

the hopper slide F, the conical screw H made in the form shown; 2nd. The hangers I and J, the flexible hangers D in combination with the shoes A and B, the hangers I and J in combination with the convex surface knobs T, or their equivalents, and pivot screws V; 3rd. The lifting bar O O carrying the friction roller R, and furnished with the gudgeon and thumb nut at the outer end, in combination with the bar on the lower shoe; 4th. The lifting bar O O, in combination with the cleats S and S and the slots through the side of the mill, also the board marked C in the lower shoe.

No. 8297. Improvements on Nautical Logs.

(*Perfectionnements aux logs.*)

David Carroll, Spring Creek, Pa., U.S., 12th January, 1878, for 5 years.

Claim.—1st. The combination with a well tube, passing through the bottom of a vessel of a nautical log extending below the same and registering the progress and speed of the vessel; 2nd. A nautical log constructed of water wheels or screws, extending below the bottom of the vessel and being placed at right angles to each other and of suitable transmitting and registering devices inside of the vessel for indicating the forward and drift motions of the vessel; 3rd. A nautical log constructed of water wheels or screws arranged below the bottom of the vessel, one in the direction of the axis of the vessel, the other at right angles thereto, and of a speed indicator arranged for forward and drift motion below the screws in connection with suitable registering apparatus and graduated scale; 4th. The combination of the longitudinally and laterally swinging and spring acted speed indicator formed of four rectangular blades with the segment and forked gear of a vertical transmitting shaft having pointer at end, and with an arc-shaped graduating plate having a vertical and lateral scale; 5th. The combination of the water wheels or screws, arranged at right angles to each other below the bottom of the vessel, with suitable transmitting devices and registering apparatus, having adjusting screws for regulating motion of indicating hands.

No. 8298. Improvements on an Earth Scraper.

(*Perfectionnements à un éboueur.*)

James H Edmondson, Valparaiso, Ind., U.S., 12th January, 1878, for 15 years.

Claim.—1st. The tilting frame G H I J hung forward of the spindle C, and between the arms B B, in combination with axle-tree A and scraper M; 2nd. The combination of the lever N, axle-tree A, with arms B B, tilting frame G H I J and scraper M; 3rd. The combination of the lever Q, tilting frame G H I J, axle-tree A, arms B B and scraper M; 4th. The curved slotted supports V V, in combination with the arms H H of tilting frame and scraper M; 5th. The loop eyes U, in combination with draft chain S and scraper M.

No. 8299. Improvements on Locomotive and Traction Engines.

(*Perfectionnements aux machines locomotives et de traction.*)

Loftus Perkins, London, Eng., 14th January, 1878, (Extension of Patent No 1992) for 5 years

No. 8300. Improvements on Belt Shifters.

(*Perfectionnements aux change-courroies.*)

Thomas N Egery, Bangor, Me., U.S., 14th January, 1878, for 5 years.

Claim.—1st. The combination of the roll a, frame b and universal joint c whereby said roll is enabled to move simultaneously both upon the horizontal and perpendicular axis of said joint; 2nd. The combination of the roll a, frame b and joint c with forked lever f and guiding flange e.

No. 8301. Machine for Threshing and Cleaning Grain.

(*Machine à battre et nettoyer les grains.*)

William Giberson, Belleville, Ont., 14th January, 1878, for 5 years.

Claim.—1st. The perforated sieve, or the equivalent thereof, suspended over the shoe of a cleaner and receiving its motion in the manner shown; 2nd. The double crank shaft H, furnished with the crank bearings I I, boxes F, flange boxes G and pulley J in combination with the perforated sieve A, hangers E, loops K and pivot pins D.

No. 8302. Improvements on Gig-Saws.

(*Perfectionnements aux scies à tréfiler.*)

Joseph Best, Montreal, Que., 14th January, 1878, for 5 years.

Claim.—1st. The combination of the saw L, arms H, links I and belt N; 2nd. The combination of the saw L, projection E and arm F; having projection H; 3rd. The combination of a slide D, with arms H and links I; 4th. The combination of the slide C having projection E, with arm F having projection H; 5th. The combination of the slide C having projection E and arm F having end K with the bolt M; 6th. The combination of the adjustable steadyment V, having friction roller A with the saw L.

No. 8303. Lubricating Car Axle Grease.

(*Graisse à lubrifier les essieux des wagons.*)

George H Merrill, Boston, Mass., U.S., 14th January, 1878, for 5 years.

Claim.—The combination of tallow, tar, lmo, water, whitening, flaxseed, flour, venetian red and rosin.

No. 8204. Improvements on Spice Chests and Tea Canisters.

(*Perfectionnements aux boîtes à épices et à thé.*)

James H Preater, Brooklyn, N.Y., U.S., 14th January, 1878, for 5 years.

Claim.—1st. In combination with spice holder or box, the segmental front f, side plate g pivots i and cut off plate h; 2nd. The combination in the spice holder or box, of the swinging segmental front f, supply plate m and agitators n.

No. 8305. Improvements in Boilers.

(*Perfectionnements dans les chaudières.*)

Thomas Hoag, Springfield, Mass., U.S., 14th January, 1878, for 5 years.

Claim.—1st. A boiler A provided with two or more movable compartments B and D, with a perforated pipe C passing through them, and soar-

anged that steam arising from A is admitted into the said compartments, but when condensed does not return to A, or penetrate from one compartment to another; 2nd. The tray or hub B supported by the flange b and having a perforated false bottom g and drip can c, in combination with the perforated tube C and one or more pans D provided each with a perforated false bottom h; 3rd. The externally located tube H provided with a glass gauge I, in combination with the boiler A.

No. 8306. Improvements on Drilling Machines.

(*Perfectionnements aux machines à forer.*)

Andrew Jardine, Hespeler, Ont., 21st January, for 5 years

Claim.—1st. The sliding frame having arms d e, in which is journaled the shaft f, hollow arm k, sliding in arm a of the frame A and carrying the drill spindle j, provided with pinion i meshing with bevelled wheel h, on shaft f arms m o the former sliding on rail p of the frame A, and carrying the arms q r which terminate in arm s sliding in arm c of the frame A, and provided with a bridge having a bearing u, bearing on the end of the drill spindle j; 2nd. The arm s of the sliding frame, provided with a spiral groove 4 and connected to the feed screw l, by sleeve 2, having set screw 3, for taking up the frictional wear; 3rd. The feed lever 7 fulcrumed to the arm e and operated by the cam 8, on shaft f and provided with a pawl 6, in combination with a ratchet wheel 5 and feed screw 1 for imparting automatic feed motion to the drill.

No. 8307. Method of Dressing Sheep and Removing Wool from Pelts.

(*Méthode de préparer les moutons et d'enlever la laine des peaux.*)

Dennis Harrington, Woodbridge, N.J., U.S., 21st January, 1878, for 5 years

Claim.—1st. The method of preparing mutton for shipment and market as specified; 2nd. The process of removing wool from sheep skins by dipping the carcass of the sheep in hot water and pulling the wool from skin before the skin is removed from the animal.

No. 8308. Improvements in Wind Instruments.

(*Perfectionnements dans les instruments à vent.*)

Elias P Needham, New York, U.S., 21st January, 1878, for 5 years.

Claim.—1st. The combination with the reeds of a reed instrument, of a sheet of paper, or other suitable material, perforated with holes corresponding with the note of a tune, and with the air passages and means by which the same is passed over the reeds; 2nd. In combination with the reeds chamber, the endless perforated sheet a, the perforations of which correspond with the air inlets of said reed chamber, to produce a tune or chord, and otherwise arranged to form a valve to exclude the air except at such perforations as described; 3rd. The combination with the endless perforated sheet L, of the reed chamber f, the bellows g and means by which the whole is operated; 4th. The combination with the endless perforated sheet or belt L, and the reed chamber f, of the shaft i, provided with the roller u of the pressure roller or rollers q arranged to propel the sheet; 5th. The combination with crank h, shaft i, rolls u and q of the crank K, one or more of them arranged to operate the bellows; 6th. The combination with the shaft i, of the roll z, one or more, and the roll q, one or more, when either of them or all are made of elastic material and arranged to move the sheet of perforated music; 7th. The combination with the shaft i and roll of the roll or rolls q, secured to a hinged or removable part of the instrument and arranged so as to allow the sheet or belt L to be readily inserted and firmly held between the same; 8th. The combination with the reed chamber f, bellows g and endless sheet L, of the case A B C D, arranged so that the same can be readily opened and the sheet inserted or exchanged; 9th. The combination with the automatic reed instrument of the resonant s; 10th. A continuous sheet of perforated music arranged to be drawn across the reed openings and around the bellows; 11th. The combination with the automatic instrument consisting of the reed chamber C, and endless sheet or belt and operating mechanism of the case provided with the top F; 12th. An automatic wind instrument operated by means of an endless perforated sheet passing across the reed openings and around the bellows, when the reed chamber and the bellows are secured at one end, so that the perforated endless sheet may be readily adjusted over the reeds and around the bellows; 13th. The combination with an automatic reed instrument operated by an endless sheet or belt, of the hinged end or side of the case by means of which the substitution of one endless sheet for another is facilitated; 14th. The combination with the roller or rollers q, of the hinged arm o and spring p; 15th. An automatic reed instrument in which an endless sheet of perforated material is made to exclude the air from the reeds, and admit air to the same without any intervening mechanism.

No. 8309. Improvements on Harvesting Machines.

(*Perfectionnements aux moissonneuses.*)

George Fielden, Dundas, Ont., 21st January, 1878, for 5 years.

Claim.—1st. The combination of trip cam A, trip link D, gate lever E, guide F, cam gate M and presser bar G; 2nd. The combination of trip link D, chain N and trip cam A.

No. 8310. Manufacture of Tan Bark into bales.

(*Mise en ballots de l'écorce à tan.*)

Rowena C Gould and Sarah G Day, Montreal, Que., (Assignees of Jonathan Sherman, Jr. Chicago, Ill., U.S.) 21st January, 1878, for 5 years.

Claim.—A bale of rolled and compressed bark.

No. 8311. Improvements on a Printing Press.

(*Perfectionnements à une presse d'imprimerie.*)

William Heckert, Providence, R.I., U.S., 21st January, 1878, for 5 years.

Claim.—1st. The stationary vertical cylinder K, fixed solidly at its lower end to the bed plate A (the upper end being left free), provided with a plane surface that serves as a bed for the type, the revolving plate U fixed to the upper end of shaft F, arranged to revolve in the axis of the said cylinder, the heads P P² (one or more) stranged to slide inways, in said plate U, and