

can Agricultural Experiment Stations, and from work done in foreign stations, and by individuals, as well. The book treats fully of agricultural science and practice with regard to field, orchard, and garden crops, spraying, soils, the feeding and diseases of farm animals, dairy farming, and poultry raising in the United States and Canada. It is divided into eight main parts, which treat of Field Crops; Garden Crops; Fruits and Nuts; Cattle and Dairying; Live Stock; Poultry; Fertilizers, Soils, Drainage, and Irrigation; and Miscellaneous subjects. The cultural details of all common plants are given, and full directions are supplied for raising all sorts of crops. The various fungous diseases and insect pests that attack these crops are also fully described.

CLAY MODELING AND PLASTER CASTING. Edited by Paul N. Hasluck. Philadelphia: David McKay, 1905. 12mo.; pp. 156. Price, 50 cents.

This is a very complete little handbook, that goes fully into the details of clay modeling. The tools and materials used are fully described, and the various processes of molding are gone into in detail. A chapter on Modeling the Human Figure will no doubt be found useful to young sculptors. The book is a compilation of matter published in Work, and any further information not contained in its pages may be had by addressing the editor of that journal.

RELIGION AND LUST. By James Weir, Jr., M.D. Chicago: Chicago Medical Book Company, 1905. 8vo.; pp. 233. Price, \$1.50.

In the third edition of this monograph, the author has confined himself almost wholly to a discussion of the psychical correlation of religious emotion and sexual desire, having eliminated certain of the psychical problems embraced in the first two editions and added instead a bibliography. The book also contains considerable data additional to the thesis of the work, as well as foot notes. All notes and quotations found in the book have been carefully verified and edited. The author feels confident that the work gives the truth of the subject as nearly as it is possible to obtain it.

PRACTICAL PLUMBERS' WORK. By Paul N. Hasluck. Philadelphia: David McKay, 1905. 12mo.; pp. 150. Price, \$1.

This is a complete handbook for the practical plumber, containing, in a form convenient for every day use, a comprehensive digest of information contributed by experienced craftsmen to the columns of the Building World. The information is concise and complete, and it is made doubly valuable by the large number of illustrations, of which there are 298.

MODEL SAILING YACHTS. Edited by Percival Marshall. London: Percival Marshall & Co., 1905. 12mo.; pp. 144. Price, 50 cents.

The volume forms the fourth of Marshall's Practical Manuals. It is a very complete handbook on the construction and sailing of small model sailing yachts. Besides containing useful advice to the tyro on choosing and sailing his boat, the book contains more advanced information by experts—information which will be of benefit to the man who has had more experience in the construction of model yachts.

THE BOOK OF THE AUTOMOBILE. By R. T. Sloss. New York: D. Appleton & Co., 1905. 8vo.; pp. 372. Price, \$3.

This is one of the most complete works on the automobile and its uses that has come to our notice. Starting in with the usual historical review, the author next discusses the various types of motors, transmissions, and various forms of chassis employed. Separate chapters are given to the various types of gasoline motors which have been and are now being manufactured; various types of automobile steam engines are discussed. A very helpful chapter is entitled "How to Choose an Automobile." The author goes into the cost of upkeep of various types of machines over a period of several years, besides other chapters on "How to Run an Automobile," "How to Care for an Automobile," and "The Automobile in Commerce and Sport." The book contains a chapter on touring, which is well illustrated and which has a map showing the 1904 St. Louis tour. A list of all the prominent American cars with full specifications will be found in the book which is completed by a suitable index and which has also a valuable glossary of English, French, and German terms.

THE ELEMENTS OF RAILWAY ECONOMICS. By W. M. Ackworth, M.A. Oxford: The Clarendon Press, 1905. 12mo.; pp. 159. Price, 70 cents.

The author of this text book is well known by his previous works on the "Railways of England" and the "Railways and the Traders." In the present volume he considers railways and railway business from the economic point of view. The author discusses railway capital, expenditure, and income, as well as the ever-present question of railway rates. Although only a first installment of the complete work which the author had planned, this book will be found to go into the subject very thoroughly and to give considerable interesting information.

HOW TO KNOW WILD FRUITS. By Maud Griddle Peterson, with illustrations by Mary Elizabeth Herbert. New York: The Macmillan Company, 1905. 8vo.; pp. 340. Price, \$1.50.

This book contains descriptions and draw-

ings of various wild fruits. The author has dealt only with those plants which bear attractively-colored fruits. These fruits are generally the more noticeable ones, and they do not develop until the blossoms entirely disappear. Each illustration is furnished with a description which tells the kind and structure of the fruit and which will thus aid in determining the family to which a plant belongs; while the arrangement is such that each family of a species is grouped by colors. Approximately 200 plants found in England and America are described. The book is prefaced with a suitable guide to the plant families and species described in it.

EFFECTS OF TROPICAL LIGHT ON WHITE MEN. By Major Charles E. Woodruff, A.M., M.D., Surgeon in the United States Army. New York: The Reclam Company, 1905. 8vo.; pp. 358.

The author commenced the writing of this work in an attempt to prove or disprove the theory announced by Von Schmaedel in a paper read before the Anthropological Society, in Munich, during 1895, that skin pigmentation of man was evolved for the purpose of excluding the dangerous actinic, or short, rays of light which destroy living protoplasm. This theory gave, at once, the reasons for the evolution of nigrescence and blondness, the reasons why Europeans have always failed to colonize in the tropics, and why blonds disappear when they migrate from their northern homes; and it finally gave rise to practical hygienic rules for white men compelled to reside in the tropics. As the suggestions contained in this paper were of such inestimable value provided the theory was correct, a systematic search was instituted for data; and the discoveries made in this search prove the correctness of the theory. In the present work Mr. Woodruff brings forth these discoveries and attempts to prove the theory conclusively. The subject, though a very interesting one and of great importance to all blonds in the United States, has never before been treated exhaustively, and popular scientific literature has generally ignored the real issue. Among the headings of chapters in this work are the following: Ether Waves, Their Action on Protoplasm; Difference Between Plants and Animals; Natural Defenses of Animals from Light; Known Effects of Light on Man; Actino-Therapy; Evolution of Blondness; Results of Insufficient Pigmentation; and Practical Rules for White Men in the Tropics. An index puts the information contained in the book instantly at the reader's disposal.

INDEX OF INVENTIONS

For which Letters Patent of the United States were Issued for the Week Ending September 19, 1905 AND EACH BEARING THAT DATE

(See note at end of list about copies of these patents.)

Table listing inventions with patent numbers and names of inventors. Includes items like 'Acid and making same, benzoyl-salicylic', 'Advertising device, A. A. Warren', 'Amusement device, A. Debatista', etc.

Star Lathes advertisement. Includes image of a lathe and text: 'Foot and Power Screw Cutting Automatic Cross Feed Lathes FOR FINE, ACCURATE WORK Send for Catalogue B. SENECA FALLS MFG. CO. 695 Water Street, Seneca Falls, N.Y., U.S.A.'

ENGINE & FOOT LATHES TOOLS SUPPLIES advertisement. Includes text: 'SEBASTIAN LATHE CO. CHICAGO, ILL.'

Veeder Odometer advertisement. Includes image of an odometer and text: 'Veeder Odometers show the exact distance travelled, keeping a constant record of the mileage. For use on buggies, carriages, wagons, runabouts, motor cycles and automobiles. Prices from \$3.99 to \$25. Most automobile manufacturers will supply a Veeder Odometer with your car without extra charge if you use for it. Catalogue Free. VEEDER MFG. CO. 11 Broadway St. Hartford Conn. Engineers, Odometers, Traction, Counters and Fly Cables.'

Nickel Plate Road Excursions to Denver and the Pacific Coast. Tickets to Denver and return on sale August 29th to September 30th inclusive. Final return limit October 7th. Tickets to Portland and return on sale daily until September 28th. Good return limit. Stopover privileges. These tickets may be routed through California in one direction at slightly higher rate. For further particulars write A. W. ECCESTONE, D. P. A., 385 Broadway, New York City.

PATENTS advertisement. Includes text: 'Our Hand Book on Patents, Trade-Marks, etc., sent free. Patents procured through Munn & Co. receive free notice in the SCIENTIFIC AMERICAN MUNN & CO., 361 Broadway, N. Y. BRANCH OFFICE: 625 F St., Washington, D.C.'

THE MIDGET DYNAMO OR MOTOR advertisement. Includes image of a dynamo and text: 'Price as shown \$7.50 Without Hand Power \$4.50 Price includes full instructions for the care of the machine and for performing 35 IMPORTANT EXPERIMENTS. This machine has been on the market over ten years and has been gradually developed to its present state of perfection. ELBRIDGE ELECTRICAL MFG. CO. Water St., ELBRIDGE, N. Y., U. S. A.'

WOLVERINE SELF STARTING AND REVERSING Gasoline Marine Engines advertisement. Includes image of an engine and text: '3 to 15 horse power. Launches 18 to 75 ft. Write for catalogue. WOLVERINE MOTOR WORKS Grand Rapids, Mich., U. S. A. Brooklyn office, 97 2nd St.'

KICK advertisement. Includes image of a kick device and text: 'Single Kick or Double Kick. Kick With One Foot or Kick With Both— BUT KICK The KICKDRIVE is for driving all kinds of light machinery by foot power. Let us tell you all about it. Get the booklet SLOTKIN & PRAGLIN 210-212 A Canal Street, New York'

FLY PAPERS.— FORMULAS FOR Sticky Fly Papers are contained in SCIENTIFIC AMERICAN SUPPLEMENT Nos. 1057 and 1324. Each issue contains several recipes. Price 10 cents each, from this office, and from all newsdealers.

THE "LEADER" 1 1/2 H.P. Gasoline Auto-Marine Engine advertisement. Includes image of an engine and text: 'Built like a watch. Beautifully finished. Accurately constructed. Light, strong, reliable and noiseless in operation. Suitable for launches from 15 to 19 feet in length. Price complete, \$75.00 net, no discount. Thoroughly guaranteed. Perfect Speed Control. Complete descriptive catalogue upon application. MANUFACTURED BY CLAUDE SINTZ, 92 S. Front St., Grand Rapids, Mich.'

Igniter Dynamometers advertisement. Includes image of a dynamometer and text: 'For all classes of GAS ENGINES for make and break or jump spark systems. Our latest type price \$15. Write for circular of magnetos, etc. THE CARLISLE & FINCH CO. 233 E. Clifton Ave. Cincinnati, O.'

How To Increase Your Business advertisement. Includes text: 'READ carefully, every week, the Business and Personal Wants column in the Scientific American This week it will be found on page 266. Some week you will be likely to find an inquiry for something that you manufacture or deal in. A prompt reply may bring an order. Watch it Carefully'

Large table listing various mechanical and electrical items with their respective prices. Includes items like 'Car coupling, C. B. Botkin', 'Car door, J. K. Walton', 'Car draft, rigging, railway, J. F. O'Connor', etc.

Valuable Volumes

JUST PUBLISHED American Tool Making and Interchangeable Manufacturing

By JOSEPH V. WOODWORTH This is a complete practical treatise on the Art of American Tool Making and System of Interchangeable Manufacturing as carried on to-day in the United States.

535 Pages Bound in Cloth 600 Illustrations PRICE \$4.00

JUST PUBLISHED Scientific American Reference Book

12mo. 516 Pages. Illustrated. 6 Colored Plates. Price \$1.50, postpaid



The result of the queries of three generations of readers and correspondents is crystallized in this book, which has been in course of preparation for months.

ence alone have made it possible for the publishers of the SCIENTIFIC AMERICAN to present to the purchasers of this book a remarkable aggregation of information

MECHANICAL MOVEMENTS Powers, Devices, and Appliances

By GARDNER D. HISCOX, M.E. Large Svo. 402 Pages. 1,649 Illustrations, with Descriptive Text. Price \$3.00.

MECHANICAL APPLIANCES Mechanical Movements and Novelties of Construction

By GARDNER D. HISCOX, M.E. Being a Supplementary Volume to the Author's Work entitled MECHANICAL MOVEMENTS, POWERS AND DEVICES.

Contains 1,000 Special Made Engravings. 400 pages. Cloth Bound. Price \$3.00

The above two volumes sold together for \$5.00 postpaid.

A Complete Electrical Library.

By PROF. T. O'CONNOR SLOANE.

An inexpensive library of the best books on Electricity. Put up in a neat folding box, as shown in cut.

- Arithmetic of Electricity 138 pages, \$1.00
Electric Toy Making 140 pages, \$1.00
How to Become a Successful Electrician 189 pages, \$1.00
Standard Electrical Dictionary, 682 pages, \$3.00
Electricity Simplified 158 pages, \$1.00

Our Great Special Offer.—We will send you the above five volumes, and also my new book in blue cloth with silver lettering, and enclosed in a neat folding box, as shown in the illustration, at the Special Reduced Price of \$5.00 for the complete set.

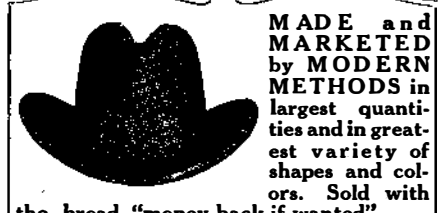
JUST PUBLISHED American Estates and Gardens

By BARR FERREE 4to. 11x13 1/2 inches. Illuminated Cover and 275 Illustrations. 340 Pages. Price \$10.00

MUNN & CO., Publishers, 361 Broadway, NEW YORK

Table listing various mechanical and electrical parts and their prices, including items like 'Harvester, corn', 'Hay carrier', 'Hay elevator', etc.

THE HATS OF LATEST VOGUE HAWES HATS FOR EVERY FACE FIGURE AND FANCY



MADE and MARKED by MODERN METHODS in largest quantities and in greatest variety of shapes and colors.

AGENCIES EVERYWHERE HAWES VON GAL CO. NEW YORK CHICAGO BOSTON DANBURY CONN.

BABBITT METALS. SIX IMPORTANT formulas. SCIENTIFIC AMERICAN SUPPLEMENT 1123.

THE MIETZ & WEISS OIL ENGINES Operated by Kerosene Oil, Fuel Oil, Distillate, Gas, etc.

OSGOOD STANDARD SCALES For Stores, WAREHOUSES, Etc.

You Have a Telephone In Your Office, Of Course Have you one in your home? It will save many steps and much time and annoyance.

NEW YORK SCHOOL OF AUTOMOBILE ENGINEERS 146 West 56th Street, New York City

MOTSINGER AUTO-SPARKER starts and runs Gas Engines without Batteries.

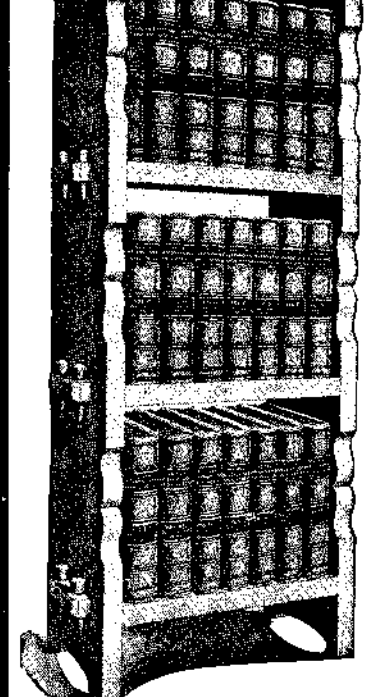
"ANATOMY OF THE AUTOMOBILE" BY DR. DYKE Contains full descriptions, detailed mechanical drawings and full operating instructions.

15 Days' Trial on This MARINE ENGINE No Cash Payment required.

A Scientific Library Lives About 10 Years according to a well-known professor of Columbia—after that, unless renewed, it's out of date and practically useless.

The New International Encyclopaedia

edited by Gilman, Peck and Colby, assisted by 400 experts, such as Hering and Loeb of N. Y. University; Hollander of Johns Hopkins; Jadwin of the United States Corps of Engineers; Collins, Hellprin, and De Vinne—offers to the scientist and every man interested in scientific subjects the latest word science has declared, the latest achievement of human ingenuity.



The Scientific American says: "An examination of the articles on engineering subjects shows that the editors have seen to it that both in mechanical and civil engineering the New International Encyclopaedia has adequately considered modern improvements."

The article on electricity in the New International Encyclopaedia is good. The many cross-references indicate that the later features of the subject, such as wireless telegraphy and the like, have not been neglected.

The New International is a true encyclopaedia in every sense, an ideal in former on all important subjects in which the world is interested.

THE NEW INTERNATIONAL ENCYCLOPAEDIA is new from cover to cover—not revised. Everything in it is trustworthy, vouched for by the highest authorities of to-day and one of America's best known publishing firms.

The NEW INTERNATIONAL ENCYCLOPAEDIA gives to the seeker after information, an authoritative clear and complete answer to any question he may wish to ask.

THE NEW INTERNATIONAL ENCYCLOPAEDIA is as different from any other, as black is from white. You can easily convince yourself of this, by filling out the coupon and receiving our handsome book, describing the NEW INTERNATIONAL ENCYCLOPAEDIA, with its 20 volumes—containing over 16,000 pages, dealing with over 100,000 subjects—its hundreds of full-page colored plates and engravings and over 7,000 other illustrations.

Form for ordering the encyclopedia, including fields for Name, Occupation, Street, Post Office, State, and No. 77.

Free to Readers of this Publication Stop Forgetting

You can stop forgetting by a little practice and a few simple rules. You can study my course anywhere, any time, in spare moments. You are no greater intellectually than your memory. Simple, inexpensive. Increases business capacity, social standing by giving an alert, ready memory for names, faces, business details, study. Develops will, concentration, conversation, public speaking, writing, etc. Write today for free copy of my interesting booklet, "How to Remember." Address: Dickson School of Memory, 700 Kimball Hall, Chicago

A MONEY MAKER Hollow Concrete Building Blocks, Best, Fastest, Simplest, Cheapest Machine. Fully guaranteed. THE PETTYJOHN CO. 615 N. 6th Street, Terre Haute, Ind.

Schwartz Furnace FOR MELTING GRAY IRON, STEEL, COPPER, BRASS AND BRONZE Send for Catalogue HAWLEY DOWN DRAFT FURNACE CO. CHICAGO, ILL.

Clean House With Air



Over 55 Companies operating Thurman Patents in America, and as many more in Canada, England, and Europe. FREE CATALOGUE

General Compressed Air House Cleaning Co. ST. LOUIS, U. S. A.

Manufacturers of the Celebrated Thurman direct-connected Gasoline Driven Air Compressors for Mines, Pneumatic Tools, Etc.

Electrical Engineering and Experimental Work of Every Description

We have every facility for producing first-class work promptly. Our factory is equipped with modern machinery throughout. C. F. SPLITDORF Engineering Dept. 17-27 Vandewater St., N. Y. City

YOU NEED IT!

Modern Gas Engines & Producer-Gas Plants

By R. E. MATHOT, M. E.

314 Pages. Bound in Cloth. 152 Illustrations. Price \$2.50, Postpaid

A Practical Guide for the Gas-Engine Designer and User. A book that tells how to construct, select, buy, install, operate and maintain a gas-engine. No cumbrous mathematics; just plain words and clear drawings. The only book that thoroughly discusses producer-gas, the coming fuel for gas-engines. Every important pressure and suction producer is described and illustrated. Practical suggestions are given to aid in the designing and installing of producer-gas plants. Write for descriptive circular and table of contents.

MUNN & COMPANY, PUBLISHERS, 361 Broadway, New York

"Nothing Beyond!"

—said the ancient mariner driving his craft to the verge of the world, under the shadow of Gibraltar, one of the "Pillars of Hercules." But there came a race that knew better.



"NOTHING BEYOND!" Nothing saved for the wife or children, nothing to protect them from want when the bread winner goes—that was the sad, old story

Before the Days of Life Insurance.

But there came a race that knew better. Six million policies are in force to-day in The Prudential Insurance Company of America. There is something beyond for the beneficiaries of these solid, liberal, easy-to-understand policies.

Are you of the "nothing beyond" fraternity? Let us show you a simple way out of it. Write for information concerning policies. There is one to suit you.

The Prudential INSURANCE CO. OF AMERICA

Incorporated as a Stock Company by the State of New Jersey JOHN F. DRYDEN, PRESIDENT Home Office, NEWARK, N. J.

Without committing myself to any action, I shall be glad to receive free particulars and rates of Policies

Form with fields for Name, Age, Address, Occupation, Dept.

Table listing various technical items and their prices, including sawing machines, pumps, and electrical components.

DESIGNS.

Table listing design items and their prices, including badges, candlesticks, and mirrors.

The Only System

That MOISTENS DRIES COOLS WARMS AIR

Removes Dust and Ventilates. Its versatility is proof of its correctness. 100 per cent. of our installations are successful. Regenerated Cold Air Co. 88 Broad Street, BOSTON, MASS.

Noteworthy Articles ON TIMELY TOPICS

Each number of the Scientific American Supplement costs 10 cents by mail.

- List of noteworthy articles including: SEWAGE AND ITS DISPOSAL, ELECTRIC LIGHTING FOR AMATEURS, CHEMICAL AFFINITY, CASE-HARDENING, ELECTRIC IGNITION SYSTEMS, CONCRETE, REINFORCED CONCRETE, ELECTRONIC THEORY, THE PANAMA CANAL, WIRELESS TELEGRAPHY, SUBMARINE NAVIGATION, SELENIUM AND ITS REMARKABLE PROPERTIES, THE INTERNAL WORK OF THE WIND, LANGLEY'S AERODROME, STEAM TURBINES, PORTLAND CEMENT MAKING, AERIAL NAVIGATION, THE SPARK COIL, ITS CONSTRUCTION AND MAINTENANCE, ELECTRIC IGNITERS FOR GAS ENGINES, CARBURETERS, EPICYCLIC TRAINS.


Each number of the Scientific American Supplement costs 10 cents by mail.

MUNN & COMPANY 361 Broadway New York

SAVE FIRE LOSS

Seconds count. Be ready at the start with **Badger's Fire Extinguisher** and you can put out any kind of a fire. A request will bring you the information you wish, FREE.

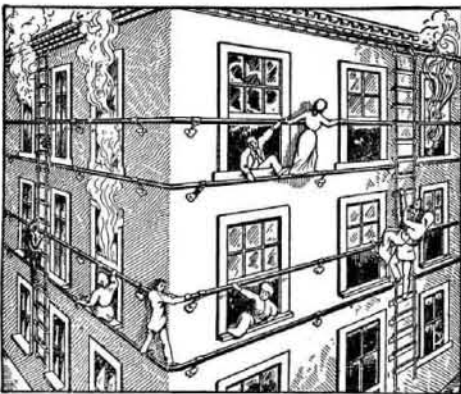
BADGER FIRE EXTINGUISHER CO.
80 Portland St., Boston, Mass.



SAFETY IN CASE OF FIRE

in all hotels, hospitals, asylums, theatres, churches, schools, factories and all public buildings, as well as private residences, is doubly assured when these structures are equipped with the

COVERT FIRE ESCAPE



Each room and window is provided with a safe and permanent means of egress, obviating the rushing through smoky or burning halls and corridors and consequent dangers to life and limb. Any number of people can escape easily and quickly by the new method. Best and most economical fire escape system ever devised. For circulars and full particulars, address

COVERT FIRE ESCAPE CO., TROY, N. Y.

Silver's Band Saws

20-in. Foot or Belt Power
26-in. Belt Power
32-in. Belt Power
36-in. Belt Power

ALSO
Hub Boxing and Spoke Tenon Machines, Forges, Drills and "Ohio" Feed and Ensilage Cutters

Manufactured by
THE SILVER MFG. CO.
SALEM, OHIO



Send the Name of Your Car or engine, and we will send full information about the **Apple Automatic Sparker**. The best storage battery charger for automobile, launch or gas engine. Address

The Dayton Electrical Mfg. Co.
98 Beaver Blg., Dayton, Ohio.



New Baltimore & Ohio Terminal
Twenty-third Street, New York City

All passenger trains of the Baltimore & Ohio Railroad to and from New York City now have direct ferry connection with **23d Street Terminal**, in addition to Liberty Street; the South Ferry Terminal having been discontinued.

Twenty-third Street is the most popular terminal of the great metropolis because of its convenience to the hotel, theater and shopping district. In the recent remodeling of the terminal building a glass roofed canopy was constructed fifty feet wide, under which the cross-town cars of 14th, 23d, 28th and 29th Street lines pass, so that passengers are protected from the weather leaving the ferry house, and also avoid the annoyance of street traffic.

All baggage destined to New York City will be delivered to **23d Street**, unless distinctly marked "Liberty Street," or otherwise.

A complete electric cab service has also been established for the transportation of passengers and baggage at very reasonable rates.

Detailed information with map may be secured at all Baltimore & Ohio Ticket Offices.

C. W. BASSETT, Gen'l Pass. Agt., Balt., Md.
B. N. AUSTIN, Gen'l Pass. Agt., Chicago, Ill.
D. B. MARTIN, Mgr. Pass. Traffic, Balt., Md.

60 YEARS' EXPERIENCE

PATENTS

TRADE MARKS
DESIGNS
COPYRIGHTS & C.

Anyone sending a sketch and description may quickly ascertain our opinion free whether an invention is probably patentable. Communications strictly confidential. **HANDBOOK ON PATENTS** sent free. Oldest agency for securing patents. Patents taken through Munn & Co. receive special notice, without charge, in the

Scientific American.

A handsomely illustrated weekly. Largest circulation of any scientific journal. Terms, \$3 a year; four months, \$1. Sold by all newsdealers.

MUNN & Co., 361 Broadway, New York
Branch Office, 825 F St., Washington, D. C.

TRADE MARKS.

Acid phosphate of lime, powdered, Provident Chemical Works	46,475
Antiseptic and germicidal compounds, J. W. Wood	46,500
Asphalt and asphalt compositions, Warren Asphalt Paving Co.	46,415
Automobiles and self-propelled road vehicles and parts thereof, Electric Vehicle Co.	46,451
Beer, McAvoy Brewing Co.	46,462
Beer, Dayton Breweries Co.	46,485
Beer and ale, lager, Fred Hollender & Co.	46,456
Beer, lager, Arnholt & Schaefer Brewing Co.	46,481
Belting, leather, New York Leather Belting Co.	46,465
Belts L. Frank	46,385
Beats and parts thereof, motor, Electric Vehicle Co.	46,453
Bellers, New York Central Iron Works Co.	46,393
Bellers, Richardson & Boynton Co.	46,403
Bellers, Gurney Heater Manufacturing Co.	46,423
Boots and shoes, leather, Hine & Lynch	46,387
Boots, shoes, and slippers, leather, Parker, Holmes & Co.	46,396
Canned fruits and vegetables, Pratt-Low Preserving Co.	46,402
Cards, playing, New York Consolidated Card Co.	46,489
Cathartic, liquid, Eli Lilly & Co.	46,436
Cigars, F. R. Rice Mercantile Cigar Co.	46,384
Cigars, Y. Pendas & Alvarez	46,397
Cigars, S. C. Herbst Importing Co.	46,400
Cleaning compound, G. M. Bering	46,420
Cleaning, polishing, and preserving preparation, Cleanola Company	46,435
Collars and cuffs, Cluett, Peabody & Co.	46,382
Condensers and feed water heaters, combined, Wheeler Condenser and Engineering Co.	46,416
Cooking utensils, Cambridge Art Pottery Co.	46,414
Cords, lines, twines, and ropes, Silver Lake Co.	46,431
Corsets, Kops Bros.	46,389
Corsets, J. Sieff & Co.	46,408
Corsets, A. Ottenheimer	46,470
Corsets and corset steels, Kops Bros.	46,388
Cure for distemper and pink eye, Pratt Food Co.	46,427
Cycles and parts thereof, Pope Manufacturing Co.	46,473
Driers, liquid, Chas. H. Gillespie & Sons	46,381
Drilling machines, metal, W. F. & John Barnes Co.	46,441
Extracts, syrups, juices, and tonics, Simpson Spring Co.	46,412
Ferromanganese and compounds thereof, Midvale Mining & Manufacturing Co.	46,425
Flooring, composite, R. A. Keasbey Co.	46,404
Flour, wheat, Bill, Bell & Co.	46,418
Glass boards, Lufkin Rule Co.	46,488
Gloves and mittens, J. L. McMartin's Sons	46,426
Hats made from fur, stiff, North American Hat Co.	46,469
Herb teas, blood purifying, Weber Medical Tea Co.	46,494
Hosiery, Brown, Durrell & Co.	46,386
Inks, Carter's Ink Co.	46,483
Insulating materials and coverings, Eureka Rubber Manufacturing Co.	46,437
Knives, shoe and butcher, F. W. Curnutt	46,447
Lamps, night, Silver & Co.	46,409
Liniment, W. A. Byrd & Son	46,421
Magazine or periodical, Homefolks Publishing Co.	46,424
Magazine or periodical, weekly, P. V. Collins Publishing Co.	46,428
Malt extract, Malt-Diastase Co.	46,459
Malt tonic, McAvoy Brewing Co.	46,463
Massage cream, Corporation of Hegeman & Co.	46,484
Medical preparation, liquid, W. F. Darling	46,480
Medical tablets, Antikamma Chemical Co.	46,480
Medicines, preparation for disguising the bitter or disagreeable taste of, Eli Lilly & Co.	46,486
Melasses, Boston Melasses Co.	46,419
Oil, illuminating, Valvoline Oil Co.	46,496
Ointment, cream, National Toilet Co.	46,466
Packing, American Steam Packing Co.	46,377
Paints and preparations, lithogen and silicate, Bridgeport Wood Finishing Co.	46,433
Paper clips, P. Lindenmeyr	46,390
Paper, ledger, bond, linen, Bristol board, and all kinds of writing, Whiting Paper Co.	46,440
Paper, toilet, A. F. Baird	46,442
Paper, wall, Standard Wall Paper Co.	46,413
Paper, waxed and moisture proof, J. M. Wallace	46,497
Paper, bond, ledger, writing, and index, Bristol, B. D. Rising Paper Co.	46,378
Perfumery, F. Stearns & Co.	46,422
Perfumery, Schaefer-Martin Co.	46,491
Pianos, Gable Co.	46,482
Pills, liver, Dr. Tutt Manufacturing Co.	46,495
Plows, cultivators, and harrows, Rawlins Implement Co.	46,429
Preparation for the treatment of chronic diseases, L. P. Block	46,445
Preservative composition, semiliquid, Wyss-Thalman Manufacturing Co.	46,417
Primers and white lead, Bridgeport Wood Finishing Co.	46,434
Remedial agent, volcanic mud used as a, S. Blech	46,444
Remedies for coughs, colds, and headaches, Paris Medicine Co.	46,395
Remedies for diseases of the stomach and intestines, internal, McCannan & Co.	46,464
Remedy for diseases of blood, liver, kidneys, and stomach, Kickapoo Indian Medicine Co.	46,438
Remedy, proprietary, Finlay Dicks & Co.	46,454
Salt, granular effervescent, Emerson Drug Co.	46,450
Salt, table and dairy, Diamond Crystal Salt Co.	46,383
Sauce for foods, fluid table, C. F. Thompson & Co.	46,492
Sheetings and drillings, Greenwood Cotton Mill	46,386
Shoes and slippers, Wichert & Gardner	46,499
Soap, medical, toilet, and shaving, Pashfield Soap Co.	46,471
Soap, toilet, Mulhens & Kropff	46,465
Soda, baking, Morehouse Manufacturing Co.	46,392
Stoves and gas stoves, oil, Silver & Co.	46,407
Stoves, ranges, heaters, furnaces, and parts thereof, Pittsburgh Stove and Range Co.	46,401
Syrups, juices, extracts, and tonics, Simpson Spring Co.	46,432
Tin plates, tinned plates, tin taggers, black taggers, sheet steel, and sheet iron, E. L. Parker & Co.	46,501
Tobacco, plug, March Tobacco Works	46,391
Tonic and stomachic preparation, F. Gauffman & Co.	46,446
Tonic beverage, J. C. Mayfield Manufacturing Co.	46,461
Tonic, chill, Paris Medicine Co.	46,394
Trisodium phosphate, Provident Chemical Works	46,474
Valve seats, hollow metallic, W. Briggs	46,379
Whisky, Baum & Leeb Co.	46,443
Whisky, G. G. Cornwell & Son	46,448
Whisky, Franc. Beyn & Co.	46,455
Whisky, S. Jung & Co.	46,457
Whisky, Lambin, Thompson & Co.	46,458
Whisky, T. Martindale & Co.	46,460
Whisky, Taylor & Williams	46,479
Whisky, Hoffheimer Bros. Co.	46,487
Whisky, Vaccaro Cigar and Liqueur Co.	46,493
Whisky, P. Welty & Co.	46,498

LABELS.

"Tellmore," for whisky, Atlas Wine and Liqueur Co. 12,380

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.

Agents Wanted

in every railway shop to solicit subscriptions for the

Railway Master Mechanic

ONE DOLLAR A YEAR

LIBERAL COMMISSION TO AGENTS

.... ADDRESS

Railway Master Mechanic

Security Building CHICAGO Vanderbilt Building NEW YORK

LET US BE YOUR FACTORY

WRITE FOR ESTIMATE ON ANY ARTICLE YOU WANT MANUFACTURED

STAMPINGS, MODELS, EXPER. WORK

WRITE FOR FREE BOOKLET

THE GLOBE MACHINE & STAMPING CO.
970 Hamilton St., Cleveland, O.

Men and boys wanted to earn \$5.00 a day, after two months' instruction. Position guaranteed. COYNE BROS. CO. PLUMBING SCHOOLS, 238 Tenth Avenue, New York. Cincinnati, O., St. Louis, Mo. Free catalog.

ICE MACHINES. Corliss Engines, Brewers' and Motters Machinery. THE VILTER MFG. CO. 899 Clinton St., Milwaukee, Wis.

MODELS & EXPERIMENTAL WORK. Inventions developed. Special Machinery. E. V. BAILLARD. 24 Frankfort Street, New York.

BALLOONS Aeronaut L. Stevens, Box 181 Madison Sq., N. Y.

Models & Exper. Work, Gears, Dies, Tools, Small Machy., Scient. Insus. M. P. Schell, 506 Mission St., San Francisco.

CALIFORNIA Farm Bargains. Send for monthly catalogs. C. M. Wooster, S. Francisco.

RUBBER Expert Manufacturers Fine Jobbing Work PARKER, STEARNS & SUTTON, 228-229 South St., New York

MODELS CHICAGO MODEL WORKS

ESTABLISHED 1867 178 E. MADISON ST. CHICAGO, ILL.

EXPERIMENTAL WORK Scientifically and accurately executed. Models and small machinery perfected. STENNICK & VOLKMER, 61 Fulton Street, Telephone 5655 John.

MODEL AND EXPERIMENTAL WORK. Electrical and Mechanical Instruments. Small Mach'y EDWARD KLEINSCHMIDT, 82 W. Broadway, New York

MODELS INVENTIONS PERFECTED

& GEARS UNION MODEL WORKS 193 So. CLARK ST. CHICAGO.

GINSENG The money making crop. Easily grown. Room in your garden to grow hundreds of dollars worth annually. Roots for sale. Plant now. Literature free. Write today. BUCKINGHAM'S GINSENG GARDEN, Dept. 4, Zanesville, Ohio.

CEMENT BOOKS. How to Use Portland Cement, 50c; Cement Sidewalk Construction, 50c; Reinforced Concrete Construction, \$2.50; Monier Cement and Steel Construction, 50c; Hollow Concrete Block Building Construction, 50c. Postpaid on receipt of price. Address CEMENT AND ENGINEERING NEWS, CHICAGO, ILL.

GINSENG \$20,000 made from one-half acre. Easily grown. Room in your garden to grow thousands of dollars' worth. Roots and seeds for sale. Send 4c for postage and get our booklet D N telling all about it. McDowell Ginseng Garden, Joplin, Mo.

ALL KINDS OF **MACHINISTS' TOOLS AND SUPPLIES** ST. LOUIS MACHINISTS' SUPPLY CO. 1118 Pine Street St. Louis, Mo. Send for our catalogue

LEARN WATCHMAKING We teach thoroughly in as many months as it formerly took years. Does away with tedious apprenticeship. Money earned while studying. Positions secured. Easy terms. Send for catalog. ST. LOUIS WATCHMAKING SCHOOL, St. Louis, Mo.

SPECIAL AUTHORIZED EDITION

Complete Works of Frank Norris

THE PIT
THE OCTOPUS
MCTEAGUE
BLIX
A DEAL IN WHEAT
MORAN OF THE LADY LETTY
A MAN'S WOMAN
ESSAYS ON AUTHORSHIP

\$3.50 instead of \$9.75

To buy these stories in the regular way costs \$9.75. We have now ready a special cloth-bound edition in four octavo volumes, library style, from entirely new plates, portrait of author, and illustrations by Frederic Remington, Frank X. Leyendecker, Lucius Hitchcock and Charles E. Hooper. Price, \$3.50; express prepaid on receipt of stamps, draft, money order, or registered letter.

When Frank Norris died, one of the most promising careers in this generation was broken. He looked at the teeming life around him in a big, sympathetic manner, and, among a thousand commonplace writers, took his work seriously. The life of the Middle West and the Coast was what interested him—so closely had he studied some phases of it that he may be said to have made them his own. Not to know Norris is to have missed the most characteristic American writer in his generation.

W. D. HOWELLS—"The novels he left are sufficient for his fame."
HAMLIN GARLAND—"For the throngs of marvelously realized characters in each of these books we are indebted to the keen eyes, the abounding insight, and the swift imagination of a born novelist."

The four volumes will be sent by express, prepaid, on receipt of \$3.50, in stamps, draft, money order, or registered letter. A special easy-payment offer will be submitted upon request.

A PROSPECTUS WILL BE SENT UPON REQUEST

P. F. COLLIER & SON, 407 West 13th St., New York

THE CITY OF NEW YORK
Department of Street Cleaning

NEW YORK, September 2, 1905.

Contract for the Final Disposition of Garbage in the Borough of Manhattan for Five (5) Years, from August 1, 1906.

Bids for the above contract will be received at the Main Office of the Department of Street Cleaning, Nos. 13-21 Park Row (14th floor), Borough of Manhattan until 12 o'clock, noon, Monday, November 6, 1905.

For further information as to the nature of the work and the manner and requirement of the bids, bidders should call upon the Commissioner of Street Cleaning, and should also read the advertisement of said contract now appearing in the "City Record."

JOHN McG. WOODBURY
Commissioner of Street Cleaning

Learn Telegraphy and R. R. Accounting

\$50 to \$100 per month salary assured our graduates under bond. You don't pay us until you have a position. Largest system of telegraph schools in America. Endorsed by all railway officials. Operators always in demand. Ladies also admitted. Write for catalogue

MORSE SCHOOL OF TELEGRAPHY
Cincinnati, O., Buffalo, N. Y., Atlanta, Ga., La Crosse, Wis., Texarkana, Tex., San Francisco, Cal.

AUTO STORAGE BATTERIES
ALL KINDS

THE WILLARD STORAGE BATTERY CO., CLEVELAND, O.

Langwidziz

Catalogs translated and printed. Spanish, Russian, French, German, Linotype Composition, Half-tone work. LANGUAGES PRINTING COMPANY Languages Building, 15 West 18th St., New York

LE PAGE'S GLUE STRONGEST IN THE WORLD

Does not set quickly like the old style glue, and has four times the strength (Official test, 1 in. sq. hard pine butted, registered 1830 lbs. before parting). Used by the best mechanics and mfrs. the world over. Invaluable in household use, for Furniture, China, Ivory, Books, Leather, and wherever a strong adhesive is desired. 1 oz. bottle or collapsible self-sealing tube (retails 10c.) mailed for 12c. if your dealer hasn't our line.

LE PAGE'S PHOTO PASTE, 2 oz. size retails 6c.; by mail, 10c.
LE PAGE'S MUCILAGE, 2 oz. size retails 6c.; by mail, 10c.

This Label. **RUSSIA CEMENT CO., 129 Essex Ave., Gloucester, Mass.**


CHEAP WAY to Build INDUCTION COIL. Secondary sections, automatically wound; waxed and assembled on tube. Each section gives 1/4 to 1 inch spark. Price \$4.50 each section.

N. E. COIL WINDING CO., Atlantic, Mass.

THE B. F. BARNES 14-INCH DRILL

is adapted for work from 1-16 inch to 3/4 inch. A strong, substantial, well built drill. Plain lever or power feed as desired. We build a full line of Drills. All sizes furnished in Gangs. Also have 8-inch, and 11-inch Screw Cutting Lathes, and a 2x12-inch Wet Tool Grinder. Catalog 3 on request.

B. F. BARNES COMPANY, Rockford, Ill.
European Branch, 149 Queen Victoria St., London, E.C.



FRICITION DISK DRILL

FOR LIGHT WORK.

Has These Great Advantages:

The speed can be instantly changed from 0 to 1600 without stopping or shifting belts. Power applied can be graduated to drive, with equal safety, the smallest or largest drills within its range—a wonderful economy in time and great saving in drill breakage. Send for Drill Catalogue.

W. F. & JNO. BARNES CO., Established 1872.
1999 Ruby Street, Rockford, Ill.



SPECIAL AUTHORIZED EDITION

Complete Works of Frank Norris

THE PIT
THE OCTOPUS
MCTEAGUE
BLIX
A DEAL IN WHEAT
MORAN OF THE LADY LETTY
A MAN'S WOMAN
ESSAYS ON AUTHORSHIP

\$3.50 instead of \$9.75

To buy these stories in the regular way costs \$9.75. We have now ready a special cloth-bound edition in four octavo volumes, library style, from entirely new plates, portrait of author, and illustrations by Frederic Remington, Frank X. Leyendecker, Lucius Hitchcock and Charles E. Hooper. Price, \$3.50; express prepaid on receipt of stamps, draft, money order, or registered letter.

When Frank Norris died, one of the most promising careers in this generation was broken. He looked at the teeming life around him in a big, sympathetic manner, and, among a thousand commonplace writers, took his work seriously. The life of the Middle West and the Coast was what interested him—so closely had he studied some phases of it that he may be said to have made them his own. Not to know Norris is to have missed the most characteristic American writer in his generation.

W. D. HOWELLS—"The novels he left are sufficient for his fame."
HAMLIN GARLAND—"For the throngs of marvelously realized characters in each of these books we are indebted to the keen eyes, the abounding insight, and the swift imagination of a born novelist."

The four volumes will be sent by express, prepaid, on receipt of \$3.50, in stamps, draft, money order, or registered letter. A special easy-payment offer will be submitted upon request.

A PROSPECTUS WILL BE SENT UPON REQUEST

P. F. COLLIER & SON, 407 West 13th St., New York

