

THE MECHANICS' MAGAZINE

AND

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

(Registered for transmission abroad.)

[EDITED BY R. A. BROOMAN AND E. J. REED.]

VOL. 2.—NO. 38.
[NEW SERIES.]

LONDON: FRIDAY EVENING, SEPTEMBER 16, 1859.

PRICE, FOURPENCE.
By Post 5d.

PRINCIPAL CONTENTS.

LEADER:	PAGE
The Great Eastern	177
The Accident on Board the Great Eastern	179
How to Make a Rifle Barrel	180
Institution of Mechanical Engineers	181
The British Association	183
On the Earth's Internal Temperature, and the Thick- ness of its Solid Crust	183
The New Calcutta Mint	184
Laubereau's Patent Air Engines	185
Court's Patent Gas-burners	185
The Cort Case	186
The Loss of Life by the Wreck of the Alma	186
The Armstrong Gun	187
Converting Cast-iron Guns into Breech-loaders	187
Our Weekly Gossip	187
Abridged Specifications of Patents	187
Provisional Protections	191
Patent Applied for with Complete Specification	192
Notices of Intention to Proceed with Patents	192
List of Sealed Patents	192
Patents on which the Third Year's Stamp Duty has been paid	192
List of Specifications, &c.	192
List of Miscellaneous Tenders Invited and Engage- ments open	192
Prices Current of Metals	192

ROYAL POLYTECHNIC INSTITUTION.

Patron, H.R.H. the PRINCE CONSORT.
Mr. GEORGE BYCKLAND, every Evening, at Quarter past Eight, in his highly-successful NEW LECTURE and MUSICAL ENTERTAINMENT.
SPLENDID SERIES OF DISSOLVING VIEWS.—Scenes in ITALY, FRANCE, AUSTRIA, on the RHINE, &c.
CHEMICAL LECTURE by Mr. E. V. GARDNER, Professor of Chemistry, "POISONS and their ANTIDOTES."
LECTURE by Mr. KISS, "The PHENOMENA of VISION: The HUMAN EYE as an OPTICAL INSTRUMENT." (341)

THE CENTRAL TRAINING SCHOOL

OF ART, at South Kensington, for Male and Female Students, and METROPOLITAN SCHOOLS OF ART, at 37 Gower-street, for Female Classes only, and at Spital-fields, Crispin-street; Finsbury, William-street, Wilmington-square; St. Thomas Charterhouse, Goswell-street; Rotherhithe, Grammar-school, Deptford-road; St. Martin's-in-the-Fields, Castle-street, Long-acre; Lambeth, St. Mary's, Princess-road; Hampstead, Dispensary-building; Christchurch, St. George's-in-the-East, Cannon-street, will re-open on the 3rd of October.
Application for admission, prospectuses, or any other information, to be made at the Schools in each district, and at South Kensington.

By authority of
The Committee of Council on Education. (325)

MACHINERY of all Kinds DRAWN and ENGRAVED ON WOOD, with the greatest accuracy of detail and Artistic Effect, by

L. WALMSLEY,
2 Walbrook-buildings, City, E.C.

Artists sent to all parts of the United Kingdom, if required. (343)

J. W. CLARE, C.E., Inventor of the Patent Steam Engine, Boiler, and Furnace, whereby one-fourth is saved in the first cost of construction. Only three pounds of the cheapest coal is amply sufficient to generate each horse power of steam required; and the escape of black smoke is entirely prevented. Also of the Patent Railway Break, and Instant Communicator between Driver and Guard, whereby a powerful retarding influence can be applied to every carriage throughout a train, sufficient to stop it while at any speed, in 100 yards if necessary. For further plans, &c., apply at 2 Surrey-square, Old Kent Road, S.E. (344)

RANSOME'S PATENT IMPERISHABLE SILICEOUS STONE.—Chimney-Pieces, Ballustrades, Capitals, Trusses, Terminals, Fountains, Vases, Monuments, &c., of great beauty, at the most reasonable prices.

For Particulars, Specimens, Illustrations, and Agencies, apply to Mr. Frederick Ransome, Whitehall Wharf, Cannon-row, Westminster; or Patent Stone Works, Ipswich. A Liberal Discount allowed to the Trade or to Shippers. (147)

FOR DRIVING MACHINERY, MILLS, &c.—INDIA-RUBBER BANDS, improved make, to resist moist and dry heat, of any length, width, and thickness. Prices and instructions for use on application.

JAMES LYNE HANCOCK,

Vulcanised India-Rubber Works, Goswell-mews, and 8 Goswell-road, London, E.C. (256)

TO SHIPBUILDERS, SHIPOWNERS, CAPTAINS, &c.

THE ANCHOR COMMITTEE AFFIRM "TROTMAN'S PATENT ANCHOR" to be superior to all others, possessing Thirty-Five Per Cent. more Holding Power than either Porter's or Roger's, and equivalent in all respects to ordinary Anchors of 2s per cent. greater weight.

"This appeared to the Committee of vast importance to the Shipping Interests, &c."

(Vide their Official Report, 1853, "On the relative merits of different descriptions of Anchors," sanctioned and approved by the Admiralty.)

THE ANCHOR COMMITTEE

Nominated by the Lords Commissioners of the Admiralty "to investigate and determine the relative merits of Anchors," in compliance with a requisition from the principal Shipowners, Underwriters, &c., of the United Kingdom.

Rear-Admiral the Hon. Sir M. Stopford, K.C.B., Chairman.

Capt. Superintendent Charles Hope, R.N., Her Majesty's Dockyard, Sheerness.

Captain George Rodney Munday, R.N., Her Majesty's Ship "Nile."

Jonathan Ayles, Esq., R.N., Master Attendant, Her Majesty's Dockyard, Sheerness.

James Tonkin, Esq., Master, R.N., Her Majesty's Ship "Waterloo," 120 guns.

William Schaw Lindsay, Esq., M.P., &c., &c.

Duncan Dunbar, Esq., Chairman of General Shipowners' Society; Do. Mercantile Marine Board, London. Member of the Committee of "Lloyd's Register" of Shipping, &c.

Anthony Ridley, Esq., Vice-Chairman of Mercantile Marine Board; Member of the Committee of "Lloyd's Register" of Shipping, &c.

William Drew, Esq., Member of the Mercantile Marine Board; Member of the Committee of "Lloyd's Register" of Shipping, &c.

William Phillips, Esq., Member of the Committee of "Lloyd's Register" of Shipping; General Shipowners' Society, &c.

George Marshall, Esq., Member of the Committee of "Lloyd's Register" of Shipping; General Shipowners' Society, &c.

THE INTERNATIONAL JURY AT PARIS

Also awarded this Invention the First Class Medal, 1855.

Licensed Makers of Trotman's Improved Anchors:—

- Messrs. Hawks, Crawshaw, and Sons, Newcastle-on-Tyne,
- John Abbott and Co., Park Works, Gateshead, Durham,
- J. and E. Lumsden, Strand Iron Works, Sunderland,
- N. Hingley and Sons, Cradley and Netherton Iron Works,
- Proctor and Taylor, Millbank Forge, Hartlepool,
- Henry Wood and Co., Goree Piazzas, Liverpool,
- Wood Brothers, Chester, Wolverhampton, and Stourbridge,
- R. Wight and Sons, Iron Works, Sunderland and Seaham,
- Pow and Fawcus, 49 Lr. Shadwell, London, and North Shields,
- John Gilbert, Cradley Heath, Staffordshire.

DEPOTS,

GEORGE WOOD & CO., 14 Fore-st., Limehouse, London, and at 4 Goree Piazza, Liverpool.

JOHN TROTMAN,
PATENTEE, 42 CORNHILL, LONDON. (249)

MALLET'S PATENT BUCKLED

PLATES.—MR. ROBERT MALLET, C.E., Inventor and Patentee of these Plates (now being laid for the Floor of the New Bridge, Westminster, and applicable to Bridge, Wharf, and Fire-proof flooring, and to a variety of other important purposes) gives notice that he has withdrawn from this date all Licences whatsoever to manufacture or vend his Patent Plates, and taken the management of the Patent exclusively into his own hands. Applications for the Plates to be made to the Patentee, who has arranged for their prompt supply, at his offices, 11 Bridge-street, Westminster, S.W., and 97 Capel-street, Dublin. 18th May, 1859. (264)

TO ENGINEERS, ARCHITECTS, PATENT

AGENTS, &c.
PHOTOGRAPHS OF THE HIGHEST CLASS and of any size, taken and reproduced at a most moderate rate of charge. Reproductions of faultless accuracy, of Machinery, Models, Drawings, &c. Orders attended to in town and country. Estimates forwarded.
SPENCER, READ, & Co., 4 Agar-street, Strand, W.C. (80)

HART & SON, MALLEABLE IRON-FOUNDERS, 4 Vine-street, York-road, Lambeth. Orders for Malleable Iron Castings executed within a week. (77)

TO WIRE ROPE MAKERS.—ARCHIBALD SMITH is now prepared to GRANT LICENCES for the use of his PATENT ROPE MACHINERY, guaranteed to work at six times the speed of any other, and to save upwards of fifty per cent. in the cost of making. It is used by the most eminent makers, and was also in the manufacture of the Atlantic Cable.—Apply to 69 Princes-street, Leicester-square, W. (198)

KENNINGTON AGRICULTURAL AND CHEMICAL COLLEGE, Lower Kennington-lane, near London.

PRINCIPAL—J. C. NESBIT, F.G.S., F.C.S., &c.
Youths intending to become Farmers, Land Stewards, Chemical and Manure Manufacturers, or Managers of Mining Property, will find the course of instruction in the College such as to fully qualify them for their respective pursuits. The term for Senior and Junior Students may be known on application to the Principal.

ANALYTICAL AND ASSAY DEPARTMENT.

Analyses and Assays of every description are promptly and accurately executed in the Laboratories of the College. (320)

TO PARENTS AND GUARDIANS.—

MECHANICAL ENGINEERING.—There is a Vacancy in one of the largest Establishments in the North of England for Half-a-Dozen Young Gentlemen as Apprentices. They would have the opportunity of a thorough insight, theoretical and practical, into the construction of steam engines and general machinery, the manufacture of forged and roller iron of every description, smithed work, iron and brass founding, mechanical drawing, agricultural implements, carpentry, joinery, railway material of all sorts, &c.

Premium in each case £150. The right would be reserved of declining to treat with any one who might in any respect be deemed unsuitable.

Address, early, by letter only, H. B., MECHANICS' MAGAZINE Office, 165 Fleet-street, London. (316)

TO RAILWAY COMPANIES, CONTRACTORS, AND OTHERS.

GEORGE NEIGHBOUR and SONS, OIL MERCHANTS, Particularly invite attention to their PATENT ARGAND LAMP OIL, for Railway Roof and Signal Lamps; also their EXTRA-REFINED ENGINE OIL, for Locomotive and Machine purposes. Prices forwarded on application.
127 HIGH HOLBORN, LONDON, W.C.

Agent at MANCHESTER—E. S. ROGERS, 33 Cannon Street. (281)

INVENTORS, ENGINEERS, AND OTHERS.

AN Engineer of much Experience can give Assistance in Practically Arranging Inventions, contriving Machinery, Preparing Drawings, Tracings, &c.
Address, M. E., 9 Parliament-street, Westminster. (304)

AGENTS FOR ALL THE LEADING IMPLEMENT MANUFACTURERS.

WILLIAM DRAY and COMPANY, Agricultural and General Engineers, &c., Adelaide Place, London Bridge, invite attention to their new Central Premises, close to London Bridge, where may be seen their celebrated Champion Reaper, Chaff Engines, Oat Bruisers, Post Mills, Pumps, Weighing Machines, Corn Bins, their Patent Self-Adjusting Scythe, Garden Engines, Handsome Garden Seats, Lawn Mowers (every make), Flower Stands, and Garden Tools of all descriptions.

NOTE.—Descriptive Catalogues of any particular class of Implements forwarded post free upon application. (318)

TO RAILWAY COMPANIES, ENGINEERS, MILL-OWNERS, &c., &c.

THE PATENT PLUMBAGO CRUCIBLE COMPANY draw the attention of all Owners of Machinery to their fine POWDERED PURE FLOUR PLUMBAGO, which they can confidently recommend for Anti-friction purposes, being an impalpable powder, and warranted perfectly free from grit and any impurity.

For ordinary polishing purposes it will be found superior to any Black Leads offered.
Price £27 10s. per ton, £1 10s. per cwt.; samples of 25 lbs. forwarded on receipt of 8s. Packages free.

Address—
THE PATENT PLUMBAGO CRUCIBLE COMPANY, Battersea Works, London, S. W. (334)