

## RECENTLY PATENTED INVENTIONS.

## Engineering.

**"GLORY HOLE" GLASS FURNACE.**—Henry Hagerling, St. Louis, Mo. An improvement in glass bottle finishing furnaces is provided by this invention, whereby the entire bottle may be evenly heated, to prepare it nicely for the tempering oven, instead of the neck of the bottle only being heated, causing breakage, as has been frequently the case heretofore. The furnace has a main combustion chamber from which leads a horizontal flue extending around within the furnace walls, there being a series of working holes in the furnace walls above the horizontal flue, and flues leading from the horizontal flue to the working holes, in which are sliding dampers, with means for supporting and evening the bottles.

**PULLING OR LIFTING MACHINE.**—John Cornelius, Oakland, Md. In this machine a base or bed supports a pulling mechanism in which, combined with a main wheel provided with a worm wheel, is a main worm meshing with the wheel and provided with a worm wheel with which meshes a drive worm, a worm wheel formed of sections being arranged on opposite sides of a chain wheel, and the invention including various other novel features. The machine is adapted to be easily convertible to either an elevated wrecking machine or a flat pulling machine, and arranged for extraordinary power or a medium power, and a higher or lower speed, and may be advantageously used to remove wrecked cars from a track, in pulling stumps, in quarries, in bridge building, etc.

**FEED WATER FILTER AND SEPARATOR.**—Elwood P. Mandigo, Brooklyn, N. Y. This is an apparatus for purifying feed water, more especially the water of condensation from the condenser of a condensing engine, to remove the oil and other deleterious matter. It consists mainly of a vessel having a series of compartments connected by pipes, which have openings at their lower ends near the bottom of one compartment and their outlets extending into the adjacent compartment at about the water level. The water progresses from one chamber to another in being separated from the oil, the latter being left entirely in the separator when the water passes to the boiler.

## Railway Appliances.

**CAR COUPLING.**—Frederick H. Brown, West Pittston, Pa. This invention relates to an improvement in car couplings of a kind in which a hinged jaw interlocks by a lateral movement with a similar jaw on another coupling, the invention providing an improved locking pin and means to retain the pin in elevated adjustment until the vibratile coupling jaw is rocked by the impact of a mating coupling jaw with which it becomes interlocked automatically, improved means being also provided to lock the jaw in a coupled condition. There is a joint leaf on the swinging jaw, with a cam slope on its inner edge to sustain the locking pin, which is adapted to drop through a notch in the cam slope at its lowest point.

**CAR DOOR.**—John Smith, Pooler, Ga. This is a ventilating door in which the frame has a series of slats with trunnion ends near one longitudinal edge of each slat and a shouldered projection on one slat end of each slat joining the base of the trunnion, a slide bar being notched edgewise in series to receive the shouldered projections, with means to move the slide bar longitudinally. It is a freight car door designed to afford free ventilation to the interior of the car while the ventilator may be close sealed when necessary, avoiding the use of a special door to ventilate the car.

## Electrical.

**ELECTRIC MOTOR.**—James T. Wilson, Tyrone, Pa. In this motor a continuous rotary motion is converted into an effective reciprocating motion, applicable to bicycles, cars, tricycles, drilling machines, the driving of saws, and other uses. The motor is mounted on a reciprocating frame and has its armature journaled in side bearings, there being cranks on the ends of the armature shafts, pitmen connecting both cranks with a fixed frame, and a transmitting rod connecting with the reciprocating frame.

**MAGNETIC EXTRACTOR.**—Horatio W. Southworth, New York City. This improvement is specially designed to facilitate the removal of particles of iron and steel from paper pulp, and is also adapted for similar use in various industries. The pulp or other material is flowed through a helical channel or sluice in which is arranged a series of magnets past which the pulp flows, so that the magnets may take up any contained particles of steel or iron and hold them until the end of the run, when the apparatus is cleared of the pulp and the magnets are discharged of the adhering particles.

**ANNUNCIATORS.**—Ralph A. Schoenberg, New York City. This invention provides an attachment whereby the annunciator may be pneumatically reset without jarring and the annunciator may be placed upon any desired support without interfering with its proper manipulation. The attachment may be operated from a distance, and means are provided whereby, before ringing and causing a drop finger to disclose the number of the room or floor, the operator may be assured that every drop finger is elevated and concealed from view in front of the annunciator window. The attachment is very simple and inexpensive, and can be readily applied.

## Mechanical Appliances.

**VALVE SEAT GRINDER.**—Hiram H. Swallow and Mathew T. Jones, Carbondale, Kansas. In connection with a frame on which a clamping plate is adjustably held is a shaft mounted to turn and slide in the frame, a chuck on the shaft carrying the valve, with means for imparting a rotary motion and a sliding motion to the shaft. The device is very simple and durable, can be readily applied to the valve, and permits of examining the grinding of the seat at any time during the progress of the work, while the several parts are

held in perfect alignment, so that the seat is ground in proper relation to the valve.

**DRAWING FRAME.**—Junius A. Murphy, New Orleans, La. According to this invention a combing belt is arranged above a supporting apron, and has a forward movement beyond the apron, drawing rolls being arranged in advance of the apron and beneath the forward end of the combing belt. The improvement provides a means for effectively and economically combing animal fibers, particularly horse hair, which has a peculiar tendency to entwine itself in and follow the combing fingers in ordinarily arranged drawing frames, instead of leaving the fingers in obedience to the action of the drawing rolls. By this improvement provision is made for releasing the hair by gravitation in the clearance space beyond the apron and beneath the combing belt.

**WRENCH.**—Thomas A. Ferguson, Lyons, Neb. This is a simple form of wrench adapted for use as a pipe wrench or a nut wrench, and which adapts itself to a variety of sizes of nuts or pipes. It has a slotted shank with one end inclined and terminating in a fixed jaw, the shank also having teeth on one edge in which interlock the teeth of a movable slide block. Means are provided for securing the block in the shank, and a movable jaw is connected with the block by a ball joint, the jaw having its free end curved and provided with teeth. The curvature of the movable jaw is such that the distance between the outer portions of the two jaws is greater than the distance between their inner portions, so that the wrench may be instantly applied to objects of very dissimilar sizes.

## Agricultural.

**POISON DUST DISTRIBUTOR.**—Enoch B. Norton, Hartford, N. Y. This is a device to be carried along rows of potatoes, corn, or other plants to be powdered, and an upward jolting movement given to the powder-holding chamber, causing a dust guard to protect over each hill successively, so that the dust thrown out will be confined and directed upon the leaves and stalks of the plants operated upon, to kill bugs or similar insect pests. The dust holder is cylindrical and has a foraminated conical bottom, in combination with a concentric air escape tube attached to the bottom and terminating above within the chamber, while a downwardly projecting dust guard envelops the plant when being dusted.

## Miscellaneous.

**CENTER SUPPORT OR HANGER.**—Thomas W. Snell, Chicago, Ill. This is a device for supporting centers for masonry, arches, floors, etc., adapted for ready application and adjustment to support the center at the proper place. It consists of a chain adapted to engage the center, a bolt provided with a hook to be engaged by the chain, and a cross beam adapted to carry the bolt. The hanger always passes through the center of the arch in the tile course, and a hole is always left from nine to eighteen inches long by six to nine inches wide, this hole being filled up after the centers are dropped.

**HEATING, COOLING AND VENTILATING APPARATUS.**—William M. Decker, Kingston, N. Y. This invention provides an improved system adapted for use in all architectural structures having intercellular spaces in side walls and between floors. Pipe coils connected with the steam or hot water pipes are located in the intercellular spaces, and in the outer side walls are registers for the graduated introduction of cold air from the outer atmosphere, there being also registers to afford exit passages for foul air or any excess of heat in the upper part of the rooms. Rods projecting through perforations in the inner side walls are adapted to move slide gates to regulate the flow of hot or cold air in the intercellular spaces, the system affording a continuous envelope of properly heated air for a building, and giving a uniform heat and pure air as well as ventilation.

**RADIATOR LOOP.**—George H. Burley, Tyrone, Pa. This is an improvement for conveniently controlling the steam and water of condensation so that the entire radiator or only a part of it may be used as desired to regulate the heat of a room. Two members are separated from each other on top and bottom and have inlet openings on opposite sides, with valves in the lower ends of the legs, plugs held in the lower ends of the radiator loop in communication with outlet openings and discharging into a common pipe, while valves connected with a water return pipe are arranged on the inner ends of the plugs.

**WEIGHT LIFTING ATTACHMENT.**—James W. McHenry, Aspen, Col. This is a device to be applied to express and delivery wagons for lifting and dropping the weight attached to the halter and reins for temporarily holding the horse. It consists of a conical frame attached to the axle by means of the king bolt, for receiving and holding the weight when drawn up, with an angled lever fulcrumed on the wagon body and connected by a cord with the halter or rein-holding weight, while a releasing lever pivoted to the wagon body is adapted to retain the weight-holding lever. If desired, the reins may be so connected that, when the horse starts, the weight will be released and fall to the ground, to act as a backward pull on the reins.

**HOLDBACK FOR VEHICLES.**—Patrick Mullane, Moline, Ill. A simple, strong, secure, and easily manipulated holdback is provided by this invention. It consists of a metal band attached to a vehicle shaft and having a lateral keeper for the breeching strap and a hinged tongue which serves to secure the strap detachably. The looped free end of the strap passes beneath the keeper and the hinged tongue drops through the loop, thus holding the strap securely while in use, yet permitting it to be easily and quickly detached.

**COMBINED TRUNK AND BED.**—George W. Snaman, Jr., Allegheny, Pa. This invention provides an improvement on a former patented invention of the same inventor. The combination device comprises two sections hinged together at one end, each

section having a removable wall at the hinged end, and one of the walls having binding hooks engaging the side walls of the section. The sections are provided with staple loops, into which enter the tenons of legs that also have shoulders extending under the bottom. A tray having a hinge cover is hinged to one end.

**FLOUR CABINET.**—Albert A. Tinker, Madison, Wis. This cabinet is of simple and novel construction, designed to be neat in appearance, and afford ample ventilation to the flour or other materials kept in its bins. A moulding board or leaf is pivoted to the framing in a manner to facilitate ready use, and all the parts are so arranged as to afford easy access to the flour and prevent waste.

**OIL CAN AND LAMP FILLER.**—Charles W. Proctor, Lake Forest, Ill. This invention is designed to afford a convenient receptacle in which oil may be kept, and which may also be used to fill lamps without danger of spilling the oil. It consists of a closed tank or can, in the inside of which, near the top, is an open basin adapted to hold about the necessary quantity of oil to fill a lamp. Leading from this basin is a pipe which connects by a swinging joint with a swinging pipe through which oil is delivered to the lamp. This pipe has a faucet near its free end, and is adapted to lie flat on the face of the tank when the latter is laid on its back, so that there will be no leakage of the oil.

**BICYCLE.**—Felix Clément, Salins, France. This invention provides for bicycles, velocipedes and similar machines a yielding or flexible frame that is designed to be durable and also easy to the rider, so that, if desired, the saddle springs may be dispensed with. It is a two-part frame with members of essentially triangular shape, hinged together near the bottom, one member being mounted on the rear wheel and the other on the steering fork, while sockets are formed in the upper adjacent portions of the members and a spring extends from socket to socket, the location of the spring being such that it receives directly the shock transmitted by either of the wheels.

**CASH CARRIER.**—Charles Frederick, Columbiana, Ohio. This is a carrier of the type wherein a wire track is used to support a traveling carriage, and improved means are provided to removably hold the carriage at a station, with novel mechanism to actuate the carriage in propelling it from one station to another, improvements being also effected in the means for removably attaching the cash receptacle to the carriage proper. The entire device at each station is suspended on a depending hanger arm reaching a point accessible from the floor, to permit the convenient manipulation of the mechanism.

**CLASP.**—Antenor Assorati, New York City. A simple and inexpensive article capable of use wherever a button is required, and especially adapted for closing and locking the pockets of garments, is provided by this invention. It is made in two sections, one having a locking contact with the other, the keeper section having a trip and a keeper post, and the latch section having apertures to receive the posts and a spring. It is impossible for a pocket to be opened when locked by the device without warning or notification to the person wearing the garment.

**PENCIL ATTACHMENT.**—Joseph H. Hamill, Globe, Arizona Ter. This is a little device to be attached to pencils to prevent them from accidentally escaping from the pocket. It consists of a rod attached to the end of the pencil, a funnel-shaped rubber cup on the rod opening toward the end of the pencil, and a metallic slide for closing the cup. A socket is also provided for receiving the end of the pencil and supporting the attachment.

**NURSING BOTTLE.**—Gabriel A. Bobrick, New York City. This bottle has projecting lugs on its neck, over which is adapted to slip a rubber nipple having perforations to receive the lugs, the material being re-enforced around the perforations, and the arrangement making accidental displacement impossible. The nipple may be easily placed in position upon or removed from the bottle.

**SIGN.**—William R. Garner, Galveston, Texas. This invention provides an improvement in signs for street railroad cars. The sign is made triangular in cross section, having at its top an opening with movable cover and being conformed at its base to the top of the car to which it is to be fitted, there being fastening devices by which the sign is secured directly to the car. The sash signs held in the main frame or casing are arranged so that the front sign can be read as the car approaches, while the side signs can be read by persons in the rear or on the sides of the car.

NOTE.—Copies of any of the above patents will be furnished by Munn & Co., for 25 cents each. Please send name of the patentee, title of invention and date of this paper.

## NEW BOOKS AND PUBLICATIONS.

**PERFUMES AND THEIR PREPARATION.** By George William Askinson, Dr. Chem. Translated from the third German edition by Isidor Furst. Illustrated. New York: Norman W. Henley & Co. 1892. Pp. viii, 312. Price \$3.

The subject of the manufacture of all classes of perfumes is the topic of this attractively printed volume. Its opening chapters treat of the history of the art and tell about the nature and properties of the original substances in the animal and vegetable kingdoms as prepared by the chemist for the manufacture of perfumes. Next the extraction of odors, giving materials, their special characteristics, their adulteration, and the special extracts and essences used in the arts are treated. Adulteration of the valuable essences and extracts receives proper consideration, and directions for making them follow. All kinds of finished perfumes, for the handkerchief, sachets, fumigators, etc., are given. The hair and skin and preparations for application to them are given liberal space, including cosmetics of all kinds, hair dyes and depilatories. The work has, it will be seen, a wide scope and will be of

general as well as professional interest, meeting the wants not only of the druggist and perfume manufacturer, but also of the general public. It has been revised by Dr. Charles Rice of this city, a recognized authority in pharmacy and allied topics. The book should be warmly received by the public as well as by the technical manufacturer.

**A MANUAL OF THE STEAM ENGINE.** Part II. Design, construction and operation for engineers and technical schools. By Robert H. Thurston, A.M., LL.D., Dr. Eng. New York: John Wiley & Sons. Pp. xxiii, 934. Price \$7.50.

All that is necessary to say of this second volume of Professor Thurston's great work is that it upholds fully the promises of the first volume. Design, regulation of speed, construction and erection, operation, care and management, engine and boiler trials, specifications and contracts, and finance of steam engineering are the topics more particularly covered. The work is too large and ample for us to pretend to review it within the limits of the space at our command. Its size, style and author are enough to make it a *sine qua non* for every engineer who wishes to keep abreast of the present day. It is excellently indexed, and while containing many calculations and formulæ, does not by any means miss the practical side of the topics, showing and explaining accepted structures and designs.

**EVOLUTION IN SCIENCE, PHILOSOPHY, AND ART.** New York: D. Appleton & Co. 1891. Pp. ix, 475.

This book contains a series of popular lectures before the Brooklyn Ethical Association. It includes fifteen papers on all kinds of evolution, in many cases the modern fashionable name for what used to be called progress. In it we find evolution of chemistry, electric and magnetic physics, botany, zoology, optics, art, etc. It is to be hoped that the picturesque process of evolution is still going on, as there is much yet to learn. Among the authors are Prof. John Fiske, Arthur E. Kenelly, Prof. Edward D. Cope, and others more or less known in their respective capacities.

**SHORT HAND AND TYPE WRITING.** By D. McKillop. New York: Fowler & Wells Co. Pp. 123. Price 40 cents.

This little pamphlet is one of a series to be called the Self-Culture Library. It seems to be well written and to present its subject very graphically and practically. It has a number of cuts illustrating different type writers, etc.

## SCIENTIFIC AMERICAN BUILDING EDITION.

## FEBRUARY NUMBER.—(No. 76.)

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3. A residence at Portland, Me. Cost, \$11,000 complete in every respect. Floor plans, perspective elevation, etc.
4. The very attractive residence of E. T. Burrows, Esq., at Portland, Me. Cost, \$9,500 complete. Perspective elevation, floor plans, etc.
5. A dwelling at Augusta, Me., erected at a cost of \$3,200 complete. Floor plans and perspective elevation.
6. A handsome dwelling at Carthage, Ill., designed in the style of modern Romanesque. Cost, \$8,000. Perspective and floor plans.
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10. Sketch for a suburban chapel. Submitted by O. M. Hokanson in the St. Paul Architectural Sketch Club competition.
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