

holes and one or more spring wires, each of said wires being bent near one end into a hook and, near the other end, bent at about right angles and driven through one of said transverse holes and headed, as and for the purpose specified. 6th. The combination of a tag slotted longitudinally and transversely, and provided with longitudinal grooves and transverse holes, and one or more spring wires, each of said wires being bent near one end into a hook and, near the other end, bent at about right angles and driven through one of said transverse holes and headed, as and for the purpose specified.

**No. 18,657. Mail Bag Catcher and Deliverer.** (*Appareil recevant et délivrant les Valises à lettres.*)

Edward W. Tompson and Albert M. Moore, Lowell, Mass., U.S., 13th February, 1884; 5 years.

*Claim.*—1st. The combination of the arm O, the finger P hinged thereto and provided with the pin P<sub>2</sub> and bent end P<sub>2</sub>, and the spring Q, the whole adapted to be operated to hold a bag or pouch and to retract, as the same, upon said finger striking a post at the side of the bag, as described. 2nd. The frame R provided with sides which converge together in front, and with a network R<sub>1</sub> placed between and below said sides and connected to said sides, as and for the purpose specified. 3rd. The combination of the frame or lower arm R, the post C, the projection X rigidly secured to said frame R, and the catch V pivoted to said post C, as and for the purpose specified.

**No. 18,658. Electrical Circuit.** (*Circuit Electrique.*)

Charles E. Allen, Adams, Mass., U.S., 13th February, 1884; 5 years.

*Claim.*—1st. The main line circuit starting from one pole of a main line battery (the other pole being grounded) and running so as to take in several central offices, on going out and returning to same central office which it started, in such a way that the portion of said circuit may be grounded at any of the central offices in such a way as to leave said battery circuit open until closed, by giving ground to the return portion of said circuit, as and for the purpose set forth. 2nd. A circuit starting at one pole of a battery (of which the other pole is grounded at the central office) and running through the controlling magnets of several subscriber's instruments, but in such a way that said return portion of circuit may be grounded at each subscriber's station, and the end at the central office terminating so as to leave the local circuit open until ground is given to the return wire through branches at subscriber's stations, or by grounding the terminating ends of the return wire at the central office, as and for the purpose specified. 3rd. The combination, with the main line circuit of several central offices, each having several local circuits branching therefrom and returning thereto (on which are situated several subscriber's instruments) arranged in such a manner that a circuit may be made up from ground at any one individual station of any local line and main line in which the telephone and transmitter of said local line may be thrown in for conversation, the lead portions in which are the controlling magnets of the signalling devices being temporarily cut-off from this return portions, thereby relieving the circuit to be talked through of much resistance. 4th. A battery or generator with one of its poles grounded, and the circuit from the other forming a loop (not grounded) upon which is situated several stations, each with its signalling or controlling magnets situated in the leading portion of the loop, and provided with suitable means for opening and closing said portion of loop and, with suitable devices for giving ground to the return portions of the loop either directly or through communicating instrument, as and for the purpose set forth. 5th. One or more generators and main line loop circuits, arranged as described, their stations being central offices at each of which are situated several other generators with loop circuits and stations extending therefrom, and means, at each central office and station, by which a circuit may be made up from parts of return portions of the main line loop circuit and any of the local loop circuits, substantially as set forth.

**No. 18,659. Travelling Cap.** (*Casquette de Voyage.*)

William E. Wood, Houston, Texas, U.S., 13th February, 1884; 5 years.

*Claim.*—A cap having an air-tight pillow secured to the top of the same, provided with a suitable nipple for inflating the pillow, in combination with flaps for covering said pillow and securing it in place when not inflated, substantially as shown and described.

**No. 18,660. Method of, and means for Making Mole Ditches.** (*Methode et Moyens pour faire les Drains.*)

Milton H. Eaton, Wilton Junction, Iowa, U.S., 13th February, 1884; 5 years.

*Claim.*—1st. The improved method of forming mole-ditches herein shown and described, consisting in lining the ditch proper *a* with a layer of cement *c*, supported while hardening on the earth, lining or shell *b* formed over the ditch *a*, substantially as specified. 2nd. The combination, with the mole-ditcher *d e*, of the cement-feed hopper or cutter *j* and a cutter *j*, for forming the cement-lining cavity, said cutter *j* being spaced from the ditcher-plow *d*, between the ditch proper and the cement cavity, substantially as shown and described. 3rd. The combination, with the mole-ditcher *d e*, of the hopper *i* and the cutter *j*, overlapping the rear end of the ditcher-plow *d*, *i*, *d*, substantially as shown and described. 4th. The combination, with the mole-ditch plow *d e*, of the cement hopper *i* and cutter *j*, and a ditch standard *e*, substantially as shown and described.

**No. 18,661. Vehicle Wheel.** (*Roue de Voiture.*)

Christian Snyder, Elizabethville, Pa., U.S., 13th February, 1884; 5 years.

*Claim.*—A vehicle wheel formed by removing a portion of the felloes of an ordinary wheel, contracting its size, expanding a flanged tire by heat and passing it over the felloes while hot, immediately expanding the felloes to fit the entire space between the flanges of the tire and inserting expansion wedges or plugs between the ends of the felloes, substantially as set forth.

**No. 18,662. Disintegrating Hopper for Dredges and Excavators.** (*Trémie Désagrégante pour Dragueurs et Excavateurs.*)

John A. Ball, Oakland, Cal., U.S., 13th February, 1884; 5 years.

*Claim.*—1st. In a dredging and conveying apparatus, an elevated hopper dredging mechanism adapted to raise tenacious mud or other material and deliver it therein, a discharge-pipe for conveying the material from the hopper to the point of delivery lower than the hopper, and a pipe connected to a force pump and adapted to cause a stream of water to strike and cut up the mud or dredge material which falls in the hopper, and render it sufficiently liquid to flow through the said discharge-pipe by its own gravity, substantially as described. 2nd. In a dredging and conveying apparatus, an elevated hopper dredging mechanism adapted to raise tenacious mud or other material and deliver it therein, a discharge-pipe for conveying the material from the hopper to the point of delivery lower than the hopper, and a water supply pipe in connection with a force pump, the outlet of the said water supply pipe being located opposite the entrance of the discharge-pipe, said pipe being adapted to cause a stream of water to strike and cut up the material as it falls in the hopper and to carry the same into the discharge-pipe, substantially as shown and described, through which discharge-pipe it flows by its own weight or gravity, as set forth.

**No. 18,663. Ore and Mineral Separator.** (*Séparateur des Minerais et des Minéraux.*)

Robert H. Richards, Boston, Mass., and Frederick G. Coggin, Lake Linden, Mich., U.S., 13th February, 1884; 5 years.

*Claim.*—The separating box D, constructed substantially as shown, in combination with the shield C, clear water pipe A and spout B, arranged substantially as shown, whereby the tendency of the clear water is to shoot through the spout B, while the excess is caused to react around said pipe with a uniform pressure, substantially as described and for the purpose herein set forth.

**No. 18,664. Cash Register.** (*Compteur de Monnaie.*)

Francis M. Tague and Jesse T. Power, Indianapolis, Ind., U.S., 13th February, 1884; 5 years.

*Claim.*—1st. In a cash-register, the combination of the frame B, the carrying wheels or spools C, D, E, the paper G, the push rod H, retracting springs or weights therefor, a ratchet and pallet *d h*, operated by said push-rod and weight or spring, and the puncturing wheel F, said several parts being arranged and operating, substantially as set forth. 2nd. The combination of the carrying wheels or spools, the strip of paper, the cylinder D, the rotary puncturing die and means of operating the same, substantially as set forth. 3rd. The combination of the cover having an orifice and a transparent portion, the carrying wheels or spools, the paper passing over said spools and under said cover, a rotary puncturing die and an alarm bell, substantially as shown and specified. 4th. In a cash-register, the combination of the frame B carrying wheels C, D, E, paper G, bell I, the right angular striking lever *l*, the spring *e*, the push-rod H, working in lugs *o*, the weighted lever *h*, the ratchet wheel *d*, pallet *h*, the pivoted rotating puncturing wheel F having tail-piece *f*<sub>3</sub> and adjusting screw *f*<sub>4</sub>, substantially as shown and specified.

**No. 18,665. Neck Yoke for Horses.** (*Joug à Cheval.*)

John J. Magee, London, Ont., 13th February, 1884; 5 years.

*Claim.*—1st. The combination of the couplings C C<sub>1</sub>, provided with flanges *e*<sub>1</sub> and *e*<sub>2</sub> respectively, said flanges *e* and *e*<sub>2</sub> being provided with bolt holes *b*<sub>1</sub>, *b*<sub>2</sub>, *b*<sub>3</sub>, bolt K, bows B, and hames J, J, for the purpose of adjusting the hames to collars of different sizes, thereby enabling the same draft-yoke to be used on horses with different sized necks, substantially as shown and described. 2nd. The tongue support L, in combination with a draft neck-yoke for horses, substantially as shown and described, and for the purpose specified. 3rd. The combination of the couplings C C<sub>1</sub>, provided with flanges *e*<sub>1</sub> *e*<sub>2</sub> respectively, hames J, J and bows B, B, provided with line rings *b*<sub>4</sub> and connected to the bars A, A by hinge joint connections, draft bar D, tongue support L and clevis E, substantially as shown and described and for the purpose specified.

**No. 18,666. Skylight Sash.** (*Croisée de Lucarne.*)

Thomas Douglas, Toronto, Ont., 13th February, 1884; 5 years.

*Claim.*—1st. As an improved skylight sash, in which the glass lights are embedded in putty or other cement, the inverted triangular sash bars B, in combination with the draining troughs C fixed to the apex of the bar B and extending in either side thereof to a point within a vertical line extending from the base of the bar B, substantially as and for the purpose specified. 2nd. As an improved skylight sash, a series of inverted triangular sash-bars B into which the glass lights A are embedded in putty or other cement, the apex of each sash-bar B being provided with draining troughs C, in combination with the trough E extending across the bottom ends of the troughs C and forming a main draining pipe for the same, substantially as and for the purpose specified. 3rd. As an improved skylight sash, a series of