

RECENTLY PATENTED INVENTIONS.

Engineering.

EXHAUST NOZZLE.—John H. McIndoe and William Meredith, Mount Pleasant, Pa. This is a nozzle adapted for the smoke box of a locomotive engine, with sliding block for controlling the capacity and top opening, which does not, when fully adjusted inward, lap over the opening below it to baffle the escaping steam, but insures a free or uninterrupted discharge from the channel through the nozzle.

Railway Appliances.

DUMPING CAR.—Ferdinand E. Cancla, New York City. This car is of the kind having one or more discharge apertures in its floor, closed by sliding doors, the invention covering novel features whereby the sills are kept intact, and serve to carry the door, and whereby great strength and thorough efficiency are secured.

SINGLE RAIL RAILWAY.—Rufus H. Brown, Peabody, Mass. This invention provides means and mechanism whereby the car is not only supported in upright position, but is allowed a certain amount of play vertically and laterally, that it may ride over obstacles and inequalities, springs being arranged in different positions to effect such object.

Mechanical.

COTTON COMPRESS.—George Taylor, Hillsborough, Texas. This press has opposing sets of toggle levers, one set connecting each end of the sliding platen with the frame, the duplicate sets of toggles being each united to the stud of the piston by single links, making a simple and efficient device, securing economy in power and in construction.

CONVEYING BELT.—Daniel Brennan, Jr., Saltersville, N. J. This belt is made of a pair of endless ropes, covered, connected, and held apart throughout, by narrow metallic bars or wires looped over and upon them, and is capable of being driven by ordinary machine pulleys, the cross bars and attachments being of shapes to form sides, flights, buckets, etc., upon the belt, to adapt it to work horizontally, vertically, or at any required angle, to convey materials and transmit power.

MOTION CONVERTING MECHANISM.—John De Monnin, Corvallis, Oregon. This mechanism is specially designed for application to a steam engine, to convert rectilinear into rotary motion, and comprises a swiveled or pivoted cam or lever, combined with and engaging in opposite directions spiral grooves in a cylinder applied to a shaft, with stationary or fixed cams for shifting or switching the pivoted cam.

BUSH HAMMER.—Luther H. Rowell, South Thomaston, Me. This is a hammer for dressing stone, in which two pole plates are used, with integral shank sections, united by a sleeve, which forms a socket for the handle, the cuts being made in the form of long blades, each in one piece, extending between and beyond the pole plates, the plates and cuts being held together by transverse bolts.

SEAMLESS PULP TUBES.—Horace J. Medbery, Ballston, N. Y. This invention covers a peculiar construction and arrangement of parts in a machine adapted to form straight sections of seamless tubes, pipes, or other analogous articles of a uniform diameter throughout, of paper or wood pulp.

ELEVATOR INDICATOR.—Oliver C. Hayward, New York City. Within the elevator shaft, or in a casing auxiliary thereto, the several indicators are pivoted, and adapted for engagement with the car, the invention providing a simple and economical attachment whereby the approach of the elevator from above or below will be indicated and its position shown.

Agricultural.

PLOW.—Jeremiah R. White, Raymond, Miss. This plow has a reversible scraper blade, made of oblong diamond form and cylindrical in curve, so that all the corners will touch a flat surface, and having a central bolt hole and indentations or gashes on either side of the center, whereby the scraper can be adjusted to trim off the row between the bar of the plow and the plants.

FEED TROUGH.—Martin V. B. Stevenson, Jesup, Iowa. The main feed receptacle has a laterally swinging U-shaped agitator, which is operated by the horse or other animal bringing its nostrils close to the bottom of the feed trough, whereby the grain or feed is fed to the trough in limited quantities, and the animal will be compelled to feed slowly.

HARVESTER AND THRASHER.—Lester A. Gillett, Leonardville, Kansas. The cutter bar is carried by a swinging frame which the operator can raise and lower or lock in position, according to the depth to which the grain is to be cut, the grain being fed into the front open end of the thrashing machine by a belt, the straw, after thrashing, passing out of the rear of the casing, while the kernels are passed through a chute into bags.

CORN CUTTER.—George W. Gibson, Kimbolton, Ohio. The frame of the machine has side extensions forming horizontal tables on which the cornstalks cut by knives fitted at the front edge of the tables fall as the cutter is drawn forward, while the machine has an attachment by which shocks are readily formed after enough stalks have been cut for the purpose.

HAND PLANTER.—Wilber S. Wikle, Union, West Va. This planter has two vertical arms, hinged at their lower ends by plates, the arms having at their sides metal casings adapted to project downward to form a chute or mouth which is opened as the arms are brought together and closed as they are drawn apart, with other novel features, whereby corn and beans may be planted at the same time and fertilizer simultaneously distributed.

Miscellaneous.

CARTRIDGE LOADER.—James V. Thompson, Fort Madison, Iowa. The device has a powder and a shot magazine and a wad box, and is adapted to fill either a paper or metal shell, regulating the amount of charge as desired, while it is durable in construction and may be expeditiously and conveniently manipulated without danger of exploding the primer.

ATTACHING EYEGLASSES.—William H. Brownlow, Brockville, Ontario, Canada, and Joel S. Warner, Ogdensburg, N. Y. A plate is secured to the under front surface of the visor or brim of a hat, and eyeglass frame and lazy tongs connected therewith, in such way that the glasses may be easily drawn downward and adjusted, or will be held out of the way, against the hat brim, when moved upward.

CHALK HOLDER.—Fannie Chambers, New York City. Within the holder is an operating screw rod, on which is mounted a traveling nut, and a chalk-holding clamp, to firmly hold the chalk as it is projected out of and withdrawn into the casing by the operation of the screw rod, the device being for use with tailor's chalk, the holder feeding the chalk down as its edge becomes worn.

HEAT RADIATOR.—Asa C. Edwards, Westfield, Mass. It consists of a heating drum having transverse rotary tubes with open ends, the apparatus being provided with means by which the dampers of the radiator may be automatically opened and closed and the radiator tubes be cleansed from soot.

GATE.—Joseph Albers, Wells, Oregon. Combined with a pair of pivoted gates are pivoted opening levers and a rod connected to the pivots of the gates, with other novel features, whereby the gates may be opened for the passage of teams, and closed, without the dismounting of the driver, or the gates may be held in open position.

GATE.—Hiram S. Harris, Cincinnati, Ohio. This invention relates to sliding gates operated by levers actuated by persons passing, and provides simple and positively acting devices by which the gate may be slid open or shut easily, and without derangement of the levers, pull cords and drum.

VEHICLE SHAFT.—William B. Farrar, Greensborough, N. C. This shaft has a peculiar joint in its length that permits its position to be changed laterally and the shaft tightened up in a new position, to increase or diminish the space between the shafts, to adapt them to larger or smaller horses.

HAME TUG.—George W. Moliere, Ocean View, Cal. It has a hollow leather casing for the reception of the entire end of the trace, a metal eye or clip with shanks extending along the inside of the casing, with space for the tug and a set screw, the extended shanks and the trace, so that there is no projecting end of the trace, the latter being neatly housed.

END GATE.—Frank S. Sears, Atkinson, Ill. This is a wagon end gate, resting on a projecting strip or ledge at the rear end of the wagon body, and connected to the body by metallic straps and hooks, so that the gate can be readily opened and held in horizontal position, or swung beneath the body, or so that a part only of the end gate may be opened.

WHIP SOCKET.—Herbert Elder, Harrisburg, Pa. Combined with the whip socket are attaching plates, between which an arm is pivoted having a projection on its inner side, and a vertically sliding hook or catch, whereby a whip may be securely held and locked, the whip being clamped against the interior wall of the socket.

MILLSTONE DRESS.—Joseph H. Brown, Social Circle, Ga. This invention provides a millstone dress with auxiliary transverse furrows to check or retard the progress of the partially ground material and prevent it from passing too rapidly from the eye outward, making a combination dress for use with wheat and corn, middlings, and all varieties of grain, and with which the stone can be run rapidly and will keep cool.

ASH SIFTER.—Edward E. Smith, New York City. The stove, below its grate and base flange, is made a little deeper than usual, to accommodate the sifter devices and give room for the ashes and cinders, which are discharged into two separate compartments at opposite sides of a partition across the bottom plate, and the invention covers novel features of construction in a sifter adapted for use in such place.

SASH FASTENER.—John G. Erickson, Hadley, Minn. This is a sash fastener and holder, consisting in a casing having an inclined locking bolt, to lock the sash when closed, and a vertically and outwardly movable friction holder for holding the sash open at any desired height, the device being automatic in its action, strong and durable, and having no springs.

STEERING DEVICE.—Charles D. Wooley, Walden, N. Y. This invention covers an auxiliary steering device to be readily arranged for use in case of accident to the main steering gear, the vessel being made with a downwardly opening rudder recess, at the rear part of the keel, in which is secured a vertically adjustable rudder post carrying a rudder, the construction being such that the rudder can be retracted wholly within its recess or projected completely below the bottom of the vessel.

LAMP COVERING.—George H. Dean, St. Louis, Mo. This covering is for inclosing the glass globes of incandescent lamps while out of use, and consists in a case formed of two similar hollow halves, a hinge connecting the lower ends of the halves with a spring bearing on the halves at their hinged ends and holding them normally closed.

HEAD PROTECTOR.—George H. Chapell, William Brown, and John Brown, Brownston, Minn. This protector consists of a ring with sliding ribs, supports, shoulder pieces, web and covering, adapted to be worn upon the shoulders and around and over the head, to protect the face and neck of the wearer in inclement weather.

FIRE ESCAPE.—John D. Rullmann, San Antonio, Texas. This escape consists of an extensible tower having a series of platforms, a series of lifting toggle levers arranged in pairs as lazy tongs at the four corners, with a series of bracing toggle levers arranged to work reversely to the lifting toggles, the construction being also adapted for use as an observation tower or for other analogous purpose.

HORSE BOOT.—Thomas B. Mason, Trenton, N. J. This boot is preferably made of a divided soft rubber ring, to be fastened around the horse's leg with a hasp, the inner edge of the ring having flanges over which is stitched a padded cushion covered with enameled leather or analogous material, making a boot which will not absorb moisture, will retain its form, and may be readily put on and taken off.

DRESS STEEL.—Mary E. Whalen, New York City. This steel has a bow having metallic straps secured to it and forming a bow with double ends, that it may be maintained without strain on the dress, to give the desired set, without the front of the dress being drawn too tightly, while retaining the fullness of the skirt at the back without necessitating "shirring."

TRUSS.—James A. Tigner, Rome, Ga. This invention relates to trusses having a vertical spring carrying the abdominal and hernial pads, and a transverse spring to the ends of which the strap or band is secured, the invention covering a special construction of the truss.

GATE.—Harvey C. Riley, Perryville, Mo. This is a swinging gate with novel mechanism for operating it, so constructed and arranged that the gate may be readily opened by a person in a vehicle approaching the gate in either direction, and closed after the vehicle has passed through, without alighting from the vehicle.

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(242) F. V. H. asks: 1. I have a large picture frame to gild; what shade of gold leaf is used—light, medium, or deep? A. It is all a matter of taste. The deep color perhaps is most used. 2. How can I make a good sizing, so that the leaf will adhere to the frame evenly? A. Buy burnish-gold size ready mixed, and apply six or eight coats to the frame; polish the mat parts, before the size is quite dry, with a woolen cloth; give the parts to be polished another coat of size. The frame is moistened and the gold leaf is laid on. 3. I want to get a high polish on the smooth parts of the frame; how is it done? A. The bright parts are burnished when the frame is at a particular stage of dryness; flint oragate burnishers are employed, of different shapes. 4. I suppose it (the frame) will need varnishing after the gilding is done. What varnish is used? A. Use white hard spirit varnish, such as gum sandarac or yellow gold lacquer. The whole process of gilding a frame requires much skill, and we advise you to consult Spon's Workshop Receipts, first series, for an elaborate description of it. We can send the book free by mail for \$2.00.

(243) J. C. W. asks: Does Germany own and control the railroad and telegraph systems within her domain? If so, how did she gain possession of them—by purchase? And how do the rates of transportation compare with the rates charged here in America, and is the revenue therefrom in excess of the expenditure? If Germany owns the railroad and telegraph, what influence, if any, does it make in politics, and are the masses of the people benefited, apparently, by government control, if such be the case, and how are they managed—by a government bureau? A. The railroads in Germany are comprised in three classes, viz., owned and controlled by the several state governments, 32,174 kilometers; private companies with roads under state control, 674 kilometers; private companies controlling their own roads, 4,286 kilometers. The state governments built some of the railroads, and purchased others from private companies. The revenue