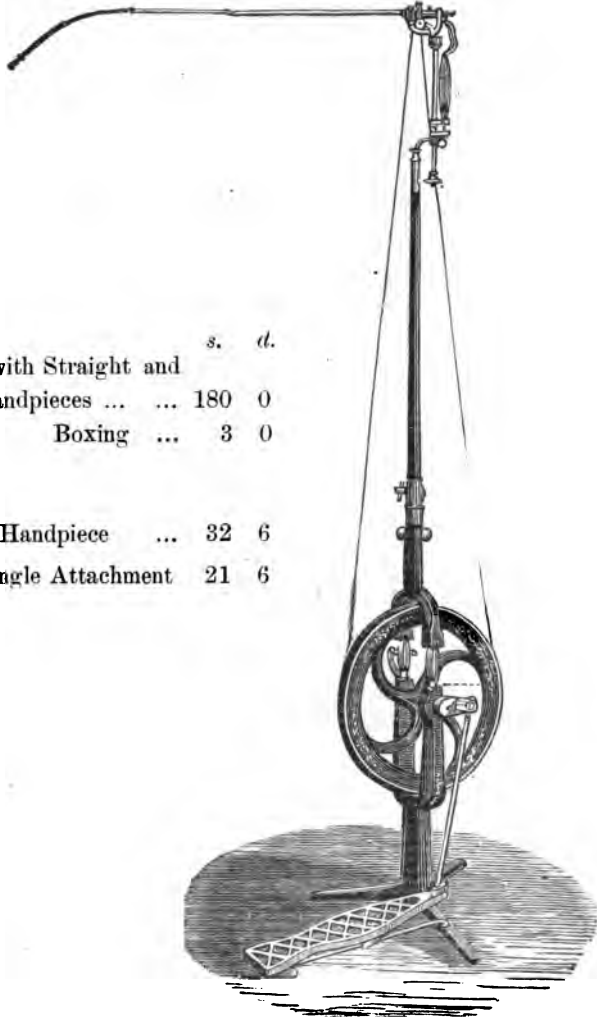


THE JOHNSTON DENTAL ENGINE,  
WITH NO. 2 CONE JOURNAL HANDPIECE, AND NEW RIGHT-ANGLE  
ATTACHMENT.

|   | s.  | d. |
|---|-----|----|
| Engine complete, with Straight and<br>Right-Angle Handpieces ... .. | 180 | 0  |
| Boxing ... ..   | 3   | 0  |

*Separately :*

|                               |    |   |
|-------------------------------|----|---|
| Straight Handpiece ... ..     | 32 | 6 |
| Right-Angle Attachment ... .. | 21 | 6 |



**NOTE.**—For sizes, shapes, and prices of Burs, &c.,  
see pages 112 to 115, and also the Appendix.  
This has superseded the Morrison Engine.  
Full description sent on application.

S. S. WHITE'S IMPROVED  
DENTAL ENGINE.

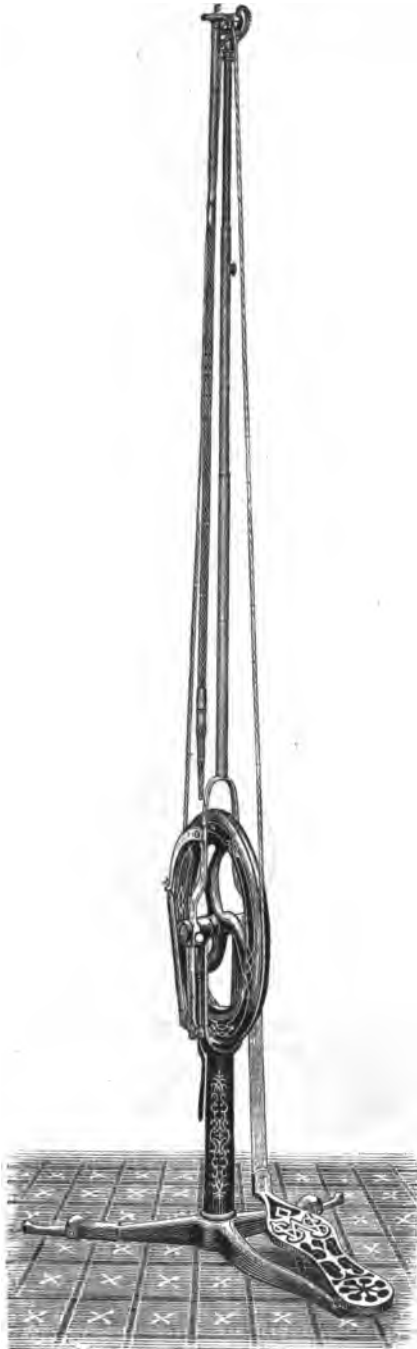
REDUCTION IN PRICES  
ON PAGE 111.

|  | <i>s.</i> | <i>d.</i> |
|--|-----------|-----------|
| Engine complete, with<br>Straight Handpiece and<br>14 Points ... ..                      | 200       | 0         |
| Ditto ditto with<br>Right, Acute, or Obtuse-<br>Angle Attachment and<br>14 Points ... .. | 220       | 0         |
| Boxing ... ..  | 3         | 0         |

**NOTE.**—All other prices  
on page 111 remain the  
same.

Complete description,  
with illustrations of the  
Engine in various posi-  
tions, sent on applica-  
tion.

**JUNE, 1880.**



## S. S. WHITE'S DENTAL ENGINE.

Height, 4 feet 7 inches.



\*ENGINE complete, with Straight Handpiece and 14 points 220s.

\*Ditto ditto ditto with Right, Acute, or Obtuse Angle Attachment... .. 240s.

Right, Acute, or Obtuse Angle Attachment, extra, if supplied separately ... 21s. 6d. each.

Hickman's Air Injector, for blowing chips, &c., out of the cavities and for keeping the Burs, &c., cool while in use ... extra 13s.

Hickman's Disc Carrier, for holding Corundum and other Discs, constructed so that they can be worked at any angle...extra 13s.

Automatic Plugger (Dr. Buckingham's) to fit the above Engine. extra 52s.

Finger Ring for ditto ,, 4s.

Plugger points for ditto, with tapered ends (page 131) each, 1s. 1d.

Plugger points, with screw ends, from 1s. 3d. each.

Plugger points, American, from 1s. 6d. to 2s. 6d. each, obtained to order.

For Burs, Drills, Burnishers, Stones, Leathers, and other attachments, see pages 112 to 115.

\* These are the prices for this Engine, with all the latest improvements. April, 1880.

R

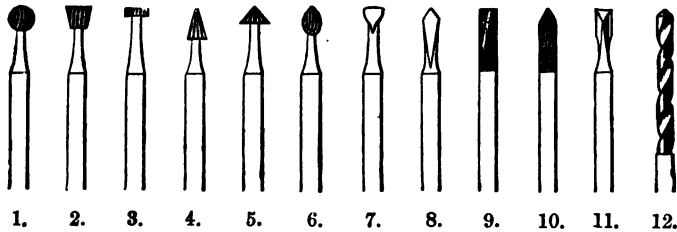
S

### BURS, DRILLS, BURNISHERS, &c.

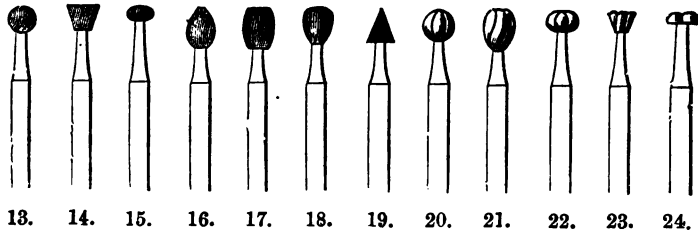
SIZE OF BURS, &c.



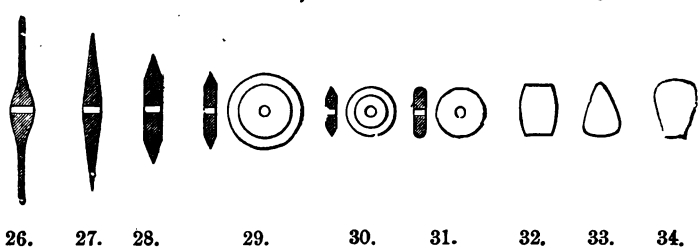
FORMS OF CAVITY BURS AND DRILLS.



FINISHING BURS AND BURNISHERS.

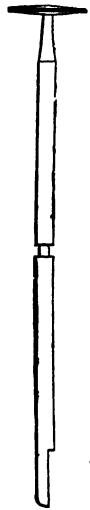
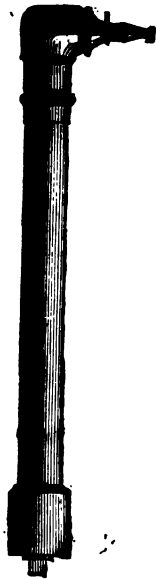


CORUNDUM DISCS, STONES AND LEATHERS.



For Engines see page 111.

N.B.—Fig. 25 represents the B. style of points which are generally supplied with Morrison's Engine, and Fig. W. the style of points suitable for White's Engine, page 111. The Right-angle points, as in Fig. R., are the same for both Engines.



25.



## INSTRUMENTS AND ATTACHMENTS.

(FOR MORRISON'S AND WHITE'S DENTAL ENGINES.)

|   | <i>s.</i> | <i>d.</i> |
|---|-----------|-----------|
| CAVITY BURS, Nos. 1 to 6 (sizes A to K) and smaller ... each                    | 0         | 9         |
| " Drills " 7 to 11 ( " F to K) " ... "  | 0         | 9         |
| " " No. 12 ( " F to K) " ... "  | 1         | 0         |
| " Burs, Nos. 1 to 6 (extra large) ... each 1/6 and                              | 1         | 0         |
| Finishing Burs " 13 to 19 (sizes A to K) ... each                               | 1         | 3         |
| " " 13 to 19 (extra large) ... each 1/9 and                                     | 2         | 3         |
| Burnishers " 20 to 24 (sizes A to K) ... each                                   | 1         | 2         |
| Wheel Burs for dividing, &c., No. 25 ... "                                      | 2         | 3         |
| Saws, Circular, medium and small sizes ... "                                    | 1         | 9         |
| " large " ... "   | 2         | 6         |
| Right Angle Burs, Drills, Burnishers, &c., as above, at the same prices.        |           |           |
| Brushes, Circular, $\frac{3}{4}$ in. to 1 in. diam. for cleaning teeth ... each | 0         | 9         |
| Corundum Discs, No. 26, large, medium, and small, mounted " "                   | 0         | 11        |
| " " No. 27, medium ... "  | 0         | 11        |
| " " Nos. 26 and 27 as above, unmounted ... "                                    | 0         | 6         |
| " Discs and Cones, Nos. 28 to 34, mounted ... "                                 | 0         | 6         |
| " " Nos. 28 to 34, unmounted ... "  | 0         | 2         |
| Leathers, forms 29 to 34, and other forms, mounted ... "                        | 0         | 9         |
| " " 29 to 34 " " unmounted ... "  | 0         | 3         |
| Porte Polishers, or Holders to carry Wood Points ... "                          | 1         | 0         |
| Parting Nut Mandrels " Brushes, &c. ... "                                       | 1         | 0         |
| " " Nickel-plated, to carry " ... "   | 1         | 3         |
| Stones, Water of Ayr, Nos. 29 to 34, and other forms, mounted " "               | 0         | 9         |
| " " 29 to 34 " " unmounted " "  | 0         | 4         |
| " Hindostan, &c., obtained to order ... "                                       | 2         | 0         |
| Stems with Screw ends, for mounting Discs, &c. ... "                            | 0         | 4         |
| Screw Mandrels with Shoulders, for Leathers, &c. ... "                          | 0         | 9         |
| Burs, Drills, &c., of other forms, &c., made to order.                          |           |           |

For other Instruments and Attachments, see the two following pages

A Discount of 10 per cent. is allowed off the above prices when quantities of 6 dozen and upwards are ordered at one time.

N.B.—When ordering extra points for straight handpieces, please say if required for White's, or for Morrison's A, B, or C style.

INSTRUMENTS AND ATTACHMENTS—*continued.*

|  | <i>s.</i> | <i>d.</i> |
|--|-----------|-----------|
| Abbott's Right Angle Attachment for White's Engines ... each   | 20        | 0         |
| Boxwood Discs, thin, for polishing between teeth, in sizes $\frac{1}{2}$ in., $\frac{7}{8}$ in.,<br>and $\frac{3}{4}$ in. diameter ... .. each               | 0         | 6         |
| Bands for Engines ... .. "   | 0         | 6         |
| Bands, Gut for ditto, with hooks and eyes ... .. "   | 2         | 0         |
| Brushes, Steel wire, for cleaning Burs, Stoppers, &c., in Ebony<br>handle ... .. each  | 4         | 0         |
| Cables, extra, for White's Engines ... .. "  | 8         | 0         |
| Gear Joints for Morrison's or White's Engines, obtained to order ..  | 28        | 0         |
| Handpieces, Straight, for Morrison's Engine... .. "  | 20        | 0         |
| "    "    for White's    "    "    "    "    "    "    "    "    "   | 43        | 0         |
| Holders for Wood points, each 1/0, or Nickel-plated ... .. "   | 1         | 3         |
| Rubber Discs, Hard and Soft, for polishing between teeth ... .. "  | 0         | 6         |
| Rubber Discs for preventing the wash of Corundum, &c., flowing<br>back into the Sockets of the Handpieces, and grinding the<br>delicate parts ... .. per box | 0         | 3         |
| Springs, Driving, for Morrison's Engines ... .. each   | 0         | 7         |
| Springs, Balance, and off centre, for Engine, Nickel-plated ... .. "   | 4         | 4         |
| Springs, Sleeve ... .. "   | 3         | 9         |
| Spring Catches for Handpieces .. each 6d., or Nickel-plated ..   | 0         | 8         |
| Stands, Ebonized Wood, with 73 holes for Engine points ... .. "  | 7         | 0         |
| Stands, Walnut and White wood, with large holes for points ..  | 6         | 6         |
| Stand Covers, Glass, for either style ... .. "   | 3         | 6         |
| Stands, Revolving, and others, for Engine points, made to order.   |           |           |
| Wood Points (Southwood's), assorted forms, for polishing Stoppings<br>to fit Holders above, per box of 100 ... .. each                                       | 5         | 6         |

For Polishing Materials see page 202.

### FOUNTAIN MOUTH PROTECTOR.

FOUNTAIN MOUTH PROTECTOR for preventing the tongue and cheeks being injured by the Discs. It has a Tube slit, so as to spring over the straight handpieces of White's Engine, and an india-rubber Bulb attached which holds water, and when pressed with the fingers wets the Discs ... .. each

3 3

N.B.—When ordering extra handpieces, &c., please state which style is required, viz., Morrison's A, B, C, or White's.

**For other Engine Instruments see Appendix.**

INSTRUMENTS AND ATTACHMENTS—*continued.*

(FOR DENTAL ENGINES.)

## TONGUE AND CHEEK PROTECTOR.

(IVES'.)



TONGUE and CHEEK PROTECTOR, made in German Silver, Nickel-plated, in 2 sizes, suitable for the various Discs used. The Clamp Tube is of soft metal, so that it can be adapted to *s. d.*  
 the Handpiece of either Morrison's or White's Engine  
 per set of 2, 6/6; or each 3 3

## DISC AND SPONGE CARRIER

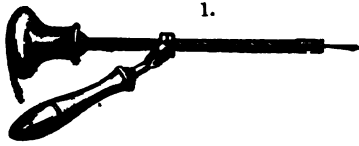
(MR. ROGERS'.)

THIS little Apparatus consists of a Metal Frame which holds a piece of wet sponge, and pressing on both sides of the Discs or against the Cones; attached to it is a Spring Tube, so that it can be fitted on to the Handpiece of either Morrison's or *s. d.*  
 White's Engine. The Frame is hinged in the centre, so as to allow the Discs, &c., to be changed; Nickel-plated ... each 5 0

## WATER APPARATUS.

(MR. HUTCHINSON'S.)

HUTCHINSON'S WATER APPARATUS, consisting of a half-round or round Tank, 6 in. by 3 in., with wire loops to be suspended on a nail against the wall. With 4 feet of india-rubber tubing *s. d.*  
 and Nickel-plated Tap, for conveying water to the Discs, &c., used with the Dental Engines, complete ... .. each 10 6



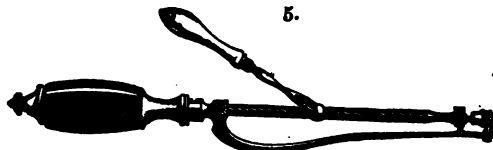
5 inches long.

|  |    |              |
|--|----|--------------|
| <b>ARCHIMEDEAN DRILLING INSTRUMENT, with tapered Steel Socket, in</b>  |    | <i>s. d.</i> |
| Ivory handle, and three drills, tapered ... .. (Fig. 1) each   | 9  | 6            |
| Ditto ditto in Ebony handle (Fig. 1) ..  | 7  | 6            |
| Ditto Fig. 1, improved with freer motion to handle, extra ..   | 1  | 6            |
| Ditto (Mr. Merry's) with 2 handles and Spiral Spring, to work at different angles, with 3 drills ... .. each | 10 | 6            |
| Burs and Drills, tapered ends, to fit Instruments Fig. 1, and Merry's ... .. per doz.                        | 9  | 0            |

**BUR THIMBLES.**



|  |              |
|--|--------------|
| <b>BUR THIMBLE, for placing on the first or second finger, to receive the ends of drills, &amp;c., to which a rotary motion is to be given, in German Silver electro-plated ... .. (Fig. 2) each</b> | <i>s. d.</i> |
| Ditto, ditto ,, ,, ... .. with hinge ,,  | 1 9<br>2 0   |



10 inches long.

|  |              |
|--|--------------|
| <b>ARCHIMEDEAN (French), to work at any angle. Steel, with Ivory handles and 6 drills inside ... .. (Fig. 5)</b> | <i>s. d.</i> |
| Burs and Drills for ditto ditto per doz.   | 33 0<br>9 0  |

N.B.—When ordering extra drills only, for the Drilling Instruments Figs. 1, 5, and others, a sketch or an old Bur or Drill should be sent for size, &c., of Socket, as alterations in the sizes, &c., have been made at different times.



## MR. A. KIRBY'S IMPROVED PNEUMATIC MALLET.



THIS Instrument answers all the purposes of an ordinary Hand Mallet without the aid of an assistant.

Each blow is given with the exact force and at the precise moment desired by the operator, and power enough may be obtained, if required, for welding unannealed non-adhesive gold with the smallest possible amount of concussion or jarring to the tooth. Several blows may be given in rapid succession; but the Instrument is intended to produce a decided effect on the exact spot required, rather than to afford a number of rapid blows.

The heel should be placed firmly, but not stiffly, on the back of the pedal, so that it carries the weight of the leg and foot. A very slight movement of the toe will then produce a light blow, which may be increased to any desired extent by using more force. No considerable motion of the foot is at any time necessary.

The force of the blow is also regulated by the collar on the improved Handpiece. To obtain a full blow the collar should be turned so as to open the holes to the fullest extent; the force is diminished by making the holes smaller.

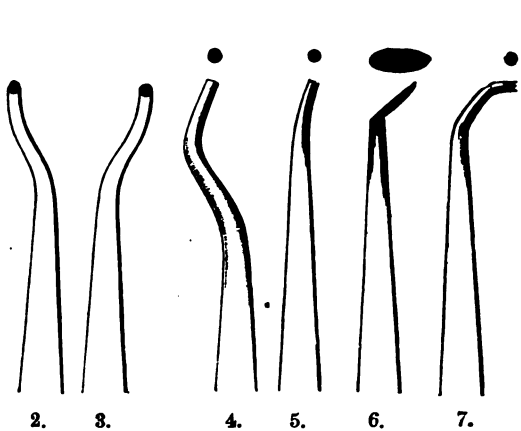
|   |              |      |
|---|--------------|------|
| Mallet with Ornamented Iron Stand, Nickel-plated Tube and | s.           | d.   |
| Improved Handpiece, complete                              | ...          | 80 0 |
| Points for ditto, with Screw Ends, all forms              | ... each     | 1 6  |
| Cover   | ...          | 1 6  |
| Extra parts separately—                                   |              |      |
| Improved Handpiece  | ...          | 30 0 |
| India Rubber Bulb   | ...          | 3 6  |
| „ Tubing  | ... per foot | 0 6  |

STOPPERS.

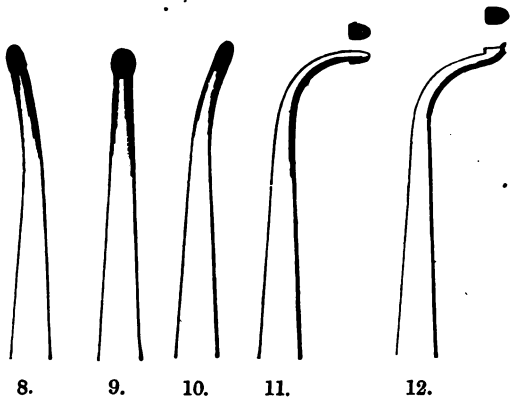
(SET A.)



1.



2. 3. 4. 5. 6. 7.

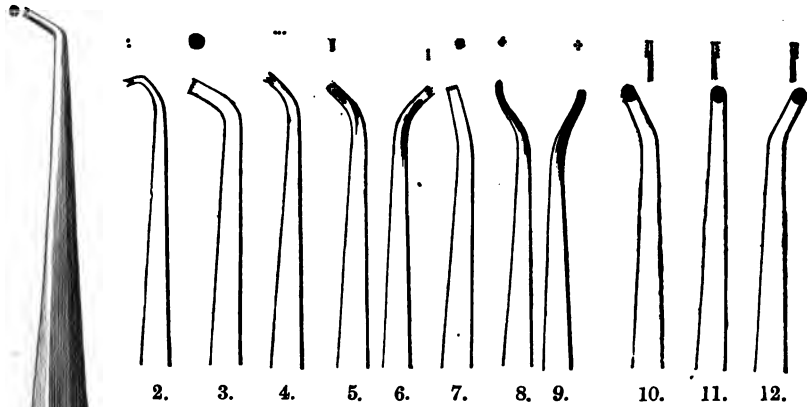


8. 9. 10. 11. 12.

The above forms made in various handles.  
See following page.

STOPPERS.

(SET B.)



STOPPERS.

(SET A.)

|   | Set of 12. | Each. |
|---|------------|-------|
|   | s. d.      | s. d. |
| With large scale tang handles, Ivory (Fig. 1, P. 118) | 59 0       | 5 0   |
| „ „ „ „ Ebony (Fig. 1, P. 118)                        | 38 0       | 3 3   |
| „ steel plain octagon handles (as Fig. 1, P. 124)     | 14 0       | 1 2   |

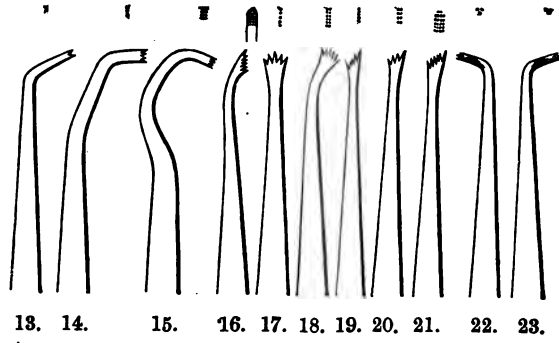
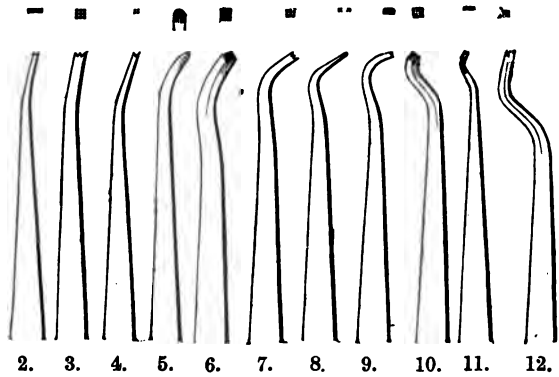
(SET B.)

|  | Set of 12. | Each. |
|--|------------|-------|
|  | s. d.      | s. d. |
| With Ivory handles and German }<br>Silver Ferrules ... .. } (Fig. 1, P. 119)         | 49 0       | 4 2   |
| „ Ebony „ „ } (Fig. 1, P. 119)   | 29 0       | 2 6   |
| „ Steel „ plain octagon (Fig. 1, P. 124)   | 14 0       | 1 2   |
| Stoppers A and B to fit large }<br>bore Socket handles ... } (Pages 147, 148)        | ...        | 1 0   |
| Stoppers, in Ivory, with Silver Ferrules, extra the set                              |            | 8 0   |
| Stoppers with Steel Octagon Handles, Nickel-plated<br>to order ... .. extra per doz. |            | 4 0   |

1.

STOPPERS—*continued.*

(SET C.)



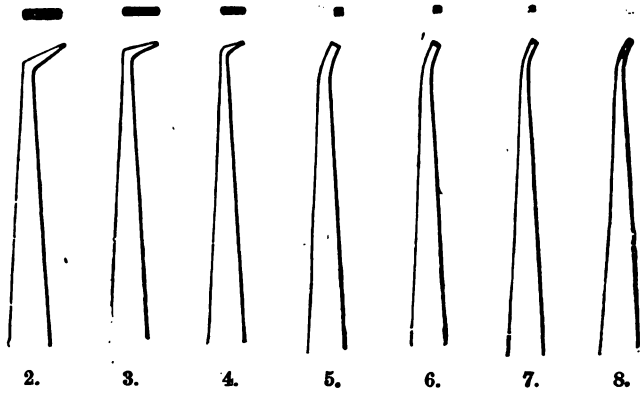
24.



### MALLET PLUGGERS.



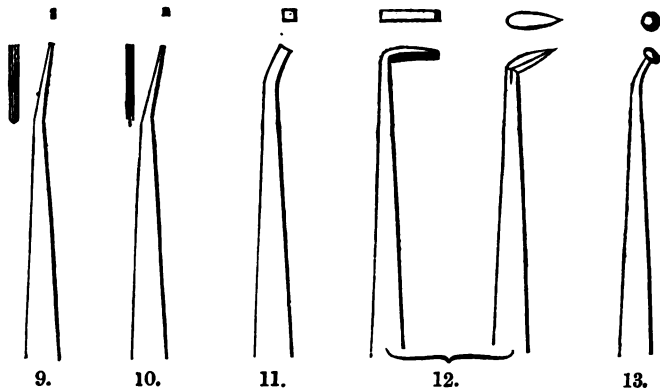
1.



PLUGGERS (Mr. Stevens') with oval Steel *s. d.* *s. d.*  
 handles used with Hand Mallets, set of 13 50 0 each 4 0

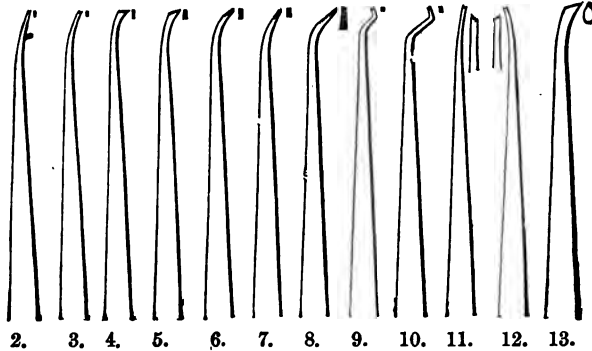
No. 12 is a double-ended instrument.

For directions how to use these Pluggers, see "Monthly Review of  
 Dental Surgery" for February 1873, page 397.

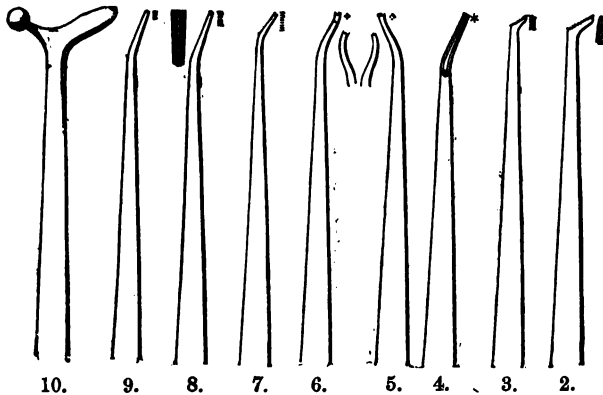


For Hand Mallets used with above see page 134.

MALLET PLUGGERS.



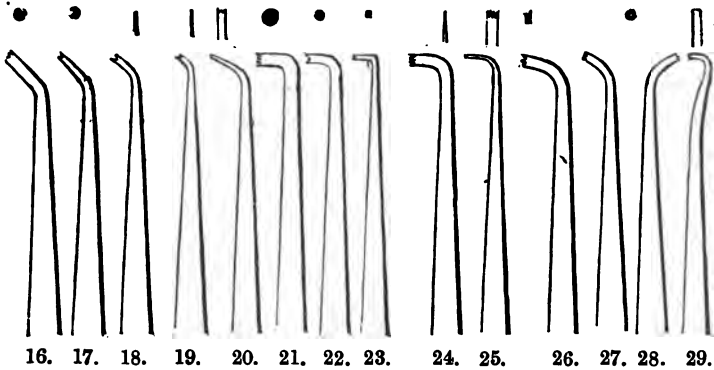
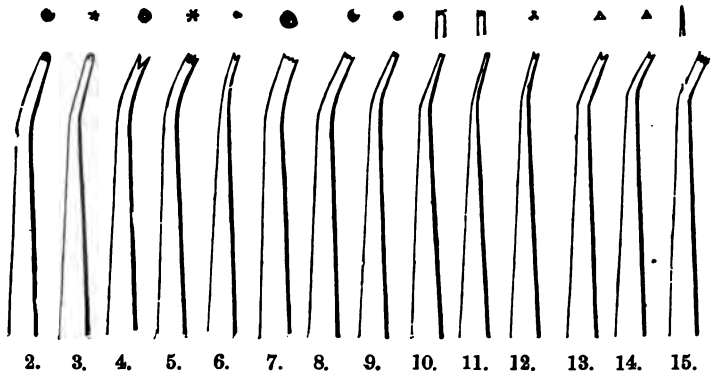
|   | Set of 13.   | Each.        |
|---|--------------|--------------|
|   | <i>s. d.</i> | <i>s. d.</i> |
| PLUGGERS (Dr. Varney's), 7-inch Steel, with polished tapered handles ... ..   | 46 0         | 3 9          |
| Ditto " " with polished swelled handles ... ..  | 48 0         | 4 0          |
| Ditto " " with blued centres, tapered or swelled ends extra per set   | 9 0          | 0 9          |
| Pluggers Points as above, to fit Kirby's, Snow and Lewis's, Salmon's, and other Automatic Mallets, on pages 132 to 134 ... .. |              | 1 3          |



|  |              |              |
|--|--------------|--------------|
| Pluggers (Mr. Stevens'), 7-inch Steel handles and polished swelled ends, and 1 Burnisher, the set of 10 ... .. | <i>s. d.</i> | <i>s. d.</i> |
|  | 22 0         | each 2 3     |
| For Hand Mallets used with above Pluggers see page 134.  |              |              |

STOPPERS—*continued.*

(1 to 74.)

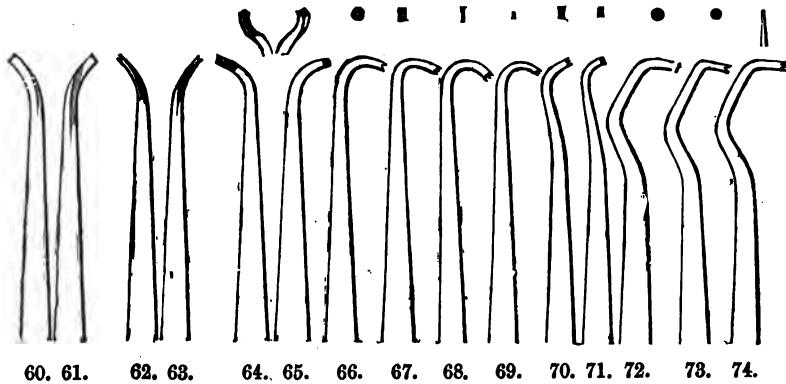
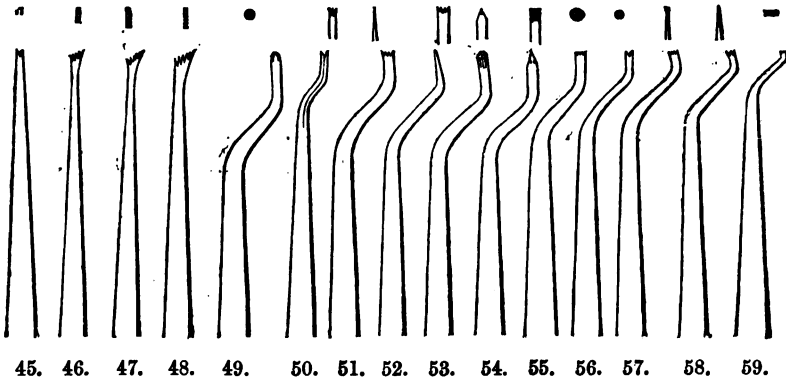
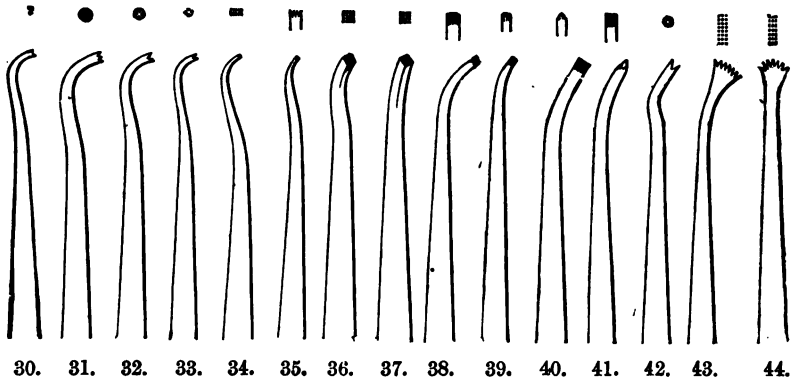


|  |   |   |
|--|---|---|
| STOPPERS (1 to 74) with Steel plain octagon handles (Fig. 1) | 1 | 2 |
| Ditto to fit large bore Socket handles (Pages 147, 148)      | 1 | 0 |
| Ditto „ small bore „ (Pages 147, 148)                        | 0 | 9 |
| Stoppers with Steel octagon handles, Nickel-plated to order, |   |   |
| extra per doz.   | 4 | 0 |

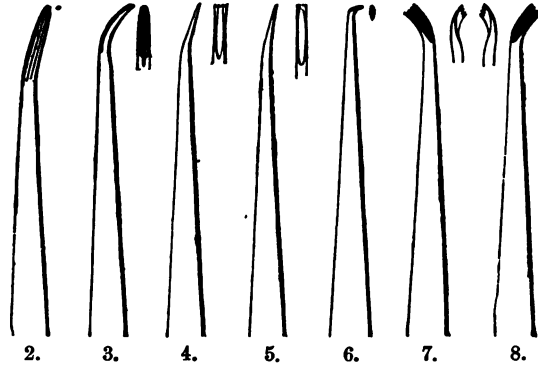
A variety of very fine points, with 7-inch small octagon handles, each 1/2, or Nickel-plated 1/6, kept in stock.

1.



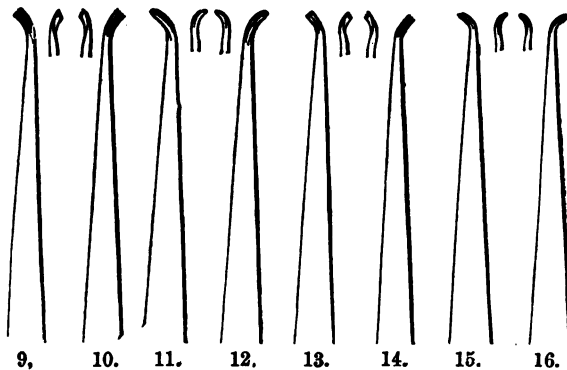


PLUGGERS.



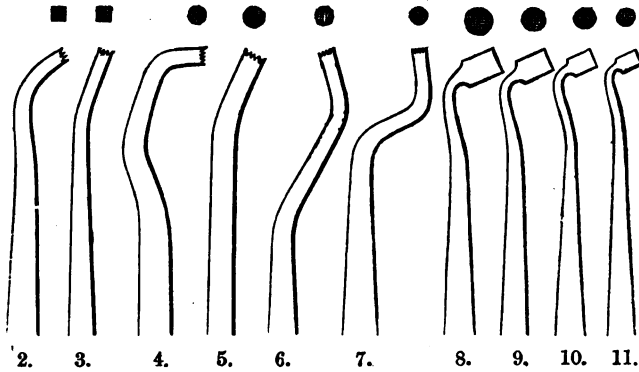
|   | Set of 16.   | Each.        |
|---|--------------|--------------|
|   | <i>s. d.</i> | <i>s. d.</i> |
| PLUGGERS (Dr. Bing's), in Ivory handles, with German Silver Ferrules ... .. | 58 0         | 4 0          |
| Ditto in Ebony handles ...  | 45 0         | 3 0          |

This set of Pluggers is used on the wedging principle, with Nos. 4 and 5, Soft or Non-adhesive Gold Foil folded in the form of tape. When either Pellets or Cylinders of gold are used they should be forced into the cavity with the ordinary foot pluggers, and then keyed up with gold tape by means of the Instruments here illustrated.



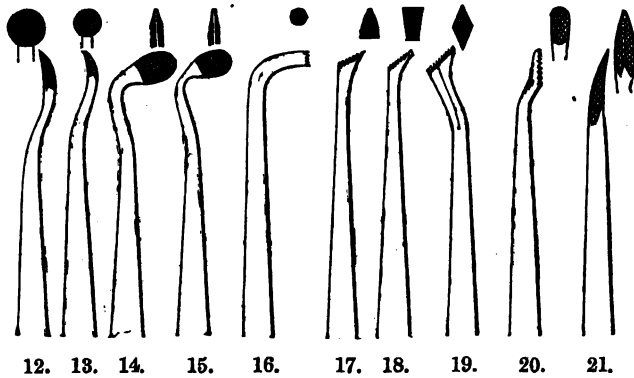
For Foot Pluggers see pages 122, 123, 125, 128.

STOPPERS FOR AMALGAMS.



1.

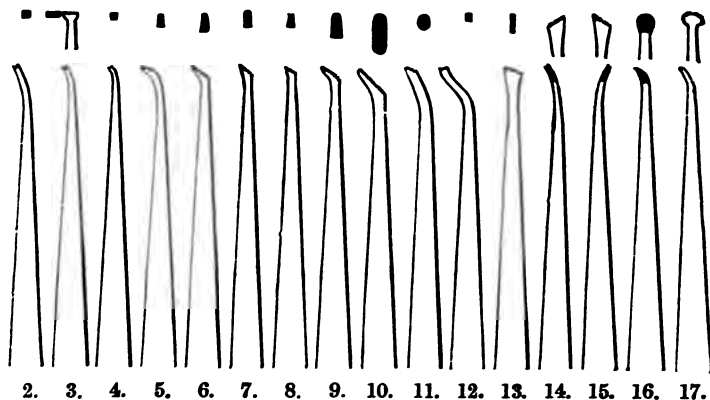
|  | <i>s.</i> | <i>d.</i> |
|--|-----------|-----------|
| WITH Steel file cut handles ... .. (Fig. 1) each                                       | 1         | 2         |
| „ Steel octagon „ (as Fig. 1, Page 124) „  | 1         | 2         |
| „ Ebony taper handles (as Fig. 1, Page 126) „  | 2         | 6         |
| Points to fit large bore handles (Pages 147, 148) „                                    | 1         | 0         |
| Stoppers with Steel octagon handles, Nickel-plated<br>to order ... .. Extra per doz. „ | 4         | 0         |
| Spatulas, &c., for working Amalgam, see page 138.                                      |           |           |
| Mortars and Pestles, &c., „ „  | 166.      |           |
| Amalgam Disc Makers „ „  | 166.      |           |



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

## PLUGGERS.

(DR. BUTLER'S FORMS.)



THIS Set consists of 18 Instruments, Nos. 1 to 16, and a Burnisher No. 17, made with tapered Steel handles and polished ends, also one stamped O (not illustrated), with very fine point not serrated, made of round 3-16th Steel, used chiefly in the left hand for holding pieces of gold in position while building up.

|                          |     |     |     | <i>s.</i> | <i>d.</i> | <i>s.</i> | <i>d.</i> |
|--------------------------|-----|-----|-----|-----------|-----------|-----------|-----------|
| Price per set of 18 ...  | ... | ... | ... | 50        | 0         | each      | 3 0       |
| Ditto „ Nickel-plated... | ... | ... | ... | 56        | 0         | „         | 3 4       |

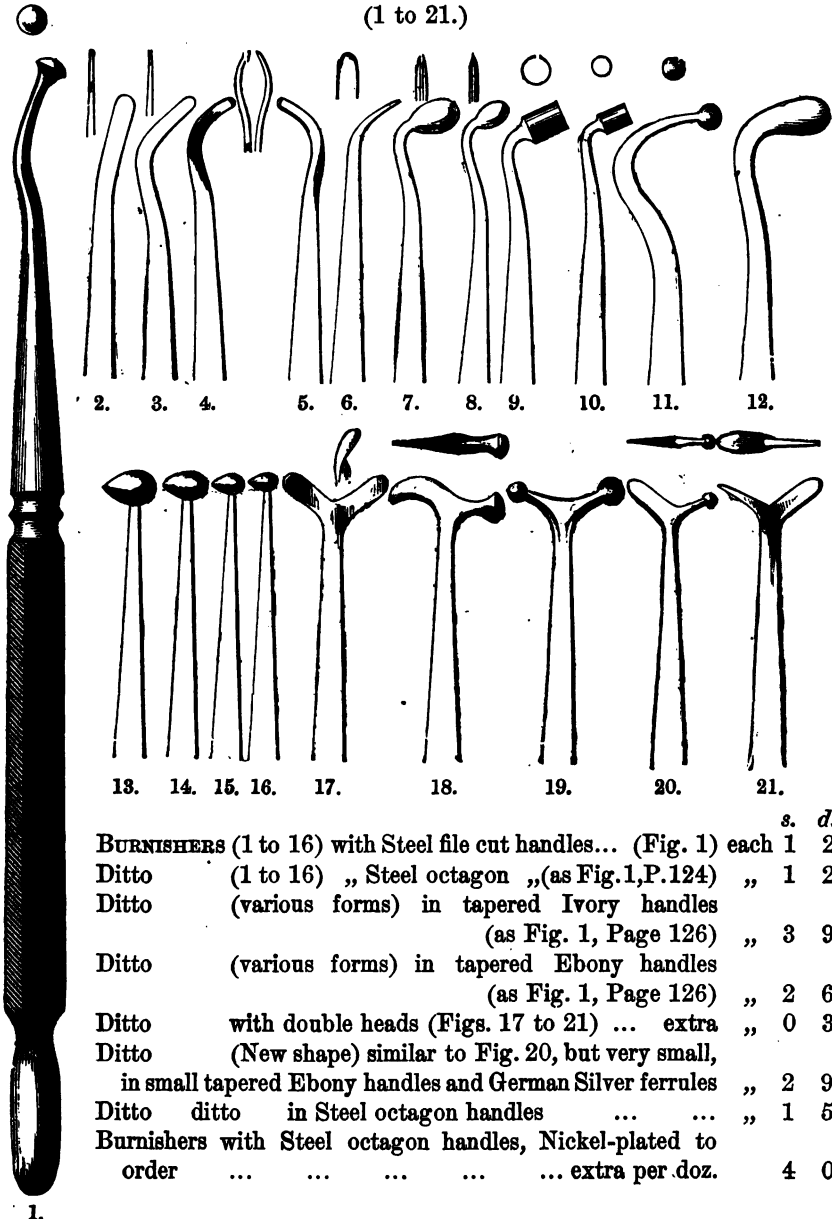
## PLUGGING INSTRUMENTS.

(DR. JACK'S.)

|  |           | Set of 12. | Each.     |
|--|-----------|------------|-----------|
| THESE Pluggers are for Mallet or Hand-           |           |            |           |
| pressure, 7 in. long, with checkered Steel       | <i>s.</i> | <i>d.</i>  | <i>s.</i> |
| handles, blued centres and polished ends         | 55        | 0          | 5 0       |
| Matrices, Steel, used with ditto in pairs ...    | 18        | 0          | 1 6       |
| Tweezers „ Steel, with checkered handles         |           |            | 6 6       |
| Stoppers of any other forms, &c., made to order. |           |            |           |

**BURNISHERS.**

(1 to 21.)



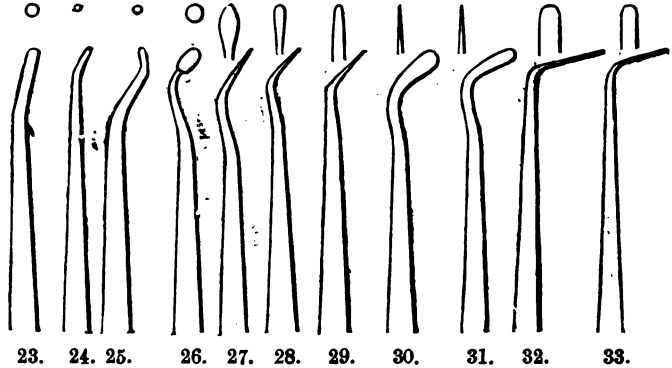
|   | <i>s.</i> | <i>d.</i> |
|---|-----------|-----------|
| BURNISHERS (1 to 16) with Steel file cut handles... (Fig. 1) each   | 1         | 2         |
| Ditto (1 to 16) „ Steel octagon „(as Fig.1,P.124) „   | 1         | 2         |
| Ditto (various forms) in tapered Ivory handles (as Fig. 1, Page 126) „  | 3         | 9         |
| Ditto (various forms) in tapered Ebony handles (as Fig. 1, Page 126) „  | 2         | 6         |
| Ditto with double heads (Figs. 17 to 21) ... extra  | 0         | 3         |
| Ditto (New shape) similar to Fig. 20, but very small, in small tapered Ebony handles and German Silver ferrules „ | 2         | 9         |
| Ditto ditto in Steel octagon handles ... .. „   | 1         | 5         |
| Burnishers with Steel octagon handles, Nickel-plated to order ... .. extra per doz.                               | 4         | 0         |

1.

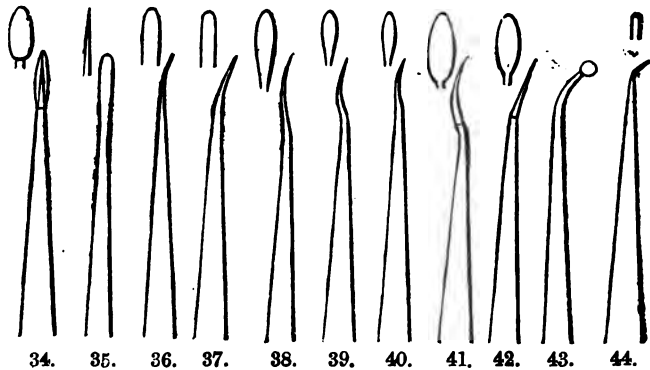
**BURNISHERS—continued.**

(22 to 44.)

WITH round and slightly-rounded surfaces, highly polished.

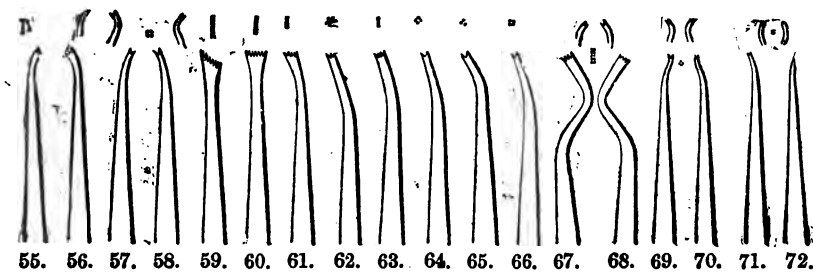
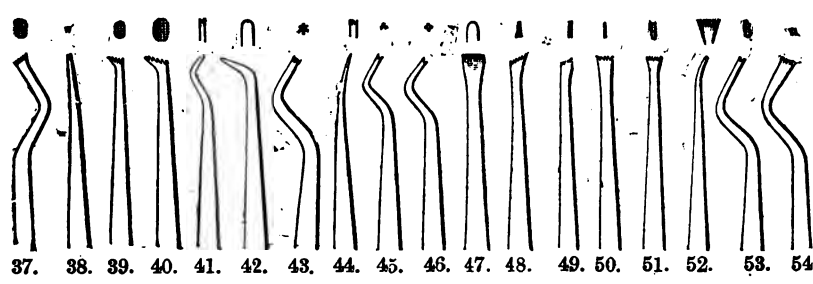
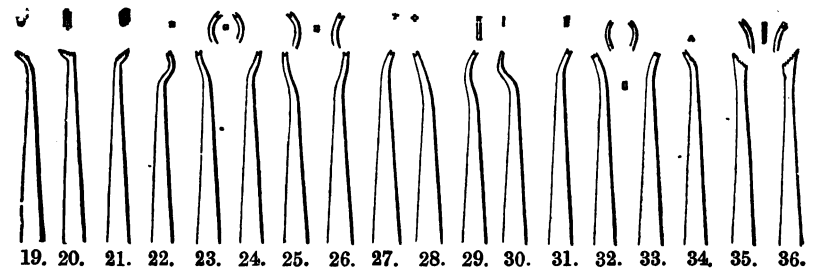
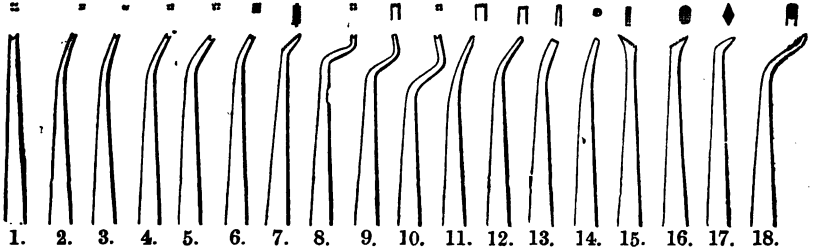


|   | <i>s.</i> | <i>d.</i> |
|---|-----------|-----------|
| BURNISHERS with Steel octagon handles (Fig. 22) each                              | 1         | 0         |
| Ditto, with small Steel file cut handles (as Fig. 1, Page 127) „                  | 1         | 0         |
| Ditto, to fit large bore socket handles (Pages 147, 148) „                        | 1         | 0         |
| Ditto, with Steel octagon handles, Nickel-plated to order ... .. extra per doz. „ | 4         | 0         |
| Burnishers (Mr. Rowney's), Agate, see page 141.                                   |           |           |
| Ditto, to match other instruments, made to order.                                 |           |           |



PLUGGING POINTS FOR AUTOMATIC MALLET.

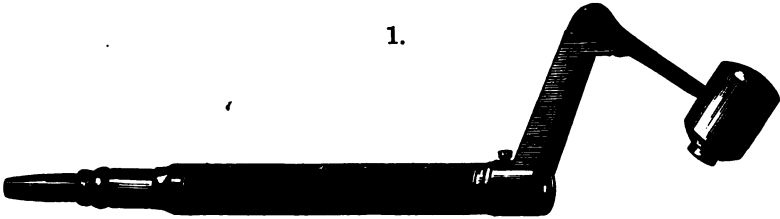
(SNOW & LEWIS, & ABBOTT'S FORMS.)



| Plugging Points (1 to 72), with conical ends to fit Automatic Mallets |   |   | Per doz. | Each. |
|---|---|---|----------|-------|
|   |   |   | s. d.    | s. d. |
|   |   | (Pages 132 to 134)  | 13 0     | 1 1   |
| Ditto   | " | (Varney's)  | 15 0     | 1 3   |
| Ditto   | " | with screw ends made to order...                            | 18 0     | 1 6   |
| Ditto   | " | (various, American make), with screw ends ...               | 18 0     | 1 6   |
| Ditto   | " | For Hele's Mallets, see page 134, and for Engine, page 111. |          |       |

## AUTOMATIC MALLETS.

1.

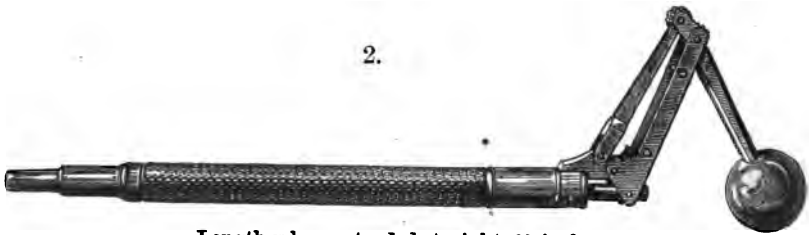


Extreme Length 7 inches.

**AUTOMATIC Mallet (Mr. S. A. Kirby's)** constructed so that the blows may be regulated to any degree according to the pressure put upon the point, without having to take the instrument off the stopping during the operation.

|  |    |    |
|--|----|----|
| In German Silver, Nickel-plated, with Steel tapered socket   | s. | d. |
| for Points as shown on page 131 ... .. (Fig. 1) each   | 30 | 0  |
| Ditto ditto with lever action, which lever is pressed by the thumb or forefinger and causes the hammer to strike instead of pressing the point against the stopping to produce the blow ... .. | 38 | 0  |
| Mallet Points (as illustrated on page 131) with conical ends ... ..  | 1  | 1  |
| Leather Case to close with spring, 6½ in. by 4¼ in., 1 in. deep, fitted up with metal rack, to hold Mallet and 24 Points, lined with blue Silk Velvet ... ..                                   | 10 | 6  |

2.



Length when extended straight, 9¼ inches.

|   |    |    |
|---|----|----|
| <b>AUTOMATIC Mallet (Mr. S. A. Kirby's) Improved</b> , giving a more direct blow, and being more evenly balanced in the hand. | s. | d. |
| In German Silver, Nickel-plated, &c., as above (Fig. 2) each  | 58 | 0  |
| Ditto ditto with lever action, as above... ..   | 75 | 0  |
| Mallet Points, as illustrated on page 131, with conical ends ... ..   | 1  | 1  |
| Case fitted up as above ... ..  | 10 | 6  |



**AUTOMATIC MALLETS.**

3.



5½ inches long.

**AUTOMATIC Mallet (Snow & Lewis) Improved**, giving a long or short stroke, or light and heavy blows, regulated by means of the ring at the socket end of case. The socket can also be fixed by the same ring when the Mallet is required for hand-pressure, plugging, or for enamel cutting. In German

|  | <i>s.</i> | <i>d.</i> |
|--|-----------|-----------|
| Silver, Nickel-plated, with Steel tapered sockets (Fig. 3) each  | 34        | 0         |
| Mallet Points as illustrated on page 131, with conical ends ...  | 1         | 1         |
| Leather Case, 6½ in. by 3 in. by 1 in. deep, to hold Mallet and 24 Points, lined with Silk Velvet ... .. | 8         | 0         |
| Automatic Mallet (American make) as above ... (Fig. 3)   | 52        | 0         |
| Mallet Points ,, as illustrated on page 131  | 1         | 6         |

4.



6 inches long.

**AUTOMATIC Mallet (Dr. Salmon's)**. A longer and thinner instrument than Fig. 3. To work by pressing the point against the stopping. It has a screw cap at top to regulate the blows, and a tapered pin for fixing the socket when required to be used for enamel cutting or hand-pressure stopping. In German Silver, Nickel-plated, with Steel tapered socket ... .. (Fig. 4) each

|  | <i>s.</i> | <i>d.</i> |
|--|-----------|-----------|
| (Fig. 4) each  | 36        | 0         |
| Mallet Points and Leather Cases, same as above.        |           |           |
| Bronzed Iron Racks to hold Mallet and 24 Points ... .. | 5         | 0         |
| Automatic Mallet (American make) ... ..(Fig. 4)        | 52        | 0         |
| Mallet Points for ditto ,, various ... ..              | 1         | 6         |

Racks for Points of other make, description, &c., obtained to order.

Directions sent with Mallets (Figs. 3 and 4.)

## MALLET IMPACTORS.

5.



5½ inches long.

|  |    |    |
|--|----|----|
| MALLET IMPACTOR (Mr. Hele's), Nickel-plated, with Steel Socket     | s. | d. |
| to carry Screw or Tapered Points ... .. (Fig. 5) each              | 30 | 0  |
| Ditto ditto lighter make ... ..                                    | 28 | 0  |
| Ditto ditto to carry Jack's 7 in. Pluggers, or Socket              |    |    |
| Handles, the form of Jack's Pluggers to hold Points ... ..         | 30 | 0  |
| Points for above (Mr. Hele's set of 2 doz.), consisting of Tomes', |    |    |
| Butler's, Jack's, and other forms, with screw ends per doz.        | 18 | 0  |
| Points, as illustrated on page 131, with conical ends ... ..       | 1  | 1  |
| Leather Case with Spring, 6½ in. by 3 in., and 1 in. deep, fitted  |    |    |
| up with Metal Rack to hold Mallet and 24 Points, lined             |    |    |
| with Silk Velvet ... ..  | 8  | 0  |

Mr. Hele's Mallet Impactor is made to work by pressing the Socket Point against the Stopping, and moving the outer case up and down, which causes the percussion by the two shoulders inside meeting. The weight of the blow is regulated according to the force used by the hand upon the outer case. By pressing with the finger or thumb the Button or Shield as shown above with screw head, the Socket and Point are fixed whilst the Stopping is lightly pressed into the cavity previous to Malleting, and by removing the finger or thumb, the Mallet is again free to work.

## HAND MALLET FOR PLUGGING.

6.



7 inches long.

|   |   |   |
|---|---|---|
| HAND MALLET used with Plugging Instruments, as on pages 122,  |   |   |
| 123, and 128. The heads of these Mallets are made of          |   |   |
| tough wood filled with lead, 1½ inch long and 7⁄8 inch in     |   |   |
| diameter, with wood handle ... .. (Fig. 6) each               | 3 | 3 |
| Ditto ditto made of Lead, having a Brass Case, Nickel-        |   |   |
| plated, with wood handle ... ..                               | 5 | 0 |
| Ditto ditto with Tin head, in wood handle ... ..              | 2 | 6 |
| Hand Mallets of other descriptions made or obtained to order. |   |   |

PLUGGING FORCEPS.

7.



8.



9.



6½ inches long.

|  |    |           |           |
|--|----|-----------|-----------|
| PLUGGING FORCEPS (Dr. Flagg's), for condensing stopping in |    | <i>s.</i> | <i>d.</i> |
| various cavities ... .. (Figs. 7, 8, 9) each               | 10 | 6         |           |
| Ditto ditto Nickel-plated ... .. extra „                   | 1  | 3         |           |

PLUGGING TWEEZERS.

10.



7½ inches long.

|  |   |   |           |           |
|--|---|---|-----------|-----------|
| PLUGGING TWEEZERS (Dr. Rich's), of various angles ... (Fig. 10) each | 8 | 0 | <i>s.</i> | <i>d.</i> |
| Ditto ditto Nickel-plated... .. (Fig. 10) „                          | 9 | 3 |           |           |
| Tweezers (Dr. Jack's) used with Instruments, see page 128.           |   |   |           |           |

## PLUGGING AND OTHER TWEEZERS.

11.



6 inches long.

|  |      |     |                                 | <i>s.</i> | <i>d.</i> |
|--|------|-----|---------------------------------|-----------|-----------|
| PLUGGING TWEEZERS (various angles), flat Steel handles (Fig. 11) | each | 6   | 6                               |           |           |
| Ditto  | „    | „   | octagon Steel handles (Fig. 11) | „         | 6 6       |
| Ditto, Nickel-plated   | ...  | ... | ...                             | (Fig. 11) | „ 7 9     |

12.



6 inches long.

|   |      |   |          | <i>s.</i> | <i>d.</i>       |
|---|------|---|----------|-----------|-----------------|
| TWEEZERS (Mr. Tomes') in Ivory, of various angles (Fig. 12) | each | 6 | 6        |           |                 |
| Ditto   | „    | „ | in Ebony | „         | (Fig. 12) „ 5 0 |

## HEAVY PLUGGING TWEEZERS.

13.



5½ inches long.

|   |      |   |   |           |           |
|---|------|---|---|-----------|-----------|
| PLUGGING TWEEZERS (Dr. Connor's), made with large steel ends, rounded, so as not to hurt the hand when plugging the teeth, with checkered Ivory scales ... .. (Fig. 13) | each | 9 | 0 | <i>s.</i> | <i>d.</i> |
| Tweezers, long (Mr. Coles'), used for Cleft Palate operations, made to order.   |      |   |   |           |           |

TWEEZERS AND HOLDERS.

14.



5½ inches long.

|                            |     |        |     |                |              |
|----------------------------|-----|--------|-----|----------------|--------------|
|                            |     |        |     |                | <i>s. d.</i> |
| TWEEZERS, Steel throughout | ... | ...    | ... | (Fig. 14) each | 2 3          |
| Ditto                      | „   | Plated | ... | (Fig. 14) „    | 3 6          |

15.



6 inches long.

|                                     |     |        |     |                |              |
|-------------------------------------|-----|--------|-----|----------------|--------------|
|                                     |     |        |     |                | <i>s. d.</i> |
| HOLDER OR CARRIER, Steel throughout | ... | ...    | ... | (Fig. 15) each | 3 3          |
| Ditto                               | „   | Plated | ... | (Fig. 15) „    | 4 6          |

For Cotton Wool, Amadou, and other absorbents, see page 199.

16.



6½ inches long.

|   |     |     |     |                |              |
|---|-----|-----|-----|----------------|--------------|
|   |     |     |     |                | <i>s. d.</i> |
| HOLDER OR CARRIER, Steel, with Ivory handle | ... | ... | ... | (Fig. 16) each | 4 6          |
| Ditto                                       | „   | „   | „   | Ebony „        | 3 9          |

The above Holders or Carriers are constructed to hold the cotton wool, &c., while wiping out the cavity of the tooth, without having to press the points together with the fingers, as required with ordinary Tweezers.

## SPATULAS, &amp;c.

17.



6 inches long.

|  |             |     |
|--|-------------|-----|
| SPATULAS with Spoon, for Paste Stoppings, with Ivory centres | s.          | d.  |
| (Fig. 17) each   | 3           | 0   |
| Ditto ditto with File cut centres ...                        | (Fig. 17) „ | 2 3 |
| Ditto ditto plain Steel polished all over ...                | (Fig. 17) „ | 1 9 |

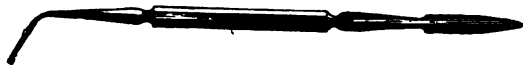
18.



6½ inches long.

|   |                |     |
|---|----------------|-----|
| SPATULA or PALETTE KNIFE, for mixing Stoppings, &c., Steel, | s.             | d.  |
| mounted in Ivory handle ... ..                              | (Fig. 18) each | 1 9 |
| Ditto ditto Steel, in Buffalo horn handle...                | (Fig. 18) „    | 1 6 |
| Ivory Spatulas, or Palette Knives                           | ... ..         | 1 3 |

19.



7 inches long.

|   |                |     |
|---|----------------|-----|
| SPATULAS (Dr. Houghton's), for Osteoplastic Stoppings, Steel, | s.             | d.  |
| with octagon centres ... ..                                   | (Fig. 19) each | 1 9 |
| Ditto plain Steel, 5½ in. long „ „                            | single ended „ | 1 0 |
| Spatulas with Steel handles, Nickel-plated, extra             | ... ..         | 0 4 |

For other Spatulas, see page 141.

LADLES AND NAPKIN HOLDERS.

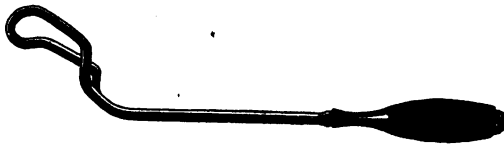
20.



6½ inches long.

|  |    |    |
|--|----|----|
| LADLE for heating Sullivan's and other Cements previous to | s. | d. |
| plugging, in Ivory handle ... .. (Fig. 20) each            | 3  | 9  |
| Ditto ditto in Ebony handle ... .. (Fig. 20) „             | 2  | 9  |

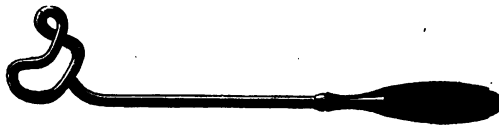
21.



10½ inches long.

|   |    |    |
|---|----|----|
| NAPKIN HOLDERS (Figs. 21 & 22), made of German Silver,    | s. | d. |
| mounted in checkered Ebony handles (Figs. 21 and 22) each | 4  | 0  |
| Ditto ditto Nickel-plated ... (Figs. 21 and 22) „         | 5  | 0  |

22.



10½ inches long.

|  |    |    |
|--|----|----|
| NAPKIN HOLDERS, small size, 5½ in. long, similar to Figs. 21   | s. | d. |
| and 22, plated, and mounted in plain Ivory handles ... each    | 4  | 0  |
| Ditto ditto in Ebony handles ... .. „                          | 3  | 0  |
| Taft's Extension Thimble for holding Napkins in the mouth,     |    |    |
| made of black Vulcanite ... .. „                               | 1  | 9  |
| Napkin Holders of other forms, &c., made or obtained to order. |    |    |

NAPKIN HOLDERS—*continued.*

23.



1½ inch long.

|  |                |       |
|--|----------------|-------|
| NAPKIN HOLDER (Mr. Barkas'), Steel, Spring temper and Nickel-plated... ..  | (Fig. 23) each | s. d. |
|  | 1              | 3     |
| Ditto ditto and Gag combined (Mr. Roberts'), made of Steel wire, with a metal plate for reflecting light on to the lower teeth, Nickel-plated ... .. | „              | 4 0   |

DUCT COMPRESSOR, &c.

24.

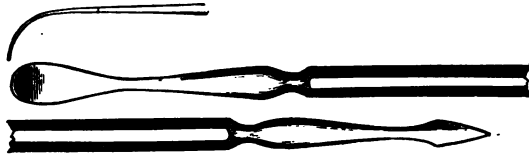


2 inches long.

|  |                |       |
|--|----------------|-------|
| DUCT COMPRESSOR (Dr. Rich's) made of Steel Wire, Nickel-plated, used with Bibulous Paper, &c. ... .. | (Fig. 24) each | s. d. |
|  | 1              | 3     |
| Forceps for opening and applying same ... ..   | „              | 8 0   |
| Bibulous Paper, &c., see page 199.   |                |       |
| For other Duct Compressors, see page 143.  |                |       |

SPATULA.

25A.



|  |      |       |
|--|------|-------|
| SPATULA (Dr. Taylor's) for Osteoplastic Stoppings, all steel... .. | each | s. d. |
|  | 1    | 9     |
| Ditto ditto Nickel-plated ... ..                                   | „    | 2 1   |



PLATINA AND OTHER SPATULAS, &c.

26.



6½ inches long.

|  |                |      |     |
|--|----------------|------|-----|
| SPATULA and STOPPER COMBINED (Mr. McAdams'), made of hard    |                |      |     |
| Platina and mounted in Ivory, for Osteoplastic Stoppings     |                | s.   | d.  |
|  | (Fig. 26) each | 8    | 0   |
| Ditto, in Platina (as Fig. 26) without Stopper ...           | ... ..         | 4    | 3   |
| Ditto, in Platina (Mr. Hele's) set of 7, mounted in Ebony or |                |      |     |
| Walnut handles   | ... .. per set | 26/0 | 4 0 |

27.



6½ inches long.

|   |  |    |    |
|---|--|----|----|
| SPATULAS and PACKERS (Mr. Rowney's) for mixing and packing            |  | s. | d. |
| Osteoplastic Stoppings, Steel, with Ivory centres (Figs. 27, 28) each |  | 3  | 3  |

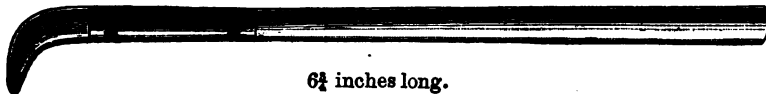
28.



6½ inches long.

|  |                           |    |    |
|--|---------------------------|----|----|
| SPATULAS and PACKERS (Mr. Rowney's), all Steel (Figs. 27, 28) each |                           | s. | d. |
| Spatulas   | ditto ditto Nickel-plated | 1  | 9  |
|  |                           | 2  | 1  |

29.

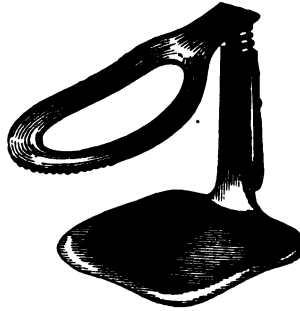


6½ inches long.

|   |                          |    |    |
|---|--------------------------|----|----|
| AGATE BURNISHERS (Mr. Rowney's), for polishing Stoppings,       |                          | s. | d. |
| mounted in Silver, with Ivory handles ... .. (Fig. 29) each     |                          | 5  | 3  |
| Ditto, German Silver  | " " " " " (Fig. 29)      | 4  | 0  |
| Ditto   | " " " Ebony " tapered... | 2  | 6  |
| The set of Instruments, Figs. 27, 28, and 29, in Ivory, the     |                          |    |    |
| Burnisher with Silver ferrule, fitted in Leather Case, complete |                          | 15 | 0  |

## TONGUE COMPRESSORS, &amp;c.

30.



TONGUE COMPRESSOR, for holding the tongue down during the operation of Plugging. It has a Spring Ratchet for regulating the height required, and a roughened tongue-plate to prevent slipping, made of German Silver, plated ... (Fig. 30) each 9 0 s. d.

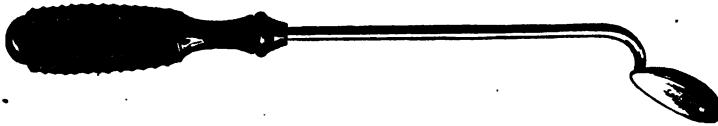
31.



TONGUE COMPRESSOR (Dr. Smith's), Improved, with Spring Ratchet, Sliding Bar, Revolving Tongue Plate so that it may be used in a lateral position, and also a Revolving Chin Plate covered with Silk Velvet, made entirely of Steel, and Nickel-plated (Fig. 31) each 25 0 s. d.  
 Ditto ditto ditto in Brass, Nickel-plated (Fig. 31) „ 20 0  
 Ditto ditto ditto „ small size (Fig. 31) „ 15 0

TONGUE HOLDERS.

32.

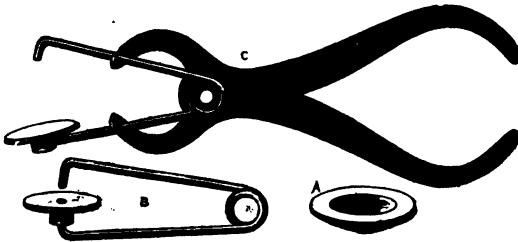


10 inches long.

TONGUE HOLDER (Dr. Flagg's), held by the patient to keep the tongue down during the operation of Plugging, &c., made of German Silver, Nickel-plated, set in checkered Ebony *s. d.*  
 handle ... .. (Fig. 32) each 4 0

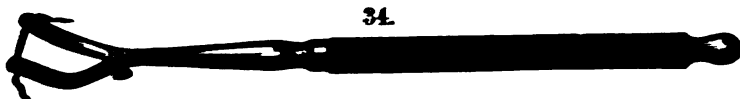
DUCT COMPRESSOR.

33.



DUCT COMPRESSOR, consisting of two Wire Clamps, Nickel-plated, and German Silver Pliers, 3 inches long, for opening and applying the Clamps, used with porous Buttons for arresting *s. d.*  
 the flow of Saliva from the Duct of Steno ... (Fig. 33) ... each 6 0  
 Porous Buttons ... .. (Fig. A) per doz. 2 0  
 Extra Clamps as above ... .. (Fig. B) ... each 1 6  
 For Rich's Duct Compressor, see Fig. 24, page 140.

## COFFER-DAM APPLIERS.

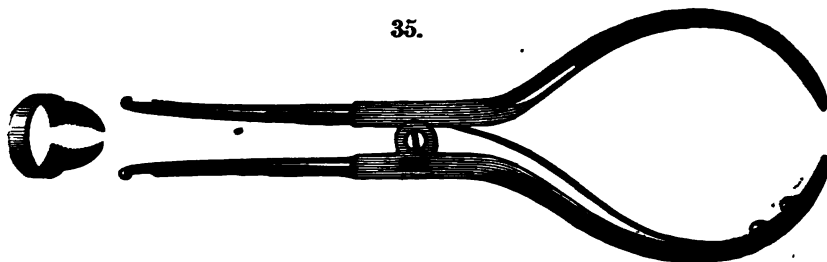


6½ inches long.

|  |           |        |
|--|-----------|--------|
| COFFER-DAM APPLIER (American pattern), with Steel File cut | s.        | d.     |
| handle ... .. (Fig. 34)                                    | each      | 3 3    |
| Ditto ditto Nickel-plated... .. (Fig. 34)                  | ,,        | 3 9    |
| Thread or Twine, fine or coarse ... ..                     | per plait | ,, 0 6 |
| Floss Silk, fine, medium, or coarse ... ..                 | per reel  | ,, 0 4 |
| Silk Twist, fine, medium, or coarse ... ..                 | per skein | ,, 0 9 |

The above Instrument is used with Silk or Thread, which is passed into the grooves of the fork-end and tightened by winding it round the Steel Button on the back of the Instrument.

## COFFER-DAM CLAMP FORCEPS.

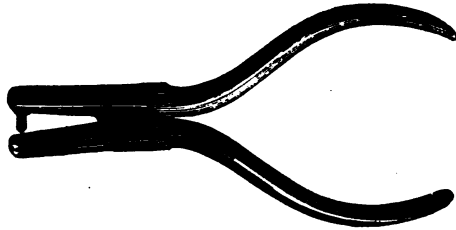


6½ inches long.

|  |      |      |
|--|------|------|
| FORCEPS for opening and applying Clamps used with the Rubber-  | s.   | d.   |
| dam ... .. (Fig. 35)   | each | 9 0  |
| Ditto ditto Nickel-plated ... .. (Fig. 35)   | ,,   | 10 3 |
| Clamps (Dr. Allan's) as illustrated, for keeping the Rubber in position, various sizes, Nickel-plated ... .. | ,,   | 2 0  |
| Clamps (Dr. Oliver's) Crab form, made of Steel wire, various sizes, Nickel-plated ... ..                     | ,,   | 1 9  |
| Forceps for opening and applying the same ... ..   | ,,   | 9 0  |
| Clamps and Forceps of other styles made or obtained to order.  |      |      |

COFFER-DAM PUNCH PLIERS, &c.

36.



5½ inches long.

|  |    |    |
|--|----|----|
| COFFER-DAM PUNCH PLIERS, made with large, medium, or small   | s. | d. |
| punch... .. (Fig. 36) each   | 4  | 9  |
| Ditto ditto Nickel-plated... .. (Fig. 36) „  | 6  | 0  |
| Ditto PUNCHES, Triplex, consisting of three different sizes of<br>Steel Cutters screwed into a Brass Holder, Nickel-plated ... „ | 5  | 6  |

COFFER-DAM APPLIER.

37.



6½ inches long.

|   |    |    |
|---|----|----|
| COFFER-DAM APPLIER (Hickley's), in Steel and German Silver, | s. | d. |
| with Ivory octagon handle ... .. (Fig. 37) each             | 8  | 6  |
| Ditto with Ebony „ „ ... .. (Fig. 37) „                     | 6  | 6  |

This instrument is constructed so as to obviate the fault, considered to exist in others, viz.: that of pulling the rubber off after forcing it between the teeth. A piece of thread is tied into two knots, about ¼ in. apart, and passed over the grooves of the fork, the slide wedge is then pulled back, which causes the fork to expand and tighten the thread. After applying the rubber the slide wedge is pushed forward by the thumb, and the thread is loosened and remains with the rubber between the teeth, and can then be tied, &c., as required.

For Thread, Floss Silk, Twist, &c., for above, see page 144.

## COFFER-DAM HOLDER.

38.



COFFER-DAM HOLDER, consisting of two Black Vulcanite plates,  
with German Silver Clamps, Slides and Rings, Nickel-plated, *s. d.*  
and Elastic Band to pass round the head ... (Fig. 38) each 3 6

The above Illustration represents the Cofferdam holder in use, with the Rubber-dam attached, and forced over the tooth to be plugged.

|  |          |     |
|--|----------|-----|
| Cofferdam Rubber, thick, in $\frac{1}{8}$ , $\frac{1}{4}$ , $\frac{1}{2}$ , and 1 yard packets | per yard | 8 6 |
| Ditto ,, medium, $\frac{1}{8}$ , $\frac{1}{4}$ , $\frac{1}{2}$ , ,, 1 ,,                       | ,,       | 6 6 |
| Ditto ,, thin, $\frac{1}{8}$ , $\frac{1}{4}$ , $\frac{1}{2}$ , ,, 1 ,,                         | ,,       | 4 6 |

Cofferdam Rubber Weights made or obtained to order.

## COFFER-DAM PUNCHES.

39.



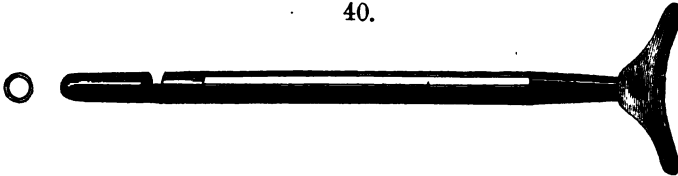
5 inches long.

|   |              |
|---|--------------|
| COFFER-DAM PUNCHES, various sizes, for cutting holes in Rubber- | <i>s. d.</i> |
| dam, made of Steel, with file cut handles ... (Fig. 39) each    | 1 9          |
| Ditto ditto ditto Nickel-plated ... (Fig. 39) ,,                | 2 1          |

For other Punches, see preceding page.

SOCKET HANDLES.

40.



4½ inches long.

|  |                |              |
|--|----------------|--------------|
|  |                | <i>s. d.</i> |
| SOCKET HANDLE in Ivory, to revolve, with Crutch  | (Fig. 40) each | 7 6          |
| Ditto " " " with shifting " so that it can be<br>used as a double ended Instrument for Excavators, &c. ... | " " "          | 8 6          |
| Ditto Pinion wire, to revolve with Crutch ...  | (Fig. 40) "    | 5 0          |

41.



4½ inches long.

|  |                |              |
|--|----------------|--------------|
|  |                | <i>s. d.</i> |
| SOCKET HANDLE in Ivory, to revolve, with Ball... | (Fig. 41) each | 7 6          |
| Ditto " Ebony, " "                               | (Fig. 41) "    | 6 0          |

42.



4½ inches long.

|   |                |              |
|---|----------------|--------------|
|   |                | <i>s. d.</i> |
| SOCKET HANDLE, Pinion wire, double ended ...            | (Fig. 42) each | 3 6          |
| Ditto " " " single " ....                               | (Fig. 42) "    | 2 6          |
| Ditto " plain octagon, single ended ...                 | " "            | 2 6          |
| Ditto " Steel, Nickel-plated, large or small, extra ... | " "            | 0 4          |

Excavators, Burs, Drills, &c., for the above Handles, see pages 105 to 109.

**SOCKET HANDLES—*continued.***

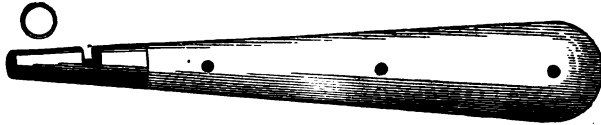
43.



4½ inches long.

|                       |   |              |   |
|-----------------------|---|--------------|---|
| <b>SOCKET HANDLE,</b> | Ivory scale tang, for Excavators, Drills, small | <i>s. d.</i> |   |
|                       | Stoppers and Burnishers ... .. (Fig. 43) each   | 5            | 0 |
| Ditto                 | ditto Ebony ditto ditto ... (Fig. 43) „         | 3            | 6 |
| Ditto                 | ditto Ivory, double ended ditto ... .. „        | 7            | 0 |

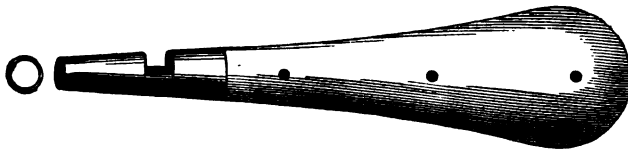
44.



4 inches long.

|                       |  |              |   |
|-----------------------|--|--------------|---|
| <b>SOCKET HANDLE,</b> | Ivory scale tang, for Stoppers, Scalars, and | <i>s. d.</i> |   |
|                       | Burnishers ... .. (Fig. 44) each             | 6            | 0 |
| Ditto                 | Ebony ditto ditto ... (Fig. 44) „            | 4            | 6 |

45.



4 inches long.

|                       |  |              |   |
|-----------------------|--|--------------|---|
| <b>SOCKET HANDLE,</b> | Ivory scale tang, for Stoppers, Scalars, Enamel                          | <i>s. d.</i> |   |
|                       | Cutters, and Burnishers ... .. (Fig. 45) each                            | 7            | 0 |
| Ditto                 | ditto Ebony ditto ditto ... (Fig. 45) „                                  | 5            | 6 |
| Ditto                 | ditto Octagon, Ivory, and Ebony, or other forms, made to order.          |              |   |
|                       | Excavators, Burs, Stoppers and Burnishers to fit above, see pages 105 to |              |   |
|                       | 109, 119, 121, 124, 127, 129, and 130.                                   |              |   |

**NOTE.**—The inner circles of the Engravings are the exact sizes of the holes in the Socket Handles.



SYRINGES.

46A.



9 inches long.

SYRINGE, Hot-Air, American pattern, ball covered with silk netting s. d.  
(Fig. 46A) each 14 0

47.

48.



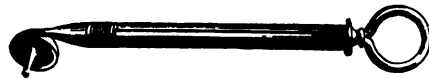
4 3/4 inches long.

6 1/4 inches long.

|  |     |         |
|--|-----|---------|
| SYRINGE, with straight and curved nozzles, plated small size, in   | s.  | d.      |
| Leather case ... (Fig. 47) each  | 7   | 6       |
| Ditto large ditto ditto ditto ... (Fig. 47) ,,   | 9   | 0       |
| Ditto Black Vulcanite, with curved Silver nozzle ... ,,  | 5   | 6       |
| Ditto ditto medium and large, with curved nozzles ... each   | 3/3 | and 4 0 |
| Ditto (Mr. Tomes'), with straight and curved nozzle, Nickel-plated, with Spring Valve for preventing the Saliva being drawn into the bulb, with 3 oz. India-rubber Bulb (Fig. 48) each                                 | 11  | 0       |
| Ditto (Mr. Owen's), Pattern of Fig. 47, improved, with a new nozzle for filling more rapidly, and with valve for preventing fragments of solid matter being drawn into the nozzle and choking it, Nickel-plated ... ,, | 10  | 6       |

49.

50.



7 inches long.

7 1/2 inches long.

| SYRINGES with screw-off nozzles, Nickel-plated           | Size. | 1 oz. |    | 2 oz. |    | 3 oz. |    |   |   |
|--|-------|-------|----|-------|----|-------|----|---|---|
|  |       | s.    | d. | s.    | d. | s.    | d. |   |   |
| with India-rubber Bulbs ... (Fig. 49) each               |       | 5     | 6  | 7     | 0  | 8     | 0  | 9 | 0 |
| Ditto with slip-off nozzles, similar to Fig. 49 ,,       |       | 5     | 6  | 7     | 0  | 8     | 0  | 9 | 0 |
| Extra Bulbs for Syringes (Figs. 48, 49), and slip-off ,, |       | 0     | 9  | 1     | 0  | 1     | 3  | 1 | 6 |

Glass Syringes (Fig. 50), and other forms, from 1/- each.  
Hypodermic Syringes, each 13/4, and 21/6.

51.



6½ inches long.

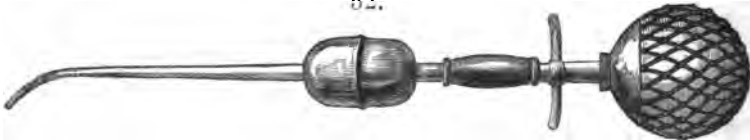
|  |    |    |
|--|----|----|
| <b>SALIVA PUMP</b> , with curved Metal Tube and perforated nozzle, | s. | d. |
| Nickel-plated... .. (Fig. 51) each                                 | 8  | 6  |
| Extra Bulbs, 2 oz., for ditto ... .. „                             | 1  | 3  |

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

Saliva Pumps of other forms made or obtained to order.

**HOT-AIR SYRINGES.**

52.



8¼ inches long.

|   |    |    |
|---|----|----|
| <b>HOT-AIR SYRINGE</b> (Dr. Moffatt's), with Air Chamber, which is heated over a Spirit or Gas flame, for drying cavities previous to Stopping, made of German Silver, Nickel-plated, with India-rubber Bulb and Wood Insulator | s. | d. |
| (Fig. 52) each  | 12 | 6  |
| <b>Tooth Syringe</b> (Dr. Moffatt's), minus Air Chamber and Insulator, with straight and curved nozzles ... .. „  | 10 | 6  |

53.



5½ inches long.

|  |    |    |
|--|----|----|
| <b>HOT-AIR SYRINGE</b> (Mr. S. A. Kirby's), with perforated Metal Tube, which is heated over a Spirit or Gas flame, and screwed with one turn into the Bulb socket. The Bulb is then pressed, and a current of hot or warm air is forced through the Nickel-plated nozzle into the cavity. With Ebony Insulator or Non-Conductor | s. | d. |
| (Fig. 53) each   | 10 | 6  |
| Extra Bulbs, 1 oz., for ditto ... .. „   | 1  | 0  |

MOUTH MIRRORS.

54.

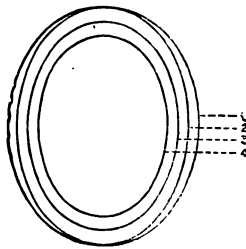


55



MIRROR (Fig. 54), with Magnifying Glass coated on the back with copper, mounted in German Silver frame, *s. d.* Nickel-plated, in Ebony handle, each 6 6  
 Ditto ditto in Ivory ... ,, 8 6  
 Ditto ditto larger or smaller made to order.

Size of Glasses.  
 Without the Frames.



For Prices of these Glasses see page 152.

MIRROR (Mr. Rogers'), with Magnifying Glass coated as above, Size 3, mounted in German Silver frame, Nickel-plated, with Oval Ivory *s. d.* handle ... (Fig. 55) each 11 0  
 Ditto ditto Sizes 1, 2, & 4 (Fig. 55) each 12/- 11/6 & 10/6.

N.B.—The Illustrations of Mirrors, Figs. 54 to 62, represent the exact sizes, except Fig. 61, these being now made with glasses Size 2.

MOUTH MIRRORS—*continued.*

56.



6½ inches long.

MIRROR (Dr. Bing's) with Magnifying Glass coated on the back with copper, mounted in German Silver frame, Nickel-plated, *s. d.*  
 in round Ivory handle... .. (Fig. 56) each 12 6

This Mirror is bent at the same angle as Fig. 55, Page 151, and it has a metal comb at the end for holding the Gold Tape during the operation of Stopping.

MIRROR (Mr. Steele's), similar in form to Fig. 55, with glasses back and front, about the Size of No. 4, Page 151, mounted in Silver and Tortoise-shell handle ... .. each 18 6

Glasses extra for Oval Mirrors, coated on the backs with copper to prevent injury from moisture (Sizes 1 and 2, Page 151) ,, 1 9

Ditto ditto ditto (Sizes 3 and 4, Page 151) ,, 1 9

Ditto ditto round, for Mirrors ... (Figs. 54 and 56) ,, 1 9

Glasses coated and not coated, various sizes and prices, kept in stock.

57.



6 inches long.

REFLECTING MIRROR (Mr. Stokes'), with Magnifying Glass covered as above (Size 2, Page 151), mounted in German Silver frame, with Ball and Socket action, Nickel-plated, and round *s. d.*  
 Ivory handle ... .. (Fig. 57) each 20 0

This Mirror is made to answer the purpose also of a Lip Distender, and is particularly useful to those who operate by reflection. It has a movement at the back, which allows of its being used for either side of the mouth.

MOUTH MIRRORS—continued.



5 inches long.

| Sizes as Illustrated, Page 151   |  | 1  | 2  | 3  | 4  |
|--|--|----|----|----|----|
| MIRROR, New Ball and Socket, with Magnifying Glass coated on the back with copper, and mounted in  |  | s. | d. | s. | d. |
| Silver, Gilt, with Ivory handle ... (Fig. 58) each   |  | 21 | 0  | 19 | 0  |
| Ditto ditto Silver ditto ... (Fig. 58) „   |  | 19 | 6  | 18 | 6  |
| Ditto German „ Gilt ditto ... (Fig. 58) „  |  | 14 | 0  | 13 | 0  |
| Ditto „ „ Nickel-plated (Fig. 58) „  |  | 12 | 6  | 11 | 6  |
| Ditto „ „ „ without Ball and Socket action ... .. „  |  | —  | 9  | 0  | 8  |
| Ditto German Silver, not plated ditto „  |  | —  | —  | 6  | 6  |
| Ditto Silver, to fold for pocket, with Wire handles „  |  | 18 | 6  | 17 | 6  |
| Ditto German Silver, plated, framed hinge for back to open, so that glasses may be put in by Dentists themselves, with round Ivory handle ... each |  | —  | —  | 15 | 0  |



5½ inches long.

|   |    |    |
|---|----|----|
| MIRROR, New Ball and Socket, with Magnifying Glass (Size 3, Page 151), coated as above, and mounted in German Silver, plated, with fancy Pearl handle ... .. (Fig. 59) each | s. | d. |
| Ditto ditto ditto ... Ivory ... (Fig. 59) „   | 14 | 0  |
| Ditto ditto (Size 3, and round, Page 151), with flat German Silver handle, handsomely engraved, to fold for pocket... .. Gilt 16s. 6d., Silver-plated „                     | 15 | 0  |
| Ditto ditto (Size of Fig. 54, page 151), with fixed handle ... .. Gilt 14s. 6d., Silver-plated „  | 13 | 0  |

Extra Glasses for the above, see page 152.

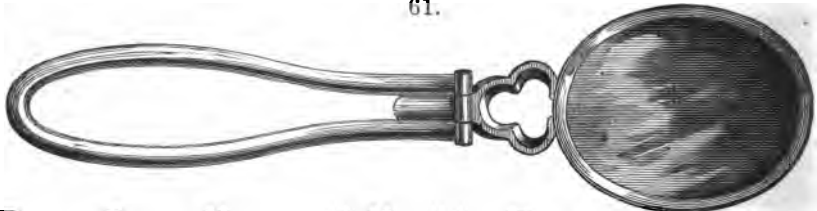
MOUTH MIRRORS—continued.

60.



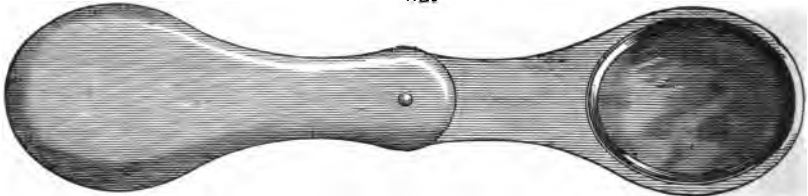
|   |      |    |    |
|---|------|----|----|
| MIRROR, with Magnifying Glass, coated with Copper (Size 2, Page 151), mounted in German Silver frame, in Ivory handle (Fig. 60)               | each | s. | d. |
| Ditto ditto " " Gilt, " " (Fig. 60)   | "    | 6  | 6  |
| Ditto ditto " " Plated, in Pearl " (Fig. 60)  | "    | 7  | 0  |
| FOLDING POCKET MIRROR, with Magnifying Glass, coated as above (Size 2, Page 151), in German Silver, plated, with wire handle ... .. (Fig. 61) | "    | 7  | 6  |
| Ditto ditto ditto ditto Gilt ... .. (Fig. 61)   | "    | 8  | 6  |

61.



|  |      |    |    |
|--|------|----|----|
| FOLDING POCKET MIRROR, with Magnifying Glass, coated as above (Size 3, Page 151), in Ivory frame ... (Fig. 62) | each | s. | d. |
| Mirrors, with Magnifying Glasses, in Pearl frames and handles...   | "    | 4  | 9  |
| Mirrors, large and small (plain glasses), in Ivory frames and handles ... ..                                   | from | 3  | 0  |
| Steel Mirrors " " highly polished, in Pearl handle ...   | each | 2  | 6  |
| Steel ditto, large and small, highly polished, in Tortoise-shell handles ... ..                                | "    | 2  | 6  |

62.



NOTE.—The Illustrations (Figs. 54 to 62) represent the exact sizes of Mirrors, except No. 61, which are now made with Glasses, Size 2.

Mirrors made or repaired to order.

Extra Glasses for Mirrors, see Page 152.

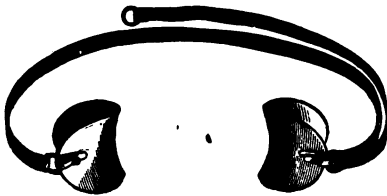
LIP PROTECTORS, &c.

63.



LIP PROTECTOR, plated. This contrivance is useful in protecting the lips, when using files, drills, or other cutting instruments *s. d.*  
 (Fig. 63) each 1 6

64.



65.



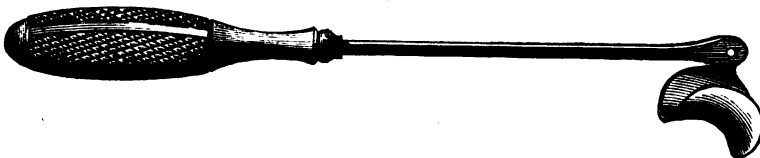
5½ inches long.

LIP PROTECTOR AND MOUTH DISTENDER, for keeping the mouth distended during many operations upon the teeth. An elastic band is fastened to metal hooks and rings, and passing round the head keeps the parts distended without trouble to the operator or patient. The pair of shields (Size of Fig. 63), with hooks, &c., plated, complete *s. d.*

(Fig. 64) each 5 0

|  |                |                                    |     |   |     |
|--|----------------|------------------------------------|-----|---|-----|
| Lip Protector and Mouth Distender, German Silver, plated, in |                | Ivory handle (Fig. 65)             | „   | 8 | 0   |
| Ditto  | ditto          | Britannia metal, with Ebony handle | ... | „ | 3 3 |
| Ditto  | ditto          | „ „ Metal                          | „   | „ | 2 0 |
| Ditto  | ditto in Pearl | „ „ Pearl                          | „   | „ | 2 9 |

66.



9¼ inches long.

LIP PROTECTOR AND MOUTH DISTENDER, plated; the shield the size of Fig. 63, with Ebony handle. This instrument is held *s. d.*  
 by the patient during operations in the mouth (Fig. 66) each 6 0

67.



6½ inches long.

FILE CARRIER (Fig. 67), constructed for the purpose of filing teeth at the back of the mouth. The upper part, or file frame, slides on and off the shaft and can be fixed by a screw, so that it may be used straight, or at right angles, suitable for either side of the mouth, and the files of various thicknesses are easily secured by means of two screws. *s. d.*

In Ivory handle 8/0, in Ebony each 7 0

68.



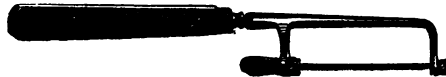
6½ inches long.

FILE CARRIER (Fig. 68), American pattern, made to carry two files at once, so that it can be used for either side of the mouth, without the necessity of changing the Files *s. d.*

In Ivory handle 10/6, in Ebony...each 8 6

Files for the above Carriers, see page 173.

69.

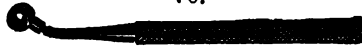


6½ inches long.

MOUTH SAW (Fig. 69). The frame is so contrived that the Saw blades are easily adjusted, either in a line with the frame, or at right angles; the Saw blade is tightened by means of an open screw loop, in Ivory handle ... ..each 10 6 *s. d.*  
 Ditto Ebony „ ... .. „ 9 0



70.



6 inches long.

CANE HOLDER (Fig. 70), considered very useful for cleaning teeth at the back of the mouth, where straight Canes will not reach.

It has a screw ring so that Cane points of various sizes may be secured. In Ivory handle 3/3, all Steel 2/3, and Steel, s. d.  
 Nickel-plated ... .. each 2 9  
 Cane Points for ditto ... .. per doz. 0 6  
 Cane or Universal Holders, see page 164.

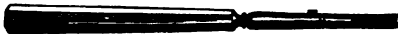
71.



10 inches long.

FOIL ROLLER (Mr. Smith's). This instrument is made of Steel, in two parts, one a hollow groove, the other a Steel rod, which lies in the groove with the end fitting into a steel tube to hold it when open. The two parts are opened by pressing the cross-action spring near the handle, the edge of the Foil is then clamped between the rod and the groove, and the whole instrument rotated by the Ivory handle. When sufficient is rolled, the rod is pulled out and the Gold slides off, and is ready for twisting or condensing, &c., as required (Fig. 71) each 5 6 s. d.

72.



6 inches long.

73.



5 inches long.

TREPHINING INSTRUMENT (Fig. 72), with two different sizes of cutters. These instruments are found to be useful in removing the bone surrounding a pivot broken off in the stump of a tooth, so that the noses of Forceps (Fig. 73) may be inserted to extract the pivot ... In Ivory handle 6/6, in Ebony each 5 0 s. d.

Trephining Forceps (Fig. 73). These Forceps are found to be very useful for extracting a broken pivot left in the stump of a tooth. After the bone has been removed by the instrument (Fig. 72), the fine noses, which are hollowed and roughened inside to secure a firm hold, are inserted, and the pivot is easily pulled out. Bright steel, each 5/6, Nickel-plated ... ,, 6 9

74.



PELLET or CYLINDER HOLDER (Mr. Evans') is used in the same way as the Osteoplastic Holder (Fig. 75); it is made of German Silver, Nickel-plated, with compartments for different sizes of Pellets or *s. d.*  
 Cylinders ... .. (Fig. 74) each 3 6

75.

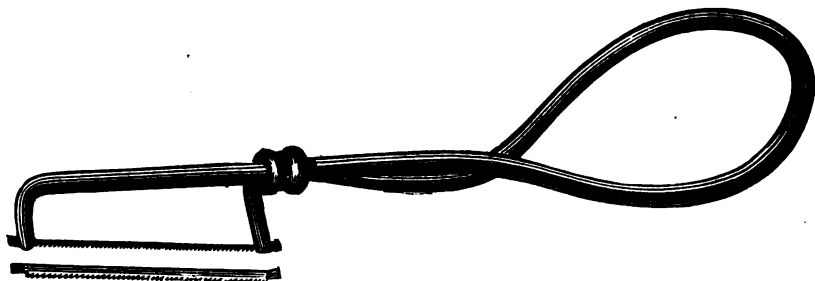


OSTEOPLASTIC STOPPING HOLDER (Mr. Evans'). This useful appliance is made in Ivory, for holding the stopping close to the mouth. It is held on the *side* of the left hand by means of an India-rubber ring. This holder is made in two forms—

Round (Fig. 75), 1/0; and Oval, 1/3 each.

The Illustration by mistake represents the Holder resting on the back instead of the side of the finger.

76A.



|  |     |     |     |              |
|--|-----|-----|-----|--------------|
| SAW FRAMES (The Kaerber) in two sizes, Nickel-plated:— |     |     |     | <i>s. d.</i> |
| Small size, as illustrated (Fig. 76A)                  | ... | ... | ... | each 2 9     |
| Saw blades for ditto                                   | ... | ... | ... | per doz. 1 0 |
| Large ,,   | ... | ... | ... | each 3 3     |
| Saw blades for ditto                                   | ... | ... | ... | per doz. 2 0 |
| Saw Frames (Dr. Clapp's) straight, right and left      | ... | ... | ... | each 2 9     |
| Saw blades for ditto                                   | ... | ... | ... | per doz. 1 0 |

LANCETS, FOIL ROLLERS, &c.

77.



78.



79.



80.



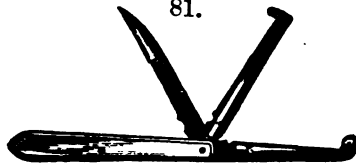
LANCETS for Abscesses, with Steel octagon handles ... (Figs. 77, 78), each 1s. 0d.

FOIL, or PELLER ROLLER, with blue tempered Steel centres and polished ends (Fig. 79), each 3s. 6d.

FOIL ROLLER (Mr. Tomes'), with fine Steel points, which are opened or closed by the slide (Fig. 80).  
In Ivory handle 7s. 0d., in Ebony handle 6s. 0d.

LANCETS—*continued.*

81.



|                                      |     |     |                   | Blades. |     |     |
|--------------------------------------|-----|-----|-------------------|---------|-----|-----|
|                                      |     |     |                   | 1       | 2   | 3   |
| LANCETS to fold for Pocket, in Pearl | ... | ... | each              | 3/0     | 4/6 | 6/6 |
| Ditto                                | "   | "   | Ivory ...         | 2/6     | 4/0 | 5/6 |
| Ditto                                | "   | "   | Tortoise-shell... | 2/6     | 4/0 | 5/6 |

Lancets with fixed or folding blades made to order.

Lancets, Abscess, in Steel Octagon handles, see page 159.

FOIL MANIPULATORS.

82.



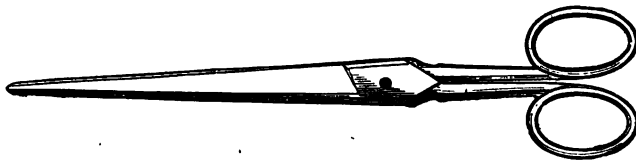
10½ inches long.

FOIL MANIPULATOR, used for folding and pressing Foils ready for Stopping, with long Steel Blade and checkered Ivory handle

|           |       |       |           |            |                  | s.   | d.  |
|-----------|-------|-------|-----------|------------|------------------|------|-----|
| (Fig. 82) |       |       |           |            |                  | each | 3 0 |
| Ditto     | ditto | ditto | plain     | Ivory      | handle (Fig. 82) | "    | 2 6 |
| Ditto     | ditto | ditto | checkered | black Horn | " (Fig. 82)      | "    | 2 3 |
| Ditto     | ditto | ditto | plain     | black Horn | " (Fig. 82)      | "    | 2 0 |

FOIL SCISSORS.

83.



8½ inches long.

|           |       |        |     |     |     | s.   | d.  |
|-----------|-------|--------|-----|-----|-----|------|-----|
| (Fig. 83) |       |        |     |     |     | each | 4 6 |
| Ditto     | ditto | plated | ... | ... | ... | "    | 6 0 |

Scissors in other styles made or obtained to order.

Foil Rollers, see pages 157 and 159.

ANNEALING LAMPS.

(FOR GOLD FOILS, &c.)

84.



5 inches high.

ANNEALING LAMP (Dr. Whitney's), consisting of a Glass Spirit Vessel with Brass mount and regulating Wick-holder and cap, Brass support and ring, holding an Iron tray with handle, for softening gold foils, &c., immediately before plugging (Fig. 84) each 10 0

|  |       |     |     |     |     |          |    |   |
|--|-------|-----|-----|-----|-----|----------|----|---|
| Wicks for ditto  | ditto | ... | ... | ... | ... | per doz. | 2  | 6 |
| Annealing Lamps with Trays, which can be raised or lowered for regulating the degrees of heat, &c. | ...   | ... | ... | ... | ... | from     | 10 | 6 |

85.



6 inches high.

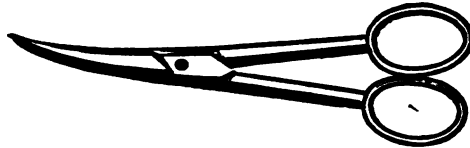
IMPROVED ANNEALING LAMP (Mr. Owen's) consisting of a Glass Spirit Vessel, having a Glass Wick-holder without screw, so that it may be lifted out when fresh Spirit has to be poured into the vessel. It has also a perforated tin plate fitted over the neck of the lamp, and a glass chimney for giving a steady flame ... .. (Fig. 85) each 4 0

|                |       |     |     |     |     |                 |   |   |
|----------------|-------|-----|-----|-----|-----|-----------------|---|---|
| Wick for ditto | ditto | ... | ... | ... | ... | per three yards | 0 | 1 |
|----------------|-------|-----|-----|-----|-----|-----------------|---|---|

SCISSORS.

(FOR CUTTING THE GUMS.)

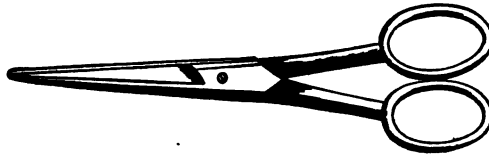
86.



4½ inches long.

|  |                |     |              |
|--|----------------|-----|--------------|
|  |                |     | <i>s. d.</i> |
| GUM SCISSORS, curved, highly polished ... .. | (Fig. 86) each | 3 6 |              |
| Ditto ,, plated ... ..                       | (Fig. 86) ,,   | 4 9 |              |

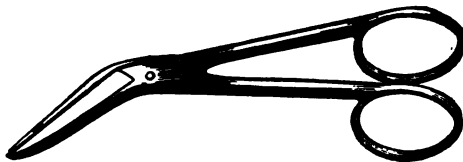
87.



4½ inches long.

|  |                |     |              |
|--|----------------|-----|--------------|
|  |                |     | <i>s. d.</i> |
| GUM SCISSORS, straight, highly polished ... .. | (Fig. 87) each | 1 9 |              |
| Ditto ,, plated ... ..                         | (Fig. 87) ,,   | 3 0 |              |

88.



4½ inches long.

|   |                |     |              |
|---|----------------|-----|--------------|
|   |                |     | <i>s. d.</i> |
| GUM SCISSORS, bent, highly polished ... ..                      | (Fig. 88) each | 2 6 |              |
| Ditto ,, plated ... ..  | (Fig. 88) ,,   | 3 9 |              |
| Gum Scissors of any other form, &c., made or obtained to order. |                |     |              |

89.



5½ inches long.

90.



6½ inches long.

|  |       |
|--|-------|
| <b>WEDGE CUTTERS</b> , in highly polished Steel, with checkered handles, for cutting wood wedges for regulating teeth (Fig. 89) each   | s. d. |
| Ditto ditto improved form ... ..   | 7 6   |
| Ditto ditto improved form ... ..   | 9 6   |
| <b>TAPE CARRIER</b> for polishing Stoppings, with revolving drum and thumb-screw for tightening, after the end of the Tape is secured by the fork end of the frame, in Steel, with Ivory handle ... .. (Fig. 90) | 10 6  |
| Ditto ditto in Steel, with Ebony handle (Fig. 90)  | 9 0   |

91.

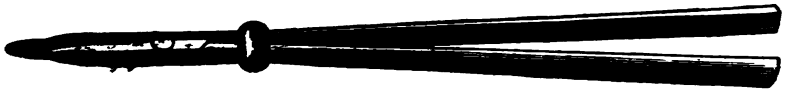


7 inches long.

|  |       |
|--|-------|
| <b>TAPE CARRIER</b> (Mr. Harding's) for the same purpose as above, with spring ratchet, in Steel, with Ivory handle (Fig. 91) each | s. d. |
| Ditto " " " " Ebony handle (Fig. 91)   | 16 0  |
| Ditto " " Nickel-plated, extra, ... ..   | 14 0  |
| Tapes, Corundum, Silix and Buckhorn for above Carriers, in coils   | 1 9   |
| Ditto, Waterproof " " " " " " " "  | 0 4½  |
| Ditto, Waterproof " " " " " " " "  | 0 6   |
| <b>Mahogany Boxes</b> , 2½ in. square (Mr. Turner's) for holding Tapes   | 1 0   |

HOLDERS, &c.

92.



5½ inches long.

|  |    |    |
|--|----|----|
| STEEL HOLDER or PORTE POLISHER, to carry Corundum points,      | s. | d. |
| &c., for polishing stoppings ... .. (Fig. 92) each             | 3  | 3  |
| Ditto ditto Nickel-plated ... .. „                             | 4  | 6  |
| Corundum points, fine and coarse, for ditto ... .. per. doz.   | 1  | 0  |
| Water of Ayr Stone points „ ... .. „                           | 1  | 6  |
| Universal Holder (Mr. Lyddon's), to carry Corundum points,     |    |    |
| Canes, Stones, &c., made of Steel, and fitted in tapered Ivory |    |    |
| handle, with German Silver ferrule ... .. (Fig. 93) each       | 7  | 6  |
| Ditto ditto in Ebony ... .. (Fig. 93) „                        | 6  | 0  |
| Ditto double-ended, in Ivory, to carry Cane and Stone at       |    |    |
| same time ... .. „   | 10 | 6  |

93.



5½ inches long.

|  |   |   |
|--|---|---|
| CANE POINTS, various sizes ... .. per doz.     | 0 | 6 |
| Corundum and Stone points, same as above.      |   |   |
| Cane Holders, ordinary, see Fig. 70, page 157. |   |   |



## HAND MIRRORS.

94.



|  | <i>s.</i> | <i>d.</i> |
|--|-----------|-----------|
| Ivory Carved, with Bevelled glass ... .. (Fig. 94) from          | 45        | 0         |
| Ditto " " various... .. from                                     | 45/-      | to 60 0   |
| Ditto Plain with Plain glass ... .. "                            | 20/-      | " 35 0    |
| Mother-of-Pearl, Carved, with Round Bevelled glass .. 40/-       | " 50      | 0         |
| Ditto " Plain " Plain " " 22/-                                   | " 30      | 0         |
| Papier-mâché, large size, with Plain glass ... .. (Fig. 95) from | 7         | 6         |
| Ditto small " " " " " (Fig. 95) "                                | 6         | 0         |
| Ivory (close resemblance to Ivory), with Plain glass ... "       | 5         | 6         |
| Carved wood (Swiss), various... .. from                          | 10/6      | to 25 0   |
| Satin or Rosewood, Plain, with Bevelled glasses, large ...       | from 7    | 6         |
| Ditto " " " small ...  | " 5       | 6         |
| Ditto " " with Plain glasses, large ...                          | " 5       | 6         |
| Ditto " " " small ...  | " 3       | 3         |
| White wood, various sizes ... .. from                            | 3/-       | to 8 6    |
| Mahogany " " " " " " " 3/-                                       | " 5       | 0         |
| Ditto " " " " " " " 1/3  | " 2       | 9         |
| Ditto, with two glasses, the one at the back magnifying ...      | from 6    | 0         |

95.



The average Sizes of the Oval glasses in the above Mirrors are 6 in. by 4 in for the large, and 5 in. by 3½ in. for the small.

A variety of Oxidised Metal and other Hand Mirrors kept in stock.

## PESTLES AND MORTARS, &amp;c.

|  |           |      |   |   |  | <i>s.</i> | <i>d.</i> |
|--|-----------|------|---|---|--|-----------|-----------|
| PESTLES and MORTARS, Wedgwood, $3\frac{1}{4}$ in. diameter | (Fig. 96) | each | 2 | 0 |  |           |           |
| "          "          " $2\frac{1}{2}$                     | (Fig. 96) | "    | 1 | 8 |  |           |           |
| "          "          "          2                         | (Fig. 96) | "    | 1 | 4 |  |           |           |
| "          "          Glass $2\frac{1}{4}$                 | (Fig. 96) | "    | 1 | 0 |  |           |           |
| "          "          (Mr. Fletcher's) $1\frac{1}{4}$      | ...       | ...  | 0 | 9 |  |           |           |
| Pestles and Mortars, Agate                                 | ...       | ...  | 6 | 6 |  |           |           |

96.



97.



|   |     |     |     |     |     |           |           |
|---|-----|-----|-----|-----|-----|-----------|-----------|
| MORTAR and PLUNGER (Mr. Fletcher's), for moulding dry amalgam into discs for use in the mouth, consisting of a Mortar $\frac{7}{8}$ in. diameter, with hole through the centre into which the Amalgam is pressed and forced through by means of a plunger, complete in Ebony or Walnut ... .. |     |     |     |     |     | <i>s.</i> | <i>d.</i> |
|   | ... | ... | ... | ... | ... | each      | 0 8       |

|  |           |   |   |   |
|--|-----------|---|---|---|
| CUPS, Walnut, with Iron rings to be attached to Operating tables, &c. ... .. | (Fig. 97) | " | 2 | 3 |
| Ditto with Brass or bronzed rings ... ..                                     | (Fig. 97) | " | 3 | 0 |

|   |     |     |     |     |           |           |
|---|-----|-----|-----|-----|-----------|-----------|
| AMALGAM DISC MAKER (Dr. Hogues'), for forming Amalgam into pieces ready for cavities, consisting of a German Silver stand, Nickel-plated, and upright, holding a glass tube with funnel-shaped mouth. With Packer and Spatula joined together |     |     |     |     | <i>s.</i> | <i>d.</i> |
| Glass Slabs, $3\frac{1}{2}$ in. square, with ground edges, for mixing Osteo-plastic Stoppings   | ... | ... | ... | ... | ...       | 1 0       |
| Ditto $2\frac{1}{2}$ by 2 in. polished edges, ditto ditto   | ... | ... | ... | ... | ...       | 0         |

98.



3 inches high.

|  |            |
|--|------------|
| BOTTLE for MASTIC or OTHER CEMENTS (Mr. Rowney's), Glass                   | s. d.      |
| with cover to prevent evaporation ... .. (Fig. 98) each                    | 3 9        |
| Bottles for Mercury, in Ivory, with Cap to prevent escape of               |            |
| Mercury. To hold 1 oz. ... .. (Fig. 99) „                                  | 4 6        |
| Ditto „ in Boxwood, with Cap to prevent escape of                          |            |
| Mercury. To hold 1 oz. ... .. (Fig. 99) „                                  | 1 0        |
| Ditto „ in Ivory, plain, without Cap ... .. „                              | 3 3        |
| Ditto „ in Boxwood „ „ ... .. „  | 0 6        |
| Drop Bottles for Chloride of Zinc, &c., cut glass (Fig. 100) „             | 2 3        |
| Ditto „ „ plain glass (Fig. 100) „   | 1 3        |
| Bottles, Plain, and Fancy cut glass, for Mouth Washes, &c., from 3/- to 16 | 0          |
| Ditto small, „ „ for Tooth Preparations „                                  | 4d. to 1 0 |

99.



2 1/4 inches high.

100.



3 inches high.

IMPRESSION TRAYS.

(IMPROVED SHAPES.)

A.



B.



C.



D.



E.



F.



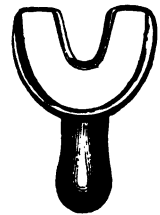
G.



H.



I.



## IMPRESSION TRAYS.

(BRITANNIA METAL.)

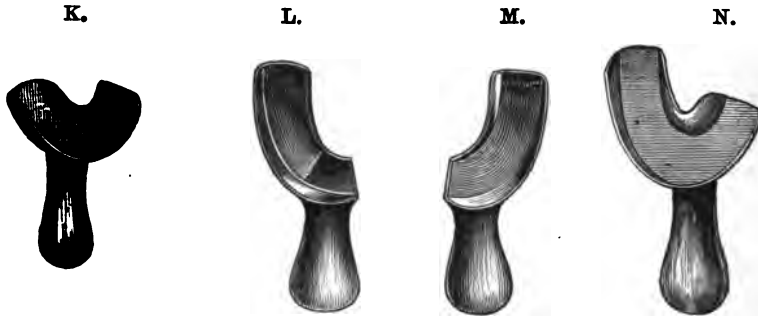
|                               |     |     |              |              |      | s. | d. |
|-------------------------------|-----|-----|--------------|--------------|------|----|----|
| Fig. A.—Upper                 | ... | ... | Small size   | No. 0, 1, 2, | each | 2  | 0  |
| Ditto ...                     | ... | ... | Medium „     | No. 3, 4,    | „    | 2  | 0  |
| Ditto ...                     | ... | ... | Large „      | No. 5, 6,    | „    | 2  | 0  |
| Fig. B.—Upper                 | ... | ... | Small size   | No. 0, 1, 2, | „    | 1  | 6  |
| Ditto ...                     | ... | ... | Medium „     | No. 3, 4,    | „    | 1  | 6  |
| Ditto ...                     | ... | ... | Large „      | No. 5, 6,    | „    | 1  | 6  |
| Fig. C.—Upper                 | ... | ... | Small size   | No. 0, 1, 2, | „    | 1  | 6  |
| Ditto ...                     | ... | ... | Medium „     | No. 3, 4,    | „    | 1  | 6  |
| Ditto ...                     | ... | ... | Large „      | No. 5, 6,    | „    | 1  | 6  |
| Fig. C.—Lower, with bent ends |     |     | Small size   | No. 0, 1, 2, | „    | 1  | 6  |
| Ditto „                       |     |     | Medium „     | No. 3, 4,    | „    | 1  | 6  |
| Ditto „                       |     |     | Large „      | No. 5, 6,    | „    | 1  | 6  |
| Fig. D.—Lower                 | ... | ... | Small size   | No. 0, 1, 2, | „    | 1  | 6  |
| Ditto ...                     | ... | ... | Medium „     | No. 3, 4,    | „    | 1  | 6  |
| Ditto ...                     | ... | ... | Large „      | No. 5, 6,    | „    | 1  | 6  |
| Fig. E.—Lower                 | ... | ... | Small size   | No. 0, 1, 2, | „    | 1  | 6  |
| Ditto ...                     | ... | ... | Medium „     | No. 3, 4,    | „    | 1  | 6  |
| Ditto ...                     | ... | ... | Large „      | No. 5, 6,    | „    | 1  | 6  |
| Fig. F.—Lower                 | ... | ... | Small size   | No. 0, 1, 2, | „    | 2  | 0  |
| Ditto ...                     | ... | ... | Medium „     | No. 3, 4,    | „    | 2  | 0  |
| Ditto ...                     | ... | ... | Large „      | No. 5, 6,    | „    | 2  | 0  |
| Fig. G.—Upper and Lower       | ... | ... | Small size   | No. 0, 1, 2, | „    | 2  | 0  |
| Ditto „                       | ... | ... | Medium „     | No. 3, 4,    | „    | 2  | 0  |
| Ditto „                       | ... | ... | Large „      | No. 5, 6,    | „    | 2  | 0  |
| Fig. H.—Upper (Mr. O. Coles') |     |     | Small size   | No. 0, 1, 2, | „    | 2  | 3  |
| Ditto „                       |     |     | Medium „     | No. 3, 4,    | „    | 2  | 3  |
| Ditto „                       |     |     | Large „      | No. 5, 6,    | „    | 2  | 3  |
| Fig. I.—Upper and Lower Bite  |     |     | } Small size | No. 0, 1, 2, | „    | 2  | 0  |
| Trays ...                     | ... | ... |              |              |      |    |    |
| Ditto „                       |     |     |              |              |      |    |    |
| Ditto „                       |     |     | Large „      | No. 5, 6,    | „    | 2  | 0  |

10 per cent. Discount off the above Prices when purchased by the Dozen.

Extra large sizes (Nos. 7 and 8) made to order.

IMPRESSION TRAYS—*continued.*

(BRITANNIA METAL.)



|                                     |                        |      |       |     |
|-------------------------------------|------------------------|------|-------|-----|
| Fig. K.—Upper and Lower Front       | } Small size No. 1,    | each | s. d. |     |
| Pieces ... ..                       |                        |      |       | 1 3 |
| Ditto ,, ... Medium ,, No. 2,       |                        |      |       | 1 3 |
| Ditto ,, ... Large ,, No. 3,        | 1 3                    |      |       |     |
| Figs. L, M.—Upper and Lower Side    | } Small size No. 1, 2, | ,,   | 1 3   |     |
| Pieces ... ..                       |                        |      |       | 1 3 |
| Ditto ,, ... Medium ,, No. 3, 4,    |                        |      |       | 1 3 |
| Ditto ,, ... Large ,, No. 5, 6,     | 1 3                    |      |       |     |
| Fig. N.—Upper or Lower three-       | } Small size No. 1, 2, | ,,   | 1 6   |     |
| quarter Trays, Right                |                        |      |       | 1 6 |
| and Left sides ... ..               |                        |      |       | 1 6 |
| Ditto ditto ... Medium ,, No. 3, 4, | 1 6                    |      |       |     |
| Ditto ditto ... Large ,, No. 5, 6,  | 1 6                    |      |       |     |

Impression Trays, Nickel-plated to order.

Ditto ,, of other forms, for special cases, &c., made to order.

Impression Spoons (Mr. Oakley Coles'), Britannia metal, in two halves, perforated, with long handles, for taking impressions in Cleft Palate cases ... .. the pair 10 0  
10 per cent. Discount off the above Prices when purchased by the Dozen.

Impression Compositions, see page 200.

Ditto Plaster ,, ,, 230.

Mouth Gauges (Mr. Owen's), in German Silver ... .. each 5 0

STUMP FILES.

1.



2.



(STUBS'.)

|  |    |    |
|--|----|----|
| Half-round pointed, broad, medium, and narrow, with Steel handles ... .. (Fig. 1) each | s. | d. |
|  | 0  | 8½ |
| Half-round blunt, broad, medium, and narrow, with Steel handles ... .. (Fig. 2) „      | 0  | 8½ |
| Oval pointed, broad and narrow, with tangs ... „                                       | 0  | 8½ |
| Oval blunt, broad, and medium, with Steel handles ... .. „                             | 0  | 8½ |
| Oval Thin Blunt, broad and medium, with Steel handles ... .. „                         | 0  | 8½ |
| Diamond, or Slitting, one safe side, with Steel handles ... .. „                       | 0  | 8½ |
| Concave, broad, medium, and narrow, with Steel handles ... .. „                        | 0  | 8½ |
| Half-round pointed, broad and medium, double ended ... .. „                            | 0  | 9  |
| Half-round blunt, broad and medium, double ended ... .. „                              | 0  | 9  |
| Oval blunt, long, medium width ... .. „  | 0  | 9  |
| Oval „ short, narrow „ ... .. „  | 0  | 9  |

(FRENCH.)

|  | Per doz. | Each. |
|--|----------|-------|
|  | s. d.    | s. d. |
| Half-round pointed, straight or curved Nos. 1 to 6 (Fig. 1)  | 6 0      | 0 6½  |
| Half-round blunt, straight or curved, Nos. 1 to 6 (Fig. 2)   | 6 0      | 0 6½  |
| Oval pointed, straight or curved, Nos. 0 to 3  | 6 0      | 0 6½  |
| Oval blunt, straight or curved, Nos. 0 to 3  | 6 0      | 0 6½  |
| Half-round straight, one end pointed, the other blunt ... .. Nos. 1 to 6   | 7 6      | 0 8   |
| Oval straight, one end pointed, the other blunt ... .. Nos. 0 to 3   | 7 6      | 0 8   |
| Oval blunt, with Trowel handles, made in two patterns, one to be used on its broad surface, and the other on its narrow surface ... .. } | 7 6      | 0 8   |

In the French Files No. 0 is the narrowest, and No. 6 is the broadest.

Figs. 1 and 2 represent the broadest.



FILES FOR THE MOUTH—  
*continued.*



(STUBS')

|  | Per doz. | Each. |
|--|----------|-------|
|  | s. d.    | s. d. |
| DIVIDING KNIFE, pointed, Nos. 3 to 6, cut on three sides, with Steel handles ... .. (Fig. 3) | 6 0      | 0 6½  |
| Ditto ditto blunt, Nos. 1 to 4, cut on three sides, with Steel handles ... .. (Fig. 6)       | 6 0      | 0 6½  |
| Ditto Double Knife, blunt (Mr. J. B. Fletcher's), one safe side, with Steel handles ... ..   | 8 0      | 0 8½  |



FILES FOR THE MOUTH.

(STUBS.)

|   |          | Per doz. |    | Each. |    |
|---|----------|----------|----|-------|----|
|   |          | s.       | d. | s.    | d. |
| Dividing, Flat, Nos. 0 to 8, cut all over                           | (Fig. 4) | 3        | 3  | 0     | 3½ |
| "    "    "    00 to 8, one safe side                               | (Fig. 4) | 3        | 3  | 0     | 3½ |
| "    "    "    0 to 8, cut on edges only                            | (Fig. 4) | 3        | 3  | 0     | 3½ |
| Dividing, Flat, short, thin or thick, to fit Carriers, cut all over |          | 3        | 3  | 0     | 3½ |
| "    "    "    "    "    one safe side                              |          | 3        | 3  | 0     | 3½ |
| Dividing, Flat, bent, Nos. 1, 3, 5, cut all over                    | (Fig. 5) | 3        | 3  | 0     | 3½ |
| "    "    "    "    1, 3, 5, (rights and lefts), one safe side      | (Fig. 5) | 3        | 3  | 0     | 3½ |

Dividing Knife—see previous page.

(FRENCH.)

|   |              |   |   |   |    |
|---|--------------|---|---|---|----|
| Dividing, Flat, Nos. 0 to 8, cut all over                                   | ...(Fig. 4)  | 3 | 3 | 0 | 3½ |
| "    "    Nos. 00 to 8, one safe side                                       | ...(Fig. 4)  | 3 | 3 | 0 | 3½ |
| Dividing, *Curved, Nos. 1 to 6, cut inside                                  | ...(Fig. 4)  | 3 | 3 | 0 | 3½ |
| "    "    Nos. 1 to 6, cut outside  | ...(Fig. 4)  | 3 | 3 | 0 | 3½ |
| Dividing, short, thin and thick, to fit Carriers, cut all over              |              | 3 | 3 | 0 | 3½ |
| "    ditto    ditto    one safe side  | ...          | 3 | 3 | 0 | 3½ |
| Dividing Knife, pointed, Nos. 3 to 6, cut on three sides, with Steel handle | ... (Fig. 3) | 6 | 0 | 0 | 6½ |
| Ditto    "    blunt, Nos. 1 to 4, ditto                                     | (Fig. 6)     | 6 | 0 | 0 | 6½ |

For Bayonet, Crank, and Finishing Files, see pages 174 and 175.

\* For Curve, see side cut, Fig. 11, page 175.

N.B.—No. 00 is the narrowest, and No. 8 the broadest of the Dividing Files.

Fig. 4 represents No. 2 width in the Dividing Files.

Fig. 3    "    No. 4, and Fig. 6 No. 3 widths of Knife Files.

FILES FOR THE MOUTH—*continued.*

7.



5 inches long.

(STUBS'.)

|  |    |    |
|--|----|----|
| DIVIDING, Bayonet form, rights and lefts, cut inside as illustrated, | s. | d. |
| with tangs to fit into wood handles ... (Fig. 7) each                | 0  | 8½ |
| Ditto ditto ditto ditto cut outside (Fig. 7) „                       | 0  | 8½ |

8.



6½ inches long.

|  |    |    |
|--|----|----|
| DIVIDING, Crank form, medium and narrow, rights and lefts, cut | s. | d. |
| on three sides, with Steel handles ... (Fig. 8) each           | 0  | 8½ |
| Ditto Trowel form ditto ditto rights and lefts, cut            |    |    |
| on three sides, with Steel handles ... .. „                    | 0  | 8½ |

Fig. 8 represents the narrow width.

(FRENCH.)

|   | Per doz. | Each. |
|---|----------|-------|
|   | s. d.    | s. d. |
| DIVIDING, Bayonet form, rights and lefts, cut inside as illustrated, with tangs to fit into wood handles (Fig. 7) | 7 0      | 0 7½  |
| Ditto ditto ditto ditto cut outside (Fig. 7)  | 7 0      | 0 7½  |
| Ditto Trowel form, broad, medium and narrow, rights and lefts, cut on three sides, with Steel handles ...         | 7 0      | 0 7½  |
| Ditto ditto ditto with file part only ¾ in. long  | 7 0      | 0 7   |

For other Dividing Files, see pages 172 and 173.

9.



10.



11.



ENGLISH.

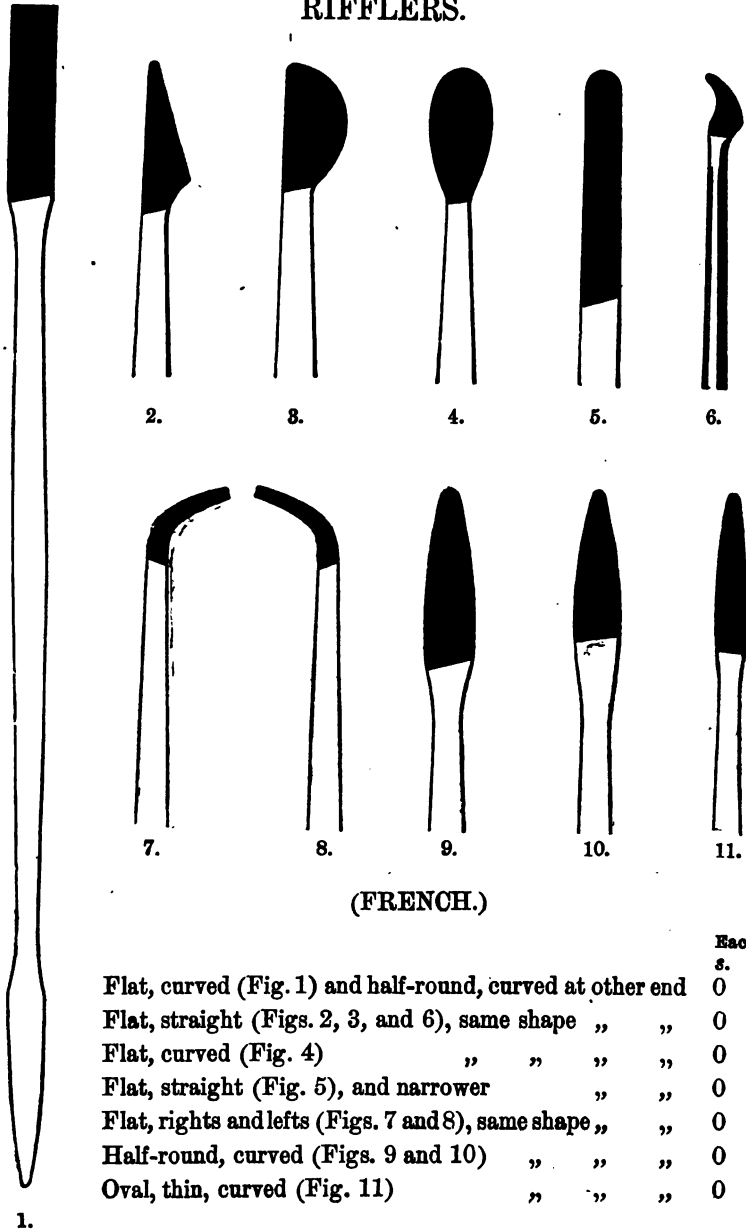
|   |           |      |   |           |               |
|---|-----------|------|---|-----------|---------------|
| FINISHING FILES, half-round pointed, straight, cut all over, with |           |      |   | <i>s.</i> | <i>d.</i>     |
| Steel handles ... ..  | (Fig. 9)  | each | 0 | 6         | $\frac{1}{2}$ |
| Ditto ditto half-round pointed, straight and curved, one          |           |      |   |           |               |
| safe side, with Steel handle ... ..                               | (Fig. 10) | „    | 0 | 6         | $\frac{1}{2}$ |

FRENCH.

|   |           |   |   |   |  |
|---|-----------|---|---|---|--|
| FINISHING FILES, half-round pointed, straight and curved, cut |           |   |   |   |  |
| all over, with Steel handles, Nos. 0, 1, and 2...             | (Fig. 11) | „ | 0 | 4 |  |
| Ditto ditto blunt, Nos. 0, 1, and 2...                        | (Fig. 11) | „ | 0 | 4 |  |

No. 0 is the narrowest, and No. 2 the broadest. Fig. 11 is the No. 1 width.  
For Finishing Burs and Files for Socket Handles, see page 178.

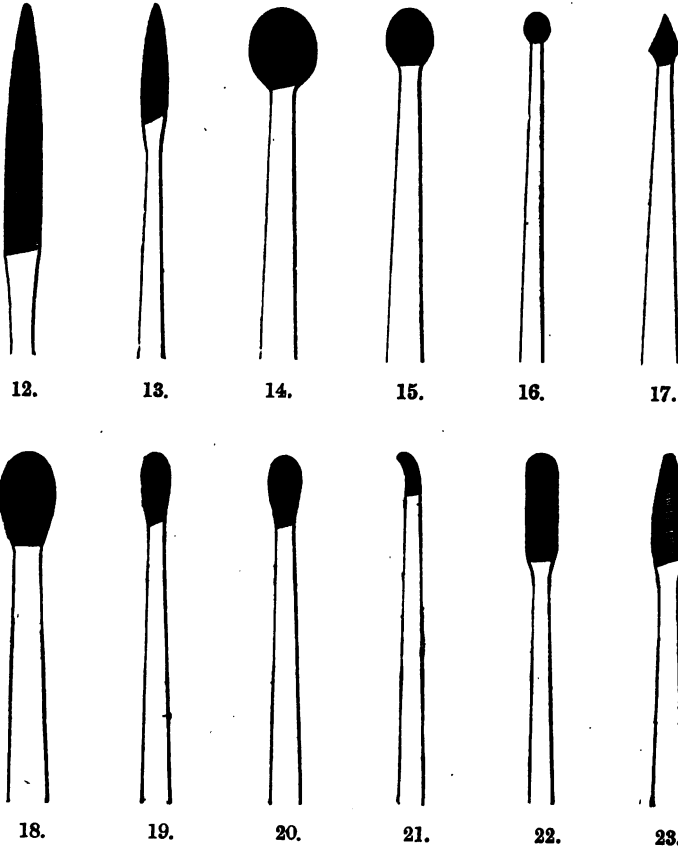
RIFFLERS.



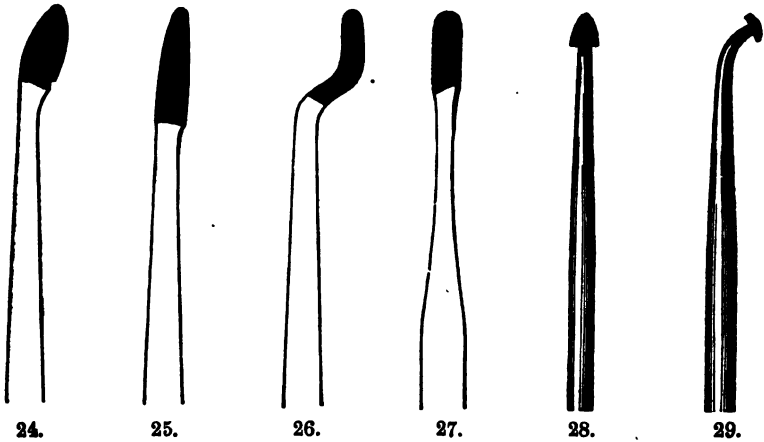
(FRENCH.)

|   | Each. | s. | d.            |
|---|-------|----|---------------|
| Flat, curved (Fig. 1) and half-round, curved at other end | 0     | 7  | $\frac{1}{2}$ |
| Flat, straight (Figs. 2, 3, and 6), same shape            | 0     | 7  | $\frac{1}{2}$ |
| Flat, curved (Fig. 4)                                     | 0     | 7  | $\frac{1}{2}$ |
| Flat, straight (Fig. 5), and narrower                     | 0     | 7  | $\frac{1}{2}$ |
| Flat, rights and lefts (Figs. 7 and 8), same shape        | 0     | 7  | $\frac{1}{2}$ |
| Half-round, curved (Figs. 9 and 10)                       | 0     | 7  | $\frac{1}{2}$ |
| Oval, thin, curved (Fig. 11)                              | 0     | 7  | $\frac{1}{2}$ |

RIFFLERS.

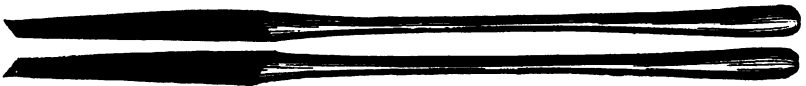


|  |      |   |   | <i>s.</i> | <i>d.</i>        |
|--|------|---|---|-----------|------------------|
| Half-round, curved (Figs. 12 to 17), same shape at other end | each | 0 |   | 0         | $7\frac{1}{2}$   |
| Oval, straight (Figs. 18 to 20)                              | "    | " | " | "         | 0 $7\frac{1}{2}$ |
| Oval, curved (Fig. 21)                                       | "    | " | " | "         | 0 $7\frac{1}{2}$ |
| Oval, thin, straight (Fig. 22)                               | "    | " | " | "         | 0 $7\frac{1}{2}$ |
| Oval, thin, curved (Fig. 23)                                 | "    | " | " | "         | 0 $7\frac{1}{2}$ |
| Oval, thin one end (Fig. 24), and flat, curved at other end  | "    | 0 |   | 0         | $7\frac{1}{2}$   |
| Oval, thin, straight (Figs. 25 and 26), same shape           | "    | 0 |   | 0         | $7\frac{1}{2}$   |

RIFFLERS—*continued.*

|   | <i>s.</i> | <i>d.</i> |
|---|-----------|-----------|
| Round, straight (Figs. 27 and 28), same shape at other end  | each      | 0 7½      |
| Half-round, curved (Fig. 29)  | " "       | 0 7½      |
| Rifflers of other patterns (some very small), kept in stock   | " "       | 0 7½      |
| Rifflers (Stubs'), various forms ... ..   | " "       | 0 8       |
| Rifflers for Vulcanite Work, see page 252.  |           |           |
| Finishing Burs, for Stoppings, fine cut, with Polished Steel handles and black octagon centres ... .. | each      | 2 0       |

## FINISHING FILES.



|   | <i>s.</i> | <i>d.</i> |
|---|-----------|-----------|
| FILES (Dr. Taft's) for finishing stoppings, spring tempered, very fine cut, made in rights and lefts ... .. | each      | 0 5½      |
| Ditto ditto ditto   | per doz.  | 5 0       |

## 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 188.

### 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

## GASOMETER.

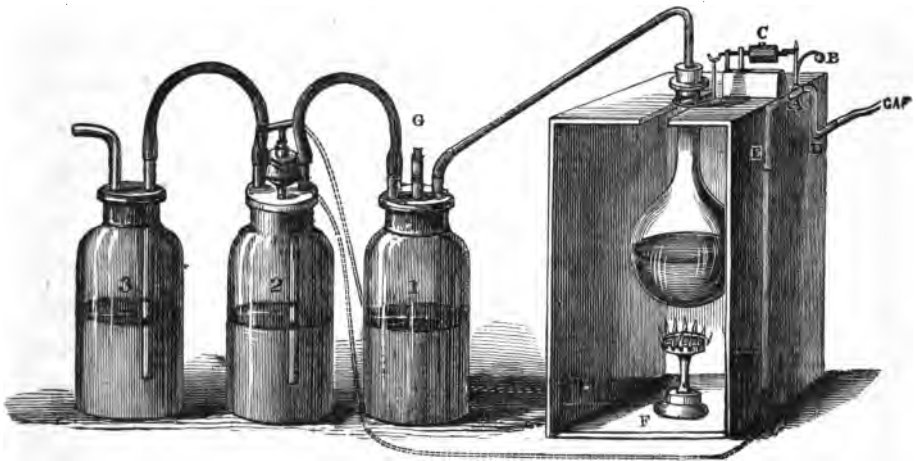
DIRECTIONS—*continued.*

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.

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 B, C, Fig. 2 (described at page 184), 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 is 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 re-ignite 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 181) 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 it will be necessary to make 50 gallons of gas, which will take about  $2\frac{1}{2}$  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 any more.

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. 184) 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  $226^{\circ}$ , boils at  $360^{\circ}$ , evolves gas at from  $460^{\circ}$  to  $485^{\circ}$ , at  $500^{\circ}$  and upwards it gives off nitrous and nitric acids, accompanied sometimes with an explosion.

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

(See Fig. 2, Page 181.)

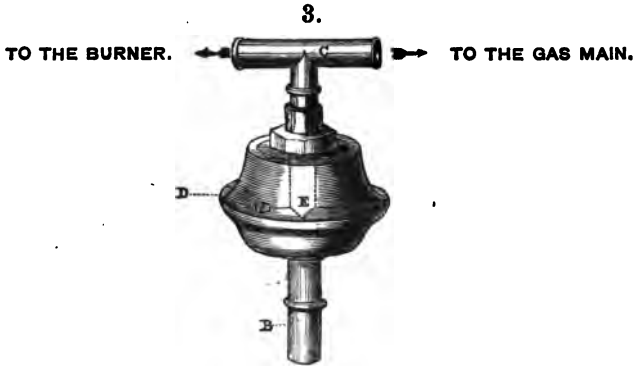
THE use of this self-acting apparatus is to shut off the coal gas from the burner when the nitrate of ammonia in the flask is reduced to six ounces. It is considered desirable never to have less than this quantity in the flask, for heat acts so rapidly upon a small quantity that, without constant watching, 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 181) 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 (Fig. 3) is used, the flexible tubing from tube E (Fig. 2) must be attached to one end of the T piece of the Thermo-Regulator, and another piece of tubing from the other end of T piece to the burner, so that the coal gas must pass through the Regulator before it reaches the burner.

## ASH'S THERMO-REGULATOR.



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 as far as possible.

## DESCRIPTION OF REGULATOR.

The regulator consists of two chambers, divided through the centre by a diaphragm of india-rubber, 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 the 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.

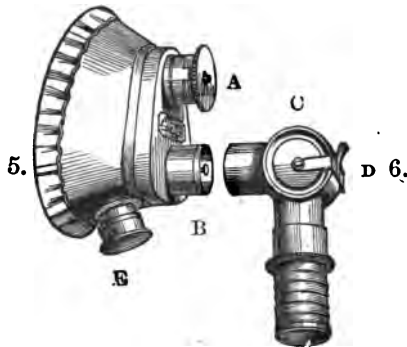
## DIRECTIONS FOR USE.

Take out the T piece or tap of Regulator and attach to one side of it (either will do) a piece of india-rubber 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 182, 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 india-rubber diaphragm.

P.S. The vacuum valve is now separated from the Regulator and placed in the first bottle, as described on page 182.

### MR. CLOVER'S FACEPIECE.



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.

MR. CLOVER'S FACEPIECE—*continued.*

## DIRECTIONS FOR USE.

Push the short tube of the two-way stopcock C (Fig. 6) 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.

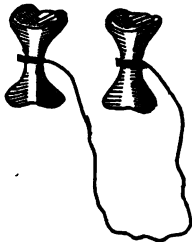
The tap of bag should be opened after about the fourth or fifth inhalation, the operator's finger being placed upon the expiratory valve A; the expired gas will then pass into the supplemental bag, and be breathed backwards and forwards from it. Some Facepieces have a spring stop attached to the valve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

These Facepieces are now made with india-rubber tubes and metal taps, so that they can be re-filled with air or water without difficulty.

For other kinds of Facepieces, see page 190.

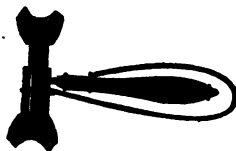
## GAGS OR MOUTH-PROPS.

7.



THESE Gags are generally used in pairs, and are tied in the manner illustrated at the ends of a piece of silk cord, and one is left hanging out of the mouth so that the operator may prevent the possibility of it being swallowed while inhaling the gas.

8.



MR. MCADAM'S Gags or Mouth Props, Fig. 8, 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.

For prices and other kinds of Gags, see page 190.

PRICE LIST OF  
NITROUS OXIDE GAS APPARATUS, &c.

(AS DESCRIBED ON PAGES 179 TO 188.)

|   | <i>s.</i> | <i>d.</i> |
|---|-----------|-----------|
| Apparatus (as generally supplied) for the Manufacture and Administration of Nitrous Oxide Gas, consisting of a Japanned Zinc Gasometer, without Core, 50-gallons capacity, with Cords and Weights (Fig. 1, page 180)... | 140       | 0         |
| *Ash's Thermo-Regulator (Fig. 3, page 185) ...  | 15        | 0         |
| *Kirby's Gas Extinguisher (page 184) ...  | 15        | 0         |
| *Bunsen Gas Burner (Fig. 26, page 216)...   | 5         | 6         |
| Wood Shield, with Tin lining and Zinc tray (Fig. 2, page 181)...  | 16        | 0         |
| 3 Wash-bottles fitted with Bungs and Tubes (Fig. 2, page 181)...  | 24        | 0         |
| 4 Glass Flasks, each 100 oz. capacity ...   | 6         | 0         |
| Wire Hook for suspending Flasks...  | 1         | 6         |
| Carried forward ...   | 223       | 0         |

\* Dentists residing in places where coal gas cannot be obtained can have a Spirit Lamp (Fig. 22, page 216) for heating the ammonia, then the Gas Burner, the Regulator, Gas Extinguisher, and 12 feet of small india-rubber tubing, not being required, the total cost would be 33*s.* 6*d.* less than above.



|  | s.         | d.       |
|--|------------|----------|
| Brought forward ... ..   | 223        | 0        |
| 3 India-rubber Bungs for Glass Flasks ... ..   | 2          | 3        |
| 2 long Bent Glass Tubes ... ..   | 5          | 0        |
| Wood Union for connecting Tubes of last Wash-bottle to Gasometer ... ..  | 0          | 6        |
| 6 ft. each $\frac{3}{4}$ in. and $\frac{5}{8}$ in. India-rubber Tubing, wired ... ..   | 16         | 0        |
| 12 $\frac{5}{16}$ "         "         "         ... ..   | 4          | 0        |
| $\frac{1}{2}$ cwt. Nitrate of Ammonia, best quality ... ..   | 70         | 0        |
| 2 Jars for ditto ... ..  | 8          | 0        |
| 2 lbs. Proto-Sulphate of Iron, in bottles ... ..   | 2          | 8        |
| 1 lb. Caustic Potash                 "         ... ..  | 4          | 0        |
| 1 each Large and Medium (or Small) Facepieces (Fig. 5, page 186)   | 47         | 0        |
| Two-way Stopcock for ditto, with long tube (Fig. 6, page 186)  | 10         | 6        |
| Set of Gags (Mr. McAdam's), 3 lengths (Fig. 8, page 188) ... ..  | 15         | 0        |
| Complete ... ..  | <u>407</u> | <u>6</u> |
| Apparatus as above, if with 40-gallon Gasometer ... ..   | 393        | 0        |
| Ditto         "         "         30         "         "         ... ..  | 380        | 0        |
| Packing Cases for above Apparatus, extra, from 30/0.   |            |          |
| Apparatus for Compressed Gas, consisting of an Iron Bottle with perfectly made Tap, and containing 45 gallons of Compressed Gas ... .. | 44         | 3        |
| Mr. Cattlin's Bag, about 3-gallon Capacity, and Union with Tubing (Fig. 10, page 194), to connect Bottle and Facepiece ... ..          | 20         | 0        |
| 1 each Large and Medium (or Small) Facepieces (Mr. Clover's), with brass mount E (Fig. 5, page 186) ... ..                             | 47         | 0        |
| Supplemental Bag to fit on to mount E of Facepiece for economizing, &c., the Gas ... ..  | 11         | 6        |
| Two-way Stopcock (Fig. 6, page 186), without the long tube ... ..  | 8          | 0        |
| Set of Gags (Mr. McAdam's), 3 lengths (Fig. 8, page 188) ... ..  | 15         | 0        |
| Complete ... ..  | <u>145</u> | <u>0</u> |
| Apparatus as above, without Supplemental Bag and brass mounts E in Facepieces ... .. complete  | 129        | 0        |
| Mr. Cattlin's Bags of larger capacity made to order.   |            |          |

## ARTICLES (VARIOUS) FOR GAS APPARATUS.

|  |                |             |
|--|----------------|-------------|
| Ammonia, Nitrate of, best quality, per cwt. 140/0 ; per lb. 1/4 ; supplied in Jars containing 7, 14, and 28 lbs. ; Jars 1/0, 2/0, and 4/0 each extra.*   |                |             |
| Caustic Potash, in $\frac{1}{2}$ lb. and $\frac{1}{4}$ lb. Bottles...  | ... per bottle | 2/0 and 1/0 |
| Chamois Leather Covers for Facepieces, large, medium, and small, each  |                | 0/3         |
| Facepieces (Mr. Clover's), large, medium, and small, improved  | s. d.          |             |
| (Fig. 5, page 186) ... .. .  | each           | 23 6        |
| Facepieces ditto without mount E (Fig. 5, page 186)  | ,,             | 21 0        |
| Facepieces repaired at moderate charges.   |                |             |
| Gags or Mouth Props (Mr. Clover's), long, medium, and short, in Vulcanite, with Springs  | ... .. .       | ,, 3 6      |
| Gags (Mr. McAdam's), long, medium, and short (Fig. 8, page 188)  | ... .. .       | ,, 5 0      |
| Gags (Mr. Hutchinson's), long, medium, and short, in Metal with Spring, Plated   | ... .. .       | ,, 5 0      |
| Gags (Mr. Gale's), long, medium, and short, in Brass, Nickel-plated, with Spring, and Gutta-percha Pads, which are warmed just before use for the patient to bite into so as to prevent slipping | ... .. .       | ,, 5 6      |
| Gags, Lignum Vitæ Wood, long, medium, and short (Fig. 7, page 187)   | ... .. .       | ,, 0 9      |
| Gas, Compressed, and Apparatus, page 189 ; Liquid Gas and Apparatus, pages 192 to 194.   |                |             |
| Gas, Compressed, 45 gallons, in Iron Bottle  | ... .. .       | ,, 44 3     |
| Gas ,, 90 ,, ,,  | ... .. .       | ,, 67 6     |
| Gas Bottles re-filled with Gas at 3d. per gallon.  |                |             |
| Gasometers, Japanned Zinc, without Core, 50-galls. capacity  | ,,             | 140 0       |
| Gasometers, ,, ,, 40 ,, ,,   | ,,             | 125 0       |
| Gasometers, ,, ,, 30 ,, ,,   | ,,             | 117 0       |

\* Nitrate of Ammonia Jars credited at full price if returned free.

|  | <i>s.</i>  | <i>d.</i>   |
|--|------------|-------------|
| Glass Flasks, 50-oz. capacity, flat bottoms ... ..   | each       | 1 0         |
| Glass „ 100-oz. „ „ ... ..   | „          | 1 6         |
| Glass „ 140-oz. „ „ ... ..   | „          | 2 3         |
| Glass Tubes, Long bent, for connecting Flask with first Wash-bottle (Fig. 2, page 181) ... ..  | „          | 2 6         |
| Glass Tubes, for 2nd and 3rd Wash-bottles ... ..   | „          | 1 6         |
| Glass „ Bent, for 3rd „ ... ..   | „          | 1 3         |
| Glass „ Short, for 1st and 2nd „ ... ..  | „          | 0 9         |
| Glass „ ditto, with Valve, for No. 1 Wash-bottle ... ..  | „          | 2 0         |
| India-rubber Tubing, $\frac{1}{2}$ in. inside (Williamson's), specially made to withstand heat, for connecting Wash-bottles ... per foot |            | 0 6         |
| India-rubber, $\frac{1}{8}$ in. inside, Wired, for connecting Thermo-Regulator (Fig. 3, page 185), with Coal Gas Pipe ... ..             | „          | 0 4         |
| India-rubber, $\frac{5}{8}$ in. inside, Wired, for connecting last Wash-bottle with Gasometer ... ..                                     | „          | 1 0         |
| India-rubber Tubing, $\frac{3}{4}$ in. inside, covered with Mohair, for connecting Gasometers or Bottles of Gas with Facepieces ... ..   | „          | 1 8         |
| India-rubber Bungs for Flasks ... ..   | each       | 0 9         |
| India-rubber ditto for Wash-bottles ... ..   | „          | 1 3         |
| India-rubber Bags, to hold from 6 to 26 gallons of Gas, with mounts and tubing complete, made to order ... ..                            | from       | 17 6        |
| Metal Tubing, for conveying Gas from Gasometer situated at a long distance from the Operating Room ... per foot, from                    |            | 2 6         |
| Nose Clamps, spring steel, with ivory buttons ... ..   | each       | 2 6         |
| Proto-Sulphate of Iron, in $\frac{1}{2}$ lb. and 1 lb. bottles ... ..  | per bottle | 8d. and 1 4 |
| Tins for raising burners in Gas-making ... ..  | each       | 0 4         |
| Tripods, Iron, to hold 45 or 90 gallon Bottles ... ..  | „          | 6 6         |
| Unions (Coxeter's), for connecting bottles of Gas with Tubing of Cattlin's Bags, &c. ... ..  | „          | 4 6         |
| Vacuum Valves, for No. 1 Wash-bottles in Glass Tubes ... ..  | „          | 2 0         |
| Wash-bottles, 1 neck, with hermetically sealed Tops, and Glass Tubes fixed in India-rubber Bungs (page 181) ... ..                       | „          | 8 0         |

N.B.—For other Gas Apparatus, see Appendix.

APPARATUS FOR  
LIQUID NITROUS OXIDE GAS.

9.



THE above Apparatus is very ornamental, and is made expressly for holding Liquid Gas, to be used in the Operating Room. The bottle, containing 50 or 100 gallons of liquid gas, is held underneath by two iron rings and secured with two screws, and the metal union attached to the pipe of gasometer connects the bottle containing the gas with it. The brass tube above, with stop-cock, is for connecting the gasometer with the

(Continued.)

tube to which the facepiece is attached. When the bottle is empty, it can be replaced or exchanged for a full one in a few minutes. The centre brass rod, which is divided into intervals of 2 gallons each, indicates the quantity in the gasometer at any given time. To insure having sufficient gas for each operation, the gasometer should be filled for each patient.

PRICE OF APPARATUS.

|   |                |
|---|----------------|
| APPARATUS (as generally supplied), consisting of a Zinc Gasometer, Japanned in imitation of Marble, to hold 8 gallons of Liquid Gas , ... .. (Fig. 9) | s. d.<br>100 0 |
| Wrought Iron Bottle, 12 in. by 3 in., with perfectly made tap, and containing 100 gallons of Liquid Gas ... ..  | 70 0           |
| 6 feet India-rubber Tubing, $\frac{3}{4}$ in., covered with Mohair for connecting Gasometer with the Stopcock of Facepiece ...                        | 10 0           |
| Two-way Stopcock, with long tube ... (Fig. 6, page 186)   | 10 6           |
| 1 each Large, Medium (or Small) Facepieces (Fig. 5, page 186)   | 47 0           |
| Set of Gags (Mr. McAdam's), 3 lengths (Fig. 8, page 188)  | 15 0           |
| Complete  | 252 0          |

N.B.—The above Apparatus can be varied according to desire, see Price List for other Facepieces, &c., pages 190 to 193.

|  |                |
|--|----------------|
| Gasometers, as above, 12-gallon capacity ... (Fig. 9) each         | s. d.<br>110 0 |
| Liquid Gas, 50 gallons in bottle; 9 in. by 3 in. ... .. „          | 45 0           |
| Ditto „ 200 „ 22 $\frac{1}{2}$ in. by 4 $\frac{1}{2}$ in. ... .. „ | 105 0          |
| Ditto „ 500 „ 31 in. by 4 $\frac{1}{2}$ in. ... .. „               | 200 0          |
| Tripod Stand for 500 gallon bottles, ... .. extra „                | 17 6           |
| „ „ 200 „ ... .. „ „   | 7 6            |

Portable Liquid Gas Apparatus, see next page.

## LIQUID GAS APPARATUS.

10.



|  |              |
|--|--------------|
| <b>PORTABLE APPARATUS</b> (as generally supplied, Fig. 10), consisting of a Wrought Iron Bottle, 12 in. by 3 in., containing 100 gallons of Liquid Gas | s. d.        |
| Mr. Cattlin's Bag, to hold about 3 gall., with Union and Brass Mount   | 70 0         |
| 2 Facepieces, 1 Large and 1 Medium (or Small) (Fig. 5, page 186)   | 20 0         |
| Supplemental Bag and Stopcock, for economizing, &c., to fit ditto  | 47 0         |
| Two-way Stopcock to connect Facepiece ... (Fig. 6, page 186)   | 11 6         |
| Set of Gags (Mr. McAdam's), 3 lengths ... (Fig. 8, page 188)   | 8 0          |
| Leather Case (16 $\frac{3}{4}$ in. by 6 $\frac{3}{4}$ in.), to hold the above (or a 50-gallon bottle), with Lock and Key ... (Fig. 10)                 | 15 0         |
|  | 16 0         |
| <b>Complete</b>  | <u>187 0</u> |
| Liquid Gas, 50-gallon in bottle (9 in. by 3 in.) ... ..  | 45 0         |
| Liquid Gas, 25-gallon ,, (6 in. by 2 in.) ... ..   | 30 0         |
| Bottles re-filled with Liquid Gas at 3d. per gallon.   |              |
| For larger bottles of Liquid Gas, see page 193.  |              |

The above Cases are made to carry only the 50 or 100 gallon bottles. The Apparatus can be varied if desired ; see Price List, pages 190 to 193.

ETHER APPARATUS.

(For producing Local Anæsthesia.)

11.

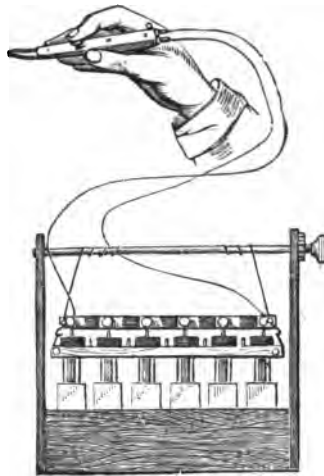


ETHER APPARATUS (Dr. Richardson's), consisting of a graduated Glass Bottle, with tube to insert in same, straight, curved and double Jets, for various positions in the mouth, a Tongue or Cheek Holder (Mr. Welsh's), an elastic connecting Tube, and Foot Bellows, in wood box, with Instructions

|  | s. | d. |
|--|----|----|
| (Fig. 11) each   | 34 | 0  |
| Ditto ditto ditto with Hand Bellows ... ..                                 | 26 | 0  |
| Ditto with Foot Bellows and no Tongue Holder ... ..                        | 30 | 0  |
| Ditto with Hand " " " " " " " " " " " "                                    | 24 | 0  |
| Foot Bellows only ... ..   | 15 | 0  |
| Hand " " " " " " " " " " " "   | 11 | 3  |
| Glass Bottle, Graduated, in Case for Ether ... ..                          | 2  | 6  |
| Nozzles, straight, curved, and double, each 1/6, 2/6, and 4/0              |    |    |
| Ether, compound, in bottles, 4 oz. 2/0, 10 oz. 4/0, 20 oz. 7/0             |    |    |
| Ditto, Anhydrous " 1 pint ... .. each                                      | 7  | 0  |
| Ditto, Methylated " 20 oz. ... .. "  | 4  | 0  |
| Ether, in bottles with tin cases, for exportation, extra 6d. and 7d. each. |    |    |

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

12.



|   |     |     |                   |    |    |
|---|-----|-----|-------------------|----|----|
| 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. 12)         | s. | d. |
| Extra Instruments for the hand, as shown above, in Ivory  | ... | ... | each              | 10 | 6  |
| Extra wires   | ... | ... | covered, per pair | 5  | 0  |
| Fine Platina Wire for ditto   | ... | ... | per inch          | 0  | 1  |

13.



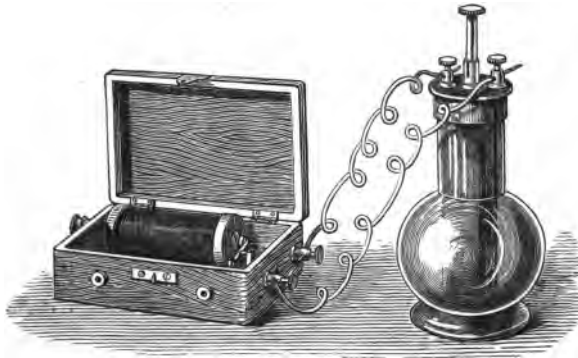
|  |     |     |     |           |    |
|--|-----|-----|-----|-----------|----|
| MAGNETO-ELECTRIC APPARATUS, for Neuralgia, &c. (Fig. 13)       | 22  | 0   | and | 25        | 0  |
| Ditto, in mahogany box, with Tooth Conductor                   | ... | 27  | 0   | „         | 33 |
| Ditto ditto with various Conductors                            | ... | 36  | 0   | „         | 42 |
| Galvanic Batteries, various                                    | ... | ... | ... | each from | 32 |
| Bichloride of Methyline and Hydramyl Chlor. obtained to order. |     |     |     |           |    |



**ELECTRO-DENTISTRY.**

In consequence of Mr. Snape, of Liverpool, having published a paper on "Electro-Dentistry—Facts and Observations," in which Electricity is recommended as a means for producing Anæsthesia for Dental operations; and knowing the fear which many operators have when using nitrous oxide gas, or any of the other means for producing Anæsthesia, and knowing also the dread which many patients have of being put under their influence, C. Ash & Sons have considered it to be their duty to offer every facility to Dentists to prove for themselves the usefulness of such an agent by supplying those Electrical Apparatus and other appliances which are now recommended by Mr. Snape, or which may eventually be recommended by himself or others. The following is the Electrical Apparatus which Mr. Snape has found to be the most effectual.

14.



|   | <i>s.</i> | <i>d.</i> |
|---|-----------|-----------|
| <b>ELECTRICAL APPARATUS</b> with Induction Coil, &c. (Fig. 14)  | 21        | 0         |
| Forceps, Insulated, with hole drilled in handles to attach to wire  |           |           |
| Conductor ... .. extra per pair   | 1         | 0         |
| Metal Plates or Bars to attach to the arms of operating chairs for patients to hold, or place their hands upon, to complete the circuit of electricity ... .. per pair from | 5         | 0         |
| Covered Wire for conveying electricity to arm of operating chair and forceps ... .. per yard  | 0         | 6         |
| Varnish for Insulating Forceps in wide-neck stopper bottle, with directions ... .. per bottle   | 1         | 3         |
| Pamphlet on "Electro-Dentistry—Facts and Observations," 3rd edition, by Joseph Snape, Esq., L.D.S., R.C.S. ... ..   | 1         | 0         |

## SUNDRIES

## FOR THE OPERATING ROOM.

## NERVE AND TOOTH PREPARATIONS, &amp;c.

|   | <i>s.</i> | <i>d.</i> |
|---|-----------|-----------|
| Antiseptic Mixture (Douglas') ... .. per bottle   | 4         | 0         |
| Absolute Alcohol ... .. 2 oz. „   | 2         | 0         |
| Arsenious Paste for destroying the nerves... .. per bottle  | 2         | 0         |
| Asbestos for Cavities of Teeth, &c. ... per oz. 2 <i>d.</i> , per lb.   | 2         | 0         |
| Azotine (Mr. Rowney's) „ „ large and small packets 10/6 and 5   | 5         | 0         |
| Baldock's Nerve Paste, in glass-stoppered bottles per bottle  | 5         | 0         |
| Bunter's Nervine ... .. per packet  | 1         | 0         |
| Camphor ... .. per oz. 2 <i>d.</i> , per lb.  | 2         | 0         |
| Carbolic Acid, No. 1, best quality „ „ ... per bottle   | 1         | 3         |
| Carbolic Acid No. 2, second „ „ „ „   | 0         | 10        |
| Carbolic Glycerine „ „ „ „  | 0         | 10        |
| Carbolized Resin, for treatment of the nerves, in bottles ... ..  | 1         | 0         |
| Creasote, best quality per lb. 10/0, per 1 oz. stoppered bottle   | 1         | 3         |
| Creasote Applier, consisting of a grooved platina wire point 1½ in.<br>long, fixed in an ebony handle, and passed through a piece of<br>sponge, over which is a nickel-plated tube, for catching the<br>Creasote, should it run down the wire ... .. each | 2         | 0         |
| Chloroform, pure ... .. per oz., in stoppered bottle  | 1         | 6         |
| Chloride of Zinc, see Liquids, page 201.  |           |           |
| Glycerole of Thymol, for treatment of the nerves... 1 oz. bottle  | 2         | 0         |
| Horne's Nervine „ „ „ „ per bottle  | 5         | 0         |
| Mastic Cement, Thick, for temporary stoppings ... „   | 0         | 9         |
| Pepsine Paste, for treatment of exposed pulps ... per packet  | 3         | 0         |
| Phenol Sodique, for allaying pain, &c. ... .. 8 oz. bottle  | 1         | 9         |
| Phenate of Soda „ „ ... 4 oz. stoppered „   | 1         | 0         |
| Phenate of Soda „ „ ... 10 oz. corked „   | 2         | 0         |
| Stent's Liquid Amber for temporary stopping ... per bottle  | 1         | 6         |
| Stent's Cotton for ditto ... .. per packet  | 1         | 0         |
| Styptic Colloid, for arresting hæmorrhage... .. per bottle  | 2         | 6         |
| Tannin, for reducing inflammation, &c. ... .. 1 oz. bottle  | 1         | 0         |

SUNDRIES—*continued.*

## MOISTURE ABSORBENTS.

|   | <i>s.</i> | <i>d.</i> |
|---|-----------|-----------|
| Amadou or Spunk, best quality ... .. per oz.                              | 0         | 6         |
| Bibulous Paper (French) ... .. per quire                                  | 0         | 6         |
| Chloralum Wool ... .. per packet  | 0         | 10        |
| Cotton Wool, for wiping out cavities ... per lb. $\frac{3}{6}$ , per oz.  | 0         | 8         |
| Cotton Wool (Dr. Von Brun's), very absorbent ... $\frac{1}{2}$ lb. packet | 2         | 6         |
| Spongoid, in boxes containing sixteen sheets ... per box                  | 1         | 1         |

## VARNISHES FOR COATING STOPPINGS, &amp;c.

|  | <i>s.</i> | <i>d.</i> |
|--|-----------|-----------|
| Copal Ether Varnish (Mr. Fletcher's) ... .. per bottle | 1         | 0         |
| Sandarac Varnish, in 2 oz. bottles... .. „             | 1         | 0         |
| Vitrine „ (Mr. Rowney's)... .. „                       | 2         | 0         |

## CANES, Etc., FOR CLEANING TEETH.

|   | <i>s.</i> | <i>d.</i> |
|---|-----------|-----------|
| Dragon Canes, white, red, or purple, one end pointed per doz. | 1         | 0         |
| Dragon Canes „ „ „ blunt „                                    | 1         | 0         |
| Dragon Canes „ „ brush at both ends „                         | 1         | 0         |
| Dragon Cane Points to fit holders (pages 157 and 164) „       | 0         | 6         |
| Dragon Roots, white or red ... .. „                           | 3         | 0         |

## ARTICLES FOR REGULATING, &amp;c.

|   | <i>s.</i> | <i>d.</i> |
|---|-----------|-----------|
| Hickory Wood, in blocks, for cutting up as required per block   | 0         | 6         |
| Hickory Wood compressed, in sticks for pivoting... per box  | 1         | 0         |
| India-rubber rings for regulating, various sizes ... „  | 0         | 6         |
| India-rubber sheeting „ in $\frac{1}{2}$ lb. $\frac{1}{4}$ lb. and $\frac{3}{8}$ lb. packets, per lb.             | 7         | 6         |
| Jack Screws, with nuts, for regulating teeth, Steel, Nickel-plated,<br>in 3 different lengths ... .. per set of 3 | 7         | 6         |
| Jarvis's Separators, for ditto, Steel, Nickel-plated... per set of 4  | 17        | 0         |
| Sycamore Wood, in blocks, for cutting up as required per block  | 0         | 6         |

SUNDRIES FOR OPERATING ROOM—*continued.*

## MATERIALS FOR IMPRESSIONS.

|   | <i>s.</i> | <i>d.</i> |
|---|-----------|-----------|
| Bees' Wax, thin cakes, in $\frac{1}{2}$ lb. boxes ... .. per lb.  | 3         | 0         |
| Gutta Percha, pink, in sheets, $\frac{1}{2}$ lb. packets, thick ... .. "  | 6         | 6         |
| " " " " thin... .. "  | 6         | 6         |
| Gutta Percha, American " " extra thin ... .. "  | 10        | 9         |
| Hinds' Godiva Composition, Soft, or No. 1. Recommended in cases of tender gums, cleft palate, &c., also for use in cold weather; it takes very sharp and accurate impressions, can be used at a low temperature, requiring two minutes to set before withdrawing from the mouth; in $\frac{1}{2}$ lb. packets per lb.   | 6         | 0         |
| Hinds' Godiva Composition, Medium, or No. 2. This quality is intended for ordinary use, and where no special properties are required, it will not fail to produce a reliable impression; it requires from one and a half to two minutes to set before withdrawing from the mouth; in $\frac{1}{2}$ lb. packets ... per lb.  | 6         | 0         |
| Hinds' Godiva Composition, Hard, or No. 3. This quality sets in from one minute to a minute and a half; for edentulous cases, also where a quick-setting preparation is required, and for use in very hot weather it is especially recommended; in $\frac{1}{2}$ lb. packets ... .. per lb.   | 6         | 0         |
| Hinds' Godiva Composition, Extra Soft, or No. 4. This composition is introduced for the purpose of utilizing and restoring the properties of any Godiva Composition, which may be considered "used up;" equal parts, or more or less, according to the hardness required, should be well mixed under very hot water, with a strong spoon or spatula; the result being a compound which may be fully relied on for taking impressions of the gums, &c.; for taking bites, warm water will be sufficient for the "extra soft;" in $\frac{1}{2}$ lb. packets per lb. | 6         | 0         |
| Hinds' Godiva Composition, in packets of 6 lbs. ... .. per lb.  | 5         | 0         |
| Stent's Improved Composition, pink, yellow, or white, in cakes, done up in half-pound boxes ... .. per lb.  | 6         | 0         |
| Stent's Composition, ditto, in packets of 6 lbs. ... .. "   | 5         | 0         |

SUNDRIES FOR OPERATING ROOM—*continued.*

## ARTICULATING PAPER.

|                                       |                                       |     |          | <i>s.</i> | <i>d.</i> | <i>d.</i> |
|---------------------------------------|---------------------------------------|-----|----------|-----------|-----------|-----------|
| Broad Strips, black or blue, in books | ...                                   | ... | per doz. | 1         | 6         | each 2    |
| Narrow "                              | "                                     | "   | "        | 1         | 0         | " 1½      |
| Broad "                               | red, for articulating black vulcanite | "   | "        | 1         | 6         | " 2       |
| Narrow "                              | "                                     | "   | "        | 1         | 0         | " 1½      |
| Narrow Black (Mr. Barkley's)          | ...                                   | ... | "        | 2         | 6         | " 3       |

## LIQUIDS FOR ZINC STOPPINGS, &amp;c.

|                       |     |     |            | <i>s.</i> | <i>d.</i> |
|-----------------------|-----|-----|------------|-----------|-----------|
| For Barber's Stopping | ... | ... | per bottle | 2         | 6         |
| For Guillois'         | "   | ... | "          | 4         | 0         |
| For Roberts's         | "   | ... | "          | 1         | 9         |
| For Oehlecker's       | "   | ... | " 3/9 and  | 2         | 0         |
| For Fletcher's        | "   | ... | " "        | 2         | 6         |
| For Rowney's          | "   | ... | " "        | 2         | 0         |

## CAUSTIC AND HOLDERS.

|  |                      |     |                                      | <i>s.</i> | <i>d.</i> |
|--|----------------------|-----|--------------------------------------|-----------|-----------|
| Caustic, Nitrate of Silver in Sticks...            | ...                  | ... | each 6 <i>d.</i> , 9 <i>d.</i> , and | 1         | 2         |
| Caustic, "   | in points, for Cases | ... | each                                 | 0         | 9         |
| Caustic Cases for ditto, Electro-plated and others | ...                  | ... | from                                 | 4         | 6         |
| Caustic in Walnut Cases or Holders                 | ...                  | ... | each                                 | 0         | 4         |
| Caustic in Ebony "                                 | "                    | ... | "                                    | 0         | 6         |

## MOUTH WASHES, &amp;c.

|  |       |     |                    | <i>s.</i> | <i>d.</i> |
|--|-------|-----|--------------------|-----------|-----------|
| Condy's Ozonised Water, in 2 oz. bottles | ...   | ... | per doz. 9/0, each | 0         | 10        |
| Condy's "                                | " 4 " | ... | " 14/0, "          | 1         | 3         |
| Chloralum                                | ...   | ... | per bottle, "      | 0         | 6         |
| Mouth Wash, Astringent, in 3 oz. bottles | ...   | ... | per doz. 16/6, "   | 1         | 6         |
| Mouth Wash, Saponaceous, 4 oz. "         | ...   | ... | " 16/6, "          | 1         | 6         |
| Myrrh Tincture                           | ...   | ... | per pint           | 4         | 6         |
| Myrrh Gum                                | ...   | ... | per lb.            | 3         | 6         |

SUNDRIES FOR OPERATING ROOM—*continued.*

## POLISHING MATERIALS.

|   |     |             |            | <i>s.</i> | <i>d.</i> |
|---|-----|-------------|------------|-----------|-----------|
| Arkansas Slips, for polishing stoppings | ... | from 1/0 to |            | 1         | 6         |
| Arkansas Slips, Knife Edge              | „ „ | ... ..      | each       | 1         | 6         |
| Arkansas Slips, pointed                 | „ „ | ... ..      | „          | 1         | 6         |
| Cotton Wood, in sticks                  | „ „ | ... ..      | per doz.   | 1         | 0         |
| Corundum Flour                          | „ „ | ... ..      | per box    | 0         | 6         |
| Dog or Orange Wood, in sticks           | „ „ | ... ..      | per bundle | 0         | 3         |
| Holly Strips                            | „ „ | ... ..      | „          | 0         | 9         |
| Pumice, superfine                       | „ „ | ... ..      | per lb.    | 0         | 6         |
| Precipitated Chalk                      | „ „ | ... ..      | „          | 0         | 8         |
| Prepared                                | „ „ | ... ..      | „          | 0         | 3         |

Tapes, Corundum, &c., see page 163.

## STONES FOR SHARPENING INSTRUMENTS, &amp;c.

|   |        |        |            | <i>s.</i> | <i>d.</i> |
|---|--------|--------|------------|-----------|-----------|
| Arkansas Stones, Circular, 3 in. diameter, for Lathes | each   |        |            | 18        | 0         |
| Arkansas „ „ 2½ in. „ „                               | „ „    |        |            | 15        | 0         |
| Arkansas „ „ 2¼ in. „ „                               | „ „    |        |            | 13        | 0         |
| Arkansas „ Flat, in Mahogany Cases                    | ... „  | from 3 | 0 to 8     | 0         | 0         |
| Arkansas „ Slips for Hand                             | ... .. | „ „    | 1 0 to 2 6 |           |           |
| Turkey „ in Mahogany Cases                            | ... .. | „ „    | 4 0 to 6 0 |           |           |
| Turkey „ Slips for Hand                               | ... .. | „ „    | 0 9 to 2 0 |           |           |

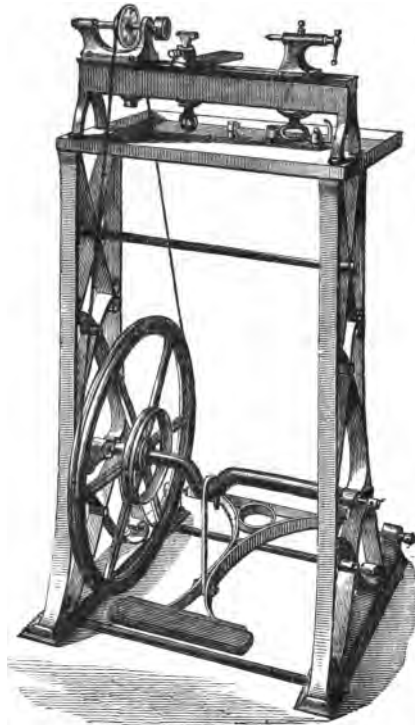
## ARTICLES, VARIOUS.

|  |        |            |  | <i>s.</i> | <i>d.</i> |
|--|--------|------------|--|-----------|-----------|
| Leech Glasses, straight or curved...                 | ... .. | each       |  | 0         | 2         |
| Broach Handles, Ivory, with silver ferrules          | ... .. | „          |  | 2         | 0         |
| Broach „ Ebony, with German silver ferrules          | ... .. | „          |  | 0         | 3         |
| Broaches, &c., see page 208.                         |        |            |  |           |           |
| Cement, Mastic, thin, for fixing teeth, &c.          | ... .. | per bottle |  | 1         | 0         |
| Cement, Sulphur                                      | ... .. | „          |  | 0         | 6         |
| Gutta Percha (Mr. Truman's), Pink, for lining plates | ... .. | per oz.    |  | 4         | 0         |

LATHES,  
FURNACES, TOOLS,  
VULCANIZERS AND SUNDRIES  
FOR THE  
WORK ROOM, ETC.

## LATHES.

1.



|   |    |    |
|---|----|----|
| TURNING LATHE on iron stand, with Chucks, Rest, and Sliding     | s. | d. |
| Centre, made to order ... .. (Fig. 1) from 240                  | 0  |    |
| Brass and Wood Chucks, and Turning Tools, made to order.        |    |    |
| Universal ... .. ditto  |    |    |
| Slide Rests ... .. ditto  |    |    |
| Turning Tools... .. ditto                                       |    |    |
| Circular Saws, see page 222. Gut, Hooks and Eyes, see page 208. |    |    |



LATHES—*continued.*

2.



45 in. high, by 15 in. wide.

|   |            |
|---|------------|
| *LATHE for Grinding, &c., Mineral Teeth, with Iron Uprights, &c., Oak Stand and Top, Water Apparatus, Chuck, and 2 Corundum Wheels, Countersinking Tool B, to carry Corundum Points and very small Wheels, and Gut, complete ... .. (Fig 2) | s. d.      |
|   | each 104 0 |
| Ditto, minus Water Apparatus and Countersinking Tool B  | ,, 80 0    |
| Ditto, with polished Mahogany Stand and Top, and Bronzed Iron Wheels and Uprights without Water Apparatus and Countersinking Tool B ... ..  | ,, 100 0   |
| Chucks for Tool B, to carry small Wheels ... ..   | ,, 3 0     |
| Extra Chucks for above Lathe, various, see page 210.  |            |

\* For more conveniently taking to pieces and packing, this Lathe is now supplied with standards like Fig. 3 (see next page).

LATHES—*continued.*

3.

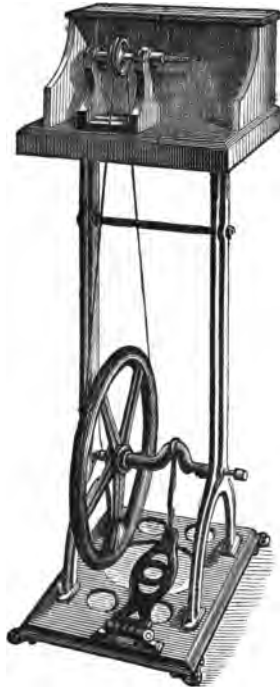


45 in. high, by 14½ in. wide.

|  |      |    |   |
|--|------|----|---|
| LATHE for Grinding, &c., Mineral Teeth, with Iron Stand and Uprights, and Oak Top, Water Apparatus, Chuck with 2 Corundum Wheels, and Gut, complete ... (Fig. 3) | each | 89 | 0 |
| Ditto ditto without Water Apparatus... (Fig. 3)  | „    | 80 | 0 |
| Ditto ditto with Lathe Head (Fig. 5, page 208) to carry Corundum Wheels and Brush at same time ...   | „    | 99 | 0 |
| Water Apparatus (A. Fig. 3), with Spongeholder, for supplying Water to Corundum Wheels, &c....   | „    | 9  | 6 |
| Spongeholders to fit Water Apparatus (A. Fig. 3) ...   | „    | 1  | 3 |
| Countersinking and Drilling Tool B ... (Fig. 2, page 205)  | „    | 15 | 6 |

LATHES—*continued.*

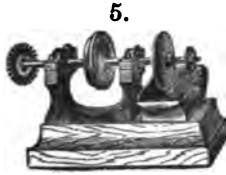
4.



45 in. high, by 14½ in. wide.

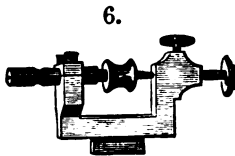
|   |               |
|---|---------------|
| LATHE for polishing Vulcanite Work, &c., with Iron Standards, &c., top covered with Zinc, Head with Shifting Taper Screw, Chuck carrying Brush, and Wood Splashboard, complete ... .. (Fig. 4) each | s. d.<br>75 0 |
| Water Apparatus with Trough, Spongeholder and Splashboard combined, Tin Japanned, with Tank to slide from right to left, 12 in. high by 6 in. wide and 9 in. long ... .. „                          | 9 6           |
| Extra Splashboards, Wood, as above ... .. (Fig. 4) „  | 5 6           |
| Extra Chucks for Lathes (Figs. 3, 4), see page 210.   |               |
| Sponge for Lathes, &c. ... .. „   | per lb. 4 6   |

LATHE HEADS, &c.

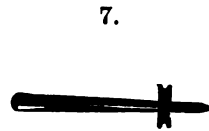


11 in. long by 7 in. high.

|  |       |
|--|-------|
| LATHE HEAD, double, on Wood Block, with tapered Screw Mandrel at one end to carry Brushes and a Shifting Chuck, the other end for Corundum Wheels, &c., with Trough, | s. d. |
| 2 Wheels, Brush and Spanner ... .. (Fig. 5) each   | 37 0  |
| Lathe Head, single, ditto, with Chuck only, to carry Wheels or a Brush by changing the Chucks ... .. (Fig. 5A) „   | 27 0  |
| Lathe Head, single, superior finish, with Mandrel to carry 3 Wheels, without Trough, and not mounted on Wood Block „   | 30 0  |
| Troughs, 2½ in. or 3¼ in. wide, Tin Japanned, for Lathes ... .. „  | 2 3   |
| Gut for Lathes, small, medium, and large ... .. per hank 10d. to   | 3 6   |
| Hooks and Eyes, small, medium, and large ... .. per pair   | 1 3   |



5 inches long.

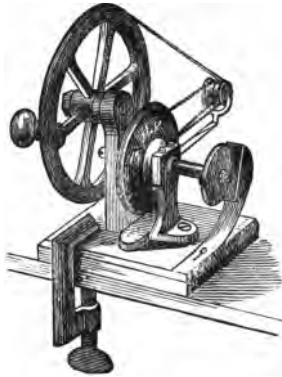


3½ inches long.

|   |            |
|---|------------|
| DRILLING TOOL to fix in Vice, with 6 Drills ... .. (Fig. 6) each  | 7 6        |
| Drills for ditto, with round stems ... .. per doz.  | 2 6        |
| Ditto with Vice Stock and Thumb Screw, so that Broach Drills, &c., of different sizes may be carried; with Steel Rest ... | each 7 6   |
| Drill Stocks, large, medium, and small bore, for Broach Drills (Fig. 7) „   | 1 8        |
| Broach Drills (Stubs'), large, medium, and small, per doz.  | 2/4 „ 0 2½ |
| Broaches „ „ large to very small ... .. „ 2/4 „   | 0 2½       |
| Drill Bows and Gut, see page 229.   |            |
| Broach Handles, Ebony, 0/3, Ordinary ... .. „   | 0 1        |

N.B.—When ordering extra drills for drilling tools, a sketch or an old drill should be sent for shape and size.

8.



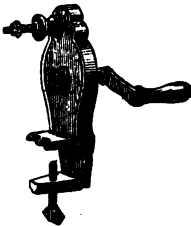
PORTABLE HAND LATHE (Mr. Williams'), with Corundum wheel, Sponge-holder, and Iron Clamp with thumb-screw to fasten to work-bench or table, enclosed in a Mahogany box 6 in. by 6 in. and 7 in. deep, weighing altogether 4 lb. 13 oz. (Fig. 8) each 

|    |    |
|----|----|
| s. | d. |
| 48 | 0  |

PORTABLE HAND LATHE with driving wheel as above, turning a small wheel attached to the spindle and chuck underneath, by means of a gut band, with Sponge-holder, Corundum wheel, clamp, and spanner, in a Mahogany box  $8\frac{3}{4}$  in. by  $3\frac{3}{4}$  in., by  $5\frac{3}{4}$  in. deep, weighing altogether 3 lbs. 7 oz. ... ,, 40 0

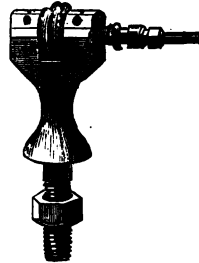
These portable Lathes possess considerable power, and are useful in the operating room, the work-room, or for dentists when travelling.

9.



7 inches high.

10.



7 inches high.

PORTABLE HAND LATHE, in bronzed iron, with multiplying wheels, 2 Corundum wheels and spanner ... (Fig. 9) each 

|    |    |
|----|----|
| s. | d. |
| 18 | 6  |

Lathe-head (Mr. Rowntree's) with 5 Chucks, to fix on work-bench and to be turned by a foot wheel, as on page 210, with water trough and spanner ... (Fig. 10) ,, 35 0

For other Lathes see page 52.

## 12.



|  |       |      |
|--|-------|------|
| Foot WHEEL, in Iron, 21 in. high by 9 in. wide and 22 in. long,<br>to give motion to Lathe-head on Work-bench (Fig. 12) each | s. d. | 37 0 |
| Chucks, Brass, to carry brushes, to fit Lathe-heads (Figs. 5 and<br>5A), and Lathes (Figs. 2, 3, and 4, pages 205-7) ...     | „     | 3 9  |
| Chucks, Brass, ditto ditto to carry<br>Corundum wheels ... ..  | „     | 7 0  |
| Chucks, Steel, ditto ditto to carry<br>Steel burs and wheels. (For burs and wheels, see page 251) ..                         | „     | 6 6  |
| Chucks, Brass, ditto ditto to carry<br>small Corundum wheels ... ..  | „     | 3 0  |
| Chucks, Brass, ditto ditto to carry<br>Corundum countersinks ... ..  | „     | 2 3  |
| Gut for Lathe Bands, see page 208. Corundum Wheels, see page 256.  |       |      |
| Hooks and Eyes for Bands, see page 208. Lathe Brushes, see page 255.   |       |      |

## 12A.

Any gas supply available,  
is suitable for working this  
furnace.

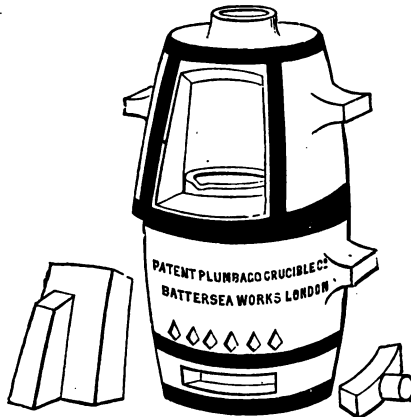


For Ladles, see page 233.  
Extra Gauzes for burner,  
each 4d.

|  |       |  |
|--|-------|--|
| PERFECTED LADLE FURNACE (Fletcher's), with new Solid Flame | s. d. |  |
| Heating Burner, and 3 ft. India-rubber Tubing (Fig. 12A)   | 12 6  |  |
| Ditto with Oven and Water Boiler, complete ... ..          | 25 0  |  |

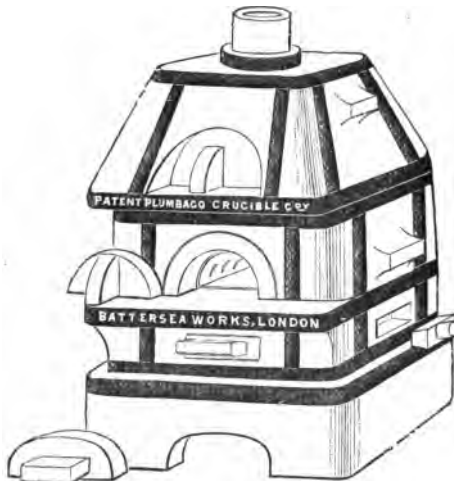
CHARCOAL FURNACES.

13A.



|  |                             |              |                   |       |
|--|-----------------------------|--------------|-------------------|-------|
| Furnace for melting gold, silver, &c., | 9½ in. diameter,            | 17½ in. high | ... each          | s. d. |
| "                                      | "                           | 9½ in. "     | 20 in. "          | 23 0  |
| "                                      | "                           | 11 in. "     | 22 in. "          | 29 0  |
| "                                      | "                           | 11 in. "     | 22 in. "          | 35 0  |
| Plumbago Crucibles for do.,            | 4, 8, and 12 lbs. capacity, | each         | 8d., 1s. 3d., and | 1 10  |
| Crucible Tongs, small and large        | ... ..                      | ... ..       | each              | 2s. " |
| Melting Pots, of all sizes and kinds,  | obtained to order.          |              |                   | 3 0   |

14A.



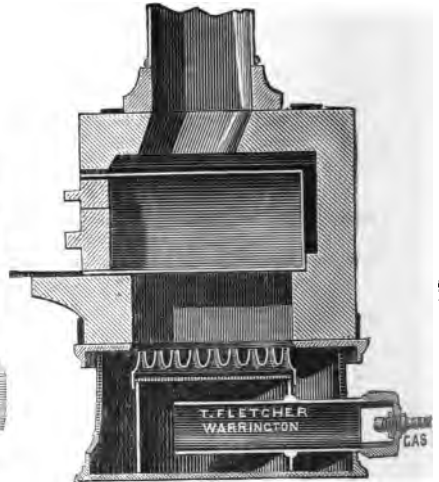
|                                    |                   |              |           |                  |
|------------------------------------|-------------------|--------------|-----------|------------------|
| Muffle Furnace for gum work, &c.,  | 13½ in. diameter, | 25½ in. high | ... each  | s. d.            |
| "                                  | "                 | 15½ in. "    | 28½ in. " | 53 0             |
| "                                  | "                 | 17½ in. "    | 30 in. "  | 70 0             |
| Fireclay Muffles for do. ...       | ... ..            | ... ..       | each      | 1/8, 2/4 and 3 0 |
| Muffle Plates or Slabs for do. ... | ... ..            | ... ..       | "         | 6d., 1/-, "      |
| Gum Enamel in ¼-oz. boxes          | ... ..            | ... ..       | per oz.   | 10 9             |
| Body for Gum Work in 1 oz. boxes   | ... ..            | ... ..       | "         | 6 6              |

**GAS FURNACES.**

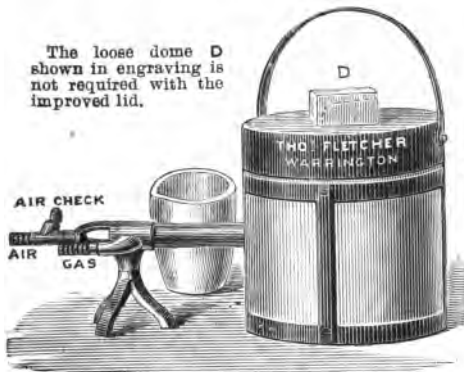
|   |              |
|---|--------------|
| <b>FURNACE</b> (Fletcher's, Fig. 41) Perfected Injector and Burner, | <i>s. d.</i> |
| complete, for melting gold, silver, &c., 2 lb. size (Fig. 15A)      | 13 6         |
| Ditto ditto ditto 6 lb. ,, ( ,, )                                   | 21 0         |
| Ditto ditto ditto 12 lb. ,, ( ,, )                                  | 30 0         |

|   |                            |                    |                     |
|---|----------------------------|--------------------|---------------------|
|   | <b>For the 2 lb. size.</b> | <b>6 lb. size.</b> | <b>12 lb. size.</b> |
|   | <i>s. d.</i>               | <i>s. d.</i>       | <i>s. d.</i>        |
| Plumbago Crucibles ... .. each              | 0 4                        | 1 0                | 2 0                 |
| Foot Blowers ... .. ,,                      | 20 0                       | 26 0               | 26 0                |
| India-rubber Tubing ... .. per foot         | 0 6                        | 0 6 & 9d.          | 0 6 & 9d.           |
| Crucible Tongs ... .. each                  | 1 6                        | 2 0                | 2 6                 |
| Furnace Bodies, extra ... .. ,,             | 4 0                        | 7 6                | 13 0                |
| Lids, ,, ,, ,, ,, ,,                        | 2 0                        | 3 6                | 6 0                 |
| Furnace, Blower, Tubing, &c., ready for use | 36 0                       | 50 0               | 60 0                |

16A.



15A.



The loose dome D shown in engraving is not required with the improved lid.

Gas supply required :

|            |             |                               |
|------------|-------------|-------------------------------|
|            | Cubic feet. | Inch.                         |
| 2 lb. size | 10 to 40    | per hour, $\frac{1}{2}$ pipe. |
| 6 lb. ,,   | 25 to 60    | ,, ,,                         |
| 12 lb. ,,  | 30 to 70    | ,, ,,                         |

Crucibles, outside measurement.

|  |                  |                        |
|--|------------------|------------------------|
|  | High.            | Diameter.              |
|  | $2\frac{1}{4}$ x | $2\frac{3}{8}$ inches. |
|  | $4$ x            | $3\frac{1}{4}$ ,,      |
|  | $6$ x            | $4\frac{1}{2}$ ,,      |

Gas supply required :

|          |             |                                       |
|----------|-------------|---------------------------------------|
|          | Cubic feet. | Inch.                                 |
| Size 261 | 17          | per hour, $\frac{1}{2}$ pipe and tap. |
| ,, 461   | 30          | ,, ,,                                 |
| ,, 661   | 35          | ,, $\frac{1}{2}$ clear bore ,,        |

Muffles, inside space :

|  |                  |                  |                        |
|--|------------------|------------------|------------------------|
|  | Wide.            | High.            | Long.                  |
|  | $2\frac{1}{4}$ x | $2$ x            | $4\frac{1}{2}$ inches. |
|  | $3\frac{1}{2}$ x | $3$ x            | $6\frac{1}{2}$ ,,      |
|  | $5\frac{1}{8}$ x | $4\frac{1}{2}$ x | $10$ ,,                |

|   |              |
|---|--------------|
| <b>MUFFLE FURNACE</b> (Fletcher's, Fig. 61) for gum or enamel work, | <i>s. d.</i> |
| with 3 feet India-rubber Tubing and 1 Fireclay Muffle,              |              |
| size 261 (Fig. 16A)   | 25 0         |
| Ditto ditto ditto ,, 461 ( ,, )                                     | 38 0         |
| Ditto ditto ditto ,, 661 ( ,, )                                     | 58 0         |

|   |              |              |              |
|---|--------------|--------------|--------------|
|   | <i>s. d.</i> | <i>s. d.</i> | <i>s. d.</i> |
| Plumbago Muffles ... .. extra each,       | 2 3          | 6 6          | and 11 0     |
| Fireclay ,, ,, ,, ,, ,,                   | 1 5          | 2 3          | ,, 7 0       |
| Gas Taps with large way through ... .. ,, | ...          | 3 0          | ,, 2 0       |

Gum Enamel and Body, see page 211.

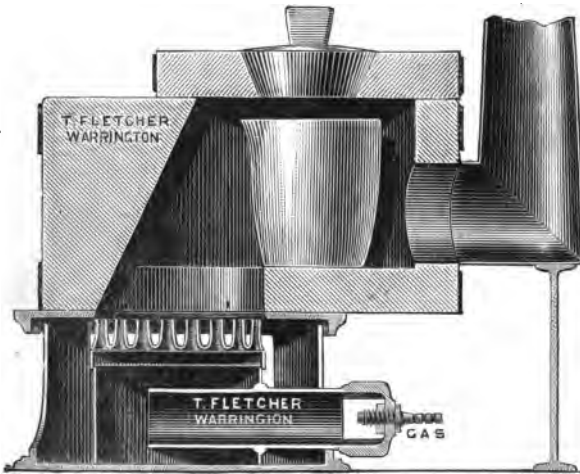


**GAS FURNACE.**

**CRUCIBLE FURNACE (Fletcher's, Fig. 63) for melting Gold, Silver, &c., s. d.**  
 with 3 feet India-rubber Tubing. No. 1, 2 lb. size (Fig. 17A) 30 0  
 Ditto ditto ditto „ 3, 6 lb. „ ( „ ) 42 0  
 Ditto ditto ditto „ 6, 12 lb. „ ( „ ) 55 0

|                                 |  |  |        |        |        |
|---------------------------------|--|--|--------|--------|--------|
|                                 |  |  | No. 1. | No. 3. | No. 6. |
|                                 |  |  | s. d.  | s. d.  | s. d.  |
| Plumbago Crucibles, each ... .. |  |  | 0 4    | 1 0    | 2 0    |
| Fireclay „ „ ... ..             |  |  | 0 2    | 0 6    | 1 0    |
| Crucible Tongs ... ..           |  |  | 1 6    | 2 0    | 2 6    |

17A.



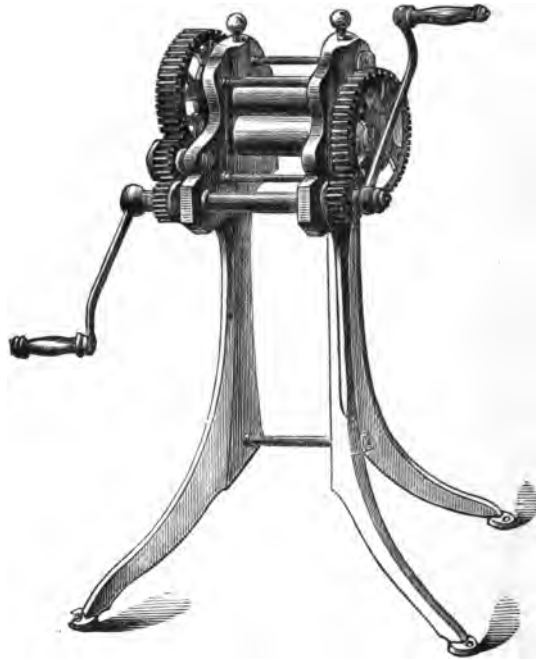
|        |                       |                             |                                  |                               |
|--------|-----------------------|-----------------------------|----------------------------------|-------------------------------|
|        | Gas supply required : |                             | Crucibles, outside measurement : |                               |
|        | Cubic feet.           | Inch.                       | High.                            | Diameter.                     |
| No. 1. | 17 per hour.          | $\frac{3}{8}$ pipe and tap. | 3                                | $\times 2\frac{5}{8}$ inches. |
| „ 3.   | 22 „                  | $\frac{3}{8}$ clear bore „  | 4                                | $\times 3\frac{1}{2}$ „       |
| „ 6.   | 22 „                  | $\frac{3}{8}$ „ „           | 6                                | $\times 4\frac{1}{2}$ „       |

**Printed instructions sent with each Furnace.**

Mr. Fletcher's latest Catalogue of Gas Furnaces, Blow-pipes, and General Laboratory Apparatus, sent on application.

FLATTING MILLS.

19.



Height 42 inches.

**FLATTING MILL** on iron stand to fasten to the floor, with hardened  
 Rollers 4 inches long by  $2\frac{1}{4}$  inches diameter, with a double  
 set of cog-wheels for multiplying the power, and two handles *s. d.*

(Fig. 19) 210/ and 252 0

**Ditto** on short stand, height 13 in., to be screwed on to a bench  
 or block, with rollers  $2\frac{3}{4}$  inches long by  $2\frac{1}{2}$  inches diameter  
 (without multiplying wheels) and 2 handles ... .. 120 0

20.



6½ inches high.

**SPIRIT APPARATUS**, consisting of short iron stand, with handles, and a copper spirit lamp and vessel with pipe, for warming up pieces, for annealing, and for soldering plates, &c. The heat from the lamp below vaporises the spirit in the upper vessel, and causes it to rush out of the small pipe, and become ignited by the flame of the lamp ... ..(Fig. 20) each

s. d.  
6 6

21.



10 inches high, 6½ diameter.

**SOLDERING PAN**, in sheet iron, 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 ... .. (Fig. 21)

s. d.  
7 0

Soldering Compo (silver-sand and plaster) ... .. per lb.

0 4

Stone Slabs, for borax ... .. each 1/0 and 1

4

Borax, in lumps ... .. per lb. 1/3, per ¼ lb. packet

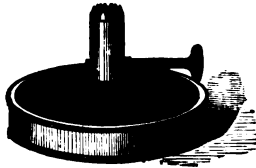
0 4

Solder Tongs, see Corn Tongs, page 228.

LAMPS AND GAS BURNERS.

(FOR SOLDERING, &c.)

22.



4 in. high by 6 in. diameter.

23.



3½ in. high by 3 in. diameter.

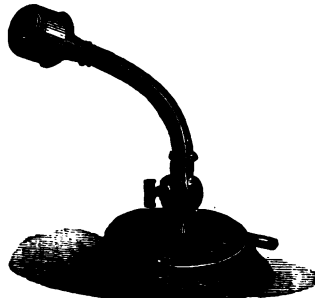
|  |    |    |
|--|----|----|
| SPIRIT LAMP, Tin, with regulating wick-holder, suitable for  | s. | d. |
| Portable Vulcanizers, soldering, &c. ... (Fig. 22) each  | 6  | 0  |
| Ditto ditto deeper, suitable for heating ammonia in flasks, soldering, &c., and for Vulcanizer (Fig. 86, page 240) ... | 6  | 0  |
| Ditto, small Tin, for heating small Vulcanizers, &c. ...   | 4  | 0  |
| Ditto " " Whitney's " ...  | 3  | 0  |
| Ditto in Brass, with screw cap, for soldering, &c. (Fig. 23)   | 6  | 6  |

24.



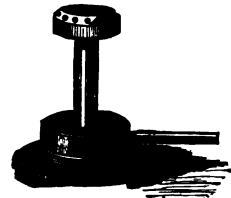
5¼ inches high.

25.



8 inches high.

26.



4½ inches high.

|   |   |   |
|---|---|---|
| GAS BURNER (Bunsen's), in Brass, for modelling, &c. (Fig. 24) each  | 5 | 6 |
| GAS Lamp (Mr. Owen's), for soldering, consisting of a mahogany stand with bronzed pipe, and large wire coil burner; it has also a fine tube at the side, so that the flame may be turned down to a small jet, in order to save the gas at intervals when the lamp is left for other work, &c. ... (Fig. 25) | 7 | 6 |
| GAS BURNER (Bunsen's), in Iron, for heating Portable Vulcanizers or Ammonia in Flasks, &c. ... (Fig. 26)  | 5 | 6 |
| GAS BURNER and Spider, American (B. D. M. Co.'s) ...  | 5 | 0 |
| " " (S. S. White's) ...   | 6 | 6 |
| " without " ( " ) ...   | 5 | 6 |

27.



|  |       |            |            |                     |              |
|--|-------|------------|------------|---------------------|--------------|
| SPIRIT LAMP, Glass, $4\frac{1}{4}$ in. high, for soldering, modelling, &c. |       |            |            |                     | <i>s. d.</i> |
| large size   | ...   | ...        | ...        | (Fig. 27)           | each 3 0     |
| Ditto  | ditto | smaller    | ditto      | (Fig. 27)           | „ 2 6        |
| Oil Lamp,  | Tin,  | with tray, | to hang up | against the wall... | 6 6          |
| Annealing Lamps, see page 161.   |       |            |            |                     |              |

28.



|   |                 |                |                  |               |              |
|---|-----------------|----------------|------------------|---------------|--------------|
| BLOWING APPARATUS (Cotton and Johnson's), improved, with double bellows, which with very little pressure of the foot keeps up a continuous blast and ensures a steady flame |                 |                |                  |               | <i>s. d.</i> |
|   | while soldering | (Size 3),      | 12 in. by 9 in.  | ... (Fig. 28) | each 18 0    |
| Ditto   | ditto           | ( „ 4),        | 13 in. by 11 in. | ... (Fig. 28) | „ 21 0       |
| Ditto   | ditto           | ( „ 5),        | 15 in. by 13 in. | ... (Fig. 28) | „ 25 0       |
| India-rubber Tubing   | for ditto,      | smooth inside, | not wired        | ... per foot  | 0 4          |
| Blow-pipes, various, see pages 218 and 219.   |                 |                |                  |               |              |

BLOW-PIPES.

29.



6½ inches long.

|  |                   |
|--|-------------------|
| BLOW-PIPE (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. 29) | s. d.<br>each 7 6 |
| Ditto (Mr. Gale's), consisting of an ordinary blow-pipe having a short tube attached to the small end, through which gas is admitted by means of india-rubber tubing, and can be used for the mouth, or in connection with a Blowing Apparatus ... ..                | ,, 4 0            |

30.



8½ inches long.

31.



13 inches long.

|  |                   |
|--|-------------------|
| BLOW-PIPE (Mr. Owen's), in Brass, with double India-rubber valves, on which the thumb or fingers are placed, so as to regulate the gas and air, used with a Blowing Apparatus ... .. (Fig. 30) | s. d.<br>each 5 6 |
| Ditto, with hollow chamber to unscrew, and two nozzles, in Brass, lacquered, with Ivory mouth-piece ... .. (Fig. 31)   | ,, 2 9            |
| Ditto, without chamber, Brass, lacquered, with Ivory mouthpiece ... ..   | ,, 1 9            |
| Ditto, plain, with tinned ends for the mouth, 7, 8, 9, 10, 11, 12, 13, 14, and 15 inches long, each 1d. per inch.  |                   |
| Blowing Apparatus for above, see pages 217 and 220.  |                   |

BLOW-PIPES.

32.

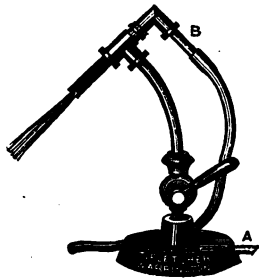


6 inches high.

|  |               |    |       |
|--|---------------|----|-------|
| BLOW-PIPE (Fletcher's No. 1), hotblast, for melting, &c. (Fig. 32)     | each          | 11 | s. d. |
| Ditto ( " No. 3), " with bench light to swivel                         |               |    |       |
| so as to carry a light to the blow-pipe                                | ... ..        | 15 | 0     |
| Ditto (Fletcher's No. 8a), with large jet $\frac{1}{8}$ in. bore, used |               |    |       |
| with the 3 oz. Ingot mould, page 220                                   | ... (Fig. 33) | 7  | 0     |

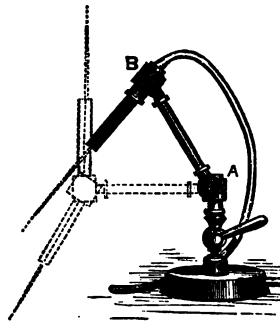
This requires a Blowing Apparatus (Fig. 35, page 220, or Fig. 28, page 217.)

33.



7 inches high.

34.



8 inches high.

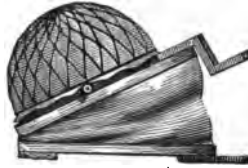
|   |          |   |       |
|---|----------|---|-------|
| BLOW-PIPE (Fletcher's No. 4), improved Herapath (Fig. 34) | each     | 7 | s. d. |
| Ditto ( " No. 4b), Herapath, without joint                | ... ..   | 6 | 0     |
| India-rubber Tubing, smooth inside, not wired, for above  | per foot | 0 | 4     |

Blowing Apparatus used with above, pages 217 and 220.

For other Blow-pipes see Mr. Fletcher's latest catalogue, which can be had on application.

## BLOWING APPARATUS, &amp;c.

35.



12 in. long by 8 in. wide.

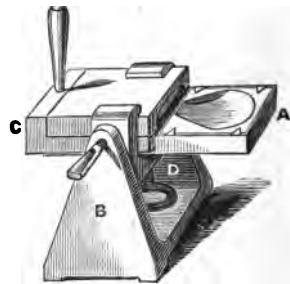
|  |       |    |   |
|--|-------|----|---|
| *BLOWING APPARATUS (Fletcher's), with double bellows, for giving a steady continuous blast ... .. (Fig. 35) each   | s. d. | 14 | 0 |
| Low Temperature Burner (Fletcher's) for giving a complete range of temperature from a gentle current of warm air to an intense heat, improved pattern ... .. (Fig. 36) „ | 6     | 6  |   |
| Ditto ditto without the blast pipe c ... .. (Fig. 36) „  | 5     | 6  |   |

36.



7 inches high.

37.



4 inches high.

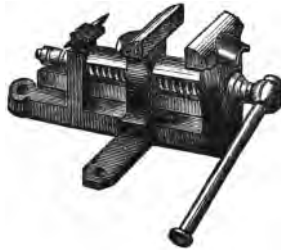
|   |       |   |   |
|---|-------|---|---|
| *INGOT MOULD (Fletcher's), for Plate, with carbon crucible combined, for melting by means of a blow-pipe, as on page 219, in 2 sizes, for 1½ oz. and 3 oz. ingots ... .. (Fig. 37) each | s. d. | 8 | 6 |
| Ditto ditto ditto for Wire ... .. „   | 9     | 0 |   |
| Ditto ditto for Plate and Wire, to fit same stand ... .. „  | 15    | 0 |   |
| Extra Crucibles, without slides ... .. per doz. 1s. 10d. „  | 0     | 2 |   |
| Ditto „ with slides ... .. „  | 0     | 5 |   |
| Moulded Carbon Blocks, for supporting work under the blow-pipe ... .. „   | 1     | 6 |   |
| Pumice ditto ditto ditto „  | 1     | 0 |   |
| Skellets, ordinary, for Plate, in tripod stand, 8 oz. and 4 oz. each  | 7/6   | 6 | 6 |
| Ingot moulds for Wire, about 10 oz. and 7 oz., with long iron handles ... .. „ 3/3 „  | 2     | 9 |   |
| Charcoal for Soldering, &c., supplied to order.   |       |   |   |

\* For other sizes, shapes and prices, see Mr. Fletcher's latest catalogue, which can be had on application.



VICES.

38.

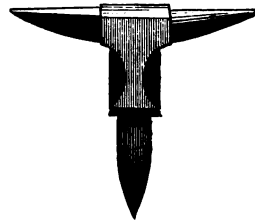


|   |        |    |   |  |  | <i>s.</i> | <i>d.</i> |
|---|--------|----|---|--|--|-----------|-----------|
| HORIZONTAL VICE to fix on bench, weight about $3\frac{1}{2}$ lbs. (Fig. 38) | from   | 23 | 6 |  |  |           |           |
| "    "    "    "    "    4    " (Fig. 38)                                   | "      | 24 | 6 |  |  |           |           |
| "    "    "    "    " $4\frac{1}{2}$ " (Fig. 38)                            | "      | 26 | 6 |  |  |           |           |
| "    "    "    "    "    5    " (Fig. 38)                                   | "      | 28 | 0 |  |  |           |           |
| "    "    "    "    " $5\frac{1}{2}$ " (Fig. 38)                            | "      | 30 | 0 |  |  |           |           |
| Tail or Leg Vices, various weights  | ... .. | 10 | 6 |  |  |           |           |

39.

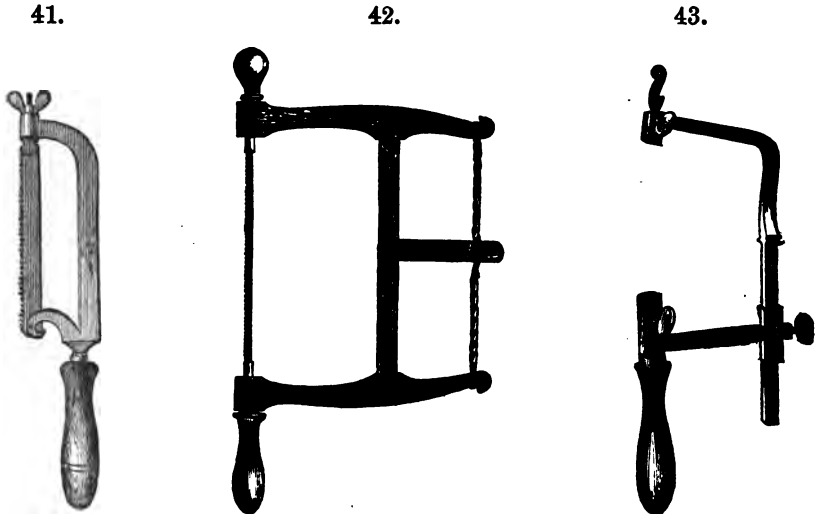


40.



|   |      |   |   |  |  | <i>s.</i> | <i>d.</i> |
|---|------|---|---|--|--|-----------|-----------|
| HAND VICES, 4 in. long, width of chops about $1\frac{1}{4}$ in. (Fig. 39) | each | 3 | 0 |  |  |           |           |
| " $4\frac{1}{2}$ in.    "    "    " $1\frac{1}{2}$ in. (Fig. 39)          | "    | 3 | 9 |  |  |           |           |
| "    5 in.    "    "    " $1\frac{3}{4}$ in. (Fig. 39)                    | "    | 4 | 9 |  |  |           |           |
| Pin Vices, see page 228.  |      |   |   |  |  |           |           |
| Beak Irons, large, width of face about 1 in. ... (Fig. 40)                | "    | 3 | 0 |  |  |           |           |
| Beak    "    medium    "    " $\frac{7}{8}$ in. ... (Fig. 40)             | "    | 2 | 9 |  |  |           |           |
| Beak    "    small    "    " $\frac{3}{4}$ in. ... (Fig. 40)              | "    | 2 | 6 |  |  |           |           |

## SAW FRAMES, &amp;c.



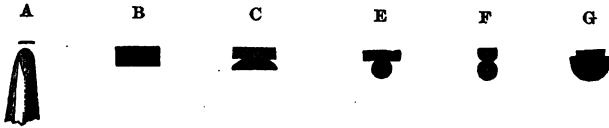
SAW FRAMES (Fig. 41), for saws of the following lengths : 5 in. 3s. 9d.,  
 —6 in. 4s.,—7 in. 4s. 6d.,—8 in. 5s.,—9 in. 5s. 9d.,—10 in. 6s. 3d.,  
 —11 in. 6s. 9d.,—12 in. 7s. 6d.

Saw Blades for the above, per inch  $1\frac{1}{2}d.$

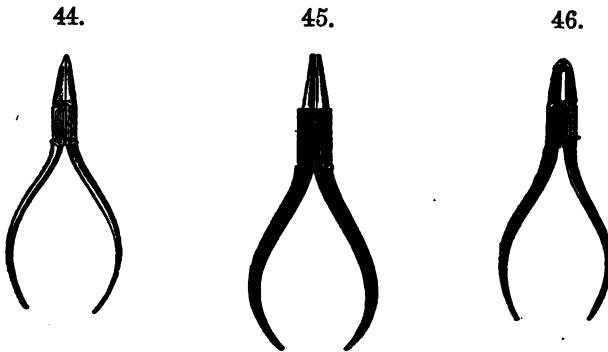
|   |                                    |     |          | s.        | d.  |
|---|------------------------------------|-----|----------|-----------|-----|
| Bow Saw Frames for                              | 9 in. saws                         | ... | ...      | (Fig. 42) | 3 0 |
| "   | " for 10 in. "                     | ... | ...      | (Fig. 42) | 3 6 |
| "   | " for 12 in. "                     | ... | ...      | (Fig. 42) | 4 0 |
| Blades for ditto,                               | —9 in. 6d.,—10 in. 7d.,—12 in. 9d. |     |          |           |     |
| Piercing Saw Frames                             | ...                                | ... | ...      | (Fig. 43) | 3 9 |
| Piercing Saws, narrow to broad, fine to coarse, | per gross                          | 5s. | 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   |

Files for sharpening Saws, see page 236.

PLIERS.



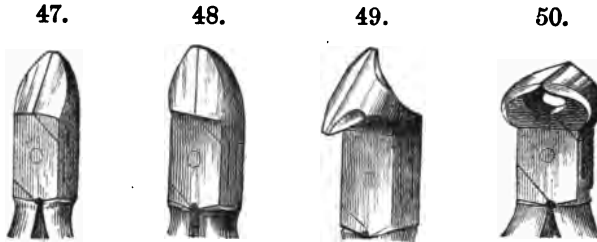
Forms of the various Noses of Pliers.



|  |     |                       | 4 in. | 4½ in.         | 5 in. |
|--|-----|-----------------------|-------|----------------|-------|
|  |     |                       | s. d. | s. d.          | s. d. |
| Flat pointed   | ... | form A (Fig. 44) each | 1 2   | 1 3            | 1 4   |
| Flat broad nose  | ... | „ B ... „             | 1 2   | 1 3            | 1 4   |
| Flat and half round  | ... | „ C ... „             | 1 2   | 1 3            | 1 4   |
| Flat and round   | ... | „ E ... „             | 1 2   | 1 3            | 1 4   |
| Round noses  | ... | „ F (Fig. 45) „       | 1 2   | 1 3            | 1 4   |
| Hollow   | ... | „ G ... „             | —     | —              | 2 6   |
| Grooved for holding pins   | ... | „ ... „               | —     | —              | 1 6   |
| Grooved for roughing pins  | ... | (Fig. 46) „           | —     | —              | 2 0   |
| Pliers with long broad flat noses, for holding copper boiling pans, straightening plates, &c....         |     |                       |       | ... 6 in. each | 2 0   |
| Pliers with very fine noses, &c., for cutting, roughing, and bending pins of flat and vulcanite teeth... |     |                       |       | ... 6 in. „    | 4 6   |

Bright Pliers are 4*d.* each extra. For Drawing Pliers, see page 229.

CUTTING NIPPERS.

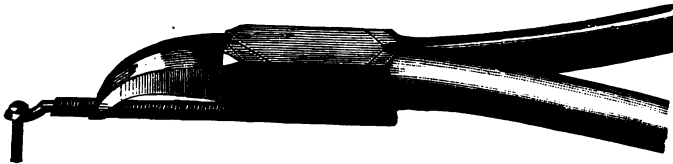


|                  |           |              |            |                 |              |
|------------------|-----------|--------------|------------|-----------------|--------------|
|                  |           |              |            |                 | <i>s. d.</i> |
| CUTTING NIPPERS, | bevelled, | 4½ and 5 in. | black      | ... (Fig. 47)   | each 2 3     |
| "                | "         | flat,        | 4½ " 5 in. | " ... (Fig. 48) | " 2 3        |
| "                | "         | side,        | 4½ " 5 in. | " ... (Fig. 49) | " 2 3        |
| "                | "         | top,         | 4½ " 5 in. | " ... (Fig. 50) | " 2 3        |

Cutting Nippers of any of the above shapes, bright all over, 9*d.* each extra.

SPRING AND SWIVEL PLIERS, &c.

51.



5 inches long.

|   |           |             |                     |
|---|-----------|-------------|---------------------|
| SPRING ADAPTING PLIERS (Mr. Edwards'), used for forcing springs on to the tangs of swivels, or for pulling them off without injuring the springs, bright all over | (Fig. 51) | each        | <i>s. d.</i><br>2 9 |
| Swivel Pliers (Mr. Miles'), for reducing the tangs of swivels when too large for the springs  | ... ..    | "           | 2 3                 |
| India-rubber Tubing, red, for fitting over springs to prevent friction in the mouth   | ... ..    | ...per foot | 0 3                 |

PERFORATORS, SHEARS, &c.

52.



7½ inches long.

53.



54.



5½ inches long.

|  |    |    |
|--|----|----|
| PERFORATORS for punching metal plates and backings, best make,                   | s. | d. |
| polished Steel, with checkered handles and 6 pins (Fig. 52) each                 | 7  | 6  |
| Ditto ditto, with plain handles, &c. ... (Fig. 52) „                             | 6  | 6  |
| Pins, extra, for ditto ... .. per doz.   | 2  | 0  |
| Shears (Stubs'), Curved, 6 in., right and left sides* (Fig. 53) each             | 4  | 0  |
| „ „ „ 7 in. „ ... (Fig. 53) „  | 4  | 6  |
| „ „ „ 8 in. „ ... (Fig. 53) „  | 5  | 0  |
| „ „ Straight, 6 in. ... .. „   | 3  | 9  |
| „ „ „ 7 in. ... .. „   | 4  | 3  |
| „ „ „ 8 in. ... .. „   | 4  | 6  |
| Shears { Thewlis & Griffiths' } Curved, 6 in., right and left sides* (Fig. 53) „ | 3  | 9  |
| „ „ „ 7 in. ... .. (Fig. 53) „   | 4  | 3  |
| „ „ „ 8 in. ... .. (Fig. 53) „   | 4  | 9  |
| „ „ Straight, 6 in. ... .. „   | 3  | 0  |
| „ „ „ 7 in. ... .. „   | 3  | 6  |
| „ „ „ 8 in. ... .. „   | 4  | 0  |
| Round Nose Nippers (Stubs'), for cutting off pins inside plates (Fig. 54) „      | 4  | 6  |

\* N.B.—The Shears illustrated represent the right side.

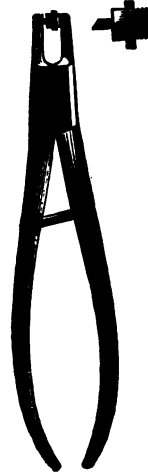
PLATE CUTTERS, &c.

55.



6½ inches long.

56.



6½ inches long.

|  | <i>s.</i>   | <i>d.</i> |
|--|-------------|-----------|
| PLATE CUTTERS (Stubs'), large, with round noses (Fig. 55)  | each        | 5 0       |
| "    ( " ) medium " (Fig. 55)  | " "         | 5 0       |
| "    ( " ) small " (Fig. 55)   | " "         | 5 0       |
| "    ( " ) medium, with straight noses ...   | " "         | 5 0       |
| Plate Cutters, small size, with square noses, bright ...   | " "         | 5 0       |
| "    "    "    black ...   | " "         | 3 0       |
| Plate Burnisher, Steel, double ended ...   | " "         | 1 6       |
| "    "    "    in wood handle... ..  | " "         | 0 10      |
| Williams' Cramp for holding plates in position while fitting them to the casts, with iron stand, screw, and wood block | " "         | 5 0       |
| Pin Nippers (improved), for punching metal back-ings for flat teeth, with 6 extra pins ...                             | } (Fig. 56) | " 5 6     |
| 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. The 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.

PLATE BENDERS, &c.

57.



7¼ inches long.

58.



7¼ inches long.

|   |    |    |
|---|----|----|
| PLATE BENDERS (American pattern), for upper plates-(Fig. 57) each | s. | d. |
| Ditto ( " ) ,, lower ,, (Fig. 58) ,,                              | 5  | 6  |
|   | 5  | 6  |

59.



60.



61.



|   |     |     |               |      |    |    |
|---|-----|-----|---------------|------|----|----|
| PLATE PUNCHES, Steel, Figs. 59, 60, 61...                           | ... | ... | ...           | each | s. | d. |
| Ditto Brass, Figs. 59, 60, 61...                                    | ... | ... | ...           | ...  | 0  | 9  |
| Steel Figure Punches, for numbering plates                          | ... | ... | per set of 9, | 4    | 6  |    |
| Steel letters or figures made to order at 6d. per letter or figure. |     |     |               |      |    |    |

No. 59 is flat, No. 60 is a thin oval, and No. 61 is hollow; these punches are used for forcing metal plates close to the necks of the teeth while on the metal casts; they are made in 3 widths—broad, medium, and narrow. The above represent the medium width.

SCREW PLATES, GAUGES, &c.

62.



6 inches long.

63.



4 1/4 inches long.

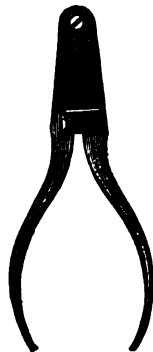
64.



5 1/2 inches long.

|  |           |      | s. | d. |
|--|-----------|------|----|----|
| SCREW PLATES (Stubs'), notched, with 6 taps...                   | (Fig. 62) | each | 5  | 3  |
| Ditto ( " ), plain, " ...  | (Fig. 62) | "    | 3  | 9  |
| Screw Dies to open, with plates to unscrew, &c., with 5 taps ... | (Fig. 65) | "    | 18 | 0  |
| Pin Vices (Stubs') all Steel, with hole through the handle ...   | (Fig. 63) | "    | 5  | 0  |
| Pin Vices ( " ) in Ebony handle " "                              | (Fig. 63) | "    | 5  | 0  |
| Gauges (Stubs'), Ash's, sizes 1 to 20 for plate                  | (Fig. 64) | "    | 5  | 6  |

65.



5 1/2 inches long.

66.

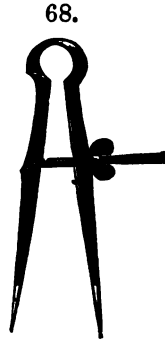


5 1/2 inches long.

|  |           |      |   |   |
|--|-----------|------|---|---|
| SLIDING TONGS (Stubs'), for holding wire, &c., with oval noses ... | (Fig. 66) | each | 3 | 0 |
| Ditto " ( " ), with round noses ...                                | (Fig. 66) | "    | 3 | 0 |
| Ditto " ( " ), with vice chops ...                                 | "         | "    | 3 | 0 |

Corn Tongs polished, blunt and pointed, 8d., common large and small, 4d. each.





|  |                |               |       |
|--|----------------|---------------|-------|
| CALLIPERS (Stubs') steel, for gauging plates, &c., 3½ in. and 4½ in., bright all over ... .. | (Fig. 67) each | 2/3 and 2     | s. d. |
| Dividers, spring steel, 4½ in. and 5 in. ... ..  | (Fig. 68) ,,   | 2/9 ,, 3      | 0     |
| Drill Bows ,, ,, 10 in. 12 in. and 14 in. (Fig. 69)  |                |               |       |
|  | each           | 4/0, 4/6 ,, 5 | 0     |
| Drill Bows, Whalebone, 18 in. 21 in. and 24 in. ,,   | 1/6, 1/9 ,,    | 2             | 0     |
| Gut for ditto, small, medium, and large size, per hank                                       | 0/2, 0/2½ ,,   | 0             | 3     |



|   |                |           |       |
|---|----------------|-----------|-------|
| Drawing Tongs (Stubs') 7 in. and 8 in.... | (Fig. 70) each | 3/0 and 4 | s. d. |
| Drawing Pliers ( ,, ) 6 in. ... ..        | ... ..         | each      | 2 0   |
| Draw Plates, for round wire (30 holes)... | ... ..         | per hole  | 0 4   |
| Ditto ,, ,, square ,, (30 holes)...       | ... ..         | ,,        | 0 5   |
| Ditto ,, ,, half-round (30 holes)...      | ... ..         | ,,        | 0 7   |

Draw Plates with more or less holes at same prices supplied to order.

## PLASTER KNIVES, PLASTER OF PARIS, &amp;c.

71.



21 inches long.

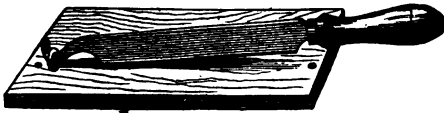
72.



7 inches long.

|   |           |      | <i>s.</i> | <i>d.</i>    |
|---|-----------|------|-----------|--------------|
| PLASTER KNIFE, with screw eye, to fix on bench                                | (Fig. 71) | each | 6         | 6            |
| Ditto ,, Hand, for trimming models, &c.                                       | (Fig. 72) | ,,   | 0         | 9            |
| Ditto ,, ,, ,, large size ... ..  |           | ,,   | 1         | 6            |
| Ditto ,, with screw eye and wood board  | (Fig. 73) | ,,   | 5         | 6            |
| Plaster of Paris, extra Superfine, in 14 lb. and 7 lb. tins each              |           |      | 3/9       | and 2 0      |
| Ditto ,, ,, in paper bags, per cwt.   |           |      | 12/6      | bag 1 0      |
| Ditto ,, Quick setting for Impressions, in 2 lb. tin cases                    |           |      | 0         | 9            |
| Ditto ,, Superfine in paper bags, per cwt.                                    |           |      | 9/6       | bag 0 9      |
| Ditto ,, Fine ,, ,, 5/6 ,,  |           |      | 0         | 6            |
| Oak Casks, Barrels, and Canisters, obtained and filled with Plaster to order. |           |      |           |              |
| Chipping Tool, for mineral teeth with lead or copper face, to fix             |           |      |           |              |
| in vice ... ..  | (Fig. 74) | each | 4         | 0            |
| Chipping Press, with double cutter, iron stand and spring                     |           | ,,   | 7         | 6            |
| Palette Knives (Chemist's), 6, 7, and 8 in.                                   |           | each | 1/3,      | 1/6, and 1 9 |

73.



16 inches long.

74.



10 inches long.

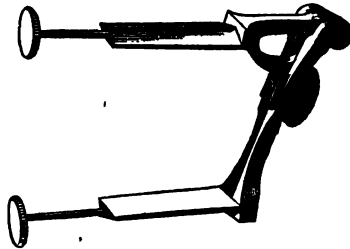
|  |  |           | <i>s.</i> | <i>d.</i> |
|--|--|-----------|-----------|-----------|
| Plaster Moulds, in Britannia metal, hinged, large, medium, small, each |  |           | 3         | 0         |
| Ditto ,, Tin ,, ,, ,,  |  | ,,        | 1         | 9         |
| Plaster Pins, crimped, for strengthening teeth of plaster              |  |           |           |           |
| models ... ..  |  | per box   | 0         | 8         |
| Stearine, for hardening models   |  | per lb.   | 1         | 3         |
| Cement for mending models  |  | per stick | 0         | 2         |

N.B.—The above Plaster of Paris is specially prepared for C. Ash & Sons, for Dental purposes.

ARTICULATORS.

(FOR REGULATING BITES.)

75.



6 inches long.

s. d.

ARTICULATOR (Messrs. Graham and Wood's), in brass (Fig. 75) each 9 6

By means of this contrivance the models will slide on and off easily, without disturbing the articulation. The circular bearing at the hinge is so marked that a register of the bite may be kept.

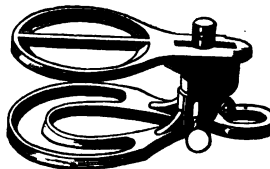
|   |    |   |
|---|----|---|
| Articulator (Mr. Smith's), in brass, lacquered, with screws for regulating the height, &c. ... .. (Fig. 76) ..  | 4  | 6 |
| Articulator (Snow and Lewis's) ,, ,, with hollow pillar and set screw for regulating the height, &c. ... (Fig. 77) ..   | 8  | 0 |
| Articulator (Dr. Hayes'), in brass, lacquered, having all the motions of the jaws, and a hinge, so that the two halves of the articulator, when opened at right angles, can be separated ... .. | 10 | 0 |
| Articulator, plain brass, lacquered ... ..  | 4  | 3 |

76.



4 inches long.

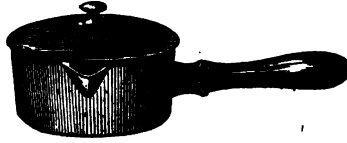
77.



5 inches long.



81.



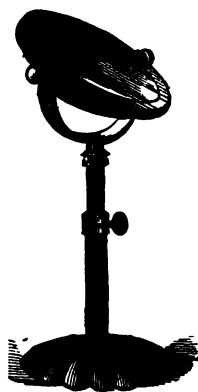
|  |               |                                   | s.       | d.   |
|--|---------------|-----------------------------------|----------|------|
| BOILING PANS, Porcelain, 4 in. diameter                    | ...           | (Fig. 81) each                    | 3        | 0    |
| " " 3½ in. "   | ...           | (Fig. 81) "                       | 2        | 9    |
| " " 3 in. "  | ...           | (Fig. 81) "                       | 2        | 3    |
| Boiling Pans, Copper, oval, 6 in. by 3½ in.                | ...           | ...                               | 2        | 0    |
| " " " 5½ in. " 3 in.                                       | ...           | ...                               | 1        | 9    |
| " " " 5 in. " 2½ in.                                       | ...           | ...                               | 1        | 6    |
| Boiling Pans, Copper, round, 4 in. diameter                | ...           | ...                               | 2        | 0    |
| " " " 3½ and 3 in. "                                       | ...           | ...                               | 1/9 and  | 1 6  |
| Board Pins, beech wood...                                  | ...           | ...                               | each     | 0 3½ |
| Copper Frames used when soldering teeth on plates, large   | ...           | ...                               | "        | 0 8  |
| Ditto ditto " " " medium and small                         | ...           | ...                               | "        | 0 6  |
| Casting Troughs, Wood, with trays and slides...            | ...           | from                              | 14       | 0    |
| Casting Rings, Iron, 5½ in. 5 in. and 4 in. diameter, each | 1/6, 1/3, and | 1                                 | 0        |      |
| Casting Die Rings, Iron, 4½ in. and 4 in.                  | " "           | 2/6                               | "        | 2 3  |
| Casting Moulds " (Mr. Thomson's)                           | ...           | ...                               | each     | 1 9  |
| Casting Sand   | ...           | per bag of 14 lbs.                | 1        | 4    |
| Hawes' Moulding Flasks, Iron                               | ...           | ...                               | each     | 13 0 |
| India Rubber Finger Stalls                                 | ...           | ...                               | "        | 0 2  |
| Iron Wire, thin for binding                                | ...           | ...                               | per hank | 0 2  |
| Iron Wire, medium for pins, thick for cramps               | ...           | ...                               | "        | 0 1½ |
| Ladles, Iron, No. 4, light, 4½ in. diameter                | ...           | ...                               | each     | 1 0  |
| Ladles " " 1 " 5 in. "                                     | ...           | ...                               | "        | 1 9  |
| Ladles " " 2 " 5½ in. "                                    | ...           | ...                               | "        | 2 0  |
| Ladles " " 3 " 6 in. "                                     | ...           | ...                               | "        | 2 6  |
| Ladles " " 4 " 6½ in. "                                    | ...           | ...                               | "        | 3 0  |
| Ladles " (Mr. Thomson's)                                   | ...           | ...                               | "        | 2 3  |
| Oil or Water Cans  | ...           | Copper 1s. 4d., Zinc, 1s. and Tin | 0        | 9    |
| Scratch Brushes, brass circular (for lathes), coarse       | ...           | ...                               | each     | 2 0  |
| Scratch " " " fine   | ...           | ...                               | "        | 2 6  |
| Scratch " " straight (for hand), coarse                    | ...           | ...                               | "        | 1 0  |
| Scratch " " " fine   | ...           | ...                               | "        | 1 3  |

82.

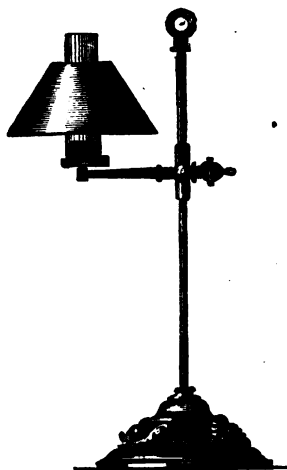


|   |                 |           |
|---|-----------------|-----------|
| GRINDSTONES, 6 in. and 8 in. diameter in Iron Troughs (Fig. 82) | s.              | d.        |
|   | each 7/0        | and 8 6   |
| Ditto 10 in. and 12 in. „ „                                     | (Fig. 82) „     | 11 0      |
|   | each 10/0       | „ 11 0    |
| Grindstones in Iron Trough on legs, with treadle                | ... ..          | from 28 0 |
| Ditto in Wood Frames, &c., obtained to order.                   |                 |           |
| Grindstones for Lathes, 4 in., 3½ in. and 3 in. diameter        | 2/6, 2/3, and 2 | 0         |
| Arkansas and Turkey Stones, see page 202.                       |                 |           |

83.

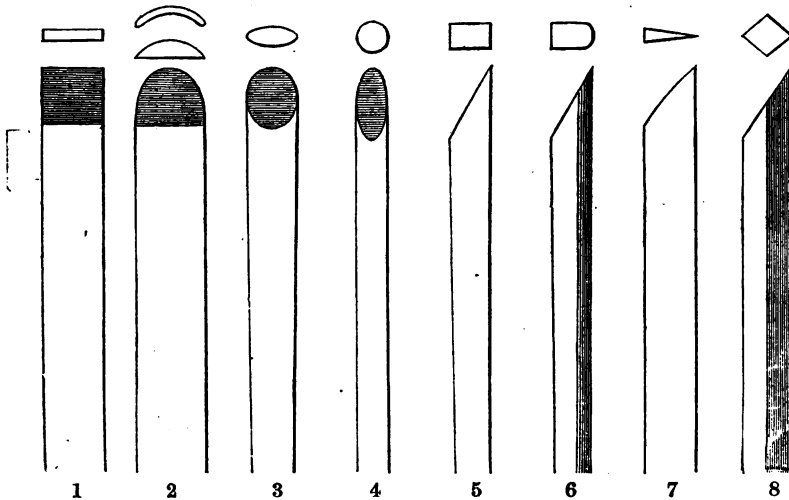


84.



|   |                |        |
|---|----------------|--------|
| LIGHT CONDENSER, with rising stand, for concentrating the light | s.             | d.     |
| upon the work bench ... ..                                      | (Fig. 83) each | 10 6   |
| Ditto ditto large size ... ..                                   | (Fig. 83) „    | 12 6   |
| Board Lamp for gas, with Argand burner, figured stand, and      |                |        |
| green shade, complete ... ..                                    | (Fig. 84) from | 14 0   |
| Board ditto with plain stand ... ..                             | ... ..         | „ 10 0 |
| Lamps, various, obtained to order.                              |                |        |

SCULPTORS.



|  | Per doz.            | Each.               |
|--|---------------------|---------------------|
|  | <i>s.</i> <i>d.</i> | <i>s.</i> <i>d.</i> |
| FLAT, (Stubs'), broad, medium, and narrow (Fig. 1) ...                             | 3 9                 | 0 4                 |
| Half-round " " " " (Fig. 2) ...  | 3 9                 | 0 4                 |
| Oval, " " " " (Fig. 3) ...   | 3 9                 | 0 4                 |
| Round " " " " (Fig. 4) ...   | 3 9                 | 0 4                 |
| Flat Edge, " " " " (Fig. 5) ...  | 3 9                 | 0 4                 |
| Round Edge, " " " " (Fig. 6) ...   | 3 9                 | 0 4                 |
| Sharp Edge, " " " " (Fig. 7) ...   | 3 9                 | 0 4                 |
| Gravers, " " " " (Fig. 8) ...  | 3 9                 | 0 4                 |
| Sculptors, same patterns as above, polished ...                                    | 5 0                 | 0 6                 |
| Ditto (H. R. Ward's) ditto ditto ...   |                     | 1 0                 |
| Gouges, or Hollow Sculptors (Stubs'), broad medium, and narrow widths ... (Fig. 2) | 5 6                 | 0 6                 |
| Wood Handles, round, half-round and pear-shape, for above                          | 1 0                 | 0 1                 |

Figs. 1, 2, 5, and 6, represent the broad widths of those forms.  
 Figs. 3, 4, and 8, " " medium " " "  
 Fig. 7, " " narrow width of that form.

## FILES.

(FOR GOLD, BONE, AND VULCANITE WORK.)

(STUBS').

|                      | Inches. | Rough and extra rough. |    | Bastard. |    | Smooth. |    |
|----------------------|---------|------------------------|----|----------|----|---------|----|
|                      |         | s.                     | d. | s.       | d. | s.      | d. |
| Half-round with tang | 3       | 0                      | 5  | 0        | 5½ | 0       | 6  |
| " "                  | 3½      | 0                      | 5½ | 0        | 6  | 0       | 7  |
| " "                  | 4       | 0                      | 6  | 0        | 7½ | 0       | 8½ |
| " "                  | 4½      | 0                      | 7½ | 0        | 8  | 0       | 9  |
| " "                  | 5       | 0                      | 8  | 0        | 8½ | 0       | 10 |
| " "                  | 6       | 0                      | 10 | 0        | 11 | 1       | 0  |
| " "                  | 7       | 1                      | 0  | 1        | 2  | 1       | 3  |
| " "                  | 8       | 1                      | 2  |          |    |         |    |
| " "                  | 9       | 1                      | 4  |          |    |         |    |
| " "                  | 10      | 1                      | 7  |          |    |         |    |
| " "                  | 11      | 1                      | 10 |          |    |         |    |
| " "                  | 12      | 2                      | 0  |          |    |         |    |

The above Files, from 3 to 6 inches, with Steel handles, kept in stock extra one penny each.

|                          | Inches. | Rough and extra rough.                         |    | Bastard. |      | Smooth. |    |
|--------------------------|---------|--|----|----------|------|---------|----|
|                          |         | s.   | d. | s.       | d.   | s.      | d. |
| Round, with tang         | 3       | 0  | 5  | 0        | 5½   | 0       | 6  |
| " "                      | 3½      | 0  | 5½ | 0        | 6    | 0       | 7  |
| " "                      | 4       | 0  | 6  | 0        | 7    | 0       | 7½ |
| " "                      | 4½      | 0  | 7  | 0        | 7½   | 0       | 8  |
| " "                      | 5       | 0  | 7½ | 0        | 8    | 0       | 8½ |
| " "                      | 6       | 0  | 8½ | 0        | 9    | 0       | 10 |
| Half-round, double-ended | 5       | 0  | 8  | 0        | 8½   | 0       | 10 |
| " "                      | 6       | 0  | 10 | 0        | 11   | 1       | 0  |
| " "                      | 7       | 1  | 0  | 1        | 2    | 1       | 3  |
| " "                      | 8       | 1  | 2  | 1        | 3    | 1       | 4  |
| Thin Oval                | 8       | { one end rough the other }<br>end extra rough |    |          |      | 1       | 3  |
| Flat or Pillar           | 6       | Smooth   |    |          | each | 0       | 11 |
| " "                      | 7       | "  |    |          | "    | 1       | 0  |
| " "                      | 8       | "  |    |          | "    | 1       | 1  |
| Saw, with tang           | 4       | Bastard, each                                  |    | 0        | 6½   |         |    |
| " "                      | 4½      | "  |    | 0        | 7    |         |    |
| " "                      | 5       | "  |    | 0        | 7½   |         |    |

Float cut Files obtained to order.



RASPS AND NEEDLE FILES, &c.

| Half-round |     |      |      | Round                         |     |      |      |
|------------|-----|------|------|-------------------------------|-----|------|------|
| Inches.    |     | s.   | d.   | Inches.                       |     | s.   | d.   |
| 3          | ... | each | 0 5  | 3                             | ... | each | 0 4½ |
| 3½         | ... | "    | 0 5½ | 3½                            | ... | "    | 0 5  |
| 4          | ... | "    | 0 7  | 4                             | ... | "    | 0 5½ |
| 4½         | ... | "    | 0 7½ | 4½                            | ... | "    | 0 6  |
| 5          | ... | "    | 0 8½ | 5                             | ... | "    | 0 7  |
| 6          | ... | "    | 0 11 | 6                             | ... | "    | 0 8  |
| 7          | ... | "    | 1 1  |                               |     |      |      |
| 8          | ... | "    | 1 3  | Tube Files, English, per doz. |     | 1    | 6    |
| 9          | ... | "    | 1 5  | Ditto ,, French ,,            |     | 2    | 9    |
| 10         | ... | "    | 1 7  | Needle ,, German }            |     | 0    | 6    |
| 11         | ... | "    | 1 10 | pointed or blunt }            |     |      |      |
| 12         | ... | "    | 2 0  |                               |     |      |      |

The above Half-round Rasps from 3 to 6 in., with steel handles, kept in stock, extra one penny each.

SUNDRIES FOR THE WORK-ROOM.

Wood Handles for Files and Rasps, with tangs, small to large sizes, 1½*d.*, 2*d.*, and 3*d.* each.

|  |     |            |                           |
|--|-----|------------|---------------------------|
| File Cleaners, Wire, on Wood Block, with blunt ends...             | ... | each       | 0 6                       |
| Ditto ,, ,, ,, with handles  | ... | "          | 0 6                       |
| Filing Trays, tin, with sifter, cap, and rim                       | ... | "          | 3 9                       |
| Ditto ,, ,, without rim...   | ... | "          | 3 3                       |
| Water of Ayr Stones in Slips, large and small...                   | ... | each       | 3 <i>d.</i> and 0 2½      |
| Stones, circular, for polishing mineral teeth after grinding, each |     |            | 9 <i>d.</i> and 1 0       |
| Slate Slips  | ... | each       | 0 1                       |
| Camel Hair Pencils, large  | ... | per doz.   | 1/3 ,, 0 1½               |
| " " medium and small   | ... | "          | 1/ ,, 0 1                 |
| Buff Sticks, flat and round, for polishing                         | ... | "          | 0 1½                      |
| Buff Wheels for Lathe, 3¼ in. diameter...                          | ... | "          | 1 0                       |
| Bole Armenia   | ... | per lb.    | 1 <i>s.</i> , per oz. 0 1 |
| Lycopodium   | ... | "          | 0 6                       |
| Vermilion  | ... | "          | 0 8                       |
| Gum Enamel (Stent's)   | ... | per packet | 2 6                       |
| Gum Shellac  | ... | per lb.    | 4 3                       |
| Gum Stain for Bone   | ... | per bottle | 1 3                       |

SUNDRIES—*continued.*

## MELTING POTS.

| <i>Plumbago Crucibles.</i><br>(Round.)                                   |       |  | <i>Skittle Pots.</i> |       |  | <i>Clay Crucibles.</i><br>(Triangular.) |          |     |
|--|-------|--|----------------------|-------|--|---|----------|-----|
| Height.  | Each. |  | Height.              | Each. |  | Height.                                 | Per doz. |     |
|  | s. d. |  |                      | s. d. |  |   | s. d.    |     |
| 4½ in. Large...  | 1 4   |  | 8 in. Large...       | 0 6   |  | 3½ in. Large...                         | 1 4      |     |
| 3¾ in. Med. ...  | 0 8   |  | 6 in. Med. ...       | 0 4½  |  | 2¾ in. Med. ...                         | 1 0      |     |
| 2¾ in. Small ...   | 0 4½  |  | 4 in. Small ...      | 0 2½  |  | 2½ in. Small ...                        | 0 6      |     |
| Plumbago Crucibles as used for Fletcher's Furnaces, 2½, 2¼ in., each 0 3 |       |  |                      |       |  |   |          |     |
| Fire Clay ditto, Round ditto " " 2½, 2¼ " " 0 3                          |       |  |                      |       |  |   |          |     |
| Melting Pots of other sizes, &c., obtained to order.                     |       |  |                      |       |  |   |          |     |
| Crucibles for Ingot Moulds, see page 220.                                |       |  |                      |       |  |   |          |     |
| Tongs for holding crucibles ... ..                                       |       |  |                      |       |  |   | from     | 2 0 |
| Tongs " skittle pots and large crucibles ... ..                          |       |  |                      |       |  |   | "        | 3 0 |

## METALS.

|  |     |                    |     |                        | s. d. |
|--|-----|--------------------|-----|------------------------|-------|
| Fine Silver, in grain                    | ... | ...                | ... | per oz. (troy)         | 5 9   |
| Fine Copper                              | ... | ...                | ... | " (troy)               | 0 3   |
| Zinc, best quality                       | ... | ...                | ... | per cwt. 33s., per lb. | 0 4   |
| Lead                                     | ... | ...                | ... | " 37s. "               | 0 4½  |
| Lead thin, for patterns, &c.             | ... | ...                | ... | " "                    | 0 7   |
| Grain Tin                                | ... | (Price fluctuates) | ... | " "                    | 1 6   |
| Bar Tin                                  | ... | ( " )              | ... | " "                    | 1 3   |
| Tin-foil for Vulcanite Work              | ... | ...                | ... | " "                    | 3 6   |
| Soft Metal for ditto                     | ... | ...                | ... | " "                    | 2 9   |
| Soft Solder                              | ... | ...                | ... | per piece              | 0 2   |
| Aluminium and Bismuth obtained to order. |     |                    |     |                        |       |

## 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. | 2 6   | " 3 6   |

SUNDRIES—*continued.*

## ACIDS.

|                           |       |     |     |     |     |     |            | <i>s.</i> | <i>d.</i> |
|---------------------------|-------|-----|-----|-----|-----|-----|------------|-----------|-----------|
| Nitric                    | Acid  | ... | ... | ... | ... | ... | per lb.    | 1         | 0         |
| Sulphuric                 | "     | ... | ... | ... | ... | ... | "          | 0         | 6         |
| Muriatic or Hydrochloric, | ditto | ... | ... | ... | ... | ... | "          | 0         | 6         |
| Bottles, for above        | ...   | ... | ... | ... | ... | ... | extra each | 0         | 6         |

For other Chemicals, see Alphabetical Index, pages 279 to 302.

## SCALES AND WEIGHTS.

|  |     |     |     |     |                 |    | <i>s.</i> | <i>d.</i> |   |
|--|-----|-----|-----|-----|-----------------|----|-----------|-----------|---|
| Scales, with Pillar, Beam, &c., to enclose in drawer of mahogany |     |     |     |     |                 |    | }         | 24        | 0 |
| stand  | ... | ... | ... | ... | 10 in. by 5 in. |    |           |           |   |
| "  | "   | ... | ... | ... | 9 in. by 4½ in. | 20 |           |           |   |
| "  | "   | ... | ... | ... | 8 in. by 4¼ in. | 18 | 0         |           |   |
| Scales, common, in oak box                                       | ... | ... | ... | ... | 9 in. by 4½ in. | 8  | 0         |           |   |

Set of Cup Weights, Troy, *as under* :—

|   |  |  |  |   |
|---|--|--|--|---|
| $\frac{1 \text{ oz. to } \frac{1}{10}}$ | $\frac{2 \text{ ozs. to } \frac{1}{10}}$ | $\frac{3 \text{ ozs. to } \frac{1}{10}}$ | $\frac{5 \text{ ozs. to } \frac{1}{10}}$ | $\frac{10 \text{ ozs. to } \frac{1}{10}}$ |
| 2/0                                     | 3/0                                      | 4/6                                      | 6/0                                      | 8/0                                       |

Set of Weights, *Decimals of the Ounce Troy* ... .. 4 0  
Set of Drachms and Scruples ... .. 1 0

See also Appendix, page 4.

## BOXES FOR METAL SCRAPS, &amp;c.

|   |                 |     |      |   |   | <i>s.</i> | <i>d.</i> |
|---|-----------------|-----|------|---|---|-----------|-----------|
| Boxes, circular, tin japanned, with sifters | 3½ in. diameter | ... | each | 1 | 3 |           |           |
| Ditto                                       | "               | "   | "    | 1 | 6 |           |           |
| Ditto                                       | "               | "   | "    | 1 | 9 |           |           |

## INDIA-RUBBER TUBING.

|                             |                 |                 |          |   |    | <i>s.</i> | <i>d.</i> |
|-----------------------------|-----------------|-----------------|----------|---|----|-----------|-----------|
| India-rubber Tubing, wired, | ½ in. diameter, | inside measure, | per foot | 1 | 0  |           |           |
| Ditto                       | "               | "               | "        | 0 | 6  |           |           |
| Ditto                       | "               | "               | "        | 0 | 4½ |           |           |
| Ditto                       | "               | "               | "        | 0 | 4  |           |           |
| Ditto                       | "               | "               | "        | 0 | 3½ |           |           |

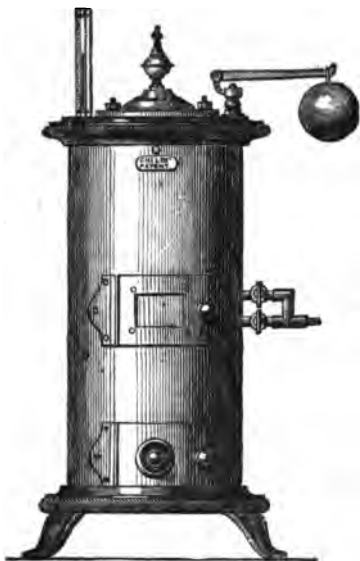
India-rubber Tubing specially made for Gas Apparatus, see page 191.  
India-rubber " " " for covering Springs, see page 224.

For Lathe Brushes, Felt Wheels, &c., see page 255.

For India-rubber Tubing, smooth inside, see pages 212, 213, 217, and 219.

## C. ASH AND SONS' VULCANIZERS.

85.



86.



## DIMENSIONS :

Large size, 32 in. by 11½, to hold from 6 to 8 Flasks.

Medium size, 26 in. by 8½, to hold from 2 to 4 Flasks.

Small size, 22 in. by 7½, to hold 2 or 3 Flasks.

|  |   | Large. |     | Medium. |     | Small. |    |
|--|---|--------|-----|---------|-----|--------|----|
|  |   | s.     | d.  | s.      | d.  | s.     | d. |
| VULCANIZERS, with Valves, Thermometers, and Spanners | for Gas (Figs. 85, 86)  | 120    | 0   | 95      | 0   | 75     | 0  |
| Vulcanizers  | „ „ for Charcoal  | 120    | 0   | 95      | 0   | 75     | 0  |
| Vulcanizers  | „ „ for Spirit (Fig. 86)  | ...    | ... | ...     | ... | 75     | 0  |
| Vulcanizers  | „ „ with Double adjustment, so that Gas or Charcoal can be used | 130    | 0   | 105     | 0   | *      |    |
| Vulcanizers  | „ „ with Double adjustment, so that Gas or Spirit can be used   | ...    | ... | ...     | ... | 85     | 0  |
| If fitted with Bunsen's Smokeless Gas Burners, extra |   | ...    | ... | ...     | ... | 10     | 0  |

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 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.

\* Vulcanizer, Fig. 86, is too small to be used with Charcoal.

**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 largest size Vulcanizer, of the same shape as the medium and small, believing the iron castings of that form to be much stronger than those formerly made.

#### 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 also be put into the Vulcanizer. When free water is preferred, half a pint for the large, one-third of a pint for the medium, and a quarter of a pint for the small, 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' PORTABLE VULCANIZER.

(With Centre Screw.)

88.



BONES :  
Inside Measurement.

|         | Deep. |   | Diameter.  |
|---------|-------|---|------------|
| 3 Flask | 8     | x | 4½ inches. |
| 2 „     | 5½    | x | 4½ „       |

For Thermometers, and Tubes  
and Scales, see page 250.

|   |     |    |
|---|-----|----|
| VULCANIZER, extra strong, to hold 3 flasks, height 20 in., with wrought-copper chamber, wrought-iron clamp with centre screw, thermometer, Bunsen's gas-burner, or spirit-lamp (See Figs. 22 and 26, page 216), spanner, packing-remover, &c.,— | s.  | d. |
| without flasks (Fig. 88)  | 110 | 0  |
| Ditto ditto to hold 2 flasks (height 17 in.) „ (Fig. 88)  | 105 | 0  |
| Ditto „ with safety valve ... .. extra  | 17  | 6  |
| Ditto „ with tap for blowing off steam ... „  | 7   | 6  |

Flasks to fit the above Vulcanizers, see Note on page 245.

C. ASH and SONS, in order to prevent, as far as possible, the recurrence of explosions so dangerous to human life, have been manufacturing for some years past Vulcanizers, which are estimated to bear upwards of 1,000 lbs. pressure upon every square inch. These Vulcanizers are made under their most careful supervision, and are tested before leaving their manufactory to 600 lbs., or seven times the pressure required for perfect vulcanization. The chambers are made of **wrought copper**, nearly a quarter of an inch thick, and strengthened at the top with a strong copper band or ring.

The cover is held down by means of a centre screw and a strong **wrought iron clamp**, which is made to clip the under part of the strong copper ring, which ring is securely fastened to the chamber; the clamp is made to turn back, in order to facilitate the removal of the cover and flasks.

C. ASH AND SONS' PORTABLE VULCANIZER.

(With Centre Screw.)

88A.



A pressure of from 85 to 90 lbs. will be found sufficient to vulcanize any rubber.

Printed directions for using the Patent Gauge sent with each Vulcanizer supplied therewith.

|   |     |    |
|---|-----|----|
| *VULCANIZER, to hold 3 flasks, as described on the previous page, but fitted with Steam Pressure Gauge instead of Thermometer | s.  | d. |
|   | 125 | 0  |
| Ditto ditto, to hold 2 flasks ... .. (Fig. 88A)   | 120 | 0  |
| Ditto ditto, fitted with Gartrell's Patent Steam Pressure and Gas-Regulating Gauge ... .. extra                               | 42  | 6  |
| Pressure Gauges ... .. each   | 22  | 6  |
| Ditto ditto fitted to Vulcanizers ... .. "  | 25  | 0  |
| Gartrell's Patent Gauges ,, ... .. "  | 50  | 0  |

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

The india-rubber packing should be thoroughly chalked on the surface every time it is used, to prevent adhesion. It requires to be renewed occasionally, to keep the chamber steam-tight. The stands of the Vulcanizers are available for either a gas-burner or a spirit-lamp.

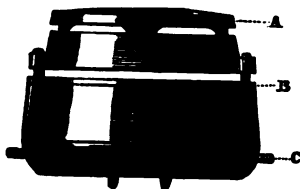
The tube in which the thermometer is placed should be half-filled with mercury, so as to surround the bulb, and thereby ensure a correct register of the heat.

If a safety valve is attached to the Vulcanizer, the valve and plug should be wiped each time with a clean oily rag, as the least particle of dirt would allow the steam to escape, and so spoil the work.

\* A Pressure Gauge, for purposes of correct registration, is much more reliable and consequently much safer to use than a Thermometer.

## FLASKS.

89.



|  | <i>s.</i> | <i>d.</i> |
|--|-----------|-----------|
| *Flasks, in Gun Metal, with wrought-iron rings, large (Fig. 89) each | 11        | 0         |
| Ditto „ Gun Metal, „ „ small (Fig. 89) „                             | 9         | 0         |
| *Flasks, in Iron „ „ large (Fig. 89) „                               | 8         | 0         |
| Ditto „ Iron „ „ small (Fig. 89) „                                   | 7         | 0         |
| Flasks, in Gun Metal, with Clamp and Wedge, large (Fig. 89) „        | 10        | 6         |
| Ditto „ Gun Metal „ „ small (Fig. 89) „                              | 8         | 6         |
| Flasks, in Iron „ „ large (Fig. 89) „                                | 7         | 6         |
| Ditto „ Iron „ „ small (Fig. 89) „                                   | 6         | 6         |

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 facsimile 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.

|  | <i>s.</i> | <i>d.</i> |
|--|-----------|-----------|
| *Flasks, in Gun Metal, with wrought-iron rings, large (Fig. 90) each | 8         | 0         |
| Ditto „ Gun Metal „ „ small (Fig. 90) „                              | 7         | 0         |
| *Flasks, in Iron „ „ large (Fig. 90) „                               | 7         | 0         |
| Ditto „ Iron „ „ small (Fig. 90) „                                   | 6         | 6         |
| Flasks, in Gun Metal, with Clamp and Wedge, large (Fig. 90) „        | 7         | 6         |
| Ditto „ Gun Metal „ „ small (Fig. 90) „                              | 6         | 6         |
| Flasks, in Iron „ „ large (Fig. 90) „                                | 6         | 6         |
| Ditto „ Iron „ „ small (Fig. 90) „                                   | 5         | 6         |

90.



N.B.—Printed directions for using Flasks 89, 91, can be had on application.  
Flasks for Portable Vulcanizers, see note, page 245.

Flasks marked \* will not go into the Portable Vulcanizers.



91.



|  |     |               |
|--|-----|---------------|
| FLASKS (Mr. Hatfield's) in Gun-metal, with clamp and wedge         | s.  | d.            |
| (Fig. 91) each   | 9   | 0             |
| Ditto ( " ) in Iron ditto ditto (Fig. 91)                          | "   | 6 0           |
| Clamp and Plate to hold 1, 2, or 3 flasks, with spanner, complete  | "   | 8 0           |
| Ditto " " 1 or 2 " " " "   | "   | 5 0           |
| Ditto and Wedge " 1 " only ... ..                                  | "   | 2 0           |
| Flasks (Berlin), in Gun-metal, with iron clamp and wedge (Fig. 92) | "   | 9 0           |
| Ditto ( " ), in Gun-metal, set of two, in clamp, &c. (Fig. 92)     | "   | 19 0          |
| Ditto ( " ), in Gun-metal, set of three " &c. (Fig. 92)            | "   | 26 0          |
| Ditto ( " ), in Iron, with iron clamp and wedge (Fig. 92)          | "   | 7 0           |
| Ditto ( " ), in Iron, set of two, in clamp and plate (Fig. 92)     | "   | 15 0          |
| Ditto ( " ), in Iron, set of three " " (Fig. 92)                   | "   | 20 0          |
| Ditto (Mr. Jordan's), Gun-metal, large, medium, and small          |     |               |
| (Fig. 93) each   | 6/- | 5/6 and 5 0   |
| Ditto ( " ) Iron ditto ditto (Fig. 93)                             | "   | 4/0 3/6 " 3 0 |

92.



93.



N.B.—Flasks for Portable Vulcanizers (Figs. 88 and 88A) :—

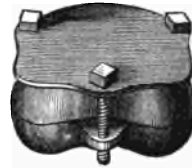
Two of the following Flasks will go into a two-Flask Vulcanizer, and Three into a three-Flask one, viz. :—Jordan's, Hayes', Whitney's, Lewis', Berlin, Star, and Star Reversible. A less number of the following will also go in, viz. :—Figs. 89 and 90 with clamps and wedges, Lawson's, Brunton's, and Hatfield's. The clamps used for the Hatfield and Berlin Flasks are made with slots, and have plates to shift from one slot to another, so that one, two, or three flasks may be held in the same clamp.

## FLASKS.

94.



95.



|  |           |      | <i>s.</i> | <i>d.</i> |
|--|-----------|------|-----------|-----------|
| FLASKS (Hayes'), in Iron, with bolts and nuts ...  | (Fig. 94) | each | 4         | 4         |
| Ditto (Whitney's) ,, Iron ,, ,, ...  | (Fig. 95) | "    | 4         | 4         |
| Ditto ( ,, ) Gun-metal ,, ,, ...   | (Fig. 95) | "    | 6         | 0         |
| Ditto (Lawson's), Iron, with iron clamp and nuts   | (Fig. 96) | "    | 4         | 6         |
| Ditto (Lewis'), Gun-metal, with bolts and nuts, large  | (Fig. 97) | "    | 8         | 6         |
| Ditto ( ,, ), Gun-metal ,, ,, small  | (Fig. 97) | "    | 6         | 0         |
| Ditto ( ,, ), Iron ,, ,, large   | (Fig. 97) | "    | 5         | 3         |
| Ditto ( ,, ), Iron ,, ,, small   | (Fig. 97) | "    | 4         | 3         |
| Ditto (Star, and Star Reversible) Gun-metal ...  | ...       | ...  | 8         | 6         |
| Ditto ( ,, ,, ) Iron ...   | ...       | ...  | 5         | 6         |
| Ditto (Mr. Vasey's), very stout Iron, in three sections, with long bolts passing right through, and thumb-screws at each end for tightening, &c. ... | ...       | ...  | 12        | 6         |

96.



97.

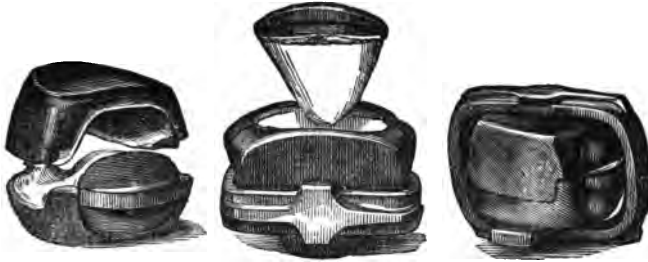


Flasks for Portable Vulcanizers, see note, page 245.

Flasks of other forms, &c., not in Catalogue, obtained to order.

FLASKS, CLAMPS, &c.

98.



|  | <i>s.</i> | <i>d.</i> |
|--|-----------|-----------|
| FLASKS (Mr. Brunton's) Contour, in Steel, large size (Fig. 98) each  | 7         | 6         |
| Ditto ( ditto ) ditto ,, medium (Fig. 98) ,,   | 6         | 6         |
| Ditto ( ditto ) ditto ,, small (Fig. 98) ,,  | 5         | 0         |
| Ditto ( ditto ) Phosphor bronze, large (Fig. 98) ,,  | 10        | 6         |
| Ditto ( ditto ) ,, medium (Fig. 98) ,,   | 8         | 6         |
| Ditto ( ditto ) ,, improved each   | 12/6      | and 10 6  |
| Rings or Clamps (Fig. 90, page 244), wrought iron, with thumb screw, to hold one large or small flask... ..  | each 2    | 6         |
| Clamps, Iron, with three nuts for one Hayes' or Whitney's flask ..   | 2         | 6         |
| Ditto ,, ,, for two and three ditto ditto ..   | 2         | 6         |
| Clamps and Wedges to carry one small flask (Fig. 89 or 90) ...   | 2         | 0         |
| Ditto for Hatfield's flasks, see page 245.   |           |           |
| Clamps with plate for one, two, or three flasks (Fig. 92), with spanner ..   | 8         | 0         |
| Ditto ,, for one and two ,, (Fig. 92) ,, ..  | 5         | 0         |
| Ditto and Wedge for one flask (Fig. 92) ... ..   | 2         | 0         |
| Clamps and Nuts for Lawson's flasks, page 246... ..  | 2         | 3         |
| Bolts and Nuts for Lewis's flasks ... .. (Fig. 97, page 246)   | 0         | 6         |
| Nuts for ditto ... ..  | 0         | 2         |
| Bolts and Nuts for Hayes' and Whitney's (Figs. 94, 95, page 246)   | 0         | 4         |
| Ditto ,, for Star, and Star Reversible flasks ... ..   | 0         | 6         |
| Flask Holder (Mr. Schwartz's,) for holding hot flasks in various positions whilst packing, made of iron and brass, with ball and socket, spanner, and a clamp to fasten on to bench ... .. | 18        | 0         |
| Nuts for Vulcanizers (Page 240) ... ..   | 0         | 8         |
| Iron Washers for ditto ,, ... ..   | 0         | 1         |
| Spanners for Flasks, 9d.; Double-ended for Vulcanizers and Flasks ..   | 1         | 3         |
| Gun-metal Plates for large and small flasks ... (Fig. 89) ..   | 1         | 0         |

N.B.—Flasks suitable for Portable Vulcanizers, see note, page 245.

## SPATULAS, &amp;c.

(FOR MODELLING AND PACKING.)

99.



6 inches long.

|  | <i>s.</i> | <i>d.</i> |
|--|-----------|-----------|
| SPATULA for WAX, Steel, with plain Octagon handle (Fig. 99) each | 1         | 0         |
| Ditto " " double end " ... .. " "                                | 1         | 4         |
| Modelling Wax, pink or brown ... ..                              | per lb.   | 5 0       |

100.



7 inches long.

|  |           |           |
|--|-----------|-----------|
| MODELLING and PACKING TOOL, for Vulcanite work, in Steel, with | <i>s.</i> | <i>d.</i> |
| Ebony handle ... .. (Fig. 100) each                            | 0         | 9         |

101.

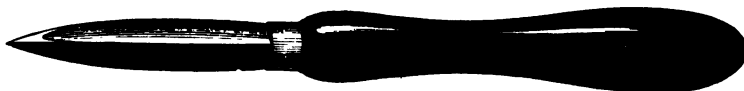


7 inches long.

|   |           |           |
|---|-----------|-----------|
| MODELLING and PACKING TOOL, for Vulcanite work, in Steel, | <i>s.</i> | <i>d.</i> |
| with Ebony handle ... .. (Fig. 101) each                  | 0         | 9         |

Spirit and Gas Lamps for Modelling, &c., see pages 216, 217.

102.

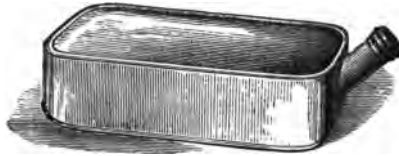


6½ inches long.

|   |           |           |
|---|-----------|-----------|
| SCRAPER (Bayonet), for Gold or Vulcanite work, in Steel, with | <i>s.</i> | <i>d.</i> |
| Ebony handle ... .. (Fig. 102) each                           | 2         | 0         |

Scrapers, various, for Vulcanite work, see page 254.

103.



10 in. long by 7 in. wide.

|   | <i>s.</i> | <i>d.</i> |
|---|-----------|-----------|
| HOT-WATER PLATE, Tin, for softening Dental Rubber (Fig. 103) each                   | 4         | 6         |
| French Chalk ... .. per lb.   | 0         | 8         |
| Non-adhesive Liquid for coating models... .. per bottle                             | 1         | 0         |
| Collodion " ... .. "  | 2         | 0         |
| India-rubber Washers, or Collars, 10 $\frac{3}{4}$ in. diameter, for large          |           |           |
| Vulcanizer, with 5 screws ... .. (Fig. 85) each                                     | 1         | 9         |
| Ditto 7 $\frac{1}{2}$ in. diameter for ditto, large size with 4 screws (Fig. 85) .. | 1         | 0         |
| Ditto 8 $\frac{1}{2}$ " " for medium " 4 " (Fig. 85) ..                             | 1         | 3         |
| Ditto 7 $\frac{1}{2}$ " " " small " 4 " (Fig. 86) ..                                | 1         | 0         |
| Ditto 4 $\frac{1}{2}$ " " " portable ... (Figs. 88 & 88A) ..                        | 0         | 2         |
| Ditto 6 " " " Lawson's... ..  | 1         | 0         |
| Ditto packing, 13 $\frac{1}{2}$ in. long, Lewis' and Hayes' ... ..                  | 0         | 6         |
| Ditto " 13 " Whitney's ... ..   | 0         | 3         |

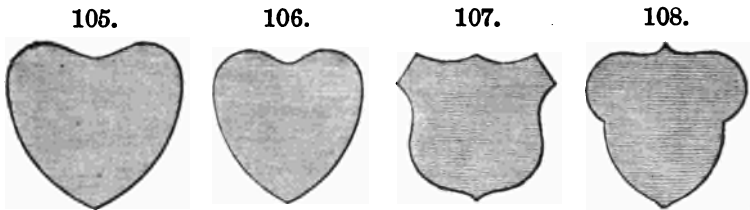
104.



Full height, 15 inches.

|   | <i>s.</i> | <i>d.</i> |
|---|-----------|-----------|
| Iron Presses for closing flasks, best make, with bolts and nuts |           |           |
| complete ... .. (Fig. 104) each                                 | 25        | 0         |
| Ditto ditto ditto 2nd quality " (Fig. 104) ..                   | 16        | 0         |

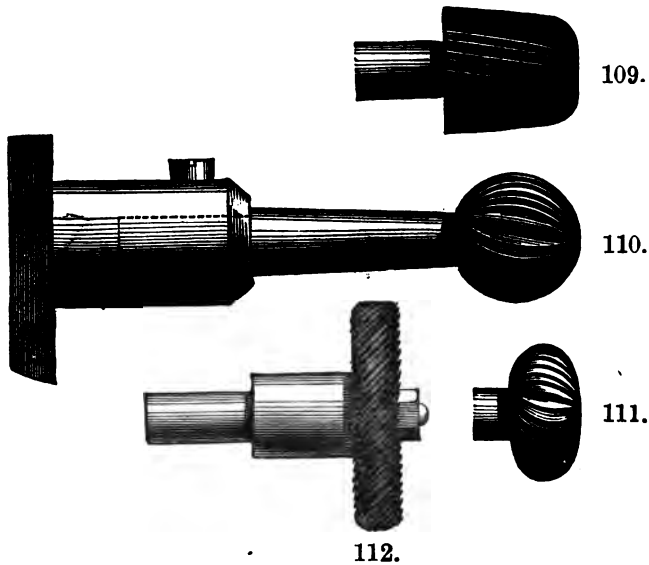
## METAL PATTERNS, THERMOMETERS, &amp;c.



|  |                 |
|--|-----------------|
| METAL PATTERNS for forming Air Chambers in Vulcanite plates,   | <i>s. d.</i>    |
| thick and thin ... .. per doz.   | 1 0             |
| Atmospheric Attachment (Hall and Gillespies') for Vulcanite plates, in three sizes, large, medium, and small ... .. each | 2 6             |
| THERMOMETERS for VULCANIZERS (Figs. 85, 86, and 88, pages 240 and 243) ... .. „  | 7 6             |
| Ditto ditto (Lewis's) ... .. „   | 8 3             |
| Ditto ditto (Hayes' and Whitney's) ... .. „  | 8 0             |
| TUBES and SCALES for above Thermometers (Figs. 85, 86, 88, and 88A, and Lewis's) ... .. „                                | 4 0             |
| Ditto ditto ditto (Hayes' and Whitney's) ... .. „  | 3 6             |
| Thermometers repaired ... .. from  | 4 0             |
| Thermometers for Celluloid Apparatus ... .. each   | 7/6 and 4 0     |
| Valves, Gun-metal, for Vulcanizers (page 240) ... .. each  | 14 6            |
| Ditto „ „ (pages 242 and 243) ... .. „   | 17 6            |
| Valves Plugs, for Vulcanizers (page 240), Gun-metal, large, medium, and small ... .. each                                | 1/9 1/6 and 1 3 |
| Washers for Valves (India-rubber) ... .. per box   | 1/6 1/3 „ 1 0   |
| Fusible Metal Plugs for Vulcanizers, (pages 240 to 243) ... .. per doz.  | 2 0             |
| Ditto ditto ditto (Hayes' & Whitney's) ... .. per packet   | 2 0             |
| Talc, for doors of Vulcanizers (page 240) ... .. per sheet   | 0 6             |
| Iron Piping for Vulcanizers and Furnaces ... .. per length of 18 in.   | 0 9             |
| Iron Elbows for Vulcanizers ... .. each  | 1 0             |
| Cement for fixing teeth broken away from Vulcanite ... .. per stick  | 0 6             |
| Celluloid Apparatus with Thermometer ... ..  | 24 0            |
| Celluloid Plates ... .. full, each 2/2; partial, each  | 1 1             |
| Fibrine (Mr. Rowney's) for fixing teeth on plaster models ... .. per bottle  | 1 0             |

CUTTING BURS AND WHEELS.

(FOR VULCANITE WORK, &C.)



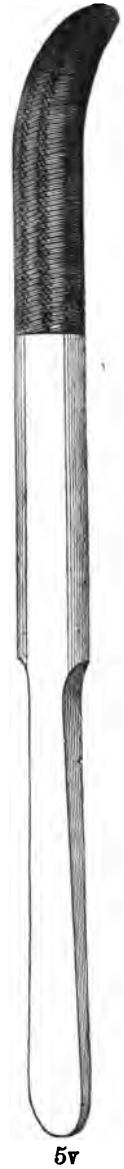
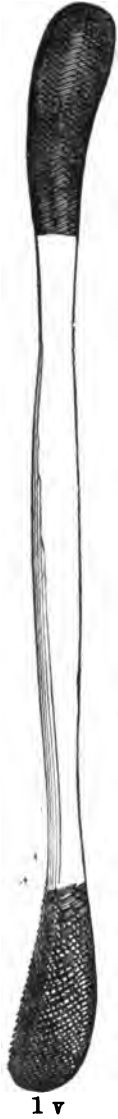
|   |                    |                                       |      |            |              |
|---|--------------------|---------------------------------------|------|------------|--------------|
|   |                    |                                       |      |            | <i>s. d.</i> |
| STEEL BURS                                | ...                | the exact size and form of (Fig. 109) | each | 4          | 0            |
| "   | ...                | "                                     | "    | (Fig. 110) | " 4 0        |
| "   | ...                | "                                     | "    | (Fig. 111) | " 4 0        |
| Steel Wheels, $1\frac{1}{4}$ in. diameter |                    | "                                     | "    | (Fig. 112) | " 4 0        |
| "   | $1\frac{1}{2}$ in. | "                                     | ...  | (Fig. 112) | " 4 6        |
| "   | 2 in.              | "                                     | ...  | (Fig. 112) | " 5 0        |

These Burs and Wheels are useful for cutting Vulcanite or Bone. They are made of the best Steel and finished in a superior manner, and will fit into chucks suitable for Lathes, pages 205 to 207, and Lathe-heads, pages 208 and 210.

|                                      |     |     |     |      |              |
|--------------------------------------|-----|-----|-----|------|--------------|
|                                      |     |     |     |      | <i>s. d.</i> |
| Chucks, Steel, to carry the above... | ... | ... | ... | each | 6 6          |

**RIFFLERS.**

(FOR VULCANITE WORK, &C.)





## RIFFLERS FOR VULCANITE OR BONE WORK.

(FRENCH.)

|  |            |      | <i>s.</i> | <i>d.</i> |
|--|------------|------|-----------|-----------|
| OVAL, thin, curved, double-ended, cut all over ...   | (Fig. 1 v) | each | 0         | 7½        |
| Half-round " " cut on one side   | (Fig. 2 v) | "    | 0         | 7½        |
| Half-round, thin, bent, " "  | (Fig. 3 v) | "    | 0         | 7½        |
| Half-round " " " "   | (Fig. 4 v) | "    | 0         | 7½        |
| Half-round, thick, curved, single-ended "  | (Fig. 5 v) | "    | 0         | 7½        |
| Half-round, thin, " double-ended "   | (Fig. 6 v) | "    | 0         | 7½        |
| Round one end, and oval the other end, cut all over  | (Fig. 7 v) | "    | 0         | 7½        |
| Round, ditto, curved, double-ended, " "  | (Fig. 8 v) | "    | 0         | 7½        |
| Half-round, thick, double-ended, similar to Fig. 1, specially<br>designed for filing palates of Vulcanite pieces, cut on one side,<br>not illustrated ... .. | (No. 9 v)  | "    | 0         | 7½        |
| Half-round ditto larger and coarser ditto " "  | (No. 10 v) | "    | 0         | 7½        |
| Oval, pointed, thick, double-ended, very rough, cut all over,<br>not illustrated ... ..  | (No. 11 v) | "    | 0         | 7½        |
| Oval, ditto ditto ditto rough  | (No. 12 v) | "    | 0         | 7½        |
| Oval, thin " small size "  | (No. 13 v) | "    | 0         | 7½        |
| Rifflers of various other patterns kept in stock... ..   |            | "    | 0         | 7½        |
| Riffler Rasps, form and size of Fig. 5, cut on one side... ..  |            | "    | 0         | 8         |
| Riffler " oval, round, flat face, and other forms in stock ...   |            | "    | 0         | 8         |
| Rifflers (Stubs'), various forms kept in stock ... ..  |            | "    | 0         | 8         |

## FILES FOR VULCANITE OR BONE WORK.

(STUBS'.)

|  |       |      | <i>s.</i> | <i>d.</i> |
|--|-------|------|-----------|-----------|
| HALF-ROUND FILES, with Tangs, rough and extra rough          | 4 in. | each | 0         | 6         |
| Ditto " " " "  | 4½ "  | "    | 0         | 7½        |
| Ditto " " " "  | 5 "   | "    | 0         | 8         |
| Ditto " " " "  | 6 "   | "    | 0         | 10        |
| With Steel handles, one penny each extra.                    |       |      |           |           |
| Half-round Files, double-ended (rough) ... ..                | 8 "   | "    | 1         | 2         |
| Thin Oval " " one end rough, the other extra<br>rough ... .. | 8 in. | "    | 1         | 3         |
| For other Files, Rasps, &c., see pages 236 and 237.          |       |      |           |           |

SCRAPERS, &c.

(FOR VULCANITE WORK.)



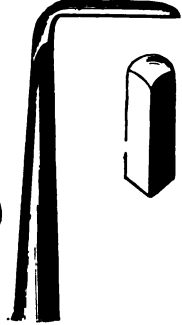
113.



114.



115.



116.



117.

|   |      |                                  |
|---|------|----------------------------------|
| STEEL SCRAPERS, curved, in Wood handles (Fig. 113)                                  | each | 0 <sup>s.</sup> <sub>d.</sub> 10 |
| "    "    rights and lefts    "    (Fig. 113)                                       | "    | 0 10                             |
| "    "    large and small    "    (Fig. 114)  | "    | 0 10                             |
| "    "                            "    (Fig. 115)                                   | "    | 0 10                             |
| "    "                            "    (Fig. 116)                                   | "    | 0 10                             |
| Steel Scrapers in Sculptor handles (right) (Fig. 117)                               | "    | 0 7                              |
| Ditto                            ditto                            (left) (Fig. 117) | "    | 0 7                              |

Scrapers, Bayonet, see page 248.

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

Glass Cloth, Extra Coarse (S. 2), Coarse (M. 2), Medium (F. 2 and 1½). Fine (1), Superfine (0) ... .. per Quire, 1/9, per sheet 0 1



6 inches high.

GLASS VESSEL with SAUCER and COVER for solarizing pink vulcanite. The shade stands in the Saucer filled with water to prevent the evaporation of the spirit ... each 5 6 *s. d.*

LATHE BRUSHES, &C.

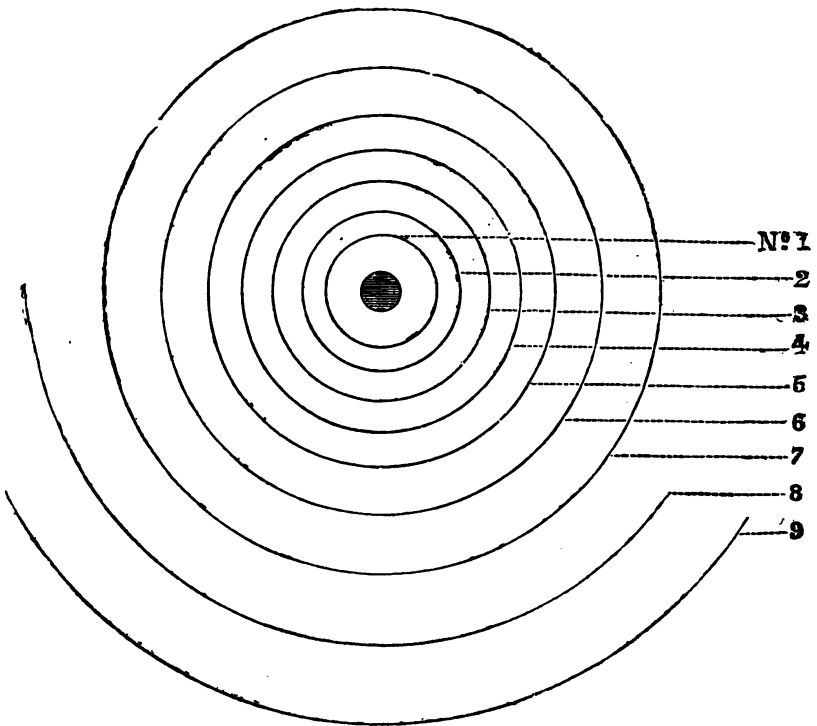
|   |      | Hard or Soft. |           | Goat's Hair. |
|---|------|---------------|-----------|--------------|
|   |      | <i>s.</i>     | <i>d.</i> | <i>s. d.</i> |
| 2 Rows, hard or soft, and goat's hair, 2 in. diameter | each | 0             | 7         | 1 0          |
| 2 " " " " " 3 " "                                     | "    | 0             | 7         | 1 3          |
| 3 " " " " " 2 1/2 " "                                 | "    | 0             | 9         | 1 3          |
| 3 " " " " " 3 " "                                     | "    | 0             | 9         | 1 6          |
| 4 " " " " " 3 " "                                     | "    | 1             | 0         | 1 9          |
| 5 " " " " " 3 " "                                     | "    | 1             | 3         | 2 0          |
| 6 " " " " " 3 " "                                     | "    | 1             | 6         | 2 3          |
| 6 " " " " " 3 1/2 " "                                 | "    | 2             | 0         | —            |
| 6 " " " " " 4 " "                                     | "    | 2             | 6         | —            |

Lathe Brushes of other sizes made to order by the dozen.  
Scratch Brushes, page 233.

|  |                          |     |     |
|--|--------------------------|-----|-----|
| Hand Brushes, long, 4 rows, hard and soft, with bone handles | each                     | 1   | 3   |
| " " " 3 rows " " "   | "                        | 1   | 0   |
| " " short 6 rows " " "                                       | "                        | 1   | 3   |
| Felt Wheels, 2 1/4 in. and 2 in. diameter ...                | ...                      | 2   | 0   |
| " " 1 1/2 in. and 1 1/8 " " ...                              | ...                      | 1   | 0   |
| Felt Cones, large and small ...                              | ...each                  | 2/0 | 1 0 |
| Cotton Wheels for polishing ...                              | ... each                 | 1   | 3   |
| India-rubber Wheels, 1 7/8 in. ...                           | ...                      | 1   | 4   |
| " " ditto 1 1/2 in. and 1 1/4 in. ...                        | ...                      | 0   | 10  |
| " " Cones ...  | ...                      | 1   | 0   |
| Silex ... powdered, per lb. 1/6, Liquid, per bottle          | ...                      | 1   | 3   |
| Pumice—Superfine 0/6, Fine 0/4, Coarse 0/3 per lb.           | ...                      | 0   | 3   |
| Rottenstone ...  | per lb.                  | 0   | 3   |
| Rouge ...  | per lb. 4/6, per box     | 0   | 7   |
| Crocus ...   | per lb. 1/0, per 1/4 lb. | 0   | 3   |

10 per cent. discount allowed off Lathe Brushes when purchased by the dozen.

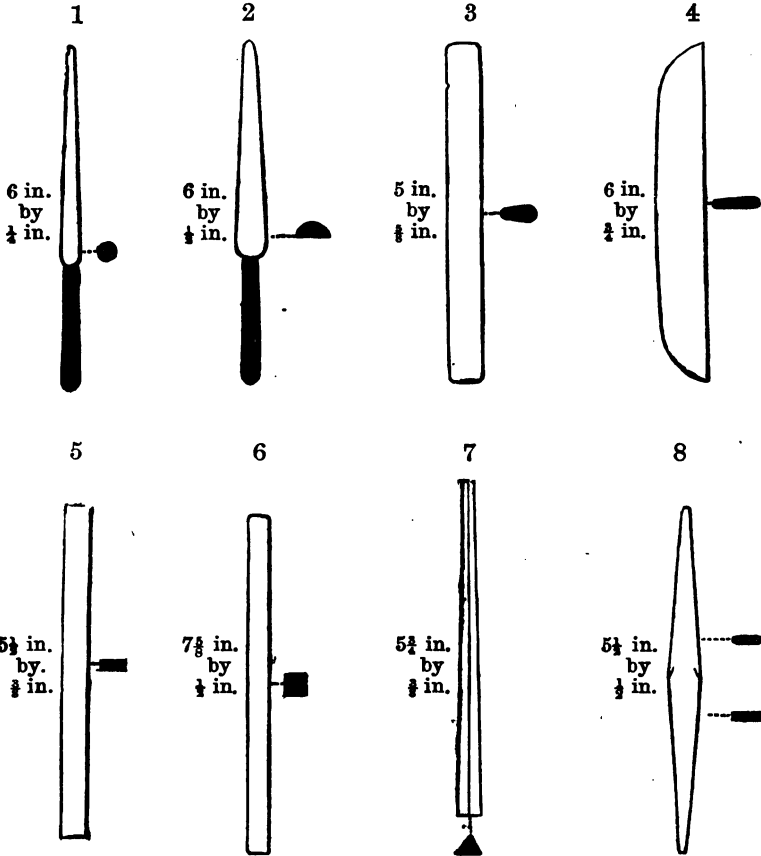
C. ASH AND SONS'  
CORUNDUM WHEELS.



C. Ash and Sons, from their long experience in the use of corundum, always 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 258.

## 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 258.

## CORUNDUM WHEELS, FILES, &amp;c.

(AS ON PAGES 256-7.)

## COARSE, MEDIUM, AND FINE.

|   | Size. |     | Diameter. |                    | Thick.           |          | Thin.    |      |                  |
|---|-------|-----|-----------|--------------------|------------------|----------|----------|------|------------------|
|   | s.    | d.  | s.        | d.                 | s.               | d.       | s.       | d.   |                  |
| Wheels, No. 1   | ...   | ... | ...       | $\frac{1}{2}$ inch | ...              | each     | 0 2      | each | 0 $1\frac{1}{2}$ |
| " " 2   | ...   | ... | ...       | $\frac{3}{4}$ "    | ...              | "        | 0 3      | "    | 0 2              |
| " " 3   | ...   | ... | ...       | 1 "                | ...              | "        | 0 4      | "    | 0 3              |
| " " 4   | ...   | ... | ...       | $1\frac{1}{2}$ "   | ...              | "        | 0 6      | "    | 0 5              |
| " " 5   | ...   | ... | ...       | 2 "                | ...              | "        | 0 8      | "    | 0 7              |
| " " 6   | ...   | ... | ...       | $2\frac{1}{4}$ "   | ...              | "        | 0 11     | "    | 0 9              |
| " " 7   | ...   | ... | ...       | 3 "                | ...              | "        | 1 9      | "    | 1 0              |
| " " 8   | ...   | ... | ...       | $3\frac{3}{4}$ "   | ...              | "        | 3 0      | "    | 2 0              |
| " " 9   | ...   | ... | ...       | $4\frac{1}{2}$ "   | ...              | "        | 4 6      | "    | 4 0              |
| " " 7   | ...   | ... | ...       | 3 "                | Medium thickness | "        |          | "    | 1 6              |
| Files.  |       |     |           |                    |                  |          | s. d.    |      |                  |
| Round, with steel centres and handles   | ...   | ... | ...       | ...                | ...              | (Fig. 1) | each     | 0 9  |                  |
| Half-round " ditto  | ...   | ... | ...       | ...                | ...              | (Fig. 2) | "        | 0 9  |                  |
| Round-edged thick   | ...   | ... | ...       | ...                | ...              | (Fig. 3) | "        | 1 0  |                  |
| Round-edged thin  | ...   | ... | ...       | ...                | ...              | (Fig. 4) | "        | 0 8  |                  |
| Round-edged 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  |                  |
| Three-square, straight, large, $7\frac{1}{2}$ in. by $\frac{5}{8}$ in.  | ...   | ... | ...       | ...                | ...              | ...      | "        | 1 6  |                  |
| Fish Shape  | ...   | ... | ...       | ...                | ...              | (Fig. 8) | "        | 0 8  |                  |
| Round, without steel handles  | ...   | ... | ...       | ...                | ...              | (Fig. 1) | "        | 0 6  |                  |
| Half-round ditto  | ...   | ... | ...       | ...                | ...              | (Fig. 2) | "        | 0 6  |                  |
| Countersinks (  ), for hollowing mineral teeth, to fit |       |     |           |                    |                  |          |          |      |                  |
| Countersinking Tool B, page 205   | ...   | ... | ...       | ...                | ...              | ...      | per doz. | 1 0  |                  |
| Slabs, for sharpening tools, &c., $4\frac{1}{2}$ in. by $1\frac{1}{2}$ in.  | ...   | ... | ...       | ...                | ...              | ...      | each     | 2 6  |                  |
| Points, to fit in holders (page 164) medium and fine  | ...   | ... | ...       | ...                | ...              | ...      | per doz. | 1 0  |                  |
| Corundum Powder for polishing   | ...   | ... | ...       | ...                | ...              | ...      | per lb.  | 3 6  |                  |
| Corundum Flour  | ...   | ... | ...       | ...                | ...              | ...      | per box  | 0 6  |                  |

10 per cent. off the above prices when purchased by the Dozen, and amounting to 10s. and upwards.

TOOTH POWDER BOXES, &c.

(Varnished.)

|  |     |     |     |     |     | PER GROSS. |    |
|--|-----|-----|-----|-----|-----|------------|----|
|  |     |     |     |     |     | s.         | d. |
| With Projecting Tops, 2½ in. by ¾ in. deep inside, No. 1 ... | ... | ... | ... | ... | ... | 25         | 0  |
| "          "          2¼ " ¾ " " " No. 2 ...                 | ... | ... | ... | ... | ... | 20         | 0  |
| "          "          2 " ¾ " " " No. 3 ...                  | ... | ... | ... | ... | ... | 16         | 0  |
| With Plain Tops 2½ " ¾ " " " No. 1 ...                       | ... | ... | ... | ... | ... | 25         | 0  |
| "          "          2¼ " ¾ " " " No. 2 ...                 | ... | ... | ... | ... | ... | 20         | 0  |
| "          "          2 " ¾ " " " No. 3 ...                  | ... | ... | ... | ... | ... | 16         | 0  |

Tooth Powder Boxes as above, unvarnished, 2/- per gross less.

Ditto ,, Glass, opal colour, with gilt rims and feet, each 2 0

Plates for Tooth Powder Box Labels made and engraved to any design, with 150 Labels ... .. from 12 0

Labels printed from Dentists' own plates ... per 100 from 1/- to 2 0

Labels printed with name and address, without plate, per 100 from 2/- to 4 6

Label printed with the words "Tooth Powder" only, per 100 from 1/6

Charge for labelling Boxes, per gross 1/-

Tooth Powder Boxes made to order and pattern.

TOOTH POWDERS, &c.

| No. 1.               | No. 2.               | No. 3.               |
|----------------------|----------------------|----------------------|
| Powdered Orris Root. | Powdered Orris Root. | Powdered Orris Root. |
| Cuttle-fish Powder.  | Precipitated Chalk.  | Cuttle-fish Powder.  |
| Powdered Alum.       | Otto of Roses.       | Precipitated Chalk.  |
| Oil of Bergamot.     | Oil of Bergamot.     | Oil of Bergamot.     |

These Powders are supplied in 1 lb. tins ... .. 4 0

Tooth Powders prepared to any recipes, put in boxes, and labelled to order.

|  |     |     |     |     |          | s. | d. |
|--|-----|-----|-----|-----|----------|----|----|
| Tooth Powders, S. S. White's, No. 1, in 1 lb. tins ... | ... | ... | ... | ... | per lb.  | 6  | 6  |
| Tooth Tablets (Dr. Lyons') in boxes...                 | ... | ... | ... | ... | per doz. | 19 | 6  |
| Cuttle-fish Powder ... ..                              | ... | ... | ... | ... | per lb.  | 2  | 0  |
| Orris Root ,, ... ..                                   | ... | ... | ... | ... | ,,       | 2  | 0  |

Precipitated and prepared Chalks, see page 202.

Mouth Washes, see page 201.

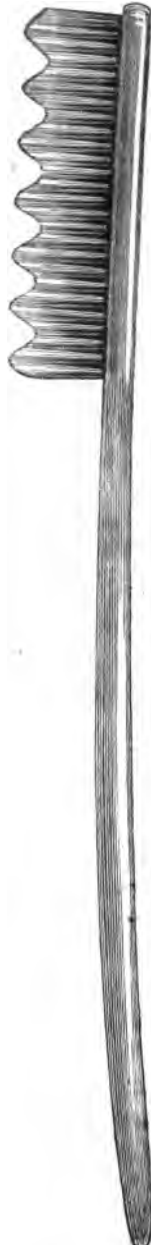
FORMS OF TOOTH BRUSHES.



1.



2.



3.



4.



## TOOTH BRUSHES, WITH BONE HANDLES.

(FIRST QUALITY.)

|  |              | PER GROSS. |    | PER DOZ. |    |
|--|--------------|------------|----|----------|----|
|  |              | s.         | d. | s.       | d. |
| Plain, hard, medium, and soft bristles         | ... (Fig. 1) | 84         | 0  | 7        | 6  |
| Castellated " " "                              | ... (Fig. 2) | 84         | 0  | 7        | 6  |
| Vandyked " " "                                 | ... (Fig. 3) | 84         | 0  | 7        | 6  |
| (Mr. Pierreponts') special pattern ditto ditto | (Fig. 4)     | 84         | 0  | 7        | 6  |
| Children's, same patterns, &c. as above        | ... ..       | 57         | 0  | 5        | 3  |
| Palate, round and square forms                 | ... ..       | 84         | 0  | 7        | 6  |
| Badger's hair, soft, for solutions, &c.        | ... ..       | 138        | 0  | 12       | 0  |
| Ditto " " for children                         | ... ..       | 90         | 0  | 8        | 0  |
| Goat's hair " " " " " "                        | ... ..       | 96         | 0  | 8        | 6  |
| Ditto " " for children                         | ... ..       | 63         | 0  | 5        | 9  |
| Mane hair " " " " " "                          | ... ..       | 90         | 0  | 8        | 0  |
| Ditto " " for children                         | ... ..       | 54         | 0  | 5        | 0  |

(SECOND QUALITY.)

|   |  | s.  | d. | s. | d. |
|---|--|-----|----|----|----|
| Plain, castellated, or vandyked, as above (Figs. 1, 2, and 3) |  | 66  | 0  | 6  | 0  |
| Ditto " " children's " (Figs. 1, 2, and 3)                    |  | 42  | 0  | 4  | 0  |
| Palate, round or square cut " " " "                           |  | 66  | 0  | 6  | 0  |
| Tooth Brushes, double-ended, one end for palate, in Horn      |  | ... |    | 8  | 6  |

## TOOTH BRUSHES, WITH IVORY HANDLES.

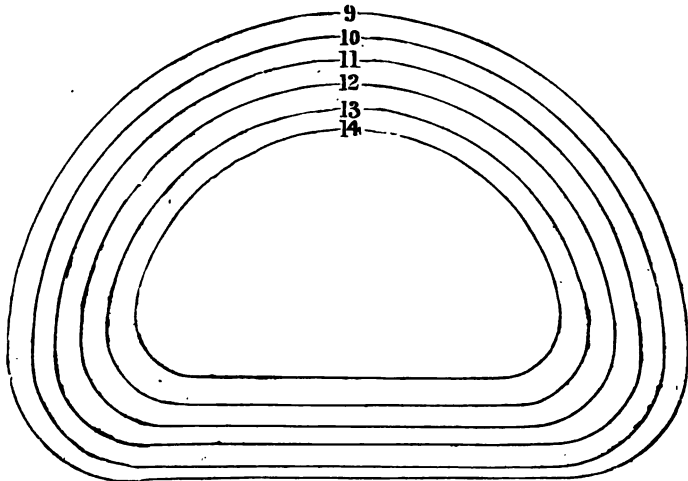
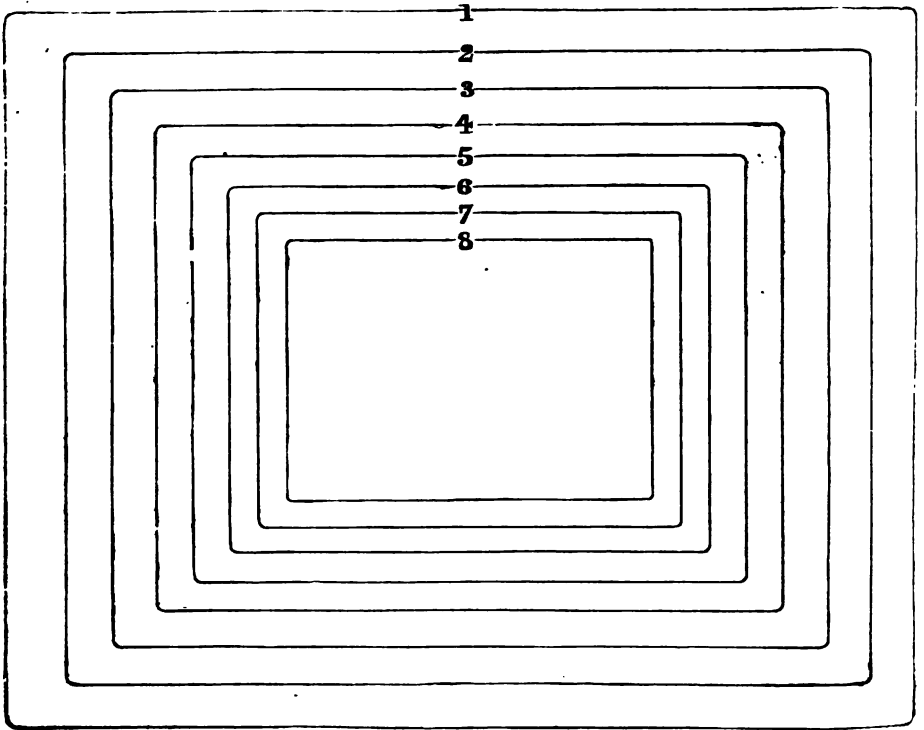
|                                 |                            | s. | d. |
|---------------------------------|----------------------------|----|----|
| Plain, castellated, or vandyked | ... .. (Figs. 1, 2, and 3) | 23 | 0  |
| Ditto " " children's            | ... .. (Figs. 1, 2, and 3) | 18 | 0  |
| Palate, round or square cut...  | ... ..                     | 23 | 0  |

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

## TOOTHPICKS.

|  |          | s. | d. |
|--|----------|----|----|
| Toothpicks (Mr. Palmer's) gold, sliding, in square Ivory cases | ... each | 5  | 0  |
| " Gold, with silver cap, Ivory handle                          | ... ..   | 3  | 3  |
| " " " engraved, with Ivory handle                              | ... ..   | 5  | 3  |
| Toothpicks, double-ended, silver, in fluted silver case        | ... ..   | 2  | 6  |

## SIZES OF CASES.



The above sizes represent the *outside* dimensions of each Case, so that in ordering Leather Cases, it is necessary to allow  $\frac{1}{8}$  of an inch in addition 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  | 5/6  | 5/0  | 3/6 | 3/3 | 3/0  | ...  | ...  | ...  |
| „ Spring                  | „     | 2/6  | 2/3  | 2/0 | 1/9 | 1/6  | 1/4  | 1/3  | 1/3  |
| „ Hook                    | „     | 2/2  | 2/0  | 1/9 | 1/4 | 1/0  | 11d. | 10d. | 10d. |
| With Spring (2nd quality) | „     | 2/3  | 1/10 | 1/8 | 1/6 | 1/3  | 1/1  | 11d. | 11d. |
| „ Hook                    | „     | 1/10 | 1/6  | 1/3 | 1/1 | 10d. | 9d.  | 8d.  | 8d.  |

|   |             |     |     |            |      |
|---|-------------|-----|-----|------------|------|
| Square Cases in Leather, Walnut, or Mahogany, with glass tray, lock and key | extra large | ... | ... | 15s. to 16 | 6    |
| Ditto ditto   | size No. 1  | ... | ... | ...        | 14 0 |
| Ditto ditto   | „ No. 2     | ... | ... | „          | 12 6 |

HALF-OVAL.

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

BRITANNIA METAL CASES, &c.

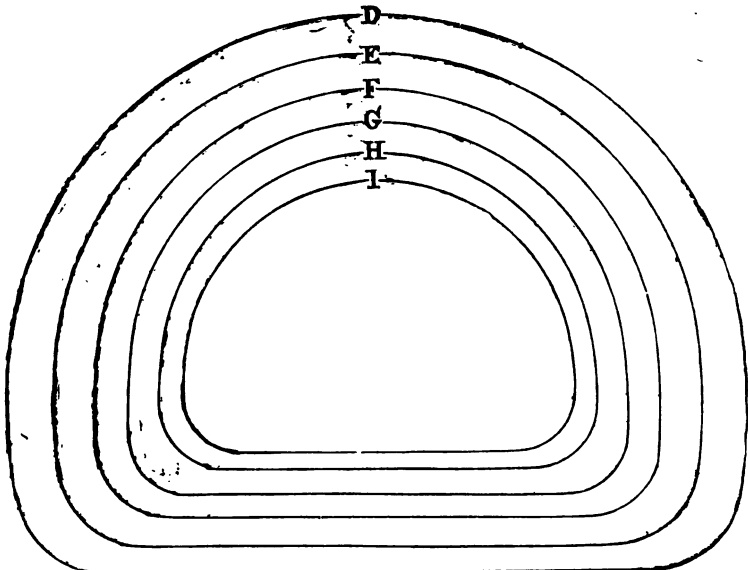
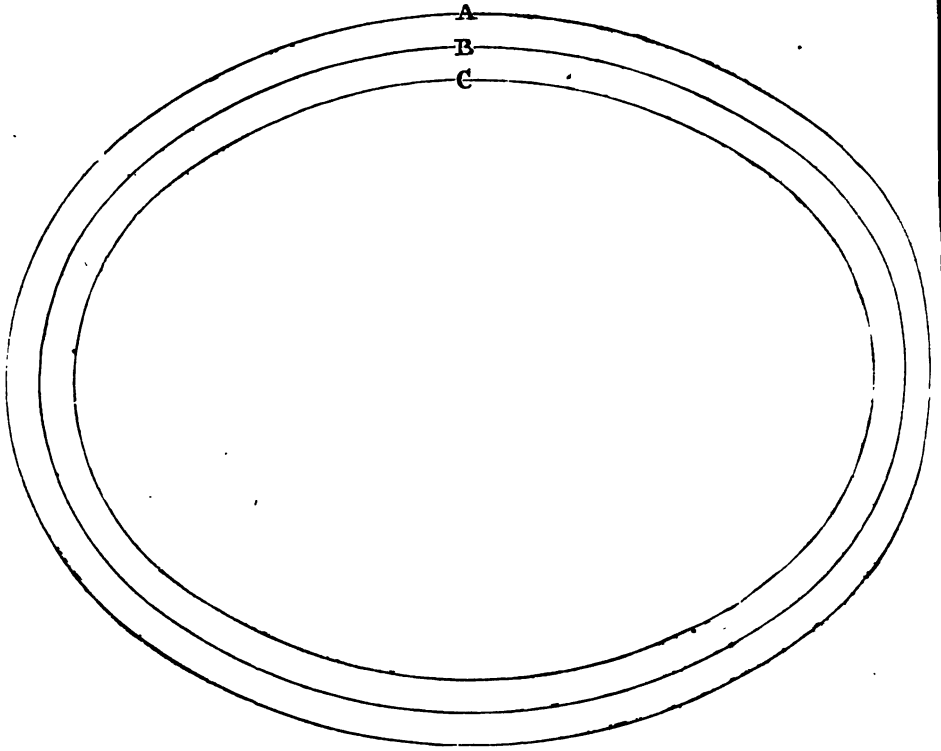
|  |     |       |      |     |      |     |
|--|-----|-------|------|-----|------|-----|
| Oval, with lock and key                  | ... | ...   | ...  | ... | each | 6 0 |
| Half Oval ditto                          | ... | ...   | ...  | ... | „    | 4 9 |
| Oval, Plain, sizes A, B, and C, page 264 | ... | ...   | 3/0, | 2/9 |      | 2 9 |
| Oval „ extra large                       | ... | „ 264 | ...  | ... | each | 3 3 |
| Half Oval D, and E, page 264             | ... | ...   | ...  | 2/9 |      | 2 6 |
| Pieces 13 and H, pages 262 and 264       | ... | ...   | ...  | ... | each | 1 9 |

10 per cent. taken off the above Prices when purchased by the Dozen.

Cases in Wood, Metal, Leather, and Tin Japanned, made to special directions.

|   |     |     |      |     |     |     |
|---|-----|-----|------|-----|-----|-----|
| Sponge, cut thin for Set Cases, per piece     | ... | ... | from | 1 0 | to  | 1 6 |
| Sponge, „ for Half Sets and Pieces, per piece | ... | „   | 0 4  | to  | 0 9 |     |

## SIZES OF CASES.



N.B.—The above sizes represent the *outside* dimensions of each Case, so that in ordering Leather Cases, it is necessary to allow  $\frac{1}{8}$  of an inch in addition all round for the thickness of the Case.

LEATHER CASES.

(OVAL.)

|   |     |     |     |     |     | Sizes <b>A B C</b> |                |  |  |
|---|-----|-----|-----|-----|-----|--------------------|----------------|--|--|
| With Lock (1st quality), and metal box inside | ... | ... | ... | ... | ... | each               | 12/0-11/3-10/9 |  |  |
| " 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 <b>D E F G H I</b> |                            |     |     |     |  |
|--|-----|-----|-----|-----|-----|--------------------------|----------------------------|-----|-----|-----|--|
| With Lock (1st quality), and metal box | ... | ... | ... | ... | ... | each                     | 10/3-8/3                   | ... | ... | ... |  |
| " Spring                               | "   | ... | ... | ... | ... | "                        | 1/10-1/7-1/5-1/3-1/1-1/1   |     |     |     |  |
| " Hooks                                | "   | ... | ... | ... | ... | "                        | 1/3-1/2-1/1-10d.-9d.-9d.   |     |     |     |  |
| With Spring (2nd quality)              | ... | ... | ... | ... | ... | "                        | 1/4-1/3-1/1-11d.-10d.-10d. |     |     |     |  |
| " Hooks                                | "   | ... | ... | ... | ... | "                        | 1/0-11d.-10d.-9d.-8d.-8d.  |     |     |     |  |

For square and other cases, see page 262.

CARD AND WOOD BOXES.

|  |                  |     |     |     |     | Sizes <b>1 2 4 7</b>   |             |      |      |      |      |
|--|------------------|-----|-----|-----|-----|------------------------|-------------|------|------|------|------|
| Card Boxes (drab, with red edges)            | ...              | ... | ... | ... | ... | each                   | 5½d.        | 5d.  | 3d.  | 2d.  |      |
| " (white, with green edges)                  | ...              | ... | ... | ... | ... | "                      | 4d.         | 3d.  | 2d.  | 1½d. |      |
|  |                  |     |     |     |     | Sizes <b>A B C E F</b> |             |      |      |      |      |
| Card Boxes (drab, with red edges)            | ...              | ... | ... | ... | ... | each                   | 7d.         | 6½d. | 6d.  | 4½d. | 4d.  |
| " (white, with green edges)                  | ...              | ... | ... | ... | ... | "                      | 6d.         | 5½d. | 5d.  | 4d.  | 3½d. |
| Card Boxes (white, with green edges)         | per nest of 3    | ... | ... | ... | ... | ...                    | ...         | ...  | ...  | 6d.  |      |
| " ( " " )                                    | Oval, for pieces | ... | ... | ... | ... | ...                    | ...         | ...  | each | 2½d. |      |
| " (drab, with red edges)                     | ditto            | ... | ... | ... | ... | ...                    | ...         | ...  | "    | 3d.  |      |
|  |                  |     |     |     |     | Sizes <b>2 4 7</b>     |             |      |      |      |      |
| Wood Boxes (covered with white paper)        | ...              | ... | ... | ... | ... | per doz.               | 3/0-2/6-1/9 |      |      |      |      |
| 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    |      |      |      |

10 per cent. taken off the above prices of Leather Cases when purchased by the Dozen.

Names printed inside lids of Cases with gold or black letters, crests, &c., to order.

Cases in Wood, Metal, Leather, and Tin japanned, made to special directions.

## ANATOMICAL PREPARATIONS.

### (FIRST DENTITION.)

Showing the condition of the Upper and Lower Jaws of Children between the ages of six and seven years, or between the ages of seven and eight years. The Bones and Teeth are perfectly bleached, and are mounted on a Pillar and Stand, and covered with a Glass Shade ... .. Price 52s.

These Anatomical Preparations are not only instructive to the Dental Student, but are useful to the Dentist in explaining to Patients the causes of irregularities in the Teeth of Children, and why some Teeth have a greater tendency to irregularity than others. \*

### (SECOND DENTITION.)

Showing the Nerves, Arteries, and Veins, in the Upper and Lower Jaws, in connection with the Teeth: portions of the Jaws and Teeth being cut away for this purpose. The Nerves are exhibited on one side of the Jaws, and the Arteries, &c., on the other. The Bones and Teeth are perfectly bleached, and are mounted on a Pillar and Stand, and covered with a Glass Shade  
Price 70s.

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

A Preparation same as the above, showing the Arteries and Blood Vessels, &c. ... .. Price 70s.

Each Anatomical Preparation is mounted on a Black Stand, and covered with a Glass Shade.

These Preparations (of the Second Dentition) are useful to Dentists in describing to Patients the ramifications of the Nerves of the Face and Jaws, and thus accounting for pain often felt at a considerable distance from the diseased Tooth which is the cause of it.

|   | <i>s.</i> | <i>d.</i> |
|---|-----------|-----------|
| Skulls on Stands ... ..                         | from 80   | 0         |
| Skulls Disarticulated, obtained to order ... .. | from 70   | 0         |

## ACHROMATIC MICROSCOPES.

Fig. A.



**A.—A COMPOUND MICROSCOPE STAND**, of the largest size and best construction, with quick and slow motion to the body. A mechanical stage for producing vertical and horizontal motions, with sliding and revolving object-plate holder, large plane and concave mirrors, and 2 eye-pieces (A and B). Also a secondary stage, with universal motion for holding and adjusting polarizing apparatus, spotted lenses, achromatic condenser, &c. (Fig. A.)

Price ... .. from 480 0

## MICROSCOPES—*continued.*

**B.—A SMALLER SIZE MICROSCOPE STAND** of the best construction, with rack and fine screw adjustments for giving quick and slow motion to the body. A mechanical stage for producing vertical and horizontal motions. A revolving diaphragm, plane and concave mirrors, and 2 eye-pieces.

|       |     |     |     |     |     |     |      |     |    |
|-------|-----|-----|-----|-----|-----|-----|------|-----|----|
| Price | ... | ... | ... | ... | ... | ... | from | s.  | d. |
|       |     |     |     |     |     |     |      | 320 | 0  |

**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 | ... | ... | ... | ... | ... | ... | from | s.  | d. |
|       |     |     |     |     |     |     |      | 260 | 0  |

**D.—BINOCULAR MICROSCOPE**, with movable stage, eye-pieces, A and B, C and D, 2 in., 1 in., and  $\frac{1}{4}$  in. object glasses, polarizing apparatus, and selenite, condensor on stand, live cage, 2 stage plates, 3 tubes in case, and forceps, in mahogany cabinet, with lock and key.

|       |     |     |     |     |     |     |      |     |    |
|-------|-----|-----|-----|-----|-----|-----|------|-----|----|
| Price | ... | ... | ... | ... | ... | ... | from | s.  | d. |
|       |     |     |     |     |     |     |      | 340 | 0  |

**E.—LEVER STAGE MICROSCOPE**, with 2 eye-pieces, A and C, 1 in. and  $\frac{1}{4}$  in. object glasses, condensor on stand, live cage, 3 tubes in case, 2 stage plates, polarizing apparatus, selenite and brass forceps, in mahogany cabinet, with lock and key.

|       |     |     |     |     |     |     |      |     |    |
|-------|-----|-----|-----|-----|-----|-----|------|-----|----|
| Price | ... | ... | ... | ... | ... | ... | from | s.  | d. |
|       |     |     |     |     |     |     |      | 215 | 0  |

The Microscopes A, B, and C, can be fitted up to any desired amount, the price being governed by the number of object glasses, microscopic apparatus, and objects contained in the subjoined list (pages 270 and 271), producing instruments of the finest quality for the purpose of recreation or scientific investigation.



ACHROMATIC MICROSCOPES—*continued.*

Fig. F.



**F.**—A SMALL ACHROMATIC MICROSCOPE (Fig. F), adapted for students in dentistry, as well as for general scientific investigation, with 1 object glass forming 2 powers, and 1 eye-piece. The stand consists of a pillar and joint mounted upon a tripod. The stage has clamping springs, 1 live cage, 3 animalculæ tubes in case, and brass forceps.

|  | <i>s.</i> | <i>d.</i> |
|--|-----------|-----------|
| Packed in a mahogany cabinet ... .. from               | 68        | 0         |
| Ditto, with 2 object glasses and 2 eye-pieces ... .. „ | 100       | 0         |

**G.**—A STUDENT'S MICROSCOPE, with object glass and 2 eye-pieces. The stand consists of two uprights with joint mounted upon a tripod. The body has fine and coarse adjustments for giving quick and slow motion. The stage has horizontal vertical movements, clamping springs, and revolving diaphragm. A condensing lens on stand for the illumination of opaque objects. A pair of spring forceps fitted to the stage. A live cage, 3 animalculæ tubes in case, and a pair of brass forceps.

|  |     |   |
|--|-----|---|
| Packed in a mahogany cabinet ... .. from | 150 | 0 |
|--|-----|---|

Microscopes of any other style, power, &c., made or obtained to order.

## ACHROMATIC OBJECT GLASSES. FOR MICROSCOPES.

| Object Glasses. | Angular Aperture. | Magnifying Power with the various Eye Glasses. |     |       |       | Price. |    |    |
|-----------------|-------------------|--|-----|-------|-------|--------|----|----|
|                 |                   | A  | B   | C     | D     |        |    |    |
| 3 inch          | 13 degrees        | 13   | 20  | 35    | 56    | £      | s. | d. |
| 2 "             | 15 "              | 20   | 30  | 55    | 90    | 2      | 2  | 0  |
| 1½ "            | 20 "              | 25   | 40  | 70    | 112   | 2      | 5  | 0  |
| 1 "             | 25 "              | 60   | 80  | 100   | 120   | 2      | 5  | 0  |
| 1* "            | 90 "              | 95   | 150 | 265   | 420   | 3      | 15 | 0  |
| 1¼* "           | 100 "             | 195  | 310 | 540   | 850   | 4      | 5  | 0  |
| 1⅓* "           | 140 "             | 320  | 510 | 700   | 910   | 5      | 15 | 0  |
| 1⅔* "           | 140 "             | 420  | 670 | 900   | 1,200 | 6      | 10 | 0  |
| 1⅞* "           | 170 "             | 600  | 870 | 1,200 | 2,000 | 10     | 10 | 0  |

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

Those object glasses marked \* have an adjustment for covered and uncovered objects.

## APPARATUS FOR COMPOUND MICROSCOPES.

(A, B, and C, pages 267-8.)

|  | s.   | d.      |
|--|------|---------|
| Side Reflectors, for illuminating opaque objects ... from                              | 24   | 0       |
| Lieberkühns, ¼ in. to 2 in., packed in brass boxes ... „                               | 8/0  | 19 0    |
| Micrometer Eye-piece .. ... „  | 22   | 0       |
| Erecting „ for dissecting, &c. ... „   | 16   | 0       |
| Eye-pieces A, B, C, and D ... „  | 12/0 | to 18 0 |
| Camera Lucida (Wollaston) plain, for drawings, &c. ... „                               | 18/0 | to 30 0 |
| Plates for fixing fish, frogs, &c., for exhibiting the circulation of the blood ... .. | 12   | 0       |
| Stage Micrometers, for measuring 100ths and 1000ths of an inch ... .. from             | 6    | 6       |
| Condensing Stands ... .. „   | 14/0 | to 28 0 |
| Polarizing Apparatus ... .. „  | 25/0 | to 42 0 |
| Darker's Revolving Selenite Stage, with set of 3 Selenites „                           | 42   | 0       |
| Plain Selenite Stage, with 1 tint ... .. „   | 3/0  | to 6 0  |
| Set of 3 Selenites... .. „   | 6    | 0       |
| Animalculæ Cages with best screw caps ... .. „   | 6/0  | to 12 0 |
| Animalculæ Tubes, sets of 3 and 6 in cases ... .. „                                    | 2/6  | to 4 6  |
| Gillet's Achromatic Condenser for illuminating opaque objects from                     | 120  | 0       |
| Plain „ with adjustable tubes ... .. „   | 37   | 0       |
| Paraboloid in setting for dark-ground illumination ... .. „                            | 20   | 0       |
| Rainey's Light Modifier... .. „  | 6    | 0       |

## APPARATUS FOR COMPOUND MICROSCOPES

(continued).

|  |      | <i>s.</i> | <i>d.</i> |
|--|------|-----------|-----------|
| Lister's Dark Wells, and fittings ... ..               | from | 12        | 6         |
| Lever Compressoriums ... ..                            | „    | 7/6 to    | 30 0      |
| Spotted Lens, for black-ground illumination ...        | „    | 5/0 to    | 12 0      |
| Brooke's double nose-piece for changing object glasses | „    | 30        | 0         |
| Forceps, Stage and Phial ... ..                        | „    | 3/0 to    | 8 6       |
| Glass Troughs, for holding Polypes, &c. ... ..         | „    | 4/6 to    | 8 0       |
| Glass Stage Plates ... ..                              | „    | 0         | 8         |

## ARTICLES FOR MOUNTING OBJECTS, &amp;c.

|  |            | <i>s.</i> | <i>d.</i> |
|--|------------|-----------|-----------|
| Wood Cutting Machines ... ..                           | from       | 12        | 0         |
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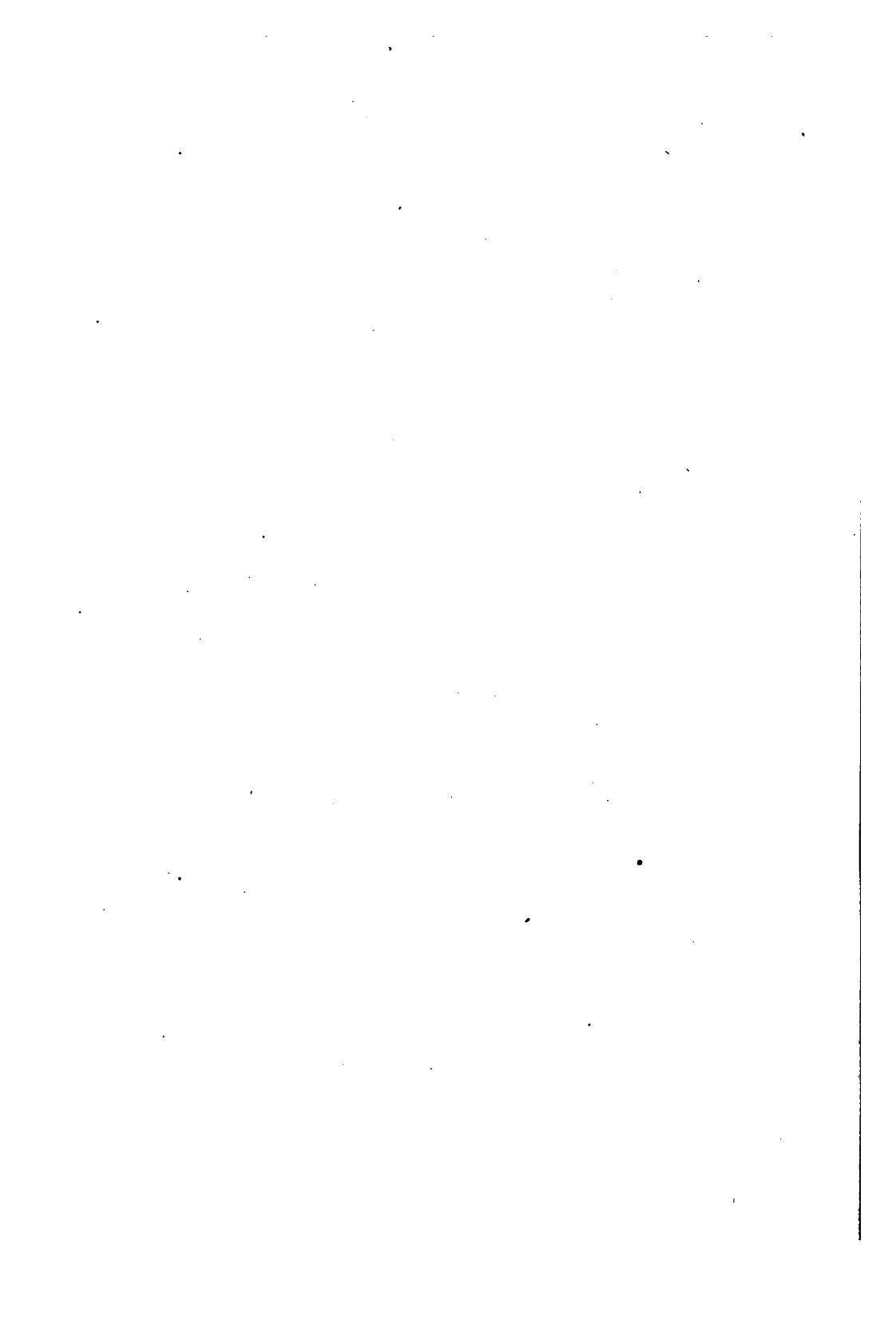


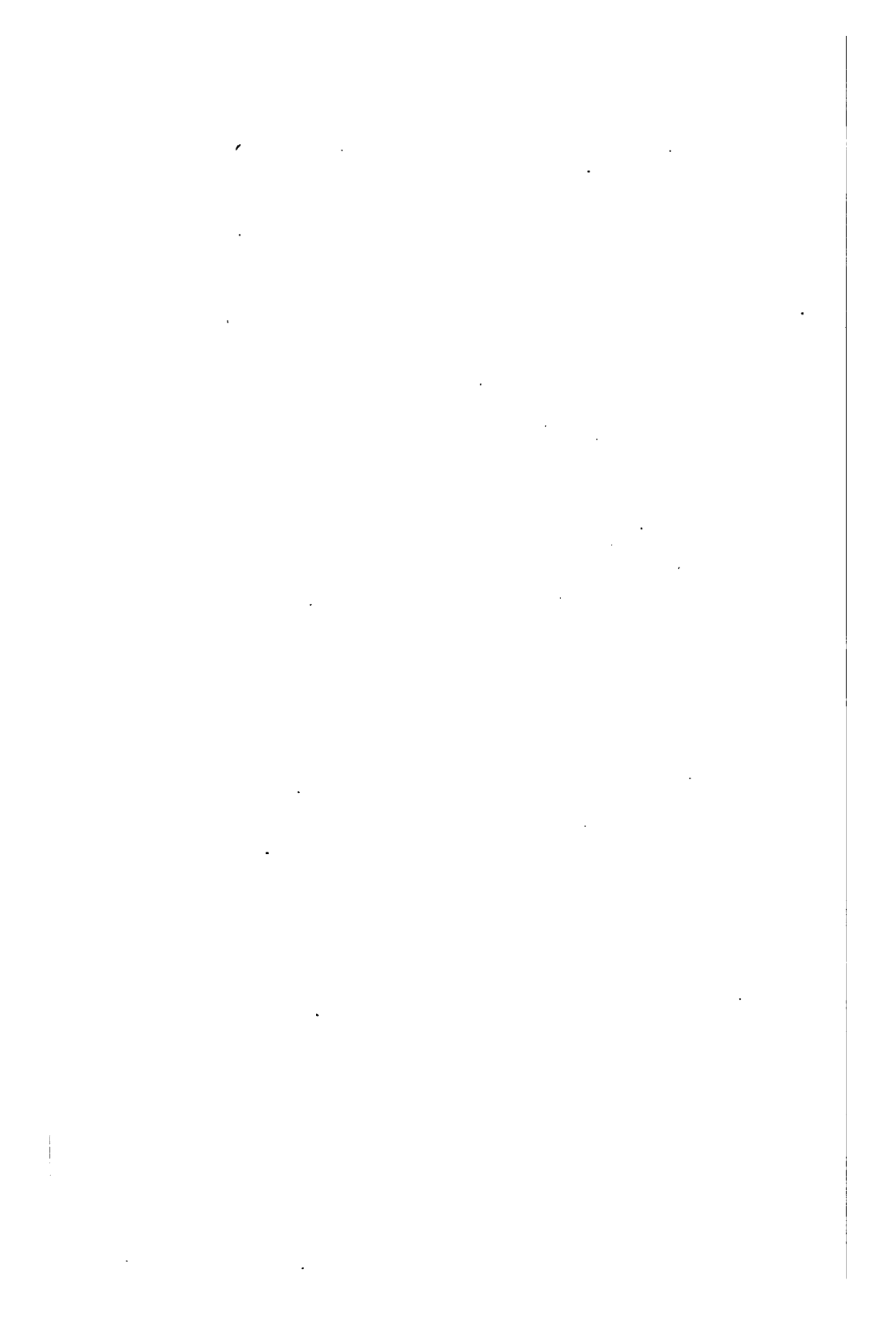
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**For alterations in prices, and list of new articles, see  
the following Appendix.**





APPENDIX  
TO  
CLAUDIUS ASH AND SONS'  
1875 CATALOGUE,

CONTAINING LISTS OF  
ALTERATIONS IN PRICES,  
GOODS NO LONGER SUPPLIED,  
AND ARTICLES NOT IN CATALOGUE.

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*Note.—This Appendix annuls that issued in  
January, 1878.*

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BROAD STREET, GOLDEN SQUARE, LONDON.

BRANCHES:—

LIVERPOOL, MANCHESTER, PARIS, BERLIN, HAMBURG, VIENNA,  
COPENHAGEN, AND ST. PETERSBURG.

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*August, 1879. Second Edition.*

## NOTICE.



**AMERICAN** Teeth, Gold Foils, Rubbers, Chairs, Brackets, Engines, Instruments, and Sundries, in great variety, kept in stock.

Goods of every description obtained to Order at Current Prices.

Special attention is directed to the large and varied assortment of Engine and other instruments, introduced since the publication of the 1875 Catalogue.

C. ASH & SONS continue to make up broken sets of teeth at the usual selling prices.

A discount of 5% is allowed off all accounts for Teeth, Instruments, and Sundries, of not less than £5 in amount, for cash on delivery of the goods. Precious Metals are invoiced at net cash prices.

Illustrated Catalogues in English, French, or German sent, Post free, on application.

# APPENDIX

TO

## C. ASH AND SONS' 1875 CATALOGUE.

### ALTERATIONS IN PRICES.

| Page in<br>Catalogue. |  |  |   |             | s. d.        |       |       |  |  |
|-----------------------|--|--|---|-------------|--------------|-------|-------|--|--|
| 17                    | White's Extra Tough Tin Foil               | ...  | ...                                       | per book    | 2 2          |       |       |  |  |
| 60                    | Students' Roll-up Leather Cases for Pocket | ...  | each                                      |             | 10 6         |       |       |  |  |
| 60                    | Ditto ditto                                | with extra loops for Socket Points   | „   |             | 12 0         |       |       |  |  |
| 63                    | Pocket Morocco, Spring Case, &c., &c.      | ...  | (Fig. 11)                                 |             | 21 0         |       |       |  |  |
| 210                   | Perfected Ladle Furnace                    | ...  | ...                                       | (Fig. 12A)  | 15 0         |       |       |  |  |
| 210                   | Ditto                                      | ditto  | with Oven and Pan                         | ...         | 30 0         |       |       |  |  |
| 212                   | Furnace (Fig. 15A), read also :            | <table border="0" style="margin: auto;"> <tr> <td style="text-align: center;">6 oz. size.</td> <td style="text-align: center;">28 lb. size.</td> </tr> <tr> <td style="text-align: center;">11/6.</td> <td style="text-align: center;">45/0.</td> </tr> </table> |   | 6 oz. size. | 28 lb. size. | 11/6. | 45/0. |  |  |
| 6 oz. size.           | 28 lb. size.                               |  |   |             |              |       |       |  |  |
| 11/6.                 | 45/0.                                      |  |   |             |              |       |       |  |  |
| 212                   | Ditto                                      | ditto  | with Blower, Tubing, &c., ready for use : |             |              |       |       |  |  |
|                       | 6 oz.                                      | 2 lbs.   | 6 lbs.                                    | 12 lbs.     | 28 lb. size. |       |       |  |  |
|                       | 36/6.                                      | 38/6.  | 55/0.                                     | 64/0.       | 115/0.       |       |       |  |  |
| 212                   | Furnace (Fig 16A) for Muffles              | ...  | ...                                       | 35/0, 42/0, | 70 0         |       |       |  |  |
| 213                   | Ditto ( „ 17A) for Crucibles               | ...  | ...                                       | 30/0, 45/0, | 60 0         |       |       |  |  |
| 220                   | Blowing Apparatus (Fig 35)                 | ...  | ...                                       | ...         | 15 6         |       |       |  |  |

*For other alterations see Fletcher's latest list.*

### GOODS NO LONGER SUPPLIED.

- 196 Pepsine Paste for exposed pulps.
- 219 Blow-pipe, Fig. 33 (Fletcher's, No. 8A).  
*Superseded by Fletcher's, Fig. 8D.*
- 230 Plaster Knife, Fig. 71.—*Fig. 73 generally preferred.*

*Note.—For full description of Fletcher's Blowers, Blow-pipes, Furnaces, Burners, &c., enumerated in this Appendix, see Mr. Fletcher's Catalogue, which can be had on application, price 3d.*

## PREPARATIONS FOR OFFICE USE.

|   |     |     |     |     |               | s. | d. |
|---|-----|-----|-----|-----|---------------|----|----|
| Acetate of Morphia  | ... | ... | ... | ... | ½ oz. bottle  | 3  | 0  |
| Chloride of Zinc  | ... | ... | ... | ... | 1 oz. „       | 0  | 8  |
| Condy's Fluid   | ... | ... | ... | ... | per bottle    | 0  | 9  |
| Liniment Iodine   | ... | ... | ... | ... | 1 oz. bottle  | 1  | 0  |
| Matico Leaves   | ... | ... | ... | ... | per oz.       | 0  | 4  |
| „ „   | ... | ... | ... | ... | 2 oz. packet  | 0  | 6  |
| Oil of Cloves   | ... | ... | ... | ... | 3 oz. bottle  | 2  | 9  |
| Potass. c. Calc. in sticks  | ... | ... | ... | ... | per bottle    | 0  | 9  |
| Salicylic Acid Powder   | ... | ... | ... | ... | „             | 1  | 0  |
| Tincture Aconite  | ... | ... | ... | ... | 1 oz. bottle  | 0  | 6  |
| „ „   | ... | ... | ... | ... | 2 oz. „       | 0  | 9  |
| „ Iodine  | ... | ... | ... | ... | 1 oz. „       | 0  | 10 |
| „ „   | ... | ... | ... | ... | 2 oz. „       | 1  | 0  |
| „ Iodine, double strength, and Aconite<br>in equal parts, Dr. Fleming's | ... | ... | ... | ... | 3 oz. bottle  | 2  | 0  |
| „ Myrrh   | ... | ... | ... | ... | 8 oz. „       | 2  | 9  |
| „ Opium   | ... | ... | ... | ... | 1 oz. „       | 0  | 8  |
| „ „   | ... | ... | ... | ... | 2 oz. „       | 1  | 0  |
| „ Perchloride of Iron   | ... | ... | ... | ... | 1 oz. „       | 0  | 8  |
| Absolute Alcohol  | ... | ... | ... | ... | 2 oz. bottle  | 2  | 0  |
| Carbolic Acid, No. 1, best quality                                      | ... | ... | ... | ... | per bottle    | 1  | 3  |
| „ „ „ 2, second „   | ... | ... | ... | ... | „             | 0  | 10 |
| Carbolic Glycerine  | ... | ... | ... | ... | „             | 0  | 10 |
| Creasote, best quality  | ... | ... | ... | ... | 16 oz. bottle | 10 | 0  |
| „ „   | ... | ... | ... | ... | 1 oz. „       | 1  | 3  |
| Chloroform, pure  | ... | ... | ... | ... | 1 oz. „       | 1  | 6  |
| Glycerole of Thymol   | ... | ... | ... | ... | 1 oz. „       | 2  | 0  |
| Myrrh Gum   | ... | ... | ... | ... | per lb.       | 3  | 6  |
| Phenal Sodique  | ... | ... | ... | ... | 8 oz. bottle  | 1  | 9  |
| Styptic Colloid   | ... | ... | ... | ... | per bottle    | 2  | 6  |
| Tannin  | ... | ... | ... | ... | 1 oz. bottle  | 1  | 0  |

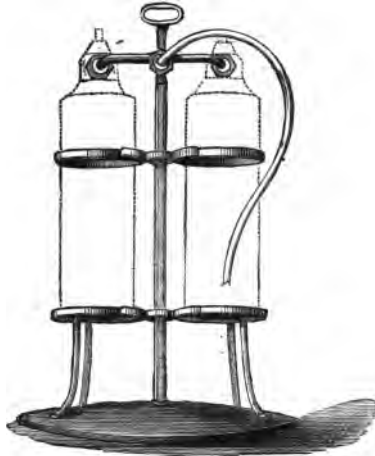
Other Preparations obtained to Order.



## PORTABLE GAS STAND

FOR LIQUID GAS BOTTLES.

(Introduced by Mr. Napier.)



This Apparatus will hold two bottles of Liquid Gas—which are secured in position by rings and wedges—and is fitted with a double union which connects both bottles with the Face-piece.

By this arrangement the bottle in use can be entirely emptied without fear, for should there not be sufficient gas in it to complete an operation, it is only necessary to turn on the other bottle.

After the operation is completed, if another full bottle is not to hand, the double union can be removed, and the union of the Cattlin's Bag fixed to the remaining bottle, while the empty one is being re-filled.

The Stand is made of iron, bronzed, and the Unions of gun metal, the whole being light and portable.

The ordinary gas key can be used, but if desired an improved key is supplied with the Stand, 14 inches in length, which enables the operator to turn the gas on or off without stooping.

| P R I C E S .                                 |     |     |      | £ | s. | d. |
|---|-----|-----|------|---|----|----|
| Stand to hold two fifty gallon Bottles        | ... | ... | ...  | 1 | 10 | 0  |
| Ditto two hundred gallon Bottles              | ... | ... | ...  | 1 | 10 | 0  |
| Improved Gas Key                              | ... | ... | ...  | 0 | 5  | 6  |
| Bottles containing fifty gallons Gas          | ... | ... | each | 2 | 5  | 0  |
| Ditto one hundred gallons Gas...              | ... | ... | ...  | 3 | 10 | 0  |
| Cattlin's Bags, for use with Stand            | ... | ... | ...  | 1 | 0  | 0  |
| Face-pieces, with improved Rubber Pads        | ... | ... | ...  | 1 | 3  | 6  |
| Ditto, ditto minus mount                      | ... | ... | ...  | 1 | 1  | 0  |
| for supplemental Bag                          | ... | ... | ...  | 0 | 11 | 6  |
| Supplemental Bags                             | ... | ... | ...  | 0 | 11 | 6  |
| Two-wayed Stopcocks for connecting Face-piece | ... | ... | ...  | 0 | 8  | 0  |
| with Bag                                      | ... | ... | ...  | 0 | 8  | 0  |
| Ditto ditto with Mount for Tubing             | ... | ... | ...  | 0 | 10 | 6  |

## SPECIAL NOTICE.

All Precious Metals are now supplied according to the Decimal System of Troy Weight, in compliance with the "Weights and Measures Act, 1878." This Act abolishes the use of Pennyweights and Grains, and substitutes a decimal subdivision of the ounce, viz: tenths, hundredths, and thousandths.

The following Table furnishes the Equivalents between the Old and New Systems :—

| Table to find Old System Equivalent<br>for Decimal Weights. |     |       |      | Table to find Decimal Equivalent for Old<br>System Weights. |       |       |       |
|---|-----|-------|------|---|-------|-------|-------|
| Oz.   | Oz. | Dwts. | Grs. | Dwts.   | Oz.   | Grns. | Oz.   |
| 1.000   | 1   | "     | "    | 20  | 1.000 | 24    | 0.060 |
| .900  | "   | 18    | "    | 19  | .950  | 23    | .048  |
| .800  | "   | 16    | "    | 18  | .900  | 22    | .046  |
| .700  | "   | 14    | "    | 17  | .850  | 21    | .044  |
| .600  | "   | 12    | "    | 16  | .800  | 20    | .042  |
| .500  | "   | 10    | "    | 15  | .750  | 19    | .040  |
| .400  | "   | 8     | "    | 14  | .700  | 18    | .038  |
| .300  | "   | 6     | "    | 13  | .650  | 17    | .035  |
| .200  | "   | 4     | "    | 12  | .600  | 16    | .033  |
| .100  | "   | 2     | "    | 11  | .550  | 15    | .031  |
| .090  | "   | 1     | 19½  | 10  | .500  | 14    | .029  |
| .080  | "   | 1     | 14½  | 9   | .450  | 13    | .027  |
| .070  | "   | 1     | 9½   | 8   | .400  | 12    | .025  |
| .060  | "   | 1     | 4½   | 7   | .350  | 11    | .023  |
| .050  | "   | 1     | "    | 6   | .300  | 10    | .021  |
| .040  | "   | "     | 19½  | 5   | .250  | 9     | .019  |
| .030  | "   | "     | 14½  | 4   | .200  | 8     | .017  |
| .020  | "   | "     | 9½   | 3   | .150  | 7     | .015  |
| .010  | "   | "     | 4½   | 2   | .100  | 6     | .013  |
| .009  | "   | "     | 4½   | 1   | .050  | 5     | .010  |
| .008  | "   | "     | 3½   |   |       | 4     | .008  |
| .007  | "   | "     | 3½   |   |       | 3     | .006  |
| .006  | "   | "     | 3    |   |       | 2     | .004  |
| .005  | "   | "     | 2½   |   |       | 1     | .002  |
| .004  | "   | "     | 2    |   |       |       |       |
| .003  | "   | "     | 1½   |   |       |       |       |
| .002  | "   | "     | 1    |   |       |       |       |
| .001  | "   | "     | ½    |   |       |       |       |

SETS OF WEIGHTS, decimals of the Oz. Troy, supplied at 4s. per set.

Tables for calculating prices, sent free on application.

## ARTICLES NOT IN (1875) CATALOGUE.

## TEETH.

|   |         |     | <i>s.</i> | <i>d.</i> |
|---|---------|-----|-----------|-----------|
| Diatoric, in Upper and Lower Sets... ..           | per 100 | 20  | 0         |           |
| „ in Bicuspid and Molars ... ..                   | „ 1000  | 180 | 0         |           |
| Dovetailed, for very close bites, in Bicuspid and | per 100 | 20  | 0         |           |
| Molars ... ..                                     | „ 1000  | 180 | 0         |           |

## GOLD FOILS, &amp;c.

|   |                            |     |   |  |
|---|----------------------------|-----|---|--|
| Ash's Soft Non-Cohesive Gold Foil ... ..                        | per oz.                    | 130 | 0 |  |
|   | per $\frac{1}{8}$ oz.      | 16  | 3 |  |
| „ „ „ Gold Pellets and Cylinders,<br>sizes 1, 2, 3, and 4... .. | per oz.                    | 140 | 0 |  |
| Sample Boxes containing all<br>sizes ... ..                     | per $\frac{1}{8}$ oz.      | 17  | 6 |  |
| „ „ „ Gold Pyramidal Pellets, sizes<br>1, 2, 3 . ... ..         | per oz.                    | 140 | 0 |  |
| Sample Boxes containing all<br>sizes ... ..                     | per $\frac{1}{8}$ oz.      | 17  | 6 |  |
| „ Crinkled Gold Foil, <i>Soft Non-cohesive</i> ... ..           | per oz.                    | 130 | 0 |  |
|   | per $\frac{1}{8}$ oz.      | 16  | 3 |  |
| Nickold's Gold Foil ... ..                                      | per oz.                    | 130 | 0 |  |
|   | per $\frac{1}{8}$ oz.      | 16  | 3 |  |
| „ „ Pellets and Cylinders ... ..                                | per oz.                    | 140 | 0 |  |
|   | per $\frac{1}{8}$ oz.      | 17  | 6 |  |
| S. S. White's Quarter Century Gold Foil ... ..                  | per oz.                    | 132 | 0 |  |
| „ Globe „ ... ..  | „                          | 132 | 0 |  |
|   | per $\frac{1}{8}$ oz. each | 16  | 6 |  |

Other Gold Foils, &amp;c., obtained to order.

**FURNITURE, INSTRUMENTS, RUBBERS, AND SUNDRIES.****A.**

|   | s. | d. |
|---|----|----|
| A. 1 Impression Compound, in $\frac{1}{2}$ -lb. packets ... .. per lb.                        | 4  | 0  |
| Acme Impression Compound in $\frac{1}{4}$ -lb. packets ... .. "                               | 6  | 0  |
| Abscess Probes, soft shot-headed (Dr. Quinby's) ... .. each                                   | 1  | 0  |
| Absorbent Cotton, American ... .. per pkt.  | 1  | 0  |
| "    "    (Lawton's) ... .. per 2 oz. pkt.  | 0  | 10 |
| "    "    "    ... .. " 4 oz. "   | 1  | 4  |
| "    "    "    ... .. " 8 oz. "   | 2  | 0  |
| "    "    "    ... .. " 1 lb. "   | 3  | 6  |
| Aconite, Tincture of, for inflamed pulp, &c., ... .. per bott.                                | 0  | 9  |
| Allen's Crystals, Salts of, for (Mr. Snape's) Electrical Apparatus (Fig. 14, p. 197) ... .. " | 1  | 0  |
| Amalgam Balance (Fletcher's) new ... .. each  | 2  | 6  |
| "    Mixing Tube (Fletcher's), glass ... .. "   | 0  | 3  |
| "    Carriers and Fillers, Nickel-plated, Nos. 1 and 2 ... .. "                               | 4  | 3  |
| "    "    "    "    "    "    "    3 " 4 " ... .. "   | 5  | 0  |
| "    Loadstone Carrier and Plugger, Nickel-plated, double-ended, No. 5 ... .. "               | 3  | 3  |
| "    Director ... .. "  | 3  | 3  |
| "    Stoppers (Dr. Woodson's) set of three double-ended, Nickel-plated ... .. "               | 3  | 0  |
| "    Stoppings. ( <i>See Stoppings.</i> )   |    |    |
| Annealing Lamps. ( <i>See Lamps.</i> )  |    |    |
| "    Tweezers (Dr. Perry's) ... .. "  | 3  | 0  |
| "    "    (    "    ), Nickel-plated ... .. "   | 4  | 0  |
| Articulators in Brass, American Pattern, Nos. 2 and 3 ... .. "                                | 9  | 0  |
| Articulator in Brass (Mr. Hatfield's) ... .. "  | 8  | 6  |
| "    "    The Lane and Pasmore ... .. "   | 6  | 6  |

**B.**

|  |    |   |
|--|----|---|
| Balkwill's Pivoting Instruments ... .. per set         | 10 | 6 |
| Pins and Tubes for ditto, extra ... .. each            | 3  | 6 |
| Bibulous Paper, Japanese ... .. per pkt. of 100 sheets | 1  | 6 |

|   |                |                     |
|---|----------------|---------------------|
| Bistoury and Tenotome Lancet, with 2 blades, in tortoise-shell handle ... .. each | s. d.          | 7 0                 |
| Blowing Apparatus (Fletcher's, as per Fig. 35, page 220):                         |                |                     |
| No. 3.  | No. 4.         | No. 5.              |
| 17/6  | Made to order. | 22/6.               |
| In wood casing, protecting all except the foot-step, extra, 5/-.                  |                |                     |
| Blowing Apparatus (Fletcher's), New Pattern:                                      |                |                     |
| No. 2.  | No. 3.         | No. 5.              |
| 20/-  | 22/-           | 30/-                |
| <i>Extra parts:</i> Discs for Nos. 2, 3, and 4, each 1/9; No. 5, 2/6.             |                |                     |
| Nets " " " 1/-; " 1/4.  |                |                     |
| Blowing Apparatus (Fletcher's), Improved, without rubber disc:                    |                |                     |
| No. 3.  | No. 5.         | With double action. |
| 30/-  | 35/-           | 60/-                |
| Blow-pipe (Fletcher's, Fig. 1B), Hot Blast, improved ... ..                       | 10 6           |                     |
| " ( " " 1B), " with bench light ... ..  | 12 6           |                     |
| " ( " " 8D), on stand for bench ... ..  | 7 0            |                     |
| " ( " " 8D), " with Gas Tap ... ..  | 8 6            |                     |
| " and Bunsen Burner combined (Fletcher's) ... ..                                  | 6 6            |                     |
| " " " with taps ... ..  | 8 0            |                     |
| Blow-pipes for hand (Fletcher's) 8C 7/-; 8D 4/6; 8E ... ..                        | 7 0            |                     |
| Blow-pipe, Mouthpiece (Fletcher's) ... ..   | 2 0            |                     |
| Bottles, glass stoppered, in boxwood case, large ... .. each                      | 1 6            |                     |
| " " " medium and small ... ..   | 1 2            |                     |
| " " and capped for holding Volatile liquids ... ..                                | 1 6            |                     |
| Bracket (S. S. White's) No. 2 Spittoon ... ..                                     | 21 6           |                     |
| " and Table (S. S. White's), with Alcohol Lamp ... ..                             | 86 0           |                     |
| " " Combination, Nickel-plated, with Alcohol Lamp ... ..                          | 88 0           |                     |
| " (S. S. White's), and Allan's Table ... ..                                       | 108 0          |                     |
| Brushes, Tooth, Dr. Coffin's, six sizes ... .. per doz.                           | 10 6           |                     |
| " " 5 rows ... ..   | 9 6            |                     |
| " " 1st quality, extra soft ... ..  | 7 6            |                     |
| " " " " hard ... ..   | 7 6            |                     |
| " " " (Mr. Hayes') Contour ... ..   | 7 6            |                     |
| " " 3rd quality... ..   | 5 6            |                     |

Other forms of Tooth Brushes made to order.

|   | <i>s. d.</i> |
|---|--------------|
| Bulbs, India-rubber, for (Mr. Kirby's) Pneumatic Mallet... each | 3 6          |
| "    "    "    Dentinal Desiccator ... .. "                     | 3 6          |
| "    "    "    (Dr. Moffat's) Syringe ... .. "                  | 1 9          |
| Burnishers (Dr. Atkinson's), plain octagon 7in., set of 11... " | 1 6          |
| "    (    "    ), Nickel-plated... .. "                         | 1 10         |
| "    (Dr. Darby's), set of 6, File cut ... .. "                 | 2 0          |
| Burnisher Straps, best Walrus Hide ... .. "                     | 3 3          |
| "    "    Crocus Leather ... .. "                               | 2 9          |
| Burs and Excavators. Set of 18, with Ivory Socket Handle,       |              |
| in leather case ... ..  | 21 0         |
| "    "    re-cut and re-pointed ... .. per doz.                 | 4 0          |
| "    for Vulcanite work, large bud shape... .. each             | 4 0          |
| "    "    "    re-cut ... .. "                                  | 1 6          |

## Books, &amp;c. :

|   |      |
|---|------|
| Allen's Anatomy of the Fifth Pair of Nerves, with Coloured<br>Plate—27 × 21 inches ... ..                 | 4 4  |
| American Dentists in Europe, List of, by Dr. Field ... ..   | 0 9  |
| Coles' Student's Note-book ... ..   | 2 6  |
| "    on the Teeth and Mouth during Pregnancy ... ..   | 1 6  |
| Dental Ledger (Allport's), 172 pages ... ..   | 13 0 |
| "    "    (    "    ), 340 " ... ..   | 17 0 |
| Dentists' Register ... ..   | 3 4  |
| Diary and Appointment Book, gilt edges ... ..   | 3 3  |
| "    "    "    "    and tuck ... ..   | 4 4  |
| Flagg's New Departure ... ..  | 1 0  |
| Fownes' Inorganic Chemistry ... ..  | 8 6  |
| Gee's Practical Gold Worker ... ..  | 7 6  |
| Gartrell's Instructions in Celluloid and Vulcanite. Second<br>Edition ... ..                              | 3 6  |
| Hill on Dental Reform ... ..  | 10 6 |
| Hunter's Mechanical Dentistry ... ..  | 7 6  |
| Huxley's Elementary Physiology ... ..   | 4 6  |
| Kingsley's Oral Deformities ... ..  | 21 6 |
| Kirke's Physiology ... ..   | 13 6 |
| Legros & Magitot's Origin and Formation of the Dental<br>Follicle, in English (Dean's Translation) ... .. | 11 0 |

| Books, &c.— <i>continued</i> :   | <i>s.</i> | <i>d.</i> |
|--|-----------|-----------|
| Lemercier's Magnified Human Molar, beautifully illustrated ...                                     | 16        | 0         |
| Magitot's Dental Caries, in English (Chandler's Translation)...                                    | 11        | 0         |
| „ Manual, in French ... ..   | 32        | 6         |
| Richardson's Pamphlet on the Dental Profession ... ..  | 0         | 6         |
| Stocken's Materia Medica, 2nd edition, enlarged ... ..   | 6         | 6         |
| „ Model Register for Work Room ... ..  | 5         | 6         |
| Tomes' Dental Anatomy ... ..   | 10        | 6         |
| Trivino's Surgical and Mechanical Dentistry,<br>in Spanish, 2 volumes <i>obtained to order</i> ... | 60        | 0         |
| Turnbull's Advantages and Accidents of Artificial Anæsthesia                                       | 7         | 0         |
| Vernon Galbray, or the Empiric ... ..  | 1         | 0         |
| Watt's Chemical Essays ... ..  | 2         | 2         |
| White's History of American Dentistry ... ..   | 6         | 6         |
| White on The Mouth and the Teeth ... ..  | 2         | 2         |

A Discount of 5% is allowed off the above books up to 5/- in value, and 15% off 5/- and upwards. Other books obtained to order.

### C.

|  |    |   |
|--|----|---|
| Calorific Fluid for annulling pain during the extraction<br>of teeth ... ..per bott. | 7  | 6 |
| „ „ „ small size „   | 4  | 0 |
| Carvacrol, for sensitive dentine, &c.... „   | 4  | 4 |
| Cases, Leather, to hold 1000 Teeth ... .. each                                       | 15 | 0 |
| Cavity Caps (Weston's), per box of 1 doz....   | 4  | 6 |
| „ Cap Pliers (Weston's) ... .. each  | 4  | 0 |
| „ „ „ ( „ ), Nickel-plated ... .. „  | 5  | 3 |
| Cells, earthenware, for Cauterizing Apparatus (Fig. 12, p. 196) „                    | 1  | 0 |
| Celluloid Apparatus :  |    |   |
| American, Steam, with two Flasks, for Gas or Spirit...                               | 48 | 0 |
| „ „ Best, „ „ „ for Gas ... ..   | 48 | 0 |
| „ „ „ „ „ and Hot Blast Oil Stove  | 60 | 0 |
| Extras for ditto :—  |    |   |
| Flasks, large or small ... .. each   | 5  | 6 |
| Gas Burner and Spider ... ..   | 6  | 6 |
| „ „ without „ ... ..   | 5  | 6 |

| Celluloid Apparatus— <i>continued</i> :   |                | <i>s.</i> | <i>d.</i> |
|---|----------------|-----------|-----------|
| Gartrell's Two-Flask, with Thermometer and Gas Burner, but without Flasks   | ... 130        | 0         |           |
| "    "    with Gas-regulating and Steam Pressure Gauge, instead of Thermometer  | ... 170        | 0         |           |
| Extras for ditto :—   |                |           |           |
| Flasks in Bronze  | ... each       | 6         | 0         |
| Gas Burner and Spider   | ... ..         | 5         | 6         |
| Gas-regulating and Steam Pressure Gauge with Syphon   | ... ..         | 50        | 0         |
| Extra Syphon  | ... ..         | 2         | 6         |
| "    "    with Steam Cock   | ... ..         | 5         | 0         |
| Ladle for Modelling Metal   | ... ..         | 0         | 8         |
| Modelling Metal   | ... .. per lb. | 2         | 0         |
| Sieve for Sifting Sand  | ... ..         | 2         | 6         |
| Thermometer   | ... ..         | 7         | 6         |
| Pyroxylin for Repairing Celluloid—two bottles of different solutions in wood box, with directions   | ... ..         | 5         | 0         |
| Asbestos Yarn Packing, in $\frac{1}{4}$ lb. balls   | ... per ball   | 2         | 6         |
| Improved Press (invented by Messrs. Rose & Humby), complete with India-rubber Collar, Thermometer, Steam Tap, and Gas Burner or Spirit Lamp |                |           |           |
| "    "    with Pressure Gauge, instead of Thermometer   | ... ..         | 100       | 0         |
| "    "    with Gartrell's Gas-regulating and Steam Pressure Gauge   | ... ..         | 115       | 0         |
| "    "    with Gartrell's Gas-regulating and Steam Pressure Gauge   | ... ..         | 142       | 6         |
| Extras for ditto :—   |                |           |           |
| Flasks  | ... .. each    | 5         | 6         |
| India-rubber Collars  | ... ..         | 1         | 0         |
| Thermometer   | ... ..         | 7         | 6         |

N.B.—For illustration and full description, see Cover of this Appendix.



| Celluloid Plates :   |                             | s.   | d.    |
|--|-----------------------------|------|-------|
| Upper, ordinary ... ..   | eight sizes, Nos. 3 to 6½   | each | 2 2   |
| „ „ A,” same sizes as ordinary uppers, but<br>double the thickness ... ..  |                             | „    | 2 2   |
| „ Plumper ... ..   | four sizes, Nos. 3, 4, 5, 6 | „    | 2 2   |
| Lower ... ..   | seven „ „ 1½ to 4½          | „    | 2 2   |
| Partial, for ordinary cases, two   | „ „ 5 and 6                 | „    | 1 1   |
| „ „ front teeth, „ „ „   | 7 „ 8                       | „    | 1 1   |
| „ „ side „ „ „   | 9 „ 10                      | „    | 1 1   |
| <i>Illustrated plate of sizes sent on application.</i>   |                             |      |       |
| <i>Book of Instructions „ „</i>  |                             |      |       |
| Celluloid Tapes for Polishing Fillings ... ..  | per box of 12               |      | 2 2   |
| Cement Spatula and Chisel (Dr. Weston's) ... ..  |                             |      | 1 9   |
| „ „ „ ( „ „ ), Nickel-plated ... ..  |                             |      | 2 1   |
| Cement Stoppings. ( <i>See Stoppings.</i> )  |                             |      |       |
| Chairs (Archer's), obtained to order. Prices and descriptions sent on application.   |                             |      |       |
| Chair (Morrison's) India-rubber Springs for ... ..   | each                        |      | 2 6   |
| „ ( „ ), „ „ „ ..  | per doz.                    |      | 24 0  |
| „ (Owen's), latest improved, complete with<br>Spittoon, Bracket, and Table ... ..  |                             |      | 700 0 |
| „ ( „ ), without „ „ „ ..  |                             |      | 560 0 |
| „ ( „ ), improved, in Birchwood, with Footstool<br>attached, and Head Rest covered in<br>leather, as supplied to the Liverpool<br>Dispensary* ... .. |                             |      | 325 0 |
| „ ( „ ), set of three lengths of gut for ... ..  |                             |      | 7 6   |
| Chair (Dr. Wilkerson's) with lateral movement. ( <i>See page 32</i> ) ...  |                             |      | 740 0 |
| Boxing extra ... ..  |                             |      | 30 0  |
| Chimney for (Owen's) Annealing Lamp (Fig. 85, page 161) ...  |                             |      | 0 9   |
| Chlorate of Potash in compressed Tablets, per 1 doz. boxes, large  |                             |      | 17 0  |
| „ „ „ „ „ „ small  |                             |      | 9 0   |

N.B.—Not less than ½ doz. boxes supplied.

\* This price is only to Hospitals and Charitable Institutions. A cheaper Hospital Chair is kept in stock. See (1875) Catalogue, page 39.

|  |          | s. | d. |
|--|----------|----|----|
| Chucks for Lathes, to carry Broaches ... ..  | each     | 1  | 9  |
| „ (Mr. Richardson's) for Drills, Countersinks, Cane<br>Points, Water of Ayr Stones, &c. ... .. | „        | 10 | 6  |
| Button wheels, corundum, centred to fit chuck ...  | per doz. | 3  | 0  |
| Clamp and Tongue Guards (Mr. C. Rogers'), right and left                                       | each     | 3  | 6  |
| Clasp Benders, American pattern... ..  | „        | 6  | 0  |
| Coffer-dam Forceps, Bayonet form ... ..  | „        | 10 | 6  |
| „ „ „ Nickel-plated ... ..   | „        | 11 | 9  |
| „ „ (Dr. Elliott's) ... ..   | „        | 12 | 0  |
| „ „ ( „ ), Nickel-plated ... ..  | „        | 13 | 3  |
| „ Clamps, all Nickel-plated :  |          |    |    |
| „ „ (Hickman's) double-lipped ... ..   | „        | 2  | 6  |
| „ „ (Elliott's) ... ..   | „        | 3  | 0  |
| „ „ (Palmer's), set of 8... ..   | per set  | 20 | 0  |
| „ „ „ „ „... ..  | each     | 2  | 6  |
| „ „ (Allan's), New Molar and original... ..  | „        | 2  | 0  |
| „ „ (Dr. Tees'), Molar and Bicuspid ... ..   | „        | 2  | 6  |
| „ „ H. C. „ ... ..   | „        | 2  | 0  |
| „ „ Festooned ... ..   | „        | 2  | 6  |
| „ „ (Southwick's) ... ..   | „        | 2  | 0  |
| „ „ for irregular teeth ... ..   | „        | 2  | 6  |
| „ „ (Moore's), new pattern ... ..  | „        | 3  | 3  |
| „ „ (Holt's), for labial cavities ... ..   | „        | 2  | 6  |
| „ Clamp and Applier combined ... ..  | „        | 2  | 6  |
| „ Clamps (Ynchausti's), hinged ... ..  | „        | 4  | 6  |
| „ „ (Buckman's) ... ..   | „        | 3  | 0  |
| „ Buckles, Nickel-plated ... ..  | „        | 3  | 3  |
| „ Holder (Fig. 31, page 146), with Ivory Guards ...  | „        | 5  | 6  |
| „ „ (Perry's) ... ..   | „        | 4  | 4  |
| „ Weights, set of 3 ... ..   | per set  | 4  | 0  |
| „ „ and Springs, Circular, set of 4 ... ..   | each     | 2  | 0  |
| Corundum Wheels, Flat edge, $1\frac{3}{8}$ in. diam., thick ...                                | „        | 0  | 6  |
| „ „ „ $1\frac{3}{8}$ „ „ thin ... ..   | „        | 0  | 5  |
| „ „ „ 1 „ „ thick ... ..   | „        | 0  | 5  |
| „ „ „ 1 „ „ thin ... ..  | „        | 0  | 4  |
| „ „ and Points. (See <i>Engine Equipment</i> .)  |          |    |    |

## D.

|   | <i>s.</i> | <i>d.</i> |
|---|-----------|-----------|
| Dental Factotum, for annealing, warming water, and<br>general office use ... .. | 32        | 6         |
| Dowsett's Gold Suction Valves ... ..  | each      | 3 6       |
| Drilling Tools for ditto ... ..   | ,,        | 3 6       |
| Draw Plates, round, small, 20 holes ... ..                                      | ,,        | 6 8       |

## E.

|   |                   |            |
|---|-------------------|------------|
| Electro-gilding Apparatus (Mr. Whitehouse's) for gilding<br>dental plates, &c. ... .. | each              | 21 0       |
| <i>(Circular sent on application.)</i>  |                   |            |
| Elevators, American pattern, in Ebony octagon handles,<br>Nos. 1 to 12 ... ..         | ,,                | 6 0        |
| ,, (Swanson's) in Ivory handles ... ..  | ,,                | 7 6        |
| ,, ( ,, ) in Ebony ,, ... ..  | ,,                | 6 0        |
| Enamel Cutters (Dr. Abbott's), set of 12, in plain octagon<br>handles ... ..          | ,,                | 1 2        |
| ,, ,, ,, Nickel-plated ... ..   | ,,                | 1 6        |
| ,, (Dr. Arrington's) Heavy Molar, right and<br>left ... ..                            | per pair          | 4 0        |
| ,, (Dr. Butler's), set of 5, plain octagon<br>handles, Blued ... ..                   | } per set<br>each | 7 0<br>1 6 |
| ,, (Dr. Darby's), set of 12, File cut ... ..  | ,,                | 2 0        |
| ,, (Dr. Holmes'), set of 9 ,, ... ..  | ,,                | 2 0        |
| ,, (Dr. Howard's) plain octagon ... set of 9, ,,                                      | ,,                | 1 2        |
| ,, ( ,, ) ,, Nickel-plated ,, ,,  | ,,                | 1 6        |
| ,, (Dr. Jack's), double-ended, set of 6 ... ..  | ,,                | 6 0        |
| ,, (Dr. Weston's), large, medium, and small,<br>right and left ... ..                 | ,,                | 1 3        |
| ,, Set of 12, with Ivory socket handle, in<br>leather case ... ..                     | ...               | 21 0       |
| ,, With Screw ends for Automatic and<br>Pneumatic Mallets ... ..                      | each              | 1 6        |
| ,, Re-pointed ... ..  | per doz.          | 6 0        |

| Engine Equipment: ( <i>See also Catalogue, pp. 110-115</i> )  |          | <i>s.</i> | <i>d.</i> |
|---|----------|-----------|-----------|
| Box, Japanned, to hold complete equipment for the<br>Engine, very suitable for travelling ... ..  |          | 12        | 6         |
| Brushes for polishing teeth, straight bristles, bone<br>centres ... ..  | each     | 1         | 0         |
| "          "          "          cup shaped   | "        | 1         | 0         |
| "      Steel Wire, Circular, for cleaning Burs, &c. ...   | "        | 1         | 3         |
| *Burs, Cavity, <i>Stoned</i> for Straight and Lock Bit<br>Handpieces made in forms 1, 2, 3, 4, 5,<br>6, 9, and 10 (page 112) sizes A to O O | "        | 1         | 3         |
| * "    Finishing, <i>Stoned</i> for Straight Handpiece, made<br>in forms 13 to 19 (page 112), sizes A<br>to K ... ..                        | "        | 2         | 0         |
| "    Cavity, sizes O and O O, all forms ... ..  | "        | 0         | 9         |
| "    Flexible, bud, spear, round, flame, and cone<br>shapes ... ..  | "        | 1         | 0         |
| N.B.—All other shapes kept in stock.  |          |           |           |
| "    for Stumps, Flat edge and Oval ... ..  | "        | 3         | 0         |
| Bur Wheels for dividing, large size, safe or cut both<br>sides ... ..   | "        | 3         | 0         |
| Burs and Drills altered from Morrison's B style to<br>S. S. White's Straight Handpiece ... per doz.   |          | 1         | 0         |
| "    "    altered from Morrison's B to C style<br>Straight Handpiece ... ..   | "        | 3         | 0         |
| "    Cavity, re-cut ... ..  | "        | 4         | 0         |
| "    Finishing, re-cut... ..  | "        | 6         | 0         |
| Bur or Bit Oilers (Dr. Holmes'), Nickel-plated ...  | each     | 2         | 0         |
| Cones and Points, Corundum, Nos. 1, 11, and 12,   |          |           |           |
| (Dr. Northrop's) patterns... ..   | per doz. | 2         | 0         |
| "    "    (    "    )    "    mounted   | "        | 6         | 0         |
| "    "    Arkansas Stone, for polishing,<br>assorted patterns, mounted ... ..   | each     | 2         | 6         |
| "    "    "    set of 6 in leather case ... ..  |          | 18        | 0         |
| "    "    Hindustan Stone for polishing,<br>assorted patterns, mounted ... ..   | each     | 2         | 2         |

\* These burs are much esteemed. They are beautifully tempered, and every tooth on each bur is brought to a fine cutting edge by means of Arkansas stone.

| Engine Equipment— <i>continued</i> :                                      |           | s.   |
|---|-----------|------|
| Cones and Points, Corrugated Rubber, for polishing,                       |           |      |
| assorted patterns, unmounted per doz.                                     | 3         | 3    |
| Corundum Flour for polishing ... ..                                       | per box   | 0 6  |
| „  Wheels for grinding Stumps :   |           |      |
| large, unmounted ...  | each      | 0 6  |
| small, „ ...  | „         | 0 4  |
| large, mounted ...  | „         | 0 11 |
| small, „ ...  | „         | 0 9  |
| Disc Carrier, fixed angle ... ..  |           | 26 0 |
| „  „  changeable ditto ... ..   |           | 43 0 |
| „  Mounter (Dr. Shannon's) Nickel-plated ... ..                           |           | 4 4  |
| Discs, Celluloid, for polishing, small ... ..                             | each      | 0 7½ |
| „  „  „  large and medium ... ..  | „         | 0 10 |
| „  Corundum (Dr. Arthur's), G. H. I. ... ..                               | „         | 0 6  |
| „  „  ( „ ), mounted ... ..   | „         | 0 11 |
| „  Diamond and Nickel ... ..  | „         | 8 8  |
| „  Felt, for polishing ... ..   | „         | 0 6  |
| „  Rubber, soft corrugated ... ..   | „         | 0 6  |
| Drip Point (Dr. Herrick's) ... ..   |           | 3 3  |
| Drop Tube and Sponge Holder (Dr. Hickman's) ... ..                        |           | 1 8  |
| Flexible Arm, or upper part of S. S. White's Engine,                      |           |      |
| complete, with straight Handpiece ... ..                                  |           | 90 0 |
| „  Arm Support ... ..   |           | 4 6  |
| Handpieces, Straight, latest improved (S. S. White's) ... ..              | each      | 43 0 |
| „  Right-angle, Lock bit ( „ ) ... ..                                     | „         | 21 6 |
| „  Acute-angle „ ( „ ) ... ..   | „         | 21 6 |
| „  Obtuse-angle „ ( „ ) ... ..  | „         | 21 6 |
| Handpiece Shields, India-rubber ... ..                                    | per doz.  | 3 3  |
| Holland Cover for Engine ... ..   |           | 2 0  |
| Lubricating Oil ... ..  | per bott. | 6 0  |
| Mandrels, Screw End, without shoulder ... ..                              | each      | 0 6  |
| „  Screw Head (Dr. Huey's)... ..  | „         | 1 3  |
| „  Screw Clamp for wood points, &c. ... ..                                | „         | 1 6  |
| „  Screw and Washer for discs ... ..                                      | „         | 1 3  |
| Nerve Burs, Flexible, bud, spear, round, flame, and<br>cone shapes ... .. | „         | 1 0  |

| Engine Equipment— <i>continued</i> :                      |          | <i>s. d.</i> |
|---|----------|--------------|
| Nose, Steel, for Straight Handpiece (S. S. White's)...    | each     | 4 4          |
| Powdered Shellac for mounting discs, &c. ...              | per box  | 0 6          |
| Sheath for Cable of (S. S. White's) Engine...             | ...      | 11 0         |
| Sponge Holder and Drop Tube (Dr. Hickman's)               | ...      | 1 8          |
| Spring, New Yoke, for (S. S. White's) Engine              | ...      | 5 6          |
| "    or Hood, for Right-angle Lock bit ...                | ...      | 4 4          |
| Stands, Wood, for Engine Instruments : No. 1              | each     | 3 0          |
| No. 2, with glass cover ...                               | "        | 5 0          |
| "    3  | "        | 3 0          |
| "    4  | "        | 5 6          |
| Trephines, large and small ...                            | "        | 1 6          |
| Wheel Burs for dividing, large ...                        | "        | 3 0          |
| Engine Bur or Bit Holder (Dr. Lee's) ...                  | ...      | 6 0          |
| "    "    German Silver, nickel-plated...                 | ...      | 6 0          |
| Evaporating Burners (Fletcher's), from four to twelve     | ...      | ...          |
| inches diameter ...                                       | per inch | 1 3          |
| Excavators (Dr. Head's), set of 25, plain octagon handles | ...      | 20 0         |
| "    (    "    ), ...                                     | each     | 1 0          |
| "    (    "    ), Nickel-plated ...                       | per set  | 28 0         |
| "    (    "    ), " ...                                   | each     | 1 4          |
| "    (Dr. Wetherbee's), Chisel and Spoon, set of 12,      | ...      | ...          |
| plain octagon handles...                                  | "        | 1 0          |
| "    (    "    ), Nickel-plated ...                       | "        | 1 4          |
| "    and Burs, set of 18, with Ivory socket handle,       | ...      | ...          |
| in leather case ...                                       | ...      | 21 0         |
| "    Re-pointed ...                                       | per doz. | 4 0          |

## F.

|  |      |      |
|--|------|------|
| Fibre Lint (Parker's) Paper for drying cavities, in 1 lb. packets, per lb. | 3    | 0    |
| File Carrier (Dr. Jack's) ...  | 6    | 6    |
| "    "    (Dr. Miller's), with 3 heads ...                                 | 20   | 0    |
| "    "    (    "    ), " 2 " ...   | 16   | 0    |
| "    "    (    "    ), " 1 " ...   | 12   | 0    |
| "    "    Heads separately, Nos. 1, 2, and 3 ...                           | each | 4 0  |
| Files (Stubs'), for File Carrier ...                                       | "    | 0 4½ |

|   |           |
|---|-----------|
| *Flask (Ash's), in Gun-metal, for holding two full or three partial pieces ... .. | s. d.     |
|   | 8 6       |
| Floss Bow (Dr. Merrill's) for finishing, &c., Nickel-plated ...                   | 2 2       |
| „ Silk, extra stout, 12 yards on reel ... ..                                      | 0 6       |
| „ „ American ... ..per dozen reels, 6/6; per reel                                 | 0 8       |
| „ „ „ waxed ... „ „ 9/9; „  | 1 0       |
| Forceps, New Upper Molar Splitting, right and left No. 72, each                   | 9 0       |
| „ New Lower Molar, Hawk's bill, for close bites, &c. „ 73 „                       | 10 0      |
| „ „ „ Stump „ „ „ 74 „  | 9 0       |
| „ „ „ Bicuspid „ „ „ 75 „   | 9 0       |
| „ American pattern (Arrington's), Bayonet Root „ 65 „                             | 10 6      |
| „ „ „ (Stellwagen's), Lower Incising, Separating and Elevating Root ... ..        | 66 „ 10 6 |
| „ „ „ (Stellwagen's), Upper Incising, Separating and Elevating Root ... ..        | 67 „ 10 6 |
| „ „ „ (Stellwagen's), Upper Molar, Straight, for either side „ 68 „               | 10 6      |
| „ „ „ (Tomes'), Universal Root „ 69 „   | 10 6      |
| „ „ „ (Harris's), Lower Molar for either side ... ..                              | 70 „ 10 6 |
| „ „ „ Lower Molar for either side „ 71 „  | 10 6      |
| „ „ „ (Dr. Tees'), Sub-Alveolar, thin pointed, set of 6 Nos. 72 to 77 „           | 10 6      |
| „ Nickel-plated, extra ... ..   | 1 3       |

†Forge (Fletcher's) for Gas or Petroleum, complete, with Blower, Blow-pipe, Hearth, Tools, and India-rubber Tubing... 66 0  
*Parts separately:* Blower, 35/0; Blow-pipe, 7/0;  
Hearth, 15/-; Tools, 5/0; Tubing, 4/0.

Furnaces (Fletcher's) see Catalogue, pages 210, 212, 213.

„ ( „ ) for melting Gold, Silver, &c.:

†Fig. 60, requiring same gas supply, crucibles, &c., as Fig. 17a, page 213.

| <u>2 lb. size.</u> | <u>6 lb. size.</u> | <u>12 lb. size.</u> |
|--------------------|--------------------|---------------------|
| 21/0.              | 30/0.              | 40/0.               |

\* C. Ash & Sons' two-flask Vulcanizer, Fig. 88, p. 242, will hold two of these Flasks.

† For illustrations and descriptions, see list to be had on application.

|  |       |       |             |        |              |
|--|-------|-------|-------------|--------|--------------|
| Furnaces (Fletcher's)— <i>continued</i> :  |       |       |             |        | <i>s. d.</i> |
| *Fig. 40, for small meltings of gold or silver scrap only  | ...   | ...   | ...         | ...    | 7 6          |
| Extra Bodies, 2/0; Lids, 1/6; Crucibles  | ...   | each  | ...         | ...    | 0 3          |
| *Fig. 44, for high temperatures, working with either Gas or Spirit Petroleum, without alteration, and with perfect results with either fuel. |       |       |             |        |              |
| Furnace, Blower, Tubing, and Generator complete :  |       |       |             |        |              |
|  | 6 oz. | 2 lb. | 6 lb. size. | 12 lb. | 28 lb. size. |
|  | 72/6. | 75/0. | 95/0.       | 105/0. | 175/0.       |
| Generator only   | 27/6. | 30/0. | 40/0.       | 40/0.  | 70/0.        |
| Crucibles, Tubing, &c., same as <i>Fig. 15a</i> , page 212.  |       |       |             |        |              |

The above Furnaces, and those illustrated on pages referred to in Catalogue, have superseded all the *old pattern* Muffle, Crucible, and Ladle Furnaces made by Mr. Fletcher.

Extra parts of the old Furnaces, for repairs, can be had at the prices quoted in the above-mentioned list.

## G.

|  |     |     |     |      |              |
|--|-----|-----|-----|------|--------------|
| Gas Apparatus and Appliances :                                       |     |     |     |      | <i>s. d.</i> |
| Brass Mounts for Mohair Tubing                                       | ... | ... | ... | each | 2 6          |
| „ Screws for attaching „ to Liquid Gasometer                         | „   | „   | „   | „    | 6 6          |
| Cattlin's Bags, silk, 3 gallons capacity                             | ... | ... | ... | „    | 27 0         |
| „ „ 5 „  | „   | „   | „   | „    | 30 0         |
| „ „ 6 „  | „   | „   | „   | „    | 32 0         |
| Gags (McAdam's), fixed, three sizes                                  | ... | ... | ... | „    | 3 0          |
| „ (Maunder's), wood  | ... | ... | ... | „    | 2 6          |
| „ Black Vulcanite, long, medium, and short, with soft Rubber Pads... | ... | ... | ... | „    | 1 6          |
| †India-rubber Pads, red, for large, medium, and small                | ... | ... | ... | „    | 4 6          |
| Facepieces   | ... | ... | ... | „    | 4 6          |
| „ „ „ without small tap  | „   | „   | „   | „    | 2 6          |
| Keys for Gas Bottles   | ... | ... | ... | „    | 1 6          |

\* For illustrations and descriptions, see list to be had on application.

† These Pads and the ordinary Cattlin's and Supplemental Bags are now made of red rubber. It is much stronger than the material formerly used, better adapted for warm climates, and when soiled can be readily cleansed by washing with soap and lukewarm water.



| Gas Apparatus and Appliances— <i>continued</i> :                  |                | <i>s. d.</i> |
|---|----------------|--------------|
| Portable Stand to hold two 50 gallon bottles                      | ... each       | 30 0         |
| "    "    "    "    100    "    "                                 | ...    "       | 30 0         |
| <i>(See page 3 of this Appendix.)</i>                             |                |              |
| Long Gas Keys for these Stands...                                 | ...    "       | 5 6          |
| Valves for Face-pieces ...  | ...    "       | 3 6          |
| Clover's Gas and Ether Apparatus obtained to order.               |                |              |
| Pedley's    "    "    "   | price          | 70 0         |
| Glacial Phosphoric Acid for Sensitive Dentine                     | ... per bottle | 1 0          |
| Gold Separators for Sponge Gold, straight and curved,             |                |              |
| , plain octagon, bronzed...                                       | ... each       | 1 3          |
| Gum Depressors (Dr. Bowman's), in Ebony octagon handles, set of 4 |                | 16 0         |
| "    "    "    "  | each           | 4 6          |
| Gut, set of 3 lengths for (Owen's) Chair                          | ...    "       | 7 6          |
| Gutta Percha Stoppings. <i>(See Stoppings.)</i>                   |                |              |
| Gutta Percha Softener and Instrument Warmer (Dr. Flaggs'),        |                |              |
| Nickel-plated   | ...    "       | 21 6         |

## H.

|  |                        |              |              |
|--|------------------------|--------------|--------------|
| Hard Platinum Instruments (Dr. Francis'), for Chloride of Zinc         |                        |              |              |
| in Ivory handles   | ... per set of 4, 24/0 | each         | 6 6          |
| Head Rests (S. S. White's)...  | ...    "               |              | 52 0         |
| Holders for Engine Burs, &c. (Dr. Lee's) ...                           | ...    "               |              | 6 0          |
| "    "    German Silver, Nickel-plated                                 | ...    "               |              | 6 0          |
| Hot Air Bath (Fletcher's), for Pharmaceutical and other purposes, with |                        |              |              |
| copper evaporating burner :  |                        |              |              |
|  | <u>4 in.</u>           | <u>6 in.</u> | <u>8 in.</u> |
|  | 9/0.                   | 14/0.        | 17/6.        |

## I.

|  |             | <i>s. d.</i> |
|--|-------------|--------------|
| Impression Compound, A.1, in $\frac{1}{2}$ lb. packets     | ... per lb. | 4 0          |
| "    "    Stent's renovating, in $\frac{1}{2}$ lb. packets | ...    "    | 6 0          |
| "    "    Wood's Acme                                      | ...    "    | 6 0          |
| Impression Trays, American pattern, for full sets.         |             |              |
| Nos. 1, 2, 3, 4, upper and lower                           | ... each    | 2 0          |
| "    "    German Silver, assorted patterns, each from      |             | 2 6          |

|  | s.  | d. |
|--|-----|----|
| India-rubber Bulb for Dental Desiccator ... ..   | 3   | 6  |
| „ „ (Kirby's) Pneumatic Mallet... ..   | 3   | 6  |
| „ „ (Moffat's) Syringe, covered with silk netting  | 1   | 9  |
| „ Tubing for Dental Desiccator ... per foot  | 0   | 6  |
| „ „ (Rogers') Saliva Ejector ... per foot  | 0   | 6  |
| „ „ Fletcher's Apparatus, smooth inside,<br>$\frac{1}{2}$ in., $\frac{3}{8}$ in., and $\frac{5}{8}$ in. bore, per foot, 9d., 6d., 4 $\frac{1}{2}$ d. |     |    |
| Ingot Mould (Fletcher's), for Plate, 8 oz. ... ..  | 14  | 6  |
| „ or Melting Arrangement and Blow-pipe combined<br>(Fletcher's). <i>Improved pattern.</i> ( <i>Crucibles</i> , each 2d. and 4d.)                     | 10  | 0  |
| Instantaneous Water Heater (Fletcher's), in solid copper, heating<br>one pint per minute ... ..  | 40  | 0  |
| „ „ „ „ „ „ „ „<br>two quarts per minute ... ..  | 100 | 0  |
| Instrument Stands. ( <i>See Engine Equipment.</i> )  |     |    |

## J.

|   |      |   |   |
|---|------|---|---|
| Jack Screw Bars, Nickel-plated ... ..             | each | 1 | 6 |
| Japanese Bibulous Paper, per packet of 100 sheets | ...  | 1 | 6 |

## L.

|  |     |   |
|--|-----|---|
| Lamp, Annealing (S. S. White's) ... ..   | 10  | 9 |
| „ Alcohol ( „ ), as supplied with Dental Bracket                                 | 3   | 6 |
| „ „ ( „ ), „ „ without guard   | 2   | 2 |
| „ for Operating Room (Dr. Elliott's)... ..                                       | 8   | 8 |
| „ and warm water cup (Dr. Bogue's)... ..   | 32  | 6 |
| „ „ or Dental Factotum ... ..  | 32  | 6 |
| Lancet, Bistoury and Tenotome, in Tortoise-shell handle, with<br>2 blades ... .. | 7   | 0 |
| Lathe (S. S. White's), No. 3 Laboratory ... ..                                   | 110 | 0 |
| Lava Strips, for polishing fillings, per box ... ..                              | 2   | 2 |
| Leather Case to hold 1000 Teeth ... ..   | 15  | 0 |
| Lock for Plaster Models (Dr. Hall's) ... ..                                      | 0   | 3 |

## M.

|   | <i>s.</i> | <i>d.</i> |
|---|-----------|-----------|
| Mallet, Electro-magnetic and Battery, obtained to order.  |           |           |
| Illustration and description sent on application.   |           |           |
| Marsh's Local Anæsthetic, for annulling pain during the extraction of teeth ... .. per bottle   | 3         | 6         |
| Marston's (Patented) Suction Valves in Dental Alloy ... each  | 5         | 0         |
| Matrix Loop (Dr. Pinney's) ... ..   | 6         | 6         |
| Mercury Drop Bottle (Fletcher's), with 1 oz. Mercury ... ..   | 1         | 0         |
| " " ( " ), " " electrically-purified  | 2         | 0         |
| " purified by electricity ... .. 3 oz bott.   | 5         | 6         |
| " " " ... .. 2 " "  | 3         | 10        |
| " " " ... .. 1 " "  | 2         | 0         |
| Metal Patterns for forming air chambers in vulcanite pieces, round, thick, and thin ... .. per doz.   | 1         | 0         |
| Mirrors, Finger, oval and round ... .. each   | 7         | 6         |
| " Mouth (Fig. 54, page 151), small size, Ivory ... ..   | 8         | 6         |
| " " " " " Ebony ... ..  | 6         | 6         |
| " " with double glass (Mons. Delapierre's) Silver, to hang on watch-chain ... ..  | 40        | 0         |
| " with Split Back, for readily removing broken and fitting new glasses, sizes Nos. 3 and 4 oval, same form of handle as Fig. 54, p. 151, Ebony ... .. | 10        | 6         |
| " " " " " Sizes Nos. 3 and 4, Fig. 55, p. 151. In Ivory ... ..  | 14        | 6         |
| " Hand, mounted in Lionite :  |           |           |
| Plain glass.  |           |           |
| Bevelled glass.   |           |           |
| Bevelled glass & enamelled back.  |           |           |
| No. 9 ... 2/0 ... 4/0 ... ..  | 5         | 0         |
| " 10 ... 2/6 ... 4/6 ... ..   | 5         | 6         |
| " 11 ... 3/0 ... 5/0 ... ..   | 6         | 6         |
| " Cabinet, mounted in Lionite, square and oval ... each   | 7         | 0         |
| Mixing Tube, glass, for Amalgams (Fletcher's) ... ..  | 0         | 3         |
| Moustache Holder ... ..   | 3         | 3         |
| Mouth Wash, Salicylic Acid ... .. per bott.   | 3         | 3         |
| " " ... .. per doz.   | 28        | 0         |

## N.

|   |          |     |     |          | <i>s.</i> | <i>d.</i> |
|---|----------|-----|-----|----------|-----------|-----------|
| Nerve Bristles (Dr. Donaldson's)  | ...      | ... | ... | each     | 0         | 10        |
| " " ( " )   | ...      | ... | ... | per doz. | 9         | 6         |
| " Canal Pluggers (Dr. Hunter's), set of 12  | ...      | ... | ... | each     | 1         | 0         |
| " " ( " ), "  | ...      | ... | ... | per set  | 11        | 0         |
| " Exploring Instruments (Dr. Perry's), set of 6   | ...      | ... | ... | "        | 4         | 6         |
| " Extractors (Dr. Witzell's), set of 7, Nickel-plated   | ...      | ... | ... | each     | 1         | 0         |
| " Instruments to fit Ivory Holder, assorted sizes,<br>small and extra small, (Figs. 10 to 13, page 103) | per doz. | 2   | 9   |          |           |           |
| " Pluggers (Dr. Witzell's), set of 4, Nickel-plated   | ...      | ... | ... | each     | 1         | 4         |

## O.

|  |     |     |     |         |    |   |
|--|-----|-----|-----|---------|----|---|
| Osmond's Instruments and Gold Screws for securing<br>fillings, in leather case | ... | ... | ... | per set | 65 | 0 |
| " Extra Screws for ditto, large  | ... | ... | ... | doz.    | 13 | 0 |
| " " " " " small  | ... | ... | ... | " "     | 8  | 8 |

## P.

|  |     |     |     |           |    |   |
|--|-----|-----|-----|-----------|----|---|
| Pain Obtunder for Sensitive Dentine, &c.                                       | ... | ... | ... | per bott. | 4  | 4 |
| Paper Fibre Lint (Parker's), for drying cavities, in 1 lb.<br>packets          | ... | ... | ... | per lb.   | 3  | 0 |
| Paraffin Wax for Modelling, in $\frac{1}{2}$ lb. packets                       | ... | ... | ... | "         | 2  | 4 |
| Pestles and Mortars, Agate   | ... | ... | ... | each      | 6  | 6 |
| Pivoting Instruments (Mr. Balkwill's)  | ... | ... | ... | per set   | 10 | 6 |
| " Pins and Tubes extra   | ... | ... | ... | each      | 3  | 6 |
| Plaster of Paris, extra superfine, in 25 lb. tin, with screw-<br>capped outlet | ... | ... | ... | ...       | 7  | 0 |
| Plastic Filling Instruments, set of 9, in Ebony handles                        | ... | ... | ... | per set   | 25 | 0 |
| " " " " "  | ... | ... | ... | each      | 3  | 0 |
| " " " " " Blued Steel,   | ... | ... | ... | per set   | 15 | 0 |
| " " " " "  | ... | ... | ... | each      | 1  | 9 |
| Piers. ( <i>See Tweezers.</i> )  |     |     |     |           |    |   |
| Pluggers. ( <i>See Stoppers.</i> )   |     |     |     |           |    |   |

|   | <i>s.</i> | <i>d.</i> |
|---|-----------|-----------|
| Plugging Assistant (Dr. Weston's), double-ended, right and left ... | 1         | 6         |
| Probes, Abscess, Soft Shot-headed (Dr. Quinby's) ... each           | 1         | 0         |
| Probes, set of 12, for Socket Handle ... .. per set                 | 7         | 6         |
| Handle for ditto ... ..   | 3         | 0         |
| Putty Powder, for polishing ... .. per box                          | 0         | 6         |

## R.

|   |    |    |
|---|----|----|
| Rifflers, for gold work, new pattern, thin, flat, double-ended,<br>right and left ... .. each     | 0  | 7½ |
| Rose and Humby's Patent Steam Swager. ( <i>See Steam Swager.</i> )                                |    |    |
| Rubbers, Improved Pink, shade 2, colour of the gums.<br>In ⅛, ¼, and ½ lb. packets ... .. per lb. | 30 | 0  |
| ,, *New Pink, in ⅛, ¼, and ½ lb. packets ... .. ,,  | 21 | 0  |
| ,, Improved Black, in ¼ and ½ lb. packets... .. ,,  | 9  | 0  |
| ,, Bow Spring, American, in ½ lb. packets... .. ,,  | 14 | 0  |
| ,, Whalebone,      ,,      ,,      ,,      ,,      ,,   | 14 | 0  |
| Other Rubbers obtained to order.  |    |    |

## S.

|   |    |   |
|---|----|---|
| Salicylic Acid, Mouth Wash ... .. per bott.                   | 3  | 3 |
| ,,   ,,   ,,   ,,   ,,   ,,   ,, per doz.                     | 28 | 0 |
| ,,   ,, Powder ... .. per                                     | 1  | 0 |
| Saliva Ejector (Mr. C. Rogers'), with wood back, complete ... | 55 | 0 |
| ,,   ,, (   ,,   ,, ), standard pattern ... ..                | 60 | 0 |
| <i>See page 31 of this Appendix.</i>                          |    |   |

Extras for ditto :—

|  |   |   |
|--|---|---|
| Mouth Tubes, Glass, plain ends ... .. each                       | 0 | 6 |
| ,,   ,,   ,, bulbous,   ,,   ,,   ,,                             | 0 | 9 |
| ,,   ,, German Silver, Nickel-plated,<br>plain or bulbous ... .. | 3 | 6 |
| India-rubber Tubing... .. per foot                               | 0 | 6 |

\*This Rubber does not require solarizing after it is vulcanized.

|   | s. | d. |
|---|----|----|
| Salt of Crystals (Allen's), for use with Battery (Mr. Snape's<br>Fig. 14, page 197) ... .. per bottle | 1  | 0  |
| Scalers set of 9 Plain octagon (Dr. Abbott's) ... .. each   | 1  | 2  |
| "  "  7  "  Blued (Dr. Atkinson's) ... .. "   | 2  | 3  |
| "  "  10  "  (Dr. Baylis') ... .. "   | 1  | 2  |
| "  "  3  "  (Dr. Parmley Brown's) ... .. "  | 1  | 6  |
| "  "  3  "  Blued (Dr. Chappell's) ... .. "   | 1  | 6  |
| "  "  6  "  (Dr. Lord's) ... .. "   | 1  | 2  |
| "  "  6 Ebony octagon (Dr. Rigg's) ... .. "   | 4  | 6  |
| "  "  6 Plain " ( " ) ... .. "  | 1  | 9  |
| "  "  10  "  (Dr. Sheffield's) ... .. per set   | 14 | 6  |
| "  "  10  "  ( " ) ... .. each  | 1  | 6  |
| " <i>Plain octagon, Nickel-plated, extra</i> ... .. "   | 0  | 4  |
| Scott's Specific for Neuralgia, &c. ... .. per bottle   | 2  | 6  |
| "  "  " $\frac{1}{4}$ , $\frac{1}{2}$ , or 1 doz. bottles ... .. per doz.                             | 27 | 0  |
| Screws for Stumps (Figs. 9 and 10, page 93), Nickel-plated,<br>extra ... .. each                      | 0  | 6  |
| "  "  American pattern, in Ebony octagon<br>handles ... .. "  | 6  | 0  |
| Silicon Powder for polishing ... .. large pkt. 6d., small pkt.  | 0  | 3  |
| Socket Handle (Dr. Jack's), for screw Plugger Points ... ..   | 3  | 6  |
| "  (Dr. Butler's " " " " " " ... ..   | 2  | 6  |
| Soldering Iron Heaters (Fletcher's)... .. each 2/6, and   | 7  | 6  |
| Solid Flame Burners (Fletcher's, Fig. 45) 1 in. and 2 in.<br>diameter ... .. each 3/6                 | 6  | 0  |
| Extra Gauzes for ditto ... .. " 3d.   | 0  | 4  |
| Solid Flame Burner (Fletcher's, Fig. 46), dull Nickel-plated ... ..                                   | 5  | 0  |
| "  ( " " 46B), " ... ..   | 5  | 0  |
| "  ( " " " ), Japanned ... ..   | 4  | 0  |
| Extra Gauzes, per piece, plain 4d., nickelled ... ..  | 0  | 5  |
| India-rubber tubing, smooth inside, for Solid Flame<br>Burners ... .. per foot                        | 0  | 6  |
| Spatula, Bone (Fletcher's) for Cement Stoppings ... ..  | 0  | 4  |
| "  for (Grass and Worff's and Poulson's) Cements<br>plain octagon blued ... ..                        | 1  | 3  |
| "  for (Fletcher's) Porcelain, &c., double-ended, Nickel-plated<br>... ..                             | 3  | 0  |

|   | s.   | d.   |
|---|------|------|
| Spatula for Cement (Dr. Weston's) double-ended ... ..   | 1    | 9    |
| "    "    "    "    "    "    Nickel-plated ... ..  | 2    | 1    |
| Spatulas (Dr. Witzell's), set of 2, Nickel-plated ... .. each   | 1    | 6    |
| Spittoon Basins, blue glass, extra large sizes, each from 7s. 6d. to 10   | 6    |      |
| "    (S. S. White's) No. 2, with cup for holding gold,<br>&c., made of spun brass, handsomely Nickel-plated   | each | 43 0 |
| "    (S. S. White's) No. 4,                     "    "    "    "    "   | 21   | 6    |
| "    (    "    ) No. 5, with cap only           "    "    "   | 9    | 9    |
| "    (    "    ) No. 5, without cap           "    "    "   | 8    | 8    |
| Funnel, claret-coloured glass, for protecting<br>nickelled Spittoons from injury by Mercury, &c.  | ...  | 3 3  |
| "    Bracket for Dental Chairs (S. S. White's), No. 2, closing ring   | 21   | 6    |
| Stand, with swivel joint for blow-pipe (Fletcher's), complete<br>with blow-pipe ... ..  | 7    | 0    |
| "    "    "    "    "    "    "    "    "    "    "    "    "    "    "    "    "<br>with Tap for gas ... ..  | 8    | 6    |
| Steam Swager (Messrs. Rose & Humby's Patent) for swaging<br>or pressing plates of soft metal into any desired<br>shape by steam pressure, complete with Pressure<br>Gauge and Gas-burner ... .. | 63   | 0    |
| Meter Metal for ditto in Discs... .. per lb.  | 2    | 6    |

This apparatus "is invaluable for bringing out, polished, the upper and lower surfaces of the palate, of a Celluloid or Vulcanite case; also for making a plate to take the place of a wax matrix for mounting teeth upon; and it is also most useful for making a preparatory plate to try in the mouth to see if the impression is correct."—See *Monthly Review of Dental Surgery*, July, 1879, page 286.

|  |    |   |
|--|----|---|
| Steel Bur for Vulcanite Work, large bud shape ... ..                     | 4  | 0 |
| Stoppers, Plain octagon ... .. set of 12 (Dr. Abbott's) each             | 1  | 2 |
| "    "    Nickel-plated                     "    "    (    "    )    "   | 1  | 6 |
| "    Taper ... ..                     "    36 (    "    )    "           | 2  | 0 |
| "    "Omega" ... ..                     "    13 (Dr. Atkinson's) per set | 35 | 0 |
| "    "    ... ..                     "    "    (    "    )    each       | 2  | 9 |
| "    Oxychloride Cement                     "    7 (    "    )    "      | 2  | 0 |

|  |                                      |         | <i>s.</i> | <i>d.</i> |
|--|--------------------------------------|---------|-----------|-----------|
| Stoppers, Smooth   | ... set of 12 blued (Dr. Buckland's) | each    | 1         | 9         |
| " Bevelled   | ... .. set of 6 (Dr. Butler's)       | "       | 4         | 0         |
| " "Gold Builders "   | ... .. 13 (Dr. Chappell's)           | per set | 60        | 0         |
| " " " " "  | ... .. ( " )                         | each    | 5         | 0         |
| " File cut   | ... .. 33 (Dr. Darby's)              | "       | 2         | 0         |
| " for string gold, Nickel-plated (Dr. Dennett's)   | ... ..                               | "       | 8         | 0         |
| " for Chloride of Zinc, in hard Platinum, Ivory handles, set of 4 (Dr. Francis's)                                  | ... ..                               | "       | 6         | 6         |
| " " " " " " "  | ... ..                               | per set | 24        | 0         |
| " Plain octagon  | ... .. set of 12 (Dr. Head's)        | each    | 1         | 2         |
| " " " Nickel-plated " " ( " )  | ... ..                               | "       | 1         | 6         |
| " Taper  | ... .. ( " )                         | "       | 1         | 9         |
| " "Convex "  | ... .. 5 (Dr. Mills')                | per set | 16        | 0         |
| " " " " ( " )  | ... ..                               | each    | 3         | 3         |
| " File cut   | ... .. set of 30 (Dr. Redman's)      | "       | 2         | 0         |
| " Plain Octagon, Blued   | ... .. 8 (Dr. Slayton's)             | "       | 2         | 0         |
| " " " " set of 10 (Dr. Stellwagen's)   | ... ..                               | "       | 1         | 9         |
| " Swelled  | ... .. 18 (Dr. Watling's)            | "       | 3         | 0         |
| " Plain octagon, Blued   | ... .. 12 (Dr. Weston's)             | "       | 2         | 0         |
| " Varney handles   | ... .. 15 (Dr. Wilson's)             | "       | 4         | 0         |
| " Nerve, plain oct. Nickel-plated, set of 4 (Dr. Witzell's)  | ... ..                               | "       | 1         | 4         |
| " Amalgam, double-ended, Nickel-plated, set of 3 (Dr. Woodson's)   | ... ..                               | "       | 3         | 0         |
| " for Amalgam, File cut, set of 12...  | ... ..                               | "       | 2         | 0         |
| " " Automatic Mallets with plain taper ends (Dr. Butler's, Dr. Jack's, Dr. Varney's and Mr. Stevens' forms) ... .. | ... ..                               | "       | 1         | 3         |
| " " Automatic and Pneumatic Mallets, same forms as above, with screw ends ... ..                                   | ... ..                               | "       | 1         | 6         |
| " "New York," plain octagon ... ..   | ... ..                               | "       | 1         | 2         |
| " " Nickel-plated ... ..   | ... ..                               | "       | 1         | 6         |
| " for Plastic and Crystalline Gold, set of 12, $\frac{3}{8}$ in., File cut handles ... ..                          | ... ..                               | "       | 2         | 6         |
| " for Plastic Fillings, set of 9, in Ebony handles ...   | per set                              | 25      | 0         |           |
| " " " " " "  | each                                 | 0       | 3         |           |



|   |                       |       |      |
|---|-----------------------|-------|------|
| Stoppers, for Plastic Fillings, set of 9, in plain octagon handles, Blued | per set               | s. d. | 15 0 |
| „ „ „ „ „ „   | each                  | 1 9   |      |
| „ for Plastic Gold, 7-in. plain octagon, set of 18                        | „                     | 1 2   |      |
| „ „ „ Nickel-plated...  | „                     | 1 6   |      |
| Stoppings :   |                       |       |      |
| Agate Cement, in $\frac{1}{2}$ oz. packets                                | per pkt.              | 8 6   |      |
| Ash & Sons' Rock Cement, in 5 Shades, A to E                              | „                     | 7 6   |      |
| „ „ Powder only   | „                     | 5 6   |      |
| „ „ Liquid  | „                     | 2 6   |      |
| „ „ Three Powder and one Liquid, small size, in box                       | „                     | 9 6   |      |
| Caulk's Diamond Point Gutta Percha, in $\frac{1}{2}$ ozs.                 | per oz.               | 20 0  |      |
| Cohesive Tin, in $\frac{1}{2}$ oz. boxes                                  | „                     | 13 0  |      |
| Davis's No. 2 Amalgam   | „                     | 13 0  |      |
| „ „ „   | per $\frac{1}{2}$ oz. | 6 6   |      |
| Flagg's Plastic Enamel  | per pkt.              | 4 4   |      |
| Fletcher's Dentine, Half size   | „                     | 3 0   |      |
| „ „ Liquid, in corked bottle  | „                     | 1 0   |      |
| „ Porcelain Cement  | per pkt.              | 6 0   |      |
| „ „ Powder only   | 2 oz. bott.           | 10 0  |      |
| „ „ Paste   | per jar               | 2 0   |      |
| „ Colouring matter, Pink, Drab, or Blue for Porcelain Cement              | per tube              | 0 6   |      |
| „ Copal Ether Varnish for ditto   | „ bott.               | 1 0   |      |
| „ White Enamel, Half size   | per pkt.              | 3 6   |      |
| „ „ Powder only   | „ bott.               | 6 0   |      |
| „ „ Liquid, in corked bottle  | „                     | 1 0   |      |
| Foundation Cement, in $\frac{1}{2}$ oz. packets                           | per pkt.              | 8 6   |      |
| Franzelius' „ Liquid only   | „ bott.               | 2 6   |      |
| Grass and Worff's New Enamel Cement, 4 shades                             | „ pkt.                | 7 6   |      |
| Guillois' Cement, Powder only   | „ bott.               | 4 0   |      |
| Lippold's Gutta Percha  | „ pkt.                | 5 0   |      |
| Poulson's Mineral Cement, 6 shades, ordinary or quick-setting             | „ „                   | 7 6   |      |
| Robertson's Standard Amalgam  | „ oz.                 | 25 0  |      |
| „ „ „   | per $\frac{1}{2}$ oz. | 12 6  |      |

| Stoppings— <i>continued</i> :  |                              | <i>s.</i> | <i>d.</i> |
|--|------------------------------|-----------|-----------|
| Robertson's X L Amalgam  | ... .. per oz.               | 12        | 6         |
| " " "  | ... .. per $\frac{1}{2}$ oz. | 6         | 3         |
| Slayton's Felt Foil, in $\frac{1}{4}$ , $\frac{1}{2}$ , and 1 oz. packets...                                     | per oz.                      | 20        | 0         |
| S. S. White's Gutta Percha Pellets, in $\frac{1}{2}$ oz. packets   | " "                          | 20        | 0         |
| Weston's Insoluble Cement, slow or quick-setting   | per pkt.                     | 8         | 6         |
| " Non-Irritant "   | " "                          | 4         | 4         |
| String Gold Plugger (Dr. Dennett's), Nickel-plated   | ... ..                       | 8         | 0         |
| Suction Valves (Dowsett's), Gold   | ... .. each                  | 3         | 6         |
| " " (Marston's Patented) in Dental Alloy   | ... .. "                     | 5         | 0         |
| Syringe, Abscess (Dr. Farrar's), in Morocco case, with two Gold points   | ... ..                       | 32        | 6         |
| " " (Dr. Farrar's), in Morocco case, with two Gold points, and one Charging Tube...                              | ... ..                       | 41        | 0         |
| " " (Dr. Farrar's), in Morocco case, with two Gold points, one Charging Tube, two Hypodermic points, and one Hub | ... ..                       | 49        | 6         |
| Extras for ditto :—  |                              |           |           |
| Gold Drop points   | ... .. each                  | 5         | 6         |
| Charging Tubes   | ... .. "                     | 8         | 6         |
| Hubs to carry points   | ... .. "                     | 2         | 2         |
| Hypodermic "   | ... .. "                     | 3         | 3         |
| " Glass, with Nickel - plated metal casing, for Abscesses, &c., American pattern                                 | ... ..                       | 11        | 6         |
| " Hypodermic   | ... ..                       | 19        | 6         |

## T.

|   |             |   |   |
|---|-------------|---|---|
| Teeth Objects for Microscope, best  | ... .. each | 3 | 0 |
| " Regulators (Dr. Farrar's). ( <i>See Wrench, Lever, and Screw Apparatus.</i> ) |             |   |   |
| Thermometers, Glass, for French Vulcanizers, Centigrade                         | ... .. "    | 4 | 9 |
| Tongue Guard and Clamp (Mr. C. Rogers'), right and left, Nickel-plated          | ... .. "    | 3 | 6 |
| Tooth Brushes. ( <i>See Brushes.</i> )  |             |   |   |
| " Holders for holding teeth when grinding, &c.                                  | ... .. "    | 4 | 0 |

|   |     |         |      | s. | d. |
|---|-----|---------|------|----|----|
| Tooth Holders for holding teeth, small, in brass  | ... | ...     | each | 1  | 0  |
| " " " " in wood handles   | ... | ...     | "    | 1  | 0  |
| " Powder (S. S. White's), No. 2, in 1 lb. packets                                       | ... | per lb. |      | 4  | 4  |
| " Soap ( " ), per box of 1 dozen packets,<br>mint or wintergreen flavour, 8/8; per pkt. |     |         |      | 1  | 0  |
| " " ( " ), per box of 1 dozen packets,<br>rose flavour, 10/9;                           |     |         | "    | 1  | 3  |
| Tweezers, Annealing (Dr. Perry's)   | ... | ...     | each | 3  | 0  |
| " " ( " ), Nickel-plated  | ... | ...     | "    | 4  | 0  |
| " "College" Nickel-plated   | ... | ...     | "    | 4  | 0  |
| " Plugging (Dr. Witzell's), set of 4  | ... | ...     | "    | 6  | 6  |
| " " ( " ), Nickel-plated  | ... | ...     | "    | 7  | 9  |
| " or Tape Forceps (Dr. Holmes')   | ... | ...     | "    | 9  | 6  |
| " " " ( " ), Nickel-plated...   |     |         | "    | 10 | 9  |

## V.

|  |     |     |           |     |   |
|--|-----|-----|-----------|-----|---|
| Vaseline, an emollient   | ... | ... | per bott. | 1   | 0 |
| Von Bonhorst's Anæsthetic  | ... | ... | "         | 6   | 6 |
| " " Applicator   | ... | ... | ...       | 5   | 0 |
| Vulcanite Finishers (Dr. Kingsley's), set of 6   | ... | ... | per set   | 6   | 0 |
| " " ( " ),   | ... | ... | each      | 1   | 1 |
| Vulcanizer, Portable, <i>extra large size</i> (Fig. 88, page 243)<br>with Thermometer, Gas Burner or Spirit<br>Lamp, Spanner, Packing-remover and Fusible<br>Plugs, complete | ... | ... | ...       | 130 | 0 |
| " fitted with Pressure Gauge instead of Ther-<br>mometer, extra  | ... | ... | ...       | 15  | 0 |
| " fitted with Gartrell's Patent Gas-regulating<br>Gauge, extra   | ... | ... | ...       | 42  | 6 |
| " with safety valve, extra   | ... | ... | ...       | 17  | 6 |
| " " tap for blowing off steam, extra   | ... | ... | ...       | 7   | 6 |

N.B.—This Vulcanizer will take the largest size  
Flasks, with clamp and wedge.

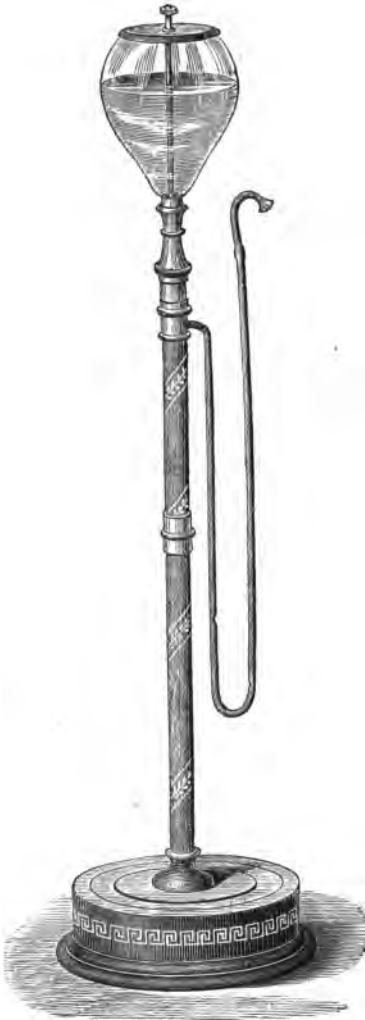
Dimensions of boiler:— $9\frac{1}{2}$  in. deep by  $4\frac{1}{4}$  in.  
diameter, inside measure.

Other Vulcanizers obtained to order.

## W.

|  |              |    |   | <i>s.</i> | <i>d.</i> |
|--|--------------|----|---|-----------|-----------|
| Wax Knives, double-ended, (Dr. Fahnestock's) ... ..  | each         | 1  | 6 |           |           |
| „ Paraffin, for modelling, in $\frac{1}{2}$ lb. packets ... ..   | per lb.      | 2  | 4 |           |           |
| Wedge Cutters (Fig. 89 and improved, page 163), Nickel-plated, extra ... ..                            | each         | 1  | 3 |           |           |
| „ „ (Dr. Miller's) ... ..  | „            | 9  | 6 |           |           |
| „ „ ( „ ), Nickel-plated ... ..  | „            | 10 | 9 |           |           |
| Weights, decimals of the ounce Troy ... ..   | per set      | 4  | 0 |           |           |
| Wires, set of, for use with Electrical Apparatus (Fig. 14, p. 197)                                     |              | 4  | 6 |           |           |
| Weston's Plugging Assistant, double-ended, right and left ...  |              | 1  | 6 |           |           |
| Wood Boxes covered with morocco paper, for sets ... ..   | each         | 0  | 5 |           |           |
| „ „ „ „ „ „ „ „ half-sets ... ..   | „            | 0  | 4 |           |           |
| „ „ „ „ „ „ „ „ pieces ... ..  | „            | 0  | 3 |           |           |
| Wood's Acme Impression Compound, in $\frac{1}{2}$ lb. packets ... ..                                   | per lb.      | 6  | 0 |           |           |
| Wrench, Lever and Screw Apparatus for regulating teeth,<br>(Dr. Farrar's) made of 18-carat gold ... .. | per set of 4 | 57 | 0 |           |           |
| If supplied separately, No. 1 ... ..   |              | 17 | 3 |           |           |
| „ „ „ „ 2 ... ..   |              | 16 | 3 |           |           |
| „ „ „ „ 3 ... ..   |              | 15 | 0 |           |           |
| „ „ „ „ 4 ... ..   |              | 8  | 8 |           |           |
| Large Band or Loop, extra ... ..   |              | 4  | 4 |           |           |
| Small „ „ „ „ „ ..   |              | 3  | 3 |           |           |

## SALIVA EJECTOR.

*(Mr. C. Rogers' Improved.)*

The value and importance of an instrument that shall remove the saliva from the mouth, cannot be over-estimated as regards the comfort of either the patient or the operator, the important point being that it shall work automatically for several hours, and yet be independent of a large supply of water.

The Saliva Ejector is an instrument which is found to meet these requirements. It is made in two patterns, the old or "Wall" and the "Standard."

Of the two patterns the "Standard" is represented in the accompanying illustration. It is elegant in appearance, simple in construction, and easily regulated. The glass vessel at the top of the instrument holds about three pints of water, which, acting upon the principle of the old mercurial air pump, passes inside the tube and discharges itself into the receiver, which is placed under the stand of the Ejector. It can be placed behind or at the side of the chair, as may be desired, and put aside when not in use.

## DIRECTIONS.

To prepare the Ejector for use, remove the nickel-plated lid of the glass vessel, fill the vessel with clean water, replace the lid, unscrew the milled button on the top two or three turns, and allow the water to pass freely through the tube for a few seconds; then screw up the button just far enough to allow the water to pass through in drops, when a slight turn one way or the other will be found sufficient to regulate the action.

The mouth-tube can be cleansed by running a little fresh water through it.

|   |              |     |
|---|--------------|-----|
| "Standard" Saliva Ejector, with bright parts nickel-plated, complete    | s.           | d.  |
| with glass mouth tube, and length of india-rubber tubing                | 60           | 0   |
| "Wall" pattern, complete, with glass mouth-tube and india-rubber tubing | 55           | 0   |
| Mouth-tubes, glass, with bulbous ends                                   | each         | 0 9 |
| " " " plain   | "            | 0 6 |
| " German Silver, nickel-plated, with plain or bulbous ends              | "            | 3 6 |
| India-rubber tubing   | ... per foot | 0 6 |

THE WILKERSON DENTAL CHAIR.



|   |     |          |     |              | <i>s.</i> | <i>d.</i> |
|---|-----|----------|-----|--------------|-----------|-----------|
| In Dark Crimson or Green Plush                | ... | ...      | ... | ...          | 700       | 0         |
| "    "    "    "    with lateral movement     | ... | ...      | ... | ...          | 740       | 0         |
|   |     |          |     | Boxing extra | 30        | 0         |
| Attachment, Bracket Table, and Spittoon, from | ... | 73s. 6d. | to  | 173          | 0         | 0         |

Full description of Chair, &c., sent on application.

**IMPROVED PRESS**  
 FOR  
**MAKING PIECES FROM CELLULOID PLATES,**  
 MANUFACTURED BY  
**C. ASH & SONS.**

**ADVANTAGES.**

This Apparatus, invented by Messrs. ROSE & HUMBY, possesses the following advantages:—

The Press being attached to the Cover, can be separated from the Heating Chamber immediately the steam is blown off, and plunged, with the Flask and its contents, into cold water, thus saving a considerable time in the cooling process.

The Screw of the Press, which closes the Flask, is turned so easily that there is no difficulty in ascertaining the exact amount of pressure which is being applied.

The Chamber and Cover are made of Gun Metal, and are turned inside and out to ensure the necessary cleanliness required in working Celluloid.

**DIRECTIONS FOR USE.**

When the Flask is charged and placed in the Press, and the Press is put into the Heating Chamber, and firmly secured thereto by means of the four screws and nuts, the heat should be got up to 250° Fahr. to soften the Celluloid; then begin gradually to turn the Screw of the Press until the Flask is closed.

Then turn the Steam Tap to let off the steam, undo the four nuts, and lift out the Press containing the Flask, and plunge it into water to cool.

The Celluloid Piece can then be separated from the mould, and be filed up and polished ready for use.

|  | s.  | d. |
|--|-----|----|
| Price of Press complete, with India-rubber Collar,<br>Thermometer, Steam Tap, and Gas Burner,<br>or Spirit Lamp ... .. | 100 | 0  |
| Ditto, ditto, fitted with Steam Pressure Gauge,<br>instead of Thermometer, extra ... ..                                | 15  | 0  |
| Ditto, ditto, fitted with Gartrell's Patent Gas-<br>regulating Pressure Gauge, extra ... ..                            | 42  | 6  |
| <i>Extras</i> :—Flasks ... .. each   | 5   | 6  |
| India-rubber Collars ... .. „  | 1   | 0  |
| Thermometers ... .. „  | 7   | 6  |

*[For Engraving and Description, see next page.]*