

end of said gate-containing member and bearing against the flask, to effect the movement of the gate containing member crosswise of the flask, to dress the face of the cast or sever the surplus metal therefrom, substantially as set forth. 4th. The flask *d*, having a series of moulds divided by a wall *d*, combined with an ejector, a sprue or gate containing member pivoted to the flask and adapted to be moved crosswise over the top of the same, and having two core-pins for each mould attached thereto, and adapted to be projected crosswise of the moulds, with their ends extending into perforations in the wall *d*, substantially as described. 5th. An apparatus for casting the leads for lead seals, consisting of the side pieces *a*, *b*, a flask *d*, provided with any desired number of moulds secured to the upper ends of said side pieces, the gate-containing members *p*, *p*, pivoted to said flask and provided with the cams *q*, *q*, the core-pins *r* attached to said gate-containing members, and piercing the moulds transversely, and the ejector, composed of the disks *f*, *f*, posts *g*, plate or bar *h*, spring supports *i*, *j*, and locking lever *k*, *l*, *m*, and the casing *s*, all combined and arranged substantially as set forth.

No. 30,689. Letter Box Connection.

(Correspondance de boîte à lettres.)

James G. Cutler, Rochester, N.Y., U.S., 2nd February, 1889; 5 years.

Claim.—1st. The combination, with a mailing-tube, consisting of a series of independently-removable sections, of the bands *E*, *E*, surrounding the ends of the sections and removably attached to the plate *F*, secured to the wall or other support, whereby the removal of any one of the sections is permitted without disturbing the remaining section, substantially as described. 2nd. The combination, with the adjacent sections, of a mailing-tube, of the plate *F* attached to the wall or other support, and the separate bands *E*, *E*, surrounding the ends of the tubes, and removably secured to the plate *F*, substantially as described. 3rd. The combination, in a mailing tube, of a series of independently-removable sections, consisting of the sheet metal tube *L*, glass front *B*, clamps *C*, *C*, and band *E* around the lower end of the section, provided with bar *G* arranged to support the glass, substantially as described. 4th. The combination, with the mailing-tube, provided with a glass front, secured thereto by the removable clamps *C*, *C*, of the mailing section *D*, substantially as described. 5th. The combination, with the mail-chute *A*, of the mailing section *D*, provided with a restricted mail orifice *c* at its top, projecting from, and located in front of, the chute, and the pivoted plate constituting the gate *s*, having an outwardly-projecting lip *t* at its upper end, whereby the insertion of mail matter of excessive dimensions is prevented while the chute is left unobstructed for the descent of mail matter from above in rear of the gate, substantially as and for the purposes set forth. 6th. The combination, with a mailing-tube, formed of sheet metal, and provided on one side with inwardly-projecting flanges, of the glass front *B* attached to the said flanges by the clamps *C*, *C*, and the mailing section *D* provided with orifice *c* for the introduction of mail matter into the tube, and with projecting flanges, whereby the mailing section is adapted for attachment to the tube by the clamps which hold the glass front, substantially as described. 7th. The combination, with the sheet metal tube-section *L*, of a mail-chute having inwardly-projecting flanges of the glass front *B* attached to the flanges by clamps, with its inner surface in substantially the same plane as the inside of the flanges, as and for the purposes set forth. 8th. The combination, with the sheet metal tube *L*, having inwardly-projecting flanges *i*, of the glass front *B* and the clamps *C*, *C*, consisting of the outer and inner plates *a* and *b*, substantially as described.

No. 30,690. Manufacture of Nuts.

(Fabrication des écrous.)

Justin H. Burdick, Milton, Wis., U.S., 2nd February, 1889; 5 years.

Claim.—1st. The hereinbefore described method of forming a nut from a strip of metal, consisting of bending said strip between the opposing faces of a pair of die blocks, inserting a mandrel between the double sides of the strip and forcing the dies together, thereby compressing the metal of the strip into the required shape around the mandrel, substantially as set forth. 2nd. In a nut-making machine, the combination of a bender, a pair of die-blocks and a mandrel, and mechanism for successively moving three parts in the order named towards a common centre, substantially as set forth. 3rd. In a nut-making machine, the combination of a bender, a pair of die blocks, a mandrel and a plunger, and mechanism for successively moving these parts in the order named towards a common centre, substantially as set forth. 4th. In a nut-making machine, the combination of a bender, a pair of die-blocks, a mandrel and a plunger carrying a crowner, and mechanism for successively moving these parts in the order named towards a common centre, substantially as set forth. 5th. In a nut-making machine, the combination of a frame, a pair of die-blocks adapted to move within the same, skeleton safety pieces inserted in the outer ends of the die-blocks and bearing anti-friction rollers, a shaft carrying eccentrics, connecting rods, thrust bars jointed to the said rods, and bearing inlines adapted for engagement with said rollers, and retracting springs connecting the said die-blocks with the frame, substantially as set forth. 6th. In a nut-making machine, the combination of a frame, a pair of die-blocks adapted to move within the same, a shaft carrying three eccentrics, thrust bars adapted for engagement with the die-blocks and connected to the outer eccentrics, a mandrel connected to the intermediate eccentric and bearing a plunger, and a bender located above, and adapted to reach the common centre to which the dies and mandrel are successively moved by the action of the said eccentrics and connections, substantially as set forth. 7th. In a nut-making machine, the combination of a frame, a pair of die-blocks adapted to move within the same, a shaft carrying eccentrics at each end, and an intermediate eccentric set out of line with the end eccentrics, connecting rods and thrust-bars connected to the end eccentrics, a connecting rod and mandrel connected to the intermediate eccentric, a plunger and crowner by the mandrel, and a bender located above, and adapted to reach the common centre to which the dies and mandrel are successively moved, a shaft having a gear at one end, forming part of a train of gears in mesh with the gear of the described

eccentric shaft, and bearing an eccentric on its opposite end, a walking beam connected to the bender at one end, and a connecting-rod jointed to the other end of the walking beam and to the last-named eccentric, substantially as set forth.

No. 30,691. Sled Brake. (*Frein de traîneau*.)

Anders Anderson, Blossburg, M.T., U. S., 2nd February, 1889; 5 years.

Claim.—A sled brake, consisting of a rotary block pivoted to the runner, and having a straight side flush with the bottom of the runner, and means for moving the brake into position for use, substantially as shown and described.

No. 30,692. Extracting Gold, Silver, etc., from Ores, etc. (*Manière d'extraire l'or l'argent, etc., des minerais, etc.*)

Alexander Parkes, Dulwich, Eng., 2nd February, 1889; 5 years.

Claim.—1st. The improved process of treating auriferous ores of the silicious class, whether sulphurous or non-sulphurous, for the extraction of the gold and other metals contained therein, by fusing the ore in a suitable furnace, with fluxes compounded of lime and soda, substantially in the proportions herein respectively specified for each class of ore, adding thereto lead or oxidized compounds of lead, and producing a metallic compound adapted for treatment by known methods for the separation of the gold and other metals contained therein. 2nd. For treating auriferous ores of the silicious and non-sulphurous class, and containing iron, the modification of the process referred to in the first claiming clause, substantially as herein set forth, and whereby the use of lead for forming a metallic medium for collecting the precious metals is dispensed with, and a portion of the iron contained in the ore is employed for the purpose, carbon being added, with or without oxide of iron, for reducing the said metals. 3rd. For treating auriferous ores of the silicious and non-sulphurous class, particularly such as are free from lead, the further modification of the process referred to in the first claiming clause, substantially as herein set forth, and whereby iron, copper or tin, or the oxidized compounds of iron, copper or tin, are introduced to the furnace, and furnish, or assist in forming a metallic medium for collecting the precious metals. 4th. For treating auriferous ores of the sulphide class, the modification of the process referred to in the first claiming clause, substantially as herein set forth, and consisting of fusing the ore in a suitable furnace with fluxes compounded of lime and soda, whereby a regulus having a natural tendency to disintegrate is produced, which may be heated with lead or by other known methods for the separation of the gold and other metals contained therein. 5th. As fluxing substances, for use in fusing auriferous ores of the silicious and non-sulphurous class, the combination, substantially in the proportions herein set forth, of caustic lime or limestone with caustic soda, or silicate, or carbonate of soda, the same being employed in conjunction with carbon. 6th. As fluxing substances, for use in fusing auriferous ores of the sulphide class, the combination, substantially in the proportions herein set forth, of caustic lime or limestone with caustic soda, or nitrate, silicate, or carbonate of soda, or sulphur compounds of soda. 7th. In the reduction of auriferous ores of the sulphide class, producing a regulus having a natural tendency to disintegrate and to assume a condition specially adapted for expeditious and economical treatment by known methods, for the separation of the gold and other metals contained in such regulus.

No. 30,693. Method of Making Ferrules for Cant-Hooks. (*Mode de fabrication des frettes de renards*.)

Edward Mansfield, Orono, Me., U.S., 2nd February, 1889; 5 years.

Claim.—1st. The herein-described method of making cant-hook ferrules consisting of, first, punching or cutting out a plate *a*, of steel or wrought metal, making a perforation *a* in such plate, and forming lips *a* at the edges of said perforation, then inserting therein a steel or forged metal staple *b*, and welding said parts together, as described, and finally bending the plate *a* on a suitable mandrel, and welding its abutting or overlapping edges together, substantially in a manner and for the purpose described. 2nd. The herein-described method of making cant-hook ferrules consisting of, first, making a slitted blank *a*, of a thickness greater than the thickness of the ferrule to be made, afterwards expanding the edges of the slitted portion and forming the staple in one piece with said blank, then reducing it to the thickness of the desired ferrule, and finally bending it and welding its overlapping edges together, substantially in the manner described and for the purpose set forth.

No. 30,694. Wire Cutting and Crimping Machine. (*Machine à couper et cambrer le fil de fer*.)

Timothy Conners, Brooklyn, N.Y., U.S., 2nd February, 1889; 5 years.

Claim.—1st. A machine for making the shackle or wire of lead seals, the same comprising matched rollers provided with feeding devices, such as spring-grippers, crimping or corrugating, or other projection-producing devices, such as teeth or lugs, and matrices therefor arranged upon said rollers, and a cutter, all arranged in the order specified, and designed to introduce the wire between the rollers, provided one end with projections, feed the wire thence onward between the rollers, and impart to the other end similar projections, and finally sever the wire to form a shackle ready for use, substantially as set forth. 2nd. In a machine for making crimped or corrugated wire shackles for lead seals, the combination of housings and boxes therein, with rollers arranged in said boxes and geared together, and provided with the spring-gripper *k*, the crimping devices *f*, *g*, and other crimping devices *f*, *g*, distant from the first-named crimping devices, about as specified, and a cutter *i*, *h*, all arranged in the order named and designed to operate substantially as described.