

the bell crank lever P_1 , and will be held open until the lever e is raised by means of the arm S , weight M and lever a , and the flaps closed, substantially as described. 4th. In automatic weighing machines, the coin guide K provided with slot K_1 , so that coins of too small a size will be let out of the machine into an external receptacle o , substantially as described. 5th. In automatic weighing machines, the combination of the lever I , piston i and cylinder l , with the lever mechanism, in order to regulate the movement of the connecting rod and increase the durability of the parts, substantially as described.

No. 28,637. Railway Track Drill.

(*Forêt de chemin de fer.*)

Louis J. Crecolius and Andrew Warren, St. Louis, Mo., U. S., 6th March, 1888; 5 years.

Claim.—1st. In combination, a suitable supporting frame, the drilling tool, the ratchet-wheel carrying said tool, a ratchet-spindle for rotating the same, and means operated by the rotation of the ratchet for automatically moving the drilling tool longitudinally, substantially as described. 2nd. In combination, the supporting frame C , a holder, as E , for the drilling tool, having rotary movement only in said frame, and means within the holder for automatically moving the drilling tool longitudinally, substantially as described. 3rd. In combination, the supporting frame, having a hollow portion e , tool-holder, as E , supported in said frame and having a hollow spindle, and means for giving the tool longitudinal movement, said means being located within the hollow spindle and the hollow portion of the frame, substantially as described. 4th. In combination, the drilling tool, a rotary holder E therefor, the follower in the rear of the tool, independent thereof, operated by the revolution of the holder to give the longitudinal movement to the tool, and a controlling nut in connection with the follower for regulating the movement of the said follower, substantially as described. 5th. The combination, in a track-drill, of the main bar and the drill frame C , said drill frame being journaled upon the said main bar to be rotated thereon, as described. 6th. In a track-drill, the main bar, the drilling mechanism and a frame, as C , for supporting said mechanism, said frame having a journal bearing at its end, adapted to the main bar and to have a sliding movement thereon, substantially as described. 7th. In combination, the main bar, the drilling mechanism, the frame for supporting the same, the said frame having a tubular journal-bearing at its ends adapted to the bar, and a set-screw, substantially as described. 8th. In combination, the brace-frame composed of the bar A and the end-bars a , a' , a drilling mechanism, a drill frame for supporting said mechanism carried by the main bar and arranged, when in its normal position, to lie in the same plane with the brace-frame, substantially as described. 9th. In combination, the main bar A , the drilling mechanism, the frame C for supporting said mechanism, the ratchet-lever F , the end bar a and a keeper K on said arm, adapted to hold the lever F , substantially as described. 10th. The combination, in a track or other drill, of the perforated ratchet-spindle, the perforated frame part c , the drill D and the screw G , substantially as described. 11th. The combination of the brace, the drill-frame, the screw, the wheel H , the nut I and the plate J , substantially as described. 12th. The combination of the drill, the screw, the ratchet and spindle, the frame C , the brace, the wheel H , the nut I , the plate J and the ratchet lever, substantially as described. 13th. The combination of the ratchet-spindle, having the squared perforation, and the screw having its threaded portion squared, as described. 14th. The combination of the screw, having the shoulder, the wheel H and the drill-frame part c , as described. 15th. The combination of the screw, the wheel H , the drill-frame part c and the main bar a , as described. 16th. The combination of the drill frame C , the ratchet-spindle and the screw, as described, and for the purpose of supporting said ratchet spindle at both ends. 17th. The drill frame C , perforated at c , and c' , in combination with the screw and the drill brace A , substantially as described. 18th. In combination, the brace-frame, the drilling mechanism and a leg M , for supporting the brace-frame and said drilling mechanism, substantially as described. 19th. In combination, a drilling tool held in a rotating ratchet, a screw or follower arranged in rear of said tool and operated by the ratchet to advance said tool longitudinally, a nut on said screw for controlling the movement thereof, and automatic means for causing intermittent movement of the screw longitudinally, substantially as described. 20th. In combination, a drilling tool carried and operated by a ratchet, an independent screw in the rear of the tool, and adapted in connection with a controlling nut to be operated automatically by the movement of the ratchet, to advance the drilling tool longitudinally, substantially as described. 21st. In combination, the drilling tool carried and rotated by the ratchet, the feed-screw in the rear thereof, having longitudinal movement, a controlling nut on said screw having rotary movement, and means for holding said nut stationary, whereby the rotary movement of the ratchet will operate to advance the screw, substantially as described. 22nd. The combination of the drill-brace, the leg L and the chair M , said leg being made to slip and to turn upon the main bar, and said chair being attached to the brace by means of the chain, as described. 23rd. The combination of the drill D , the perforated ratchet-spindle and the screw G , said screw acting to push the drill longitudinally through the spindle, as described.

No. 28,638. Nail. (*Clou.*)

The Plame and Atwood Manufacturing Company, Waterbury, Conn. (assignees of Elihu Wilder, Newton, Mass.), U. S., 6th March, 1888; 5 years.

Claim.—1st. A wire nail made from cylindrical wire having one side cut away at one end to form a diagonal surface 2, and the opposite side cut away to form a flat surface 5 of considerably greater length than the surface 2, the said surface 5 forming a chisel point by its intersection with the surface 2, and by its elongation preventing the driven nail from turning, as set forth. 2nd. A wire nail cut away at one side to form an oblique surface 2, and cut away at its opposite side to form a flat surface 5 extending from the end intersected by

the surface 2 nearly to the opposite end, and there terminating in a shoulder 4, the last mentioned end having the full diameter of the wire, as set forth.

No. 28,639. Reamer for Boring Gas, Oil or Water Wells. (*Forêt pour creuser les puits de gaz, d'huile ou d'eau.*)

John M. Ross, Bower Hill, Penn., U. S., 6th March, 1888; 5 years.

Claim.—1st. The combination, with the stock and screw-bolt, of a washer and bits having the corresponding lips e , f , to form a hinge, as and for the purpose set forth. 2nd. The combination of the bit-stock having the aperture b and the springs C , the bits E with shoulders c and lips e , the screw-bolt G , and the washer F having the lip f , all substantially as shown and described.

No. 28,640. Ventilator in Connection with Hot Water Heating Apparatus. (*Ventilateur de calorifère à eau.*)

Charles C. Longard, Halifax, N.S., 6th March, 1888; 5 years.

Claim.—1st. In a device for ventilating buildings, rooms and apartments, in connection with hot water radiators, the construction and arrangement of the diaphragm K with or without a non-conducting lining, the air pipes or conduits E , and the diaphragm K between the current of fresh air and the base, pipes, top and other parts respectively of the radiator, substantially as and for the purposes described. 2nd. In a device for ventilating buildings, rooms and apartments, in connection with hot water radiators, the combination of the diaphragms K (with or without a non-conducting lining) and K_1 , and the air pipes E and the chambers or air spaces C and H , substantially as and for the purposes described. 3rd. In a device for ventilating buildings, rooms and apartments, in connection with hot water radiators, the combination of the diaphragms K (with or without a non-conducting lining) and K_1 , the air pipes E and the air chamber C , substantially as and for the purposes described. 5th. In a device for ventilating buildings in connection with hot water heating apparatus, the construction and arrangement of the diaphragm K between the current of fresh air and the different parts of such heating apparatus, substantially as and for the purposes described. 6th. In a device for ventilating buildings, in connection with hot water heating apparatus, the intervention of a shield or diaphragm between the current of fresh cold air and the heating apparatus, to protect the water in the apparatus from freezing in consequence of a draught or current of cold air striking thereon, substantially as described.

No. 28,641. Horse Shoe Nail Machinery.

(*Machine à clou à cheval.*)

Sigvart Hansen, Boehn, Norway, 7th March, 1888; 5 years.

Claim.—1st. A horseshoe nail machine, having an automatic feed motion, which consists essentially of two carriages, one of which carries the rod (from which the nail is to be forged) to and fro between the anvil and the cutter, and the other pushes said rod forward the length of a nail, as each nail is finished, substantially as shown and set forth. 2nd. In a horseshoe nail machine, as described, the application of two hammers for hammering the edges of the nail, and of a vertical moving mouth piece, substantially as shown and set forth. 3rd. In a horseshoe nail machine as described, the application of a heating apparatus between the feed motion and the anvil of the machine, substantially as shown and set forth. 4th. In a horseshoe nail machine, as described, the application of a cutter immediately in front of the anvil, substantially as described and shown. 5th. The machine for making horseshoe nails, substantially as described and shown.

No. 28,642. Fire-Extinguisher.

(*Extincteur d'incendie.*)

Joseph Clapp, Evanston, Ill., U. S., 7th March, 1888; 5 years.

Claim.—1st. A fire-extinguisher or sprinkler of the class described, in which the valve is held to its seat by means of a post, one end of which bears against the same, while the other is loosely connected with links for resisting the water pressure upon said valve, and arranged in a plane oblique to the plane of the axis of said post, a link loosely attached to the top of said post and placed horizontally, or nearly so, for normally preventing an oscillatory movement of said supporting post, the outer end of said link being loosely attached to the end of a thin metal plate, which is in turn attached by fusible solder to a like plate rigidly secured to the frame, and a stationary stud attached to said frame, which serves as a bearing for said thin metal plate, at or near its junction with said horizontal link, substantially as and for the purpose set forth. 2nd. In a fire-extinguisher of the class described, the combination, with a valve, of the post G loosely connected with links F , F' , secured in turn to the frame, said posts and links respectively being in planes oblique to each other, and link H loosely connected with a metal plate arranged to bear across a stationary pin or stud, and attached by fusible solder to a secondary plate rigidly secured to the frame, substantially as shown and described.

No. 28,643. Convertible Freight Car.

(*Char à marchandises convertible.*)

William F. Messer, Philadelphia, Penn., U. S., 7th March, 1888; 5 years.

Claim.—1st. In a convertible grain and general freight car having a central hopper, a floor consisting of fixed or stationary end sections I , I' and adjustable sections K , K' , substantially as shown and described. 2nd. In a convertible grain and general freight car, a hop-