

plied to the feed end of the said drum, and the whole being arranged and operating essentially as and for the purposes described.

No. 29,046. Hot Water Heater.

(Calorifere à eau.)

Charles Sellers, Toronto, Ont., 1st May, 1888; 5 years.

Claim.—1st. In a hot water heater, the combination, with a suitable shell and fire grate, of a fire-pot composed of double walls with a water space between them, such walls being inclined from bottom to top towards the centre, so as to form the frustum of a hollow cone, for the purpose specified. 2nd. In a hot water heater, the combination, with a suitable shell and fire grate, of a fire-pot composed of double walls, with a water space between them, the diameter of such pot being less at the top than at the bottom, and the inner wall being corrugated or waved, substantially as and for the purpose described. 3rd. In a water heater, the combination, with a suitable base shell fire-pot and grate, of two or more superimposed sections D, each composed of a water chamber, a combustion chamber and a flue passing through the water chamber, said water chamber being connected by two apertures *f, f* arranged in corresponding vertical lines, so as to form two vertical water columns F, F, one at each side of the heater, and a suitable inlet and outlet, substantially as and for the purpose described. 4th. In a sectional hot water heater, the combination, with a suitable base grate and fire-pot, of two or more superimposed sections, each composed of a combustion chamber, a water chamber and an internal flue, the heating surfaces of such sections being corrugated in the line of passage of the products of combustion, substantially as and for the purposes described. 5th. In a sectional hot water heater, the combination, with the grate and with the conical fire-pot B, having the corrugations of the corrugated fire-door, ring C, and two or more superimposed sections D, having corrugations upon their heating surfaces, all of said corrugations being arranged parallel with the line of passage of the products of combustion, substantially as and for the purpose described.

No. 29,047. Saw Swage. (Etampe à scie.)

Isaac M. House, Gravenhurst, Ont., 1st May, 1888; 5 years.

Claim.—1st. In a saw-swage, the combination of two plates firmly connected and having ribs to keep them apart, and forming a recess for the insertion of the saw blade and for operating the die, a stud journaled in the rear plate and projecting through, and bearing in the front plate, and provided with an eccentric to operate the swaging die, and with an angular head for the application of a wrench, a swaging die bedded in a recess and fitted and bearing against the eccentric on said stud, and held thereon by a spring, and guided at its lower end by a projection or rib, and its working face butting against an anvil, an anvil having a lateral angular notch adapted to receive a sliding gauge, a spring gauge or guide having an inclined face entering and moving in a notch in the anvil, and pressed therein and against a guide rib by a spring, a fast clamp dog secured in said back plate for the saw-tooth to butt against, a dog placed opposite to, and adapted to slide transversely in the front plate and retracted by a spring, a lever pivoted to the front plate and adapted to bear against the end of the movable dog, a cam ended hand-lever pivoted to the front plate and its eccentric or cam-end adapted to bear against and operate the pressure lever, substantially as set forth. 2nd. In a saw-swage, the combination of the plate A, having the rim *a*, *a*, facing *a*¹ and recess *a*², stud B, journaled in said plate and bearing in the plate II, provided with an eccentric *b* and adapted to be operated by a wrench C, swaging die D, adapted to be operated by the eccentric *b* and spring *d*, anvil E, having a notch *e* adapted to receive a sliding gauge, a sliding gauge F, having an angular face adapted to slide in the notch *e* and operated by a spring *f*, a dog *g* secured firmly in the back plate, a movable dog *G* adapted to slide in the front plate and operated by a lever and a spring *g*¹, the front plate II adapted to bolt against the facings *a*, *a*, *a*¹, of the back plate and provided with lugs *h*, *h*, bearing for the stud B, and slot for the dog *G*, a pressure lever I, pivoted to the lug *h* and adapted to bear against the end of the dog *G*, and to be operated by the hand lever J, and provided with a set-screw *i*, and a hand-lever J having an eccentric or cam-shaped end pivoted to the lug *h*, and adapted to bear against and operate the lever I, substantially as set forth. 3rd. In a saw-swage, the front plate II and back plate A, firmly connected by bolts, and having formed between them suitable cavities or recesses for the swaging die and the reception of a saw blade, a stud B journaled in said back plate and bearing in said front plate, and provided with an eccentric *b*, and with means of operating said stud, a swaging die D, fitted to the eccentric *b* and held thereon by a spring *d*, substantially as set forth. 4th. In a saw-swage, a plate II having lugs *h*, *h*, and a transverse slot to receive a sliding dog *G*, the depending pressure lever I, pivoted to the lug *h* and bearing on the end of the said dog, and provided with a set-screw *i*, a cam-ended hand-lever J, pivoted at its cam-shaped end to the lug *h*, and adapted to bear upon the end of the pressure lever I, substantially as set forth.

No. 29,048. Tubular Lantern.

(Lanterne tubulaire.)

John H. Stone, Hamilton, Ont., 1st May, 1888; 5 years.

Claim.—1st. In combination with a tubular or other lantern, of a movable reflector G having its flange *b* cut to conform to, and fit the shape of the globe, and secured to the lantern in any convenient manner, substantially as specified. 2nd. In combination with a tubular or other lantern, of a reflector G having its flange *b* cut to conform and fit the round shape of the globe, and secured to the guard E by hooks *d*, substantially as specified. 3rd. In combination with a tubular or other lantern, of the reflector G secured to the side tubes A, A, by means of wires *c*, *c*, attached to reflector and made to enter sockets *f*, *f*, attached to the tubes, substantially as and for the purpose specified. 4th. The combination, in a tubular or other lantern, of the dash-board spring holder H, attached by sockets *A* to the tubes A, A, substantially as specified. 5th. In a tubular or other lantern, the combination of the reflector G, guard E, holder H, globe D, all arranged substantially as and for the purpose specified.

No. 29,049. Cartridge Loading Machine.

(Machine à charger les cartouches.)

Gorshom M. Peters, Xenia, Ohio, U.S., 1st May, 1888; 5 years.

Claim.—1st. In a cartridge loading machine, the combination, with a movable table and means for actuating the same, of a stationary table supporting the shell-filling devices, and provided with an opening for the passage of the shell to the shell-holder, an incline to force the shell up as the case is moved forward, and spring catches to hold the shell in place until the case is moved away from the opening in the table, as set forth. 2nd. In a cartridge loading machine, the combination, with a rotating table carrying a series of shell-holders, of a stationary table having adjustable plates supporting the shell as it stands under the indenter, and the wad outter and placers, said plates being vertically adjustable, whereby the pressure upon the shells may be regulated while the loads are being compressed, as set forth. 3rd. In a cartridge loading machine, the combination, with a stationary table provided with adjustable plates for supporting the shells while under the indenter, wad-outter and rammer, of a revolving table and mechanism for moving it within the stationary table, and a series of shell-holding cases secured to said movable table, said cases being at top and bottom and extending over the stationary table as a base beneath the filling devices and over openings in the table to serve as passages to and from the cases, as set forth. 4th. In a cartridge loading machine, the combination, with the shell-indenter mechanism automatically actuated, of a series of shell-holding cases, secured to a revolving table and carried thereby, said cases having slots for the passage of the indenters, said indenters passing through the slots and body of the shell, as and for the purpose set forth. 5th. The combination, with the filling mechanism and a shell feeder, of a shell-placer consisting of a pivoted pocket normally opened toward the shell feeder and turning into line with the shell-holding case and provided with a bolt or piston to force the shell into the shell case, as set forth. 6th. In a cartridge loading machine, the combination, with the table, of a hollow shaft, the upper end of which is secured to the rotating table, a solid shaft passing through the hollow one and connected at its upper end with the filling devices on the stationary table, a cam wheel connected to, and intermittently rotating the hollow shaft, and having also a cam connection with the solid shaft, whereby the latter is longitudinally reciprocated, said connections being so arranged that the movement of the shaft will alternate, the hollow shaft intermittently rotating the movable table to carry a given cartridge shell from one filling device to the next in the series, the solid shaft in turn actuating the said filling devices, as set forth. 7th. In a cartridge loading machine, the combination, with a stationary table supporting the filling devices, of a movable table, a hollow shaft connected thereto, a solid shaft reciprocating through the hollow shaft and actuating the filling devices, a reciprocating sliding frame connected to, and rotating the movable table, a flanged cam-wheel imparting motion to the reciprocating frame and to the solid shaft, and a motor for actuating said cam-wheel, as and for the purpose set forth. 8th. The combination, with the stationary table supporting the filling devices, of a movable table carrying the shell-holders, a shaft connected to the filling mechanism, a shaft connected to the movable table, and a wheel *k* for actuating the same, a slotted sliding frame provided with anti-friction rollers which engages a series of flanges on wheel *k* to operate the same intermittently, and a spirally flanged wheel actuating the solid shaft and sliding frame, whereby the filling devices are first operated and then held until the table is turned far enough to move a given cartridge case from one filling device to the next in the series, as set forth. 9th. The combination, with a stationary table supporting the filling devices, a rotating table carrying the shell holders, and the shafts connected to said rotating table and filling devices, of a single spirally flanged cam-wheel connected with the shaft which actuates all the filling devices, as set forth. 10th. In a cartridge loading machine, the combination, with the stationary table supporting the filling devices, of the movable table, a hollow shaft secured thereto, a wheel for actuating said shaft, said wheel having grooves, as described, a reciprocating sliding frame having anti-friction rollers and imparting motion to the grooved wheel through the intervention of a pivoted arm having a roller engaging the grooves, a flanged cam-wheel engaging the friction rollers and imparting motion to the sliding frame and to a solid shaft connected to the filling devices, whereby the shafts are intermittently turned and independently actuated, and the rotating table intermittently turned and held in position, as and for the purpose set forth. 11th. The combination, with the movable table and shell-holders, and the stationary table having an opening for the passage of the shells, of a shell-placer swinging on a pivot in a perpendicular direction, and provided with a bolt to force the shell from the pocket into a shell-holding case, as set forth. 12th. In a cartridge loading machine, the combination, with a sliding cam and levers actuated thereby, of a pivoted shell-placer provided with a bolt or piston operated by the movement of said cam to force the shell into a holding case, the upward movement of the cam causing the lever to turn the pocket to a vertical position and holding it erect until the lever connected with the bolt is operated, as set forth. 13th. The combination, with the shell-supply tube, of the automatically operated shell-placer and actuating mechanism therefor, said placer having a flange or cut-off attached to and moving therewith, which closes the bottom of the feed-tube and cuts off the supply when the placer swings out of alignment therewith, as set forth. 14th. In a cartridge loading machine, the combination, with the filling devices and actuating mechanism therefor, of a pivoted shell-placer inclined to the shell-feeder to receive the shells at an angle, said placer being actuated by a cam and levers operated by the central shaft, the upward movement of the cam causing the placer to be raised to an opening leading to the shell-carrier and forcing the shell therein, the up movement of said cam returning the placer to its normal position, as set forth. 15th. In a shell-feeder for cartridge loading machines, the combination, with a hopper, of an endless belt on the bottom thereof, a narrow descending trough at the end of the belt, said trough having one or more openings of less width than the length of a shell, whereby the shells are caused to fall butt first into said openings, and pass to the shell-placer with the butts presented to the opening in the placer, as set forth. 16th. In a capper for cartridge loading machines, the combination, with the stationary table, of a cap-receiving tube B, set loosely