

P of the right and left side grooving-saws O, 3rd. In combination with the horizontally moving and feeding carriage E provided with forms Et and P, the rounding and tapering cutters D, the right and left grooving saws O and the adjustable under-cutting knives S, 4th. The hinged frame C provided with the cutters D and the tapered bearing block Q, in combination with the carriage E provided with the form L, 5th. The combination of the continuously revolving partly-toothed wheels G carriage E, with rack F and weight H, 6th. In combination with the partly toothed revolving wheel G provided with the sectional filling web piece G' the hinged frames C provided with the projecting finger pieces L, 7th. The adjustable sectional bars T arranged to receive the legs after they have passed the knives S, 8th. The guiding and supporting bars F, in combination with the carriage E, cutters D and saws O, 9th. The combination of the driving-shaft B, pulleys R, and I, shaft I, friction wheels L, shaft J, worm J, worm wheel J' shaft K and sectionally toothed wheel G, with the carriage E.

### No. 8076. Apparatus for Treating Ores.

(Appareil à traiter les minerais.)

Henry F Howell, Sarnia, Ont., 9th November, 1877, for 5 years.

Claim.—In combination with a retort for the treatment of ore, through which hot air (either alone or in combination with steam) is forced in fine streams, the hood or cover to said retort, and pipe for carrying off the volatilized products, a steam jet, exhaust fan, or equivalent device, for creating a partial vacuum above the ore, and increasing the draft through it.

### No. 8077. Horse Shoe Nail Machine.

(Machine à clous à cheval.)

Thomas H Fuller, Boston, Mass., U. S., 10th November, 1877, (Extension of Patent No. 1757), for 5 years.

### No. 8078. Improvement in the Manufacture of Horse Shoe Nails.

(Perfectionnement dans la fabrication des clous à cheval.)

Thomas H Fuller, Boston, Mass., U. S., 10th November, 1877, (Extension of Patent No. 1758), for 5 years.

### No. 8079. Horse Shoe Nail Machine.

(Machine à clous à cheval.)

Thomas H Fuller, Boston, Mass., U. S., 12th November, 1877, (Extension of Patent No. 1759), for 5 years.

### No. 8080. Horse Rake. (Râteau à cheval.)

German M. Cossitt and Newton Cossitt, Brockville, Ont., (Assignees of C. M. Titus.) 13th November, 1877, (Extension of Patent No. 1790), for 5 years.

### No. 8081. Improvements on Dog Powers.

(Perfectionnements aux manèges à chiens.)

Alphens Hamlin, Almonte, Ont., 13th November, 1877, for 5 years.

Claim.—1st. The platform D having a crown-wheel H bolted to the underside of the intersecting arms E, and meshing with a pinion J on the driving shaft K, 2nd. The platform D constructed of arms E, halved together at their intersection, and halved at their outer ends to receive a single board floor F, whereby are formed raised cleats, corresponding to cleats G, planted radially on the floor and the underside of the floor is a plane surface, 3rd. The rectangular frame A provided with movable legs B, for adjusting the inclination of the platform, 4th. The friction rollers M axially mounted on standards O, having vertical adjustment on the frame A, for elevating the platform out of gear.

### No. 8082. Treatment of Residuous Wine for the Manufacture of Tartaric Acid and Salts.

(Traitement des résidus de vin pour la fabrication de l'acide et des sels tartariques.)

Frauz Dietrich, Marton, Switzerland, 13th November, 1877, for 5 years.

Claim.—Treating the residuous of wine by heating the same to a temperature of from 140° to 170° C.

### No. 8083. Improvements on Clothes Wringers.

(Perfectionnements aux essoreuses à linge.)

Alexander Israel and James Hall, Kinniswick, Mo., U. S., 13th November, 1877, for 5 years.

Claim.—1st. The combination of the side pieces A A, each cast of a single-piece of metal with slot A', and feet B B, with the set screws C C and rollers D D, 2nd. The combination of the upper roller D, slating boxes b b, having rods d d shouldered at their upper ends, the elliptic springs G G, collar I and screw J.

### No. 8084. Improvements on Sink Traps.

(Perfectionnements aux valves d'éviers.)

John Magee, Chelsea, Mass., U. S., 13th November, 1877, for 5 years.

Claim.—The combination with a sink, of the hinged or removable strainer plate B, stationary convex cap E, provided with arm C, disk F and pipe D, the several parts constructed and relatively secured together, and to the sink.

### No. 8085. Improvements in Stoves and Furnaces. (Perfectionnements dans les poêles et les calorifères.)

Charles Dion, Chambly Basin, and James Baylis, Montreal, Que., 13th November, 1877, for 5 years.

Claim.—1st. The combination in a stove, of the central chamber, or coal reservoir A, with the external concentric inner and outer casings B E, having between them a spiral diaphragm D, 2nd. In combination with the spiral chamber D, the doors H and L, rod I, cranks h and l, and lever k, 3rd. In combination with the cylinder E, the door E', 4th. The cleaner consisting of ball N and brush O.

### No. 8086. Improvements on Steam Boilers.

(Perfectionnements aux chaudières à vapeur.)

Edward Hamer James Metcalfe, Aberystwith, Cardigan and Edward Davies, Pontypridd, Glamorgan, Wales, 13th November, 1877, for 5 years.

Claim.—In an injector for steamboilers adapted to be worked by the exhaust steam, the combination of the discharging cone or throat I and the combining cone K, with a steam nozzle F having its final cross-sectional area considerably larger in proportion to that of the water passage and to that of the discharging cone or throat.

### No. 8087. Improvements in Steam Engines.

(Perfectionnements dans les machines à vapeur.)

George Marskell Hamilton, Ont., (Assignee of Cyrenus C. Roe), 13th November, 1877, for 5 years.

Claim.—1st. The combination of the rolling valve X constructed with the oscillating steam cylinder M, and operated by the oscillation of the said cylinder, 2nd. In combination with a steam engine of a cone D (oval or circular) on the shaft B for operating a variable cut off and governed by an automatic governor F attached to said shaft, 3rd. In combination with a steam engine of the guides L, constructed and attached to the cylinder M for the crank pin box O to slide in for the purpose of removing side strain from the piston rod, 4th. In combination with the cone D of a steam engine shaft B and collar I of a spring J adjusted by said collar on the shaft, for regulating the speed of the engine, 5th. In combination with the cylinder M of a steam engine, of a hollow piston head P, so that said piston head may expand with the cylinder, 6th. The combination of a frame A, shaft B, pulley C, governor F, rods G, cone D, rods T U, cylinder M, steam chest N, spring J, crank-disc K, guide L, crank S, valve X, piston head P.

### No. 8088. Improvements on Broad Cast Sowers. (Perfectionnements aux semoirs à la vole.)

Charles E. Alden and David Brust, Philadelphia, Pa., U. S., 13th November, 1877, for 5 years.

Claim.—1st. The distributing wheel composed of the disc A' having the lifts C and sloping curved ribs B, 2nd. The delivery nozzle composed of the tube e having inclined bottom e' and slot e'; 3rd. In combination with a distributing wheel or scatterer of a sowing machine, a rotary hopper nozzle, adjustable, so as to bring its feed opening across a line drawn transversely through the middle of said wheel and thus cause the latter to scatter wholly on one side or track of a machine, or more on one side than on the other.

### No. 8089. Machine for Cutting Iron and other Metals. (Machine pour couper le fer et autres métaux.)

Aaron Bradrick and Frederick Cook, Dashwood, Ont., 13th November, 1877, for 5 years.

Claim.—The standards D E, cutting bars C F, rods G and lever-arm H, in combination with stand A, block B and guard-iron I.

### No. 8090. Improvements on Hay Elevators.

(Perfectionnements aux élévateurs à foin.)

Frank Ward Rockford, Ill., U. S., (Assignee of Eugene L. Church), 13th November, 1877, for 5 years.

Claim.—1st. The combination of the bail of the sheave frame, of the hay fork with the stationary guide-hook f, the pivoted grappling hook g and the locking catch G of the carriage B, 2nd. The combination of the swinging grappling hook g having shoulder g', tilting catch G' having end lugs or points e', and the carriage B, with the fixed stop block e' of the track frame.

### No. 8091. Improvements on Bench Vises.

(Perfectionnements aux claus d'établis.)

Emmett H Brower, Carson City, Mich., U. S., 13th November, 1877, for 5 years.

Claim.—1st. The combination of the foot lever G, spring H, dog J and cam lever I, with a carpenter's vise, 2nd. A carpenter's vise provided with the ratchet-bar k, dog B, and lever a, 3rd. The screw M journalled in a collar N, sliding horizontally in a frame O, secured to jaw A and provided with stops P, 4th. The hinged plate Q applied to the jaw B.

### No. 8092. Improvement in Saw Frames.

(Perfectionnement dans les montures des scies.)

Emanuel Andrews, Williamsport, Pa., U. S., 13th November, 1877, for 5 years.

Claim.—1st. A saw frame constructed partly of wood and partly of spring metal, so secured together as to automatically strain the saw, 2nd. A self-straining saw frame having wooden end pieces A A' and elastic metal back C, 3rd. The metallic back C of U-shaped, having curved centre a and curved ends b b', 4th. The elastic metal back C secured to the wooden end pieces by bands c c'.

### No. 8093. Clothes and Fruit Dryer.

(Séchoir à linge et à fruits.)

Martin L. Smith, Arkona, Ont., 14th November, 1877, (Extension of Patent No. 1791), for 5 years.

### No. 8094. Middlings Separator.

(Séparateurs des gruaux.)

James Parkyn Thomas Pringle and John Ogilvie, (Assignees of Willard H Sherman), Montreal, Que., 14th November, 1877, (Extension of Patent No. 1793), for 5 years.

### No. 8095. Car-coupler with Double or Single Compressed Buffer Combined.

(Atelage de wagons combiné, avec double ou simple tampon comprimé.)

Alfred Willson, Belle Ewart, Ont., 14th November, 1877, (Extension of Patent No. 1793), for 5 years.