

tre of the cross spring *a* by a loop or stirrup *e*, and adapted to support the bars or frame *f g h* and fifth wheel *k*; 2nd. The combination of side springs *b b* and springs *a*, and converging springs *c c* having their ends secured respectively to the end spring and side spring.

No. 10,630. Improvements on Paint Cans.

(*Perfectionnements aux bidons à peinture.*)

Henry Alexander, Alexander A. Ferguson, Robert Munro, Peter Hastie, H. J. E. Alexander, Glasgow, Scotland, and John McDougall and Robert Logie, Montreal, Que. (Assignees of Francis A. Walsh, Chicago, Ill., U. S.), 11th November, 1879 (Extension of Patent No. 10,509), for 5 years.

No. 10,631. Improvements on Paint Cans.

(*Perfectionnements aux bidons à peinture.*)

Henry Alexander, Alexander A. Ferguson, Robert Munro, Peter Hastie, H. J. E. Alexander, Glasgow, Scotland, John McDougall and Robert Logie, Montreal, Que., (Assignees of Francis A. Walsh, Chicago, Ill., U. S.), 12th November, 1879. (Extension of Patent No. 10,509), for 5 years.

No. 10,632. Improvements in Stocking Supporters. (*Perfectionnements aux bretelles à bas.*)

Clinton E. Brush, Toronto, Ont. (Assignee of Christopher C. Shelby, New York, U. S.), 12th November, 1879, for 5 years.

Claim.—1st. The spring jaw clasp A formed of a piece of metal doubled back on itself and provided with a slot extending longitudinally from the doubled end nearly to the opposite end, in combination with the button *m* and the transverse link *n*, one part of which prevents the button from sliding out of the slot, and the other part of which serves as means for attaching the supporting web; 2nd. The combined web and sliding button clasp having the web attached to the clasp and button, folded back in one continuous strip and stitched together, that is to say by passing it through the link folding it back to the point *S*, carrying it forward to the point *S* and then back to the point *S*, and stitching the parts together at *t t*; 3rd. The combination with the clasp of a stocking or other garment supporter, of the shield *S*.

No. 10,633. Improvements in Printers' Quoins

(*Perfectionnements aux coins d'imprimerie.*)

George Scott and John Young, Montreal, Que., 12th November, 1879, for 5 years.

Claims.—1st. The taper box A with the recesses *c c*; 2nd. The taper box A, in combination with the taper rack bar B and pinion key C.

No. 10,634. Machine for Dressing the Ends of Barrel Hoops. (*Machine pour tailler les bouts des cercles de barils.*)

Harvey Morris, Wallaceburgh, Ont., (Assignee of John Greenwood, Rochester, N. Y., U. S.), 12th November, 1879, for 5 years.

Claim.—1st. In a hoop dressing machine, the wheel B B, having a V shaped groove in its periphery with side cutters *i i* for forming the taper of the hoops and with curved cutters *k k* at the angle, for rounding the ends of the hoops; 2nd. The combination with the grooved wheel B B, provided with the side cutters *i i*, of the wedge-shaped guide block *p*, fitting in the groove and leaving a throat *p* between itself and the side of the groove, for the purpose of dressing the end of the hoops to a wedge form; 3rd. The combination with the grooved wheel B B, provided with the cutters *i i k k*, of the guides *m m* provided with angular tongues *m m* located on opposite sides of the wheel and resting in the groove thereof, and having angular throats *n n* extending to the inner cutters *k k*.

No. 10,635. Improvements on Car Axle Boxes.

(*Perfectionnements aux boîtes à graisse des wagons.*)

Andrew P. Case, Detroit, Mich., U. S., 12th November, 1879, for 5 years.

Claim.—1st. A car-axle box cover formed with a curve having an indefinite radius and provided at its upper end with a rearwardly or inwardly projecting flanged or curved edge, in combination with a convex front of an axle box provided with grooves or channels constructed on a curve similar to that of the cover; 2nd. In combination with an axle box having a curved or convex front, a cover of any desired curve provided at its lower end with an inwardly turning curve.

No. 10,636. Improvements on Harvesting Machines. (*Perfectionnements aux moissonneuses.*)

The McCormick Harvesting Machine Co., (Assignee of William R. Baker), Chicago, Ill., U. S., 12th November, 1879, for 5 years.

Claim.—1st. The combination of the shoe, the swivel bolt on its rear lug, the vertically slotted front lug, the two part coupling frame, the connecting bolt passing through the lugs of the coupling frame and of the shoe, and the roller on the connecting bolt playing in the slot of the front lug of the shoe; 2nd. The combination of the main frame, the double hinged brace or coupling frame, the cutting apparatus, the shoe provided with front and rear lugs, the double joint or swivelling connection between the coupling frame and the rear lug on the shoe, and the roller playing in a slot or way in the front lug of the shoe and carried by the coupling frame and partaking of its vertical movements; 3rd. The combination of the main frame, the double hinged brace or coupling frame, the shoe, the cutting apparatus, the double joint or swivelling connection between the rear lug on the shoe and the coupling frame, the vertically adjustable roller and slot connecting between the coupling frame and the front lug on the shoe, and the rocking lever mounted upon the coupling frame toward its outer end near the shoe, and flexibly con-

nected with the front lug thereon; 4th. The combination of the main frame, the stiff or rigid tongue, the two part brace or coupling frame hinged to the main frame beneath the tongue and projecting in advance of the inner driving wheel, the shoe, the cutting apparatus, the slotted lug near the point of the shoe, the heel lug on the shoe, the turning rod or bolt in said heel lug, the pivot pin passing through said rod and the coupling frame, and the roller carried by the front end of said pin and playing in the slot of the front lug on the shoe as the guards rock; 5th. The combination of the main frame, the slotted lifting lever, its bent or elbow link, the lifting chain secured at one end thereto, the roller over which it passes and the hinged brace or coupling frame to which the chain is attached at its outer end, whereby the cutting apparatus may be elevated and the lever locked by the strain on the lifting chain; 6th. The combination of the main frame having the narrow projection or arm *h*, at front, the tongue rigidly secured to said arm, the brace or coupling frame hinged to the main frame, at two points, one beneath the arm thereof and the other near the axle; and the lifting lever flexibly connected with the coupling frame inside the driving wheel, at the side of the narrow portion or front arm of the frame and near the heel of the tongue, whereby provision is made for the attachment of the draft connection and to accommodate the rocking lever; 7th. The combination of the main frame having narrow front portion or arm *h*, the hinged brace or coupling frame, the hinged cutting apparatus, the stiff or rigid tongue, the vertically rocking double tree plate or holder and the flexible draft connection between said holder and the hinged brace; 8th. The combination of the crank wheel, the wrist pin, the two armed or double sleeved pitman box, the nut, on the end of the wrist pin, overlapping the end of the wrist pin, enveloping sleeve of the pitman box and the cap on the end of said sleeve; 9th. The T-shaped pitman box or two-armed coupling sleeve U U, made in a single piece, having the annular groove or lubricating recess in one sleeve and the communicating oil chamber in the other, the one sleeve being provided with a screw thread to secure the pitman and the other with the external screw thread by which is attached the screw cap to enclose and protect the outer end of the wrist pin and its nut; 10th. The combination of the crank shaft wheel, the seat or socket thereon, the wrist pin, the two armed pitman box or coupling sleeve, the nut on the outer end of the wrist pin, the cap on the outer end of the sleeve of the pitman box which surrounds the wrist pin, and the pitman connected with the other sleeve of the box, whereby the working parts are protected and loss of oil is prevented.

No. 10,637. Improvements on Spring Mattresses. (*Perfectionnements aux matelas à ressorts.*)

George Gale, Stanstead, Que., 12th November, 1879, for 5 years.

Claim.—1st. The combination, with the side rails A and cross piece B, of the adjustable cross pin D constructed to increase or decrease the tension of the fabric C connected thereto; 2nd. The combination of the side rails A and cross piece D adjustably connected together by means of the bolts *b* and slots *a*; 3rd. In an adjustable spring mattress, the adjusting screws *c* for regulating the tension of the fabric C; 4th. The fabric C of a spring mattress made of one or more transverse series of links made shorter than those adjoining, for breaking the diagonal connection of the said links and dividing the pressure that may be applied to said fabric C among a larger number of springs S S; 5th. The combination, with the side rails A, of a spring mattress with the fabric C attached at two or more points *e*, for securing greater elasticity with less strain or any individual spring S or S.

No. 10,638. Apparatus for Cleaning Grain.

(*Appareil pour nettoyer les grains.*)

James Higginbottom and Edward Hutchinson, Liverpool, England, 12th November, 1879, for 5 years.

Claim.—1st. In the combination of the spout A, revolving disks or ledges B B; B, the perforated casing D and fan or air propelling mechanism F; 2nd. In the spout A supplying grain freely into the disk B, the disks B B; B revolving on a central shaft E, with a small space between their outside edges and the casing D for the grain to descend, in combination with a current of air forced outward from round the central portion of the disks through the casing D; 3rd. The combination of the spout A supplying grain freely into a perforated casing against which it is kept constantly or intermittently rubbing in its descent, and a regulated delivery such as that formed by slide K, so that the machine shall be always fully supplied with grain; 4th. The combination of the revolving disks or ledges B B; B for retaining the grain and rubbing against the vanes H for guiding or forcing the air through the grain, and the perforated casing D for retaining the grain while allowing the dust to be sucked out by a difference in the pressure of air on the two sides of the casing; 5th. The disks B B; B bent upwards at an angle near their edges; 6th. The combination of the open or perforated top of the machine with the central openings G in the disks or annular ledges B B; B, the vanes H, perforations in casing D and chamber I, and fan F causing a constant stream of air through the layers of grain and carrying off the dust and powdery particles intermixed with it; 7th. The combination, with a cleaning machine, in which grain is exposed to friction, of the exit slide K causing a constant or regulated stream of grain to escape, the vertical spout L and a suction apparatus such as a fan drawing off the air and any light particles from among the falling grain in the exit spout; 8th. The mode of cleaning grain, or separating it from dust and extraneous matters, by causing it to gradually descend between a series of revolving disk or ledges and a perforated casing through which a constant stream of air is sucked or forced from the space surrounding the central shaft or central portions of the fans; 9th. The mode of cleaning grain, or separating it from dust and extraneous matters, by allowing it freely to fill into a vertical perforated cylinder in which a series of disks or ledges revolve with great rapidity, near the cylinder, causing great friction among the particles, in combination with a regular current of air kept circulating from the open interior through the grain to the outer surface of the perforated casing; 10th. In a machine for cleaning grain in which a series of disks are kept rotating with their peripheries immersed in grain inside, a perforated cylinder through the perforations of which a current of air is continually sucked out, constructing said disks or ledges of emery composition or other abrasive material, or covering them with the same or with a polishing material such as sheep-skin or leather, or covering the upper ones with an abrasive, and the lower ones with a polishing material.