Water meter, Dennert & Lind	
Whiffletree, T. J. Pearson	266,308
Whip holder, S. Baker	266.412
Windmill, J. A. Dean	266,352
Windmill. G. Garside	266.281
Windmill, F. Reiter	266,524
Windows, stained glass, E. Oudinot	266,507
Windows and doors, device for closing, D. Pear-	
son	266,334
Wrench. See Screw and pipe wrench. Wagon wrench.	
Wrench, vise, and nail puller, combined, D. R.	
Porter	266,310
Wringer. See Clothes wringer.	

DESIGNS.

Advertising blank, E. L. Moodie	13,369
Advertising card, II. Pennington	13,367
Bracelet charm, H. G. McKinney	13,368
Carpet. E. Fajon	13,345
Carpet, D. G. Melville	13,359
Knife, fork, or spoon handle, E. B. Towle	13,366
Lamp, etc., oil, D. R. Lowden	13,358
Oil cloth, C. T. & V. E. Meyer13,360 to	13,365
Organ case, E. P. Carpenter	13,344
Printed fabric, J. Glen	13,357
Stove, E. L. Calely	

TODA DE MADES

TRADE MARKS.	
Embroidered canvass, cloths, silks, velvets, and	
ribbons. J. B. T. Lapaix	9,748
Flour, wheat, E. O. Stanard & Co9,750 to	9,752
Iron, pig, R. W. Coleman's Heirs	9,745
Medicinal article used for toilet and other purposes,	
Nye Brothers & Co	9,749
Perfume, toilet, G. Kemp	9,747
Saws, tools, and files, H. Disston & Sons9,741.	9,742
Sugar combined with the essential properties of the	
lime fruit, tablets of boiled or chemically pure	
loaf, H. S. Evans	9,743
Tobacco, chewing and smoking, C. B. Hull	9,746
Tobacco, cigars, and cigarettes, smoking, Globe	
Tobacco Company	9,744

English Patents Issued to Americans,

From October 6, 1882, to October 10, 1882, inclusive.

Berth, ship's, J. H. Milligan. Boston, Mass. Bicarbonate of soda, manufacture of, B. T. Babbitt, New York city. Bicycle seat, J. L. Wilson, Waltham, Mass.

Bushing material, G. F. Senter, New York city. Clock, J. Lindauer, New York city. Elastic fabric, manufacture of, T. H. Ball, Chicago, Ill. Elevator, A. D. Fox, New York city.

Frame for bedsteads, etc., B. J. La Mothe, M.D., New York city.

Grain drier. H. Cutler et al., N. Wilbraham, Mass.

Hides, machine for scouring, C. Holmes, Boston, Mass. Hides, treating, W. Maynard, New York city. Horseshoe calk sharpener, F. A. Roe, New York city. Paper bag machinery, M. N. Stanley, New York city. Spinning machinery, F. Gebhart, New Albany, U. S. Sulphuric acid, concentrating, J. Gridley, Brooklyn,

Telephone, J. P. Stabler, Sandy Spring, Md. Tricycle, H. C. Bull, Brooklyn, N. Y.

Adrertisements.

Inside Page, each insertion - - - 75 cents a line. Back Page, each insertion - - - \$1.00 a line.

(About eight words to a line.)

Engravings may head advertisements at the same rate per line, by measurement, as the letter press. Advertisements must be received at publication office as early as Thursday morning to appear in next issue.



THE "RIGHT SPEEDY Corn Sheller.

Cheap. Durable, and Effective; shells 12 to 14 bushels per hour. It is the best thand shelter made, and I warrant it for 5 years.

Price \$5, or handsomely nickel plated, \$6.

AGENTS WANTED. If no agent in your vicinity, I will send Sheller, express paid, on receipt of price. Send for circular.

CURTIS GODDARD,

Wanted—Manufacturers and dealers in useful articles of late invention to send description to 913 Washington St., Boston, Mass. Agents' supplybureau. G.B. BLAKE.





CORRUGATED AND CRIMPED IRON ROPING AND SIDING, Iron Buildings, Roofs, Shutters, Doors, Corpiese, Skylights, Bridges, etc. MOSELY JUON BRIDGE, AND ROUF CO., 5 Dey Street, New York.



The Mines of the Carolinas Use
Yan Duzen's Patent Stram Jet Pump.
Far superior to any other Jet Pump for
practical service. Made of Brass; has
no valves, no moving parts, no small
openings. Will pump Dirty. Sandy,
Gritty. Hot. or Cold Water. Will raise
water to 50 feet vertically. Can be used
with hose. Warranted reliable and satisfactory. Prices from \$7 up. Oapactites
300 to 30.000 gal. per hour. Demand this
pump and take no cheap substitute.
atalogge. No. 49."

VAN DUZEN & TIFT, Cincinnati, O.

Chicago, June 8, 1882.

We are MORE THAN SATISFIED with our Pictet Refrigerating Machines, and consider them THE BEST IN THE MARKET. We have two of the largest size in full operation. ARMOUR & CO.

Your attention is called to above certificate.

THE PICTET ARTIFICIAL ICE CO., Limited,

142 Greenwich Street, New York.

LANDRETHS' PEDIGREE SEEDS.

SEEDS For the Merchant on our New Plan | SEEDS | For the Market Cardener | SEEDS |

For the Market Cardener | SEEDS |

For the Market Cardener | SEEDS |

For the Market Cardener | SEEDS |

For the Market Cardener | SEEDS |

For the Market Cardener | SEEDS |

For the Market Cardener | SEEDS |

For the Market Cardener | SEEDS |

For the Market Cardener | SEEDS |

For the Market Cardener | SEEDS |

For the Market Cardener | SEEDS |

For the Market Cardener | SEEDS |

For the Market Cardener | SEEDS |

For the Market Cardener | SEEDS |

For the Market Cardener | SEEDS |

For the Market Cardener | SEEDS |

For the Market Cardener | SEEDS |

For the Market Cardener | SEEDS |

For the Market Cardener | SEEDS |

For the Market Cardener | SEEDS |

For the Market Cardener | SEEDS |

For the Market Cardener | SEEDS |

For the Market Cardener | SEEDS |

For the Market Cardener | SEEDS |

For the Market Cardener | SEEDS |

For the Market Cardener | SEEDS |

For the Market Cardener | SEEDS |

For the Market Cardener | SEEDS |

For the Market Cardener | SEEDS |

For the Market Cardener | SEEDS |

For the Market Cardener | SEEDS |

For the Market Cardener | SEEDS |

For the Market Cardener | SEEDS |

For the Market Cardener | SEEDS |

For the Market Cardener | SEEDS |

For the Market Cardener | SEEDS |

For the Market Cardener | SEEDS |

For the Market Cardener | SEEDS |

For the Market Cardener | SEEDS |

For the Market Cardener | SEEDS |

For the Market Cardener | SEEDS |

For the Market Cardener | SEEDS |

For the Market Cardener | SEEDS |

For the Market Cardener | SEEDS |

For the Market Cardener | SEEDS |

For the Market Cardener | SEEDS |

For the Market Cardener | SEEDS |

For the Market Cardener | SEEDS |

For the Market Cardener | SEEDS |

For the Market Cardener | SEEDS |

For the Market Cardener | SEEDS |

For the Market Cardener | SEEDS |

For the Market Cardener | SEEDS |

For the Market Cardener | SEEDS |

For the Market Cardener | SEEDS |

For the Market Cardener | SEEDS |

For the M



EVERY USER OF MACHINERY! SHOULD LEARN

How to Use Loose Pulleys

Useful information on this subject is given in our "Catalogue No. 55." Sent free to any address. VAN DUZEN & TIFT, Cincinnati, O.

BLEACHING.—A LECTURE, BY DR. P. Ebell, on peroxide of hydrogen as a means for bleaching, and its availability for technical, medicinal, ansurgical purposes. A valuable paper. Contained in SCIENTIFIC AMERICAN SUPPLEMENT, NO. 349. Price ID Cents. To be had at this office and from all newsdealers.

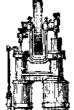


PAYNE'S AUTOMATIC ENGINES.



Reliable, durable, and economical, will furnish a horse power with one-third less fuel and water than any other enjoie butth not fitted with an automatic cut-off. Send for Illustrated Catalogue "A" 2, for information and prices.

B. W. FAYNE & SONS,
Box 1207.



THE RIDER COMPRESSION **PUMPING ENGINE**

(Hot Air), for city or country residences where it is required to raise a supply of water, is the most Perfect Pumping Machine in the market. Its marvelous Simplicity, absolute Safety, great Economy and Effectiveness, render it far superior to all others. Can be run by any inexperienced person. Send for catalogue and price list to

CAMMEYER & SAYER, 93 Liberty St., New York, and 20 W. Lake St., Chicago, Ill. Please mention this Paper.

SPEAKING TELEPHONES THE AMERICAN BELL TELEPHONE COMPANY W. H. FORBES, W. R. DRIVER, THEO. N. VAIL, President. Treasurer. Gen. Manager.

W. H. FORBES, W. K. DRIVER, THEO, N. VAIL, President. Treaswer. Gen. Manager.
Alexander Graham Bell's patent of March 7, 1876, owned by this company, covers every form of apparatus, including Microphones or Carbon Telephones, in which the voice of the speaker causes electric undulations corresponding to the words spoken, and which articulations produce similar articulate sounds at the receiver. The Commissioner of Patents and the U. S. Circuit Court have decided this to be the true meaning of his claim; the validity of the patent has been sustained in the Circuit on final hearing in a contested case, and many interpretations and final decrees have been obtained on them. This company also owns and controls all the other telephonic inventions of Bell, Edison, Berliner, Gray, Blake. Phelps, Watson, and others.

(Descriptive catalogues for warried on application,) Telephones for Private Line, Club, and Social systems can be procured directly or through the authorized agents of the company.

All telephones obtained except from this company, or its authorized licensees, are infringements, and the makers, sellers, and users will be proceeded against.

Information furnished upon application.

Address all communications to the

AMERICAN BELL TELEPHONE COMPANY, 95 Milk Street, Boston, Mass,



RUBBER BACK SQUARE PACKING. BEST IN THE WORLD.

For Packing the Piston Rods and Valve Stems of Steam Engines and Pumps.

B represents that part of the packing which, when in use, is in contact with the Piston Rod.

A, the elastic back, which keeps the part B against the rod with sufficient pressure to be steam-tight, and yet against title friction.

This Packing is made in lengths of about 20 feet, and of all sizes from 14 to 2 inches square.

DHN H. CHEEVER, Treas.

NEW YORK BELTING & PACKING CO., 29 Park Row, New York. JOHN H. CHEEVER, Treas. SPECIAL NOTICE.—Owing to the recent great fire in the "World" Building, our office has been removed as above.



SCREW PROPULSION. -ABSTRACT OF lecture by Robert Griffiths. The power actually required for propulsion. Experiments on screws. The cause of the vibration of screws. Proper position of the screw. Protection against fouling. Contained in SCIENTIFIC AMMERICAN SUPPLEMENT, NO. 34.9. Price 10 cents. To be had at this office and from all newsdealers.



NUT TAPPING

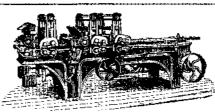
DURRELL'S PATENT. No. 1 Machine, 900 lb., 7 spindle "2" 1,050 " 7" 2" 3 " 600 " 3 "

Capacity of 7 Spindles, 8,000 per 10 hours.

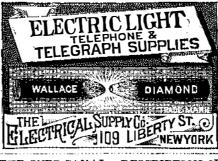
Acknowledged to be an indispensable tool Manufactured by HOWARD BROS., Fredonia, N. Y.

SOME CHEMICAL REACTIONS— Simple methods by which the chemicals used in pho-tography may be recognized without resort to qualita-tive analysis, should their labels become illegible. Con-tained in SCIENTIFIC AMERICAN SUPPLEMENT, No. 348. Price 10 cents, To be had at this office and from all newsdealers.





WITHERBY, RUGG & RICHARDSON, Manufacturers of Patent Wood Working Machinery of every description. Facilities unsurpassed. Shop formerly occupied by R. Ball & Co., Worcester, Mass. Send for Catalogue.



THE SUEZ CANAL.—DESCRIPTION OF the methods adopted in the construction, with two figures illustrating the dredging machines employed. Contained in SCIENTIFIC AMERICAN SCIPILEMENT, No. 347, Price 10 cents. To be had at this office and from all newsdealers.



PATENT QUICK Adjustable Stroke $\mathbf{SHAPERS}$ Can be Changed while in Motion.

E. GOULD & EBERHARDT, NEWARK, N. J.



MANUFACTURERS OF WIRE ROPE, BRIDGE CABLES, SHIP RIGGING,

Tramway Ropes, Champion Barbed Wire, etc. Office and Works: Send for Office and Warehouse: WILKESBARRE, PA. Sprice list. S7 LIBERTY ST., NEW YORK.

BLAKE'S CHALLENGE" ROCK BREAKER.



Patented November 18, 1879.

For Macadam Road making, Ballasting of Railroads. Crushing Ores, use of Iron Furnaces, etc. Rapidly superseding our older styles of Blake Crusher on account of its superior strength, efficiency, and simplicity. Adopted by important Railway and Mining Corporations, Cities, and Towns. First Class Medals of Superiority awarded by American Institute, 1879 and 1880.

BLAKE CRUSHER CO., Sole Makers, New Haven, Conn.







PROOF Sample and Circular Free by mail. U. S. MINERAL WOOL CO., 22 Courtlandt St., N. Y.





LOCOMOTIVES.—PERSPECTIVE AND detail views of the powerful class of locomotives constructed by the Lehigh Valley Rainoad Co. with weights and dimensions. Contained in SCIENTIFIC AMERICAN SCIPTIEMENT, No. 347. Frice 10 cents. To be had at this office and from all newsdealers.



STEAM PUMPS



of every description and for every purpose. Boiler reading and Fire Fumps a specialty. Pinotoing returns from steam heating apparatus without the use of tanks or traps. Combined Pumps and Boilers for Rediway Water Stations. Adopted by twenty-four leading F. R. lines.

SMITH. Valle & Co.,
24 W. Lake St., Chicago, Jil.
Send for descriptive catalogue.







Warranted. Satisfaction guaranteed, Type-Writer Supplies. Send for dr. culars. Address E. REMINGTON & SONS, Manufacturers, or Wyckory, SEAMANS & BENEDICT, Sole Agents, 281 and 283 Broadway, New York.

OWNERS OF PATENTS of Metalic Goods, that wish to place orders for the manufacture of goods. e. Address GEO. VAN SANDS, Middletown, Conn.



MESSRS. MUNN & CO., in connection with the publication 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 unequaled facilities for the preparation of Patent Drawings, Specifications, and the prosecution of Applications for Patents in the United States, Canada, and Foreign Countries, Messrs. 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 pro cure them; directions concerning Labels, Copyrights, Designs, Patents, Appeals, Reissues, Infringements, Assignments, Rejected Cases, Hints on the Sale of Pa-

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, 261 Broadway, New York.

BRANCH OFFICE -Corner of F and 7th Streets, Washington, B. C.