No. 5234. DAVID MAXWELL, Paris, Ont., 2nd October, 1875, for 5 years: "Improvements on Straw Cutters." (Perfectionnements aux hache-paille.)

Claim.—1st. The longitudinal and horizontal bar F, arranged under the feed box D to support the same and form the lower lip of the mouth of the cutting box D; 2nd. The arrangement of the shaft E under the feed box D, and gear wheels *f*, *g*, connecting with the central transverse shaft driving the knife wheel C; 3rd. The flat bent steel spring H applied to depress the upper feed roller *d*.

No. 5235. CHARLES B. CLARK, Buffalo, N. Y., U. S., 2nd October, 1875, for 5 years: "Lock Hinge." (Penture de sûreté.)

Claim.—In combination with the locking-inclines *m*, *n*, *m1*, *n1*, the auxiliary locking stop *f* and recess *g*, said inclines, stop and recess arranged and operating in conjunction with each other.

No. 5236. BENJAMIN W. THURMAN, Gordonsville, Va., U. S., 2nd October, 1875, for 5 years: "Stump Extractor." (Arrache-Souche.)

Claim.—1st. In a stump extractor, a bisected or divided hinged clamp having spurs or serrations on its inner sides in combination with an extracting mechanism; 2nd. The combination of the long power lever F, the pivoted arm O, the connecting chain B, and the hinged or divided clamp A; 3rd. The combination of the truck bounds F^1, F^1, stepped blocks G, G, adapted to be attached thereto, and standards H, H, for adjusting and holding the truck frame.

No. 5237. CHESSER C. HOLMAN, Hamilton, Ont., 2nd October, 1875, for 5 years: "Improvements in Boxes." (Perfectionnements dans les boites.)

Claim.—The arrangement and construction of a cubic wood or metal box A, with the tin cover C, perforated with holes *a*, *a*, *a*, *a*, and covered by the riveted star F, also the arrangement of the circular box A_1, with circular cover C_1, perforated with holes a_1, a_1, a_1, a_1, opened and shut by the riveted and perforated disc D, with projection *b*.

No. 5238. GEORGE W. COPELAND, Malden, Mass., U. S., 2nd October, 1875, for 5 years: "Improvements in the Manufacture of Boots and Shoes." (Perfectionnements dans la fabrication des chaussures.)

Claim.—The completed shoe made as described, also the series of manipulation producing that result consisting first in removing a thin veneer *a*, from or scarping a lip a^1, on the upper surface of the insole lasting and the arrangement of the lasting tacks to secure ready removal, laying the welt C, withdrawing the last and permanently uniting the welt C, upper B, and insole A, by a line of wax thread stitches *d*, laid on the exposed surface of the insole A, caused by turning back the flap a^1, restoring the flap a_1, and cementing it to its original position, again inserting the last and withdrawing the lasting tacks, or if the welt C, and upper B, are attached to the insole A, by a metallic seam, the adjustment and clinching of the same on the exposed surface of the insole A, to be readily curved by the flap a_1, or veneer *a*, and then in fastening the outsole to the welt C, by a line or lines of wax thread stitches *d*, sewed outside the upper.

No. 5239. RICHARD C. GWATHMEY, Louisville, Ky., U.S., 2nd October, 1875, for 5 years: "Machine for Holding Objects, particularly Cylindrical Ones." (Machine à saisir des objets, surtout cylindriques.)

Claim.—A combination of four bodies or systems of bodies which will be called Applying Bodies, and which in virtue of certain properties, size, shapes and position, will be effectual for holding objects particular objects formed with such surfaces as could be imparted by being turned in a lathe, and for other purposes. These properties are as to position; 1st. That the Applying Bodies shall be in relation each to an axis which axis shall be perpendicular to the plane in which the bodies move; 2nd. That these axes shall constitute two pairs; 3rd. That the two constituent axes of each pair shall be fixed relatively to each other; 4th. That the distance between the axes of one pair shall be equal to the distance between the axes of the other pair; 5th. That one or both pairs of axes shall revolve around a point at a finite or an infinite distance; 6th. That a radial line from such point of revolution shall bisect at right angles a line connecting the middle point of a straight line which connects the two of one pair, with the middle point of a straight line which connects the two axes of the other pair, while at the same time the two straight lines connecting such axes shall, if necessary, meet the aforesaid radial line at the same point. The properties as to a size and shape are, 1st. That the four Applying Bodies shall have their sections that lie in same plane perpendicular to their axes, circular around their respective axes, and of the same diameter at least as to such of their surfaces as are applied to objects, 2nd. Any deviation from such size and shape to suit any particular purpose, such modification being available from the relation of the Applying Bodies to the above described axes. And that the objects to be held or acted upon by the Applying Bodies shall be formed in adaptation to the shape of the Applying Bodies to be attached in any way to any machinery that will hold them in the required position and communicate to them the required movement.

No. 5240. FERDINAND ERDMANSKI, St. Louis, Mo., U.S., 2nd October, 1875, for 5 years: "Improvements on Razors." (Perfectionnements aux rasoirs.)

Claim.—1st. The combination of supporting back or frame B consisting of main part B^1, and hinged and fastened top part B^2 with a detachable symmetrical razor blade C, 2nd. The razor blade C having perforations *a*, in combination with pin *b*, of the lower main part B^2, and recess b^1, of the top part of supporting frame B, for the purpose of securing steady position of blade.

No. 5241. RICHARD D. CHATTERTON, Cobourg, Ont., 2nd October, 1875, for 5 years: "Improvements in the Construction of Railway Carriage Draw-Bars and Springs." (Perfectionnements dans la confection des ressorts de choc et de traction des voitures de railroute.)

Claim.—1st. The wedge draw or buffing bar A, of a railway carriage in combination with levers B, B, bearing upon springs C, C, adapted so as to increase their power and range; 2nd. The prolongation of the buffing bars A, of a railway carriage by a connecting rail or bar H, between them so as to produce the immediate transmission of the shock of a collision to the buffing bar of the next adjoining carriage.

No. 5242. JOSEPH H. KILLEY, and WALTER MUIRHEAD, Hamilton, Ont., 2nd October, 1875, for 5 years: "Improvements in Steam Boilers." (Perfectionnements dans les chaudières à vapeur.)

Claim.—1st. In combination with the horizontal tubes C, of a boiler, the arrangement of the vertical tubes D, as shown, provided with the openings F, near the bottom; 2nd. The manner of securing the tubes D, by means of the wire G, 3rd. In combination with the boiler A, the steam pipe H, or coil of pipes perforated with holes *b*, &c., the central one connected with the dome for taking the steam from the boiler 4th. In combination with a steam boiler A, the arrangement of the scum pipe I, perforated with hole *d*, &c., terminating with the taps J, J, for removing scum from the boiler; 5th. In combination with a steam boiler A, the arrangement of the wind dejecting pipe K, placed near the bottom of the boiler perforated with holes *e*, *e*, *e*, &c., the pipe terminating with the taps L, L, outside the boiler; 6th. In combination with a steam boiler A, the peculiar arrangement of the fire-bars M, consisting of the alternate bevellings *f*, on each side cut down from the top to the line *x*, *x*, forming corrugations or air passages for the greater admission of air, also the hollow bearings *g*, *g*.

No. 5243. WILLIAM H. REED, Chicago, Ill., U. S., 2nd October, 1875, for 10 years: "Air Blower for Carburetters." (Machine à produire un courant d'air dans les carburateurs.)

Claim.—1st. In an apparatus for supplying air regularly to gas carburetters, the helical flange C, provided with web *a* and case B, combined with the case A, having an induction-passage *g* and an eduction pipe E, and rotated as described; 2nd. The helix C, having web *a*, in combination with the perforated shaft D, and case B, open at one end.

No. 5244. LOUIS P. BRUNELLE, and SIGISMOND MOHR, Quebec, Que., 5th October, 1875, for 5 years: "Gravity-Battery." (Batterie de gravité.)

Claim.—1st. The combination of the cylinder E, made of glass or other material, having perforations *c*, in its lower part forming the feeder G, and the central residue-zinc-receiver F, independent of or attached to the cylinder E with a gravity-battery, 2nd. The combination of the two vertical zincs B, C, admitting the perforated cylinder E, in their middle, with a gravity battery, 3rd. The combination of the copper coil-plate D, surrounding the perforated part or feeder G, of the cylinder E, with a gravity-battery.

No. 5245. NATHANIEL W. WESCOTT, and CHARLES L. SPENCER, Providence, R. I., U. S., 5th October, 1875, for 15 years: "Knitting Loom." (Métier à tricoter.)

Claim.—1st. The combination with the latch-needles C, of a knitting-loom of the internal dividing wheel G, and external latch-guard M, 2nd. The combination with the latch-needles *c*, and the "cam-rise" in casing E, of the latch guard M, 3rd. The combination with the latch-needles *c*, of the external-latch guard M, the external-wheel H, and the internal dividing-wheel G; 4th. The combination with the latch needles *c*, and "cam-rise," of a knitting-loom of the dividing wheel G, and the adjustable weft-guide F; 5th. The pockets *e*, at the upper-ends of the needle-grooves in cylinder C in combination with wheels G, H, 6th. The combination with the latch needles *c*, and "cam-fall," of a knitting loom of the adjustable guide L, pressure burr O, and wheels G, H, 7th. The adjustable latch-guard M 8th. In combination with the trumpet shaped thread-guide F, the flange *l*, perforated, 9th. The relative arrangement of the guide F, with respect to the "cam-rise," for the needles combination with wheels G, H; 10th. The grooved latch-needle carrying cylinder C, bevelled at d^1.