

RECENTLY PATENTED INVENTIONS.

Plumbing Improvements.

FILTER ATTACHMENT.—W. T. ERICKSON, New York, N. Y. An improved filter is herein provided in which means are employed for reversing the flow of the water so that impure matter lodged in the filter may, from time to time, be washed out therefrom. The invention prevents the indiscriminate changing of the direction of the waterflow and at the same time provides means for effecting the change at the proper time.

FLOAT-VALVE.—J. L. MAYFIELD, Sonora, Texas. This float-valve is especially designed for troughs in which it is desirable to maintain a constant level of water. The valve will automatically operate to re-supply the tank with water when it is withdrawn to a certain lower level and will also operate to cut off the inflow when the water shall have reached a certain predetermined height in the trough, such as will be within easy reach of animals for drinking purposes, or the maintaining of a desired quantity of stored water.

Mechanical Devices.

BOTTLE-FILLING MACHINE.—S. C. MILLER, Louisville, Ky. In this invention a filling tank is employed and tubes depending therefrom enter the necks of a number of bottles. Means are provided for the escape of the air from the bottles as the liquid in graduated quantity is introduced within the bottles. The present invention is an improvement on a previous invention of Mr. Miller's, whereby the construction is rendered more efficient in service.

PNEUMATIC TOOL.—W. M. HOLDEN, Barre, Vt. Mr. Holden's pneumatic tool is arranged without a valve and the construction is such as to insure a uniform pressure on all sides of the piston and produce a free reciprocation with practically no friction. The tool is composed of but few parts not liable to get out of order and readily accessible to permit convenient cleaning or repairing whenever necessary.

DEVICE FOR WATERMARKING PAPER.—E. R. and O. F. BEHREND, Erie, Pa. By the use of this machine these inventors are able to secure a genuine water-mark by compression of the paper fibres in a paper-web while it is yet in a damp condition. Such compression of the fibres makes the water-mark take place after the paper-web has passed the couch rolls and before it enters the calenders.

BALING-PRESS.—M. CURRY, Killeen, Texas. Mr. Curry provides an improvement in that class of automatic presses adapted for baling hay, cotton, excelsior and similar materials. The materials are packed and compressed in the press box by means of a reciprocating plunger and wires are applied to the bale while being formed and subsequently twisted, knotted, and severed successively, after which the bale is ejected by the new one being formed.

Medical Apparatus.

THERMOMETER ATTACHMENT FOR FOUNTAIN-SYRINGES.—F. KING, New York, N. Y. The purpose of the invention is to provide a means for applying a thermometer to fountain syringes and similar containers in such manner that the scale of the thermometer may be conveniently read and the thermometer applied independent of the body of the receptacle, and yet in communication with its contents.

Railway Improvements.

DRAFT RIGGING.—P. M. CANTY, Altoona, Pa. Mr. Cauty's invention is an improvement in draft rigging for railway cars, and particularly in the means whereby the draw-bar is yieldingly connected with the car so it can yield longitudinally to a limited extent in both directions, and thus cushion the longitudinal strains on the bar.

Miscellaneous Inventions.

FLOATING FISH-TRAP.—A. C. BURDICK, Portland, Ore. The purpose of the invention is to provide a novel construction of floating fish-trap made especially to fish with the tide and further to provide a novel construction of the pot and first heart and means for flexibly and removably connecting them with supporting scows.

TUCK-COMB.—J. A. STILES, Wichita, Kans. The comb comprises two members having peculiar hinged-like connection. One member may be in the shape of an ordinary comb, and the other member having ornamental configuration. The main feature of the invention resides in so connecting the two members that after the comb-like member is introduced in the hair the two members will clamp it, and at the same time afford means whereby straggling hair may be secured.

FOLDING SATCHEL.—J. TREVETHAN, Berkeley, Cal. This metallic satchel or holder is designed especially for carrying books and is constructed to fold compactly when empty and to fold in close engagement at its sides with the outer side surfaces of the book covers when the device is carried or held in the hand.

NOTE.—Copies of any of these patents will be furnished by Munn & Co. for ten cents each. Please state the name of the patentee, title of the invention, and date of this paper.

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Dies, tools, models. Am. Hardware Co., Ottawa, Ill.

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

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Dies, stampings, specialties. L. B. Baker Mfg. Co., Racine, Wis.

Inquiry No. 3408.—For 3-inch steel tubing 1/4 inch thick, finished on the inside, suitable for gas engine cylinders.

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

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

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We make anything in sheet metal, any shape. Estimates free. Metal Stamping Co., Niagara Falls, N. Y.

Inquiry No. 3413.—For sheet metal model makers in New York and Philadelphia.

Inventions developed and perfected. Designing and machine work. Garvin Machine Co., 149 Varick, cor. Spring Sts., N. Y.

Inquiry No. 3414.—For manufacturers of machinery for making pressed brick.

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

Inquiry No. 3415.—For machines for affixing stamps to envelopes or cards.

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. 3416.—For makers of malleable iron to do novelty work.

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Inquiry No. 3417.—For parties engaged in cutting small cones to order.

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

Inquiry No. 3418.—For makers of beaded wire pins (tempered) for perforating machines.

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. 3419.—For manufacturers of axle cutters.

We manufacture on contract: patented hardware specialties, tools, dies, metal stampings, special machinery, etc. Edmonds-Metzel Mfg. Co., 778 West Lake Street, Chicago.

Inquiry No. 3420.—For manufacturers of glass bottles holding 5 quarts to the gallon, for carbonated spring water.

Gasoline Automobile Batteries. William Roche's "Autogas" used properly will carry vehicle twice as far as any other battery of same weight. William Roche, inventor and manufacturer, 42 Vesey Street, New York, N. Y., U. S. A.

Inquiry No. 3421.—For dealers in old rubber.

MONEY MADE EASY.—If you are employed in any branch of the electrical business, and want to increase your income in an easy and pleasant way, don't fail to write us at once. Our proposition is positively a necessity to all interested in the science of electricity. Address Frederick J. Drake & Co., 356 Dearborn Street, Chicago, Ill.

Inquiry No. 3422.—For makers of heaters using wood for fuel.

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A prominent business man of New York City writes that he would like to come in touch immediately with a few well-recommended persons who are desirous of a higher education. This party has at his disposal a limited number of Free Tuition Contracts in the following courses: Electrical Engineering (including Interior Wiring and Lighting, Electric Railways and Telephone and Telegraph Engineering), Practical Electricity, Illustrating, Caricature, Ad-writing, Journalism, Proof-reading, Bookkeeping and Stenography. There is absolutely no immediate expense for tuition, if you are awarded one of these contracts, the only cost to you being postage, etc., and you can pay these during the first four months. We would strongly recommend that you write to this gentleman, if you are ambitious to get ahead. Address W. L. B., Box 53 Madison Square, New York City, and enclose your references, and be sure and mention Scientific American.

Inquiry No. 3423.—For photographic nickel-in-the-slot machines.

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. 3424.—For makers of molds for making soap.

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Inquiry No. 3426.—For makers of portable saw-mills.

Inquiry No. 3427.—For makers of small clamps for paper.

Inquiry No. 3428.—For steel framing, girders, etc., for the construction of buildings.

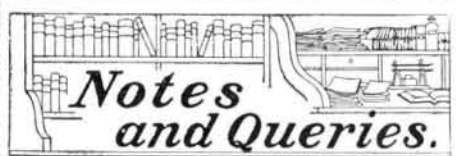
Inquiry No. 3429.—For makers of appliances for distributing a dry powder fire extinguisher on fires.

Inquiry No. 3430.—For an ice machine, capacity 300 pounds per day.

Inquiry No. 3431.—For Parties to manufacture patent cutlery.

Inquiry No. 3432.—For makers of band and steam laundry machinery.

Inquiry No. 3433.—For information relative to the use of compressed air for elevating water from deep wells.



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.

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Minerals sent for examination should be distinctly marked or labeled.

(8747) F. A. S. asks for a strong glue that can be held over a flame and then be applied. A. Some of the so-called marine glues are used in this way: (A) Naptha, 1 pint; pure rubber, cut into shreds, 1 ounce. Macerate for 10 to 12 days and then rub out smooth on a plate. Then mix 2 parts of shellac with 1 part of this solution. Melt at about 250 deg. F. for use. (B) Dissolve 10 parts of caoutchouc in 12 parts of refined petroleum, by digesting for 10 days to 2 weeks. Then carefully melt 20 parts asphalt and when melted, pour in the other solution. Keep warm (in hot water), and stir until uniform. Pour into greased molds and allow to harden. These marine glues are very strong.

(8748) G. H. M. asks: Can a battery be made where one of the electrodes used is gold? If so, what is the other electrode, and what is the exciting fluid used? A. We can see no reason why a battery may not be made with gold for a negative element, and any metal which will be acted upon by the liquid used for the positive element, if one wished to do so. Platinum was used in this way in some of the older forms of cell. It was replaced by carbon as a cheaper material. And the carbon of almost any cell may be replaced by gold.

(8749) J. M. C. asks: How many watts are required to 16 candle power incandescent lamp per hour? Also, about the average price per thousand watts of electricity. A. Incandescent lamps for best service are made for about 3 1/2 watts per candle, or 55 watts for a 16 candle power lamp. The price for service is differently rated in different places. In large cities it is about 2 cents per ampere hour at 110 volts; in small places the rate is often so much a lamp-month, the time of lighting not being considered.

(8750) C. B. says: I want a magnetic coil capable of attracting an armature a distance of 1/4 of an inch. The circuit will have a pressure of 110 volts at 10 amperes. What size coil will I need, and also size wire? A. We do not advise you to make a magnet as you propose to carry 10 amperes at 110 volts pressure for the purpose of attracting an armature 1/4 of an inch. It would require a large wire and be very heavy. It is far better to use one ampere and have a pair of 100-volt lamps in parallel as a resistance. The coil will require to be wound to 10 ohms resistance and No. 24 wire may be used. Of this about 400 feet will be required.

(8751) C. S. N. writes: 1. Having noticed in your Notes and Queries column a short time ago that borax and good management are the best for welding steel, I wish to state that while both are indispensable, I find that an ounce of carbonate of iron to the pound of borax is a very good addition. Can you inform me whether aluminium can be soldered with lead-and-tin solder, and in what proportions? Also, what kind of acid to use? A. Lead-and-tin solder alone is not suitable for soldering aluminium. A solder made of 1 part aluminium, 1 part of 10 per cent phosphorus tin, 8 parts zinc, 32 parts tin, by weight, makes a good-flowing solder. Canada balsam is used for flux. 2. What is the voltage of an Edison-Lalande battery cell, such as is used on gasoline engines, and will it be either temporarily or permanently exhausted by running a small motor for an hour or more? A. The voltage of an Edison-Lalande cell is about 7-10 volt. Their small internal resistance greatly increases their amperage and capacity to from 100 to 300 hours. They are not exhausted on short runs.

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