

THE MECHANICS' MAGAZINE

AND

Journal of Engineering, Agricultural Machinery, Manufactures, and Shipbuilding.

[Registered for Transmission Abroad.]

VOL. 92.—No. 2386

LONDON: FRIDAY, JUNE 24, 1870.

PRICE FOURPENCE
By Post, 5d.

CONTENTS.

	PAGE
The Admiralty and the Controller and Chief Constructor	451
The Explosion at Waltham	451
Engineering Works in Algeria	452
The Royal Institution	453
Notes on Recent Discoveries in Science and their Practical Applications	453
Fairlin's Double Bogie Locomotive	453
Aeronautical Society	454
Torpedo Operations at Cardiff	455
The Meteorological Society	455
The Rider Cut-off Engine	456
Page's Patent Blocks and Cleats	456
Combined Punch, Shear, and Upsetter	457
Windhausen and Bussing's Chimney Guard or Wind Deflector	457
Improved Pipe Wrench	458
Portable Weighing Machines	458
The Dowlat Ironworks	458
Weekly Chemical, Mineral, and Metal Reports	458
Legal Intelligence	458
To Correspondents	458
Meetings for the Week	458
Correspondence— Stranding on a Lee Shore	458
Signalling at Sea	459
Naval, Military, and Gunnery Items	459
Miscellanies	459
Abridged Specifications of Patents	460
Applications for Letters Patent	462
Notices of Intention to Proceed with Patents	462
List of Sealed Patents	462
Patents on which the Stamp Duty of £50 has been paid	462
Patents on which the Stamp Duty of £100 has been paid	462
List of Specifications Published	462
Provisional Protections	462
Title and Index to Vol. XXIII.	462

WIRE TRAMWAY, BRIGHTON.

NOTICE is hereby given that the Five Mile Exhibition Line of Hodgson's System of WIRE ROPE TRANSPORT on the Brighton Downs, at Kemp Town, WILL BE WORKED from one to four on Saturday and Monday afternoons till the end of September, 1870, on other days by arrangement. For cards to view, and information, apply to Mr. BEALE, 21, Gresham-street, E.C.

PRIZE ENCAUSTIC TILES.

T. and R. BOOTE are awarded by the Jurors of both Class 10 and 35 of the INTERNATIONAL EXHIBITION a Prize Medal for their Encaustic Tiles.

"FOR ADMIRABLE TREATMENT AND GOOD DESIGN."

"FOR NEW PROCESS OF MANUFACTURE OF ENCAUSTIC TILES."

T. and R. BOOTE by their Patent Process are making Encaustic and PLAIN FLOORING TILES of the hardest texture and the finest colours (equal to enamel tints) which can be laid in any depth, thereby ensuring durability, and at a much cheaper rate than hitherto charged.

FOR CHURCHES, ENTRANCE HALLS, &c. &c.

White Glaze Tiles both for in and out door purposes, which will resist the severest weather.

Designs and Estimates supplied without charge, and experienced paviors sent out to suit purchasers.

Address—T. and R. BOOTE, Waterloo Potteries, Burslem.

PATENTS FOR INVENTIONS.

MESSRS. ROBERTSON, BROOMAN, and Co., of 166, Fleet-street, London, have Agents in all the Colonies through whom they are able to obtain Patents for Inventions with great despatch.

Prospectuses may be had gratis on application.

BOXWOOD, EBONY, HICKORY, LANCEWOOD, BEEFWOOD, TULIPWOOD, PURPLEWOOD, SATINWOOD, Lignum Vitæ, SABICU, PENCIL CEDAR, PARTRIDGE WOOD, BRIAR ROOT, ZEBRA WOOD Ivory Nuts, Skittle Balls ready cut, &c., &c., &c.

MUNDY, HORLEY, & CO., HARDWOOD AND FANCY WOOD MERCHANTS 100, BUNHILL ROW, E.C.

Amateurs supplied. List of Woods on application.

THE HOWARD SAFETY BOILER.

MADE entirely of wrought-iron tubes, and with other improvements. ADAPTING IT FOR MARINE, STATIONARY, AND PORTABLE ENGINES.

These boilers are now working successfully in all parts of the world. One firm in the north of England who had a 50 H.P. boiler in 1868, has since purchased over 30 others.

PATENTES AND MANUFACTURERS—

J. & F. HOWARD,
BRITANNIA IRONWORKS, BEDFORD.
London Office, 4, Cheapside, three doors from St. Paul's.

TO ENGINEERS.

THE "FIELD" TUBES can be fitted to already existing boilers. They will either effect a considerable saving in fuel or enable boilers now short of steam to keep full steam. For price and particulars apply to Mr. LEWIS OLICK, Consulting Engineer, 27, Leadenhall-street, London. A 38

THE "FIELD" BOILER is the most economical steam boiler as to space, fuel, and price. It is equally adapted for stationary, portable and marine engines. Illustrations and full particulars may be obtained by applying to Mr. LEWIS OLICK, Consulting Engineer, 27, Leadenhall-street, London, E.C.

RUGBY PORTLAND CEMENT COMPANY manufacture the best quality of cement for general engineering purposes. Supplied by rail or canal. Rugby, Warwickshire.

MR. CHARLES WILLMAN, ASSOC. INST. C.E. MEMR. INST. M.E. MEMB. IRON AND STEEL INST. VALUER OF ENGINEERING PLANT, IRONWORKS, &c., AUCTIONEER, MIDDLESBROUGH-ON-TEE. E 670

CHEAP LATHES.—S. SMITH, 204, HIGH HOLBORN, three doors from Newton-street. A 35

PERIN'S FRENCH BAND SAWS.

TRADE MARK.

SAMUEL WORSSAM and CO., Saw Mill Engineers, are Wholesale Importers of these celebrated Saws, and have the largest stock of these and Circular Saws in London. Revised Price Lists and New Illustrated Catalogues of Patent Builders' Machines on application to Oakley Works, King's-road, Chelsea, London, S.W.

PERIN'S FRENCH BAND SAWS.

CAUTION.

A. RANSOME and CO. are the Sole Agents in the United Kingdom for the sale of Perin's Celebrated Saws. Messrs. Perin and Co. consign to no other house in the kingdom. The public are therefore cautioned to send their orders direct to A. RANSOME and CO., 304, King's-road, Chelsea, S.W. B 334

THE "LOTHIAN" CANNEL COALS.

These Cannels are extensively used in the gas works of Edinburgh, where the illuminating power of the gas is the highest in Britain.

The yield per ton is 12,573 cubic feet, illuminating power 33½ standard candles; coke per ton 1,046lb. Steam and house coal of the best quality being on the list for the Admiralty contracts.

Ports of Shipment, in the Firth of Forth.

For prices, and other information, apply to J. and W. ROMANS, 53, Frederick-street, Edinburgh; and 1, Walbrook, Mansion House, London, and at the Crown Wharf, Thomas-street, Limehouse Cut, where samples may be seen. B 58

BOGIE ENGINES and SUSPENDED WHEELS for RAILWAYS.—SMITH'S PATENT.—Apply to W.M. KELSEY, Esq., 118, Cannon-street, E.C.; or FREDERICK H. SMITH, Esq., 4, Donegal-square West, Belfast, for information, &c. They are taken up in France and America. B 243

MATHEMATICAL INSTRUMENTS, &c.

HOLTZAPFFEL and CO. supply first quality INSTRUMENTS at second quality prices. A visit of inspection is solicited. A 32

W.M. WARNE and CO., Sole Manufacturers of the VENETIAN VOLUTIS HOSE; Consolidated Emery Wheels, Improved Junction Rubber for Valves, Pump Buckets, Steam Packing, Hydraulic Rams, Gas Works, &c. Ferruginous Cement Packing, India-rubber Mats for doorways, baths, &c., the Sultan's Bath Brush and Hand Emboult; the Prince of Wales' Self-closing Pinches; the Junction Rubber Soles for boots and shoes &c., and the Mineralized (Red) India-rubber for Valves, &c. Manufacturers also of all descriptions of Vulcanized India-rubber Sheets Valves, Washers, &c.; Hose Pipes, Tubing, &c.; Waterproof and Air-proof Goods, &c.

W.M. WARNE & CO., 9, Gresham-street West, E.C., and Tottenham, N. A 3

TO ENGINEERS, ETC.

GALLOWAY'S MOTIVE POWER.

COMBINED AIR and STEAM, saving about 50 per cent fuel. GALLOWAY and COMPANY will GRANT LICENCES to ENGINEERS, to apply Mr. G. Bell Galloway's invention as contained in his patent, dated January 7, 1865, to all descriptions of Engines. For terms of Licence, address, B. FOTHERGILL, Esq., C.E., 15, George-street, Mansion House, London.

P.S. Engineers and Users of Steam Power are cordially invited to see an engine working at 12, Hare-court, Aldersgate-street, E.C., 3 minutes' walk from the Railway Station. B 366

JOHN BOURNE and Co., Engineers, Shipbuilders and Contractors, 66, Mark-lane, E.C. Estimates and prices on application. Mr. Bourne's works on the steam engine &c., also supplied. B 288

DRAWINGS, PLANS, TRACINGS, &c., executed with accuracy and despatch, on moderate terms, by MESSER and THORPE, Mechanical and General Draughtsmen, 6 Queen-court, Chancery-lane, W.C. M. and T. are thoroughly practical Engineers. B 26

Fourth Edition, price 10s., revised and reviewed. HOGG'S GUIDE to the IRON TRADE. The ninth thousand is now selling. The book should be in the hands of every practical man in the iron trades, such as engine fitters, rollers, forgers, moulder, pattern makers, boiler and girder makers, smiths, &c.—Orders to be sent to JOSEPH HOGG, Sandwell-road, West Bromwich. Trade supplied.

RECORDS OF STEAM BOILER EXPLOSIONS,

By E. B. MARTEN, Chief Engineer to the Midland Steam Boiler Inspection and Assurance Co. Price 5s. Records for 1869 only 1s. London: E. and F. N. SPON, 48, Charing-cross; Stourbridge, Broomhall. B 360

PHILLIPS'S PATENT SOLID FLANGE

GIRDERS give double the strength of ordinary riveted plate girders of corresponding sectional area and weight, and are supplied in the usual sections at a lower rate per ton.

Particulars furnished on application to the patentees, W. and T. Phillips, 25, Coal Exchange, E.C.

PHILLIPS'S PATENT IMPROVED FIRE-PROOF FLOORING dispenses with the use of all Wooden Fillets and Laths; can be laid by any labourer, and the ceiling plastered immediately; is light and indestructible, and in combination with the Iron Joists, forms a perfect structure at a trifling cost over the ordinary combustible Timber Floors.

W. and T. Phillips, Patentees, 25, Coal Exchange, E.C.

PHILLIPS'S ROLLED WROUGHT-IRON JOISTS AND BEAMS are specially manufactured from a tough and elastic Metal, and are supplied at the cost of the inferior descriptions of iron in the market.

W. and T. Phillips, 25, Coal Exchange, E.C. A 63

DINNEFORD'S FLUID MAGNESIA.

The Medical Profession for thirty years have approved of this pure Solution of Magnesia as the best remedy for Acidity of the Stomach, Heartburn, Headache, Gout, and Indigestion: and as the best mild aperient for delicate constitutions, especially adapted for Ladies, Children, and Infants.

DINNEFORD AND CO., CHEMISTS, 172, New Bond-street, London, And of all other chemists throughout the world.

WHEEL, RACK, and SCREW CUTTING

SPUR, BEVEL, RATCHET, WORM, and INTERNAL WHEELS cut to any size or number of teeth; also racks of any length or pitch. Dividing plates drilled or lined. Screws cut to any size of pitch. J. Wilkinson, Engineer, St. George's Works, 42, late 83, St. George's-road, S.E., London. P 2

TO OPTICIANS and SHIPS' COMPASS

MAKERS.—CAUTION.—Having ascertained that a certain party has been endeavouring to introduce Compasses which directly infringe our patent for the Self-compensating Liquid Compasses, we hereby Give Notice that Legal Proceedings will at once be taken against all persons dealing in such Compasses without our licence.

J. G. WEST and CO. Makers to H.M. Navy, 92 and 93, Fleet-street, London. B 24

PEET'S VALVE TAPS

(with Two Loose Discs)
FOR STEAM, WATER, AND GAS.

PATENTED IN ALL EUROPEAN COUNTRIES.
THOUSANDS IN CONSTANT USE IN EUROPE AND AMERICA.

THESE VALVE TAPS ARE ADMITTED TO BE THE BEST EVER USED.

THEY MAY BE HAD EITHER IN GUN METAL OR CAST IRON, ALL SIZES, WITH M. OR F. ENDS, SCREWED FOR W.I. PIPE, OR

WITH FLANGES, SIE, OR UNION JOINT ATTACHED.

THE ENGINEERING PRESS

ON BOTH SIDES OF THE ATLANTIC GIVE THE PREFERENCE TO THE IMPROVED CONSTRUCTION, EXCELLENCE OF MATERIAL, AND SUPERIOR WORKMANSHIP OF PEET'S VALVES, OVER ALL OTHERS.

HUNDREDS OF TESTIMONIALS MAY BE SEEN ON APPLICATION.

SUPPLIED BY ALL THE PRINCIPAL FACTORIES, BRASS FOUNDRIES, ENGINEERS, MILL FURNISHERS, AND IRONMONGERS IN EUROPE.

SOLE MAKERS, WHITLEY PARTNERS,

RAILWAY WORKS, LEEDS.

B 272

THE BOILER INSURANCE AND

STEAM POWER COMPANY (Limited).—Established 1859.

HEAD OFFICES: 67, King-street, Manchester.

BRANCH OFFICES: 139, Cannon-street, London, and 2, West Regent-street, Glasgow.

H. B. LONGRIDGE, Chief Engineer and Manager.

PERCIVAL HARTLEY, Secretary.

Upwards of 20,000 Boilers have been insured by this Company since its formation.

The Company insure against all damage resulting from Explosion of Boilers or Collapse of Funnel, and have experienced officers resident in the principal manufacturing towns, who inspect the Boilers periodically. Reports of the condition of the boilers and mountings are sent to the insured after each inspection.

Engineers indicated, and advice given on all matters relating to the economical use of Steam Power.

B 347