or other metal, composed of the parts A A having turned or rolled edges *a a*; 9th. A horse collar composed of the parts A A having rolled edge *a a* formed from a plate of steel or a sheet of metal by pressure in a die or dies G G, H H; 10th. In combination with the dies H H_1 the blocks G G, each having a projection g^1 raised at the outside.

No. 10,369. Improvements on Mechanical Musical Instruments. (*Perfectionnements aux instruments de musique mécaniques.*)

Moses Harris, New York, N. Y. (Assignee of Oliver H. Arno, Wilmington Mass., U. S.), 19th August, 1879, for 5 years.

Claim.—1st. The bar M carrying spring fingers L when pivoted to the side boards D D_1, and by one end in a slotted bearing p^1 and there held by a spring catch, so that said bar can readily be removed from and replaced in its supports; 2nd. In combination with a swell P and perforated paper, spring fingers R arranged to act upon the arm Q of said swell through the perforations in said paper; 3rd. The spring finger R, formed with an obtuse angle for operation, in combination with a perforated paper upon the swell P; 4th. In combination with a bellows E, a block G arranged to travel on its operating rod by the movements of the bellows-board, so that said block G, in such travel, will automatically regulate the movements of the exhausters to exhaust the bellows; 5th. In combination with musical reeds, perforated paper O, drawing rolls N N^1, spring fingers L, push pins *n* and valves *l* to said reeds; 6th. In combination with the exhausters F F^1, the rods b^1 b^2 and *d*, block G, rod H, bar d^1 and exhaust bellows E.

No. 10,370. Machine for Burnishing Photographs. (*Machine à polir les photographies.*)

William G. Entrekin, Philadelphia, Penn., U. S., 19th August, 1879 (Extension of Patent, No. 3820), for 5 years.

No. 10,371. Improvements in Long Leg Boots. (*Perfectionnements aux bottes à longues tiges.*)

Robert Church, St. Lambert, Que., 19th August, 1879, for 5 years.

Claim.—1st. The leg made of a single piece with the seam immediately in front; 2nd. The leg piece A having its lower edge cut concave and its upper side cut down at the meeting edges; 3rd. The leg piece A with concave lower and cut away upper edges and having projections for side linings; 4th. The single leg piece A cut up the back, in combination with the outside counter.

No. 10,372. Improvements on Signal Cartridges. (*Perfectionnements aux cartouches à signaux.*)

Adam H. Bogardus, Elkhart, Ill., U. S., 19th August, 1879, for 5 years.

Claim.—In the combination of the tube A containing fire works, a compressible wad B, the head F of larger diameter than the tube and the fuse I passing through the wad, whereby the tube becomes adapted to be fired from a muzzle loader or a breech loader.

No. 10,373. Improvements on Sleighs. (*Perfectionnements aux traîneaux.*)

Joseph T. Clarkson and George W. Morrill, Amesbury, Mass., U. S., 19th August, 1879, for 5 years.

Claim.—1st. The side panels *b b* arranged with their lower edge oblique to the line of sills *c c*; 2nd. In a pivotal top sleigh or pung, the combination of the pivotal guide-rods *n* and the supporting bar *r*; 3rd. In combination with guide-rod *n* and spring *t*, the elastic tubular buffer *v*; 4th. In combination with rod *n*, bar *r* and spring *t*, the elastic buffers *s*; 5th. In combination with rod *n*, interior coiled spring *u* and external spring *t*, the tubular buffer *v* arranged between such outer and inner springs; 6th. In combination with a tilting body A, the angle rods *i i* to connect the bars *x*; 7th. In a pivotal body sleigh or pung, the springs *t* supported by the panel D and extended up within the body A to conceal them.

No. 10,374. Improvements on Grain Elevators. (*Perfectionnements aux élévateurs à grain.*)

Orlando D. Spalding and Lewis C. Barnett, Mitchell, Iowa, U. S., 19th August, 1879, for 5 years.

Claim.—1st. A grain elevator made in circular form with a central tubular shaft and a series of bins arranged around the same, and all running to the centre; 2nd. The combination of the central tubular shaft A, inclined sills C C, floor D, outside slotted hoop E, inside sill F and wall studdings J; 3rd. The combination of the central tubular shaft A, wall studdings J, floor D, studding G, partitions H and braces I.

No. 10,375. Railway Switch. (*Aiguille de chemin de fer.*)

Henry Harmer, Southampton, Ont., 20th August, 1879, (Extension of Patent No. 3770), for 5 years.

No. 10,376. Improvements on Horse Powers. (*Perfectionnements aux manèges à cheval.*)

John McCrea and John Irvine, Orchardville, Ont., and Thomas Swan, Mount Forest, Ont., 21st August, 1879, for 5 years.

Claim.—1st. The rotary top consisting of the arms C D, braces I J, cog wheels T T and U, in combination with the fixed cog-rim B for operating the centre shaft E, bevelled gears O P and line shaft Q; 2nd. The combination, with the fixed cog-rim B, of the travelling cog wheels T T and bull pinion-wheel U geared to operate in the same plane, and central shaft E, carrying bevelled spur-wheel O meshing with bevelled cog P for operating line shaft Q; 3rd. The bearings L M secured to the arms C and bed-piece G having concentric flanges.

No. 10,377. Improvements on Rubber Boots or Shoes. (*Perfectionnements aux chaussures de caoutchouc.*)

Samuel E. Whittemore, Bristol, R. I., U. S., 21st August, 1879, for 15 years.

Claim.—1st. A rubber boot or shoe provided at its toe with a binding shield *a* which protects the toe and is united to the sole and upper, and overlies the joint or seam at which the sole and upper are united; 2nd. A rubber boot or shoe, provided at its toe with a binding shield *a* which protects the toe and is united to the sole and upper, and overlies the joint or seam at which the sole and upper are united, in combination with a shield *b* which is extended vertically at its rear and is attached to the counter.

No. 10,378. Improvements on Rotary Engines (*Perfectionnements aux engins rotatoires.*)

Alonzo Noteman, Toledo, Ohio, U. S., 21st August, 1879, for 5 years.

Claim.—1st. The blades c_1 coupled by a pin c_3, and having holes c_4 communicating with the mortises or holes containing the ends of the coupling pin; 2nd. The blades c_1 constructed with the lips or projections c_5 to extend upon the sides of the abutment *b* and the bearing b_3; 3rd. In the combination of the cylinder a_1 having ports a_4 a_2 and grooves or chambers e_1 surrounding the vacuum chamber a_6 and abutment *b*, the head plates *d* supporting the piston and axles and provided with rabbets or channels d_2 around their rims, and the circular adjustable packing rings *e* placed within the channels e_1 and pressed outward against the head plates.

No. 10,379. Improvements on Spinning Machines. (*Perfectionnements aux machines à filer.*)

Joseph Abbott, Joseph B. De Young and Charles Z. De Young, Philadelphia, Pa., U. S., 21st August, 1879, for 5 years.

Claim.—1st. The combination, with the front line of rollers, of one or more lines of back rollers rotating at different degrees of speed; 2nd. The front line of rollers in combination with one or more lines of back rollers and operating with the sliver spool drum and spindle carriage; 3rd. The upper and lower rollers set at an angle to each other, whereby the slubbing is caused to move in a direct line with the bearing centre of the rollers; 4th. The combination, with the front and back lines of rollers, of the adjustable bearings or stands F G.

No. 10,380. Washing Machine. (*Machine à laver.*)

Gilbert F. Burtch, Jackson, Mich., U. S., 21st August, 1879, for 5 years.

Claim.—1st. The combination of the removable bearing *d*, having the slot *j* for the journal *e* of the washer to move in, rest *k* and catches a_1 and b_1 to hold the bearing in place, and the spring *o* to keep the journal pressed downwards; 2nd. The combination of the slotted removable bearings *d*, catches a_1 and b_1, plate *h* having a stud *g* for the bearing to catch upon, and the rest *k*.

No. 10,381. Railway Switch. (*Aiguille de chemin de fer.*)

Russel Pickel, Plattsburgh, N. Y., U. S., 21st August, 1879, for 5 years.

Claim.—1st. The double railed link J having the rails *a b* and chairs *c*; 2nd. The combination and arrangement of the double railed link J, rods G H, bell cranks E F and connecting rod D with the leading switch track I.

No. 10,382. Machine for Working Sheet Metal. (*Machine pour travailler les métaux en feuille.*)

James Fife, Toronto, Ont., 21st August, 1879, for 5 years.

Claim.—1st. The bar B, working in vertical guides from a foot or hand lever, in combination with the table D and hinged folding plate E provided with the projections E_2; 2nd. The pivoted bar G in combination with the bar B provided with a moulded face; 3rd. The bar B provided with bevelled front face and moulded rear face, and recessed on its under side; 4th. The combination and arrangement of the bar B, table D, folding plate E and the pivoted bar G.

No. 10,383. Improvements on Steam Generators. (*Perfectionnements aux générateurs de vapeur.*)

Michael J. O'Rielly, Buffalo, N. Y., U. S., 21st August, 1879, for 5 years.

Claim.—1st. In one or more series of horizontal pipes *i*, closed at the ends and arranged closely together, vertical pipes K and manifold L; 2nd. In two or more sections H H_1 H_2, each composed of horizontal pipes *i* arranged closely together and transversely to the direction of the draft, vertical pipes K and manifolds L arranged parallel with the draft, the different sections forming horizontal flues, one above the other, through which the draft passes successively; 3rd In two or more horizontal sections H H_1 H_2, each composed of horizontal pipes *i*, vertical pipes K and manifolds L and right and left hand threaded pipes *m* connecting the different sections, so that each section can be readily removed.

No. 10,384. Improvements in Oatmeal Machines. (*Perfectionnements aux machines à gruau d'avoine.*)

George Ayliffe, Joseph Hugill and Charles Rinehart, Akron, Ohio, U. S., 21st August, 1879, for 5 years.

Claim.—In a cylinder perforated with holes in which the grain stands, a fixed knife lying close to the surface of the cylinder and pins to force outward the grain to be cut.