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 The valve will automatically operate to re-supply the tank with water when it is withdrawn to a certain lower level and will also operate to cut off the inflow when the water shall have reached a certain predetermined height in the trough, such as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. Canty'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.

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.

Inquiry No. 3402.—For a producer gas plant.

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Inquiry No. 3404.—For machinery for pressing peat to be used as fuel.

Inquiry No. 3405.—For machinery and supplies for a canning factory.

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Inquiry No. 3408.—For 3-inch steel tubing ¼ inch thick, finished on the inside, suitable for gas engine cylinders.

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Inquiry No. 3410.—For machinery for plaiting rotted poplar or wah-hoo bark for making bark horse collars.

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Inquiry No. 3412.—For machinery and appliances for a cold storage room.

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

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

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

Inquiry No. 3416.—For makers of malleable iron to do novelty work.

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

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

Inquiry No. 3419.—For manufacturers of axle cutters.

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

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

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

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

Inquiry No. 3424.—For makers of molds for making soap.

Inquiry No. 3425.—For manufacturers of engraving machinery for button making.

Inquiry No. 3426.—For makers of portable sawmills.

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 hand and steam laundry machinery.

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

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.

(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 3½ 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 ¾ 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 ¾ 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 phosphor 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.

INDEX OF INVENTIONS

For which Letters Patent of the United States were Issued for the Week Ending November 11, 1902,

AND EACH BEARING THAT DATE.

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

Acids, making polyamidoanthraquinone sulfo, E. Hepp 713,432
Addressing and assorting newspapers, magazines, etc., machine for, L. A. Agnew. 713,272
Adjusting compound wound generator, C. P. F. Steinmetz 713,523, 713,574
Alcohol, making wood, Brandt & Root 713,552
Animal trap, H. Sargent 713,502
Automobile, A. S. Krotz 713,313
Awnings, means for hanging, C. J. Graf. 713,299
Axle support, G. W. Kramer 713,455
Bag frame catch, T. E. Grimm 712,429
Bag holder, O. G. Nosker 713,139
Bale band fastening, D. M. Campbell 713,203
Bandages, suspensory, H. C. Lovis 713,318
Batteries, non-active metal for use in storage, H. H. Lloyd 713,568
Beading and turning machine, G. S. Hill .. 713,566
Bearing, roller, R. D. Camp 713,058
Bearing, side, J. C. Wands 713,183
Bed and commode, invalid, W. C. Feely .. 713,416
Bed, sofa, T. G. Wever 713,260
Bedstead table attachment, C. Swindell, Sr. 713,529
Bedstead, J. Arn 713,374
Bicycle driving mechanism, M. Schmidt 713,350
Binder, H. E. Dade 713,289
Bit, E. A. Cowles 713,067
Blackboard trough, T. R. Baker 713,377
Blotter holder, L. W. Willson 713,266
Blowpipe, E. Fouche 713,421
Blowpipe, M. M. Kerr 713,451
Boat, swing, J. White 713,263
Boiler, Cowley & Cooper 713,068
Book, check, F. Vandeven 713,538
Book cover, Thomas & Lynch 713,176
Boot and shoe tree, A. C. McKnight 713,482
Bottle, V. D. White 713,548
Bottle holder, A. Schneider 713,160
Bottle holding case, F. W. Molitor 713,130
Bottle, non-refillable, W. S. McCrea 713,136
Bottle, non-refillable, T. J. F. Muller 713,236
Box, H. F. Henning 713,216
Box fastener, C. L. Mellinger 713,233
Box filling and closing machine, paper, C. de Quillfeldt 713,491
Box making machine, J. W. Denmead 713,074
Bracket hook, H. C. M. Saberhagen 713,156
Brake adjuster, Paxton & Driscoll 713,339
Bread cutting machine, C. J. Vann 713,539
Brick making machinery, C. R. Monroe 713,570
Bridge, collapsible or folding, D. Doyen 713,561
Broom or analogous instrument, M. Young .. 713,549
Brush, rotary, F. G. Farnham 713,080
Bucket handle, J. Schaffer 713,505
Bucket, well, C. P. Jackson 713,442
Buckle, J. F. Molloy 713,569
Buffer, hand, O. L. Brainard 713,199
Buffing wheel, E. R. Burns 713,201
Burial aparatus, C. W. Wellman 713,187
Button, badge, J. A. Doran 713,076
Camera attachment, J. K. L. Thomsen 713,177
Can filling machine, J. R. Brown 713,554
Can opener, W. Maxwell 713,472
Cane and seat, E. La Force 713,114
Capo tasto, E. R. Kappeler 713,310
Car brake, J. Runnoe 713,499
Car coupling, F. S. Putnam 713,240
Car door, grain, Steine & Jones 713,167
Car door, grain, J. Montgomery 713,476
Car fender, E. Sherwood 713,163
Car grain door, S. E. McKenney 713,481
Car, ore, W. C. Matteson 713,321
Car replacer, G. I. Krieger 713,456
Car window, J. Stewart 713,525
Cars, automatic latch for dump, J. H. Hendy 713,302
Carbureter, vaporizing, W. M. Power 713,146
Carousal, cyclodial, W. D. Cronin 713,070
Carpet or floor covering, interlocking, A. L. Flood 713,420
Cash carrier, W. L. Churchill, 713,059, 713,060, 713,557
Cash register, J. Schinneller 713,159
Cash register, R. J. Cary 713,205
Cash register, J. L. Roberts 713,243
Cash register, Bickford & Lock 713,387
Cash register, Pottin & Moussier 713,490
Caster, M. Fishel 713,082
Chafing dish heater and support, L. M. Taylor 713,531
Chain, C. W. Levalley 713,120
Chain, drive, C. W. Hunt 713,102
Chaplet, McCoy & Lukens 713,571
Cheese cutter, W. G. Templeton 713,532
Chimney top, R. C. Dugan 713,409
Chocolate cutter, J. F. Wynkoop 713,270
Chuck, drill and lathe, O. M. Mowat 713,478
Churn, A. C. Enoch 713,293
Clay press, W. D. Frerichs 713,562
Clothes pins, machine for scoring, riveting, and printing, C. Carr 713,285
Clutch, friction, T. S. Casner 713,556
Clutch, shaft and pulley, A. C. Pessano .. 713,341
Coat hanger, I. F. Baer 713,376
Coating composition, insoluble, J. A. Just. 713,309
Cock, ball, D. W. Gorman 713,426
Cock, plug, Dordo & Schutte 713,052
Coke oven charging device, A. Ernst 713,413
Collar and necktie fastener, W. Ferguson 713,418
Collar blanks, etc., machine for folding, C. H. Knapp 713,112
Collar blanks, etc., machine for folding, Maitland & Beattie 713,230
Collars, etc., machine for reinforcing, J. H. Shepherd 713,247
Coloring matter. Compound suitable for producing, Julius & Gunther 713,447
Comb, J. A. Clinton 713,402
Conduit outlet box. Interior. Betts & Thomas 713,386
Cooker, S. W. Richardson 713,154
Cork extractor, W. T. Fox 713,422
Cork puller bottle neck clamping mechanism, E. Walker 713,540
Cotton chopper, A. R. Johnson 713,224
Cotton stalk cutter, W. Qualls 713,241
Crib, infant's, T. H. Churchill 713,398
Culinary utensil, H. von Uffel 713,575
Current motors, starting alternating, T. J. Johnston 713,445, 713,567
Currying device, H. J. Bretzel 713,281
Cut off, drain pipe, F. J. Louis 713,466
Cycle driving gear, motor, D. Macdonald 713,467
Cycle, motor, F. Thourot 713,533
Damper mechanism, F. G. Cooper 713,066
Dental chair, A. W. Browne 713,282
Dental engine, F. Hurlbut 713,103
Dental forceps, W. T. Martin 713,470
Dental matrix crown, I. H. Alexander 713,273
Dental tool holder, C. A. Lundberg 713,319
Dentistry, G. G. Martin 713,469
Desk lock, detachable cylinder, J. Roche, 713,244, 713,245
Display rack, Feldmann & Haas 713,417
Distilling apparatus, W. F. M. Goss 713,297
Distilling liquids, W. F. M. Goss 713,298
Door hanger, E. F. Lawrence 713,115
Door hanger, Lane & Janes 713,315
Door spring and check, combined, J. Wolf. 713,267
Draft gear, friction, H. C. Buhoup 713,392
Dress shields to waists, means for attaching, D. Basch 713,193
Drum, heating, W. J. Burton 713,055
Dumping device, C. W. Howbert 713,220
Dye and making same, red disazo, Schraube & Voigtlaender, Tetzner 713,507
Edge, straight, W. Paschall 713,141
Educational appliance, J. Flindall 713,085
Egg filler, C. E. Staats 713,355
Electric conduit, A. M. Lougee 713,123
Electric conduits, making, A. M. Lougee 713,122
Electric machines, maintaining synchronous rotation of dynamo, E. W. Mix 713,326

(Continued on page 349)