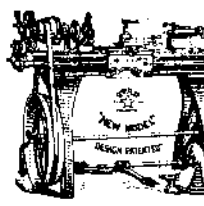


"Star" Lathes
Foot and Power Screw Cutting
FOR FINE, ACCURATE WORK
SENeca FALLS MFG. CO.
695 Water Street,
Seneca Falls, N. Y., U. S. A.



ENGINE & FOOT MACHINE SHOP OUTFITS
LATHES TOOLS & SUPPLIES
SEBASTIAN LATHE CO.

GAS ENGINE DETAILS.—A VALUABLE and fully illustrated article on this subject is contained in SUPPLEMENT No. 1282. Price 10 cents. For sale by Munn & Co. and all newsdealers.

Apple Economical Gas Engine Igniters.

Are positively the best built for Stationary, Automobile and Marine Gas Engines, either touch or jump spark system. We are the leaders in the manufacture of Igniting Dynamos, Magnets, Governors, Coils, Plugs, etc. Write for illustrated matter. The Dayton Electrical Mfg. Company, No. 80 South St., Dayton, Ohio, U. S. A.



THE MIETZ & WEISS KEROSENE and GAS ENGINE

Sizes from 1 to 60 H. P. burns KEROSENE cheaper and safer than gasoline. Automatic, simple, reliable. No electric battery or flame used. Perfect regulation. Belted or directly coupled to dynamo for electric lighting, charging storage batteries, pumping and all power purposes.

A. MIETZ,
128-128 Morr St., New York.
ADOPTED BY U. S. GOVERNMENT.
Highest Award for direct coupled Generator Set, Paris Exposition, 1900. Gold Medal, Pan-American Exposition, 1901

For Heavy Continuous Work

every machine shop will commend our **Power Pipe Threading and Cutting Machine.** Cones are central over machine, equalizing the weight. Within the cones are compound gears giving six changes of speed. Gears require no extra space, and are protected from dust or accident. Cones can be opened, threaded pipe removed, another inserted and cut without stopping machine. Send for Catalogue.

THE MERRELL MFG. CO.,
501 Curtiss Street, TOLEDO, OHIO.

NEW IMPROVED Microscope for Projection.

New metal track plate with keys to unlock standard and change instantly—combining also polariscope and stamoscope. New series of projection objectives with flat field, well lighted and clear definition. New substage condenser on a new system. Illustrated circular, catalogue, etc., free.

QUEEN & CO., 1010 Chestnut St., Philadelphia, Pa.

PALMER MARINE and STATIONARY MOTORS

2 and 4 CYCLE are no experiment, as they are in successful operation in all parts of the world. Launches in stock. Send for Catalogue.

PALMER BROS.,
Cos Cob, Conn.

NICKEL AND Electro-Plating Apparatus and Material.

Hanson & VanWinkle Co., Newark, N. J., 136 Liberty St., N. Y., 30 & 32 S. Canal St., Chicago.

ELECTRICAL SUPPLIES
AT WHOLESALE, BELL OFFICE-MEDICAL APPARATUS-TELEGRAPH INSTRUMENTS-SAFES-ETC. BUY FROM THE CHEAPEST LEADING HOUSE. CIRCLE CATALOG FREE.
BROADWAY WIRE CO.,
7 WARREN ST. NEW YORK

JUST PUBLISHED

Practical Pointers For Patentees

Containing Valuable Information and Advice on THE SALE OF PATENTS.

An Elucidation of the Best Methods Employed by the Most Successful Inventors in Handling Their Inventions.
By F. A. CRESEE, M. E.
152 Pages. Cloth. Price, \$1.00.

THIS is the most practical, up-to-date book published in the interest of Patentees, setting forth the best methods employed by the most successful inventors in handling their patents. It is written expressly for Patentees by a practical inventor, and is based upon the experience of some of the most successful inventors of the day. It gives exactly that information and advice about handling patents that should be possessed by every inventor who would achieve success by his ingenuity, and will save the cost of many expensive experiments as well as much valuable time in realizing from your inventions. It contains no advertisements of any description and is published in the interests of the Patentee alone, and its only object is to give him such practical information and advice as will enable him to intelligently handle his patent successfully, economically and profitably. It gives a vast amount of valuable information along this line that can only be acquired by long, expensive experience in realizing from the monopoly afforded by a patent.

Send for Descriptive Circular.
MUNN & CO.,
Publishers, 361 Broadway, New York.

Yoke attachment, neck, D. N. Luse.....	703,938
Zinc ores and especially blende, electro-metallurgical treatment of, J. Fossizza.....	703,857

DESIGNS.

Pillow, sofa, E. Field.....	35,972
Scale base and supporting column, W. H. Sargent.....	35,970
Scale beam support, W. H. Sargent.....	35,969
Type, font of border, J. W. Phinney.....	35,971

TRADE MARKS.

Ammunition, certain named, Peters Cartridge Co.....	38,561
Antiseptic for toilet and medicinal purposes, R. Paxton Company.....	38,543
Apples, apple trees, scions, cuttings, grafts, roots and stocks, Stark Bro.'s Nurseries & Orchards Co.....	38,556
Belts, Samstag & Hilder Bros.....	38,527
Beverages, syrups, flavorings, tonics, or extracts for non-intoxicating aerated, E. H. Cross.....	38,534
Bread, Heusser Baking Company.....	38,540
Chemical compound, certain named, Rosenzweig & Baumann.....	38,552
Coffees and teas, Woolson Spice Company.....	38,535
Cotton cloth, Compania General de Tabacos de Filipinas.....	38,530
Cotton yarn, mercerized, Dexter Yarn Co.....	38,531
Cough drops, J. A. Arment.....	38,542
Explosives, E. Steale.....	38,563
Fruit juices, W. H. Parle.....	38,536
Gloves, J. Adler & Co.....	38,528
Groceries, certain named, Sprague, Warner & Company.....	38,539
Hair tonics and dandruff cures, M. A. Pearce.....	38,548
Insulating material, D. M. Steward.....	38,554
Medicinal compound, certain named, J. Hofmeyer.....	38,544
Medicinal compound for restoring hair, National Haircare Co.....	38,549
Medicines for treatment of the blood, W. M. Hoshaw.....	38,543
Ore crushing mills, S. V. Trent.....	38,559
Packing house products, certain named, Libby, McNeill & Libby.....	38,537
Packing house products, certain named, Swift & Company.....	38,538
Paint in liquid form, roof, A. F. Hawthorn.....	38,555
Paints, certain named, J. G. Connor & Co.....	38,553
Remedy for dandruff, J. F. Hamilton & Co. Rivets, tubular and pronged, Tubular Rivet & Stud Co.....	38,557
Safes and vaults, fire, burglar, and water proof, H. D. Carey.....	38,560
Shoes, T. D. Barry & Co.....	38,529
Soap, toilet, Enterprise Soap Works.....	38,550
Stainers, certain named, J. S. Staedler.....	38,525
Stoves, furnaces, and attachments therefor, A. G. Ingalls.....	38,558
Tobacco, leaf, W. T. Grant & Co.....	38,532
Vegetable albumens in dry or liquid form, United States Plantose Company.....	38,551
Watches, watchcases, and watch movements, Keystone Watch Case Company.....	38,526
Witch hazel, certain distilled product of, E. E. Dickinson & Co.....	38,546

LABELS.

"Athenian," for evaporated fruits, W. A. Higgins & Co.....	9,255
"Blue Bell," for evaporated fruits, W. A. Higgins & Co.....	9,254
"Brau" for beer, A. von Gotzhausen.....	9,263
"Charlot," for evaporated fruits, W. A. Higgins & Co.....	9,258
"Cow Hide," for paper bags, Old Dominion Paper Co.....	9,250
"Dr. Spinner's Stomach Aid," for a medicine, Spinner Medicinal Tablet Co.....	9,274
"Eruption of Mt. Pelee," for fireworks, T. Lloyd.....	9,251
"Eureka," for evaporated fruits, W. A. Higgins & Co.....	9,253
"Farmer Boy," for cigars, N. F. Young.....	9,269
"First Page," for cigars, American Lithographic Company.....	9,270
"Holly," for evaporated fruits, W. A. Higgins & Co.....	9,256
"Idealia," for toilet cream, Idealia Co.....	9,272
"John Gibson's Son & Co.'s Eye Whiskey," for whiskey, Moore & Simont.....	9,261
"La Oriental," for cigars, Sanchez & Haya Co.....	9,268
"La Romana," for cigars, Sanchez & Haya Co.....	9,267
"Listerets," for a lotion, J. M. Fisher.....	9,271
"Masurite Safe Explosive," for an explosive, Masurite Explosive Company.....	9,252
"Miebis," for cigarettes, Miebis Tobacco Company.....	9,264
"Mistletoe," for evaporated fruits, W. A. Higgins & Co.....	9,257
"Old Fireside," for cigars, Schmidt & Co.....	9,266
"100 Per Cent Pure Wool," for cloth, J. Capps & Sons.....	9,249
"The Past Cigar," for cigars, Schmidt & Co.....	9,265
"The Queen's Cream of Roses," for toilet preparation, W. E. Terrill.....	9,273
"Whiskey Without a Headache," for whiskey, Greenwald & Co.....	9,260
"Winner Whiskey," for whiskey, W. Mulherin & Sons.....	9,262
"Yankee Cream Corn," for canned corn, N. C. Cummings & Bro.....	9,259

PRINTS.

"Hygienic Suspensory," for suspensory bandages, J. C. Schnoter Co.....	528
"Men's Apparel," for men's apparel, W. C. Both.....	527
"Nailitza," for a cleaning preparation, Nailitza Company.....	529

A printed copy of the specification and drawing of any patent in the foregoing list, or any patent in print issued since 1863, will be furnished from this office for 10 cents, provided the name and number of the patent desired and the date be given. Address Munn & Co., 361 Broadway, New York.

Canadian patents may now be obtained by the inventors for any of the inventions named in the foregoing list. For terms and further particulars address Munn & Co., 361 Broadway, New York.

BOOK NOTICES.

COUNTRY AND SUBURBAN HOUSES. Designed, Published and Copyrighted by William Dewsnap, Architect. New York: 150 Nassau Street. 1902. Price \$2.

Mr. Dewsnap has issued a book of attractive houses which, at this season of the year, should be particularly welcome. The houses are pictured both as they actually are or will be, and are also illustrated by the usual plans. The descriptions are concise. In each case the cost of the dwelling is given.

USEFUL DESIGNS AND DETAILS. Containing 43 full-page plates. Chicago: Porter, Taylor & Co. 1902. Price \$2.

This book is an architectural work comprising forty-three full-page plates of architectural details.

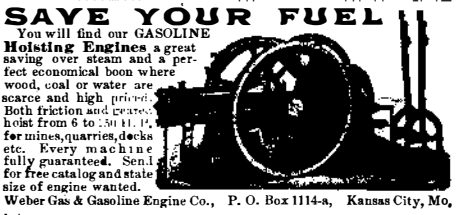
IF YOU SHOOT A RIFLE
Pistol or Shotgun, you'll make a Hit in the Eye by sending three 2c stamps for the ideal Hand-book "A," 126 pages FREE. The latest Encyclopedia of Arms, Powders, Shot and Bullets. Mention SCIENTIFIC AMERICAN. Address IDEAL MFG. CO., NEW HAVEN, CONN., U. S. A.

CARS
FOR EVERY PURPOSE
Rails, Portable Track, Switches, Etc.
AND ALL ACCESSORIES ALWAYS IN STOCK.



ARTHUR KOPPEL, Dept. P,
66-68 Broad St., New York. Write for Catalogue No. 30.

SAVE YOUR FUEL
You will find our GASOLINE Holding Engines a great saving over steam and a perfect economical boon where wood, coal or water are scarce and high priced. Both friction and general hoist from 6 to 250 H. P. for mines, quarries, docks etc. Every machine fully guaranteed. Send for free catalog and state size of engine wanted.

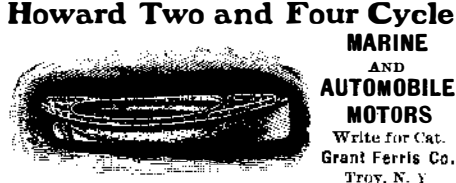


Weber Gas & Gasoline Engine Co., P. O. Box 1114-a, Kansas City, Mo.

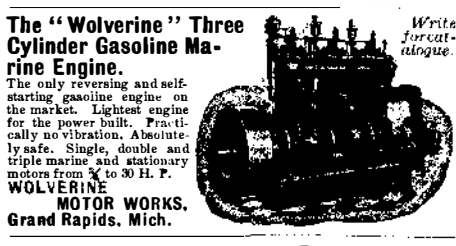
American Yacht and Motor Company,
Builders from a Row Boat to a Yacht
Cherokee and DeKalb Streets,
ST. LOUIS, MO.

D. L. HOLDEN
REAL ESTATE TRUST BLDG PHILA. PA.
SOLE MANUFACTURER
REGGELED ICE MACHINES
SEE FIRST PAGE SCIENTIFIC AMERICAN SEPT. 2, 1899.

Howard Two and Four Cycle
MARINE AND AUTOMOBILE MOTORS
Write for Cat. Grant Ferris Co. Troy, N. Y.



The "Wolverine" Three Cylinder Gasoline Marine Engine.
The only reversing and self-starting gasoline engine on the market. Lightest engine for the power built. Practically no vibration. Absolutely safe. Single, double and triple marine and stationary motors from 2 to 30 H. P.



WOLVERINE MOTOR WORKS,
Grand Rapids, Mich.

GERE GASOLINE ENGINES
SIMPLEST BOAT ENGINES MADE
CABIN-OPEN BOATS
GEO. H. GERE YACHT LAUNCH Wks.
GRAND RAPIDS, MICHIGAN.

Gas Engine IGNITER
Complete with spark coil, \$12.00
The Best Thing on the market.
Latest and most improved model.
Send for Circular.



Carlisle & Finch Co., 233 E. Clifton Av., Cincinnati, O.

WORK SHOPS
of Wood and Metal Workers, without steam power, equipped with **BARNES' FOOT POWER MACHINERY** allow lower bids on jobs, and give greater profit on the work. Machines sent on trial if desired. Catalog Free.



W. F. & JOHN BARNES CO.
Established 1872.
1999 RUBY ST., ROCKFORD, ILL.

A TRUSGOTT BOAT
Simple, Safe, Reliable, Speedy.



Built either cabled or open in sizes from 16 to 100 feet in length. For catalog giving full information write
Truscott Boat Mfg. Co.,
ST. JOSEPH, MICH.

We want every fuel gas company to send for a sample



Our range has stood well at the top in every competitive test

GOLD COIN GAS RANGES
have been on the market only a year, but we have been making stoves since 1865. We are ready to "show you" that our ranges are right and prices decidedly interesting. Perfect combustion, economical fuel demands, double walls throughout, leg base if desired, Builders will find it worth while to get our quotations at once.

The Chicago Stove Works, (Est. 1865.)
222 Street and Blue Island Avenue, Chicago, Ill.

CARRIAGE-AUTO & MOTOR TIRES
AT LOWEST PRICES.
ALL GUARANTEED. SEND FOR ILLUSTRATED CATALOG
BROADWAY RUBBER CO.
9 WARREN ST. NEW YORK

THE OBER LATHES
For Turning Axe, Adze, Pick, Sledge, Hatchet, Hammer, Auger, File, Knife and Chisel Handles, Whiffletrees, Yokes, Spokes, Forch Spindles, Stair Balusters, Table and Chair Legs and other irregular work.



Send for Circular A.
The Ober Mfg. Co., 10 Bell St., Chagrin Falls, O., U.S.A.

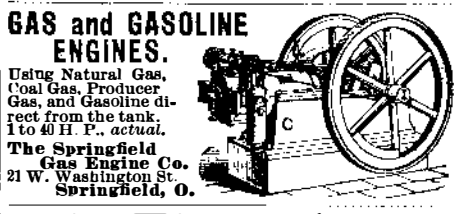
"OLDS"
GASOLINE ENGINES are remarkable for SIMPLICITY and ECONOMY
Write for Prices.
Olds Motor Works,
1228 Jeff. Ave., Detroit, - Mich.



THE HOPPE'S Feed-Water Heater
Heats and Purifies Water and Removes Oil and Grease.
Send for new catalog of Heaters, Purifiers and Separators
HOPPE'S MFG. CO.,
25 Larch St., Springfield, O.

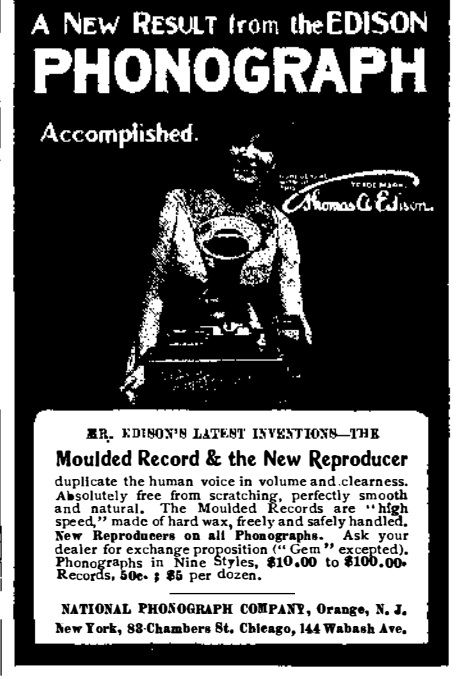


GAS and GASOLINE ENGINES.
Using Natural Gas, Coal Gas, Producer Gas, and Gasoline direct from the tank. 1 to 40 H. P. actual.
The Springfield Gas Engine Co.,
21 W. Washington St. Springfield, O.



Why Throw Away Your Old Straw Hat?
Our STRAW HAT CLEANER will make your last season's straw or Panama look as new and good as the day you bought it. No trouble to clean. Full size, 25c. prepaid. Send to-day.
THE GEO. F. KLUMP MFG. CO.,
Devereux & Co. Building, 1617 Ridge Av., Phila., Pa.

A NEW RESULT from the EDISON PHONOGRAPH
Accomplished.



MR. EDISON'S LATEST INVENTIONS—THE Moulded Record & the New Reproducer
duplicate the human voice in volume and clearness. Absolutely free from scratching, perfectly smooth and natural. The Moulded Records are "high speed," made of hard wax, freely and safely handled. New Reproducers on all Phonographs. Ask your dealer for exchange proposition ("Gem" excepted). Phonographs in Nine Styles, \$10.00 to \$100.00. Records, 50c. \$5 per dozen.

NATIONAL PHONOGRAPH COMPANY, Orange, N. J.
New York, 82 Chambers St., Chicago, 144 Wabash Ave.

What Do You Want To Buy?
We can tell you where to buy anything you want.
Write us for the addresses of manufacturers in ANY line of business.
Novelties, Special Tools, Machinery, Equipments, New Patent LABOR SAVING DEVICES.
MUNN & CO., Publishers of the SCIENTIFIC AMERICAN, 361 BROADWAY, NEW YORK.