

RECENTLY PATENTED INVENTIONS.

Railway Appliances.

DUMPING CAR.—William F. Bennett, Peoria, Ill. This is a car of simple construction, arranged to dump either between or outside the rails, and which can be quickly removed from the rails. The car is formed in two longitudinal sections joined and having each a pivotal platform, which may be made to dump at either side by pulling out lock keys, the platforms working on axes arranged at points to one side but near their longitudinal centers. The manner in which the fastenings are arranged adapts the car to sustain any usual weight of ballast, earth, etc., and the cost of construction is but moderate.

LINK FOR CABLE GRIPS.—Vernon T. Lynch, Chicago, Ill. This link has a crosshead, on a projection from which is a right hand thread engaged by one end of a nut, the other end of the nut engaging a screw thread on a clevis, so that when the nut is turned the crosshead and clevis are moved toward or from each other. The nut is grooved longitudinally on its surface, the free end of a pawl fulcrumed on either the clevis or crosshead engaging one of the grooves to lock the nut in place. This link, which can be readily extended or shortened, is especially designed for use on cable grips.

Electrical.

INSULATOR.—George H. Graham, Ridgeland, and Thomas Gannane, Chicago, Ill. This is an insulator and support for telegraph, electric light, and other electrical conductors. It is made of glass, adapted to screw on the usual wooden pin, and has in its outer end a transverse groove for receiving the wire. The outside of the insulator also has a threaded portion to receive a threaded clamping ring. A block of insulating material is fitted in the groove over the conductor, and this block is held in place by a loop whose ends have hooks to engage the threaded ring.

INCANDESCENT LAMP COVER.—Emil T. Mueller, La Crosse, Wis. This cover consists of two similar halves, made of metal, paper, or other suitable material, and of approximately the same form as the lamp globe, there being attached to each half one end of a curved spring having a central eye for receiving the neck of the lamp. One part of the cover has a stud to be engaged by a hook on the other part when the cover is closed on the globe. The cover parts have a white inner surface, or are lined with a good reflecting material, so that when the covers are opened out opposite the neck of the lamp they will reflect the light downward.

Mechanical.

ORE CONCENTRATOR.—Gottlieb D. Husemann, St. Louis, Mo. This is an improvement in dry concentrators, in which the separation of the metal or metal bearing particles is effected by means of an air blast directed upward through a reticulated table or screen having riffles or pockets to arrest and retain the precious metal or heavier particles. As heretofore constructed, valuable dust has been liable to be lost in the use of such concentrators, and this invention provides an improvement in the pockets in the screen, and also in the bellows or blower, for the regulation of the blast.

WRENCH.—Robert Haberthur and John M. Stowell, New York City. This wrench has a jaw at the outer end of the handle member, a yoke pivoted adjacent to the jaw, and sliding in the yoke is a gripping member, with a jaw at one end and teeth on the under side of its shank, a spring-pressed dog pivoted to the body member engaging the gripping member. The construction is very simple, but few parts being used, and the wrench is capable of exceedingly quick adjustment to any size of nut, or to a pipe of any diameter it is desired to operate upon, this wrench being especially adapted for use as a pipe wrench.

THREAD CUTTER FOR BOLTS AND NUTS.—Thomas L. Lumby, Delphos, Ohio. This is a machine of simple and durable construction for cutting bolts, screws, and nuts, and adapted to cut bolts of different diameter by the same dies, the machine allowing of quickly moving the dies to engage or release the bolts after each bolt is cut, and enabling the operator to conveniently change the dies for different sized threads. The invention consists of holders fitted to slide radially in the face plate, in connection with a graduated mechanism for automatically moving the holders on the face plate to set the dies.

Miscellaneous.

SAFE OR DOOR LOCK.—William A. McCann, Jacksonville, Fla. This invention consists of a bar fitted to slide vertically and adapted to engage the locking bolt, with a spring catch engaging the bar and controlled from the combination lock. The bearings of the bar are formed on a side of a triangular steel bar secured to the inside of the door on which the lock is applied, the inner corner of the triangular bar abutting on the face of the door, so that if the latter be tampered with by the boring of burglars, the drill will break in coming in contact with the sharp corners.

TILL LOCK.—Charles T. Jearles, Binghamton, N. Y. This is a combination lock and alarm specially adapted for money drawers, locking the drawers securely and at the same time permitting their being quickly opened by one who knows the combination, then also giving an alarm, a bell ringing every time the till is pulled forward. A pivoted locking bar is adapted to pass into a transverse slot in the casing, and an arm pivoted on the table is adapted to engage an aperture in the locking bar, slotted tumblers sliding longitudinally in the casing also engaging the locking bar.

CLOCK PENDULUM ADJUSTER.—Frank M. Wakeman, Nantucket, Mass. This invention provides a simple device for automatically adjusting a clock pendulum to keep it in beat, whether the clock is inclined in one direction or the other. The improved construction provides, in combination with the escape-

ment, pallets, and guide wire, a pivoted arm for supporting the pendulum or pallets and a weighted lever provided with a cam adapted to move the point of suspension of the pendulum or pallets.

SCALE MEASURE.—Edward T. Burrows, Portland, Me. This is a rule capable of various adjustments, and comprising two sections, each consisting of two hinged members, the inner members of the sections lying face to face, and each having a guide loosely embracing the opposite member, the distal ends of the outer members of the two sections being disconnected and free to swing in opposite directions. This rule is designed to be specially useful in taking inside measurements, such as the width and height of the interior of window frames, while being also serviceable for all purposes for which the ordinary rule is useful.

TYPE-WRITING MACHINE.—James Richardson, North Tarrytown, N. Y. In this machine a spindle having a reciprocating rotary motion has loosely mounted on it an oscillatory type wheel, with means for disengaging the type wheel from the spindle at any time in the rotation of the latter, and re-engaging the type wheel on the return of the spindle to the point of disengagement. The movements of type, paper, etc., are effected by power called into action by but not applied through the keys, and uniformity of impression is not affected by varying pressures on the keys, while the spacing of the letters is uniform and the writer is always visible to the operator as it goes forward.

COIN-OPERATED VENDING MACHINE.—Samuel S. Allin, London, England. This machine has a series of fixed receptacles for solid or liquid refreshments, a series of coin chutes and coin-operated levers, and a central delivery mechanism common to all the receptacles, and arranged to be set to deliver different articles by the insertion of different coins. The invention is designed to improve the construction of machines of this class to render them more generally useful, and increase the number of articles which can be handled in them and the range of prices. The machine is designed to sell both hot and cold beverages, as well as simple articles of food and small wares in general use.

BRUSH HANDLE.—Charles F. Myers, McKinstry's Mills, Md. This is an improvement in adjustable handles for brushes, such as railroad brushes, shop or factory brushes, whitewash brushes, etc. Connected to the brush is a slotted ball having on its surface circular grooved seats, a screw-threaded stem being pivoted within the slot of the ball, while there is an interiorly threaded handle socket, and a grip ring is interposed between the socket and the ball, whereby the handle and brush may be adjusted to any desired angular relation to each other.

WINDOW SCREEN.—James Knowles, Jamestown, N. Y. In the construction provided for by this patent a spring roller is arranged at the bottom of the sash and a roll of netting wound around it to move in guides at the sides, the netting being attached to the lower edge of the sash, and being distended across the open space when the sash is raised, the tension of the spring roller holding the netting always taut and true.

FLOWER HOLDER.—James Martin, Temescal, Cal. This is a simple and inexpensive device for securing flowers in place when constructing floral designs. It has a shank or pin, the upper end of which is curved to form a jaw, then laterally across the shank forming an arm, while a spring-pressed clamping jaw has an arm crossing and rocking on the shank behind the first jaw.

ICE CREAM FREEZER.—Frederic B. Cochran, New York City. This is designed to be a low cost machine in which the various kinds of ices may be frozen quickly and kept frozen a long time, while the material used in freezing will not be liable to get into the material frozen. A cylinder holding a suitable freezing compound is adapted to be rotated just above and partially projecting into a cream pan, which is adjustable in relation to the cylinder, a thick coating of the cream or other material being frozen upon the cylinder as the latter is revolved.

FOLDING CRATE.—Job Spain, Belle Center, Ohio. This is a crate in which fowls may be kept and transported alive, and is designed to be light and airy while strong and durable, and to be folded when empty into a very small compass for convenience in transportation. The floor of the crate has sills on opposite sides to which are pivoted rods shaped to form the sides and top, corner plates being mounted on the upper portions of the rods, while a suitable end board and door are secured to the end rods and floor.

SPRING BUCKLE.—Charles B. Underhill, Lancaster, N. Y. This buckle has two shanks semicircular in cross section lapping each other with their flat faces and surrounded by a coiled spring, forming a device particularly applicable to trunk straps, horse girths, and other straps having attached buckles, admitting of the strap being more easily and closely buckled. Used in connection with a horse girth, the device is designed to make the girth more elastic than usual, and obviate trouble from the stretching of the girth.

BRAKE SHOE.—John J. Davenport, Philadelphia, Pa. This is an improvement in brake shoes, so made that the wearing block may be readily removed and another one substituted. The brake block holder has a top and bottom and one perpendicular side face projecting to form three sides of the block socket, the side face having spurs, and there being also spurs on a removable section, fitting and being held by screws in a rabbet of the holder.

CIGAR CASE.—Jacob H. Fawkes, Chicago, Ill. This is a collapsible case, designed when empty to lie as flat as an ordinary leather case, but having side frames with pivoted edge connections, and end pieces hinged to the frames, adapted for ready adjustment in such a way that cigars held in the case will be protected from being crushed or otherwise broken.

TOBACCO KNIFE.—Peter J. Bernard, Union Hall, Va. This is a tool designed more especially for harvesting plants, and also adapted for cutting and pruning other vegetable growths. The handle has a

forefinger receiving opening, and is re-enforced at this point by the blade tang, the tool being adapted for convenient use for a long time without cramping or disabling the hand.

FILTER APPLIANCE.—Charles G. Purdy, Brooklyn, N. Y. This is an antiseptic air vent and overflow device designed to give free vent of filtered fluid while excluding injurious germs, and allowing free outflow of surplus filtered fluid without admitting impure atmospheric air. A tubular body having at its outer part an air sterilizing substance is fitted to the reservoir, an overflow pipe with a fluid seal trap is connected to the tubular body, and a drain pipe is connected to the outer end of the trap, whereby impurities are positively excluded from the filtered fluid reservoir.

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NEW BOOKS AND PUBLICATIONS.

PALMER'S NEW PRONOUNCING POCKET DICTIONARY OF MUSICAL TERMS. By H. R. Palmer, Mus. Doctor. H. R. Palmer, New York, N. Y. Pp. 62. Price 25 cents.

THE STEAM ENGINE. By Daniel Kinnear Clark. Blackie & Son, London, Glasgow, etc., and New York. Parts 3 and 4. Pp. 255, 257 to 512. Price \$1 a part.

We note the reception of parts three and four of this very elegant publication. The record of systematic trials of furnaces and boilers, including many typical steam generators, is contained in part three. These include evaporative tests of the same with steam stokers, powdered fuel and other variations on ordinary practice. Part four gives rules and tables for the work of steam in engines, analysis of its action when expanding into a cylinder, the operation of compound engines and the like. Each part contains one or two large folding plates illustrating engines of different kinds. The work is unexceptionable in appearance and general make-up.

THE PHYSICIAN'S VISITING LIST FOR 1891. Fourteenth year of its publication. Philadelphia: P. Blakiston, Son & Co.

POWER THROUGH REPOSE. By Annie Payson Call. Boston: Roberts Brothers. 1891. Pp. 169. Price \$1.

This work is a plea for the gospel of relaxation. It is very timely at this day, when so many men and women insist on living on their nerves.

SCIENTIFIC AMERICAN

BUILDING EDITION.

APRIL NUMBER.—(No. 66.)

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1. Plate in colors showing a cottage on Lombard Avenue, Chicago. Two floor plans, perspective elevation, etc. Estimated cost \$2,800.
2. Colored plate of an attractive residence erected at Bridgeport, Conn. Cost \$6,900 complete. Floor plans and two additional photographic elevations.
3. A cottage costing \$2,700 complete, erected for Mr. R. H. Keller, at Rutherford, N. J. Three elevations and plans. Mr. U. D. Peck, architect, Rutherford, N. J.
4. Photographic view and two floor plans of a cottage at Austin, Chicago. Estimated cost \$3,300.
5. A row of new dwellings on West 82d Street, New York. Cost of each house \$20,000 complete. Messrs. Berg & Clark, New York, architects.
6. Cottage recently erected at New Haven, Conn. Cost \$6,850 complete. Floor plans and photographic perspective elevation.
7. An attractive dwelling erected at Yonkers, New York, at a cost of \$6,000. Photographic elevation and floor plans.
8. Two photographic views of the beautiful residence of Mr. Noakes, on Riverside Park, New York City, a colored view of which appeared in the March issue.
9. Sketch of a sixteen story office building to be erected at Chicago. Cost \$750,000.
10. Sketch of a water-cooled building. One of the novelties proposed and patented for the World's Fair at Chicago.
11. Recently erected English houses. Plans and perspective views.
12. Miscellaneous contents: How to catch contracts.—Toggle bolt for electrical and other fixtures, illustrated.—Composition for retarding the setting of plaster.—Quarrying marble.—The education of customers.—Iron and steel for building purposes.—An improved sanitary earth closet, illustrated.—Stamped metal ceilings, illustrated.—The Plaxton hot water heater, illustrated.—A hot water heater for soft coal, illustrated.—An improved woodworking machine, illustrated.—An improved casing for steam pipes, illustrated.

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Notes & Queries

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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.

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

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Minerals sent for examination should be distinctly marked or labeled.

(2944) M. B. writes: I have a valuable meerschaum pipe, which has got very strong, and I would feel extremely obliged to you, if you would publish in Notes and Queries the best way to cleanse the same. A. Close the hole in the stem with a cork. Pour alcohol in the bowl, and remove excess with sponge or blotting paper. Be careful to let none run down the outside, as it will cause a white mark. Then set it on fire. If it seems to get too hot, blow it out or extinguish by corking the bowl.

(2945) Chemist asks for method of manufacture of soluble glass by the wet method, proportion of sand to caustic soda, and is there a process for making same out of infusorial earth? A. It is sometimes made by heating caustic soda solution and flint together in digesters under pressure. We recommend our SUPPLEMENT, No. 317, for a paper on the subject.

(2446) T. H. De S. asks: Specific gravity of ash being 0.845, what will be the weight of a cubic foot if it be under water, and the rule for it? A. The weight of a cubic foot of water may be taken as 62½ pounds. The cubic foot of ash will weigh 0.845×62½=52.3 pounds. It will be buoyed up in water by an effective force equal to 62.5–52.3=9.7 pounds. The rule is based on the fact that a body immersed in water is buoyed up by the weight of water displaced and is attracted downward by gravity.

(2947) A. E. S. asks: Would it be best to mix the acid sulphite, alum and hypo soda fixing bath for negatives recommended by Cramer with a plain bath, after it becomes weakened from use, and precipitate both with sulphuret of potass., or would it be best to precipitate each separately? A. Mix an entire new bath and throw down the silver in the old mixed bath with sulphuret of potash.

(2948) G. E. L. asks how to redevelop a daguerreotype. It has faded so it can hardly be seen. A. It may be brightened by having a very weak solution of cyanide of potassium flowed over it. Great care is necessary; we advise you to put it in the hands of an experienced photographer.