No. 16,924. Improvements in Fruit Evaporators. (*Perfectionnements aux séchoirs à fruits.*)

Charles B. Irish, Grande Isle, Vt., U.S., 14th June, 1883; 5 years.

Claim.—1st. The close, hollow base pan *a* having above it a series of close hollow shelves *b*, supported by intermediate upright central tubes *c*, forming passages *k* communicating with the chambers *l* of the shelves, and in line with an upper feeding vessel, the whole forming an entire hollow shelved vessel, substantially as specified. 2nd. The combination, with the hollow shelved vessel A, having the base pan and central tubes supporting the shelves, of the open bottom enveloping jacket having an opening at its top, substantially as specified. 3rd. The combination, with the hollow shelved vessel A and its enveloping jacket, of the movable perforated under shelves in position close to the bottom thereof, substantially as specified.

No. 16,925. Improvements in Vehicle Springs. (*Perfectionnements aux ressorts des voitures.*)

Charles R. Wilson and Joseph C. Wilson, Detroit, Mich., U. S., 14th June, 1883; 5 years.

Claim.—1st. A vehicle spring for side-bar vehicles consisting of a top section adapted to be directly or indirectly secured to the body, and a bottom section adapted to be secured to the side bars, said sections supported by intervening blocks C located at the right and left of the middle point, substantially as described. 2nd. A vehicle spring for side-bar vehicles consisting of a top section adapted to be directly or indirectly connected with the body, a bottom section adapted to be connected with the side bars, a block C interposed between the top and bottom sections at the right and left of the middle point, the space between the blocks being left open, substantially as described.

No. 16,926. Improvements in Steam Engines. (*Perfectionnements dans les machines à vapeur.*)

James S. Parmenter, Woodstock, Ont., 16th June, 1883; 5 years.

Claim.—1st. In a steam engine having a reciprocating piston-rod, a pin sliding in a guide attached to or forming part of said rod, the said rod in combination with two spiral guides formed on the periphery of a cylindrical block fixed to a forming part of the main engine-shaft, the said guides being inversely formed upon the cylinder, the ends of the one meeting the ends of the other, so that the pin moving with the piston-rod, and following the channel of one guide shall, upon reaching the end of the stroke and commencing to travel on the return-stroke, be directed to the depressed part of the other guide, thereby imparting to the grooved cylinder a rotary movement in the same direction, derived by it from the contrary movement of the piston-rod, and thereby the reciprocating movement of the pistod-rod imparts the required rotary motion to the main shaft, substantially as described. 2nd. The combination, with a cylinder, reciprocating piston, and its rod and cross-head, of a shaft D arranged parallel with the piston-rod, a cylinder G secured upon said shaft, having two spiral grooves H set inversely to each other, the end of one groove being deeper than the contiguous end of the opposite groove, and a spring J attached to said cross-head and adapted to rise up the incline at the end of one groove, and drop into the recess at the beginning of the other, substantially as and for the purpose specified.

No. 16,927. Improvements in Locks.

(*Perfectionnements dans les serrures.*)

Napoléon J. Côté and Jean B. L. Rolland, jr., Montreal, Que., 16th June, 1883; 5 years.

Claim.—1st. The combination, with a suitable back plate, of a slotted bolt and a revolving front plate, arranged and operating substantially in the manner and for the purpose set forth. 2nd. The combination, with a suitable back plate, a slotted bolt and a revolving front plate provided with two or more holes, of the key D having projections c^3 c^3 fitting into said holes, substantially as and for the purpose described. 3rd. The combination of the back plate A, bolt B having slots *b* b^1, revolving front plate C provided with holes c^2 c^2, revolving key plate E and escutcheon F, as and for the purpose set forth. 4th. The combination of the key D having a gear formed thereon and a projecting end d^1, with the revolving front plate C having geared opening, slotted bolt B and back plate A, substantially as and for the purpose set forth.

No. 16,928. Improvements in Grain Cars.

(*Perfectionnements aux chars à grain.*)

Treat T. Prosser, Chicago, Ill., U. S., 16th June, 1883; 5 years.

Claim.—1st. A freight cylinder, the flanged tires of which are frictionally secured on metal hoops, which are in turn positively secured to the cylinder, substantially as set forth. 2nd. A freight cylinder, the flanged tires of which are frictionally secured between rivetted confining strips on metal hoops, which are in turn positively secured to the cylinder, substantially as set forth. 3rd. A freight cylinder lined on its interior surface with felt or its equivalent, substantially as and for the purpose set forth. 4th. The combination, substantially as set forth, of the head of the freight cylinder, the tubular journal thereof, the check-plate on the exterior of said head, and the nut on the interior thereof. 5th. The combination, substantially as set forth, of the tubular journals, the nuts on the interior of the heads of the cylinder, and the sectional perforated pipe for connecting the said nuts. 6th. The combination, substantially as set forth, of the journal box having inclined ends, the reversely-inclined fixed seat on the draft-frame, and the spring or springs for yieldingly connecting the draft-frame to the journal box.

No. 16,929. Improvements in Smelting Furnaces. (*Perfectionnements aux fourneaux de fusion.*)

Benjamin Bayliss, Pittsburgh, Pa., U. S., 16th June, 1883; 5 years.

Claim.—1st. The chamber A^1 having the air blasts a^3 a^5 and sloping back wall *a*, substantially as and for the purpose set forth. 2nd. The chamber A^1 having the air blasts a^3 a^5, sloping back wall *a* and steam pipe a^8, substantially as and for the purpose set forth. 3rd. The combination of the chamber A^1 and the chamber B having a sloping bottom *b*, substantially as and for the purpose set forth. 4th. The combination of the chamber C and steam pipes *c*, substantially as described. 5th. The combination of the flue chamber D with the water jacket *d d*, substantially as and for the purpose set forth. 6th. The combination, with the chamber A^1 of the chambers B C D, substantially as described and set forth, and for the purposes mentioned.

No. 16,930. Improvements in Memorandum Books. (*Perfectionnements aux agendas.*)

The Grip Printing and Publishing Company, (Assignee of John R. Carter,) Toronto, Ont., 16th June, 1883; 5 years.

Claim.—1st. In a cover for holding the pages of paper forming a memorandum book, the combination of a wire bail, the ends of which are securely fastened on either side of the cover and, extending across the inside of the same, forms a spring hold-fast for retaining the leaves in position. 2nd. In a cover for holding the pages of paper forming a memorandum book, a wire bail extending across the side of the cover to which its ends are secured and curled at or near the point of connection in order to form projections designed to prevent the lateral displacement of the leaves. 3rd. In a cover in which one-half is provided with a stiff curved back *a*, and the other half flexibly connected thereto, a spring bail B secured as described to one side of the cover A, and provided with spikes *b*, in combination with the leaves D, perforated as described and placed below the spring bail with the spikes *b* entering the perforations. 4th. In a cover provided with a spring bail arranged to hold within the cover the leaves of a memorandum book, the combination of an index sheet held in position by spring bars extending across the inside of one-half of the cover.

No. 16,931. Improvements in Sewing Machines. (*Perfectionnements dans les machines à coudre.*)

Richard M. Wanzer, (Assignee of Asha Abell,) Hamilton, Ont., 16th June, 1883; 5 years.

Claim.—1st. The combination of the parts for operating the shuttle, consisting of the eccentric G on the shaft B, the same being provided with collars K K, a hub V and enclosed in an eccentric box H in two halves, and the eccentric and box enclosed on the sides in an outer casing D, and attaching the vertical spindle at the top, to the same, by a pivot pin E, and at the bottom, to the horizontal shuttle arm I, and taking up the wear of the eccentric G, by the screw F^1, substantially as and for the purpose specified. 2nd. The combination of the cam M, on the shaft B, the cam rod N, the feed lever Q and feed bar S, for operating the feed mechanism, substantially as and for the purpose specified. 3rd. In combination with the feed lever Q, the bracket *u*, also the same provided with hollow projections *s*, packing *q*, plunger *t* attached to end of said feed lever Q working in said hollow projection *s* to deaden the sound of the feed as set forth. 4th. The bobbin post a^3, the same provided with lugs *c c*, the swinging tension arm *d*, spring *e*, the same being hinged to the post by spindle rod *h*, and the post also provided with an auxiliary spring *i* to depress the spring *g* when so desired, and a lug *h* to keep the arm in place, substantially as and for the purpose specified. 5th. In combination with a sewing machine, the throat plate in two parts, the one T being stationary, and the other U movably pivoted to the machine, substantially as set forth. 6th. The device for throwing the hand wheel W^1 in and out of gear, consisting of the recessed hub a^{111} of the wheel W^1, having notches C^1 cut in it, the hollow threaded screw e^1, the same provided with a notch e^{11}, the spindle f^{11} passing through the same, the spring r^1 surrounding the spindle, the dog h^1 made to catch and work in and out of the notches c^{11} of the hub a^{111} and e^{11} of the screw-head e^1, the latter having its threaded portion screwed into the hollow screw-threaded shaft s^1, as shown at Fig. 7, substantially as and for the purpose specified. 7th. The combination of the wheel *n*, cam n^1, pin *p*, for regulating the stitches, as specified.

No. 16,932. Improvements in Strap Hinges.

(*Perfectionnements aux joints des courroies.*)

William M. Kurtz, Columbus, Ohio, U. S., and David Martin, Galt, Ont., 16th June, 1883; 5 years.

Claim.—1st. A strap hinge consisting of a strap leaf A, provided with upturned side ears or flanges *b b*, combined with strap leaf B formed with tubular knuckle *c* and pintle *a*, substantially as set forth. 2nd. A strap hinge consisting of a strap leaf provided with upturned ears or flanges, and separate and independent re-enforcing blocks, in combination with a strap leaf formed with a tubular knuckle received between the two ears of the other leaf, and a pintle which passes through said knuckle, ears and external re-enforcing blocks, substantially as shown and described. 3rd. The re-enforcing block *c*, in combination with a strap hinge, substantially as described.

No. 16,933. Improvements on Portable Ovens. (*Perfectionnements aux fourneaux portatifs.*)

Samuel J. McDowell and Josiah Wright, Boston, Mass., U. S., 16th June, 1883; 5 years.

Claim.—1st. The outer casing F consisting of doubled sheet-metal lined with asbestos, and the inner casing E of sheet-metal having its lower portion protected by a covering E^2 of sheet-metal, and interposed layer E^1 of asbestos, substantially as shown and set forth. 2nd.