

VIENNA UNIVERSAL EXHIBITION,
1873.

ILLUSTRATED APPENDIX,

CONTAINING

DESCRIPTIVE NOTICES

AND

ADVERTISEMENTS.

J. M. JOHNSON & SONS,
PRINTERS AND PUBLISHERS TO THE BRITISH ROYAL COMMISSION,
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Alphabetical Index to Descriptive Notices, &c.

	PAGE
ADAMS, J., <i>Furniture Polish</i> , VICTORIA PARK, SHEFFIELD	15
AINSWORTH, THOMAS, <i>Linen Threads, Tapes, &c.</i> , CLEATOR MILLS, WHITEHAVEN, AND LONDON	27
BALDWIN, E. P. & W., <i>Charcoal Sheet Iron, &c.</i> , WILDEN IRON WORKS, NEAR STOURPORT..	36
BARLOW & JONES, <i>Spinners, Manufacturers, &c.</i> , ALBERT MILLS, BOLTON, AND 7, MILK STREET, LONDON.. .. .	28
BARTLEET, W., & SONS, <i>Needles and Fish Hooks</i> , ABBEY NEEDLE MILLS, REDDITCH ..	51
BARTON, JAMES, <i>Patent Stable Fittings</i> , 370, OXFORD STREET, LONDON	12
BERGUE, C. DE, & CO., <i>Engineers and Contractors</i> , 10, STRAND, LONDON	43
BOND, M. A., (now Hickisson), <i>Marking Inks, &c.</i> , 75, SOUTHGATE ROAD, LONDON	13
BORWICK, G., & SONS, <i>Baking Powder</i> , CHISWELL STREET, LONDON	18
BRADBURY & CO., <i>Sewing Machines</i> , OLDHAM, NEAR MANCHESTER. (Inside Front Cover.)	
BRADFORD, T., & CO., <i>Washing Machinists and Laundry Engineers</i> , 63, FLEET STREET, LONDON	43
BRINSMEAD, JOHN, & SONS, <i>Pianos</i> , 18, WIGMORE STREET, LONDON	52
BRITISH SEAWEED COMPANY, LIMITED (THE), <i>Pure Chemicals</i> , 154, WEST REGENT STREET, GLASGOW	11
BROOK, JONAS, & BROTHERS, <i>Sewing, Crochet, and Embroidery Cottons</i> , MELTHAM MILLS, NEAR HUDDERSFIELD	23
BROWN & CO., <i>Iron Boiler Tubes, &c.</i> , THE WEDNESBURY TUBE WORKS, WEDNESBURY, STAFFORDSHIRE	32
BURNEY & CO., <i>Tanks, &c.</i> , MILLWALL DOCKS, LONDON	32
CARTER, JAMES, & CO., <i>Seeds</i> , 237 AND 238, HIGH HOLBORN, LONDON	11
COALBROOK-DALE COMPANY, THE, <i>Iron-Masters, &c.</i> , COALBROOK-DALE, SHROPSHIRE	31
COATS, J. & P., <i>Sewing, Tatting, and Crochet Cottons</i> , FERGUSLIE WORKS, PAISLEY ..	20
CHATWOOD, S., <i>Invincible Safes</i> , LANCASHIRE SAFE AND LOCK WORKS, BOLTON	38
COCKER BROTHERS, <i>Steel, Steel Wire, &c.</i> , SHEFFIELD	35
DAVIES, M. H., <i>Iron Roofs, Workshops, &c.</i> , GRANGE ROAD, BERMONDSEY	12
DAVIS, J. C., " <i>Excelsior</i> " <i>Knife Cleaner</i> , 69, LEADENHALL STREET, LONDON	51
DERHAM, JOHN J., <i>Steam Engines, &c.</i> , BLACKBURN, LANCASHIRE	41
EDWARDS & TODD, <i>Magic Tincture</i> , 16, ROBERTSON STREET, HASTINGS	50
ENGERT & ROLFE, <i>Felt for Roofing</i> , POPLAR NEW TOWN, LONDON	19
ESTEY & CO., <i>Cottage Organs</i> , BRATTLEBORO', VERMONT, U.S.A.	52
EVERITT, ALLEN, & SONS, <i>Brass Tubes, Wire, &c.</i> , BIRMINGHAM	39
FIELD, J. C. & J., <i>Patent Ozokerit Candles, &c.</i> , LAMBETH MARSH, LONDON	14
FLEMING, THOMAS, & SONS, <i>Diamond Sectoral Wire, &c.</i> , WEST GROVE MILL, HALIFAX, YORKSHIRE	29
FRODSHAM, C., & CO., <i>Watches, Chronometers, &c.</i> , 84, STRAND, LONDON	52
GIBBS, JAMES, & COMPY., <i>Manures, &c.</i> , 16, MARK LANE, LONDON	10
GILLOTT, JOSEPH, <i>Steel Pens</i> , BIRMINGHAM	51
GLENCOVE COMPANY, <i>Maizena, Starch, &c.</i> , NEW YORK, U.S.A., AND 33, EASTCHEAP, LONDON	54
GRAY, PHILIP, " <i>Anglesey</i> " <i>Artificial Legs</i> , 7, CORK STREET, BURLINGTON GARDENS, LONDON	49

	PAGE
GRIESELICH, H., & CO., <i>General Commission Merchants</i> , 59, BASINGHALL STREET, LONDON	15
GOODALL, BACKHOUSE & CO., <i>Yorkshire Relish, &c.</i> , BOAR LANE, LEEDS	17
GREEN, E., & SON, <i>Patent Fuel Economiser</i> , 14, ST. ANN'S SQUARE, MANCHESTER	44
HARRIS, S. & H., <i>Harness Blacking &c.</i> , 57, MANSELL STREET, WHITECHAPEL, LONDON	53
HAYNES & SONS, " <i>Hydronette</i> ," 227, EDGWARE ROAD, LONDON	45
HAZEON, THOMAS, & CO., <i>Grindstones, &c.</i> , 103, LEADENHALL STREET, LONDON	51
HEAD, WRIGHTSON & CO., <i>Pulleys, Blocks, Hoists, &c.</i> , STOCKTON-ON-TEES	42
HEMINGWAY, S., & CO., <i>New Dry Soap</i> , TRAFALGAR STREET, BRADFORD, YORKSHIRE	15
HESLOP & WILSON, <i>Engineers</i> , NEWCASTLE-ON-TYNE	53
HORNSBY, R., & SONS, <i>Mowers, Reapers, &c.</i> , SPITTELEGATE IRON WORKS, GRANTHAM	46
HOWE MACHINE COMPANY, THE, <i>Sewing Machines</i> , 150, CHEAPSIDE. (Outside Back Cover).	
HOWORTH, JAMES, <i>Ventilators</i> , FARNWORTH, ENGLAND	30
HUNTLEY & PALMERS, <i>Biscuit Works</i> , READING	16
HYNAM, JOHN, <i>Plumbago Crucibles</i> , TANNER'S HILL, DEPTFORD, KENT	39
INTERNATIONAL EXHIBITION, PHILADELPHIA, U.S.A., 1876	6
JACOBY, M., & CO., <i>Valenciennes, Curtains, &c.</i> , STONEY STREET, AND BROADWAY, NOTTINGHAM	22
JOHNSON & ELLINGTON, <i>Hydraulic Cranes, &c.</i> , CHESTER	31
JOHNSON, JABEZ, & FILDES, <i>Quiltings, &c.</i> , 44, SPRING GARDENS, MANCHESTER, AND 6, MILK STREET, CHEAPSIDE, LONDON	27
JOHNSON, J. M., & SONS, <i>Chromo Printers and Show Tablet Manufacturers</i> , 56, HATTON GARDEN, LONDON. (Inside Back Cover.)	
JOHNSON, MATTHEY & CO., <i>Platinum Apparatus</i> , HATTON GARDEN, LONDON	9
JONES, T. & J. H., EVANS & CO., <i>Flannels, Tweeds, &c.</i> , NEWTOWN, NORTH WALES	19
KENT, G. B., & CO., <i>Brushes, &c.</i> , 11, GREAT MARLBOROUGH STREET, LONDON	39
KENT, GEORGE, <i>Rotary Knife Cleaner</i> , 199 TO 201, HIGH HOLBORN, LONDON	49
KENYON, JOHN, & CO., <i>Steel Converters and Refiners</i> , SHEFFIELD	33
KIRKSTALL FORGE COMPANY, LEEDS, YORKSHIRE	7
LAWRENCE, W., & CO., <i>Patent Capillary Refrigerator</i> , 14, ST. MARY AXE, LONDON	44
LLOYD, ATTREE & SMITH, <i>Manufacturers and Warehousemen</i> , 32 AND 33, WOOD STREET, LONDON	25
LLOYD, EDWIN, <i>Portable and Villa Conservatories</i> , HORTICULTURAL WORKS, GRANTHAM, LINCOLNSHIRE	12
MAIN, A. & J., & CO., <i>Iron Bridges, &c.</i> , SCOTT STREET, PORT DUNDAS, GLASGOW	12
MAPPLEBECK, HOWARD, & CO., <i>Saddlery, &c.</i> , 44, BRADFORD STREET, BIRMINGHAM	53
MATHER & PLATT, <i>Bleaching, Printing, and Dyeing Machinery, &c.</i> , SALFORD IRON WORKS, MANCHESTER	43
MEYER & DAVIS, <i>Rattans, Canes, &c.</i> , 56, SOUTHWARK STREET, LONDON	30
MURCOTT, T., <i>Gun Maker</i> , 68, HAYMARKET, LONDON	30
MURRAY, G. W., <i>Threshing Machines, &c.</i> , BANFF FOUNDRY, SCOTLAND	50
MYERS, A., & SON, <i>Works of Art, &c.</i> , 171, NEW BOND STREET, LONDON	29
NORTHCOTE, S., & CO., <i>Laces, Muslins, &c.</i> , 28 AND 29, ST. PAUL'S CHURCHYARD, LONDON	24
OCLEE, F. H., <i>Surgeon Dentist</i> , 31, NEW BAILEY STREET, SALFORD, MANCHESTER	51
OMMANNEY & TATHAM, <i>Engineers, Millwrights, &c.</i> , SALFORD, MANCHESTER	31
ORME, FREDERICK, <i>Noiseless Fans, &c.</i> , 70 AND 71, BISHOPSGATE STREET, LONDON	37
PATENT NUT AND BOLT COMPANY (LIMITED), <i>Bolts, Nuts, &c.</i> , LONDON WORKS, NEAR BIRMINGHAM	32
PEARSON, J. G., & CO., <i>Edge Tools, Saws, &c.</i> , HOPE WORKS, FURNACE HILL, SHEFFIELD	39
PELLATT & CO., FALCON GLASS WORKS, BLACKFRIARS, LONDON	52
PELLATT & WOOD, <i>Glass and China</i> , 25, BAKER STREET, PORTMAN SQUARE, LONDON	52
PICKERING, J., <i>Polishing Paste, &c.</i> , SHEFFIELD	13

	PAGE
PIESSE & LUBIN, <i>Perfumers</i> , 2, NEW BOND STREET, LONDON	50
PIM BROTHERS & CO., <i>Irish Poplins</i> , DUBLIN, AND 30, MILK STREET, LONDON	19
PULVERMACHER, J. L., <i>Galvanic Chain Bands, &c.</i> , 168, REGENT STREET	50
RABONE, JOHN, & SON, <i>Boxwood and Steel Rules, &c.</i> , WHITMORE STREET, HOCKLEY, BIRMINGHAM	49
RATCLIFF & TYLER, <i>Brass Founders, &c.</i> , BIRMINGHAM	51
ROBEY & CO., <i>Agricultural and General Engineers</i> , LINCOLN	47
RUNCORN SOAP & ALKALI COMPANY (LIMITED), <i>Sodas, &c.</i> , THE OLD SOAP WORKS, RUNCORN	15
RUSTON, PROCTOR & CO., <i>Agricultural Engineers</i> , LINCOLN	48
RYLANDS & SONS, <i>Cotton Spinners</i> , GORTON MILLS, NEAR MANCHESTER, AND WOOD STREET AND PHILLIP LANE, LONDON	26
SHARP, PERRIN & CO., <i>Manufacturers and Warehousemen</i> , 31, OLD CHANGE, LONDON ..	25
SPEAR & JACKSON, <i>Steel Saws, Files, &c.</i> , ETNA ^s WORKS, SHEFFIELD	34
SMITH, THOMAS OGILVIE, <i>Edinburgh Liquid Blue</i> , EDINBURGH	14
STEWART, S. R., & CO., <i>Combs, &c.</i> , ABERDEEN	39
STREETER, E. W., <i>Jeweller</i> , 37, CONDUIT STREET, LONDON	Back of Binding and 29
SUTTON & SONS, <i>Seeds</i> , READING	11
TAPLING, THOMAS, & CO. <i>Carpets and Rugs</i> , 1 TO 8, GRESHAM STREET WEST, LONDON ..	21
TEMPLETON, JAMES, & CO., <i>Axminster Carpets</i> , GLASGOW, AND 77, NEWGATE STREET, LONDON	26
TEMPLETON, J. & J. S., <i>Brussels and Wilton Carpeting, &c.</i> , GLASGOW, AND 77, NEWGATE STREET, LONDON	26
TURNER, ARCHIBALD, & CO., <i>Elastic Fabrics, &c.</i> , BOW BRIDGE WORKS, LEICESTER, ENGLAND	22
VIRGOE, MIDDLETON & CO., <i>Silk Squares, Scarves, Ties, &c.</i> , 17, ALDERMANBURY ..	24
WALKER, W., <i>Cabinet Maker, Upholsterer, &c.</i> , 119, BUNHILL ROW, LONDON	40
WANZER, THE LITTLE, <i>Lock Stitch Sewing Machines</i> , 4, GREAT PORTLAND STREET, LONDON	28
WARNER, JOHN, & SONS, <i>Engineers</i> , 8, CRESCENT, CRIPPLEGATE, LONDON.	Inside Back Cover and 30
WATERS, J. & E., & CO., <i>Sewing Cottons</i> , TALBOT MILLS, AND 31, PORTLAND STREET, MANCHESTER	25
WELCH, MARGETSON & CO., <i>Manufacturers and Warehousemen</i> , 16 AND 17, CHEAPSIDE, LONDON	22
WELSH SLATE COMPANY, PALMERSTON QUARRY, RHIWBRYFDIR, NORTH WALES, AND 19, SPRING GARDENS, LONDON	40
WHITLEY PARTNERS, <i>Engineers and Founders</i> , RAILWAY WORKS, LEEDS	45
WHITWELL, THOMAS, <i>Patent Fire Brick Stove</i> , STOCKTON-ON-TEES	8
WILLS, A. W., <i>Hoes, Axes, Picks, &c.</i> , PARK MILLS, BIRMINGHAM	32
WILSON, ALEX., & CO., <i>The "Vauxhall Donkey Pumps,"</i> VAUXHALL IRON WORKS, WANDSWORTH ROAD, LONDON	44
WOODWARD, GROSVENOR & CO., <i>Brussels Carpets, Rugs, &c.</i> , STOUR VALE MILLS, KIDDERMINSTER, AND 102, NEWGATE STREET, LONDON	19
YOUNGER, WILLIAM, & CO., <i>Ales, Abbey and Holyrood Breweries</i> , EDINBURGH, AND BELVEDERE ROAD, LONDON	19
ZAEHNSDORF, JOSEPH, <i>Monastic and Illuminated Bookbinding, &c.</i> , 36, CATHERINE STREET, COVENT GARDEN, LONDON	39

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See Specimens exhibited in the Agricultural Hall of the Vienna Universal Exhibition,

P 2

UNITED STATES

1776—INTERNATIONAL EXHIBITION—1876



IN
Commemoration
 OF THE
 ONE HUNDREDTH BIRTHDAY
 OF THE NATION.



THE Congress of the United States of America having enacted that an International Exhibition should be held in the City of Philadelphia, in 1876, public attention is now invited to the proposed programme.

This Exhibition is to be international and universal—international, inasmuch as all nations will be invited to participate in it; and universal, because it will include a representation of all natural and artificial products, all arts, industries, and manufactures, and all the varied results of human skill, thought, and imagination.

The outlines of a simple yet comprehensive classification have been adopted. There will be ten departments, each subdivided into ten groups, and these again into classes. The details of this classification are now being elaborated, and will be published in due season, together with such rules and regulations as may be found necessary for the proper conduct and management of the Exhibition.

It is intended that ample space shall be assigned to each state, territory, and foreign country, for a just and proper display of its products. It is believed that not less than fifty square acres of floor space, under roof, will be required for this purpose. A site combining the advantages of a sufficient extent of level ground, with picturesque and cultivated surroundings, easy of access by rail, by water, and by ordinary roads, has been assigned for the buildings in the grounds of Fairmount Park, in the City of Philadelphia.

The Exhibition is to be opened on Wednesday, April 19th, 1876, with appropriate ceremonies, in which the President of the United States, the Members of the Cabinet, Governors of States, Senators, &c., together with Representatives of all Foreign Nations, will participate.

A cordial invitation is extended to every nation of the earth, to contribute illustrations of its arts, industries, progress, and developments.

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No. 3.

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3rd. Its superiority to all other forms of heating apparatus, inasmuch as in these stoves the Burning Gases are compelled, between entering and leaving the stove, to traverse the whole surface of the bricks exposed; the Air Blast in its turn also passes over the identical surfaces previously heated by the gas, and absorbs from them the heat required.

4th. Its commercial importance, as, by this method, the greatest intensity of heat in the Hot Blast for Blast Furnaces may be obtained without damage to the heating material. Its construction renders it adaptable to many other purposes where the presence of fumes renders frequent cleansing necessary.

This stove is constructed of Firebrick, and consists of a series of walls enclosed in a wrought-iron casing, and is provided with cleaning doors at the top and bottom. The price varies according to the value of material and the purpose to which the system is applied, so as to insure the greatest possible economy, as follows:—

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				Dia. Ft.	Height. Ft.	Id. Id.		
For Cupolas in the Danks and Bessemer Processes	600	2	A	12 9	21 6		2,270	£562
For Charcoal Furnaces	40	2	B	15 0	20 0		3,205	£750
For Medium Bessemer, Oolitic and Anthracite Furnaces	70 to 100	3	"	15 0	28 6		4,898	£1,500
Full-sized Bessemer, Raw Coal, or Coke	150 to 200	3	C	18 0	28 6		7,212	£2,460
"	250	3	D	22 0	28 6		10,000	£3,150
" Hematite	500	4	"	"	"	"	"	£4,200
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"	600	5	"	"	"	"	"	£5,250
"	700	6	"	"	"	"	"	£6,300

For further information apply to HERR C. GOEDECKE, Mulheim a/d Ruhr, Germany; M. MAURICE SAUTTER, Rue Chaussée d'Antin, 50, Paris; M. GUYENET, Ingenieur Civil, 83, Boulevard Magenta, Paris; Mr. W. MOSS BOWRON, F.C.S., 426, Walnut Street, Philadelphia, U. S. A., or to M. PAUL SERVAIS, my Representative, at the Exhibition, Metallurgical Department, Group I., No. 3, daily (Sundays excepted).

THOMAS WHITWELL,

STOCKTON-ON-TEES.

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COIL SYPHON.—Length of Tube 10,000 millimetres, a great improvement upon the ordinary single or double Tube Syphons of 4,000 to 5,000 millimetres in length. It is more convenient and economical in working, requires less space, is less liable to injury, and cools the Acid to an extent quite unobtainable by the old method. A large number are in successful operation.

SYPHON SERPENTIN.—La Longueur du tube est de 10,000 millimètres, ce qui est beaucoup plus avantageux que les Syphons ordinaires à tubes étroits de 4,000 à 5,000 millimètres. Il est plus commode et plus économique, occupe moins d'espace, et refroidit l'acide à un degré que ne peut atteindre l'ancien procédé. Plusieurs sont actuellement employés et partout avec le plus grand succès.

An arrangement is attached by which the Syphon empties itself if, by accident or carelessness, the boiler is not properly supplied with Acid, thus affording great protection against the most common cause of injury to these valuable articles.

Une disposition spéciale permet le Syphon de se vider de lui-même, quand, par accident ou manque de soins, la chaudière n'est pas suffisamment approvisionnée d'acide. Ce perfectionnement prévient la cause la plus commune des accidents auxquels ces précieux articles sont sujets.

PLATINUM ASSAY APPARATUS, by the use of which Gold Assays can be made with greatly increased accuracy, rapidity, and economy.

APPAREILS en PLATINE, pour les essais d'or, remplaçant les matras avec plus de précision, de rapidité et d'économie.

The especial attention of Mints and Foreign Assay Offices is called to this Apparatus, particulars of which will be forwarded on application.

Ces Appareils, dont on enverra, sur demande, des descriptions détaillées, méritent l'attention de la Monnaie et des Bureaux d'Essais Etrangers.

PLATINUM UTENSILS for Laboratory use. Crucibles, Capsules, Dishes, etc., etc.

INSTRUMENTS de PLATINE pour laboratoires, creusets, capsules &c.

IRIDIO-PLATINUM Gun Vents for heavy Ordnance, and Standard Weights and Measures, as decided upon by the Paris Commission for International use.

IRIDIO-PLATINE.—Lumières pour canons de gros calibre, étalons de poids et mesures, de la forme adoptée par la Commission de Paris pour usage international.

NUGGET OF PURE PLATINUM.—Weight, 4,728 grammes of very perfect form (*only one larger specimen is known to exist*); also Platinum Ore from various localities.

PEPITE de PLATINE PUR, pesant 4,728 grammes, de forme parfaite (*on ne connaît qu'une seule pépîte plus grosse que celle-ci*); Minerais de Platine de différentes localités.

PALLADIUM.—Ingot of pure Palladium, value 48,000 frs., extracted from native Platinum and Gold of the value of 26,000,000 frs.

PALLADIUM.—Lingot de Palladium pur (valeur 48,000 frs.), extrait de Platine et d'or natifs, de 26,000,000 frs. de valeur.

Precious and rare Metals; Chemical and Metallurgical Products.

Métaux rares et précieux; Produits Chimiques et Métallurgiques.

In the Paris Exhibition, 1867, JOHNSON, MATTHEY & CO. exhibited Platinum Apparatus, Rare and Precious Metals, and Chemical Preparations of the value of 500,000 frs., and were the only manufacturers of Platinum to whom the highest awards were made in each of the three classes under which they exhibited.

A l'Exposition de Paris en 1867, JOHNSON, MATTHEY & Cie. exposèrent des Appareils de Platine, des Métaux rares et précieux et des Préparations Chimiques, d'une valeur de 500,000 frs., et furent les seuls fabricants de platine qui obtinrent les plus hautes récompenses dans chacune des trois classes de leurs produits.

By Her
Majesty'sRoyal
Letters Patent.Silver Medal
(highest Class),Havre Universal
Exhibition, 1868.

JAMES GIBBS & COMPANY,

Members of the Bath and West of England Society,
and the "Société des Agriculteurs de France."

Offices: 16, MARK LANE, LONDON.

Works: LONDON, PLYMOUTH, NEWPORT, BRISTOL.

SOLE MANUFACTURERS OF

GIBBS' PATENT AMMONIA-FIXED GUANO,

(Group II., Section i., Agricultural Hall.)

Which has not only all the advantages offered by the best known Raw fertilisers, but also those found in the most highly concentrated Artificial Manures.

BRANDS.

All bags weigh $1\frac{1}{2}$ cwt. each, and are marked on one side, "JAMES GIBBS & COMPANY'S AMMONIA-FIXED GUANO," "PATENT." On the other is placed our registered Trade Mark (the Trefoil) in a garter; and "JAMES GIBBS & COMPY., London." The Leaden Seal bears "Ammonia-fixed Guano" on one side, and "JAMES GIBBS & COMPY., London," on the other.

GIBBS' BONE, BLOOD, AND SPECIAL MANURES,

(Group II., Section i., Agricultural Hall.)

OF THE BEST QUALITY AND IN THE HIGHEST CONDITION.

1 Dissolved Bones, "Pure."	8 Blood Manure for Corn.	15 Special Flax Manure.
2 ditto, "Extra quality."	9 Soluble Phosphatic Guano	16 ditto Grass ditto.
3 ditto, "Ordinary quality."	(Ammoniated).	17 ditto Mangold ditto.
4 Bone Manure for Turnips.	10 Special Beetroot Manure.	18 ditto Potato ditto.
5 Superphosphate of Lime, 15 to 18 per cent. P ₂ O ₅ .	11 ditto Barley ditto.	19 ditto *Sugar Cane ditto.
6 Superphosphate of Lime, 10 to 14 per cent. P ₂ O ₅ .	12 ditto Bean ditto.	20 ditto *Tobacco ditto.
7 Blood Manure for Roots.	13 ditto Clover ditto.	21 ditto Vine ditto.
	14 ditto Coffee ditto.	22 ditto Wheat ditto.

* Messrs. JAMES GIBBS & COMPY. have given special attention to the production of Manures adapted for the growth of the Sugar Cane and Tobacco Plant.

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Sp. G. 1.700, 1.712, and 1.845,

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Exhibition Official No. 13.

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THE ABOVE AWARDS HAVE BEEN MADE TO MESSRS. SUTTON FOR THE SUPERIOR QUALITY OF THEIR SEEDS.

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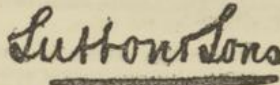
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<i>Sutton's Prize Farm Seeds,</i>	<i>Sutton's Choice Vegetable Seeds,</i>	<i>Sutton's Showy Flower Seeds.</i>
As see Models of Produce on MESSRS. SUTTON'S Stand in the British Section.	As see Models of Produce on MESSRS. SUTTON'S Stand in the British Section.	As Sown round H.R.H. the Prince of Wales's Pavilion at the Vienna Exhibition

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NOTICE.

All Packages of Seeds sent out by us bear our REGISTERED TRADE MARK.



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THE LARGEST *bona fide* GROWERS OF SEEDS IN ENGLAND.

SEEDS for the FLOWER GARDEN;
SEEDS for the FARM;
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As Harvested on CARTER & Co.'s Large Seed Farms.
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DIE GRÖSSTEN *bona fide* SÄMEREIENBAUER IN GANZ ENGLAND.

SÄMEREIEN für BLUMENGÄRTEN;
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Auf den grossen Sämereien-Baugütern der Herren CARTER & CIE., geerntet.

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(STANFORD'S PATENT.)

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A Series of Specimens illustrating the application of Carbon to House Refuse and Sewage (Stanford's Patent), are also Exhibited.



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PORTABLE VILLA CONSERVATORY.**

*Constructed upon Improved Wrought Iron
Trussed Girders and with Patent Wood
Sashes, fixed in 6-ft. Bays, no Brick Wall
being required.*



*This Conservatory is prepared ready for
fixing, Glazed with 21-in. Sheet Glass, and
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The above Illustration represents a small Conservatory, suitable for a Villa Residence, and is very economically constructed of a Combination Wood, Iron, Slate, and Glass, being designed especially for Cheapness and Portability.

ESTIMATES ON APPLICATION.

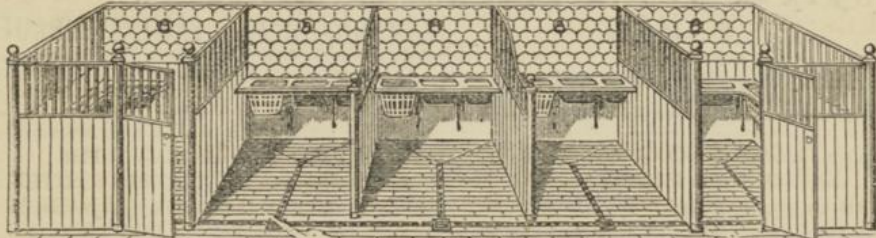
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Iron Bridges, Telegraph Posts, Tanks, &c.

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Needham's Polishing Paste

For Cleaning Brass, Copper, and Britannia Metal Goods, &c.

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For Sharpening Razors, &c.

Furniture Polish,

For Cleaning French Polish Furniture, &c.

Sheffield Knife Powder,

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Waterproof Harness Blacking,

For Black Leather Harness.

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CERTIFICATE OF MERIT, Signed, ALBERT EDWARD PRINCE OF WALES; PRIZE MEDAL LYONS; and DIPLOMA, DUBLIN.

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With each Bottle is enclosed full Directions in the English, French, German and Spanish Languages.

Crystal Palace Marking Ink Pedestal.



CAUTION. EXAMINE YOUR MARKING INK LABELS IN BOTTLES AT 6^p OR 1/2 WITH FAC SIMILE. WHEN ORDERED AND OTHER INK SUBSTITUTED. FULL INFORMATION WILL OBLIGE AND LEGAL PROCEEDINGS WILL BE TAKEN



INVENTOR OF THE PEDESTAL WITH INK. CRYSTAL PALACE PENS AND LINEN.

STRETCHER WITH EACH BOTTLE WILL BE ENCLOSED FULL DIRECTIONS FOR USE IN THE ENGLISH, FRENCH, GERMAN AND SPANISH

For MARKING LINEN, COTTON, &c., with PENS or STENCIL PLATE.

Crystal Palace Marking Ink Pedestal.



Moscow, 1872.



Grand Gold Medal.

J. C. & J. FIELD,

Patent OZOKERIT Candles,

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Grand Gold Medal.

Made in all sizes, very hard, white, and economical, resembling
in appearance the finest Bleached Beeswax.

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Made in all sizes, all colours, all qualities, fit all sockets, burn to the end, keep always upright, and are *cleanly, economical, and safe.*

WAX BLEACHERS and REFINERS,
and Makers of every size of Wax and Composition Candles for Church or domestic purposes.

“PRIZE MEDAL PARAFFINE,” SPERMACETI, AND TRANSPARENT WAX
with or without Patent “Self-Fitting Ends,” in all usual sizes.

sole Proprietors of the “UNITED SERVICE SOAP,” noted for the beauty
and durability of its perfume. Transparent and other Toilet Soaps of all kinds.

Full detailed Price Lists on application.

Works: LAMBETH MARSH, LONDON, S.E.

THE EDINBURGH LIQUID BLUE,



TRADE MARK.

MANUFACTURED BY

THOMAS OGILVIE SMITH, EDINBURGH.

REPORT BY DR. STEVENSON MACADAM.

ANALYTICAL LABORATORY,
SURGEONS' HALL,
EDINBURGH, 6th March, 1873.

I have made a careful Chemical Analysis of a sample of the “EDINBURGH LIQUID BLUE,” manufactured by Mr. Thomas Ogilvie Smith, Edinburgh, and find it to be composed of the best materials, to be free from any injurious ingredient, and to be in all respects of the best quality, and superior to any other Liquid or Solid Blue I have examined.

(Signed) STEVENSON MACADAM, Ph.D.,
F.R.S.E., F.C.S.,

Lecturer on Chemistry.

LABORATOIRE ANALYTIQUE,
SURGEONS' HALL,
EDIMBOURG, 6 Mars, 1873.

J'ai analysé avec un très grand soin un échantillon du “BLEU LIQUIDE D'EDIMBOURG,” fabriqué par M. Thomas Ogilvie Smith, d'Edimbourg, ce qui m'a donné lieu de constater qu'il contient les meilleures substances; qu'il est entièrement exempt d'ingrédients délétères et, enfin, qu'il est de première qualité et supérieur à tout autre Bleu Liquide ou Solide soumis à mon examen.

(Signé) STEVENSON MACADAM, Ph.D.
F.R.S.E., F.C.S.,

Professeur de Chimie

EVERYBODY  SHOULD USE

Hemingway's ORIGINAL AND
ONLY GENUINE **New Dry Soap**

Silver Medal,



Lyons Exhibition, 1872.

THE ONLY DRY SOAP

TO WHICH

A PRIZE MEDAL

HAS BEEN AWARDED.

Prize Medal,



London, 1870.

London International Exhibition, 1870, A BRONZE MEDAL; Lyons Universal Exhibition, A SILVER MEDAL, for its superiority over all other Dry Soaps.

SUITABLE FOR ALL DOMESTIC PURPOSES.

Sold Everywhere. BEWARE OF IMITATIONS.

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RUNCORN SOAP AND ALKALI COMPANY, Limited,
THE OLD SOAP WORKS, RUNCORN,

Manufacturers of superior quality of Soaps (Household and Fancy), Sulphate of Soda, Soda Ash, Soda Crystals, Bleaching Powder, and Refiners of Rosin.

The above Works have now been established over half a century, and during that time they have enjoyed a high reputation for the finish and superiority of the articles manufactured.

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Receive and Execute European and Colonial Orders for every description of British and Continental Goods, direct from the various factories of their Principals, from entire new stock, and at lowest market rates.

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FURNITURE POLISH
SHEFFIELD

HOUSEHOLD REQUISITE.

This celebrated Composition for Cleaning and Polishing Furniture has now been in use for upwards of Thirty Years, with continually increasing popularity, and has, with ADAMS' PLATE POWDER, and ADAMS' POLISHING PASTE (for cleaning Brass, Copper, &c.), been awarded Honourable Mention, Paris Exhibition, 1867; and Amsterdam 1869. Vienna Exhibition, Group III., No. 66.

During the Exhibition, apply for further particulars to our representative, Mr. PHILIP W. NICHOLSON, Group XIIIa, No. 577.

MANUFACTORY—
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Gold Medal awarded by the National Academy of Agriculture, Manufactures & Commerce Paris.

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BISCUIT MANUFACTURERS,

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These Biscuits are made of the finest materials, and from their great variety of Shape and Flavour, acknowledged Superiority of Make, and fine keeping qualities, have obtained a very extensive and increasing sale in England, the Continent, and the various Markets throughout the World.

They are packed in Tins containing 1 lb. and upwards, also in Casks and Boxes, to meet the convenience of the Trade and Shippers.

FABRICANTS DE BISCUITS,

SIMPLES ET DE FANTAISIE, EN GROS ET POUR L'EXPORTATION.

Ces Biscuits sont fabriqués avec les substances les plus recherchées. Leur grande variété de forme et de saveur, leur supériorité reconnue de fabrication, et leurs qualités de durabilité, ont obtenu à ces Biscuits une vente énorme et toujours croissante en Angleterre, sur le continent, et dans toutes les parties du monde, en général.

Ils sont emballés dans des boîtes de fer blanc, contenant 1 livre chacune et au-dessus, dans des Tonnes et de larges Caisses, pour le Commerce et l'Exportation.

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EINFACHEN UND PHANTASIE-BISCUITS,

EN GROS UND EXPORTATION.

Diese Biscuits werden von den feinsten Materialien angefertigt und haben durch die Mannigfaltigkeit ihrer Formen, den Wohlgeschmack, die anerkannte Vorzüglichkeit ihrer Zubereitungsweise und die Eigenschaften unverminderter Wohldauer einen sehr ausgedehnten und stets zunehmenden Absatz in England, auf dem Festlande und auf allen Märkten der Welt erlangt.

Sie werden in Blechbüchsen von 1 Pfund und darüber verpackt, dergleichen in Fässern und Kisten in Entsprechung der Wünsche des Handels und der Vershiffer.

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MEDICINES AND DRUGGISTS' AND GROCERS' SUNDRIES.

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The largest and best *penny packet* in the trade.

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GOODALL'S ANTI-FERMENTATIVE SOLUTION.

This preparation is particularly adapted to all sweet Ales, which generally incline to acetous fermentation; Beer, &c., for export. Full particulars can be had on application.

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Prepared with HOWARD'S QUININE. Acknowledged and highly recommended by many eminent physicians to be the *best and cheapest tonic yet introduced to the public*. In large bottles, 1s. and 2s. each.

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HAVRE, 1868.

GOLD MEDAL,



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BAKING POWDER,

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For its superiority over all other Baking Powders, in raising light
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BREAD without YEAST

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FLOUR PUDDINGS and PASTRY

LIGHT, DELICIOUS AND WHOLESOME.

This well-known Baking Powder is sold largely in most parts of the world, as well as in the United Kingdom, and the Proprietors have testimonials from the Queen's Private Baker, the Army and Navy, and Medical Men and Chemists of the highest standing.

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THE SNOWDON WHITTLE, AND KIMRIC TWEEDS.

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DIVISION II., PART VII.

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Woollen Shawls, Page 37. "Two very beautiful specimens of Shawls, one in the purest white wool, the other the same material dyed scarlet, are exhibited by Messrs. T. & J. H. Jones & Co. No two specimens in the Exhibition show so perfectly the extreme purity which is obtainable in this material."



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BEST SOFT SIX CORD COTTON,
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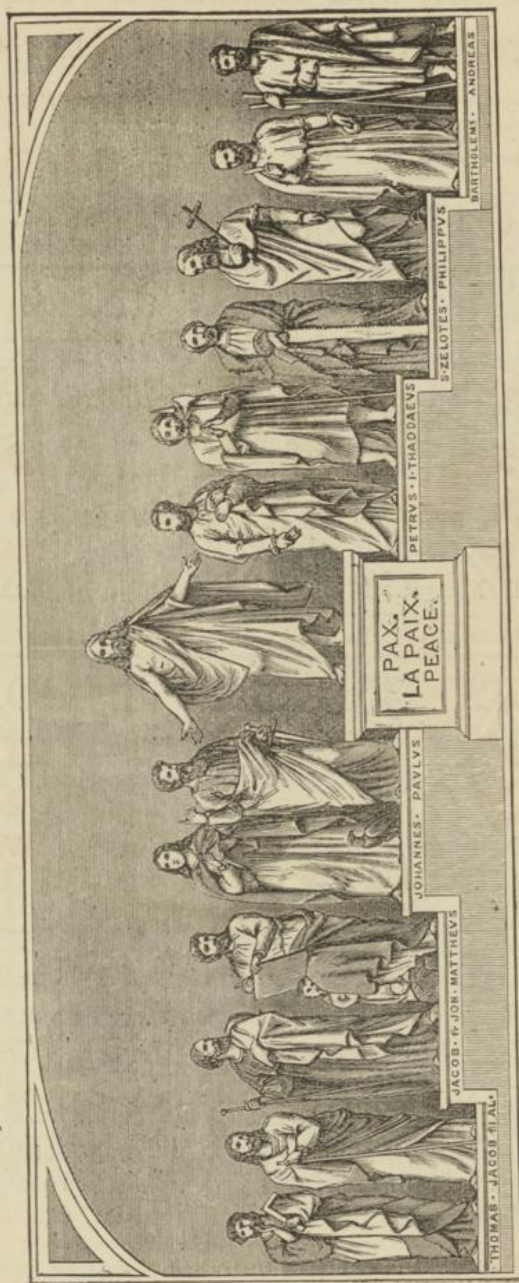
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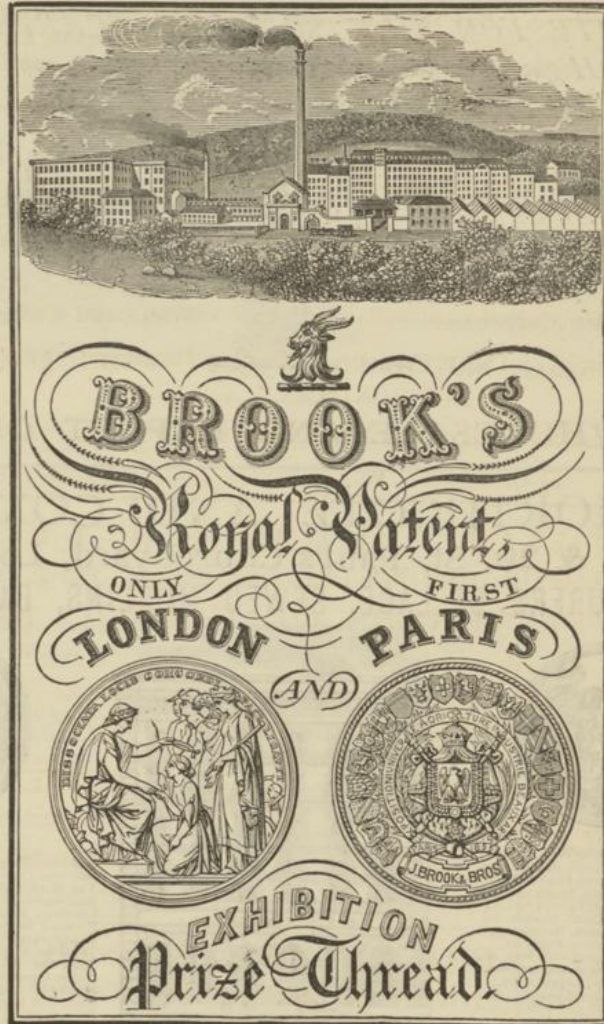
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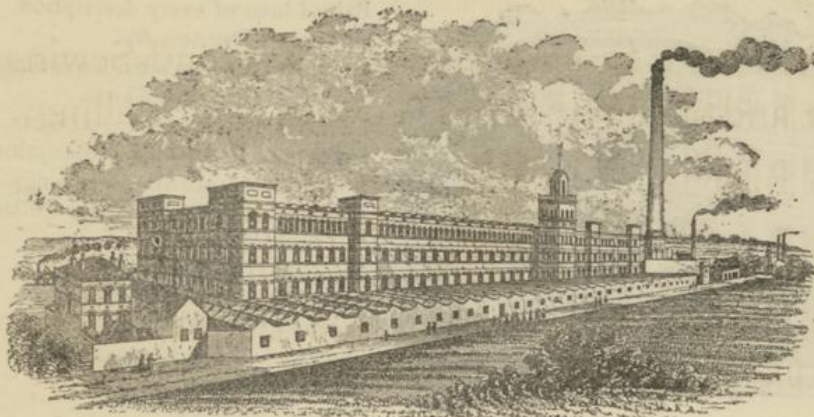
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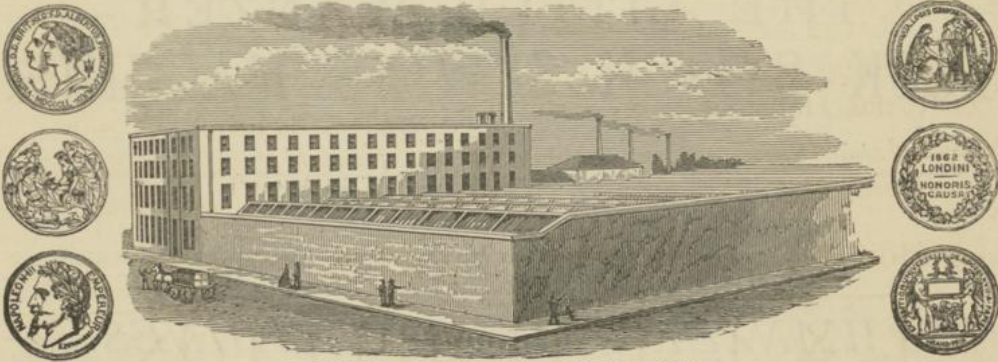
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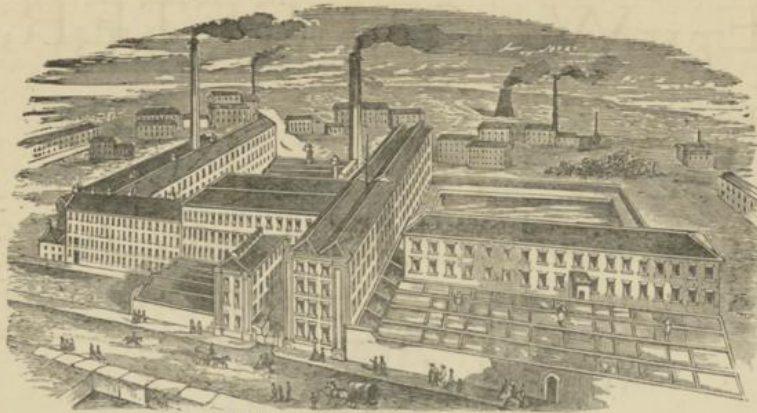
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London, 1862.



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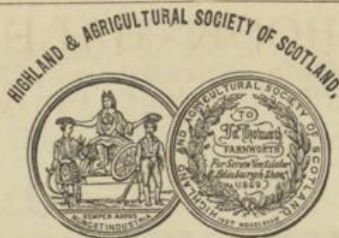
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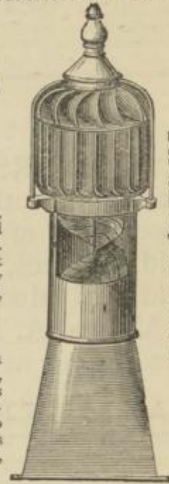
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International, 1862—Bronze Medal, Class XXXI.; ditto, Class X.
Paris Exhibition, 1867—Not Exhibitors.



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SHOVELS, FORKS,

AND GENERAL PLANTATION TOOLS.



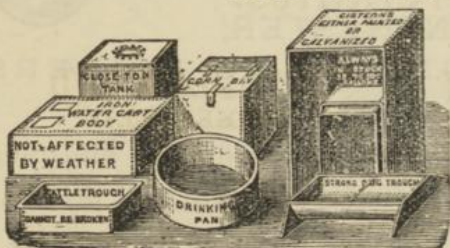
TRADE MARK.

Group 7, No. 288.

BURNEY & CO., MILLWALL DOCKS, LONDON, E.

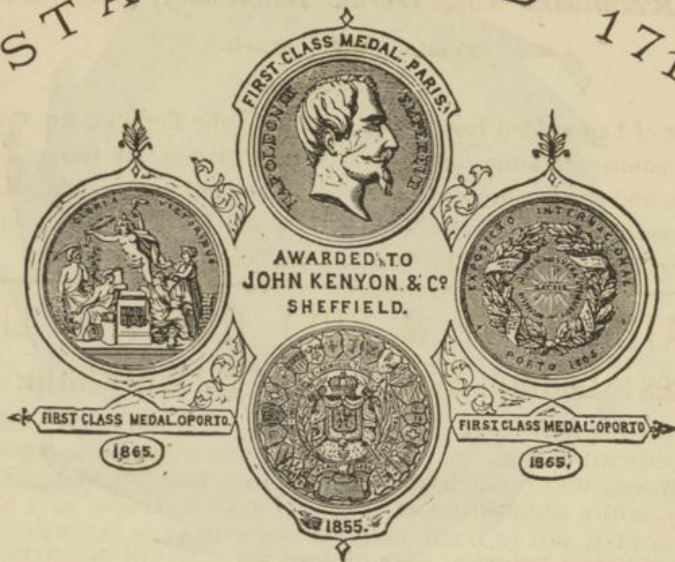
By Admiralty Order, all Royal Navy Tanks are to be made with BURNEY'S PATENT CORNERS.

All Goods at their Works made with the same.



Sole Makers of Tanks to the British Royal Navy, and only holders of Prize Medals for Tanks, &c., the latest being Silver Medal of Royal Agricultural Society, and 1st Class Silver Medal, Naples.

ESTABLISHED 1710.



JOHN KENYON & CO.,
SHEFFIELD,

STEEL CONVERTERS & REFINERS.

MANUFACTURERS OF ALL DESCRIPTIONS OF

Cast, Shear, Bar, Spring, and Sheet Steel,

SAWS, FILES,

EDGE TOOLS, MACHINE KNIVES, &c.

General Merchants.

CORPORATE MARKS,



KENYON
SHEFFIELD

and

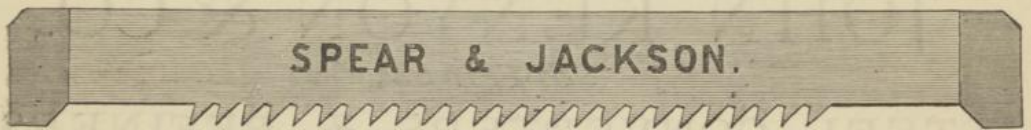


MIDDLEWOOD
SHEFFIELD.

FOREIGN AGENTS:

CLEMENTZ & CO. ST. PETERSBURG.
F. A. KAEMPFER RIGA.
GEORGE KELLNER & CO. ODESSA.

A. G. REDPATH..... OPORTO.
KREIBIG & FINGER..... LISBON.
A. RACK & CO. VIENNA.



Manufacturers of

STEEL, SAWS, FILES, EDGE TOOLS;
 Tanners', Curriers', Miners', and Engineers' Tools;
 MACHINE KNIVES AND CUTTERS OF ALL KINDS;
 SOLID CAST STEEL SPADES, SHOVELS AND FORKS;
 Forgings and Uses in Mild Crucible Steel for
 Engines and Machines.

Vienna Exhibition, Group VII., No. 281.

AGENT FOR AUSTRIA AND HUNGARY,
 MR. PHILIP W. NICHOLSON, 38, FABRIKGASSE, PEST.

Office during the Exhibition, Group XIIIa. (Agricultural Machinery Department), No. 577.

COCKER BROTHERS,

SUCCESSORS TO

SAM^L COCKER & SON,

(ESTABLISHED 1752,)

SHEFFIELD.

THREE
1ST CLASS PRIZE MEDALS,
CLASSES 1, 21, 22.
Great Exhibition of Industry,
LONDON, 1851.



Seule Maison Honorée de Trois Médailles à l'Exposition Universelle de Londres en 1851.

MEDAL OF HONOUR.
Society of Arts and Industry,
LONDON, 1856.



Médaille d'Honneur de la Société des Arts et Metiers à Londres en 1856.

1ST CLASS
PRIZE MEDAL, CLASS 15,
Universal
Exhibition of Industry,
PARIS, 1855.



Médaille de 1^{re} Classe à l'Exposition Universelle de Paris en 1855.

MANUFACTURERS OF

Cast, Shear, Sheet, and Blister
Steel of every description.

Best Cast Steel Wire, adapted
specially for Mechanical purposes;
also for Ropes, Needles, Fish Hooks,
Pins, Crinoline, &c.

Best Cast Steel Files, Saws, Edge
Tools, Hackles, Gills, Card Clothing,
Card Teeth, Hackle and Gill Pins,
Spindles, Fish Hooks, Needles, &c.

ALSO

GENERAL MERCHANTS.

FABRICANTS

d'Acier Fondu et à l'Eperon, en
Barres, en Tôles et de tous genres.

Fil d'Acier Fondu de 1^{re}
qualité, spécialement préparé pour
travaux mécaniques; ainsi que
pour Cordes, Aiguilles, Hameçons,
Épingles et Crinolines, etc.

Limes faites du meilleur acier
fondu, Scies, Outils de menuisiers,
Cardes, Dents pour Cardes, Éping-
les Hackle et Gill, Hameçons,
Aiguilles, Broches, etc.

ET

NÉGOCIANTS.

LONDON AGENT—F. ORME, Ethelburga House, 70 and 71, Bishopsgate
Street Within.

AGENT FOR GERMANY and NORTH EUROPE—M. SELIG, JUN., 20,
Karlstrasse, Berlin.

AMERICAN AGENT.—J. HATTERSLEY, 33, West Sixth Street, CINCIN-
NATI, OHIO.


E. P. & W. BALDWIN,

Wilden Iron Works, near Stourport.

Makers of CHARCOAL and other BEST Qualities of SHEET IRON; Stamping Sheets; Circular Sheets; Black Plates; BUTTON IRON, 30 to 45 w. g.; Sheet Iron—Pickled, Cold Rolled, and Close Annealed; Canada Plates; Charcoal and Coke TIN and TERNE PLATES; and *Best Charcoal* Tin Plates for Deep Stamping.

All Sheet Iron branded BALDWIN-WILDEN, and marked with distinguishing quality, B, BB, BBB, BChar'l, EBChar'l.

Tin Plates for Deep Stamping, branded "EP x WB" Best Charcoal Tin.
WH

Tin Plates for general working, branded "WILDEN" CHARCOAL, "UNICORN" CHARCOAL TIN, "ARLEY  " TIN.

Coke Tin Plates branded "STOUR" COKE TIN.

Tin Plates specially prepared for Gas Meter purposes.

Our Sheet Iron is not only marked B., BB. &c., but the brand BALDWIN-WILDEN is on the *Bands of each Bundle.*

Agent in Vienna: THEODOR KLEIN, 56, MARIAHILFER HAUPTSTRASSE, where samples may be seen and all information obtained.


Export Agents in London: BROOKER, DORE & Co., 2, Rood Lane, E.C.

Manufacturiers et fondeurs de FER au CHARBON de BOIS, et d'autres espèces de FER en FEUILLES; Estampages de Tôle; Lames et Tôles de Fer ronds et noirs; BOUTON, 30 jusqu'à 45 w. g.; Tôles Dérochées, Laminées et Décrouies; Plaques de Canada; FEUILLES de FER-BLANC au Charbon de Bois et au Coke, et *best charcoal* pour des Estampages.

Chaque espèce de Tôle est marquée BALDWIN-WILDEN, avec la qualité de B, BB, BBB, BChar'l, EBChar'l.

Feuilles de Fer-blanc pour des Estampages sont marquées:

"EP x WB" Best Charcoal Tin.
WH

Pour l'usage en général: "WILDEN" CHARCOAL, "UNICORN" CHARCOAL TIN, "ARLEY  " TIN;

Et au Coke: "STOUR" COKE TIN.

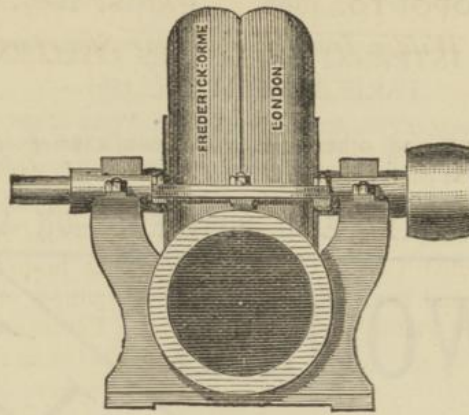
Feuilles de Fer-blanc préparées spécialement pour les besoins des Compteurs au Gaz.

Notre Tôle est marquée non-seulement B., BB., etc., mais même les marques BALDWIN-WILDEN se trouvent sur chaque paquet.

Agent à Vienne: M. THÉODORE KLEIN, MARIAHILFER HAUPTSTRASSE 56, où on peut obtenir des échantillons et d'autres renseignements.

Agents à Londres pour l'étranger: BROOKER, DORE & Cie., 2, Rood Lane, E.C.

FREDERICK ORME.



Improved Patent Noiseless Fans for Blowing, Exhausting, &c.

Hand Ventilating Fans and Fan Forges.

Steam Engines and Fans Combined.

Improved Steam Pumps and Portable Engines.

Bench-Drilling Machines.

Improved Patent Cut-Nail Machines.

Machines for Paris Points,

AND

Improved Screw & Rivet Machines.

Ventilateurs brevetés silencieux, perfectionnés pour souffler, epuiser, etc.

Ventilateurs à main et soufflets de forge.

Machines à vapeur et souffleuses combinées.

Pompes à vapeur perfectionnées et locomobiles.

Machines à percer.

Machine perfectionnée brevetée à couper les clous.

Machines perfectionnées à vis et à rivets.

MANUFACTURER AND GENERAL MERCHANT,
70 & 71, BISHOPSGATE STREET, LONDON.

PRIZE MEDALS.

DUBLIN, 1865. OPORTO, 1865. PARIS, 1867. HAVRE, 1868.

VICTORIOUS IN INTERNATIONAL SAFES CHALLENGE CONTEST,
PARIS EXHIBITION, 1867.

See judgment of the Tribunal of First Instance, "Herring v. Chatwood and Tagnard," given in favour of Chatwood, and condemning Herring in the costs. Also decree of Court of Appeal, pronounced at Paris, December 27, 1872, given in Chatwood's favour, confirming judgment of the Tribunal of First Instance, and condemning Herring in costs.

"BATTLE OF THE SAFES," POST FREE ON APPLICATION.

CHATWOOD'S

OCTUPLE-

PATENT

INTERSECTED-

STEEL

SAFES,

FIRE AND BURGLAR PROOF,

Are specially constructed for the use of Bankers, Jewel Merchants, &c. They are made in various sizes, and with internal fittings to suit the special requirements of Purchasers.

This is the only Safe in the world which is sold subject to 36 hours' test with burglars' appliances before delivery.

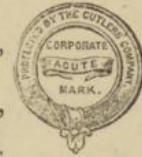
SAMUEL CHATWOOD,
BANKERS' SAFE AND LOCK ENGINEER,
LANCASHIRE SAFE & LOCK WORKS, BOLTON;
120, CANNON STREET, LONDON; 13, CROSS STREET, MANCHESTER,
And at Stand No. 290, Industrial Palace, Vienna Exhibition.

ILLUSTRATED PRICE LISTS ON APPLICATION.

S. C. will be happy to advise Bankers on their Security arrangements, without any obligation to adopt his plans.



F. G. PEARSON & CO.,
HOPE WORKS, FURNACE HILL, SHEFFIELD,
 MANUFACTURERS OF
Light and Heavy Edge Tools, Saws, Files, Steel, &c.,
 AND OF THE CELEBRATED
BRIGHT ELASTIC, CAST STEEL, HAY, MANURE, AND DIGGING FORKS.



ALLEN EVERITT & SONS, BIRMINGHAM,
 MANUFACTURERS OF
Brass and Copper Locomotive, Marine, Gas and Steam Tubes,
 SHEET BRASS, BRASS AND COPPER WIRE, &c.,
 WROUGHT COPPER BOAT NAILS, RIVETS, &c.
 Prize Medals, London, 1851; Paris, 1857; Moscow, 1872, for Excellence of Workmanship.

THE BEST ENGLISH-MADE BRUSHES are Manufactured by

G. B. Kent & Co. London.

And Stamped as above.

FACTORY: 11, GREAT MARLBOROUGH STREET, LONDON, W
 G. B. KENT & CO.'S Brushes are celebrated for their durability and strength. *Established 95 Years.*

BOOKBINDING

In the MONASTIC, GROLIER, MAIOLI, and ILLUMINATED STYLES,
In the most superior manner, by English and Foreign Workmen.

JOSEPH ZAEHNSDORF,
 36, CATHERINE STREET (*late Brydges Street*), COVENT GARDEN, LONDON, W.C.

EXHIBITION MEDAL, LONDON, 1862—



S. R. STEWART & Co., Aberdeen,

Aberdeen Comb Works.

The largest Comb Works in the world, employing 900 hands, cutting up weekly 60,000 Horns, besides a large quantity of India Rubber and Tortoise shell, producing Annually Twelve Million Combs.

Medal awarded at London Exhibition, 1862.

AGENTS.

Vienna Julius Victor Meissl.
 Brussels Danz and Ehrhardt.
 Cologne A. Ehrhardt.
 London House, 13, Grocers' Hall Court,
 Poultry, E.C.

See Group X., No. 382.

Fabrique de Peignes d'Aberdeen

La plus grande et meilleure fabrique de peignes du monde. On y emploie 900 ouvriers, consommation chaque semaine 60,000 cornes, outre grandes quantités de caoutchouc et d'écaille; la production annuelle s'élève à douze millions de peignes.

Médaille d'honneur décerné à l'Exposition de Londres en 1862.

AGENTS.

Vienne M. Julius Victor Meissl.
 Bruxelles..... M. M. Danz et Ehrhardt.
 Cologne M. A. Ehrhardt.
 Maison et Entrepot a Londres, 13, Grocers
 Hall Court, Poultry, E.C.

Voir Groupe X., No. 382.



STEEL POT



FOUNDRY POT



COVER

STIRRER

STAND



JOHN HYNAM,

PLUMBAGO CRUCIBLE MANUFACTURER,

6, 7, and 8,

PRINCES SQUARE, WILSON STREET, FINSBURY, LONDON.

Works:—Tanner's Hill, Deptford, Kent.

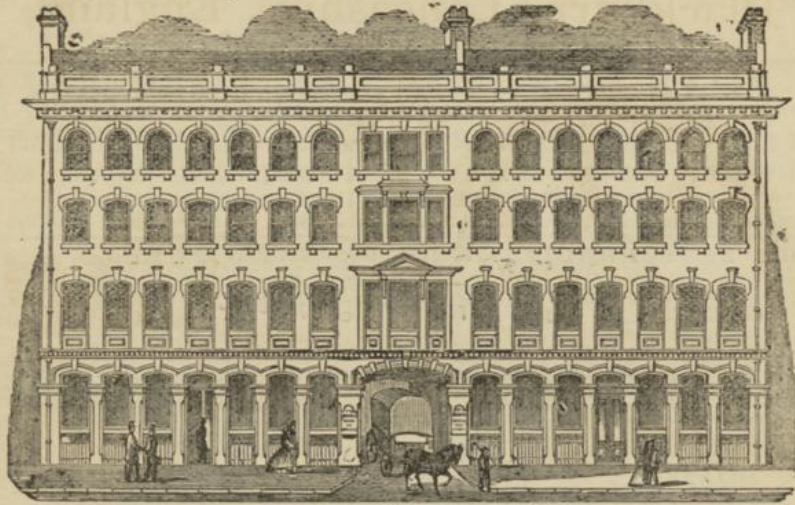
These Plumbago Crucibles are used in the Royal arsenals and Dockyards of Great Britain, and also in those of several Foreign Governments, where they have obtained notability for economy, non-absorption of metal, durability, and freedom from cracking. They are also used extensively by the principal firms of London, Birmingham, and other large towns of England and the Continent. They obtained the First Class Silver Medal (the only one awarded by the Jury), at the Paris Exhibition of 1867, and also a Certificate of Superiority from the Secretary, by whom they were tested, against those of other manufacturers.

W. WALKER,

WHOLESALE AND RETAIL

Cabinet Maker, Upholsterer, & Bedding Manufacturer,

119, Bunhill Row,
LONDON, E.C.



Plans, Estimates, and Designs
Prepared and sent to all parts
of the World.

AN EXTENSIVE ASSORTMENT OF
MEDIÆVAL & GENERAL HOUSEHOLD FURNITURE
ALWAYS IN STOCK.

Furniture made specially to suit all Climates.

WELSH SLATE COMPANY.

PALMERSTON QUARRY.

Dieser wohlbekannte Schieferbruch zu Rhiwbryfdir, in Nord Wales, liefert die besten blauen Dach-schiefer und Schieferplatten, welche von dem Verladungshafen der Gesellschaft, Port Madoc, in Nord Wales, nach allen Weltgegenden expedirt werden.

This well-known Quarry at Rhiwbryfdir, North Wales, produces the best Blue Roofing Slates and Slate Slabs, which are sent to all parts of the world, from the Shipping Port of the Company, Port Madoc, North Wales.

Cette célèbre carrière, située à Rhiwbryfdir, dans le Nord du Pays de Galles, produit les meilleures ardoises pour la toiture et autres usages. Elles sont expédiées de Port Madoc (port de chargement de la Compagnie), Pays de Galles, dans toutes les parties du Monde.

Comptoir in London:

19, Spring Gardens, S.W.,
H. F. PHILLIPS,
Secrétaire.

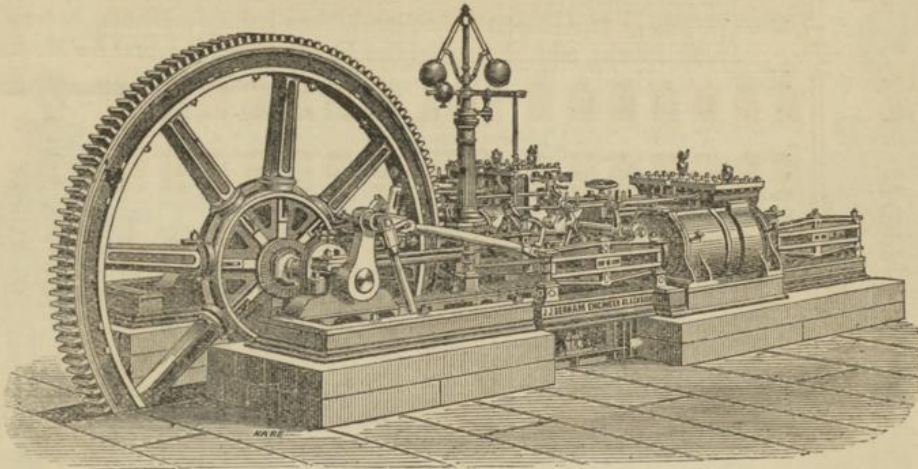
Office in London:

19, Spring Gardens, S.W.,
H. F. PHILLIPS,
Secretary.

Bureau à Londres:

19, Spring Gardens, S.W.,
H. F. PHILLIPS,
Secrétaire.

JOHN J. DERHAM, *Engineer*, Blackburn, Lancashire, England.



Horizontal Engines may be seen working in the Machinery Hall,
British Section.

STEAM ENGINES of all sizes and every description for driving Cotton, Jute, Flax, Woollen, Corn, and other Mills; Compound Beam and Horizontal Expansion Condensing and Non-condensing Engines; Vertical High-pressure Engines for working Mechanics Shop, with double-acting Pumps attached for fire extinguishing; Semi-portable Engines and Boilers, both horizontal and vertical; Pumping and Winding Engines for Mines, Water Works, Distilleries, &c.; Steam Donkey Pumps for feeding Boilers; Steam and Hand-power Crab Winches, Cranes, and Hoisting Machinery. Valves and Fittings of all descriptions, all of the best construction, finish, and workmanship.

CUT-OFF VALVES and Motion applied to Engines for maintaining a uniform speed of Engine under the most extreme variations of load, dispensing with Throttle Valve, and ensuring the full Boiler Pressure of Steam on Piston at the beginning of each stroke.

IMPROVED ELASTIC METALLIC PISTONS AND AIR-PUMP BUCKETS. Cylinders, Air Pumps, and Crank Eyes rebored in their places by practical and experienced workmen.

GEARING OF EVERY DESCRIPTION; Mills completely geared up; Wrought and Cast-Iron Beams, Pillars, Gutters, and Doors for Fire-proof Buildings, &c., &c., &c.

ENGINES COMPOUNDED for economic and steady working, which principle may be advantageously applied to all existing single Cylinder Beam and Horizontal Engines.

STEAM BOILERS; Cornwall, Multitubular and Vertical, of best approved make and construction, Seamless Furnaces, and fitted with Conical Water Tubes, &c.

JOHN J. DERHAM begs to intimate that he has during the last fifteen years supplied Compound Steam Engines, Boilers, and Gearing to many of the large Cotton, Jute, Flax, and other Mills in Austria and other countries. Testimonials and References given upon application.

Sole Manufacturer of SCHOLL'S Patent Atmospheric Power Hammer for Eastern Europe.

Sole Agents for the sale of Agricultural Implement Machinery, as Manufactured by WILLIAM FOSTER & CO., Engineers, Lincoln, for Austria, Bavaria, and Saxony.

AGENT for GREEN'S PATENT FUEL ECONOMISER, for Austria and Poland.

No. 443, Group XIII.

Stand No. 454, Group No. XIII.

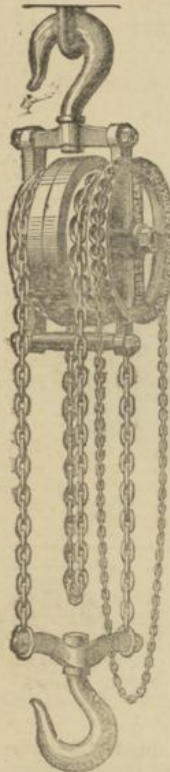
Division No. 454, Groupe No. XIII.

HEAD, WRIGHTSON & CO.,

STOCKTON-ON-TEES, ENGLAND,

Sole Manufacturers of

Moore's Patent Differential
Pulley Blocks, and
Moore & Head's Patent
Hand Hoist.



These PATENT BLOCKS possess many advantages over all others which have been introduced to the public. They will raise the maximum load with a minimum power exerted. They are very simple, and not liable to get out of order. The lifted weight cannot run down of its own accord when suspended. Both chains take an equal share of the load lifted, thus distributing the weight, and causing the Blocks to hang perfectly plumb. The chain is stronger than usual, to prevent any chance of the links stretching.

The PATENT HAND HOIST is specially constructed to enable one man to raise heavy weights with ease and rapidity. It is simple in arrangement, strong in construction, and easy to move about. It can be fixed to any beam or bar, and supplied with chain for any length of lift. It is (when ordered) fitted with an effective brake, by which means the load, when being lowered, is entirely under the control of the man.

Although these Patent Blocks and Hoists have been introduced to the public only a few months, thousands have been sold, and they are now adopted by the largest engineering and other houses in England.

PRICES OF BLOCKS.

PRIX DES POULIES.

Lifting Power. Force élévatoire.	Price of Blocks. Prix.	Price of Chain per foot, including one Hook. Prix de la Chaîne par pied avec un crochet.
	£ s. d.	s. d.
10 cwt. — 10 quint.	1 15 0	1 0
20 " 20 " "	2 10 0	1 6
30 " 30 " "	3 0 0	1 8
40 " 40 " "	3 10 0	1 8
3 TONS — 3 tonnes	5 0 0	2 3
4 " 4 " "	6 5 0	2 3
5 " 5 " "	7 10 0	2 6
7½ " 7½ " "	12 10 0	5 0

The Hand Chain is included in the price of the Block.

La chaîne de manœuvre est comprise dans le prix de la poulie.

THIS FIRM RECEIVED THE SILVER MEDAL AT THE LIVERPOOL AGRICULTURAL SHOW, 1871; AND AT KING'S LYNN, 1872.

NOTE.—Please state Height of Lift in ordering. Delivery at Stockton-on-Tees.

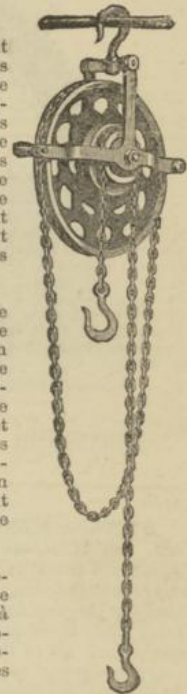
Seuls fabricants des

Poulies différentielles de Moore, brevetées
et des Monte-Charges à bras de Moore
et Head, brevetés.

Ces poulies différentielles offrent des avantages réels sur toutes celles en usage. On lève avec elles le maximum de charge avec le minimum d'effort. La charge, une fois en suspension, ne peut descendre par elle-même. Les deux chaînes portent une partie égale du poids de la charge, ce qui, produisant une distribution régulière du poids, fait que les poulies sont continuellement d'aplomb. Les chaînes sont plus fortes que d'ordinaire.

Le monte-charge est construit de manière à permettre à un seul homme d'élever facilement et rapidement un poids considérable. Le mécanisme est simple, solide et facile à manœuvrer. Il peut être attaché à une poutre ou traverse quelconque et est muni d'une chaîne pour toutes les hauteurs d'élévation. Cet appareil est muni, si on le désire, d'un frein par lequel le fardeau, pendant la descente, est directement sous le contrôle de l'ouvrier.

Quoique ces poulies et monte-charges ne soient mis en vente que depuis peu de mois, il en a été déjà livrés plusieurs milles, et ces appareils sont aujourd'hui généralement adoptés dans les grandes usines de l'Angleterre.



PRICES OF HOISTS.

PRIX DES MONTE-CHARGES.

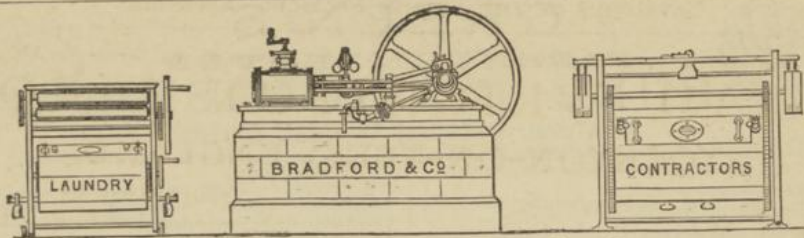
Lifting Power. Force élévatoire.	Price of Hoists. Prix.	Hand Chain. Chaîne de manœuvre.	Lifting Chain. Chaîne pour porter la charge.
	£ s. d.	Per foot. Le pied.	Per foot. Le pied.
No. 1.—To raise 5 cwt. " Pour élever 5 quint. ...	1 15 0	7d.	6s. 7d.
No. 2.—To raise 10 cwt. " Pour élever 10 quint. ...	2 10 0	7d.	1s. 3d.
No. 3.—To raise 15 cwt. " Pour élever 15 quint. ...	3 5 0	11d.	1s. 8d.

If fitted with Brake, EXTRA, No. 1, 15s.; No. 2, 20s.; No. 3, 25s.
Muni d'un frein en plus pour No. 1, 15 sh.; pour No. 2, 20
pour No. 3, 25 sh.

Médaille d'Argent à l'Exposition d'Agriculture, Liverpool, 1871; et à King's Lynn, 1872.

Pour les commandes, on est prié d'indiquer la hauteur et le poids à élever. Les prix sont applicables aux appareils livrés à l'usine.

Agent—M PHILIP W. NICHOLSON, Fabriksgasse 38, Pest.
et pendant l'Exposition, Division No. 577, Groupe XIIIa.



THOMAS BRADFORD & Co.
Washing Machine Manufacturers and Laundry Engineers,

63, FLEET STREET,
142, HIGH HOLBORN, } LONDON.

Cathedral Steps, MANCHESTER.
Windsor Bridge, SALFORD.

Plans and Estimates for Private or Public Laundries, with reference to such in successful operation in all parts of the world, upon application. [No. 472, GROUP XIII.]

MATHER & PLATT,

ENGINEERS, AND MAKERS OF

Every variety of Machinery used in the process of Bleaching, Calico Printing, Dyeing and Finishing, comprising Improved Singe Stove, Patent High Pressure Kiers, Improved Washing Machine, Squeezers, Double-cased Copper-colour Pans, with Gearing to work the Stirrers, Printing Machines, from one to twenty colours, Dye Becks, Starch Mangle, Coloring Machine, Indigo Grinding Mill, Logwood Mill, Madder Mill, with Revolving Pan, Measuring, Lapping, Folding, Doubling, or Rolling Machine, Calender, Drying Machine, with Patent Cylinders in Tinned Iron or Copper, Damping Machine, Belt Stretching Machine, Steam Engines, Horizontal and Vertical, Winding Engines for Colliery purposes, Single and Double Acting Pumps, Force Pumps, Deep Lift Pumps, Patent Coal Cutting Machines and Air Compressors for driving them. Patent Water Meter, Improved Steam, Water, and Gas Valves.

PATENTEES OF

Earth Boring Machine for Artesian Well, Mineral Exploration, &c., Improved Pumps, for pumping out of deep borings, Shearing or Cropping Machine, Clamp Stretching Machine, Gas Apparatus for Heating Calender Bowls, Improved Copper Lined Dye Beck, Warp Sizing Machine or Slasher, with Hot Air Drying Apparatus, Warp Beaming Machine, Piston and Air Pump Bucket, Elastic Metallic Packing, of which upwards of 7,000 are in use, Steam Drying Cylinders.

SALFORD IRON WORKS, MANCHESTER.

Silver Medal,



Paris, 1867.

C. DE BERGUE & CO.,
Engineers and Contractors,
10, STRAND, LONDON,

Silver Medal,



Paris, 1867.

Manufacturers of

Iron Bridges, Girders, Roofing, Punching and Shearing Machines (Horizontal and Vertical), Plate Mill Shears, Girder Rivetting Machines, Rivet Making Machines, Rivet Dressing Machines, Rail Straightening and Punching Machines, Bending, Curving, and Blocking Machines, Cast Iron Patent Permanent Way, Rail Levellers.

STRANGWAYS IRON WORKS, MANCHESTER.

WAUNTREODA WORKS, CARDIFF. TAY BRIDGE WORKS, NEWPORT, DUNDEE.

No. 470, British Section, Machinery Hall, where the principal Machines can be seen in motion, and Illustrated Catalogues obtained.

Ingenieure und Bauunternehmer,

Constructeurs

Eiserner Brücken, Brückenträger, Eiserner Dachstühle, Mechanischer Blechscheer- und Blechlochmaschinen, horizontal und vertical; Blechscheeren für Walzwerke, Nietmaschinen, und Maschinen zur Fabrikation von Nieten und Bearbeitung deren Köpfe; zum Richten und Lochen der Schienen, sowie zum Biegen und Pressen. Patentirte Schienenhebel. Guss-eiserner patentirter Oberbau.

STRANGWAYS IRON WORKS, MANCHESTER.

WAUNTREODA WORKS, CARDIFF.

TAY BRIDGE WORKS, NEWPORT, DUNDEE.

No. 470 der Britischen Abtheilung, in der Maschinen-Halle, woselbst man die hauptsächlichsten Maschinen in Bewegung sehen, und illustrierte Kataloge erhalten kann

Ingénieurs Mécaniciens,

Fabricants de

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A NATURAL APPENDAGE TO STEAM BOILERS.

Heats the Feed Water with the Residual or Waste Heat from the boilers to a Temperature considerably above boiling.

Saves 20 to 25 per Cent. of the Fuel.

Contributes greatly to the Durability of the Boilers.

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All Particulars and References may be obtained of the Patentees and Sole Makers.

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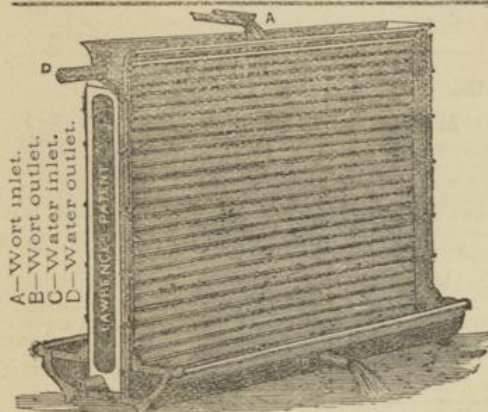
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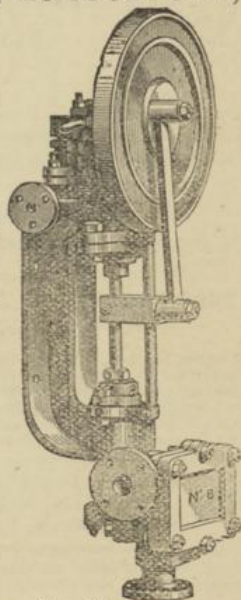
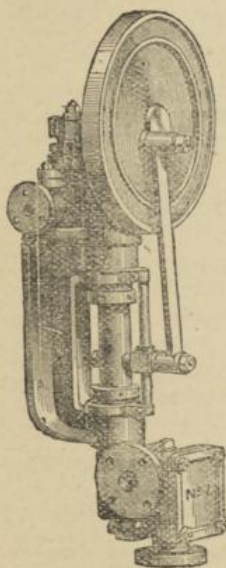
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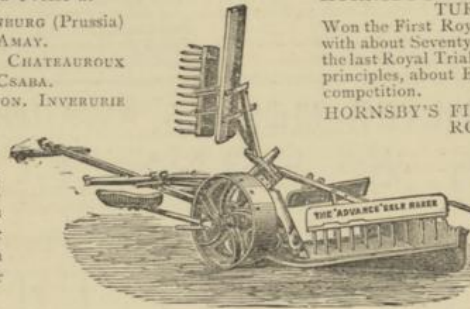
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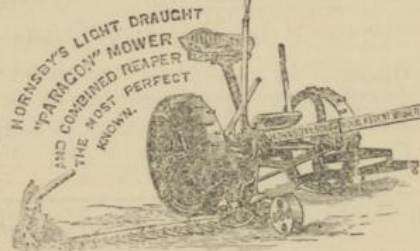
Gained at the Bury Trials of the Royal Agricultural Society of England, the whole of the Prize Money for Hand-power Machines, and the First Prize for the best Power Pulper; also the First Prize for the best Power Pulper, and the First Prize for the best Hand Pulper, at the last Royal Trial at Oxford, after severe tests against all the leading makers.

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HORNSBY'S FIRST ALL ENGLAND PRIZE IRON PLOUGHS.

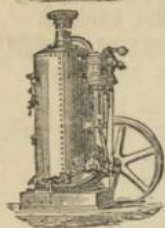
Now known everywhere as the Standard Implement of the day. Gained the First Prize as the best Plough for Light Land, and the First Prize as the best Plough for Heavy Land, at the Great Royal Warwick Trials, and have since maintained their position by gaining Hundreds of Prizes from various Local Societies, including 23 Champion Prizes against Messrs. J & F. Howard, and 15 in succession against Messrs. Ransomes and Sims

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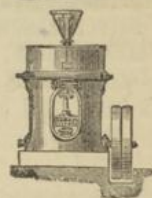
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Office during Exhibition.—See No. 567, Group XIII., Agricultural Department.

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Aufrechtstehende, Hoch-Druck Dampfmaschinen mit Patent „Field“ Kessel verbunden. Was die Vollkommenheit der Arbeit, sowie die Qualität des Materials und Ersparnisse an Brenn-Stoffen anbelangt, bleiben diese Maschinen noch immer unübertroffen. Sie benöthigen keine Fundamente von Mauerwerk.

Vorzügliche fest liegende Dampfmaschinen auf starcken Fundamentplatten montirt, sind für Kohlen-Gruben, Mühlen aller Art, und Fabriken sehr geeignet.

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Office pendant l'Exposition.—Voir No. 567, Groupe XIII., Département de l'Agriculture.

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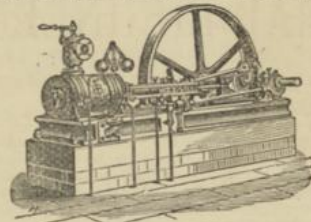
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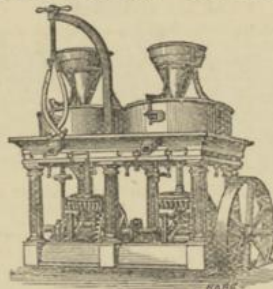
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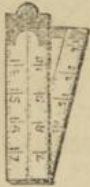
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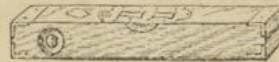
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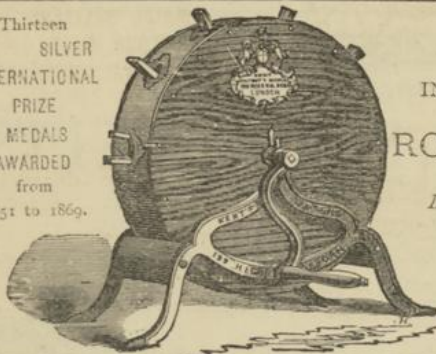
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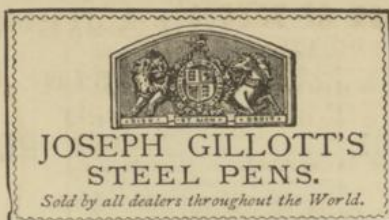
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Paint with a Camel's-hair brush freely three times in succession the track of the Nerves, or where pain is felt, which instantly ceases.

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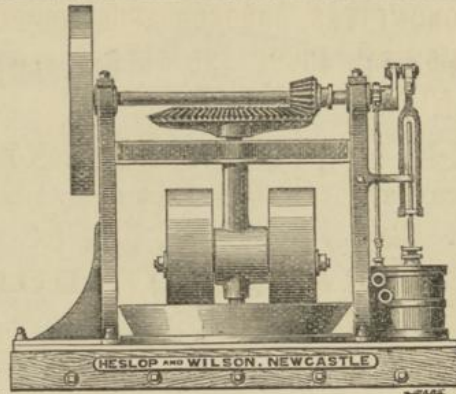
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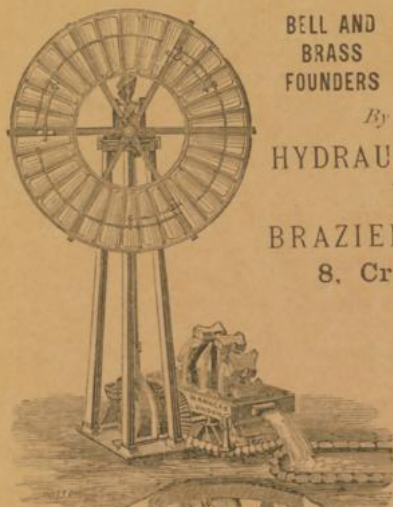
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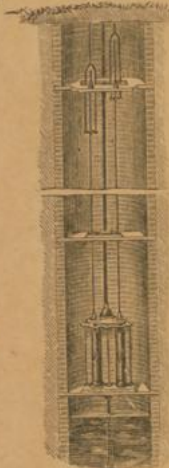
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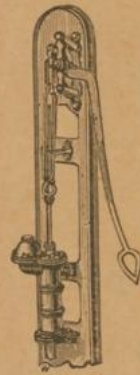
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