

No. 15,833. Improvements on vacuum Pans.

(*Perfectionnements aux chaudières à vide.*)

Christian Wahl, Chicago, Ill., U.S., 22nd November, 1882; for 5 years.

Claim.—1st. The liquid pan C having the continuous descending channel *e*, in combination with the shell A, forming a vacuum chamber. 2nd. The liquid pan C having the continuous descending channel or groove *e*, in combination with the shell A and steam jacket B. 3rd. In a continuously operating vacuum pan, the continuous and descending channel *e* in combination with the steam coil, or passage C. 4th. In a continuously operating vacuum pan, the liquid pan C having the channel *e* and coil *c*, in connection with the jacket B. 5th. In a continuously operating vacuum pan, the combination of the liquid pan C having the descending channel *e*, with the pipe *j* and a suitable trap receiver or pump, for taking off the treated liquid. 6th. The combination and arrangement of the shell A B and liquid pan C, having the channel *e*, with the coil *c*, feed tube *b* and discharge tube *j*.

No. 15,834. Improvements on Draft and Buffing Mechanism for Railroads. (*Perfectionnements aux appareils de traction et de choc pour les chemins de fer.*)

James P. Coulter, Aurora, and Thomas Hibbert, Cochran, Ind., U. S., 22nd November, 1882; for 5 years.

Claim.—1st. A yielding draw-head provided, at its rear end, with a transverse slot, and a bar passing through said slot, which bar serves the double purpose of limiting the inward movement of the draw-head, when compression is exerted thereon, and of receiving the draw-bars which connect the bumpers of the respective ends of the car. 2nd. The longitudinal sills or beams of a railroad car, transversely slotted, combined with plates or abutments, at the rear ends of the slots. 3rd. The longitudinal sills or beams of a railroad car, transversely slotted, combined with angular plates, the transverse member of each which is placed at the of a slot of a sill or beam, and its longitudinal member let in flush with the inner surface of said sill or beam. 4th. In two parallel longitudinal beams of a car frame, transversely slotted, combined with slot plates or abutments inserted within said beams, and with a transverse support or plate having a central perforation or opening. 5th. The combination, with the slotted frame of a railroad car having a transverse centrally perforated plate inserted therein, of a draw-head provided with a cross-bar supported and guided by the slots of the frame and further provided, at its rear end, with a pin or cylindrical portion supported and guided by the transverse plate, the said pin being surrounded by a spring confined between the said transverse plate and the front or larger part of the draw-head. 6th. The combination, with the frame work of a railroad car, of a yielding draw-head provided, at its rear end, with a transverse slot and a bar inserted therein, the frame being furnished with stop plates or abutments, at the rear ends of the slots. 7th. A draw-head having a transverse bar extending beyond the support beams, combined with draw-bars, each having an elongated slot fitting over an end of said transverse bar. 8th. A draw-head having a transverse bar extending at each side beyond its outer limits, combined with draw-bars, each having an elongated slot adapted to fit over an end of the transverse bar. 9th. The frame of a railroad car transversely slotted, combined with a yielding draw-head having a cross-bar, and draw-bars having slotted ends fitting over the cross-bar, the said bar, when in its normal condition, occupying a central position in the slots of the frame, and the slots of the ends of the draw-bars being extended beyond the rear edge of the cross-bar, when in said position. 10th. The frame of a railroad car slotted, and two yielding draw-heads or bumpers, each provided with a transverse bar, combined with intermediate draw-bars, each having elongated slotted ends fitting over the ends of the respective transverse bars. 11th. The frame of a railroad car slotted and having plates or abutments, and two yielding draw-heads or bumpers, each provided with a transverse bar combined with intermediate draw-bars, each having elongated slotted ends fitting over the ends of the respective transverse bars.

No. 15,835. Improvements on Entrenching Tools. (*Perfectionnements aux instruments de fossage.*)

Nesbit W. Wallace, Harley Place, Clifton, Eng., 22nd November, 1882; for 5 years.

Claim.—1st. As a new article of manufacture, a spade or shovel blade A attached to a shaft B having projections J, by straps CD, the latter swelled out to cover said projection, T-shaped handle F on end of shaft B, and armoured by straps G having solid steel points of any desired form covering the extremities of the handle, and secured to the shaft B by rivets H and a band or ring I. 2nd. The spade blade having a cutting edge for use as a bill hook and provided with a T-shaped armoured head. 3rd. In a shovel or spade having the projection or swell J at the junction of the blade, and shaft at the rear. 4th. A shovel or spade having the inwardly curved flanges E at the foot tread.

No. 15,836. Improvements in Methods of, and Machines for Bending Springs. (*Perfectionnements dans les modes de courber les ressorts, et aux machines pour cet objet.*)

Josiah Fowler, St. John, N. B., 22nd November, 1882; for 5 years.

Claim.—1st. As an improvement in the art of manufacturing springs, the method of using leaves curved in cross section and subjecting the whole series forming one spring to sudden and continued pressure between suitable dies for bending and setting the same. 2nd. As an improvement in the art of manufacturing springs, the method of using leaves which, in cross section, are thinner in the centre than at the edges, and subjecting the series forming one spring, supported throughout their entire width on a suitably formed anvil, to sudden and conti-

nued pressure from a narrow die to bend and set the same. 3rd. In a machine for bending springs, the combination of a solid press frame A, convex broad bottom die or anvil B having punch or protuberance *b*, concave narrow upper die D having recess *c* corresponding to punch *b*, also screw *c*. 4th. In a spring bending machine, the combination of the two curved dies, one having a broad and the other a relatively narrow face.

No. 15,837. Improvements on Machines for Barbing Wires. (*Perfectionnements aux machines à barbeler le fil de fer.*)

David G. Wells, Joliet, Ill., U.S., 22nd November, 1882; for 5 years.

Claim.—1st. The combination and arrangement of the frame A, shaft S, pinions F 2, cam *g*, sleeve *f*, pinion B₅, cam *a*, lugs *p*, pinion B₁, coiling pins *z*, cutting dies *d d*, die frame B, hinged die frame R₇, plates *r*, stops *i*, arms H₈ P₂, friction roller R₆, lug *f*, spring L₈ and boxing L. 2nd. The combination and arrangement of the reciprocating carriage H, die frame B, hinged die frame R₇, plates T having guide grooves, and bolts *u* having the wedge-shaped head *u* holding in the cutting dies *d d*. 3rd. The combination of the plates *r* having the straightening stops *i*, with the carriage H, for the purposes of straightening the points of the barbs. 4th. The combination of the carriage H, stationary die frames B carrying the stationary dies *d*, hinged frame R₇ carrying the cutting dies *d*, cam *f* and friction rollers R₆, and to operate the lower cutting dies *d*. 5th. The combination and arrangement of the frame A, carriage H, plate E attached to the carriage H, link *z*, bell crank *v*, link *u*, crank V, sleeve *x*, rod Y, bolt *u*, die *m* and arm E₁, for the purpose of feeding the barb wire *o* into the machine.

No. 15,838. Improvement in Boots.

(*Perfectionnement dans les bottes.*)

Robert Thompson, San Francisco, Cal., and Charles W. Clement, Boston, Mass., U.S., 22nd November, 1882; for 5 years.

Claim.—1st. In a boot, the front thereof and quarters cut in a single piece on parallel perpendicular lines down the sides to the height of the ankle bone, and thence at that height around the heel, in combination with the rear portion D. 2nd. In a boot, the upper front of the leg and quarters formed in a single piece cut on parallel perpendicular lines, down the sides to the height of the ankle bone, and thence on that level around the heel, in combination with the rear leg portion D and stiffening piece F extending up the leg above the quarters.

No. 15,839. Improvements on Sleds.

(*Perfectionnements aux traîneaux.*)

Charles M. Hinman, Sauk Centre, Minn., U.S., 22nd November, 1882; for 5 years.

Claim.—1st. A knee for sleds composed of the standards *a a* having their lower ends flared outward on the top of the runner, and having the cross-bar *a₁* arranged to provide an eye or opening A₁ to receive the end of the beam, and having one or more supports *a₂* under the cross bar *a₁* and resting on the runner. 2nd. The combination, with the knee A provided with an eye or opening A₁, and the beam C, of the beam plates *d d* provided with jaws *d₁* *d₂* arranged to embrace the upper and under cross-bars of the knee and hold the end of the beam. 3rd. The beam plates *d d* constructed with the jaws *d₁* and with the transverse convex bearing surface *d₂*, in the space or channel between the jaws, in combination with the beam *c*, and knee A provided with an eye or opening A₁, the said knee being held so that it has a rocking or swinging motion on the end of the beam. 4th. A sled knee constructed to hold the end of the cross beam and provided with a horn, or curved projection *a₃*, arranged about on a level with the upper side of the cross beam.

No. 15,840. Improvements on Wear Plates for Railway Ties. (*Perfectionnements aux plaques de protection des traverses de rail-route.*)

David Sennis, Sennett, N.Y., U.S., 22nd November, 1882; for 5 years.

Claim.—The flange or flanges D formed upon the lower side of the plate C, to adapt the wear plate to be driven in between a rail and a tie or sleeper, without displacing the said rail.

No. 15,841. Improvement in Bottle Stoppers. (*Perfectionnement des bouchons de bouteilles.*)

James McGuire and John Rogers, Belleville, Ont., 22nd November, 1882; for 5 years.

Claim.—1st. The combination, with the spring *a*, of the unyielding plug *b* and the rubber cap *c*. 2nd. The combination, with the plug *b*, of the hollow rubber plug or cap *c* and a bottle having a contracted neck.

No. 15,842. Improvements in Steam Engine Governors. (*Perfectionnements aux gouverneurs des machines à vapeur.*)

Frank H. Ball, Erie, Penn., U.S., 22nd November, 1882; for 5 years.

Claim.—1st. The combination of the following elements: a centrifugal governing device mounted upon the main shaft and having its frame firmly attached thereto, a drive wheel mounted loosely upon said shaft and connected therewith so as to receive its motion therefrom, by being flexibly connected with said governor frame, and finally a valve moving eccentric, mounted to move upon said shaft and geared to be so moved by both the flexible movement of said drive wheel and the centrifugal movement of said governing device. 2nd. The combination of the following elements: a centrifugal governing device connected with, or receiving its motion from the main shaft of the en-