Scientific American.

Red

ROOF

FOR PRINT

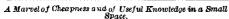
XX.GANVAS . COT

0

W. C. WREN'S

Pat. Grate Bar,

Manufactured by D. S. CRESWELL,



MOLESWORTH'S POCKET BOOK

CIVIL AND MECHANICAL ENGINEERS. JUST PUBLISHED.

Pocket Book of Useful Formulæ and Memoranda for Civil and Mechanical Engineers. By Guilford L. Molesworth, Member of the Institution of Civil En-gineers; Chief Resident Engineer of the Ceylon Rail-way. Cheap Edition, full bound in leather, pocket book form, red edges. Price \$1.00, free of postage to any part of the world.

Jorm, releases. Frice clos, free of postage to any pair of the word. This Pocket Book, one of the most popular that has ever been published, contains a wonderful variety of Formuke and Memoranda, cove ing nearly every sub-ject which can arise in the course of the practice of the Civil or Mechanical Engineer. These formuke, etc., are so simple that there is scarcely one which cannot be mastered by any one possessing little m ore than a mere knowledge of arithmetic. They comprise Surveying, Leveling, Earthwork, Railroads, Brickwerk, Mortars, Cements, Plastering, Bridges, Beams and Girders, Roofs, Columns, Steam. Common Roads, Canals, Rivers, Water-works and Water Plaes, Sewers, Gas Werks, Mill Work, Wheels, Friction, Alloys, Workshop Receipts, Boilers, Steam Engines of all kinds, Water Power and Water Wheels, Wind Mills, Screw Propellers, Pumps, Cranes, Weight's and Measures, Logarithms, Elasticity, Strength and Weight of Matterials, Saturated Steam, Knots and Statue Milles, Compared Wells, etc., etc., etc.

Lathes, Planers, Drills, &c. NEW HAVEN MANUFACTURING CO., New Haven, Conn.

MACHINERY,

For Iron and Wood Workers. Hand Tools and Sup-plies. O. L. PACKARD, Milwaukee, Wis.

70

THE



CIVIL, MECHANICAL, AND MINING EN-GINEERING at the Rensselaer Polytechnic Institute, Troy, N. Y. The oldest engineering school in America. Next term begins September in The Register for 180-81 contains a list of the graduates for the past 54 years, with their positions; also, course of study reconfiguration compose to Address

of study, requirements, expenses, etc. Address DA VID M. GREENE, Director.

\$5 to \$20 per day at home. Samples worth \$5 free. Address STINSON & Co., Portland, Me.

\$60 Screw Cuiting Foot Lathe. Foot and Power Lathes, Drill Presses

SHEPARD'S CELEBRATED



ROOTS' NEW IRON BLOWER,





MESSRS. MUNN & CO., in connection with the pub-



Ø

lication of the SCIENTIFIC AMERICAN, continue to examine Improvements, and to act as Solicitors of Patents for Inventors.

In this line of business they have had thirty; five years' experience, and now have *prequaled* facilities for the preparation of Patent Drawings, Specifications, and the prosecution of Applications for Patents in the United States, Canada, and Foreign Countries. Messra Munn & Co. also attend to the preparation of Caveats, Copyrights for Books. Labels, Reissues, Assignments, and Reports on Infringements of Patents. All business intrusted to them is done with special care and promptness, on very reasonable terms.

A pamphlet sent free of charge, on application, containing full information about Patents and how to procure them; directions concerning Labels, Copyrights, Designs, Patents, Appeals, Reissues, Infrigements, Assignments, Rejected Cases, Hints on the Sale of Patents, etc.

We also send, free of charge, a Synopsis of Foreign Patent Laws, showing the cost and method of securing patents in all the principal countries of the world. MUNN & CO., Solicitors of Patents, 37 Park Row, New York. BRANCH OFFICE .- Corner of F and 7th Streets Washington, D. C.

JOHN H. CHEEVER, Treas. NEW YORK BELTING & PACKING CO., 37 & 38 Park Row, New York.