

it has been manufactured by on to the cylinder needles of a circular knitting machine having a ribbing attachment, by which machine a ribbed leg is added to the plain foot, the connection between the plain and ribbed work being perfected by single round stitches made by the cylinder needles alone, substantially as and for the purpose specified.

No. 18,631. Spring Wagon. (*Wagon à Ressorts.*)

Herman J. Kreinheder, Buffalo, N.Y., U.S., 7th February, 1884; 5 years.

Claim—1st. The combination, with the bolster E, front axle I and reach G provided with arms r, s , of a fifth-wheel composed of a lower semi-circular plate i secured to the axle, an upper plate m formed in one piece with the arm r of the reach and secured to the bolster, a semi-circular plate m_1 formed in one piece with the plate m , king-bolt k , constructed with a clip portion k_1 encircling the axle I, and plate X provided with a hub n , which fits in a bearing s at the end of the lower arm of the reach, as shown and described. 2nd. The combination, with the body A, of the transverse elliptic springs C, C₁, cross-pieces B, B₁, secured to the upper side thereof, body loops a , supporting the body A on the cross-pieces B, B₁, bolster E, side bars F connecting the bolster with the rear axle D, a reach G secured with its rear end to the rear axle and having a bifurcated front end r, s , the upper arm r of which connects with the upper half of the fifth-wheel, and the lower arm s with the plate N, on the under-side of the axle, and king-bolt k secured to the front axle I by a clip portion k_1 , substantially as set forth.

No. 18,632. Valve Gear for Steam Engines.

(*Distribution par Tiroir de Machine à Vapeur.*)

Hosea K. Kriebel, West Point, Pa., U.S., 7th February, 1884; 5 years.

Claim—1st. Variable cut-off mechanism for operating valves of steam engines, which consists of a valve crank carrying a crank pin and supported by the crank of the engine, in combination with means controlled by the varying speed of the engine, to automatically change the location of said valve operating crank, moving it at a radial line to, or from the centre of the crank shaft, to vary the time of cut-off in accordance with demand, substantially as and for the purpose specified. 2nd. Variable cut-off mechanism for steam engines, which consists of an engine crank and its pin, in combination with a valve crank pin supported by said engine crank pin, mechanism acting by centrifugal force to vary the position of said valve crank pin, by moving it radially to, or from the centre of the crank pin and connecting mechanism operating through said engine crank pin to transmit the effect of the centrifugal mechanism to the said valve crank pin, substantially as and for the purpose specified. 3rd. Variable cut-off mechanism for steam engines, which consists of an engine crank and its pin, in combination with a valve crank pin supported by said engine crank pin, mechanism acting by centrifugal force to move said valve crank pin radially toward the crank shaft centre, a spring or springs to move it radially in an opposite direction, connecting mechanism operating through said engine crank pin, to transmit the effect of the centrifugal mechanism and springs to the said valve crank pin, substantially as and for the purpose specified. 4th. Valve gear for steam engines which consists of crank wheel A, crank pin D supporting the lever H, carrying the valve crank pin I, shaft G having crank pin g , and mechanism acting by centrifugal force to turn said shaft G independent of its revolution, around the shaft of the crank wheel A, substantially as and for the purpose specified. 5th. The combination of a crank wheel A, crank pin D, shaft G, valve crank pin I, centrifugal mechanism and connecting mechanism, substantially as described, from said shaft G to said pin I, whereby the latter is moved radially over the face of the crank A to change its relative position with respect to the crank pin D, substantially as and for the purpose specified. 6th. The combination of crank wheel A, crank pin D, shaft G having crank pin g , lever H having valve crank pin I, arm K₁, weight k and spring N, substantially as and for the purpose specified. 7th. The combination of crank wheel A, crank pin D, shaft G having crank pin g , lever H having valve crank pin I, cranks K, arms K₁, weights k , rod or link M and springs N, substantially as and for the purpose specified.

No. 18,633. Hoisting Machine.

(*Monte-Charge.*)

James Boyd, St. Paul, Minn., U.S., 7th February, 1884; 5 years.

Claim—1st. The combination of the guide-rods, the platforms, the elevating chains and the pulleys E₁, E₂, as described, substantially as and for the purposes set forth. 2nd. The combination of the guide-rods, the platforms, pulleys E₁, E₂, set at the top of the supporting-horse pull-ys M₁, M₂, at the base of the structure, a snatch block P and cable F, secured to the top of one of the platforms, then passing above pulley E₁, thence downward and around pulley M₁, thence forward and around the snatch block, thence backward and around pulley M₂, thence upward and over pulley E₂, and thence downward and connected to the other platform, substantially as set forth. 3rd. The combination of the guide rods, the platforms, cable F, pulleys M₁, M₂ and guide pulleys M₃, M₄, for holding the cable to pulleys M₁, M₂, substantially as and for the purpose set forth. 4th. The combination of the guide rods, the platforms, the angularly set friction-rollers i , the stay-bolts with their heads fitting into the guide-rods and secured to suitable brace-pieces, and the elevating cable, substantially as set forth. 5th. The combination of the guide rods, the platforms, the elevating cable, friction-rollers on the platform bearing against the guide-rods, and stay-rods or bolts for bracing the rods between their ends, substantially as set forth. 6th. The combination of the guide-rods, the platforms, the elevating cable and the stay-bolts provided with the ferrules and connected to the rods, and suitable brace-pieces for bracing the rods, substantially as and for the purpose set forth. 7th. The combination of the guide-rods, the bolts r passed through the rods, and fastenings for securing the bolts to a base-piece, substantially as and for the purpose set forth. 8th. The combination of the guide-rods set into holes in a base piece, and stay-bolts or rods for bracing the guide-rods, substantially as

and for the purpose set forth. 9th. The combination of the guide-rods, the platforms, the elevating cable, the pulleys for the same to run over, the catches e, g and the rod T constructed, as shown and described, for operating the cables, the several parts operating substantially as and for the purposes set forth. 10th. The combination of the guide-rods, the platforms, the elevating cable, the pulleys for the same to run over, the catches e, g , the rod T₁, constructed and applied as set forth, and the spring for holding the arm of the rod, substantially as and for the purposes set forth.

No. 18,634. Stocking Heel. (*Talon de Bas.*)

Harry Lennard, Dundas, Ont., 7th February, 1884; 5 years.

Claim—1st. The combination of tubular knit stocking, Fig 1, having the leg and foot portions of ordinary form, and the back and sole parts of the heel a, b , of narrowed trapezoid-shaped continuations, substantially as and for the purpose hereinbefore set forth. 2nd. The combination of the tubular knit stocking and trapezoid-shaped pieces a, b , united as shown in Fig. 2, substantially as and for the purpose hereinbefore set forth.

No. 18,635. Implement to Lift Clothes out of the Wash Boiler. (*Instrument pour tirer le Linge des Chaudières de Buanderie.*)

William Addison, Hamilton, Ont., 7th February, 1884; 5 years.

Claim—A laundry tongs made of wood to be formed with two arms D, D, half checked together, working on the pivot B, the points A, A, closing together, to grip the clothes by compressing the handles C, C, as described.

No. 18,636. Sole and Heel Plate.

(*Plaque de Semelle et de Talon.*)

Solomon Levy, Ware, Mass., U.S., 7th February, 1884; 5 years.

Claim—1st. The herein described plate for shoes formed of a single piece of metal, having the longitudinal slots a, a_1 , projecting portions e, c provided at their ends with lugs d, d_1 , adapted to enter the sole of the shoe, to aid in retaining the plate thereon, and spuds or spurs C, C formed integral with said plate, substantially as set forth. 2nd. The combination, with a shoe, of a plate adapted to be secured thereto, formed of a single piece of metal having the longitudinal slots a, a_1 , projecting portions e, c provided at their ends with lugs d, d_1 , adapted to enter the sole of the shoe, to aid in retaining the plate thereon, and spuds C, C formed integral with said plate, substantially as set forth.

No. 18,637. Millstone Driver.

(*Chasoir de Meule de Moulin.*)

Henry Heard, Greensborough, Ga., U.S., 7th February, 1884; 5 years.

Claim—1st. The combination of the spindle D, cross-piece B, having segmental lugs d, d_1 , and a bearing for the end of the spindle, having segmental lugs f, f_1 on the spindle, and the intermediate cylinder F having a recess y , and at the ends segmental clutch-pieces arranged alternately and fitting nicely between the lugs d, d_1, f, f_1 , substantially as set forth. 2nd. The combination of the sleeve A, having sockets x, x_1 , cross-piece B, spindle D and connections between the spindle and cross-piece, substantially as set forth. The combination, with the driver-spindle and part driven, of an intermediate connection F, having lugs and recesses adapted to corresponding parts on the spindle and driven piece, substantially as set forth.

No. 18,638. Tool-Holder for Grinding.

(*Porte-Outil pour Ré-mouler.*)

John R. Kennett, Geddes, N.Y., U.S., 7th February, 1884; 5 years.

Claim—In combination with the gripping jaw C, the plate a provided with the pivotal pin or screw f , and segmental slot g , the plate b pivoted on the pin f , the clamping screw i in slot a , and the stem h connected to the plate h , substantially as described and shown.

No. 18,639. Combination Tools for Sharpening Skates, &c. (*Outils Combinaés pour Ré-mouler les Patins, &c.*)

Harry N. Kistner, Bordentown, N.J., U.S., 7th February, 1884; 5 years.

Claim—1st. In a combination tool, the combination, with the handle A having files E₁ and K₁ located as specified, of the laterally and longitudinally adjustable jaw F and the clamp-screw therefor, all substantially as shown and described. 2nd. In a combination tool, the combination of the jaw F having the L-shaped slot I, with the handle A having the scissors-file E₁ and saw-file K₁, and the clamp-screw G, as set forth. 3rd. In a combination tool, the combination with the handle provided with a recess C, or the pivoted implement D, D₁, D₂ having squared inner ends, the adjustable jaw F and the thumb-screw G, substantially as described. 4th. In a combination tool, the combination, with the handle A provided with a jaw H, of the movable jaw J provided with a slot R₁, the thumb-screw R and the file K under the jaw H, as shown and described. 5th. The combination, with the handle A formed with a projection L, of a block M held on the end of the projection by a thumb-screw N and a glass-cutter P attached to said block, as shown and described, for the purpose set forth.

No. 18,640. Machine for Cutting Hoops.

(*Machine à tailler les Cercles.*)

John A. Grant, Fremont, Ohio, U.S., 7th February, 1884; 5 years.