

levers L, and intermediate mechanism for operating the ratchet wheel from the key levers, of slides having graduated projections, and elbow levers engaging the said key levers and slides, substantially as and for the purpose set forth. 4th. In an adding machine, the combination, with the shaft D, the loosely-revolving ratchet wheel E, the spring pressed arm H, the pawl I, the arms J, the bar J and the key levers L provided with hooks K, of the slides T having projections X, the rock shaft R and the elbow levers Q engaging said slides and key levers, substantially as herein shown and described. 5th. In an adding machine, the combination, with the shaft D, the loosely-revolving ratchet wheel E having index flange F, the key levers L, and intermediate mechanism for operating the ratchet wheel from the said key levers, of the pinion G, the gear wheel A, the spring J and the stop pins K, on the said ratchet wheel E and gear wheel A, substantially as herein shown and described.

#### No. 24,449. Spark Arrester. (Arrête-Flammèche.)

Michael A. Wagle, Ruthven, Ont., 7th July, 1886; 5 years.

Claim.—Pipe B, having pivoted circular elbow G, in combination with tank "A" and pipe H, substantially as and for the purpose hereinbefore set forth.

#### No. 24,450. Seeder. (Semoir.)

Hans Amundson and Martin S. Field, Racine, Wis., U. S., 7th July, 1886; 5 years.

Claim.—1st. In a seeder, in combination with a seed box having a slot in its bottom, and a flange above and opposite the said slot, a rotating feed-wheel mounted between the slotted bottom and the flange of the box, and having a series of slots coinciding in turn with the bottom slot, a disk interposed between the said bottom and the feed-wheel, and having extensions formed in its rim, and means, substantially as described, to connect the feed-wheel and the disk, so that more or less of the surface of the disk-extensions is brought opposite the slots of the feed-wheel and to rotate the same, so connected substantially as and for the purpose set forth. 2nd. In a seeder, in combination with a seed-box, and a feed-wheel revolving in the bottom of the same through suitable driving connections, substantially as described, a pair of feed-rollers mounted in the said seed-box above the feed-wheel, and suitably connected to the driving mechanism, a dish-shaped plate fastened in the periphery of the seed box above the rollers, and having a central opening, the edges of which are adapted to close the space at the rear and ends of the said rollers, and a feed regulating plate adapted to be held in various adjustments above the central opening of the dish-shaped plate, substantially as set forth. 3rd. In a seeder, in combination with a seed-box having a slotted bottom, and a spout depending therefrom, a horizontal fan suitably mounted below the said seed-box, and adapted to be rotated so as to produce an upward draft against the descending seed, substantially as and for the purpose set forth. 4th. In a seeder, in combination with a feed-box, a feed-wheel having a series of slots cut close to its outer rim, and having spirally-arranged lugs and horn-shaped lugs in its upper face adapted to direct the seed toward the slots, substantially as set forth.

#### No. 24,451. Seed Sower. (Semoir à Grains.)

Hans Amundson and Frederick J. Henriksen, Racine, Wis., U. S., 7th July, 1886; 5 years.

Claim.—1st. In a seed sower, a cup forming the bottom of the hopper, and having an upper plane horizontal surface and outlet for the seed or fertilizer, in combination with a horizontal force wheel having flanged arms, the lower surfaces of which are everywhere above the horizontal upper face of the cup, said force wheel being adapted to revolve in said cup and carry the seed or fertilizer to the exit-opening in determined quantities, substantially as described. 2nd. The combination, with the cup of a force wheel, its flanged arms and a gauge-plate having flanges, one of which projects down between each pair of the arms of the force-wheel, the lower edges of all parts of said force-wheel and gauge being everywhere above the plane horizontal upper face of said cup, as set forth. 3rd. The cup having an exit 1 2 3, in combination with the force-wheel, and a partition dividing the space between each pair of arms into two compartments, as set forth. 4th. In a sower, the combination, with the force-wheel, of a cap M adapted to be revolved with it, as set forth. 5th. The cap M having tangential flange or flanges N, in combination with a gauge plate, force-wheel shaft A and hopper, as set forth. 6th. The combination, in a seed sower, of the cap M, its gate or gates and crank-arm L, with a lever and connections for adjusting the gate or gates. 7th. In a sower, the combination of hopper A and cup B, having seed outlet, with force-wheel C, having central rim E and radiating arms C<sub>2</sub>, and the gauge-plate D having outer rim D<sub>1</sub>, and slots conforming in outline to the said arms C<sub>2</sub> of the force-wheel and flanges projecting down from one edge of each slot in advance of it between each of the arms C<sub>2</sub>, substantially as set forth. 8th. In a sower, the combination of hopper A and cup B, having seed outlet, with force-wheel C, having central rim E, and radiating arms C<sub>2</sub> connected by vertical partitions G, and the gauge-plate D having slots conforming in outline to the said arms C<sub>2</sub>, and flanges D<sub>1</sub> projecting down from one edge of each slot, said flanges having vertical slots or slots for the reception of the partitions G, substantially as set forth. 9th. In a sower, the combination of the shaft A, carrying distributor E, cup B, and hopper A and force-wheel C, the hub of the latter being keyed to said shaft, and the hub of the distributor having bevelled teeth meshing with corresponding bevelled teeth on wheel E, of power-shaft E<sub>2</sub>, the spokes of said wheel E<sub>2</sub> being concave, with which concavity moves a bevel pinion F keyed on said power shaft, and which meshes with a horizontal bevel pinion on shaft A, substantially as set forth.

#### No. 24,452. Tap and Tap Hole Bush. (Robinet et Bonde de Robinet.)

Adolph Fischer, Ravenswood, and William H. Howell, New York, N. Y., U. S., 7th July, 1886; 5 years.

Claim.—1st. A tap-hole bush consisting of the following elements, to wit: the internally screw-threaded shaft A, having the lateral flange A<sub>1</sub> at its outer end, the externally and internally screw-threaded shaft B, provided with the lateral flange B<sub>1</sub> at one end, and having its other end terminating adjacent to the center of the shaft A, to constitute a stationary annular stop K, and a screw-threaded valve stem C, fitting the shaft A, and provided at one end with a valve C, and at its other end with an attached laterally-projecting stop D, but the shoulder formed by the end of the shaft A, substantially as and for the purposes described. 2nd. The combination, with the tap hole bush and with the internal screw-thread formed therein, of the valve C having a screw thread formed on its tubular stem, to engage with the internal screw thread of the tap-hole bush, and the spiral slot D formed in the valve-stem, substantially as shown and described.

#### No. 24,453. Lamp Bracket. (Console de Lampe.)

Orrie R. Grimessey, Hollin A. Cobb and William C. Winfield, Ohio, U. S., 7th July, 1886; 5 years.

Claim.—1st. A lamp-bracket, consisting essentially of a reflector having devices for its attachment to a wall or other support, and a shelf rigidly secured to and supported by said reflector. 2nd. In a lamp-bracket, a reflector provided with suitable means for securing it to the wall, in combination with a shelf connected therewith with an upwardly-projecting rim, creased or otherwise prepared for a match-scratch, and match-boxes on either side arranged to form braces for supporting the shelf, substantially as set forth.

#### No. 24,454. Fruit Picker. (Lueilleuse de Fruits.)

Charles S. Hill, Shillington, Wellington Van Reed and George L. Knopp, Reading, Penn., U. S., 7th July, 1886; 5 years.

Claim.—1st. In a fruit-picker, constructed substantially as shown and described, the combination of the re-enforced tensional spring D, with the movable tube frame B, of the tube H by eyes D<sub>1</sub>, links C, E, looped lever-arms H, bar I, pole G and pin F, substantially as and for the purpose specified. 2nd. In a fruit-picker, constructed substantially as shown and described, the combination of the fixed covered frame A, the movable tube-frame or jaw B, stiffening bar I, coil A<sub>1</sub>, tugs A<sub>2</sub>, springs R, looped lever-arms H, link C, re-spring enforce D, eyes D<sub>1</sub>, link E, pin F, pole G and tube H, all arranged and adapted to be so operated as and for the purpose set forth.

#### No. 24,455. Combined Seed Drill and Broadcast Scatterer. (Semoir en Ligne et à la Volée Combines.)

Walter Coulthard, Oshawa, Ont., 7th July, 1886; 5 years.

Claim.—1st. The combination, in a combined seed drill and broadcast scatterer, of a hoe b, with a gab f, slot d, and teeth e, in combination with quadrant a with hole c, and teeth c, substantially as and for the purpose specified. 2nd. The combination of the hoe b, with the projection h, with gab f, slot d, teeth e, substantially as and for the purpose specified.

#### No. 24,456. Force Feed Seed Sower.

(Semoir à Alimentation Forcée.)

Hans Amundson and Frederick J. Henriksen, Racine, Wis., U. S., 7th July, 1886; 5 years.

Claim.—1st. In a seed-sower, a hopper projecting below the floor of the machine, said lower part having an exit-opening for the seed or fertilizer, in combination with a vertically-moving gate suspended by a link from the outer end of an arm on a horizontal shaft, mounted within the upper portion of the hopper above the floor, said shaft extending outside of the hopper and having another arm turning on a sealed quadrant on the outside of said hopper, as set forth. 2nd. The hopper having exit-opening, in combination with the distributor having an interior set of flanges, the flanges in the two sets breaking joints, as described. 3rd. The distributor having convex plate flanges, breaking-joints and casting-arms, in combination with the hopper separating the two sets of flanges, as set forth. 4th. In a seed or fertilizer sower, a hopper that projects below the floor of the machine, in combination with a distributor having compartments on its upper side, formed by curved radial flanges, and radial arms having flanges that break joints with the said compartment-flanges for receiving the seed, etc., as it passes from these compartments through an opening in the hopper, as set forth.

#### No. 24,457. Wheel Harrow. (Herse à Roues.)

Robert Wheeler, Okolona, Miss., U. S., 7th July, 1886; 5 years.

Claim.—The improved harrow described, consisting of a frame formed of tooth-carrying beams hinged together at the ends, combined with the adjustable longitudinal brace, the truck and frame thereon, the lever supporting the rear of the frame, and the pivotally-supported tongue adjusting itself by means of a slotted connection to the front pivotal support of the truck-frame, substantially as and for the purpose specified.

#### No. 24,458. Belt Gearing.

(Engrenage à Courroie.)

The Massey Manufacturing Company, Toronto, Ont., assignee of William N. Whiteley, Springfield, Ohio, U. S., 7th July, 1886; 5 years.

Claim.—The combination of an open linked chain belt, with wheels B and C, provided with sprockets c concave on their draft-faces, substantially as set forth.