

## Business and Personal Wants.

READ THIS COLUMN CAREFULLY.—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. In every case it is necessary to give the number of the inquiry.

MUNN &amp; CO.

Manne Iron Works, Chicago. Catalogue free.

**Inquiry No. 6490.**—For manufacturers of macaroni, also names of leading manufacturers of machinery in this line.

"C. S." Metal Polish. Indianapolis. Samples free.

**Inquiry No. 6491.**—For the manufacturer of window screens with the latest improvements.

Perforated Metals, Harrington & King Perforating Co., Chicago.

**Inquiry No. 6492.**—Wanted, catalogues on machinery illustrating sprockets, chains and wheels; also catalogues with cuts of gear works in spur wheels.

Adding, multiplying and dividing machine, all in one. Felt & Tarrant Mfg. Co., Chicago.

**Inquiry No. 6493.**—For the manufacturer of handy fruit and vegetable slicers.

Sawmill machinery and outfits manufactured by the Lane Mfg. Co., Box 13, Montpelier, Vt.

**Inquiry No. 6494.**—Wanted, 50 or 60 tin boxes such as used for  $\frac{1}{2}$  pound of baking powder.

Leyden Chemical Works. Sole manufacturers of aluminous preparations. 665 East 182d Street, New York.

**Inquiry No. 6495.**—Wanted, a second-hand gasoline engine of about 1 h. p.

Commercially pure nickel tube, manufactured by The Standard Welding Co., Cleveland, O.

**Inquiry No. 6496.**—Wanted, a Nicholls steel square with a blade having a table for roofs and the tongue being  $1\frac{1}{4}$  x 16 inches.

Wanted a man to sell a good patent, good pay, references required. A. M. Edwards, 423 Fourth Avenue, Newark, N. J.

**Inquiry No. 6497.**—For the manufacturer of rotary air pumps with a back pressure of five pounds.

Robert W. Hunt & Co. bureau of consultation, chemical and physical tests and inspection. The Rookery, Chicago.

**Inquiry No. 6498.**—For the manufacturer of gas scrubbers which will eliminate the sulphur from producer gas.

The celebrated "Hornsby-Akroyd" Patent Safety Oil Engine is built by the De La Vergne Machine Company, Foot of East 138th Street, New York.

**Inquiry No. 6499.**—Address of makers of rolled pintons made of steel about  $\frac{1}{4}$  inch diameter with about 15 teeth.

I have every facility for manufacturing and marketing hardware and housefurnishing specialties. Wm. McDonald, 190 Main St., East Rochester, N. Y.

**Inquiry No. 6500.**—Address of some of the best cement building block manufacturers.

We manufacture anything in metal. Patented articles, metal stamping, dies, screw mach. work, etc. Metal Novelty Works, 43 Canal Street, Chicago.

**Inquiry No. 6501.**—Address of firms making screw cover tin cans.

The SCIENTIFIC AMERICAN SUPPLEMENT is publishing a practical series of illustrated articles on experimental electro-chemistry by N. Monroe Hopkins.

**Inquiry No. 6502.**—For manufacturers of gas producing apparatus suitable for heating and power.

PATENT FOR SALE.—A simple cuff holder that meets with ready sale. Can be manufactured very cheaply and leaves big profits. Address J. Jungbauer, 268 Carroll Street, St. Paul, Minn.

**Inquiry No. 6503.**—For manufacturers of vases, pedestals, flower garden urns.

Manufacturers of patent articles, dies, metal stamping, screw machine work, hardware specialties, machinery and tools. Quadriga Manufacturing Company, 18 South Canal Street, Chicago.

**Inquiry No. 6504.**—Address of sheet metal workers of ornaments and such, and those who carry cases of work of iron, ornaments for cemetery work and some for office fixtures and some for yards.

WANTED.—Revolutionary Documents and Autograph Letters, Prints, Washington Portraits, Eighteenth Century Illustrated Magazines and Books, Early Patents signed by Presidents of the United States. Valentine's Manuals of the early 40's. Correspondence solicited. Address C. A. M., Box 773, New York.

**Inquiry No. 6505.**—Address of firms who handle artificial flowers such as hanging baskets; also address of plaster of Paris workers.

WANTED, novelties to manufacture. The Mitchell Mfg. Co., Portsmouth, Ohio, manufacturers of specialties. Ideas developed. Inventions perfected and made patentable. Experimental work a specialty. Designs and models made. Manufacturers of slot machines of every description and wooden and metal novelties. Light machinery of all kinds.

**Inquiry No. 6506.**—For manufacturers of machines for utilizing water with automatic steam pump and air pressure.

U. S. Patent No. 779,301 on a pipe wrench, good investment, sale rights to purchaser.

Address F. U. McNabb, Box 236, Parry Sound, Ont.

**Inquiry No. 6507.**—For the manufacturers of machinery for manufacturing plaster of Paris.

**Inquiry No. 6508.**—Address of parties knowing the best method of kalsomining and treating gypsum for the manufacture of plaster, such as bleaching and mixing other substances with it.

**Inquiry No. 6509.**—For the manufacturers of the electrical machine for making puffed rice.

**Inquiry No. 6510.**—For the manufacturers of self-winding machines.

**Inquiry No. 6511.**—For the manufacturers of  $\frac{3}{4}$  inch raw hide belting or leather from which to cut same, also steel or aluminum belt rims (about 20 inches diameter) for above size belt, to attach to rear wheel of bicycle.

**Inquiry No. 6512.**—For the manufacturers of the "Fairy Floss" candy machine.

**Inquiry No. 6513.**—For manufacturers of portable compressed air carpet cleaners.

**Inquiry No. 6514.**—For makers of hand sewing machines for brushes, etc.

**Inquiry No. 6515.**—For makers of automatic air pumps for gas machines of family size.

**Inquiry No. 6516.**—For manufacturers of wire triangle rings.

**Inquiry No. 6517.**—For makers of paper coated with preparation of Mexican soap root, for carrying in book form in the pocket, as a substitute for soap.

**Inquiry No. 6518.**—For makers of wood alcohol and acetic acid plants.

**Inquiry No. 6519.**—For makers of shingle-cutting machinery.

**Inquiry No. 6520.**—For machinery to be used in the turpentine business.

**Inquiry No. 6521.**—For a machine for making handles in large quantities.



## HINTS TO CORRESPONDENTS.

Names and Address must accompany all letters or no attention will be paid thereto. This is for our information and not for publication.

References to former articles or answers should give date of paper and page or number of question. Inquiries not answered in reasonable time should be repeated; correspondents will bear in mind that some answers require not a little research, and, though we endeavor to reply to all either by letter or in this department, each must take his turn.

Buyers wishing to purchase any article not advertised in our columns will be furnished with addresses of houses manufacturing or carrying the same.

Special Written Information on matters of personal rather than general interest cannot be expected without remuneration.

Scientific American Supplements referred to may be had at the office. Price 10 cents each.

Books referred to promptly supplied on receipt of price.

Minerals sent for examination should be distinctly marked or labeled.

(9530) O. B. P. asks: I am greatly interested in the articles in the SUPPLEMENT on Experimental Electrochemistry. On reading the article in the December 31 issue of the SUPPLEMENT, it occurred to me that the part water plays in promoting chemical reaction between compounds would also furnish an explanation why water thrown on the flames of a burning building appears to aid combustion in some cases. Does it play the part of a dissociant? A. It is not obvious to us that there is any connection between putting a minute quantity of an electrolyte into a large quantity of water and putting a small quantity of water upon a large fire. In the case of dissociation it is not possible to use the dissociated substance as separate chemical substances. Thus, you cannot get hydrogen and chlorine by dissociating HCl in water. There are H ions and Cl ions in the water, and yet no free H, nor any free Cl. Water is not the substance which is dissociated, but electrolytes are dissociated when a small quantity is added to water.

(9531) A. S. G. says: Would you please answer by letter or through the columns of your paper, if steam turbine engines have ever been used for automobiles? If so, where can I get a description of them? If not, why could they not be used? A. We have never heard of an instance where an attempt has been made to apply a steam turbine engine to an automobile. The speed at which it is necessary to run the steam turbine of small power would make their successful application to automobile practice extremely difficult. The speed control and power at starting also make the steam turbine less satisfactory than the ordinary steam engine for automobile work. The most serious difficulties with the steam automobiles are with the boilers generating the steam rather than with the engines.

(9532) G. A. D. asks: Would you kindly inform me whether it is possible to build a brick smokestack or chimney 150 feet high, either square or round, which will be strictly plumb from top to bottom? A. In reply to your question as to whether it would be possible to make a brick smokestack or chimney 150 feet high, either square or round, which would be strictly plumb, we would say that of course it is impossible to make anything mathematically straight or plumb. The difficulty of obtaining proper foundation for a tall chimney, and the possibility of unequal settlement, make it especially difficult to have such a structure come as near to the absolute plumb line as many other structures would. It is customary to give the outer wall of a tall chimney a batter, making the chimney smaller at the top than at the bottom, both for reasons of economy and stability.

(9533) J. N. P. says: 1. Why and how does water put out fire? Why does the water have the same effect whether hot or cold? A. Water puts out a fire by reducing the temperature of the flame below the point of ignition, and is especially efficient for this purpose because of the large amount of heat that is required to turn it into steam. It is almost as effective when hot as when cold, because of the great amount of latent heat in the water. 2. Does the sun shining directly on a cooking stove have any effect upon the cooking? Does it lessen the baking in any way? If when shining on a fire in an open grate, does it reduce the heat? A. The sun shining directly on a stove or fire in an open grate tends to increase the temperature slightly, just as it tends to increase the temperature of any other object. The bright sunlight, however, may make the fire appear less brilliant, and therefore appear to give out less heat. This effect, however, is deceptive.

(9534) J. B. E. says: What will be the approximate cost of installing an electric light plant to furnish 1,000 16-candlepower lights and run one elevator (exclusive of light charges)? The approximate amount of fuel, coal, for 10-hour run? What horse-power steam outfit required? Is direct or alternating current better for private hotel plant? Is gasoline outfit practical for this purpose from standpoints of economy and reliability? What would be the difference in cost of fuel between steam and gasoline with coal at say \$2.50 per

ton? Is it practical to use exhaust steam in radiators for heating house? Do you consider underground tank with air pressure preferable to elevated gravity pressure tank for private water-works? A. An electric light plant furnishing 1,000 16-candle-power lights and running one elevator will require an engine which will develop from 100 to 120 horsepower and a generator which would generate from 65 to 75 kilowatts. Such a plant will require from three to six tons of coal per ten hours, according to the type of engine and boiler that are installed. Direct current is as efficient and more simple for your purpose than alternating current, and is perhaps more economical and reliable than gasoline. It is perfectly practical to use exhaust steam in the radiators of a heating plant, and if the installation is properly made, this will give satisfactory results and be a great saving in expense. Either an underground pressure tank or gravity pressure can be satisfactorily used for private water works. Nothing is superior to the gravity pressure.

(9535) H. A. says: A cask of water is placed on a pair of scales. It weighs 50 pounds. If a fish weighing 15 pounds (salmon) is placed in the water contained in the cask, will it raise the weight of the cask or not? It is argued by some apparently smart men, but I want to lay down your word to them as proof. I contend that the cask then weighs 65 pounds. A person weighs 140 pounds before dinner; does he weigh any more after a hearty meal, say of  $1\frac{1}{2}$  pounds? It is generally contended here that he does not. I say he does. Who is right? A. If a cask full to the brim with water has a live fish put into it, as much water as the fish displaces will overflow. As a fish weighs the same as the water it displaces when floating in water, it follows that the cask full of water and fish weigh the same after the fish has been put into the water that the cask and water weighed before the fish was put into the water, that is, 50 pounds. If the cask was not full of water when the fish was put into it, and if no water overflowed when the fish was put into the cask, the weight of fish, water, and cask will be 65 pounds in the case you specify. The whole turns upon whether the fish is alive and whether the cask is completely filled with water. If a person is weighed after a meal, he will weigh as much more than he did before the meal as the weight of the food he has eaten. Common sense teaches this. If a person puts  $1\frac{1}{2}$  pounds of food into his pocket and gets upon scales he will weigh  $1\frac{1}{2}$  pounds more than without the food in his pocket. Write stomach in place of pocket, and you will have the same fact. Or put nails in place of the word food. It will be equally true.

## NEW BOOKS, ETC.

JIU-JITSU COMBAT TRICKS. Japanese Feats of Attack and Defense in Personal Encounter. By H. Irving Hancock. New York: G. P. Putnam's Sons, 1904. 12mo.; pp. 151; 32 illustrations. Price, \$1.35.

Of jiu-jitsu the world had heard much in general, but until the publication of Mr. Hancock's work, very little in particular. Every boy is no doubt eager to learn just how he may master an older and weightier opponent; it is, however, but fair to warn these boys that no little labor and application will be necessary before the simplest of the tricks can be successfully applied. Still, the full-page illustrations are so good that we see no insuperable difficulties in the way of becoming moderately expert.

SCIENCE AND IMMORTALITY. By William Osler, M.D., F.R.S. Boston and New York: Houghton, Mifflin & Co., 1904. 18mo.; pp. 54. Price, 85 cents net.

"If a man die, shall he live again?" So said Job; and this problem has proved to be most interesting since his time. Dr. Osler has conferred a distinct benefit upon those who are desirous of showing the compatibility of science and religion. The book is the Ingersoll lecture of 1904.

## INDEX OF INVENTIONS

For which Letters Patent of the United States were Issued for the Week Ending January 31, 1905

AND EACH BEARING THAT DATE

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

Acetylene for facilitating its transportation and storage, treating, E. A. Le Sueur, 781,099  
Adding device, J. M. Chappell, 781,401  
Adding machine, C. H. Williams, 781,257  
Advertising apparatus for railway carriages, automatic, J. B. von Seyffertitz, 781,563  
Agitating device, W. B. Beverux, 781,406  
Air pressure regulator, J. H. Chase, 781,330  
Alloys, manufacture of metallic, T. Prescott, 781,300  
Aluminum and sodium, making the double sulfate of, G. E. Hipp, 781,341  
Animal stock, J. L. Pentecost, 781,357  
Automobile body, B. R. Hewitt, 781,071  
Automobile control gear, B. R. Hewitt, 781,069  
Awning, Branch & Schroeder, 781,588  
Axle oil controller, car, A. A. Freeman, 781,335  
Baby carrier, C. J. Sutter, 781,033  
Baby chair, A. F. Perkins, 781,090  
Baling press power apparatus, H. D. Smith, 781,374  
Ballot box, L. F. & H. L. K. Biesemeyer, 781,586  
Banjo, T. Williams, 781,480

Bank, savings, J. B. King, 781,344  
Barrel rolling and centering device, Z. T. Gopen, 781,513  
Beam presser, H. Parsons, 781,297  
Bearing, antifriction, C. Opp, 781,088  
Bearing for cranks or other shafts, E. Hollingworth, 781,426  
Bed and couch, combined, D. T. Owen, 781,153  
Bed, invalid and operating, E. B. Brown, 781,328  
Bed pan, G. E. Gerham, 781,987  
Belt, driving, E. Morrison, 781,446  
Belt, tightener, G. L. Chatfield, 781,186  
Belt stop, W. W. Brownell, 781,183  
Bicycle handle bar, F. J. Calkins, 781,128  
Binder, temporary, L. T. Pruden, 781,456  
Binders, tongue truck for, A. Seitz, 781,027  
Bending clamp, J. D. Haggard, 781,599  
Binding post, spring, W. P. Phillips, 781,091  
Blasting apparatus, S. Rogers, 781,619  
Block. See Building block.  
Boards from logs of wood, manufacture of, N. G. Sorensen, 781,376  
Boat builder's riveting jack, J. D. Morley, 781,542  
Boat, folding, Deal & Gutches, 781,052  
Boiler furnace, S. F. Pierce, 781,547  
Boiler furnace, G. Wolf, 781,580  
Boilers, cylinders, etc., means for securing heads to, M. Sherman, 781,371  
Book, manifolding, J. A. Duggan, 781,135  
Book stack, F. O. Hansen, 781,060  
Book support, E. Thoma, 781,034  
Bottle, anti-refilling, J. F. Drege, 781,595  
Bottle cap, G. Demackos, 781,332  
Bottle closure, H. S. Brewington, 781,182  
Bottle, non-refillable, A. D. Cressler, 780,980  
Bottle, non-refillable, E. S. Wiesenfeld, 781,041  
Bottle, non-refillable, F. L. Short, 781,588  
Bottle stopper, non-refillable, Ivey & Beck, 781,529  
Bottling machine, A. Schneider, 781,165  
Brake beam, F. R. Cornwall, 780,978  
Brake beam fulcrum, J. F. O'Connor, 781,545  
Brake mechanism, P. M. Kling, 781,533  
Brake system, fluid pressure, Spencer & Grellner, 781,029  
Brick conveyor, W. P. Alsip, 781,120  
Brick, fire, F. A. Widdows, 781,255  
Bridge gate, Simon & De Banret, 781,373  
Brush, fountain, G. W. Wheeler, 781,252  
Brush, mouth, J. M. Murphree, 781,292  
Building block, G. F. Fisher, 781,413  
Bunsen burner, Palmer & Cox, 781,454  
Burner needling device, A. E. Shaw, 781,191  
Cable laying implement, W. C. Stevens, 781,568  
Calculating instrument, H. A. Hensley, 781,063  
Calculating machine, W. H. Robertson, 781,344  
Calculating machine, G. E. Schuman, 781,348  
Calk, F. F. Heiselmann, 781,204  
Camera focusing attachment, C. W. Hartmann, 781,061  
Candy holder, J. Jeffers, Jr., 781,527  
Cane carrier for sugar mills, H. Froehlich, 781,511  
Cans, machine for cutting off heads of old metal, B. E. Fernow, 781,509  
Cans, machine for cutting off side seams of old metal, B. E. Fernow, 781,508  
Car bolster, C. T. Westlake, 781,115  
Car brake, H. H. Warner, 781,578  
Car coupling, P. Brown, 781,126  
Car coupling, J. Anson, 781,486  
Car, dumping, C. Barrett, 781,175  
Car, dumping, W. W. Wallace, 781,577  
Car dumping apparatus, railway, W. C. Culleton, 781,497  
Car hot water heater, railway, K. D. Heimbach, 781,424  
Car loading device, M. W. Randall, 781,340  
Car, meter, J. Wilkinson, 781,116  
Car, railway, T. E. Adams, 781,119  
Car, sleeping, D. S. McEwing, 781,294  
Car sprayer, B. Britten, 781,396  
Carbine hook, S. Adler, 781,171  
Card, producing and reading in apparatus, Jacquard, C. Vorwerk, 781,167  
Carriage, M. B. Gaines, 781,512  
Carriage, child's convertible, J. A. Crandall, 781,495  
Carton or box, L. S. Morris, 781,082  
Case, See Egg preserving case.  
Cement block machine, Harris & Duck, 781,143  
Chain, E. Nolle, 781,013  
Chair, W. D. Jones, 781,531  
Chair iron, H. W. Bolens, 781,491  
Chairs, etc., adjustable back for, H. B. Osborne, 781,152  
Chalice, T. C. T. Moller, 781,220  
Cigar perforator, C. Blumer, 781,488  
Cigar pocket, O. L. Parmenter, 781,455  
Cipper, hair, J. Sjastrom, 781,103  
Clock, graphophone, C. W. Henrich, 781,091  
Clock, self winding electric, R. E. Hight, 781,072  
Clothes line reel, Powers & Hagerthey, 781,548  
Clothes pin, J. S. Banks, 781,349  
Clutch, E. R. Hewitt, 781,065  
Clutch, release power, E. Huber, 781,523  
Coating metals, H. Rodman, 781,230  
Cook, stop and waste, E. H. Donahoe, 781,054  
Coin counting machine shell holder, G. White, 781,324  
Coin counting machine stop, G. White, 781,323  
Coke from smokers, etc., electrical apparatus for separating, H. Lelange, 781,437  
Coke oven appliance, H. Koppers, 781,213  
Collar fastener, F. A. Klappauf et al., 781,432  
Collar, horse, J. E. Veltung, 781,383  
Concrete or the like mixing machine, W. J. Judd, reissue, 12,309  
Concrete structure, reinforced, R. C. Newhouse, 781,086  
Controller interlocking device, E. H. Dawson, 781,134  
Conveyer, economical endless band, H. H. G. Etcheverry, 781,138  
Conveyer, portable endless, W. L. McCabe, 781,014  
Conveying apparatus, E. N. Trump, 781,575  
Cooking pan, E. L. MacFate, 781,081  
Core box, multiple, J. Green, 781,395  
Corn silking machine, Owens & Cooper, 781,616  
Cotton chopper, J. A. Butts, 781,339  
Cotton chopper and cultivator, C. W. Crenshaw, 781,496  
Cotton plant and product thereof, utilizing waste substances of the, M. W. Marsden, 781,612  
Cover, receptacle, J. A. Landsberger, 781,534  
Cream of tartar, making, G. Capetti, 780,973  
Crib and seat, combined, A. E. Custer, 781,189  
Cultivator, lister, C. H. Melvin, 781,011  
Culvert, sewer, or other drain pipe, W. J. Daggett, 780,981  
Curler, hair, G. C. Stanley, 781,106  
Curling iron, Dawes & Dungee, 781,499  
Currents, apparatus for producing oscillatory, P. C. Hewitt, 780,997  
Currents, producing oscillatory, P. C. Hewitt, 781,606  
Curtain pole, A. T. Weierhausen, 781,384  
Curtain ring, A. L. Parker, 781,296  
Cuspidor, T. McCluney, 781,864  
Cyanides, making, J. Fehrmann, 781,472  
Dampener apparatus, time, G. R. Young, 781,170  
Dental disk carrier, O. B. Price, 781,617  
Dental disk package, J. A. Thomas, 781,313  
Dental plate, Buckwalter & Wirt, 781,589  
Dental plate blank, M. A. Cockendall, 781,405  
Dental use, rubber disk for, J. E. Blake, 781,587  
Despatch apparatus, carrier stopping mechanism for, C. M. Johnson, 781,074  
Die press, A. W. & A. H. Reovers, 781,620  
Disinfectant, mouthpiece holder, W. K. Brackett, 781,151  
Display box, G. H. & C. H. W. Chiff, 781,403  
Display mount, A. P. Morse, 781,222  
Door check, M. A. Quillin, 781,551  
Door check and closer, pneumatic, O. Rice, 781,361  
Door holding, releasing, and opening device, W. J. Haslam, 781,421  
Door operating mechanism, Pitt & Cossey, 781,358  
Door securer, W. P. Dobson, 781,501  
Draft equalizer, H. J. Heider, 781,203  
Draft mechanism, P. Brown, 781,127  
Drafting instrument, J. T. Leonard, 781,215  
Drawer or slide equalizer, L. Seng, 781,561  
Drawer slide, anti friction, A. Dickey, 781,275  
Drawer support, C. Jespersen, 781,530  
Drier, See Hat drier.  
Drying apparatus, woven goods, M. R. Jahr, 781,145  
Drilling machine, portable, W. F. Seett, 781,370  
Driving mechanism, variable, C. C. & E. A. Riethe, 781,304  
Dust removing apparatus, D. T. Kenney, 781,532  
Egg beater, W. T. Washington, 781,247  
Egg preserving case, N. A. Wierman, 781,479  
Electric currents, commutation of, E. Thomson, 781,035