

To Secure Precision

in your machine shop work you need the absolutely reliable "Star" Foot or Lathes which are admittedly the most accurate, adaptable and durable on the market. 9 to 16-inch swing. High

Engine and Foot Lathes MACHINE SHOP OUTFITS, TOOLS AND SUPPLIES. BEST MATERIALS. BEST WORKMANSHIP. CATALOGUE FREE SEBASTIAN LATHE CO... 120 Culvert St., Cincinnati, O.

Foot and Power and Turret Lathes, Plan-SHEPARD LATHE CO.: 23 W. 21 St. Cincinnati, O.

Veeder Counters

to register reciprocating movements or revolu-tions. Cut full size. Booklet Free

VEEDER MFG. CO. 18 Sargeant St. Hartford, Coun. Cyclometers, Odometers, Tachometers. Counters and Fine Castings.



MENNEN'S TOILET POWDER for After Shaving.

Insist that your barber uses aves you. It is antiseptic and will prevent ny of the many skin diseases eften contracted. A positive relief for Prickly Heat. Chafing and Sunburn, d all afflictions of the skin. Removes all odor of perspiration. t Mennen's—the original. Sold everywhere, or mailed for cents. SAMPLE FREE. GERHARD MENNEN CO., Newark, N. J.

SPECIAL TO AUTOMOBILISTS:-

Bosh Magneto Plugs only \$1.25 each. Guaranteed in every respect. We sell automobile supplies cheaper than any supply house in the United States. We buy in quantities and sell by mail only; we have over 10,000 customers. We sell anything from an automobile to an oil can. Send for our weekly bargain sheet; it will interest you and save you money.

CONSUMERS AUTO SUPPLY CO. 1252-1254 Wabash Avenue, Chicago, 111s.

ROTARY PUMPS AND ENGINES Their Origin and Developm ent.—An important series of papers giving a historical resume of the rotary pump and engine from 1588 and illustrated with clear drawings showing the construction of various forms of pumps and engines. 38 illustrations. Contained in SUPPLEMENTS 1109, 1110.1111. Price 10 cents each. For sale by Munn & Co. and all newsdealers.



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.





TYPEWRITER EMPORIUM, (Est. 1892) 92 & 94 Lake St., Chicago

HOW Manufacturers Can Increase Their Business

Read carefully, every week,

Classified Advertising Column

in the

SCIENTIFIC **AMERICAN**

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

tables are presented in connection with the strength of bolts, chains, belts, textile and wire ropes, forgings and many kinds of iron and steel, etc. Also the properties and qualities of the new steels of which vanadium is the mest preminent, are expeunded and their use in motor-car machines fully treated. A large section deals with the distribution and transmission of power from prime movers by toothed gearing, belt-gearing, and textile and wire repe gearing. The questions of designing machine frames, stiffness in machine parts, and ball and reller bearings are treated in a way that reflects the technical training of a teacher skilled in workshop processes and methods. A thorough index is provided.

S1.00 INDEX OF INVENTIONS

For which Letters Patent of the United States were Issued for the Week Ending September 8, 1908,

AND EACH BEARING THAT DATE

[See note at end of list about copies of these patents.]

Abdominal supporter, M. Carrington-Strang. 898,093
Acid, concentrating nitrosulfuric waste, H.
Pauling 898,390
Acid, making nitric, O. H. U. Brunler 898,033
Acid, making tartaric, J. McDongall. 898,253
Adding machine, A. E. Cole. 897,877
Adding machine, J. G. Vincent 897,941
Adding machine, R. C. Streb. 898,282
Adding machine, A. Hoch 897,941
Addressing machine, E. H. Frey. 897,897,897
Adjustable frame, T. J. Harford. 898,414
Adjustable frame, T. J. Harford. 898,051
Adjustable stand, G. O. Miller 898,053
Adjustable stand, J. W. Rice. 898,263
Acrial ships, propelling device for, D. L.
Wolf 898,081
Air brake coupling, J. H. & J. R. Cole. 898,081
Air compressor, F. W. Parsons. 898,389
Alloys, electrodeposition of, S. O. CowperColes 898,189
Alloys, producing ferro, F. M. Becket. 898,189 Air compressor, F. W. Parsons.

Alloys, electrodeposition of, S. O. Cowper-Coles

Alloys, producing ferro, F. M. Becket.

Amalgamator, B. F. Geiger.

Amusement apparatus, A. Malsin

Animal trap, D. D. Dennis

Annealing box. W. R. Bennett.

Antisnoring device, L. F. Liebhardt.

Ash receptacle, M. J. Carney

Audiphone, C. L. Buckwalter

Automatic hook, Coulter & Tuggy.

Automobile radiator, Long & Wright.

Axle lubricator, Meyer & Schiffers.

Bag machine, bolly forming mechanism of,

T. M. Avery

Rank, savings, C. Fisher

Barrel and basket cover, A. Liolker.

Barrel heater, H. C. Rogers

Beam, composite, F. C. Keighley.

Rearing device, step, D. C. Griswold.

Bearing for wheels, centrifugal oiling, F. A.

Warren

Bed and sofa, combination, L. Albert.

Bed, invalid, J. Hall.

Bed, invalid, J. Hall.

S97,890.

Beet handling apparatus, D. L. Joehnek.

Bells, circuit closer for call, R. Henderson.

Bicycle brake lock, B. Peducasse.

Bill or bag holder, J. Morgan.

Billiard and pool bridge, F. G. Farnham.

Binder for loose sheets, temporary, L. C.

McNeal

Binder, toose leaf, C. B. Cook.

Binder, temporary, C. C. Malthy.

Beells, circuit closer for call, K. Henderson.
Bicycle brake lock, B. Peducasse.

897,926
Billi or bag holder, J. Morgan.

Billiard and pool bridge, F. G. Farnham.

898,345
Billiard and pool bridge, F. G. Farnham.

898,345
Binder, loose leaf, C. B. Cook.

807,878
Binder, loose leaf, C. B. Cook.

807,878
Binder, loose leaf, C. B. Cook.

808,385
Binder, loose leaf, C. B. Cook.

808,385
Binder, loose leaf, C. B. Cook.

808,304
Boot detaphing device, life, J. Prevot.

808,004
Boot leafshing device, If, L. Clayton.

808,004
Boot leafshing device, If, L. Clayton.

808,004
Boot and shoe, J. F. Schultz.

809,120
Boring machine, F. J. Waters.

807,920
Boring machine, F. J. Waters.

807,920
Boring machine, F. J. Waters.

807,920
Boring machine, T. S. Rainey.

807,920
Boring machine, T. S. Rainey.

808,261
Bottle closure, T. S. Rainey.

808,261
Bottle loosing device, milk, F. Johnson.

808,262
Bottle, non-refillable, J. W. Butler.

808,309
Bottle, non-refillable, J. W. Butler.

808,309
Bottle stopper, T. B. Hafstad.

808,353
Bottle, non-refillable, J. W. Butler.

808,353
Bottle, non-refillable, J. W. Butler.

808,353
Box fastener, J. C. Merrill.

807,998
Bowling pin truing device. T. Small.

807,998
Bowling pin truing device. T. Small.

807,998
Bowling pin truing device.

808,261
Box fastener, N. A. Smith.

808,273
Box fastener, N. A. Smith.

808,273
Box fastener, N. A. Smith.

808,273
Brace and plate, G. H. Gunvalson.

808,213
Brace and plate, G. H. Gunvalson.

808,252
Bortle washing machine, J. W. Denmead.

808,252
Bortle washing machine, J. W. Denmead.

808,253
Brace and plate, G. H. Gunvalson.

808,265
Bowling gonstruction bracket, A. Toupin.

808,265
Bracelet band. T. R. Bennett.

808,266
Bracelet band. T. R. Bennett.

808,267
Bracelet band. T. R. Bennett.

808,268
Bracelet b

Newest wrench on the market. Best "all-round" tool ever made. All steel-great strength. Instantly adjusted. Easily and quickly operated. Immense time temper and trouble saver. Indispensable to automobilists. After using the "Perfection" once, you will never buy any other make wrench. Write for circular to

THE PERFECTION WRENCH CO. Box 426, Port Chester, N. Y.

"THE ONLY ONE" Here is the only double lip, self-centering countersink having a cutting keen edge and made on the true prunciple for a wood-working tool. It clears itself of shavings in any kind of wood and cuts a smooth, round hole. Made from the best steel, forged, twisted and tempered. Can be sharpened from the inside without a tile. Prices, §6 im., \$5c.; \$6 im., \$40c. \$8md for \$222-page catalog \$No. 18-B.

THE L. S. STARRETT CO., Athol. Mars., U. S. A

Pipe Cutting and Threading Machine For Either Hand or Power
This machine is the regular hand machine supp
with a power base, pinion, countershaft, etc.,
can be worked as an ordinary power
machine or taken from its base for
use as a hand machine. Pipe ½ in.
to 15 in. diameter handled easily it
small room. Illustrated catalogue—
price list free on application.

THE CURTIS & CURTIS CO.



Little Siant

Reliable, Reversible, Two Cycle.
Two and Three Port. Guaranteed
for one year. Simple and easy to
operate. Our Free Catalog A3 is
worth your having.
Send 10 cents in stamps for our
book entitled "Ignition. Vaporization, Installation and Operation
of a Gasoline Motor."
CO., - Detroit, Mich.

METAL POLISHES.-FORMULAS FOR Putz Pomades, Pastes, Liquids, Powders and Soaps for polishing metals, are contained in SCIENTIFIC AMERICAN SUPPLEMENT NOS. 1283. 1288 and 1289. Price 10 cents each from this office and all newsdealers

The Perfection Wrench The New British Patent Law **BUILDING SITES**

SPLENDID OPPORTUNITY FOR ENTERPRISING FIRMS.

THE ATTENTION OF INDUSTRIAL FIRMS RE-QUIRING FACTORIES OR WORKSHOPS IN GREAT BRITAIN IS DIRECTED TO THE AD-VANTAGES AND FACILITIES FOR ALL SUCH INDUSTRIAL CONCERNS IN THE CITY OF DUNDEE, SCOTLAND POPULATION ABOUT 165,000.

ADVANTAGES.

SPLENDIDLY SITUATED on the River Tay, Dundee offers unsurpassed facilities for cheap carriage by water to other ports in Britain or the Continent of

GOOD RAILWAY SERVICE, connections all over Britain by two of the principal Railway Companies, viz. :-the Caledonian and North British Railways.

GROUND IN ABUNDANCE and at cheap rates. an excellent choice of convenient sites near the river unlimited Supply Of ELECTRICITY from the

Corporation's New Electrical Works, at charges for large users of power as favorable as in the United

UNEQUALLED WATER SUPPLIES for special pur-

PLENTIFUL SUPPLY OF MALE LABOR, including youths who could quickly learn machine work.

LOW LOCAL RATES as compared with other Seaport Cities, the total on Occupier and Proprietor combined being about 4s 6d per £1 gross rental.

TRAMWAY SERVICE to all parts of the City, and ample and cheap gas supply.

THE COALFIELDS of Fife being within easy reach, oal can be obtained or railed to Dundee quickly and

eheaply, EVERY ENCOURAGEMENT will be offered by the Municipality to Firms willing to establish new industries in the City.

Other information may be had on application to

WM. H. BLYTH MARTIN, Town Clerk.

The Scientific American Cyclopedia of Receipts Notes and Queries

REVISED EDITION

15,000 Receipts

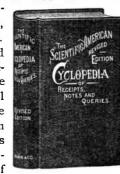
734 Pages

Price \$5.00

MAILED TO ANY PART OF THE WORLD

THE SCIENTIFIC AMERICAN CYCLOPEDIA OF RECEIPTS, NOTES AND QUERIES has had an unprecedented sale. It has been used by chemists, technologists, and those unfamiliar with the arts, with equal success, and has demonstrated that it is a book which is useful in the laboratory, factory or home. It consists of a careful compilation of the most useful receipts and information which have appeared in the

SCIENTIFIC AMERICAN for more than half a century. Over 15,000 selected formulæ are here collected, nearly every branch of the useful arts being represented. Many of the principal substances and raw materials used in the arts are described, and almost every inquiry relating to formulæ will be found answered. It is more than a receipt book, as in most cases it gives all the standard and special formulæ, thus enabling the reader to find a receipt which fits his peculiar need. An alphabetical arrangement with abundant cross references makes it an easy work to consult. Those who are engaged in any branch of industry will find this book of



the greatest practical value, and we especially commend it to those who are in search of an independent business, as they will find many formulæ for the manufacture of salable articles which will be worth many times the cost of the book. The Appendix contains the very latest formulæ as well as 41 tables of weights and measures, and a Dictionary of Chemical Synonyms.

> Send for Full Table of Contents Mailed Free on Request

MUNN & COMPANY, **Publishers** 363 BROADWAY, NEW YORK

The Edison Concrete House

How it is constructed, how much it will cost, is it practical from an architectural and engineering standpoint? These and other important questions relating to the structure are discussed in a good, thorough, illustrated article published in SCIENTIFIC AMERICAN SUPPLEMENT 1685. Price 10 cents by mail. Order from your newsdealer or from

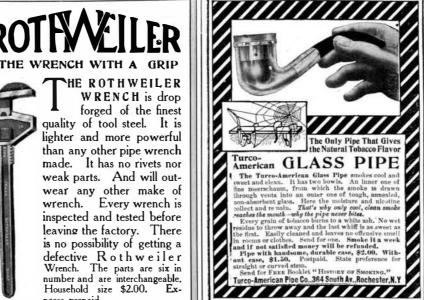
MUNN & COMPANY, Publishers

361 Broadway, New York, N. Y.

DON'TBUY GASOLINE ENGINES "THE MASTER WORKMAN," a two-cylinder engine; revolutionizing power. Its weight and bulk are half that of single cylinder engines, with greater durability. Cost Less to Buy—Less to Run. Quickly, easily started. Vibration practically overcome. Cheaply mounted on any wagon. It is a combination portable, stationary or tractic

alcohol engine, superior to any one-cylinder engine; revolutionizing power. Its weight and bulk are half that of single cylinder engines, with greater durabilit Less to Buy-Less to Run. Quickly, easily started. Vibration practically overcome. Cheaply mounted on any wagon. It is a combination portable, stationary or engine. SEND FOR CATALOGUE. THE TEMPLE PUMP CO., Mfrs., Mengher and 15th Sis., Chicago. THIS IS OUR FIFTY-FIFTY YEAR.

September 19, 1908.
Coal washer and ore concentrator. A. C. 898.314 Campbell 897.952 Coaster brake. M. Ainsworth 898,140 Coat collar, L. J. Rodgers 898,140 Cock, angle, J. G. Nagle 898.386 Coffin, safety, J. J. Toolen 898,021 Collapsible tube and the like. M. Fanst 897,970 Collar and garment fastcher, W. M. Lowrie 898,239
Coal washer and ore concentrator. A. C. Camphell 898.314 Coaster brake. M. Ainsworth 897,952 Coat collar. L. J. Rodgers 898,140 Cock, angle, J. G. Nagle 898,386 Coffin. safety, J. J. Toolen 898,021 Collapsible tube and the like. M. Fanst 898,292 Collar and garment fastener, W. M. Lowrie 898,293 Coler study device. E. F. Wagner 898,290 Composition of matter. A. E. Gooch 898,492 Container, C. W. Warren 898,293 Conterprey, W. M. Heiney 988,408 Corn catter, W. S. Huffaker 897,901 Corn husking machine. W. N. Springer 898,392 Cotter pin, D. W. Smith 898,277 Cotton cleaner and gin feeder, J. M. Shep-
Cotton plant for handling balad I P For
dyce Sept. Sept.
Fielding
Curtain fixture H M Sterenson 803 151
Curtain pole, H. D. Mayhorn 898.248 Cutter holder, A. L. Valentine 898,395 Cutting machines, cutting and edge-compacting member for A. F. Preston 898,259 Cylinder lock, It', G. Voight 898,078 Delivering and catching device, W. E. Martin, et al. 898,380 Derrick, P. Yorke 898,027
Desk, J. W. Higgins 898.106 Dish washer, J. M. Gilhert 898,354
Door safety device. J. Gruninger
Drill bit, F. W. Parsons
Dye from gallocyanins and making same, condensation, C. Ile la Harpe, et al. 898,098 Dye, new disazo, Guather & Hesse 898,217 Elastic wheel A. Dauvesigne 897,881 Electric battery, W. MacMillan 898,055 Electric cable ferminal, C. W. Davis 898,005
Electric battery, W. MacMillan
Electrical distribution system. J. L. Wood- bridge
Edison S98,404 Electrotype block, R. E. Doolittle, S98,105 Elevator, C. D. Seeberger, S98,009 Elevator door opening device, F. N. Long., S97,910 Embossing and coloring or printing linerusta or like material, apparatus for, F. Wal-
Engines, fuel pump for internal combustion, J. D. Macpherson
S. Hill S98.107
Explosives, preserving. J. Ortiz
Fender. See Car fender. File, composite, II. Getaz. Filing of memoranda. card chain for systematic, H. Brunn
matic, V. Lapham
Solution
& Dewey 898.158 Floating structure, steady, W. E. Murray 898.128 Flooring, artificial, R. V. Mattison 898.381 Floors, laying mosaic, granolithic, and similar, P. Pellarin 898.001 Fluid pressure brake, C. A. Tripp 898.022
Fluid pressure brake. C. A. Tripp
Furnaces, apparatus for automatically conveying bottles, etc., into annealing, C.
Brauer 898,179 Fuse hox, II. P. Moore. 898,061 Fuse cut-out, multiple electric, W. Bochm. 898,086 Gallocyanin and making same, De la Harpe & Burckhardt 898,040 Game apparatus. A. M. Foster 898,356
Garment supporter clasp. H. E. Lorentz 897,911 Gas engine. C. O. Lake
Game apparatus. A. M. Foster. 898,356 Garment supporter clasp. H. E. Lorentz 897,911 Gas engine. C. O. Lake 808,230 Gas mixtures, apparatus for the analysis of, 87,900 W. S. Hubbard 898,136 Gas trap, sewer, J. P. Putnam 898,136 Gases, apparatus for the treatment of, S. Z. 898,136 Gate, A. A. Witz 897,949 Gate, A. A. Witz 897,949 Gear, variable speed. R. O. Couch 898,326 Gear wheels, manufacture of, F. A. Brun 898,327 Gearing, L. Fair 897,968 Gin cleaning mechanism, saw. J. G. Dickson 897,883 Glass brick, tile, and building block. P. 12.
Gonon 898,045 Go-cart, folding, M. B. Lloyd 898,235 Gopher trap, A. F. Renken 898,262
N. Springer 888,074 Grader attachment. Barrett & Wallace 897,955 Grain-treating apparatus. R. S. Houston 897,899 Grinder, glass cutting J. T. Young 888,028 Grinding mills and disk pulyerizers, releasing
Governor and reversing gear for engines, W. N. Springer
Hay rake, combined center delivery and dumping. J. H. Lunsford
protector, communation, L. W. Litch. 898,120 Hinge, R. P. Hawley. 898,360 Hinge, double-acting spring, E. Bommer. 898,031 Hinge for day gates, gravitating. F. W. Rodler 898,005 Hog-hoisting apparatus. T. D. Foster 898,209 Hook and eye. J. F. Schoemi
Horseshoe calk, removable, I. S. Brassington 858.032



Write to-day for Illustrated Booklet

press prepaid.

Crescent Forgings Company 1203 Railroad St., Oakmont, Pa.

HOME MADE DYNAMOS.—SCIENTIFIC AMERICAN SUPPLEMENTS 161 and 600 contain excellent articles with full drawings. Price 10 cents each, by mail. Munn & Company, 361 Broadway, New York City, and all newsdealers.





Palmer Motors

Two and Four Cycle. One, Two and Four Cylinder. Stationary and Marine. One to Twenty H. P. Catalogue FREE. PALMER BROS., Cos Cob, Conn.

New York: 30 East 20th Street
Philatelphia: The Bourse
Boston: 55 Union Street
Portland, Ms.: Portland Pier
Seattle, Wash: Colman Dock
Vancouver, B. C.: 1600 Powell St.





Remarkable Short Stories in Collier's Fiction Numbers

EGINNING with September, the last issue of each month will be a Fiction Number, largely devoted to short stories of exceptional character. The stories already selected are from the very foremost writers in the English language, and cover a wide range of interest—romance, adventure, political and social tendencies, society, and everyday life. They are set on land and sea, in all parts of America and interesting places in other lands. Some carry a message of enlightenment or the burden of "a great cause." Others are entertaining in a fascinating, vital way.

October Fiction Number

Issued September 26th

ROMANCE — By Robert W. Chambers. A thoroughly dramatic war story, in which a captured spy is a woman and her captor is her lover. Full of excitement and nervous tension, it is handled with all the crispness of the author's "Iole" and his New York society sketches.

THE ROAD AGENT-By Stewart Edward White. The solution of a series of mysterious robberies that amazed and impoverished a California mining camp is so clean-cut and obvious, when you reach the last page of this story, that the reader is chagrined at not having leaped to it while the plot was still uncoiling.

THE VENTURE OF THE FLYING HIND—By James B. Connolly. A love story, filled with adventures on the sea, including a thrilling double rescue made by a girl with a clever swing of the lead. All through the story a band of Chinamen are in the background smoking their opium or grunting their appreciation of the hero's bravery in the dory.

Stories for the November Fiction Number, by Rex E. Beach, Rowland Thomas, and O. Henry, will be announced next month



Collier's The National Weekly



II was a harden and a such ablance and a such a suc
Horse checking and machecking apparatus, H. A. Clemens
Hose coupling, W. B. Steen
Harse checking and memerking apparatus, H. A. Clemens. 87,875 Hose and pipe coupling, W. Eisenmann. 898,197 Hose coupling, W. B. Strein. 898,017 Hydraulic motor, W. R. Clarkson. 897,962 Hydraulic press, T. E. Holmes. 898,365 Lee cream freezer, J. H. Hart. 898,048 Lee cutting tool. J. G. Bodenstein. 898,306 Lee nleuts electric recorder for Cain &
Williams 898,313 Incuhator, G. Kutz 898,229 Incubator, L. S. Bache 898.301
Insects and other vermin, means for exterminating, G. A. H. Muller897,919, 897,988
Insulated gage plate, E. J. Clark
Internal combustion engine, D. Roberts
Kilns. coal hurner for cement, O'Donnell & McClafferty
Knockdown hox or crate, L. McMullen
Labels or the like, holder for, W. O'Leary 897,996 Ladders, detachable shelf for store, G. II. Ridout 897,929
Ridout 897.920 Lamp, electric arc, P. M. Capitaine 897.920 Lamp, electric arc, R. E. Leve 898.052 Lamp, gas, C. W. Boyse 898.312 Lamp, revolving, C. C. Clifton 898.322 Lantern, projecting, C. M. Lungren 898.054 Lantern, tuhular, K. L. Stendahl 898.393 Last lock, J. T. Hardling 898.407 Latteh, gate, J. Mason 898.247 Level and compass, A. Carrier 898.002
Lamp, gas, C. W. Boyse 898.312 Lamp, revolving, C. C. Clifton 898.322
Lantern, projecting. C. M. Lungren. 898.054 Lantern, tuhular, K. L. Stendahl. 898.393 Last lock. J. T. Harding. 898,407
Latch, gate. J. Mason. 898.247 Level and compass. A. Carrier. 898.092
Level and compass. A. Carrier. \$98.002 Lifter. See Wire lifter. \$97,947 Light fixture. A. B. Wilson. \$97,947 Light producing device, intermitting. J. C. \$97,981 F. Jurgens. \$97,981 Lightning arrester. F. P. H. Knight. \$97,903 Liquid holding tank, hot. C. E. Clisbee. \$98,183 Liquid meter, W. G. Kent. \$97,904 Lixiviator, W. L. Imlay. \$98,650 Loading and storing machine, W. E. Hamilton. \$97,893 Locking doors and the like, means for. A.
F. Jurgens
Liquid holding tank, hot. C. E. Clisbee. \$98,186 Liquid meter, W. G. Kent. \$97,904
Lixiviator, W. L. Imlay
ton
Windsor 897,948
Loconrotives, adjustable exhaust for, II. II. Mackey 898,242 Logger's wire rope sheave block, II. J. Littler 898,121
er
Loving cup, A. Schickerling
Mail arranging device, V. G. Anderson 898.164 Mail hag catcher, W. Robinson 898.265
Mail bags from moving trains, device for de-
Mailbox signal lock, Patterson & Wiseman. 898.000
Masonry work, making a composition of mat- ter for. Tyc & Benjamin
Mattress bandle C. B. Holding 897.979 Measure, tape. W. Chesterman 898.320 Measuring device, E. J. Mezger 897.987
Measuring device, wall paper, G. H. Broadwater
W. A. Russell
Metal, manufacturing expanded, L. E. Curtis 897.879 Metals, refining, K. O. Kretschmer 898.116
Metallic product, G. F. Allen
Meters, device for the protection of, T. Muller
Metal. manufacturing expanded. L. E. Curtis 897.879 Metals. refining. K. O. Krotschmer. 898.116 Metallic product, G. F. Allen. 897.953 Metallic weh or fahric, G. Aucoe. 898.166 Metallurgical apparatus, W. A. Merralls. 898,415 Meters, device for the protection of, T. 898,384 Mullier 898,384 Milling machine, L. Giannelli 898,353 Mines and tunnels, air lock for, P. II. 100 Durack 898,343 Mining calsson, extension, W. W. Beeson 898,174 Mixing machine, C. E. Bathrick 898,171 Molding machines, sand feeding device for, W. H. Wangelin 897.942 Mop and brush making machine, L. Stocker 898.019 Motors, automatic governor for pneumatic, C.
Mining caisson, extension. W. W. Beeson 898.174 Mixing machine, C. E. Bathrick 898,171
W. H. Wangelin
Motors, automatic governor for pnenmatic, C. L. Davis
L. Davis 898,194 Motors, electric ignition device or sparking plug for internal combustion, Bastian & Calvert 897.868
Manager and making an abite my T mbane 000 155
Naphtha, nitrating solvent, G. Schultz. 898.144 Necktie, A. J. C. Egberts. 898.198 Nut lock E. Posson. 898.098
Moving and raking interime. 1. Thorp. 888,159 Music turner, sheet, J. T. Stapleton. 588,149 Naphtha, nitrating solvent, G. Schultz. 888,144 Necktie. A. J. C. Egberts. 598,198 Nut lock, E. Posson. 888,003 Nut lock, C. H. Covey. 598,188 Nut lock, A. W. Dawes. 598,383 Oiling device, wheel, G. W. Patten. 897,509 Ore separating or concentrating machine, W. R. Lins. 898,119
Ore separating or concentrating machine, W. R. Lins
Packing and display case. J. W. Barber 898.170 Packing case. W. D. Ballon 898.170
Packing, metallic. G. D. Rollins. 898.066 Pantaloons protector, M. Elzas. 898.209
Ornamental fabric and producing the same. E. J. Ryerson
ing the waste water in. Gaara & Hem 898.212 Pen. fountain. R. A. Hamilton
Perforating mechanism. R. M. Davidson
Jaubert
Pen. fountain. R. A. Hamilton. 897,812 Perforating mechanism. R. M. Davidson. 808,193 Permutation lock. J. P. Geraghty. 898,417 Peroxid of potassium, manufacture of, G. F. Jauhert. 897,980 Photographic copies of printed matter and the like, making. C. von Arnhard. 897,954 Piano. J. A. Weser. 898,160 Piano-playing instrument, electrical, A. L. Hurt. 898,218
Hard
Skinner
Pipe cleaner, waste. W. T. Lisenby. 898.126 Plant protector, E. R. Drake. 898.341
Pliers, watchmaker's, E. A. Barker. 898,304 Plow, P. D. Arras
Plow. P. D. Arras \$37,865 Plumbing fixture. P. J. Madden \$897,914 Pocket II. Ahnfeldt \$808,299 Pocket hox, sheet metal. I. J. Marcuse \$808,125 Pole socket. D. A. Roberts \$898,138 Power transmission mechanism, W. E. Belt \$898,175 Press \$80e Hedicallic press
Pole socket, D. A. Roberts
Press. See Hydraulic press. Pressure gage. G. Spencer. 898.148 Pressure indicator. A. H. C. Gibson 898.213
Pressure gage, G. Spencer. 898.148 Pressure indicator. A. II. C. Gibson 898.213 Printing press. J. H. Stonemetz. 898.075 Printing press ink roller trip. C. L. Johnston 897.902 Projectile. explosive, Meigs & Gathmann re- issue 12.849
Projectile. explosive, Meigs & Gathmann. re- issne
issue 12.849 Proteids with hismuth iodlid, manufacturing new compounds of, A. Busch. 898.311 Pulley casing, sheet metal, F. E. Sloan. 898.275 Pulley casings, making sheet metal, F. E. 808.276
Pulley casings, making sheet metal, F. E. Sloan
Sloan 898.276 Pulley lift automatic safety. F. W. Carter. 898.318 Pump, D. E. & G. C. Clayton. 897.963 Pump, air life, W. F. Spangler. 898.015 Pump curbs or frames, fastening device for. T. T. Polcor.
D. A. Daket
Pumn. hydraulic air. J. B. Ridout. 898.264 Punch. W. A. Whitney. 898.397 Puzzle, J. W. Clark. 898.321
Funn. nydraune air. 1. B. Rudout. 898.297 Punch. W. A. Whitney. 898.397 Puzzle, J. W. Clark. 598.342 Puzzle, C. H. Dreher. 898.342 Radiator. Long & Todd. 898.238 Rail bond. R. J. Ostick. 898.997 Rail fastener. K. O. Lofthus. 898.452 Rail fastener. Walker & Eyth. 898.291 Rail graph C. Wiench. 897.046
Rail bond, R. J. Ostick. 898,997 Rail fastener, K. O. Lofthus. 898,053 Rail fastener, Walker & Eyth. 898,291
Rail joint, C. L. McVoy
Rail joint, P. W. Row 898,006 Rail joint, H. Markussen 898,412 Railway brake, drop lever, W. C. Watson 898,416 Railway conduit, electric, E. E. Granger 898,216 Railway cross tie, C. T. Moore 897,318
Railway conduit. electric, E. Granger. \$98.216 Railway cross tie. C. T. Moore. \$97.918 Railway clostric size ties I. Hutchinger. \$98.216
Railway electric signaling system. J. Hutch-
Railway safety appliance, J. T. Andrew 897.864
inson \$98.221 Railway safety appliance. J. T. Andrew. 897.864 Railway signul. J. P. Coleman. 898.325 Railway switch device, safety, Tangney &

Classified Advertisements

Advertising in this column is 75 cents a line. No less than four nor more than ten lines accepted. Count seven words to the line. All orders must be accompanied by a remittance. Further information sent on

READ THIS COLUMN CAREFULL: —You will find inquiries for certain classes of articles numbered in consecutive order. If you manufacture these goods write us at once and we will send you the name and address of the party desiring the information. There is no charge for this service. In every case it is necessary to give the number of the inquiry. Where manufacturers do not respond promptly the inquiry may be repeated.

MUNN & CO.

MUNN & CO.

BUSINESS OPPORTUNITIES.

A CORPORATION of highest standing having large well equipped factory and selling organization, and ample capital, desires to manufacture and market mechanical inventions of unquestioned merit. Correspondence solicited. Address K. A., Box 773, N. Y. City.

Inquiry No. \$611.—Wanted to buy springs for light power purposes.

PATENTS FOR SALE.

FOR SALE.—Patent No. 886,889, issued May 5, 1908. A fish-tail propeller. Reducesfriction to a minimum, giving greater obtainable speed than ordinary propeller, with reduced coal consumption. I have sole United States patent right over same. Address Frank S. Merrow, Apartado No. 664, Mexico City.

Inquiry No. 8628.—Wanted to buy paving block machines for use with partly fluid substances.

CHEAP FOR CASH.—Grob's folding fire hose bridge Patent No. 886,788. Patented May 5, 1908. For full particulars address Robert C. Grob, 446 Wabasha Street, St. Paul, Minn.

Inquiry No. 86.50.-Wanted to buy file cutting

PHOTOGRAPHY.

AMERICAN PHOTOGRAPHY.—A monthly magazine containing up-to-date information about photographic processes, formulas and new apparatus. Each number is tilled with numerous illustrations of recent pictorial photographs. Valuable to the professional and beginner. 15 cents monthly, \$1.50 per year. Three specimen conies for 25 cents. Am. Photographic Publishing Co. No. 6 Beacon Street, Boston, Mass.

Inquiry No. \$667.—Wanted to buy needle, pin and pen machinery.

BOOKS AND MAGAZINES.

WIRELESS TELEGRAPHY.—Send 10 cents for special number of Electrician and Mechanic, devoted to his subject. Articles on how to make a 4-inch induction coil, magnetic detector, independent interrupter, indoor wireless, adjustment of detectors on tuned circuits, wireless telephony, storage batteries. Also hall seat, 16-foot launch, model engine, telephone installation, mechanical drawing, etc. List of electrical and mechanical books free. Sampson Publishing Company, 1151 Beacon Building, Boston, Mass.

Inquiry No. 8685. Wanted to huy 11/2 to 2-inch No. 13 to 18 tempered spring steel.

MOTION PICTURES.

THE MOVING PICTURE WORLD, weekly, 10 cents per copy; yearly subscription, \$2. The only paper devoted to the moving picture, illustrated song and lantern lecture field. Moving Picture World, Box 450, N.Y.

Inquiry No. 8687. - Wanted to buy motor plows.

LISTS OF MANUFACTURERS.

COMPLETE LISTS of manufacturers in all lines supplied at short notice at moderate rates. Small and special lists compiled to order at various prices. Estimates should be obtained in advance. Address Munn & Co., List Department, Box 773, New York.

Inquiry No. 8699.—Wanted to buy two-stranded soldered wire for heddles.

A LIST OF 1.500 mining and consulting engineers on cards. A very valuable list for circularizing, etc. Price \$15.00. Address Munn & Co., List Department, BOX 773, New York.

WOULD LIKE TO GET NAMES AND ADDRESSES of manufacturers of devices for cleaning boiler flues. For particulars address A. M. Collins Manufacturing Company, 226 Columbia Avenue, Philadelphia, Pa.

Inquiry No. 8701 .- Wanted to buy solar engines.

Inquiry No. 8716.—For manufacturers of flower garden and light frame tools for cultivating, etc.

Inquiry No. 8719.-For manufacturers of safes.

Inquiry No. 8721.—Wanted unwelded tubing that is used for structural work.

Inquiry No. 8726.-For parties who make "Yan-kee Metal Polish."

Inquiry No. 8735.—For parties making a still for the purpose of extracting alcohol from saw-dust.

Inquiry No. 8736.—For manufacturers of machinery for making matches, also machinery for making purses and hand bags.

Inquiry No. 8737.—Formanufacturers of machin-ery for making tooth-brushes, shaving brushes, gal-vanized water buckets, locks, nibs and holders.

Inquiry No. 8742.—For manufacturers of water still, also of thermometer tubing.

Inquiry No. 8748.—Wanted to buy polished or lac-quered brass in sheets 29 gauge, quarter hard in temper.

Inquiry No. 8749.-For makers of very large springs, used for running machinery.

Inquiry No. 8751.—For manufacturers of brass tea, dessert and table spoons for silver plating.

Inquiry No. \$752.—For manufacturers of paper mill machinery for the manufacture of strawboard and

Inquiry No. \$759.—For a firm to do porcelain enameling of ventilator tops, such as used on the outside cf arc lamps.

Inquiry No. \$761.—Wanted to buy a small carriage propelled by electricity so that a lame person may get about by himself.

Inquiry No. S766.—For parties making presupage goods.

Inquiry No. \$769.—For manufacturers of an appliance to attach to the old style razor blade to make same a safety razor.

Inquiry No. 8770. For partles who make short link twist chains, links from 1/2 inch up,

Inquiry No. 8771.—Wanted to buy tune sheets for Criterion music boxes.

Inquiry No. 8774. - For machinery for making lags from sisal hemo.

Inquiry No. 8775.—Wanted to buy stock novelty or jewelry catalogues.

Inquiry No. \$775.—For manufacturers of reapers, binders and mowers

Inquiry No. 8779.—For parties manufacturing gas, gasoline, steam engines and boilers; also packing and mineral wool, steam supplies, iron and lead pipe, power transmission machinery and steam fitters' tools.

Inquiry No. 8780.-For parties who makegasoline

Inquiry No. 8783.—For manufacturers of small drummer's traps as whistles, rattles, rooster crows, etc.

Inquiry No. S7S4.—For manufacturers of alcohol burners for lights and stoves.

Inquiry No. 8786.—For parties to manufacture glass balls blown about 1% inch in diameter with $a \frac{1}{2}\%$ inch but through the center, should hold about 200 pounds to the square inch of steam pressure.

Inquiry No. 8787.-For parties who manufacture

Inquiry No. 8790. - For the manufacturer of Brooks improved hand pump."

Inquiry No. 8792.—For a firm that manufactures glass holders made of glass.

Inquiry No. 8794.-For manufacturers of the Ideal Dust Pan."

Inquiry No. 8795.—For a mechanical device for catching or destroying flies, mosquitos, etc.; also traps for catching snakes.

Inquiry No. 8796.—For concerns manufacturing stills adapted to the manufacture of denatured alcohol.

Inquiry No. 8797.-For manufacturers of fiber. lnquiry No. 8798.—For manufacturers of micro lens used in small articles such as penc is. charm stc.

Inquiry No. 8799.—Wanted to buynewor second-hand box nailing machine for small packing cases.

Inqui y No. 8800.—Wanted complete data in regard to pegamoid.

Inquiry No. 8802.—Wanted to buy machinery for cutting and polishing oilstones, whitestones or grind-stones.

Inquiry No. 8803.-For manufacturers of files, screws, druggists' supplies, hardware in general, and agricultural machinery.

Inquiry No. 8804.—For parties dealing in windmills, wood split pulleys, wheelbarrows, cutlery and picks.

Inquiry No. \$805.—Wanted to buy outfits and supplies for brazing.

Inquiry No. 8806.-For manufacturers of drawing materials.

Inquiry No. 8807.—For dealers in second-hand cotton machinery. Inquiry No. 8808.—For manufacturers of machinery for making bungs for barrels.

Inquiry No. 8809.—For the manufacturers of metalized flowers used for hat pins, etc.

Inquiry No. 8810.—For makers or importers of porouswaterbottles or jars to cool drinking water by evaporation.

Inquiry No. 8811.—Wanted to buy electric tattooing needles, inks and stencils.

Inquiry No. 8812.-Wanted to buy outfits for manufacturing fuel briquettes from sawdust.

Inquiry No. 8813.—For manufacturer of the 'Steele" mixer for mixing food products, etc. Judiry No. 8814.—Wanted to buy hand lever air umps, 100 lbs. pressure.

Inquiry No. 8815.—Wanted to buy carriage and vagon hardware, coal, iron and steel.

Inquiry No. 8817.—For a firm that forms small articles of wire, also a firm to make wooden rings about 3 or 4 inches in diameter.

Inquiry No. 8818.—Wanted to buy specialties in large quantities.

Inquiry No. 8819.—For manufacturers of Exc sior Welding Compound.

Inquiry No. 8820.—Wanted to buy pressed fiber coards 1 foot wide and from 1-16 to 14 inch thick.

Inquiry No. 8821.—Wanted to buy machinery for making a rough composition board, something like a straw board,

Inquiry No. 8822.—For manufacturers of dredging machinery to be operated by gas engine.

Inquiry No. 8823.-For manufacturers of crepe paper and paper novelties. Inquiry No. 8824.—For a firm to design and build an automatic machine for making finger shields.

Inquiry No. 8825.—For manufacturers of a new device to split wood.

Inquiry No. 8826.—Wanted to buy small fuel com-pression machines both manual and engine power.

Inquiry No. 8827.—For manufacturers of annealed class.

Inquiry No. 882%.—Wanted to buy thin, highly tempered steel for safety razors.

Inquiry No. 8829.—Wanted to buy machinery for making pins, hair pins, hooks and eyes. Inquiry No. 8830.—Wanted to buy machinery for making brushes and baskets.

Inquiry No. 8831.-Wanted to buy knitting machines.

Inquiry No. 8832.-Wanted addresses of high-grade label weavers, preferably in New York.

Inquiry No. 8833.—Wanted to buy a peanut shelling machine.

Inquiry No. 8834.-Wanted to buy a 2-horse-ower gasoline engine for spray wagon working on

Inquiry No. 8835 - Wanted to buy tooth

Inquiry No. 8836.—Wanted to buy decorticating machines for sisal. Inquiry No. 8837.-Wanted to buy folding umbrellas.

Inquiry No. 8838.—Wanted to buy metallic targets similar to clay birds used in shot-gun shooting.

Inquiry No. 8839.—Wanted to buy cheap autonobiles.

Inquiry No. 8840. Wanted to buy portable hydro-carbon pressure lamps.

Inquiry No. 8841.—Wanted to buy lunch counter and restaurant fixtures.

Inquiry No. 8842.-Wanted to buy annealed glass. Inquiry No. 8843.-Wanted to buy cigarette making machine,

Inquiry No. 8844.-Wanted to buy inkstands Inquiry No. 8845.—Wanted to buy mail order novelties, books, etc.

Inquiry No. 8846, — Wanted to buy an electric butcher hand saw. Inquiry No. 8847.-Wanted laundry tubs.

Inquiry No. 8848. — Wanted to buy rust proof metal for parts of wash tubs.

issue
Railways, contact rail for electric, J. Hutchinson
inson
Railways, contact rail for electric, J. Hutchinson
Railways, contact rail for electric, J. Hutchinson
Razor strop, Idauser & Shepherd
Razor strop, Hauser & Shepherd
Receptacle closure, G. J. Kirby
Refrigerating machine, rotary, Audiffren & Slngrun
Refrigerating machine, rotary, Audiffren & Slngrun
Refrigerator, J. O. La Madeleine
Refrigerator, J. O. La Madeleine
Resultation Preten, J. Bilur
Resultation Preten, J. Bilur
Resultation Preten, J. Bilur
Reversing mechanism, Russell & Dinsmoor
Reversing mechanism, Russell & Ruthen-burg
Roof joint, G. B. Norgrave
Roof yet, G. B. Norgrave Railways, contact rail for electric, J. Hutch-Rolling process and mill, metal, M. Ruthen Borg Roof joint, G. B. Norgrave. Rotary device, high speed, H. A. Myers, 897,916, Rotary device, high speed, H. A. Myers, 897,916, Rotary engine, J. Shaw. Rotary engine, J. Shaw. Rotary eugine, Singleton & Maddox. Rubbing and polishing machine, C. S. Yarnell. Rule tip, T. Prentice. Sad-iron, A. Luethi. Safety elevator, A. J. Worthen. Sanding device, Mentzel & Moser. Scaffolding, G. E. Humphrles. Scraper, J. Butler, Screw-jack, F. L. Gormley. Scif-rolling ball or globe, A. L. Day. Separating table, H. M. Sutton, et al. Sewing machine needle guard, D. W. Corey. Shaft. bending machine, P. P. Dyke, reissue. Shaft, self-lubricating, E. L. Wood. Shaft, vehicle, L. Burg. Shears and scissors, J. J. Booth. Shellae, preparing substitutes for, J. Meyer. Shipping case, folding. M. Hutchinson. Sight glasses, safety device for, I. O. Northin, et al. Sign, S. C. Unruh. Sign, illuminated, C. L. Carter. Signal box, N. H. Suren. Signal box, F. W. Cole. Signaling system, electric, E. R. Coe. Skate frame, W. P. Dodge. Slag heated boiler, R. Baggaley. Sleeve board, H. E. Kunkle. Smelting iron, M. Ruthenburg. Soap chiller and drier, Huber & Houchin. Soup chiller and drier, Huber & Houchin. Soup chiller and drier, Huber & Houchin. Sophic protector, E. E. Ervin. Spike extractor, G. W. Rittersbach, Jr. Spoke puller, W. C. McCoy. Spool, F. B. Wood. String fastener, D. W. Smith. Steering gear, D. W. Smith. Stee 897,951 897,927 898,401 898,184 898,076 898,095 897,866 898,324 898,302 898,228 897,993 898,069 898,20

898,246

Telemotor, L. A. Lang.
Telemotor, L. A. Lang.
Telephone lines, supervisory system for, W.
W. Dean
Thill detacher, J. D. O'Brien
Thill detacher, J. D. O'Brien
Thinble, R. J. R. Blake
Tille forming mold, J. D. Johnson
Timber and the like, impregnating, E. Marmetschke
Time recorders, registration controller for,
H. C. Ford
Timer, changeable dial watchman's, J. J.
Tile, elastic vehicle, W. Brameld
Tire, metallic, W. R. Barbour
Tire, metallic, W. R. Barbour
Tire, wheel, J. S. Cushing.
Tongue support, vehicle, N. F. Bennett
Toy animal, F. Steiff
Toy balloon, W. P. Herbst
Toy or game implements, construction of, J.
A. de la Fresnaye
Toy, trundling, E. G. Frey
Train controlling system, P. Winson
Transmission mechauism, A. F. Wilson, et al
Transportation system, cable suspension, C.
G. Hicks
Traveling grate furnace, J. Harrington
Trench brace, De France & Read
Tripod, H. J. C. Jessen
Trusk, swing-motion car, W. D. Lowry 898,042 898.210

Typewriter carriage return mechanism, E. A.

Burlingame
Typewriting machine, T. Cahill.
Undershirt, suspensory, R. D. Peters.
Valve, automatic gas. E. L. Preston.
Valve automatic water relief. A. Harrison.
Valve controlling mechanism, F. Hodgkinson,
reissue
Valve onerating device for compressors, W.
Prellwitz
Valve stem case, E. B. Sinkler.
Valve stop and waste. J. N. Mortimer.
Vehicle and junction and crossing therefor,
R. C. Sayer
Vehicle brake, W. Wolfe
Vehicle motor, T. J. Thorp. 12,848

202,002 Vehicle motor, T. J. Thorp.
Vehicle shock absorber, C. K. Foster.
Vehicle wheel, I. Snell
Vending machine, McCurthy & MacLeod...
Vending machine, A. Jaecer
Vessel, cargo, W. Doxford.
Vise, W. A. Merralls. 898,413

DESIGNS.

STYLE THOL ECONOM OMFORT COLLARS & CUF MAKE DUST FLY You can "make the dust fly" from Litholin Waterproofed Linen **Collars and Cuffs** Just a wipe with a damp cloth and they are as white as when new. Never wilt, crack or fray and last long. Perspiration-proof, rain-proof, always neat, and being linen, look it—not celluloid or rubber. COLLARS 25c. CUFFS 50c. Always sold from red boxes. Avoid substitution. If not at your dealer's, send, giving style, size, number wanted, with remittance, and we will mail, postpaid. Booklet of styles free.

THE FIBERLOID CO.

four pen from your pocket will not slip if you fasten it Mylino, EG. U.S. PAT. OFF. All Sizes-No Riveting German Silver, 10c. Rolled Gold. 25c. t your stationer's or by mail. Give size of pen. CONSOLIDATED SAFETY PIN CO. 121 Farrand Street, Bloomfield, N. J.

Dept. 22 7 Waverly Place, New York

BABBITT METALS.—SIX IMPORTANT formulas. Scientific American Supplement 1123. Price10 cents. For sale by Mund & Co. and all news. dealers. Send for catalogue.

FRICTION DISK DRILL FOR LIGHT WORK.
Has These Great Advantages:

The speed can be instantly changed from 0 to 1800 without stopping or shifting bells. 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 avaing in drill breakage. W. F. & JNO. BARNES CO., Established 1872.



Concrete, Reinforced Concrete **Concrete Building Blocks**

THE FOX REVERSIBLE GASOLINE ENGINE GO. 213 Front St., South Cincinnati, Newport, Ky.

Scientific American Supplement 1543 contains an article on Concrete, by Brysson Cunningham. The article clearly describes the proper composition and mixture of concrete and gives results of elaborate tests.

Scientific American Supplement 1538 gives the proportion of gravel and sand to be used in concrete.

Scientific American Supplements 1567, 1568, 1569, 1570, and 1571 contain an elaborate discussion by Lieut. Henry J. Jones of the various systems of reinforcing concrete, concrete construction, and their applications. These articles constitute a splendid text book on the subject of reinforced concrete. Nothing better has been published.

Scientific American Supplement 997 contains an article by Spencer Newberry in which practical notes on the proper preparation of concrete are given.

Scientific American Supplements 1568 and 1569 present a helpful account of the making of concrete blocks by Spencer Newberry.

Scientific American Supplement 1534 gives a critical review of the engineering value of reinforced concrete. Scientific American Supplements 1547 and 1548 give a resume in which the various systems of reinforced concrete construction are discussed and illustrated.

Scientific American Supplement 1564 contains an article by Lewis A. Hicks, in which the merits and defects of reinforced concrete are analyzed.

Scientific American Supplement 1551 contains the principles of reinforced concrete with some practical illustrations by Walter Loring Webb.

Scientific American Supplement 1573 contains an article by Louis H. Gibson on the prin-ciples of success in concrete block manufac-ture, illustrated.

Scientifio American Supplement 1574 discusses steel for reinforced concrete.

Scientific American Supplements 1575, 1576, and 1577 contain a paper by Phillip L. Wormley, Jr., on cement mortar and concrete, their preparation and use for farm purposes. The paper exhaustively discusses the making of mortar and concrete, denositing of concrete, facing concrete, wood forms, concrete sidewalks, details of construction of reinforced concrete posts.

Each number of the Supplement costs 10 ents.

A set of papers containing all the articles above mentioned will be mailed for \$1.80. Order from your newsdealer or from

MUNN @ CO. 361 Broadway, New York City

Sealed proposals endorsed "Proposal for Conduit for Acute Hospital, Construction, including Steampiping" for Hudson River State Hospital, Poughkeepste, N. Y., will be received by the State Commission in Lunacy, Capitol, Albany, N. Y., up to 3 o'clock P. M. on the 23d day of September, 1908, when they will be opened and read outblies.

day of September, 1908, when they will be opened and read publicly.
Proposals shall be accompanied by a certified check in the sum of \$600, and the contractor to whom the award is made will be required to furnish surety company's bond in the sum of Three Thousand Dullars. The righth sreserved to reject any and all bids.
Drawings and specifications may be consulted, and blank forms of proposal obtained at the Hudson River State Hospital, Pourskeepsic, N. Y., or at the office of the State Architect. Complete sets of plans and specifications will be furnished to prospective bidders upon reasonable notice to and in the discretion of the State Architect, Franklin B. Ware, Albany, N. Y.
T. E. McGarr, Secretary, State Commission in Lunacy. Dated Albany, N. Y., September 2, 1988.

WANTED. - FIRST-CLASS (Chemical), \$476 per diem. An examination will be held at the Navy Yard, Norfolk, Va. September 21, 1908, to fill the above position. For application and further information address "Commandant," Navy Vard, Norfolk, Va.

LET US BE YOUR FACTORY
STAMPINGS, MODELS, EXPERT WORK
THE GLOBE MACHINE AND STAMPING CO.
970 Hamilton St. Cleveland, O.

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

MODELS & EXPERIMENTAL WORK. E. V. BAILLARD, 24 Frankfort Street, New York.

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

ELECTRIC († 0 0 D S.-Big Cat. 3 cts. Want Agents. Obio Electric Works. Cleveland, O.

HOEFT & COMPANY
Die Makers, Machinists aud Machinery Bullders
126 MichiganSt., Chicago, U. S. A.

MODELS SPECIAL TOOLS MACHINERY If made in metal, wecan make it. NATIONAL STAMPING AND ELECTRIC WORKS 158-159 S. Jefferson Street, Chlengo, III.

Special Machinery, Dies, Tools, Models, Metal Specialties, Inventions perfected. Indiana and Franklin Streets, Chicago, U. S. A.

MODELS CHICAGO MODEL WORKS

Experimental & Model Work

NOVELTIES & PATENTED ARTICLES MANUFACTURED BY CONTRACT. PUNCHING DIES, SPECIAL MACHINERY. E.KONIGSLOW STAMPING & TOOL WORKS, CLEVEL AND. O.

MASON'S NEW PAT. WHIP HOIST Manfd. by VOLNEY W. MASON & CO., Inc. Providence, R. I., U. S. A.



GAS ENGINE DETAILS .- A VALUAble and fully illustrated article on this subject is contained in SUPPLEMENT No. 1292. Price 10 cents. For sale by Munn & Co. and all newsdealers.

Magical Apparatus.

Grand Book Catalogue. over 700 engravings

25c, Parlor Tricks Catalogue, free. MARTINKA & CO., Mfrs., 493 Sixth Ave., New York



Telegraphy Circular free, Wonderful succession of the Native States of the Co., Dept. 52, 39 Cort. and St., New York,

INVENTORS We manufacture METAL SPECIALTIES of all kinds, to order; largest equipment; low estimate and best expert advice FREE THE EAGLE TOOL CO., Bept. A, Cincinnati, O.



EARN WATCHMAKING

How to Use Portland Cement 50c.: Cement Sidewalls Con-Concrete Construction, \$2.50; Hol Construction, 50c. Sent postpaid. MEMENT BOOKS. EMENT AND ENGINEERING NEWS, Chicago, 111.



The BUGGYAUT

2-cylinder 2-cycle, air.cooled, 12 H. P., \$700 to \$800. Few parts. CHAS. S. DURYEA. Reading, Pa.

DON'T BE BALD Don't be prematurely gray. Use our Hy gienic Vacuum Cap at home a few minutes each day. It forces the circulation of the blood through the hair roots. It means perfect health for the hair. Satisfaction guaranteed. Rentally per week. Rentalphied if pirchased. Booklet free. Hygienic Vacuum Cap Co., 31 Cutler Bidg., Rochester, N. Y.

Band stand booth, portable, M. A. Singer, 39,518, 39,519 39,512 Bottle, H. S. Evans. 39,512
Brushes, mitrors, or similar articles, back
for, H. J. Herbert. 39,504 to 39,506
Candy tongs member, L. Fritzsche. 39,506
Ctristmas bag or pack. M. Prugh. 39,516
Comb, puff retaining, T. F. McKenna 39,516
Curtain, lace, W. Hardy. 39,535
Exhibition booth, pertable, M. A. Singer, 39,526
39,513 Exhibition booth, pertane, s. 39,520 to 39,520 Eyeglass nose guard. B. M. Levoy 39,513 Fabric, lace. R. S. Wingert 39,530 to 39,534 Fabric, textile, R. Kafka 39,529 Files, tooth brushes, or similar articles, handle for manicure, H. J. Herbert, 30,502, 39,503 Game board. J. R. Campbell. 39,502, 39,503
Game board. J. R. Campbell. 39,517
Mirror. M. Grant. 39,507
Plincushion and receptacle, H. W. Huehler, Sr. 39,517
Platter or similar article, G. E. Ball. 35,511
Rug. A. Petzold. 39,537 to 39,539
Spoons, forks. or similar articles, handle for,
F. Habensack 39,509
Tea or coffee pots or similar articles, body
of, G. E. Ball. 39,510
Thread holder and pincushion, W. H. Simmons 39,515

TRADE MARKS.

Ale, beer, porter, and stout, Yonkers Brewery 70,499
Beer, Yonkers Brewery 70,498
Blankets, woolen bed and wrapper, T. Kelly & Co.
Bottle closures, metal, paper, and porcelain,
A. F. McDonnell. 70,490
Brooms and brushes, New Broom Co. 70,506, 70,507
Canned fruits and vegetables, J. F. Pyle & Son 70,535 Waterloo Canning and Pickling Association
Cement, Portland, Alpha Fortland Cement
Co. 70,500
Cheese, cream, Scott & Co. 70,528
Checolate and candies, W. F. Schraftt & Sons,
Corporation 70,540

Cemeut, Portland, Alpha Portland Coment
Co. 70,500
Cheese, cream, Scott & Co. 70,500
Cheese, cream, Scott & Co. 70,500
Cheese, cream, Scott & Co. 70,502
Chocolate and candles, W. F. Schraft & Sons,
Corporation 70,540
Cleaning and polishing composition, Cheny
Chemical Co. 70,502
Clothing, certain, J. R. Keiser. 70,533
Drills, Heller & Long. 70,534
Dring extract compound, solid, P. F. De Ford, 70,497
Flour, wheat, C. Hoffman & Son Milling Co. 70,518
Flour, wheat, G. Hoffman & Son Milling Co. 70,523
Flour, wheat, Barber Milling Co. 70,523
Flour, wheat, Barber Milling Co. 70,537
Fruit juice, lime, Evans Sons Lescher & Webb 70,483
Furnace, gas heater, L. O. Cameron. 70,482
Fuses, slow burning, Coast Manufacturing and Supply Co. 70,523
Honey, Pacific Coast Syrup Co. 70,523
Hoslery, Dorothy Dodd Shoe Co. 70,477
Hoslery, Dorothy Dodd Shoe Co. 70,477
Hoslery, Thomas G. Plant Co. 70,531
Honey, Hygienic Fleeced Underwear Co. 70,487
Hoslery, Hygienic Fleeced Underwear Co. 70,487
Hoslery, Hygienic Fleeced Underwear Co. 70,519
Medicinal preparations, Pape, Thompson & Paper and envelops, writing, G. B. Hurd & Co. 70,519
Paper and envelops, writing, G. B. Hurd & Co. 70,520
Perfume extracts and toilet waters, A. A. Vantine & Co. 70,510
Perfume extracts and toilet waters, A. A. 70,515
Perfume extracts and toilet waters, A. A. 70,515
Presumes and perfume extracts, A. A. Vantine & Co. 70,526
Remedy for certain diseases, Remkol Co. 70,526
Remedy for certain diseases, Remkol Co. 70,527
Ribbons, W. Sarasin & Co. 70,527
Ribbons, W. Sarasin & Co. 70,527
Ribbons, Work, Carson Pirie Scott & Co. 70,485
Shirts, near's work, Carson Pirie Scott & Co. 70,475
Shirts, near's work, Carson Pirie Scott & Co. 70,456
Shirts, near's work, Carson Pirie Scott & Co. 70,450
Shirts, dress and negligee, Carson Pirie Scott
Scope, Lerisein & Rro. 70,522
Redgeing and renovating plush, material for, Inspect of th

LABELS.

PRINTS.

We teach it thoroughly in as many months as it formerly took years. Does away with tedieus apprericteship. Money earned while studying. Positions secured. Easy terms. Send for catalog.

of the blood through the hair roots. It means perfect health for the hair. Satisfaction guaranteed. Rental \$1.00 per week. Rent applied it purchased. Booklet free. Hypienic Vacuum Cap Co., 31 Cutler Bldz., Rochester. N. Y.

The Nation's Puzzle Everybody—old and young—trying to work it. Greatest novelty ever invented. Get one and put your "Bill" in the Whitehouse. Send 10 cents at once, Address Up-to-Date Novelty Co., Dept. 2, 401 Odd Fellows Bldg., St. Louis, Mo.



"New Process" GILLETTE blades will be on sale at all dealers after September 1, 1908.

These blades have been perfected after four years of research

and experiment, and are the finest blades ever produced by anyone.

They are made by newly-invented automatic machines which make all blades exactly alike in their remarkable keenness, durability and all desirable shaving qualities.

With these blades you get the most delightful shaves you ever had, no matter how pleasant your previous experience with the GILLETTE has been, without stropping or honing.

"New Process" blades have a high polish, rendering them easily cleaned and practically immune from rust. Twelve blades comprise a set and come packed in a handsome metal box. It is nickel-plated and seals itself hermetically every time it is closed. It is absolutely damp-proof in any climate, land or sea,
— entirely sanitary and convenient. When empty it forms a convenient waterproof matchsafe.; Retail price, ONE DOLLAR PER SET OF TWELVE proof mat BLADES.

If your shaving is accomplished in some other way, it cannot be so satisfactory as the "Gillette Way," and you will find it worth while to adopt the Gillette Razor with "New Process." blades instead.

Standard set consisting of triple silver-plated razor, 12 "New Process" blades in leather, velvet-lined case, \$5.00. Combination sets containing shaving accessive region of the process of the standard sets o

sories ranging in price from \$6.50 to \$50.00.

At all hardware, cutlery, jewelry and sporting goods dealers.

GILLETTE SALES COMPANY

NEW YORK 207 Times Bldg.

BOSTON 207 Kimball Bldg. **CHICAGO**

207 Stock Exchange Bldg.



Real Power is Soul Power

Which comes from

"THE GREAT WITHIN"

That Vast Subconscious Storehouse of Every Human Mind

STUDY of the Subconscious is one of the most fascinating of studies to-day, and there is no study that is more valuable for men and women who desire to become much and achieve much. According to noted psychologists, the powers and possibilities of the Subconscious are practically limitless; the Subconscious contains the real source of ability, talent, and genius, and he who has the key, and knows how, can unlock this vast storehouse of intuitive power. This is the secret of all great menknowing how to open and use the Subconscious.

This Secret is Found in

THE GREAT WITHIN

By C. D. LARSON, Editor of "Eternal Progress." A sane, practical, scientific book on the Sub-

conscious Mind. This book contains a mine of valuable information on how to develop for actual use the remarkable possibilities that lie latent in that great inner mental world. Here is a partial list of contents:

The Nature, Location and Functions of the Subconscious Mind. The Powers and Possibilities of the Subconscious.

Where the Subconscious Gains the Power to Do Whatever It May Desire to Do.

How to Train the Subconscious to Remake Your Mentality, Your Personality, Your Disposition, and Your Nature.

How to Direct the Subconscious to Correct the Flaws, Defects, and Imperfections in Your Nature.

How to Direct the Subconscious to Eliminate Disease, Bad Habits, and Adverse Physical or Mental Conditions.

How to Gain Greater Power—Physical and Mental—from the Subconscious. How to Train the Subconscious to Work Out Your Problems when You Are Asleep.

Our Special Offer

Forward the coupon to-day. Send Money Order, Express Order, or One-Dollar Bill. If personal check is sent, add 10 cents for exchange.

You Will Also Need to Read

ETERNAL PROGRESS

A Monthly Magazine Edited by C. D. LARSON. The great purpose of ETERNAL PROGRESS is to make true idealism practical in everyday life, to bind the common to the superior, to weld together business and scientific living. And there is nothing more important than this.

To accomplish anything worth while and to live a life that is a life, the ideal must be the goal, and every thought and action must cause life to move towards that goal.

There is a solution for every problem in life, and that solution is based upon the principle that to enter the greater is to secure emancipation from the lesser. The natural way out is to grow out. Any person may work himself out of that which is not desired by growing into the realization of that which is desired.

at which is desired.

ETERNAL PROGRESS presents each month some new and valuable viewpoints of such timely subjects as Business Psychology, Practical Idealism, Modern Metaphysics, the Subconscious Mind, Cultivation of Ability and Talent, Right Living, Scientific Thinking, The Science of Success, The Development of Genius, The Constructive Imagination, The Power of Personality, Memory, etc. All vital subjects to the person who wants to increase his profits and make life worth living. and make life worth living.

Our success depends upon how we use the power and the ability that we possess. But we can use only that which we understand. And to understand the powers we possess a study of Practical Metaphysics becomes indispensable.

The demand for competent men and women is becoming greater and greater everywhere in the world. Any person can become more competent through the scientific development of his ability, methods for which development may be found in every issue of ETERNAL PROGRESS.

The regular subscription price is One Dollar a year. welve numbers: sixty-four pages each month.

THE PROGRESS COMPANY 551 Rand-McNally Bidg., Chicago, III.	
Attached is One Dollar. Please enter my subscription for one year to ETERNAL PROGRESS and send me a copy of THE GREAT WITHIN.	
Name	
Address	
Town State	