No. 3451. JOSEPH F. BALDWIN, Boston, and CYRUS H. HARDY, Hingham, Mass., U. S., 19th May, 1874, for 5 years: "Improvements on Planes." (Perfectionnements aux rabots.)

Claim.—1st. A plane formed with a perforated metallic bottom substantially as specified, 2nd A metallic wedge *p*, countersunk on its bottom and curved at its rear to form a central tongue *p1*, having a screw *q*, in combination with a plane iron and lugs *o*; 3rd. A travelling plat or carriage *l*, formed with an aperture to receive a stud or screw head of a plan iron, and having a depending yoke or bifurcated flange *l1*, in combination with a grooved screw-cap *n*, operating on an inclined screw stem *j*; 4th. In a plane, an adjustable block *h*, bevelled downward on its front and formed with a rear central boss to support a plane iron, and hold a screw stem. 5th An open metallic bottom of a plane in combination with a plane iron connecting with a plate or carria *l*, engaging with so as to be adjusted by a grooved screw cap travelling on a screw stem *j*.

No. 3452. JOSEPH F. BALDWIN, Boston, and CYRUS H. HARDY, Hingham, Mass., U. S., 19th May, 1874, for 5 years: "Improvements on Planes." (Perfectionnements aux rabots.)

Claim.—1st. A curved shield or hand guard and rest arranged to hold or allow the release or adjustment of a plane iron in a metallic plane; 2nd A screw rod or stem supported in a plane and provided with a screw cap or nut formed with a groove to receive a bifurcated flange or plate depending from the bottom of the plane iron; 3rd. A curved shield or hand guard and rest *m1* having forward projecting sides or prongs *m11*, bevelled to receive and hold a wedge block *m111*, in combination with the iron of a plane, 4th. A metallic plane having its iron formed with an upper or reverse bevel; 5th A curved shield or hand guard and rest *m*, formed with a wedge plate *m1*, having a screw socket to receive a screw *q*, in combination with lugs *l*, iron *d*, formed with bifurcated plate or flange *e*, and screw rod *g*, having a screw nut or cap *f*, formed with a groove *f1*, and operating as specified.

No. 3453. CHARLES L. MOREHOUSE and ROBERT FITZGERALD, Cleveland, Ohio., U. S., 19th May, 1874, for 5 years: "Lubricating Grease Compound." (Composition de graisse à lubréfiage.)

Claim.—A compound for axle grease consisting of the following ingredients, *viz.*, paraffine oil, resin oil, white lime putty severally and combined with resin varnish the whole mixed in the proportions specified.

No. 3454. DANA BICKFORD, New York, U. S., 19th May, 1874, for 5 years: "Knitting Machine." (Machine à tricoter.)

Claim.—1st A rotary knitting machine, combined with a driving handle and resting on a bed in its frame, whereby the machine may be operated without the use of gearing, and having a shifting thread guide which automatically upon reversing the machine properly changes its position relatively to the needle operating cams; 2nd. A rotary knitting machine constructed both with driving gearing and with a driving handle and bed rests as described; whereby it may be driven at option either by the handle or by the gearing and by hand or any other motive power; 3rd. The combination with the rotary cylinder, or bobbin or spool frame or stand as described, so that such frame and shall revolve coincidently with it and with the thread guide, and upon reversing properly shift its position with the thread guide whether it be attached to the cylinder or to the ring or to the thread guide; 4th. The arrangement of the adjustable cam switches on the inner side of the cam groove as described, whereby whilst serving to perform the ordinary duty of switches, they also serve, when both are at their lowest points to prevent the formation of switches although the machine be driven, and permit the operator to make a variety of fancy work, and when the rear one only is driven it serves to prevent the flying up of the latch and the throwing off of the switch as set forth; 5th The combination with a rotary knitting machine, of a registering scale or dial as described, to indicate the number of courses knitted; 6th. The combination with a knitting machine of either of the constructions of switches and switch levers, or the cam pieces, as severally illustrated in figures 4 to 13 inclusive or their mechanical equivalents allowing the machine to be revolved and to knit in either direction, 7th The adjustable or removeable cam plate as shown in figures 12 and 3 for supporting the needle actuating devices: 8th. The combination with a rotary knitting machine of a removeable needle cylinder, adapted for its ready removal and the ready substitution of another, having the same or a lesser diameter and having a greater or lesser number of needle grooves; 9th. The adjustable take up consisting of the spring wire *u*, and the nut and screw or their equivalents; 10th. The moulding the different parts of a knitting machine in permanent moulds so that each part can be readily duplicated, so as to dispense with the large amount of labour and cost and the use of expensive machinery in their manufacture as heretofore.

No. 3455. CHARLES F. WILSON and SAM. H. MILLER, Brooklyn, N. Y., U. S., 19th May, 1874, for 15 years: "Improvement on Dies for Cutting and Cupping Sheet Metal." (Perfectionnement des étampes pour couper et mouler les plaques de métal.)

Claim.—1st. The combination with the female cutting die B, male cupping die *d*, and the female cupping die A, constructed to also form a male cutter of the spring borne clamping ring or follower C, wholl, within the space separating the dies B, and *d*, for operating as specified; 2nd. The arrangement of spring *h*, external y to the dies, and the device supported by said spring, and which supports the follower C, within the die as described, whether said device be posts or any equivalent thereof.

No. 3456. JOHNSON BRIGGS and WILLIAM S. FINCH, Toronto, Ont., 19th May, 1874, for 15 years: "Spring Bottoms for Seats and Beds." (Fonds à ressorts pour les siéges et les lits.)

Claim.—The combination with the frame A, bars B, D, and slats E, of elliptical springs C, applied and used for seat and bedbottoms, as set forth.

No. 3457. JOHNSON BRIGGS and WILLIAM S. FINCH, Toronto, Ont., 19th May, 1874, for 15 years: "System of Ventilation for Cars and Buildings." (Système de ventilation des wagons et bâtiments.)

Claim.—The trunk tubes B, provided with dampers E, and air catchers F, furnished with a covering of metallic or textile mesh work, and connecting with a series of branch pipes C, having suitable registers D, the whole arranged and applied to a car, building, &c., in the manner set forth.

No. 3458. GEORGE G. MAY, Troy, Vt., U. S., 19th May, 1874, for 5 years: "Milk Pan." (Boîte à lait.)

Claim.—1st. The milk pan A, and water pan B, both having outwardly splayed sides fitting tightly together within each other to be capable of removal; 2nd. The border rail F, in combination with the transverse bar or bars D, for supporting the pan A, 3rd. The telescopic connection of the outlet H, by the tube of the pan A, fitting to set over the top of the tube of the pan B, as set forth.

No. 3459. SAMUEL H. NEWCOMB, Port Williams N. S., 19th May, 1874, for 5 years: "Table and Stool Folding Standard." (Pied de guéridon et de banc brisé.)

Claim.—1st. The legs A, hinged together, one secured to the standard B, radially and folding laterally together and around the standard cruciformly, to form a stand for a piano stool, table or other analogous article of furniture; 2nd. The brackets H, hinged together, one secured to the post G, radially and folding laterally together and around the post cruciformly for supporting a table top J; 3rd. The combination with the folding legs and brackets of the standard B, and post G, having a socket tube F, telescoping over a pintle L, formed on the standard B, for the attachment of a revolving table top, or stool seat as set forth.

No. 3460. JOHN B. SMITH, Sunapee, N. H., U. S., and JACOB D. SLEEPER, Coaticook, Que., 19th May, 1874, for 5 years: "Machine for Making Clothes Pins. (Machine à faire les épingles à linge.)

Claim.—1st. The combination of the shaping knife *h*, swinging knife-bed H, the adjustable lifting and lowering rod H2, lever *i*, and cam F, with a suitable frame A; 2nd The combination of the automatically swinging knife bed H, chamber-cutter *i*, and rider gauge *i1*: 3rd. The automatic uncentering hammer 5, and its operating connections G, *g*, *g1*; 4th. In a clothes pin machine the automatically-oscillating feed-table L1, in combination with the spindles *c*, *c1*; 5th The endless feed belt *l1*, in combination with the oscillating table L1, ratchet-wheel M, counter-balanced pawl *l*, and frame L, all constructed, arranged and operating as described; 6th. The shaping knife *h*, oscillating spindle C, moveable stop J, 5, uncentering hammer 5, endless feed belt *l1*, oscillating feed table L1, all combined and automatically operated as described.