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 & CO.

Marine Iron Works. Chicago. Catalogue free.

Inquiry No. 3567.—For makers of cast iron letters 2 or 3 inches in height.

For hoisting engines. J. S. Mundy, Newark, N. J.

Inquiry No. 3568.—For makers of electric lights who make and put in plants.

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

Inquiry No. 3569.—For party to build portable house 60 to 70 feet in diameter.

Coin-operated machines. Willard, 284 Clarkson St., Brooklyn.

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Inquiry No. 3572.—For four patents of merit on light machinery, tools or iron novelties, on royalty basis.

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

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Write for anything you want made in metal novelties to Metal Stamping Co., Niagara Falls, N. Y.

Inquiry No. 3574.—For makers of cathedral gongs for clocks.

Let me sell your patent. I have buyers waiting. Charles A. Scott, Granite Building, Rochester, N. Y.

Inquiry No. 3575.—For a shoemaker's awl sewing with a lock stitch, etc.

Saw hammering taught by mail. No advanced fee. Over 1,000 satisfied customers. Miner, Lumberton, Miss.

Inquiry No. 3576.—For makers of porous brick, to be saturated with oil for cooking and heating purposes.

Automobiles built to drawings and special work done promptly. The Garvin Machine Co., 149 Varick, cor. Spring Streets, New York.

Inquiry No. 3577.—For dealers in levigated oxide of tin.

WANTED.—Machinist used to light machinery, sewing machines and repairs. References. "Newark," Box 773, New York.

Inquiry No. 3578.—For manufacturers of gas balloons.

Manufacturers of patent articles, dies, stamping tools, light machinery. Quadriga Manufacturing Company, 18 South Canal Street, Chicago.

Inquiry No. 3579.—For the address of the German Thermite Co.

The largest manufacturer in the world of merry-go-rounds, shooting galleries and hand organs. For prices and terms write to C. W. Parker, Abilene, Kan.

Inquiry No. 3580.—For manufacturers of peat machines.

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

Inquiry No. 3581.—For makers of papier maché portable houses.

The best book for electricians and beginners in electricity is "Experimental Science," by Geo. M. Hopkins. By mail, $5. Munn & Co., publishers, 361 Broadway, N. Y.

Inquiry No. 3582.—For manufacturers of wire racks or baskets.

PATENT FOR SALE.—"Trolley Mail Box Carrier" carries the mail box from the line of the R. F. D. to the residence and returns it to line of delivery. Something new and a good seller. Will sell for cash or on royalty.
A. L. Mumma,
Mechanicsburg, O.

Inquiry No. 3583.—For tin and nickel plated nozzle sprays similar to those used in bathtubs.

☞ Send for new and complete catalogue of Scientific and other Books for sale by Munn & Co., 361 Broadway, New York. Free on application.

Inquiry No. 3584.—For manufacturers of ½-inch rubber hose and hose couplings.

Inquiry No. 3585.—For machines for knitting hose and underwear.

Inquiry No. 3586.—For manufacturers of flypaper machinery.

Inquiry No. 3587.—For a pneumatic or other machine for pulling wax.

Inquiry No. 3588.—For makers of the Gravity coal oil burner.

Inquiry No. 3589.—For manufacturer of novelties.

Inquiry No. 3590.—For makers of a machine for printing several copies of typewritten work by a photographic process.

Inquiry No. 3591.—For manufacturers of adding and listing machines.

Inquiry No. 3592.—Wanted, parties to manufacture a small cast and wrought iron machine in large quantities.

Inquiry No. 3593.—For makers of iron or steel water wheel.

Inquiry No. 3594.—For practical men to suggest how to lay off dam and canal for county mill.

Inquiry No. 3595.—For machinery for making pearl buttons.

Inquiry No. 3596.—For machines for manufacturing articles from the hull of the cocoanut.

Inquiry No. 3597.—For makers of polishing preparations for metals.

Inquiry No. 3598.—For makers of practical dishwashing machines

Inquiry No. 3599.—For dealers in electro-plating apparatus in Chicago or St. Louis,

Inquiry No. 3600.—For coiled iron pipe of special dimensions.

Inquiry No. 3601.—For parties dealing in parts of horizontal engines.

Notes and Queries.

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

(8774) W. H. H. wants a receipt to obtain a red cherry color on pure copper, done by immersion in hot acid, not by battery or dynamo. What I want is not enameled, but colored, same as Tiffany or Whiting do large loving cups. Either cherry or mahogany color. A. A color of this kind in copper can be obtained by slowly heating in an air bath, with gradually rising temperature. Long heating at a comparatively low temperature or more rapid heating at a higher temperature will give the same effect. As soon as the desired color is obtained, cool rapidly by plunging into cold water. If lacquered after finishing, it will keep better.

(8775) F. M. H. asks: How many cubic feet of free air will it take to fill an air tank having a capacity of 100 cubic feet at a pressure of 200 pounds per square inch? And how long a time will this amount of compressed air run an engine doing actual work of 5 horse power? How many cubic feet of free air will it take to raise 5,000 gallons of water 50 feet being compressed; state what pressure, using the direct air lift system? A. It will require 1,400 cubic feet of free air to fill the tank of 100 cubic feet capacity at 200 pounds pressure. This amount of air will run a 5 horse power engine 2 1-3 hours. The amount of free air at an average of 100 pounds pressure for pumping 5,000 gallons of water 50 feet high may be from 600 to 800 cubic feet, depending upon the efficiency of the pumping system.

(8776) G. O. W. asks: 1. Please inform me how many ounces one cubic foot of hydrogen gas will lift. A. A cubic foot of hydrogen at 30 inches of the barometer, and at the freezing point, weighs 0.00562 pound. A cubic foot of air under the same conditions weighs 0.08071 pound. A cubic foot of hydrogen will balance in the air under normal conditions, as above, the difference of these two weights, and will lift a weight slightly less than this difference, or about 0.07 pound. This is the basis of the usual statement that 1,000 cubic feet of hydrogen will lift 70 pounds. It will do so when the barometer stands at 30 inches and the temperature is at freezing. 2. How to deposit platinum black on string or wire. A. To deposit platinum black on a string is not easy. We cannot suggest any better way than to mix the finely divided platinum with a gum or mucilage and coat the string with that mixture. For wine dip or cover with platinic chloride and heat in a Bunsen burner till the platinum is reduced to a black powder. The ammonium platinum chloride can be reduced better than the simple chloride.

(8777) T. E. M. asks: What is the freezing pressure of water? About what pressure does freezing exert on fence posts set in wet ground? A. The pressure exerted by water in the act of freezing is enormous; how great we have no means of knowing. Heavy steel tubes have been filled with water and screwed up. So, too, have bombshells. When the expansion of the water burst the shell, the water flashed into ice in the instant when the pressure was relieved. It is believed that water under great pressure will not freeze. This is because water has its freezing point lowered by pressure. A pressure of 15 pounds to the square inch lowers the freezing point 0.0175 deg. Fahr., and for other pressures in the same proportion. We doubt if the freezing of the wet earth around a post greatly increases the pressure upon the post, because the pressure is relieved by the rising of the earth around the post. This is easily observed, as also around stones. The reason why posts are more strongly fixed in the frozen earth is that the whole mass, earth and post, becomes one solid mass, and cannot be raised without breaking the mass open as a piece of ice or stone is broken.

(8778) W. F. G. says: I want to make a liquid blacking to apply with sponge lightly, and then with a few rubs with small cotton cloth produce a brilliant polish. A. Mix three pounds of fine lampblack with 1 quart of stale beer and ½ pint of sweet oil; then add 1 ounce molasses, ¼ ounce copperas, and ¼ ounce logwood extract. Copperas can be purchased from any dealer in chemicals and most druggists, and is worth only a few cents a pound. Logwood extract can be bought from dealers in dyestuffs or can be made by boiling logwood chips with water.

(8779) W. S. C. asks: 1. If the electric current enters a building from the street, is it proper to place switch first, or fuse block first? A. The rules of the Fire Underwriters require knife switches to be placed so that when open they cannot drop together, that is, they must not turn up when opened. There is no regulation given as to the position of the fuses with relation to the switch. They must be placed as near the point where the current enters the building as possible. 2. Please describe the mechanism and operation of the American Clock Company's clock of Chicago. A. We have no description at hand of the American Clock Company's clock. 3. Where and how is sal-ammoniac produced? A. The chief source of sal-ammoniac is the "ammonia water" of gas works. This is the water through which the gas is passed to remove the ammonia. By adding hydrochloric acid to this liquid, ammonium chloride is formed. 4. In wiring for electric bells, why is it proper to connect the carbon side of battery to the push button instead of to the bell? A. It seems to be a practice to connect the battery in a certain order to a circuit rather than that it is proper to do it in either way. The bell will operate as well either way. 5. In making a galvanic battery ground connection, why is it proper to connect the zinc pole to the ground? A. There is no reason to say it is proper to connect the zinc pole to the ground in grounding a battery. If, as in the telegraph, the battery is divided, one-half at one end and the other half at the other end of the line, the zinc must be grounded at one end and the carbon at the other end of the line. 6. About how many carbon cylinder battery cells are required for cautery work, such as done by doctors and dentists? A. The number of cells needed in cautery will depend upon the size of wire used, probably five or more. 7. How many ampere hours will an ordinary battery cell give? A. The number of ampere hours a cell will give depends upon its size. Dry cells and sal-ammoniac cells can hardly be said to have any ampere hours, since they cannot be used on closed circuits. Edison-Lalande cells have from 15 to 600 ampere hours according to type. 8. How much of an ampere is required for a 10-volt lamp? A. An incandescent lamp uses from two and one-half to four watts per candle. A 10 c. p. lamp will consume from 25 to 40 watts. 9. About how many years do carbon cylinder battery cells last when used for dwelling house purposes? A. The sal-ammoniac solution must be renewed in a carbon cylinder battery when the cell tests a volt or a little above one volt. The zincs will go till nearly worn through, and the carbons will not need renewing. Use a voltmeter for this purpose. 10. About how many watts are used to charge an electric auto when new? A. A storage battery is charged at 2½ volts per cell, and at a maximum of 6½ amperes per square foot of positive surface, reckoning both sides of the positive plates. 11. About what voltage does a spark coil give that is attached to an automatic gas-lighting burner? A. A spark of good volume, a thick spark of ⅛ inch, will ignite gas, but a coil giving a half-inch spark is commonly used. Several thousand volts are required to force a spark through a half-inch of dry air. 12 Are series or shunt-wound motors used on automobiles? A. Either series or shunt motors may be used on automobiles. 13. About how many miles will an electric auto run after being fully charged, and about how long does it take to charge them? A. It is stated that automobiles have run 100 miles or more on a charge, but about 20 is a fair run. 14. I noticed on the name plate of some generators is stamped five volts drop. What does this mean? A. Five volts drop on a machine means that that voltage is used in the machine itself and must be provided for. 15. Does the Atlantic cable consist of a positive and negative wire, or is the ground used for the return current? A. An Atlantic cable has a bundle of wire in the center for a conductor. There is no return wire. 16. Is the zinc that is used in battery cells pure zinc, or is the zinc alloyed, and what alloy is used? A. Open-circuit cells do not usually have the zincs amalgamated, though this may be done with advantage. Daniell's, Leclanche and gravity cells are used with unamalgamated zincs. Other cells have their zincs amalgamated. This is done by cleaning the zinc in acid and coating it with mercury.

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