

C. H. STRONG & CO.
CHICAGO

MUNN & COMPANY
361 Broadway NEW YORK

The Fireless Cookstove

AND POINTS ON PURCHASING

A most valuable and interesting book on Domestic Economy by Capt. HARRY H. SKINNER, showing how to make and use a Fireless Cookstove and save seven-eighths of the fuel ordinarily used in cooking and how to purchase and properly prepare food.

This method has been adopted by the U. S. Government for use in army camps, and the book contains many recipes and valuable instruction from the most scientific and practical cook in this country, now in the employ of the Government. Sent prepaid to any address on receipt of 25 cents.

JAPAN PUBLISHING CO., Dept. B
American Tract Society Building, New York, N. Y.

Let Me Sell YOUR PATENT

Booklet explaining how mailed FREE. Fifteen years' experience Patent Sales exclusively. If you have a Patent for sale, call on or write

WILLIAM E. HOYT
Patent Sales Specialist
290 C. Broadway, N. Y. City



ELECTRIC LAUNCH MOTOR. — THE design in this paper is for a motor of unusual simplicity of construction, which can easily be built by an amateur at small cost. It is intended for a boat of about 24 feet over all and 4 feet 6 inches beam, drawing 8 inches, and is capable of propelling such craft at a speed of 7 miles per hour. Illustrated with 21 cuts. See SCIENTIFIC AMERICAN SUPPLEMENT, No. 1202. Price 10 cents by mail, from this office, and from all newsdealers.

YOUR HOUSE, APARTMENT, STORE, BANK OR OFFICE Thoroughly Cleaned in One Day.

We will send our cleaner to your address, put a hose through the window and actually pump out all the germ-laden dust and dirt without taking up a carpet or upsetting your household or business arrangements.

Our wagon, with the cleaner, stands for **Progressiveness.**

BUILDINGS Cleaned by the Vacuum Cleaner ARE MORE HEALTHFUL.

Tell us what you want done, and we will send full particulars and estimate.

Telephone 2854 Chelsea.

VACUUM CLEANER CO.
130 W. 18th St., New York.

ICE BOATS!

If you want to know how to make an Ice Boat, buy SCIENTIFIC AMERICAN SUPPLEMENT 1556. Complete working drawings and a thorough description are published. Order from your newsdealer or from **Munn & Co., 361 Broadway, New York**

RADIUM SHOULDER BRACE



Will Make Your Shoulders Square and Your Lungs Strong
WE GUARANTEE IT

The Radium Shoulder Brace will immediately correct stooping shoulders and promote deep breathing. It will make your lungs strong, assure perfect carriage and good health. It is not a harness, it weighs only seven ounces and fits like a glove. Physicians recommend it. Sold by first-class dealers or sent by mail, prepaid, upon receipt of price: Suspend, \$1.00; Silk, \$1.50. Colors, white or drab. In ordering, give chest measure around body under arms. Send today for free book. An appropriate gift—a pair of our beautifully embroidered suspenders in a handsome box, sent prepaid, \$1.00.

Illinois Suspender Co.
Dept. K
161 Market Street, Chicago, Ill.

THE "LEADER."

1 1/2 H. P. Gasoline Auto-Marine Engine

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 net, no discount. Thoroughly guaranteed. Perfect Speed Control. Complete descriptive Catalog upon application. Manufactured by

CLAUDE SINTZ,

292 S. Front St., Grand Rapids, Mich.

Electric Supplies and Novelties Catalog of 200 pp. free. It's Electric we have it.
OHIO ELECTRIC WORKS, Cleveland, O.
The World's Headquarters for Electric Novelties, Supplies, Books. We undersell all. Want Agents.

GET MONEY—I DID—GOT \$301.27

In 2 weeks doing plating, writes M. L. Smith of Pa. (used small outfit). Start as Smith did—that's easy—hundreds already started—new ones daily—money coming in—goods going out. People everywhere have tableware, watches, jewelry, etc., for the "Gray Plating Man." Practical outfit, all sizes, heavy plate, 14 karat gold, pure gold, silver, nickel, brass, plating, equal to new goods, latest process, taught free quickly, experience unnecessary, all easy, service at post. Own and Bose a business at home or traveling all or part time that pays \$15 to \$50 weekly—your call. Write today for new offer, sample, and hundreds of letters from successful agents—free to all. **Gray & Co., Plating Works, 41 Miami Bldg., Cincinnati, O.**

Cock, basin, P. Mueller.....	810,168
Coffee cooler, H. Hager.....	810,140
Coil spring, E. Hogan.....	810,140
Collar, E. Norris.....	810,076
Concrete block mold, J. M. Pettyjohn.....	810,343
Concrete block molding flask, J. Hamm.....	810,053
Concrete block molding machine, Bennett & Seifang.....	810,025
Concrete or cement post or analogous structure, G. F. Greene.....	810,050
Concrete structure reinforcing device, A. S. Pierson.....	810,220
Concrete structure tension or reinforcing device, A. S. Pierson.....	810,221
Conveyer, G. C. Horst.....	810,149
Cooler, B. Briscoe.....	810,030
Coop, poultry, W. H. Hodges.....	810,207
Copper, refining, R. Baggaley, et al.....	810,249
Corn husker, T. P. Walter.....	810,098
Crate, D. Gibbs.....	810,272
Crate, folding egg, A. D. Imrie.....	810,283
Crate, knockdown, J. M. Divan.....	810,309
Cultivator, J. J. Green.....	809,942
Current motor, J. Rauscher.....	810,083
Current motor, Wiebke & Gruwell.....	810,314
Curtain fixture, C. E. Dunn.....	810,268
Curtain fixture, C. L. Hopkins.....	810,278
Curtain fixture, P. A. Houghtaling.....	810,281
Curtain hook, vestibule, H. Springer.....	809,994
Damper operating mechanism, C. McPherson.....	810,071
Degreasing substances, apparatus for, H. Roeske.....	810,223
Developing machine, Towers & Harrington.....	810,234
Dispensing cabinet, S. Wheeler.....	810,100
Display case, sample, G. F. Biggs.....	810,026
Distributor for finely-divided substances, A. Cohencius.....	810,107
Door check, L. Andrieth.....	810,021
Door, grain, J. E. Drake.....	810,267
Driving mechanism, A. J. Allison.....	810,317
Dust and scrap bag and holder, E. Dyett.....	810,317
Dust guard, E. Denogre.....	810,039
Bag carrier, N. H. & R. L. Clark.....	810,324
Electric meter, W. Stanley.....	809,995
Electric signal, C. C. Blake.....	810,027
Electric waves, wireless transmitting and receiving mechanism for, C. Hulsmeier.....	810,150
Electrical distribution system, C. P. Steinmetz.....	809,996
Electroresponsive device, E. A. Terpening.....	810,311
Elevator cage door opener, E. & W. B. Murray.....	810,169
Elevator safety brake, B. S. Bowman.....	810,256
End gate lock, J. A. Nicholas.....	810,072
Engine steering gear, traction, P. L. Canetou.....	810,261
Engine tender, traction, C. T. Hixson.....	810,145
Expansion controlled apparatus, S. W. Boughton.....	810,255
Eyeglasses, W. E. Cawood.....	810,368
Fabric, See Pile fabric.....	
Fabrics, aging dyed, P. F. Vogel.....	810,312
Fan, oscillating electric, G. Sittmann.....	810,174
Farm gate, J. A. Myers.....	810,213
Fence, S. Bugby.....	810,260
Fence stretcher, wire, I. M. Warner.....	810,099
Fibre scutcher, E. E. Horne.....	810,280
Filling box or drawer, R. H. Ober.....	809,976
Filter, C. R. Applegate.....	810,020
Fire extinguisher automatic valve, J. H. Derby.....	810,040
Fishing device, A. O. Lystne.....	809,965
Flexible pipe, A. O'Brien.....	809,977
Fly-paper holder, J. W. Hixson.....	809,951
Fly-trap, mechanical, T. V. Thornton.....	810,094
Fodder cutter, Harrison & Jacoby.....	810,204
Fruit carrier, C. A. Wellman.....	810,313
Fuel, manufacture of artificial, A. Stillson.....	809,998
Fur, manufacturing artificial tails from, Lewin & Blumenthal.....	810,159
Furnace, J. Rodriguez y Fonoll.....	810,348
Furnace charging apparatus, W. G. Kranz.....	810,286
Furnace roof, E. E. Slick.....	810,228
Furnaces, apparatus for producing perfect combustion in, H. Luckenbach.....	810,163
Fuse, electric safety, E. L. Ogle.....	809,978
Fuse, electric safety, C. W. Rhoades.....	809,982
Game apparatus, F. L. Sackett.....	810,234
Game apparatus, O. E. Prttee.....	810,299
Game piece, F. L. Sackett.....	810,352
Gas engine, Porter & Whiting.....	810,347
Gas for railway traffic controlling apparatus, utilizing liquefied, C. W. Coleman.....	810,263
Gate, B. H. Martin.....	809,967
Gear, variable speed, P. W. Kane.....	810,058
Glass articles, press for making, H. M. Brookfield.....	810,031
Glass drawing apparatus, J. A. Chambers.....	810,035
Glass, machine for automatically segregating, measuring, and delivering molten, W. D. Morrison.....	810,167
Glass manufacturing apparatus, M. Myers.....	810,375
Glass molding apparatus, M. Myers.....	809,969
Glass working machine, J. North.....	810,218
Governor, pressure, B. Conrad.....	810,108
Governor, vacuum, R. Conrad.....	810,109
Grain elevator and conveyor, portable, Wenzelmann & Overholt.....	810,010
Grinding device, tool, Riddell & Mortensen.....	810,381
Grub puller, S. P. McGown.....	809,972
Gum, article of chewing, B. A. Laws.....	810,210
Gum form, carved, W. Broadbent.....	810,184
Gun barrel locking device, breakdown, A. H. Fox.....	810,046
Gun, hammerless drop down, C. Lohse.....	810,162
Gun sight, J. Klingenberg.....	810,156
Gun sight, W. Braithwaite.....	810,258
Harvester binders, shocking attachment for, J. Calder.....	810,186
Hat, bathing, F. E. Herndon.....	809,947
Hatchway cover, ship's, H. Burrell.....	810,185
Hay elevator, Rowland & Bacher.....	809,984
Hay press, T. R. Hackworth.....	810,275
Heat non-conducting material, Muller & Jarck.....	810,342
Heater, J. Silverberg.....	809,992
Hides, treating, F. B. Hinkson.....	810,144
Hinge, E. C. Hall.....	810,052
Hoisting device support, L. Greenky.....	810,274
Hoisting mechanism safety device, W. Cooper.....	810,189
Horse evener, J. E. Lally.....	810,287
Horsehoes, manufacture of, W. Pilkington.....	810,080
Hose coupling, M. L. Scanlon, et al.....	810,354
Hose puller and wringer, J. A. Britton.....	810,259
Hose supporter, J. D. O'Brien.....	810,077
Hydrocarbon burner, J. R. Boone.....	810,253
Hydrometer test jar, F. Storm.....	810,361
Ice box, P. H. Wolfgram.....	810,015
Insulating pipes, flanged joint casing for heat, M. J. Loughman.....	809,963
Ironing board, D. Messer.....	810,166
Jar closure fastener, F. Canfield.....	810,106
Kettle, warming, L. Stange.....	810,220
Key holder, R. H. Piper.....	810,081
Kilns, preventing the formation of scaffolds in, T. C. King.....	810,059
Kneading tray, W. C. Black.....	810,101
Kraut cutter, O. E. Thompson, reissue.....	12,436
Ladder and ironing table, combined step, A. J. Alsapach.....	809,926
Ladder appliance, adjustable, M. Porter.....	810,170
Lamp bracket, electric, G. C. Wright.....	810,244
Lamp guard, E. C. Dickinson.....	810,266
Lamp remover, replacer, and cleaner, incandescent electric, C. J. Rundberg.....	809,985
Lamp, vapor, E. Seitz.....	810,226
Lamps, etc., electric switch for street arc, P. H. Spies.....	810,357
Lawn trimmer, Pierce & Laux.....	810,344
Lifting and separating wheel, A. Magnin.....	810,066
Lifting jack, double screw swivel, W. C. Morris.....	810,374
Limb, artificial, H. C. Wintermute.....	810,180
Line fastener, D. W. Robbins.....	810,306
Linotype knife wiper, F. A. Pettit.....	810,079
Linotype machine, D. S. Kennedy.....	810,153
Linotype machine, J. E. Saffery.....	810,173
Liquids, means for controlling the level of, W. Wadsworth.....	810,237
Loom brake mechanism, A. A. Gordon, Jr.....	810,113
Loom harness mechanism, R. Crompton.....	809,933
Loom picking motion, Crowther & Sykes.....	810,191
Lubricator, E. Dietz.....	810,194
Luna for holding the host, H. F. Nebr.....	810,217
Magazine, W. A. Sparks.....	810,310
Mail bag catcher, J. F. Chester.....	810,322
Mail box, E. G. Seasholtz.....	810,089
Match, A. Swoboda.....	810,363
Measuring device, Raab & Wolfson.....	810,082

The Car That Achieves

The Cadillac has always been the car that *does* things. Whether the test be that of endurance or power, or one of severity of road service, this wonderful machine has never been found wanting. It knows no balk, no hesitancy, no delay—always ready, with energy to spare.

By this dependability of service, coupled with unusual economy of maintenance, the Cadillac has made such phenomenal advancement that its factory is now the largest of its kind in the world.

The qualities upon which this unparalleled growth is based are more pronounced than ever in the magnificent new cars for 1906. Embodied in these are many unique and important improvements—improvements which make the



Model K, 10 h. p. Runabout
\$750, f. o. b. Detroit



Model M, Light Touring Car
\$950, f. o. b. Detroit

conspicuous for its individual merit. Among them is a wonderful mechanical feed lubricator which supplies oil to the motor in quantities which vary according to the speed of the engine, when properly adjusted, always feeding enough, never too much or too little. The new rocker joint on the front spring allows the car to pass over obstacles several inches in height without transmitting any material jar to the car, insuring a maximum of riding comfort and a minimum liability to breakage.

In outline and finish these new Cadillacs are truly art creations. Of the Victoria type, their grace and exquisite beauty, their tone of quiet richness appeal at once to fastidious motorists.

We want to tell you more about the Cadillac by sending you a free copy of our interesting Booklet N. A postal request brings it, together with address of nearest dealer. The 1906 models include:

Model K, 10 h. p. Runabout, \$750. Model H, 30 h. p. Touring Car, \$2,500.
Model M, Light Touring Car, \$950. Model L, 40 h. p. Touring Car, \$3,750.
All prices f. o. b. Detroit.

CADILLAC MOTOR CAR CO., Detroit, Mich.

Members Asso. Licensed Auto. Mfrs.

Choice of Routes To California

VIA THE

Chicago, Milwaukee and St. Paul Railway

1. The Overland Limited to San Francisco, via Omaha and Ogden, in less than three days. From Union Station, Chicago, 8.00 p. m. daily.
2. Tourist Sleepers to Los Angeles via the new San Pedro, Los Angeles & Salt Lake Railroad, leave Union Station, Chicago, 6.05 p. m. daily.
3. Personally conducted tourist-car parties to Los Angeles and San Francisco, via Kansas City and Pueblo, leave Union Station, Chicago, 10.25 p. m. Tuesdays and Thursdays.
4. Daily tourist sleeper, Chicago to San Francisco, with direct connections to Los Angeles and Portland, leaves Union Station, Chicago, 10.25 p. m. Route via Omaha, Ogden and Sacramento.
5. The Southwest Limited, leaving Union Station, Chicago, 6.00 p. m. daily, makes direct connections with through trains to California in Union Station, Kansas City.
6. The Pioneer Limited, leaving Union Station, Chicago, 6.30 p. m. daily, arrives St. Paul 7.25 a. m. and Minneapolis 8.00 a. m., making direct connections with northern transcontinental trains for the Pacific Coast.

If you will state your destination, complete information regarding rates, routes and train service will be sent to you.

California book for six cents postage. Folders free.

F. A. MILLER
General Passenger Agent
CHICAGO

W. S. HOWELL
General Eastern Agent
NEW YORK

Measuring electric resistances, apparatus for, S. Evershed	810,330
Measuring instrument, electrical, T. W. Varley	810,235
Measuring watts in electrical circuits, apparatus for, E. Wilson	810,179
Medicine glass, C. W. Hoffa	809,952
Melting and heating apparatus, portable, H. B. Nichols	810,073
Metal box beam, Sullivan & Renshaw	810,001
Metal sheets, feed mechanism for, O. J. Johnson	810,152
Metal storing and conveying apparatus, liquid, C. von Philip	810,301
Metal turning apparatus, R. H. Stevens	809,997
Metal wheel making machine, E. Elmfieldt	810,197
Metal wheels, making, E. Elmfieldt	810,198
Minerals, separating, E. B. Kirby	809,934
Miter box and saw guide, J. M. Smith	810,175
Moorings device, W. D. Duncan	810,042
Mortising tool, F. K. Huber	809,954
Motion, means for converting constant oscillatory into rectilinear, Salzer & Walther	810,308
Motor controller regulator, electric, P. A. Weyand	810,240
Motor driven apparatus, stopping and starting device for, W. B. Manny	809,966
Motors, operating electric, A. C. Eastwood	810,269
Musical instrument player, mechanical, L. U. Jones	810,057
Napping machine, H. S. Greene	810,273
Nut lock, H. R. Romberger	810,084
Nut tapping machine, S. H. Hintlian	810,054
Ore washing plant, F. Eggers	810,196
Orthopedic appliance for curing knock knees, etc., O. Semelcher	810,355
Package, J. Herr	810,048
Packing case, G. I. Leathers	810,060
Paper cabinet, J. W. Meaker	810,293 to 810,295
Pedestal table, G. A. Davis	810,265
Pen, fountain, F. M. Kogrzine	810,284
Pen, fountain, M. R. Crossman	810,327
Phonograph repeating attachment, E. L. Aiken	810,018
Photographic mask, P. A. Hillhouse	810,143
Piano actions, damper lever dange for, W. W. McCall	809,970
Piano pedal guard, M. E. Clements	810,325
Piano repairer's tool, S. M. King	810,285
Picture exhibiting apparatus, moving, N. Bowser	809,981
Pile fabric, woven, M. J. Whittall	810,012
Pipe mold, drain or sewer, J. B. Hill	810,276
Pipe wrench, J. H. Vinton	810,096
Pipe wrench, L. V. Remion	810,304
Pipe wrench, H. C. Barlow	810,365
Planter, corn, A. J. Brown	810,103
Plumber's trap, J. F. McCartney	809,971
Plumbing system, J. L. Fruin	810,047
Pneumatic cushion wheel, C. A. Lee	810,061
Post and wire stretcher, combined, G. W. Thomas	810,232
Power press, J. E. Dobson	810,195
Power transmission mechanism, J. H. Thompson	810,176
Precious metals, apparatus for recovering, E. J. Garvin	809,939
Printing and addressing machine, envelop, M. P. Kenna	809,957
Printing and folding machine, W. Scott	810,225
Printing machines, impression mechanism of cylinder, H. A. W. Wood	810,016
Printing, photomechanical, J. W. Ippers	809,955
Printing press delivery mechanism, C. B. Swink	810,231
Printing press ink roller driving mechanism, B. Hall	810,051
Printing press plate holder, H. A. Maley	810,067
Projectiles, indicating the trajectory of, J. B. Sample	809,988
Propeller, A. T. Brown	810,032
Propeller shafts, protecting sleeve for screw, F. R. Cedervall	810,187
Pump, H. Beau	810,182
Rail brake, emergency, P. O. Adams	810,316
Rail joint, Horner & Landis	810,208
Rail joints, device for use in the manufacture of, H. B. Nichols	810,074
Railway crossing, R. N. Walton	810,178
Railway signaling, S. D. Strohm	809,999
Railway signaling apparatus, J. Wheatley	810,011
Railway tie, P. Lancaster	809,991
Railway tie, E. T. Forrester	810,200
Railway tie, metallic, S. T. Carroll	810,321
Railway track crossings, automatic bell signal for, L. Gaskins	810,112
Railway track jack, J. Stewart	810,358
Railway traffic controlling apparatus, C. W. Coleman	810,262
Roasting furnace, O. Hofmann	809,953
Rope drum, T. S. Miller	809,968
Rotary engine, G. A. L. Lind	810,062
Rotary explosion engine, P. Bartoletti	810,366
Rulling device, D. P. Shankwiler	810,356
Running gear, F. D. Lingenfelter	810,104
Sand washing machine, R. O. Bidwell	810,251
Sander, Simmons & Moore	810,309
Sanding and polishing machine, D. T. Clements	810,037
Sash holder, A. A. Quick	810,302
Sash lock, C. M. Evans	810,110
Sash operating mechanism, A. Q. Wolf	810,242
Sash window, J. H. Shepherd	809,990
Sawmill carriage, C. G. Bonn	810,320
Scaffold bracket, folding, J. McIntyre	809,973
Scale markings for rules, etc., Haysinger & Latshaw	809,959
Scraper, self-dumping, J. P. Mendenhall	810,105
Screen bin, mounted, E. S. Phillips	810,210
Seal, bottle, A. L. Green	810,334
Sealer, envelop, L. O. Stassart	810,093
Scottish case, C. P. Byrnes	810,033
Sewing machine, O. D. Shaw	809,989
Sewing machine, buttonhole, H. C. Miller	810,297
Sewing machine feed regulating device, M. Hemleb	809,945
Sewing machine tables, cabinet work for, T. Kundtz	809,990
Shade fixture, C. L. Hopkins	810,279
Shade roller and curtain pole support, J. Herr	810,142
Sheep shearing table, A. Barth	810,181
Sheet metal can, L. J. Marcuse	810,211
Sheet metal elbows, manufacture of, W. H. Klauer	810,155
Shoulder and sleeve form, A. M. Grean	810,333
Shoulder form, A. M. Grean	810,332
Show case, G. C. Wright	810,243
Signaling system, party line, Poole & Hall	810,346
Skate, roller, E. Petrin	809,980
Slag, saving metal values from, C. M. Allen	810,364
Small arm, G. Daninger	810,192
Smelting furnace, duplex, R. Lindemann	810,093
Soup molding machine, F. Daum	810,193
Spool holder, J. W. Meaker	810,292
Spring making machine, coil, J. F. Gail	810,048
Springless lock, H. K. Meis	810,340
Spur, B. G. Gilbough	810,049
Square, folding, E. L. Cook	810,188
Stamp damping and affixing apparatus, adhesive, B. C. A. Vorster	810,236
Stamp mills, automatic safety attachment for, J. C. H. Vaught	810,006
Stand or table, J. W. Meaker	810,296
Starob, making, W. F. Rudel	810,086
Steam boiler, A. Parfitt	810,078
Stereopticon, G. Kleine	810,339
Stock tank, P. Kennedy	809,958
Stocking and manufacturing same, M. Thus	810,095
Stopper retaining and extracting device, W. L. Gallagher	810,331
Store service apparatus, G. Staib	810,092
Storm top, W. A. Hunter	810,151
Street cleaning apparatus, N. St. Peter, Jr.	810,362
Sugar machine, O. B. Barth	810,250
Swivel, hydraulic, J. A. Wiggs, Jr.	810,315
Switch operating device, W. A. Chun	810,323
Table, See Pedestal table	
Table, O. E. Pettie	810,378
Tap, collapsible, W. A. Leonard	810,289
Telephone party line system, Hall & Poole	810,335
Telephone switchboards, lamp jack for, S. A. Beyland	810,367
Telephone system, intercommunication, R. M. Beard	809,929
Thresher feeding attachment, Walberg & McArthur	810,239
Tickets, machine for producing printed railway, G. Lange	810,158
Tie plate, J. M. Sellers	809,987

SORE THROAT

To prove the Efficiency of

Hydrozone

to Sore Throat Sufferers, I will send **One 25 Cent Bottle Free** to everyone sending me this advertisement with 10 cents to pay postage and packing. Hydrozone is a harmless germicide, indorsed and successfully used by leading physicians. Not genuine without my signature on label. Ask for Booklet on Treatment of Diseases. Sold by Leading Drug-gists. Good until March, 1906.

Prof. Charles H. Hanchard

Dept. U, 63 Prince Street, New York



The WONDER DYNAMO-MOTOR

Most Complete Little Machine Made

Lights lamps, runs motors, decomposes water, etc. Output twelve watts, wound for any voltage up to ten. Has laminated armature, making the most efficient little motor of its kind on the market. Will run on 110 volt circuit. Weight, 4 lbs. Height, 5 inches. Send stamp for catalogue. Agents wanted everywhere.

THE R. M. CORNWELL CO.

406 South Salina Street, SYRACUSE, N. Y., U. S. A.
1132 Park Row Building, New York

"Is there an honest man among us? If there is throw him out. He's a spy."

"A life insurance man is no mere money maker. He's only a life insurance man on th' side. Most iv his time he puts in as a philanthropist, a missionary, a pathrite, or an affectionate son."

"A Frenchman or an Englishman cleans house be sprinklin' th' walls with cologne, but we chop a hole in th' flure an' pour in a kag iv chloride iv lime."

\$5 Water Motor, \$3.50

Morton's \$5 Drive Faucet Water Motor for a limited time, \$3.50, complete. Guaranteed. Attached to any faucet. For polishing, sharpening and grinding. Runs all kinds of light machines like a wheel and sewing machines. Largest and most powerful water motor. Output includes emery wheel, buffing wheel, wooden pulley and polishing material. Money refunded if not satisfactory—none C. O. D. Order now or write immediately for free booklet. **MORTON MFG. COMPANY,** Dept. C, 130 Fulton Street, New York.

"Econo" Emery Wheel Dresser

SIZE 12 IN.

Made of an abrasive nearly as hard as a Black Diamond. Will true or shape any wheels except the very hard. The "Econo" is a roughing tool placed in one end of "Econo." Send for booklet. Dresser sent on approval.

INTERNATIONAL SPECIALTY CO., 340 Holden Ave., Detroit, Mich.

SENSITIVE LABORATORY BALANCE. By N. Monroe Hopkins. This "built-up" laboratory balance will weigh up to one pound and will turn with a quarter of a postage stamp. The balance can be made by any amateur skilled in the use of tools, and it will work as well as a \$125 balance. The article is accompanied by detailed working drawings showing various stages of the work. This article is contained in SCIENTIFIC AMERICAN SUPPLEMENT, No. 1154. Price 10 cents. For sale by MUNN & CO., 361 Broadway, New York City, or any bookseller or newsdealer.

HENRICKS MAGNETO

Fires Your Gas or Gasoline Engine Without the aid of batteries. It is better and more durable than any Dynamo. Its Governor regulates the speed regardless of speed of flywheel. Its Governor adjusts to im effect flywheels. The spark does not burn the contacts of the engine. Fully guaranteed.

HENRICKS NOVELTY CO.
131 S. Capital Ave.
Indianapolis, Ind.

Juice For Your Battery

Why not generate your own "juice" for your own batteries? You can do it with an Apple Automatic Battery Charger. Easily attached to any automobile or gas engine. Requires no attention. Generates a steady, strong current enough to keep your batteries always charged and to keep three lights running besides. See us at N. Y. and Chicago Auto Shows. Write The Dayton Electrical Mfg. Co., 98 Beaver Bldg., Dayton, Ohio.



AN AUTOMOBILE FOR \$250.00

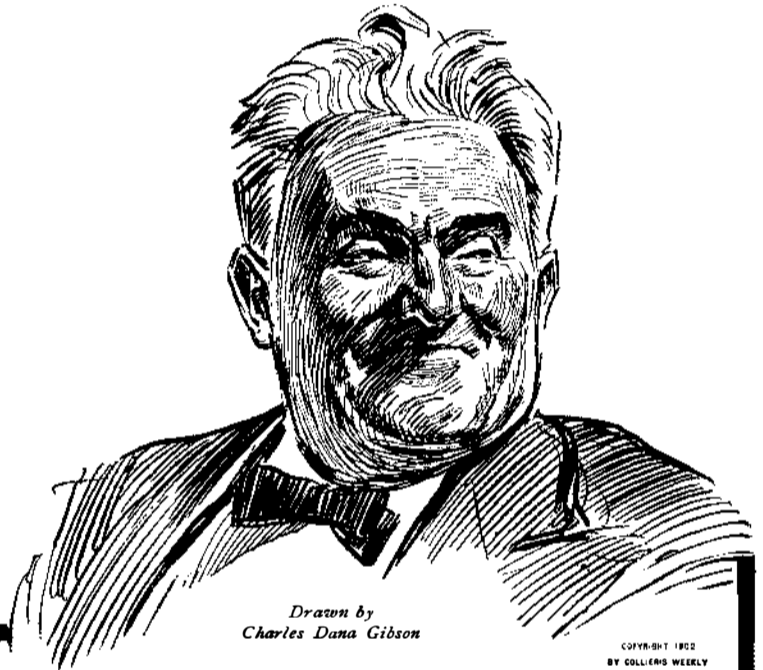
The "Success" Automobile Buggy is just what thousands have long been waiting for. It occupies a distinctive place in the automobile world. A light, strong, steel tired runabout, built on the buggy principle with 2-horse power gasoline motor. Runs 100 miles on 1 gallon of gasoline. Speed from 4 to 18 miles per hour. Travels over any kind of road and is a good hill climber. No complicated parts to get out of order. The "SUCCESS" is absolutely Safe, Durable and Practical. It will pay you to investigate its merits. Write today for descriptive literature, terms, etc. Address

"SUCCESS" AUTOMOBILE MFG. CO.
632 DE SALVIERE AVENUE
ST. LOUIS, MO.

RELIABLE MARINE ENGINES

Reliability under all conditions is the characteristic of the "Lamb" Engines. Size from 1 1/2 to 104 H. P. in stock. Write for catalogue.

TERRY & CO.
Manufacturers Eastern and Foreign Branch
93 Chambers St., New York
Everything for Boat & Engine



Drawn by
Charles Dana Gibson

COPYRIGHT 1902
BY COLLIER'S WEEKLY

MR. DOOLEY

who mixes much subtle humor with his typical Irish sincerity, is again passing comment on topics of the day. His articles are ripe with present-day philosophy, and will appeal to every laughter-loving citizen. They are to be found in Collier's—and nowhere else.

1. On the Life Insurance Investigation. Nov. 4
2. On Business and Political Honesty. Nov. 18
3. On National Housecleaning. . . . Dec. 16

THE FOURTH OF THE SERIES NOW ON SALE

In the January 27 Issue of

Collier's
THE NATIONAL WEEKLY

AT ALL NEWS STANDS. TEN CENTS

Name TEAR THIS OFF
Address
Write your name and address above, and mail it with 30c. in stamps to P. F. Collier & Son, 444 West 13th St., New York City, and you will receive the first three issues.



HAIR

**Our Guarantee
Backed by the
Bank**

We will send you by prepaid express, an Evans Vacuum Cap, to use sixty days, and if you do not cultivate a sufficient growth of

hair within this time to convince you that this method is effective, simply return the Jefferson Bank of St. Louis, and they will notify the price of the Cap to you.

The Cap is used a few minutes each day, and even one application produces a pleasant, tingling sensation, which denotes the presence of new life in the scalp and which cannot be obtained by any other means. Where the life principle has not become extinct, this method of stimulation will usually develop a growth of hair about an inch in length, within the trial period.

A series of letters from a number of people, giving their experience with the Evans Vacuum Cap, appears in this month's "Metropolitan" and "Everybody's" magazine, and we will send copy of these letters, together with an illustrated book, to anyone interested.

We have no agents or traveling representatives. All orders for our invention come through the Jefferson Bank and each customer is protected by guarantee issued by the Bank. For further information address

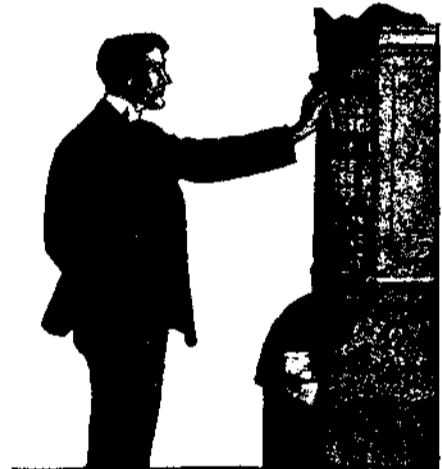
EVANS VACUUM CAP CO.
112 Fullerton Bldg., St. Louis, Mo.



Turn It Upside Down

and it won't spill. The only non-liquid storage battery on the market and the only one of its kind in the world. Impossibility for plates to bend or short-circuit, as electrolyte is of solid consistency. Can be recharged like the wet storage battery as often as desired. Suitable for every gas and gasoline ignition. Shipped fully charged to any part of the world. Write for descriptive pamphlet and trade prices.

THE ROYAL BATTERY CO.
143 Chambers St., New York City



The Way to be a Thinker

is to get in touch with thinkers. All the world's prizes are captured by those who have seasoned their energy with the spice of originality—and originality means the habit of clear and fresh thinking. Even the best of us have a tendency to fall into mental ruts, to go plodding on year after year, in the same track, to do things without knowing precisely why. The way to keep alive, the way to be original, the way to be a success, is to talk with brainy people and to read books that make you think. That's the reason

The New Science Library

is a cure for mental paralysis. It contains the best work of Darwin, Huxley, Spencer, Tyndall, and great leaders of modern thought. It will tell you what the famous Darwinian theory is; how the planets are weighed and their motions charted; what radium is; how liquid air is made and used—and ten thousand other interesting things. It is a work to be read and enjoyed, for it is written in a clear and interesting style—not abstruse or technical. The work consists of sixteen superb volumes, handsomely printed and bound.

FREE—84-Page Book

If you mail us the coupon below at once, we will send full information about the New Science Library, and how you may get it at half price on the Individual Payment Plan, by means of which you can arrange the payments to suit yourself.

At the same time we will send you a copy of our handsome 84-page book, "Some Wonders of Science." This book, containing articles by Thomas H. Huxley, E. B. Tylor, R. A. Proctor, and Ray Stannard Baker, is so bright and interesting that you will read it from cover to cover, and when you have read it you will wonder how you ever could have thought science dry and dull. Each copy is beautifully illustrated and printed. As long as the edition lasts, we will exchange a copy of it for the coupon printed at the bottom of this advertisement.

PUBLIC OPINION BOOK CLUB
44-60 East 23d St., New York

Sci. Am. 1-27 EXCHANGE COUPON

Good for one complimentary copy of "Some Wonders of Science," if mailed at once to Public Opinion Book Club, 44-60 East 23d Street, New York.

NAME.....

STREET.....

CITY AND STATE.....

We will send at the same time full particulars of our New Science Library and our introductory Half-Price Offer.

Tire molding machine, A. Glenn	800,940
Time recording apparatus, W. I. Follett	810,370
Tire and other valves, G. H. F. Schrader	800,986
Tool holder, P. H. Robinson	810,397
Tool holding and adjusting device, E. W. Waite	810,238
Toy or educational device, F. Hornby	810,148
Trigger mechanism for small arms, S. Turudja	810,177
Trolley harp and shoe for electric railway, overhead, J. Miller, Jr.	810,069
Trolley wheel, self-lubricating, Kramer & Britt	810,157
Truck, vehicle, W. N. Springer	810,091
Trunk lock, J. A. Horne	810,147
Trunk, wardrobe, T. J. Hamilton	810,203
Tubes, apparatus for reducing the ends of, M. Wikstrom	810,241
Turbine engine, G. C. E. de Bonnechese	810,252
Type distributing mechanism, H. C. Hensel	810,265
Type wheel alignment, C. A. Bennett	810,024
Typewriting machine, C. E. Peterson	809,979
Typewriting machine, J. A. Hagerstrom	810,202
Typewriting machine, B. C. Stickney	810,360
Typewriting machine, stenographic, C. E. Keel	810,209
Union, W. Cooper	810,190
V-block, R. Blazef	810,319
Valve bag, A. M. Bates	810,318
Valve bag, J. Rogers	810,349
Valve engine, R. C. Holman	810,055
Valve for blowing engines, etc., M. A. Neeland	810,216
Valve, pop safety, J. W. Grant	810,201
Valve removing apparatus, M. A. Neeland	810,215
Valve, steam, J. D. & E. N. Austin	810,248
Vehicle, dumping, J. Cronin	810,204
Vehicle, motor, H. M. Pope	810,379
Vehicle platform, Reynolds & Gronau	810,222
Vehicle recoil check, H. A. House	810,282
Vehicle, somersaulting, J. & E. Ravel	810,303
Vehicle spring gear, C. A. Hemmick	809,946
Vehicle steering knuckle, J. O. Haas	810,372
Vehicle step, J. Erret	810,199
Vehicles, frictional retarding means for spring, J. M. M. Truffault, reissue	12,437
Vertical boiler, T. Suzuki	810,002
Wagon, dumping, F. Bloomingdale	810,028
Wagon, dumping, D. M. Rowe	810,085
Warp tension, E. Renz	810,085
Water closet flush pipe, C. H. Moore	810,070
Water conductor, G. Hockler	809,941
Watering apparatus, stock, W. O. Garrett	810,111
Watering tank, stock, W. Barbour	809,928
Weather board gage, L. C. Anderson	810,246
Weeder and harrow, combined, T. J. King	810,154
Well boring apparatus, A. K. Wallen, Sr.	810,097
Wheel, G. L. Hirsch	810,337
Window lock, Etzenhauer & Morss	810,045
Wire stretcher, Hermann & Schwaner	809,949
Wire stretcher, L. Swank	810,003
Wiring or heading, collapsible die for, L. Bauroth	810,023
Wrapping machine, package, Tierney & Flock	810,005
Wrench, See Pipe wrench	810,288
Wrench, M. M. Le May	809,962
Wrench and analogous article, O. A. Lane	809,962

DESIGNS.

Bottle, S. O. Carruthers	37,787
Card back, playing, S. N. Barker	37,789
Card case or similar article, A. Schickering	37,788
Spoons, forks, or similar articles, handle for, W. C. Codman	37,786

TRADE MARKS

Bagging, jute, Ludlow Manfg. Associates	48,995 to 49,000
Bags, seamless woven, Stark Mills	49,007
Baking powder, Price Baking Powder Co.	49,006
Baking powder, cream of tartar, and baking soda, J. R. Durkee & Co.	48,921
Bed bottoms and bedsteads, National Spring Bed Co.	48,832
Beef juice, Bovinine Company	48,863
Beer and bottled beer, lager, Terre Haute Brewing Co.	48,943
Beer, lager, Christian Feigenspan	48,846
Boltings, leather, American Oak Leather Co.	48,809
Biscuits, Griggs, Cooper & Co.	48,853
Biscuits and crackers, A. Exton & Co.	48,851
Bitters, A. Zanmatti & Co.	48,971
Boots and shoes, boys' leather, Whitney Wabel & Co.	48,838
Boots and shoes made of leather and of canvas, V. K. and A. H. Jones Co.	48,835
Boots, shoes, and slippers made of leather, Wingo, Ellett & Crump Shoe Co.	48,839
Brushes, John L. Whiting & Son Co.	48,820
Butterin or oleomargarin, Braun & Pitts	48,908 to 48,980
Candies of all kinds, J. G. McDonald	48,927
Candy Co., Bradley Smith Co.	48,945
Canned or preserved fruits and vegetables, C. W. Baker & Sons	48,978
Canned soups, E. H. King	48,994
Car couplings, automatic, McConway & Torley Co.	48,958
Cards, playing, United States Playing Card Co.	48,864 to 48,866
Catamenial bandages, Borated Specialty Co.	48,810
Cement, Portland, natural-rock, and improved, American Cement Co.	48,774
Checks, bank, Levey Bros. & Co.	48,824
Chocolate and cocoa, H. J. Damon	48,919
Chocolate and cocoa, Francis H. Leggett & Co.	48,922
Cigars, Havana Commercial Co.	48,738
Cigars, H. T. Ottendinger	48,803
Cigars, S. S. Pierce Co.	48,830
Cleaning and polishing preparations, Fritz Schulz Jun. Aktiengesellschaft	48,779 to 48,812
Cleaning compound, J. F. Whitman	48,812
Cleaning, polishing, and preserving preparations, Fritz Schulz Jun. Aktiengesellschaft	48,778
Clocks, Spaulding & Co.	48,806
Cocktails, S. Hochstadter	48,819
Coffee, Meyer Brothers Coffee and Spice Co.	48,932
Coffee, Brownell & Field Co.	48,977
Coffee, Meyer Brothers Coffee and Spice Co.	49,001 to 49,003
Corsets, Abraham & Straus	48,973
Counter shafts and appurtenances thereto, Mossberg Wrench Co.	48,959
Cowhide, oak tanned, Kullman, Salz & Co.	48,821
Cream for the complexion and wrinkle lotion, Artesia Cream Co.	48,862
Cure of horse ailments, preparation for the, Myer Remedy Co.	48,922
Dog blankets, J. A. Davis	48,984
Dress shields, I. E. Kleinert Rubber Co.	48,993
Emollient and medicinal preparation, T. E. Carpenter	48,845
Explosive engines, internal combustion motors, gas and gasoline engines, C. H. A. Dissinger & Bro.	48,920
Eye, wash for treatment of affections of the, W. C. Lehmann	48,860
Flour, mixed winter and spring wheat, J. Charles	48,983
Flour, wheat, Acme Milling Co.	48,975
Flour, wheat, Hezel Milling Co.	48,992
Flour, wheat, Pillsbury-Washburn Flour Mills Co.	49,005 to 49,009
Flour, wheat, Threefoot Bros. & Co.	49,009
Food for birds and fowls, seeds and prepared mixtures of seeds for, E. R. Durkee & Co.	48,985
Forges, blowers and tower irons, Patterson, Gottfried & Hunter	48,938
Fruit presses, Henis Fruit Press Co.	48,926
Fruits, dried and evaporated, Griffin & Skelley Co.	48,989 to 49,008
Garters, A. Stein & Co.	49,008
Gin. Dr. C. Bouviers Specialty Co.	48,816
Gloves and mittens, yellow horse hide, Bouton and Germalin Co.	48,979
Grinding and polishing heads, Patterson, Gottfried & Hunter	48,937
Hair, preparation for the removal of superfluous, M. M. Cusic	48,847
Hair remedy, W. G. Geety	48,924

"Maxwell" AUTOMOBILE

is the faithful product of a doctrine which all knowing ones acknowledge is common sense.

If you would have "Pride Satisfaction" rather than "Ride Satisfaction" pay \$4,000 to \$20,000 for an automobile—it's fashionable.

But, if you want a reliable, good-mannered, durable, economical motor car that will give you "ride satisfaction" 365 days out of the year, get a Maxwell.

16-20 H. P. TOURING CAR \$1,450
10 H. P. TOURABOUT \$780

Send for Catalogue

Maxwell-Briscoe Motor Co.
TARRYTOWN, N. Y.

PAWTUCKET CHICAGO
Branches in all large cities

You need this knife on your automobile, in the shop and in your home.

A Veritable Pocket Tool Chest
9 TOOLS IN 1

The Wonder of the Age

Built as substantially as a locomotive. Weighs no more than an ordinary three blade pocket knife. Stag horn handle. In addition to the blade which is made from 55 carbon cutter's steel, contains the following tools:

1, Leather Punch 5, Alligator Wrench
2, Swedging Axl 6, Hoof Hook
3, Wire Cutter 7, Screw Driver
4, Wire Pliers 8, Screw Bit

Cuts barbed fence wire as easily as an ordinary 8-inch plier. Hoof hook is of great value as a packing hook around the engine. The tools are needed almost every day, and in tinkering around your home the knife will be an invaluable pocket companion.

AGENTS WANTED
Remit \$1.25 for sample to-day. Your money back if not satisfied. This Knife for an Inventor or in a Model Shop is a Genuine Luxury
DEVINE SPECIALTY CO.
88 Baldwin Building INDIANAPOLIS, IND.
REFERENCE: Columbia National Bank.

Profitable Poultry Raising
It made easy if you use the new 1906 Pattern
Standard CYPHERS Incubator
guaranteed to hatch more and healthier chicks than any other. 30 Days Trial. Poultry Guide (25¢) sent free if you mention this journal and give address of two neighbors interested in poultry. Write nearest office.
CYPHERS INCUBATOR CO., Buffalo, N. Y.
Boston, Chicago, New York, Kansas City or San Francisco.

KLIP-KLIP



A Perfect manicure. A Sanitary Cigar Cutter.

Klip-Klip "Duo" (two in one) has a sharp steel clip, file and cleaner. Keeps the nails in perfect condition. Also a separate blade which cuts cigars quick and clean. It is sanitary. Physicians say everyone should use his own cigar cutter. It is light, compact and handsomely finished and sells at sight. Two combined for one price. At all dealers or mailed upon receipt of 25c. The "original" German silver Klip-Klip (manicure only)—same price. Your money back if you want it.

MANUFACTURED ONLY BY THE
KLIP-KLIP COMPANY
556 Clinton Ave., S., Rochester, N. Y.

Mound City Dishwasher

The Only Scientifically Constructed Dishwasher on the Market



No More Drudgery
Dish washing Made Easy
Washes all kinds of dishes, glass and silverware. Can be used on gas, oil wood or coal stove. Family size will wash 20 to 30 assorted pieces at one time. There is more popular demand for a cheap, practical and durable Dishwasher than any article that can be mentioned. Every lady wants one. Agents wanted. Our agents, both men and women, are making Big Money. Secure the agency for this wonderful seller in your territory. Agents wanted in all foreign countries. Send at once for testimonials, full particulars and prices.

Mound City Dishwasher Co., 3685 Laclede Ave., St. Louis, Mo.

WELL DRILLING Machines

Over 70 sizes and styles, for drilling either deep or shallow wells in any kind of soil or rock. Mounted on wheels or on skids. With engines or horse power. Strong, simple and durable. Any mechanic can operate them easily. Send for catalog.
WILLIAMS BROS., Ithaca, N. Y.



Just Published

The Scientific American Boy

By
A. RUSSELL BOND

12mo. 320 Pages. 340 Illustrations.
Price \$2.00 Postpaid



THIS is a story of outdoor boy life, suggesting a large number of diversions which, aside from affording entertainment, will stimulate in boys the creative spirit. In each instance complete practical instructions are given for building the various articles.

¶ The needs of the boy camper are supplied by the directions for making tramping outfits, sleeping bags and tents; also such other shelters as tree houses, straw huts, log cabins and caves.

¶ The winter diversions include instructions for making six kinds of skate sails and eight kinds of snow shoes and skis, besides ice boats, scooters, sledges, toboggans and a peculiar Swedish contrivance called a "rennwolf."

¶ Among the more instructive subjects covered are surveying, wigwagging, heliographing and bridge building, in which six different kinds of bridges, including a simple cantilever bridge, are described.

¶ In addition to these, the book contains a large number of miscellaneous devices, such as scows, canoes, land yachts, windmills, water wheels and the like. A complete table of contents sent on request.

MUNN & COMPANY

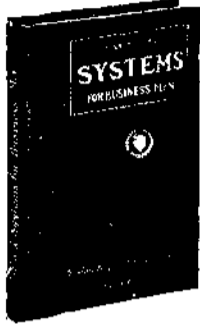
PUBLISHERS OF
361 Broadway "SCIENTIFIC AMERICAN" New York City

An Up-to-date Catalogue of Chemical Technology

JUST READY

A Classified Catalogue of Books on Chemical Technology and General Chemistry arranged under the following heads: Acids, Alkalies, and Salts; Beverages, Brewing, Cider, Distillation, Fermentation, Liquors, Preserving, Vinegar, Wine; Brick, Ceramics, Glass, Pottery, Pottery, Cement and Concrete; India Rubber, Guttapercha, Glue, Ink; Leather Manufacture; Oils, Fats, Waxes, Paints and Varnishes; Paper Manufacture, Fibres; Perfumery, Soap and Candles; Sugar, Starch; Flour, Baking, Bread, Confectionery; General Reference and Receipt Books, Tables, etc.; Chemical Analysis; Inorganic Chemistry; Organic Chemistry; Electro-Chemistry; Addenda; sent free to any one in any part of the world who will send his address.

HENRY CAREY BAIRD & CO.
Industrial Publishers, Booksellers and Importers
810 Walnut St., Philadelphia, Pa., U. S. A.



THIS BOOK
FREE TO
SUBSCRIBERS

THIS BOOK of over 200 pages (5 1/2 x 8) contains complete working plans of more practical systems than were ever before condensed into the same space. The simple time-saving confusion-preventing ideas, which hundreds of successful business and professional men have found practical by actual test, are here clearly described and illustrated in every detail. For months the experts of "The Business Man's Magazine" have been gathering the information contained in this book. They have inspected the systems of the most progressive manufacturers, wholesalers, mail order houses, professional men, and public service corporations; they have clipped the best system articles in business periodicals. From this vast store of brains they have selected those systems proved best by test; these they have boiled down that you may have, ready for instant use, the simple systems that will make your every effort more productive—that will economize your time.

We will give you a copy of the book with your subscription to

The Business Man's Magazine

AND

The Book-Keeper



The magazine that contains more practical business ideas than any other magazine in the world. Every issue is filled with money-making—money-saving—ideas for every business man. Its contributors are successful business men who tell you of the methods that have helped to make them successful. For more than seventeen years it has helped to create a higher standard in business methods, more economical ways of doing your every-day work.

Regular departments in "The Business Man's Magazine"—each one edited by a specialist—in addition to the special articles which describe the systems used by the leaders in every line—are departments devoted to Advertising—Salesmanship—Accounting—Business Systems—Short-hand—Business Law—Factory Organization. The entire field of business is covered—not a department is neglected—there is not a man in business who cannot gain many ideas of value in his own business from a year's issues.

Take this ad. to your newsdealer, or send us \$1.00 for a year's subscription to "The Business Man's Magazine," mention this paper, and we will give you a copy of the book "Tabloid Systems."

Add 60 cents for Foreign Postage.

The Book-Keeper Publishing Co., Ltd.
24 W. Fort Street, Detroit, Mich.



MUD FORGET IT AND USE
WEED'S TIRE GRIPS
Positively Stops Slipping or Skidding
They Make Bad Roads Good
Send for Booklet "S"

WEED CHAIN TIRE GRIP COMPANY
28 Moore St., New York City



P80 USE GRINDSTONES?
If so we can supply you. All sizes mounted and unmounted, always kept in stock. Remember, we make a specialty of selecting stones for all special purposes. Send for catalogue "I".
The CLEVELAND STONE CO.
2d Floor, Wilshire, Cleveland, O.

60 YEARS' EXPERIENCE

PATENTS

TRADE MARKS
DESIGNS
COPYRIGHTS &c.

Anyone sending a sketch and description may quickly ascertain our opinion from whether an invention is probably patentable. Communication 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, 625 F St., Washington, D. C.

Hats, straw, Brigham Hopkins Co.	48,976
Hones, sharpening stones, and sharpening wheels, razor, F. Svaty	48,808
Hosiery, Charles Taylor & Co.	48,914
Hosiery, C. Simon's Sons	48,915
Inks and writing fluids of all kinds, writing, Carter's Ink Co.	48,947
Insecticide, E. M. Beeley	48,850
Jacks, Duff Manufacturing Co.	48,949
Jewelry, certain named, Phoenix Jewelry Co.	48,804
Knit hosiery and underwear, M. & C. Mayer	48,929
Knit underwear, Northwestern Knitting Co.	49,004
Knives and razors, pocket, A. Kastor & Bros.	48,928
Lamps, lanterns, and parts thereof, Fr. Stubbgen & Co.	48,807
Leather, buffed, P. Reilly & Son	48,828
Leather, calfskins, and waxed calfskins, patent, C. Heyl	48,818
Leather for the uppers of shoes, Robert H. Foerderer	48,820
Leather goods, certain named, C. F. Rump & Sons	48,912
Leather polishing, cleaning, and preserving preparations, Fritz Schulz Jun. Aktiengesellschaft	48,780
Leather, tanned, Leas & McVitty	48,823
Liniment, Van Vleet-Mansfield Drug Co.	48,904
Macaroni, spaghetti, vermicelli, and noodles, Anger Baking Co.	48,843
Medical preparation of sarsaparilla, Gerstle Medicine Co.	48,925
Medicated blackberry brandy, Van Vleet-Mansfield Drug Co.	48,836
Medicinal and chemical preparations, Dr. D. Jayne & Son	48,857
Medicinal preparation, liquid, Anglo-American Medical Co.	48,844
Medicinal preparations, W. R. Warner & Co.	48,899
Medicine or remedy for diseases of the kidneys and bladder, Van Vleet-Mansfield Drug Co.	48,901
Medicine, proprietary, Dr. Kilmer & Co.	48,790
Medicine, worm, Curtis and Brown Manufacturing Co.	48,918
Medicine, certain proprietary, Dr. Kilmer & Co.	48,789
Milk, condensed, St. Charles Condensing Co.	48,942
Molasses, Eastern Refining Co.	48,950
Nets, silk hair, A. H. Woolley & Co.	48,970
Oil, castor, Baker Castor Oil Co.	48,944
Oils, petroleum burning, Gulf Refining Co.	48,782
Oils, petroleum lubricating, Gulf Refining Co.	48,787
Ointment, Dr. Kilmer & Co.	48,791
Ointments, National Food Co.	48,935
Olive, C. Golden	48,940
Omelette, metal, C. Humphrey & Sons	48,913
Paint, liquid, Natural Liquid Paint Co.	48,802
Paints, varnishes, colors, fillers, surfacers, stains, and enamels, Thomson Wood Finishing Co.	48,833
Paper holders and cutters, roll, Champion Paper Cutter Co.	48,947
Paper holders and cutters, roll, King Manufacturing Co.	48,957
Paper holders and cutters, roll, United States Paper Cutter Co.	48,964
Pills for the cure and alleviation of diseases and disorders of the liver, Van Vleet-Mansfield Drug Co.	48,968
Pills, May apple, J. Phillips	48,939
Plows, listers, cultivators, and harrows, Morrison Manufacturing Co.	48,933
Preparation for the treatment of certain named diseases, E. E. Sutherland Medicine Co.	48,951
Preserves, jams, jellies, butters, and marmalades, vegetable and fruit, R. C. Williams & Co.	48,900
Razors, H. Clauss	48,916
Remedies for certain named diseases, Brown Mfg. Co.	48,909
Remedy, corn, Fowler Medicine Co.	48,954
Remedy for anemia and nervous diseases, C. J. Ulrich	48,963
Remedy for certain named diseases, Capidine Chemical Co.	48,911
Remedy for certain named diseases, Van Vleet-Mansfield Drug Co.	48,966
Remedy for chicken cholera, roup and limberneck, J. R. Crume	48,917
Remedy for coughs and ailments of the throat and lungs, Van Vleet-Mansfield Drug Co.	48,902
Remedy for diseases of women, Gerstle Medicine Co.	48,852
Remedy for the cure of rheumatism, Van Vleet-Mansfield Drug Co.	48,967
Remedy, proprietary, Dr. Kilmer & Co.	48,797
Salve, Aid-Ant Remedy Co.	48,905
Salve, pile, Van Vleet-Mansfield Drug Co.	48,903
Salves, Wi-da-me Company	48,969
Screw drivers and screw driver holders, Patterson, Gottfried & Hunter	48,936
Seeds, Albert Dickinson Co.	48,831
Shovels, spades, and scoops, Wyoming Shovel Works	48,962
Silk piece goods, Na Kau Trading Corporation	49,003
Sizing strengthening compound, Papyrheseon Co.	48,811
Solders, newspaper metals, and Babbitt metals, Mechanical Metal Mfg. Co.	48,931
Stove polish, Fritz Schult Jun. Aktiengesellschaft	48,781
Stoves, furnaces, and ranges, Favorite Stove & Range Co.	48,953
Stoves, ranges, furnaces, and parts thereof, Scranton Stove Works	48,940
Spices and mustard, E. R. Durkee & Co.	48,986
Spurs, bits, and stirrups, A. Buermann	48,814
Surgical belts and bandages, Sharp & Smith	48,805
Suspenders and braces, men's, Harris Suspenders Co.	48,901
Syrups, flavorings, tonics, and extracts for non-intoxicating beverages, Bovril, Limited	48,907
Tea, Acker, Merrill & Condit Co.	48,974
Tobacco, smoking and chewing, J. A. Clark	48,776
Tonic, J. J. McCrohan	48,859
Tonic, malt, McAvoy Brewing Co.	48,930
Trunks, J. F. Parkhurst & Son Co.	48,955
Typewriting machines and parts thereof, Oliver Typewriter Co.	48,960
Vacuum tubes, X-ray tubes, and parts thereof, C. H. F. Muller	48,934
Wagons, Auburn Wagon Co.	48,906
Washing preparation in a dry or powdered form, W. M. Williams	48,813
Watch mainsprings, American Waltham Watch Co.	48,775
Water, natural, W. B. Matthews	48,858
Wheelbarrow wheels, Kilbourne and Jacobs Manufacturing Co.	48,956
Whisky, J. Cartum	48,815
Whisky, M. Lange	48,822
Whisky, Loeb Bloom & Co.	48,825
Whisky, Melini & Eakin	48,826
Whisky, P. J. Bowlin Liquor Co.	48,827
Whisky, Van Vleet-Mansfield Drug Co.	48,837
Whisky, Woolner & Co.	48,840
Whisky, Dryfuss, Weil & Co.	48,848
Whisky, Houck & Dieter Co.	48,854
Whisky, Straus Brothers Co.	48,861
Whisky, Star Distillery Co.	48,864
Wicks, webs, and webbing, Fletcher Manufacturing Co.	48,777
Wines, Rosenblatt Co.	48,961

PRINTS.

"Every One to Their Own Taste," for flour, Piqua Flour Co.

1,561

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.



THE "BEST" LIGHT

Produces a powerful, white, steady light, brighter than electricity or acetylene, cheaper than kerosene and absolutely safe.
Makes and burns its own gas at a cost of 2c per week.
No Grease, No Smoke, No Dirt, No Odor
Over 100 different styles—every lamp warranted.
Agents Wanted. Write for catalog.
THE BEST LIGHT CO., 874 5th St., Canton, Ohio.



"STANDARD"

Two-Speed Automatic Coaster Brake Hub

Makes wheeling a delight, eliminates the drudgery. Do not waste money on experiments when you can buy a perfect attachment all in one hub. Our little booklet tells all about it and is mailed free. Write to-day.

THE STANDARD COMPANY - - - Torrington, Conn.

Sheet Metal
Pattern Draftsmen

designed to fit themselves for better paying positions should send for 200-page handbook (FREE) describing our Sheet Metal Pattern Drafting course, and over 60 other courses, including Electrical, Mechanical, Steam and Civil Engineering, Heating, Ventilating and Plumbing, Architecture, Mechanical Drawing, Structural Drafting, Telegraphy, Textiles, etc.

American School of Correspondence, Chicago, Ill.

LET US BE YOUR FACTORY
WRITE FOR ESTIMATE ON ANY ARTICLE
YOU WANT MANUFACTURED
STAMPINGS, MODELS, EXPER. WORK
WRITE FOR FREE BOOKLET
THE CLOBE MACHINE & STAMPING CO.
970 Hamilton St., Cleveland, O.

ICE MACHINES Carless Engines, Brewers and Bottlers' 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.

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

EXPERIMENTAL WORK Scientifically and accurately executed. Models and small machinery perfected. STRECHKE & VOLKMER, 61 Fulton Street, Telephone 5555 John.

DRYING MACHINES. S. E. WORRELL Hannibal, Mo.

WORKING and PATENT DRAWINGS. G. M. MAYER, M.E., 1131 Monadnock Bl., Chicago, Ill.

THE NATIONAL MODEL WORKS. Best equipped Model Works in the United States. 85-87 Fifth Avenue, CHICAGO.

YML SCHWEDTLE STAMP CO. STEEL STAMPS, LETTERS & FIGURES. BRIDGEPORT, CONN.

MODELS dies, boxes, metal stampings, patent articles, novelties, manufacture and sold. Printing on aluminum. U. S. Novelty Co., Lily Dale, N. Y.

Experimental & Model Work Cir. & advice free. Wm. Gardam & Son, 45-51 Rose St., N. Y.

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.

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

Magical Apparatus. Grand Book Catalogue. Over 700 engravings 25c. Parlor Tricks Catalogue, free.

MARTINKA & CO., Mfrs., 493 Sixth Ave., New York.

MASON'S NEW PAT. WHIP HOISTS save expense and liability incident to Elevators. Adopted by principal storehouses in New York & Boston. Manfd. by VOLNEY W. MASON & CO., Inc. Providence, R. I., U. S. A.

Telegraphy Circular free. Wonderful automatic teacher. 5 story \$2.00. OMNIGRAM CO., Dept. 82, 89 Cortlandt St., New York.

INVENTORS We manufacture METAL SPECIALTIES of all kinds. To order; largest equipment lowest prices. Send sample or model for low estimate and best expert advice FREE. THE EAGLE TOOL CO., Dept. A, Cincinnati, O.



"FOLLOW THE FLAG"

There is nothing more assuring to the traveler than his knowledge of the fact that he is traveling on a firm roadbed upon which is laid the heaviest of steel rails, made true in all their curves, and that the train which carries him is of the highest standard of excellence known to railroads and is being guided to its destination by experienced minds. These are the conditions which become apparent to the frequent traveler on the Wabash Line and which have made that line justly famous.

The aggressive management, at all times alert to the needs of the public, carry passengers in through cars between

ST. LOUIS AND CHICAGO

Kansas City, Omaha, Toledo, Detroit, Niagara Falls, Buffalo, New York, Boston, St. Paul and Minneapolis

AND BETWEEN

Chicago and Pittsburg, Buffalo, New York and Boston

C. S. CRANE, G. P. & T. A., St. Louis, Mo.



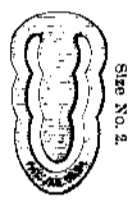
ARTESIAN

Wells, Oil and Gas Wells drilled by contract to any depth from 50 to 300 feet. We also manufacture and furnish everything required to drill and complete same. Portable Horse Power and Mounted Steam Drilling Machines for 100 to 1200 feet. Write us stating exactly what is required and send for illustrated catalogue. Address

PERKINS WELL ENGINEERING AND SUPPLY CO. 136 LIBERTY STREET, NEW YORK, U. S. A.

THE EUREKA CLIP

The most useful article ever invented for the purpose. Indispensable to Lawyers, Editors, Students, Bankers, Insurance Companies and business men generally. Book marker and paper clip. Does not mutilate the paper. Can be used repeatedly. In boxes of 100 for 25c. To be had of all bookstores, stationers and notion dealers, or by mail on receipt of price. Sample card, by mail, free. Manufactured by Consolidated Safety Pin Co., Box 121, Bloomfield, N. J.



GOVERNMENT POSITIONS

50,830 Appointments were made to Civil Service places during the past year. Excellent opportunities for young people. Each year we instruct by mail hundreds of persons who pass these examinations and receive appointments to life positions at \$540 to \$1200 a year. There is a great demand for Patent Office clerks. Write for our Civil Service Announcement, containing dates, places for holding examinations, and questions recently used by the Civil Service Commission. COLUMBIAN CORRESPONDENCE COLLEGE, Washington, D. C.

BIG OPPORTUNITIES In making Concrete Products, Miracle Blocks, Sewer Tile, Brick and Sidewalk Tile. Information free. Catalog A.L. MIRACLE PRESSED STONE CO. Minneapolis, Minn.

NAME PLATES—STEEL STAMPS "EMPLOYEE CHECKS, KEY TAGS & BADGES" J. ROBBINS MFG. CO. 58 KNEELAND ST. SEND FOR CATALOGUE BOSTON, MASS.

Are you interested in Patents, Model or Experimental work? Our booklet entitled **WHAT WE DO—HOW WE DO IT** will be sent to you on request. KNICKERBOCKER MACHINE WORKS, Inc., 8-10-12 Jones Street, New York.

AUTO STORAGE BATTERIES ALL KINDS THE WILLARD STORAGE BATTERY CO. CLEVELAND, O.

MACHINERY and SPECIAL PARTS new devices developed; successful experimental work done speedily; skilled labor; good facilities; good value for your money. J. R. ENGELMAN MFG. CO. 74 Hudson St. near Penn. Depot, Jersey City

LEARN WATCHMAKING

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

TYPEWRITERS ALL MAKES All the Standard Machines SOLD or RENTED ANYWHERE at 4 to 50% off prices. LOWEST PRICES APPLIED on price. Shipped with privilege of examination. Write for "Cat." TYPEWRITER EXPERTS, 203 LaSalle Street, CHICAGO