

mination of the openings J J<sub>1</sub>, the disc N and the air chamber C<sup>1</sup> C<sup>2</sup> C<sub>3</sub>, 6th. The combination of the base A, the oil reservoir B and the opening J J<sub>1</sub> extending through the air chamber C<sup>2</sup> without openings into said air chamber; 7th. The convex top O, in combination with its supports, the open space q and the flange t top of the metallic chimney K<sub>2</sub>, 8th. The metallic chimney K<sub>2</sub>; 9th. The combination of the metallic chimney K<sub>2</sub>, the metallic air deflector N and the clips h, 10th. The combination of the metallic chimney K<sub>2</sub> having attached thereto the clips h and the inner globe or chimney to form the adjusted space between the bottom of the chimney K<sub>2</sub> and the top of the inner globe; 11th. The combination of the outer globe and the inner globe or chimney, of about the same height, the clips h and the metallic chimney K<sub>2</sub>; 12th. The combination of the screw threaded plug D having shoulder u, the screw threaded opening D, the air chamber C<sub>1</sub>, the diaphragm b and the opening J or J<sub>1</sub>; 13th. The perforated supporting plate N; 14th. The combination of the cone H, the deflector H<sub>1</sub> and the perforated supporting plate N; 15th. The air duct (Figure 6) placed immediately beneath the supporting plate, 16th. The combination of the air duct C<sub>1</sub> under the supporting plate, and the air chamber C<sup>2</sup> between the globes; 17th. In supporting plate G perforated in part and unperforated in part, 18th. The base plate B<sub>1</sub>, 19th. The neck B<sub>1</sub>, 20th. The openings E with walls a<sub>1</sub> b<sub>1</sub> c<sub>1</sub>, 21st. The combination of the openings E, with the air chamber C<sub>2</sub> and air duct C<sub>1</sub>; 22nd. The combination of the openings E with the supporting plate G; 23rd. The combination with one of the openings E of the lighting or match hole l, 24th. A lantern having an outer and inner globe or chimney and an air chamber between them and a connecting air duct leading directly to the interior of the cone; 25th. The combination with the air chamber A between the globes, of an air duct D<sub>1</sub> D<sub>2</sub> D<sub>3</sub> D<sub>4</sub> or D<sub>5</sub> for conveying the air to the interior of the cone.

### No. 8583. Improvements on Cultivators.

(*Perfectionnements aux cultivateurs.*)

Moses Johnson and Moses C. Richardson, Lockport, N.Y., U.S., 22nd March, 1878, for 5 years.

*Claim.*—1st. The beam A, connecting bars a and wings B, 2nd. The braces D secured by bolt or bolts T to beam A, and bars a connecting with the wings B; 3rd. The wings B, braces D, and bolt or bolts T; 4th. The oblong metallic strip J, and standard C, 5th. The braces D loosely connected with the wings B and removably connected with the beam A.

### No. 8584. Improvements on Boiler Furnaces.

(*Perfectionnements aux fourneaux des chaudières.*)

Mary A. Hunter and Lewis J. Almon, Saint-John, (Executrix and Executor of the will of James Hunter, Lancaster, N. B., deceased,) 20th March, 1878, (Extension of Patent No. 1624), for 5 years.

*Claim.*—The combination of the furnaces E F, combustion chamber B and culvert C, constructed and arranged relatively to each other and to the chimney D and boilers A.

### No. 8585. Improvements on Horse Rakes.

(*Perfectionnements aux râteliers à cheval.*)

Alfred H. DeLaney, Peterborough, Ont., 20th March, 1878, for 5 years.

*Claim.*—The use of the hinge joints H H<sub>1</sub> h h<sub>1</sub> in the position seth forth, the levers K and L, which, combined in action, assist the dumping, drop the teeth and lock the rake, for gathering its load; the elongated holes D D<sub>1</sub>, in wooden axle B, the use of the roller M and of lever L and the pressed sheet iron seats S.

### No. 8586. Stone Dressing Machine.

(*Machine à polir la pierre.*)

Hugh Shearer, Westminster, Eng., Donald R. McGregor and George B. M. Wyse, Leith, Scot., (Assignees of Joseph E. Holmes, London, and Walter Payton, Westminster, Eng.,) 30th March, 1878, (Extension of Patent No. 2200), for 5 years.

### No. 8587. Improvements on Horse Rakes.

(*Perfectionnements aux râteliers à cheval.*)

Alexander Howell, Brantford, Ont., 30th March, 1878, for 5 years.

*Claim.*—1st. The thimbles F and straps G; 2nd. The rake casting N having case O formed on it, and wheel or ratchet Q and pawl P working in case O with lever X; 3rd. Rake casting K and levers R and W; 4th. The application of the hollow shaft D for an axle.

### No. 8588. Improvement on Casting Car Wheels.

(*Perfectionnement dans le coulage des roues de wagons.*)

William Wilmington, Toledo, Ohio, U. S., 30th March, 1878, for 5 years.

*Claim.*—The method of casting car wheels from two different qualities of metal by pouring in, first, the superior metal to form the tread and flange of the wheel, and afterwards the inferior metal to form the central parts of the wheel, and regulating the inflow of both by radial passages, whereby circulating currents and the homogeneous mixture of the two metals avoided at the tread, and the proper disposition of the two metals in the car wheels is secured.

### No. 8589. Improvements on Carriage Jacks.

(*Perfectionnements aux chèvres à voitures.*)

Thomas Hazard, Wilmington, Ohio, U. S., 30th March, 1878, for 5 years.

*Claim.*—1st. The combination with the upright B furnished with the anti-friction roller C, of the recessed sliding standard D and the eccentric lever F, pivoted to said standard back of the center of its head and operating to raise said standard; 2nd. The combination with the sliding standard, operated by the eccentric lever pivoted thereto, of the rack H and adjustable bracket I.

### No. 8590. Improvements on Harvesting Machines.

(*Perfectionnements aux moissonneuses.*)

William Russell, Dundas, Ont., 30th March, 1878, for 5 years.

*Claim.*—1st. The trip dog M, wedge N, wedge race and latch O, 2nd. The combination of the tappet J, self-tripper L, trip lever G, link H and wedge N.

### No. 8591. Machine for Rivetting Stove-pipes.

(*Machine à river les tuyaux de poêles.*)

Thomas Boardman, Charlottetown, P. E. I., 30th March, 1878, for 5 years.

*Claim.*—1st. The combination of an apertured arm and a series of rollers for carrying rivets, 2nd. The combination with the arm c of the disc o and ring q, each provided with a V-shaped groove, 3rd. The combination of the arm c, follower s, apertured arm k and cam roller d, 4th. The combination of the adjustable bracket m with grooved disk o.

### No. 8592. Improvements on Paper Files.

(*Perfectionnements aux serres-papier.*)

William H. Waller, Ottawa, Ont., 30th March, 1878, for 5 years.

*Claim.*—1st. The combination of the plate A having longitudinal slots B and transverse slots C, the shaft D passing centrally through the plate A and slots B, and the tapes F passing through the slots C and winding on the shaft, 2nd. The provision to the shaft D of a friction nut I, sliding loosely in a slot H in the plate A for retaining the tension of the tapes.

### No. 8593. Improvements on Tombs.

(*Perfectionnements aux cercueils.*)

James Chittock, Cleveland, Ohio, U. S., 30th March, 1878, for 10 years.

*Claim.*—A coffin vault or tomb made of plastic material, the lid and foot being united by a tongue and groove joint cemented together, and reinforced by said cement extending into and hardening in holes leading into the groove.

### No. 8594. Improvements on Refrigerators.

(*Perfectionnements aux garde-manger.*)

John A. Kunkel, Jersey, N.Y., U. S., 30th March, 1878, for 5 years.

*Claim.*—1st. The combination of the casing A, the perforated vertical and horizontal partitions B and C forming the chamber D E and F with the sliding drawers having their sides perforated to coincide with the perforations in the vertical partitions, 2nd. The combination with the casing A and vertical partition B having a series of perforations a, of the sliding drawers having in their sides a series of perforations provided with elastic packing d and coinciding with the perforations in the vertical partition only when the drawer is closed, 3rd. The combination of the two opposite perforated walls of a refrigerator chamber, the two interior perforated slides E<sub>1</sub> E<sub>2</sub> rigidly connected by brace rods H<sub>1</sub>, links G<sub>1</sub> and hinged door B<sub>1</sub>, 4th. The combination of the two perforated slides E<sub>1</sub> E<sub>2</sub> rigidly connected so as to move together, with the opposite perforated walls of a refrigerator chamber.

### No. 8595. Improvements on Musical Instruments.

(*Perfectionnements dans les instruments de musique.*)

Alexander R. Koerber, Toronto, Ont., 30th March, 1878 for 5 years.

*Claim.*—1st. The wind chest C having separate treble and base compartments in combination with independently acting bellows, 2nd. The wind chest C divided into series of compartment c corresponding with the central or accompaniment notes, which compartments are connected by air passages to both independent air bellows, and the admission of air controlled by valves in such manner that the notes corresponding to the said compartments may be played as treble or base notes; 3rd. The travelling cams H, in combination with valves G, wind passages I E, bellows B B<sub>1</sub> and the subdivided wind chest, 4th. The wind inlet valves K operated from the front of the instrument in any suitable manner and arranged for the purpose of suddenly admitting air to the bellows, in order that the performer may subdue the sound of the notes connected therewith.

### No. 8596. Improvements on Doors and Gates.

(*Perfectionnements aux portes et portes-cochiers.*)

Charles T. Sweet, Cumberland, Ohio, and Edwin J. Davis, East Galway, N.Y., U. S., 30th March, 1878, for 5 years.

*Claim.*—1st. The combination with a door or gate fastening, of a vibrating support pivoted to the door or gate, 2nd. The combination with a door or gate of a vibrating support, a ratchet bar and a guide, 3rd. The combination with a door or gate having a horizontal bearing c, of a vibrating support C and latch D; 4th. A guided vertically vibrating support and a face combined with a door or gate having a horizontal bearing; 5th. The combination with a gate or door, having a horizontal bearing, of a vibrating notched support pivoted to the post B.

### No. 8597. Improvements on Stump Elevators.

(*Perfectionnements aux arrache-souches.*)

August Dunnebach, Jacob Landen, Lansing, Mich., and Moses C. Younglove, Cleveland, Ohio, U.S., 30th March, 1878, for 5 years.

*Claim.*—The combination of gears D D C C with the sproket E, and ratchet B, when made as described.