

No. 11,411. Improvements on Hat Felting Machines. (*Perfectionnements aux machines à feutrer les chapeaux.*)

John T. Waring, Boston, Mass., U. S., 19th June, 1880; for 5 years.

Claim.—1st. In a sizing machine for felting hat bodies and other articles, a series of three or more rollers having their axis parallel, or nearly parallel with each other, and adapted to receive lengthwise between them a roll of hat bodies or other articles, and having different surface velocities. 2nd. A series of three or more rollers having their axis parallel, or nearly so, with each other and having concave or taper longitudinal profiles, whereby there is formed between the said rollers for the reception of a roll of hat bodies, or other articles, arranged lengthwise of the said rollers, a cavity which is larger at the middle of its length and smaller at the ends.

No. 11,412. Improvements in Reaping Machines. (*Perfectionnements dans les moissonneuses.*)

Samuel Crawford, London, Ont., 19th June, 1880; for 5 years.

Claim.—1st. The pitman crank wheel B constructed with six or more boxings *e* for attaching the pitman *j* thereto. 2nd. The square wheel C and level pinion C cast in one piece and revolving in gudgeon *b*, in combination with square pinion B₁ and pitman crank wheel B also cast in one piece, revolving in gudgeon *b*, in arm A, and regulated by set screws C C₁. 3rd. The apparatus for tilting the table, consisting of cogged rack *g*, female cogged arch H, on end of pole, foot bracket E attached to frame D, tilting lever F and latch *f*.

No. 11,413. Improvements on Rigging and Sails for Square Rigged Vessels. (*Perfectionnements aux agrès et aux voiles des vaisseaux à voiles carrées.*)

John H. Bloomfield, Concordia, Arg. Rep., 19th June, 1880; for 5 years.

Claim.—1st. As an improvement in bending sails, top gallant sails and royals, bent to the yards below them, and provided with the sheets and hall-wards and down hauls. 2nd. In combination with the square sails bent to the yards below them, the sheets *c*, clew-lines *m* and down hauls *r* passing blocks on the yards to the deck, whereby the yards may be reefed or furled from the deck. 3rd. The square sails of a vessel attached to the jack stays *k* of the yard at their lower edge, and provided with the sheets *c*, clew-lines *m*, down hauls *r* and hall-wards *g*. 4th. The outriggers *h* pivoted to the masts under the fore and after stays and sustained by the lifts or struts *i* *i*₁, and the blocks hung on the outriggers combined with the square sails having the hall-wards, clew-lines and sheets, and bent to the yards *b* hung in trusses *t*. 5th. The band *o* provided with an eye bolt for the forestay, and band *o*, carrying trusses *t* for receiving the yards *b*, combined with the yards and masts. 5th. The yards *b* pivoted in the trusses *t* and provided with the supporting slings *q*.

No. 11,414. Improvements on Sewing Machines. (*Perfectionnements aux machines à coudre.*)

John Heberling, Mount Pleasant, and Joseph B. Long, Chicago, Ill., U. S., 19th June, 1880; for 5 years.

Claim.—1st. The combination of a series of circumferentially grooved cog-wheels or pinions, a grooved pinion or feed wheel and one or more bent needles resting in the grooves and arranged to receive the fabric on their points, as it is crimped and fed through the machine. 2nd. A feed pinion provided with a circumferential groove to receive the point of the needle, said groove extending below the point of its teeth, whereby a smooth track or path is provided for the point of the needle. 3rd. Two or more intermeshing cog-wheels or pinions *d* *d*₁ of unequal pitch, the pitch of each separate pinion decreasing from the driver to the point of exit of the fabric. 4th. The combination of the cog-wheel H, drive shaft G, the feed pinion *d* and two or more intermeshing pinions *d* *d*₁ of unequal pitch. 5th. The combination of the cog-wheel H, drive shaft G, feed pinion *d*, two or more intermeshing pinions *d* *d*₁ of unequal pitch, and one or more bent needles. 6th. The combination, with the hollow ended shaft G provided with pin *m*, of the spindle *p* provided with the pinion *d*₂, tenon *n* and notch *z*. 7th. The movable shaft *a* and spring K in combination with cog wheel H. 8th. The combination, with the cog-wheel H and feed pinion *d*, of the adjustable smoother L and spring plate *i*.

No. 11,415. Improvements on Grinders. (*Perfectionnements aux rémouleurs.*)

Richard B. Ashley and Alma J. Peugelly, Walkerton, Ont., 19th June, 1880; for 5 years.

Claim.—1st. The combination of brackets in Fig. 1, 2, 3, comprising bracket spring bolt and leading bar. 2nd. The combination of Fig. 1, 2, 3 and 5 as shown in Fig. 6.

No. 11,416. Machines for Shearing, Punching and Stamping Metals. (*Machines à tailler, poinçonner et étamper les métaux.*)

Joseph Y. Bedford, New York, U. S., 19th June, 1880; for 5 years.

Claim.—1st. The combination of a rotary crank or eccentric power shaft a pendulum connected to the shaft, a lever mechanism which imparts to the pendulum a reciprocating motion, and a clutching mechanism which communicates to the shaft, from the pendulum, a rotary motion and a slide, or its equivalent, which carries the operating tool. 2nd. The combination of rods F F₃ and bevelled gear rod F₂ by which the machine is put in and out of gear, either automatically or at the will of the operator. 3rd. The combination of a slide B and its operating crank shaft, with the clutch D E and pendulum weight *e*. 4th. The combination of a foot or hand lever, a clutch D F, shaft C and the pendulum *e*, whereby the oscillations of the pendulum are converted into revolutions of a punching or shearing shaft. 5th. The combination of the pendulum *e* having a head F and arm *e*₂, connecting rod G, lever H, and treadle J having a pin *j*.

No. 11,417. Improvements on Treble Cylinder Engines. (*Perfectionnements aux machines à triples cylindres.*)

Frederick A. Gardner, Robert Dunbar and George H. Dunbar, Buffalo, N. Y., U. S., 19th June, 1880; for 5 years.

Claim.—1st. The cylinders A A₁ Az having pistons *l*₂ and connections with the crank, the disc B arranged in front of the cylinder and provided with the endless steam passages C D having ports C₁ D₁ opening into the steam chests E₁, in combination with the valves H₁, their connections G G₂ and grooved eccentric F. 2nd. The grooved eccentric F₁, in combination with two or more curved pieces G connected to valve stems G₂, for operating two or more valves H. 3rd. The connecting rods *l*, provided with a ball shaped end *l*₁ adapted to work in a socket in the piston heads and provided with the curved side projections K, in combination with the caps J arranged to fit the crank pin and having rims *j*₂.

No. 11,418. Improvements on Grain Binders. (*Perfectionnements aux lieuses à grain.*)

Daniel Williamson, Sunbury, Pa., U. S., 21st June, 1880; for 5 years.

Claim.—1st. The combination of the three aimed plate S, the rigid bar T, the pivoted bar U, the curved arms V hinged to each other and provided with the points *v*, the spring W, the clutch J *j*₁, the disc K, the lever L and the grooved cam N, with each other and with the three shafts B G O and the five gear wheels D E F Q R for grasping and rotating the gavel. 2nd. The combination of the chain wheels D₁ F₁, the endless chain E₁ provided with the hooks *e*₁, the cylinder H₁ provided with the hooks *h*₁, and the belt-gear wheels J₁ K₁, with each other and with the driving shaft A for taking the straw, twisting it, and passing it around the gavel. 3rd. The combination of the bent lever X, the spring *z*₁ and the cam Y, with the shaft O and with the pivoted bar U of the gavel clamp, for opening the said clamp at the proper time. 4th. The combination, with the arms V and table C₁, of the hook chain E₁, hooked cylinder H₁ *h*₁ and the bent lever L₁.

No. 11,419. Improvements on Car Locks. (*Perfectionnements aux serrures des chars.*)

Henry M. Williston, Halifax, N. S., 21st June, 1880; for 5 years.

Claim.—1st. The combination, with the staple lock casing A, of a locking pin or bolt D, to secure the hasp of a door, an arm to be sealed after fastening has been effected, and a key operating lock mechanism to prevent the movement of the arm, when either sealed or unsealed. 2nd. A staple lock, for car door, consisting of casing A having opening B, plate C hinged thereto and carrying articulated locking pin D passing through holes in the opening B into interior *g* of the casing, said pin engaging therein with spring dog 4, from which passes, through the casing, an arm E having an extremity bent in a sealing recess 5, in the face of the casing, and a sliding block 7 operated by a key and lock mechanism to confine the dog 4 from movement, after sealing the extremity of arm E. 3rd. The combination, with the casing A, of the hinged plate C, pin D, locking dog 4 operated by an inserted key. 4th. The arm E fixed to dog 4 and having a bent extremity within a sealing recess 5, in the face of the lock.

No. 11,420. Improvements in Valves. (*Perfectionnements dans les soupapes.*)

William White, London, Eng., 21st June, 1880; for 5 years.

Claim.—1st. The combination, with the valve *v* fitted to open against the current of water, of lever *l* and handle *h*. 2nd. The valve *v*, levers *l* *l*₁ and float arms *s* combined for operation.

No. 11,421. Improvements on Sliding Doors. (*Perfectionnements aux portes en coulisse.*)

Monington Roberts, Westfield, N. J., U. S., 21st June, 1880; for 5 years.

Claim.—1st.—The combination, with the sheave and its sliding frame, of rack teeth on the frame, a pinion acting upon the same, a shaft that can be moved from the surface of the door, and mechanism for holding the shaft and pinion from turning after being adjusted. 2nd. The disc *g*, plate *h* and pin *o* in combination with the stem *k*, pinion *i*, frame *c* and sheave *a*.

No. 11,422. Improvements on Pruning Implements. (*Perfectionnements aux sécateurs.*)

John W. Cogswell, Erie, Mich., U. S., 21st June, 1880; for 5 years.

Claim.—The guide or rest D having, integral therewith, a projection E, which forms a hook when attached to the blade.

No. 11,423. Process and Apparatus for Fining Fermented Liquors. (*Procédé et appareil pour épurer les liqueurs fermentées.*)

Alfred E. Feroe, Albury, and William E. Feroe, Tivoli, N. Y., U. S., 21st June, 1880; for 5 years.

Claim. 1st. The supply tank A, receiving tank C, located one above the other and valved pipes B B₁ D. 2nd. The process of fining malt liquors and removing the same from the sediment, which consists in preventing the rising of the carbonic acid gas, by holding the liquor in closed vessels in which high pressure of air or gas is maintained, whereby the yeast is allowed to settle, then drawing off the clarified liquor into a tank below, in which an equal pressure of air or gas is maintained. 3rd. The combination of an upper tank and of a lower tank, with pressure supplying pipes having stop-valves to shut off either pipe or both, and with a connecting pipe having stop-valves and intermediate bull's eye for observing the liquor.

No. 11,424. Improvement on Stoves. (*Perfectionnement des poêles.*)

Frank Moses and Joseph Moses, Toronto, Ont., 21st June, 1880; for 5 years.

Claim. The combination and arrangement, in a composite stove, of a