

Technical and Bibliographic Notes / Notes techniques et bibliographiques

The Institute has attempted to obtain the best original copy available for filming. Features of this copy which may be bibliographically unique, which may alter any of the images in the reproduction, or which may significantly change the usual method of filming, are checked below.

L'Institut a microfilmé le meilleur exemplaire qu'il lui a été possible de se procurer. Les détails de cet exemplaire qui sont peut-être uniques du point de vue bibliographique, qui peuvent modifier une image reproduite, ou qui peuvent exiger une modification dans la méthode normale de filmage sont indiqués ci-dessous.

- Coloured covers/  
Couverture de couleur
- Covers damaged/  
Couverture endommagée
- Covers restored and/or laminated/  
Couverture restaurée et/ou pelliculée
- Cover title missing/  
Le titre de couverture manque
- Coloured maps/  
Cartes géographiques en couleur
- Coloured ink (i.e. other than blue or black)/  
Encre de couleur (i.e. autre que bleue ou noire)
- Coloured plates and/or illustrations/  
Planches et/ou illustrations en couleur
- Bound with other material/  
Relié avec d'autres documents
- Tight binding may cause shadows or distortion along interior margin/  
La reliure serrée peut causer de l'ombre ou de la distorsion le long de la marge intérieure
- Blank leaves added during restoration may appear within the text. Whenever possible, these have been omitted from filming/  
Il se peut que certaines pages blanches ajoutées lors d'une restauration apparaissent dans le texte, mais, lorsque cela était possible, ces pages n'ont pas été filmées.

- Coloured pages/  
Pages de couleur
- Pages damaged/  
Pages endommagées
- Pages restored and/or laminated/  
Pages restaurées et/ou pelliculées
- Pages discoloured, stained or foxed/  
Pages décolorées, tachetées ou piquées
- Pages detached/  
Pages détachées
- Showthrough/  
Transparence
- Quality of print varies/  
Qualité inégale de l'impression
- Continuous pagination/  
Pagination continue
- Includes index(es)/  
Comprend un (des) index

Title on header taken from: /  
Le titre de l'en-tête provient:

- Title page of issue/  
Page de titre de la livraison
- Caption of issue/  
Titre de départ de la livraison
- Masthead/  
Générique (périodiques) de la livraison

- Additional comments: / Various pagings.  
Commentaires supplémentaires:

This item is filmed at the reduction ratio checked below /  
Ce document est filmé au taux de réduction indiqué ci-dessous.

10X	14X	18X	22X	26X	30X
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
12X	16X	20X	24X	28X	32X

# The Canadian Patent Office

## RECORD

Vol. V.—No. 6.

JUNE, 1877.

{ Price in Canada \$2.00 per An  
{ United States - \$2.50 "

### CONTENTS.

INVENTIONS PATENTED .....	93
INDEX OF INVENTIONS .....	LXL
INDEX OF PATENTEES .....	LXL
ILLUSTRATIONS .....	99

#### No. 7425. Sand Moulding Machine.

(Machine à mouler le sable.)

Joseph B. McCune and Richard M. Wanzer, Hamilton, Ont., 1st May, 1877, for 5 years.

Claim.—1st. In a machine for moulding metal castings, a vertically sliding frame carrying a top plate E and a flask I and a vertically moving plunger for carrying the pattern, and a rammer arranged above the flask, whereby the sliding frame and flask can be forced upward against the rammer for ramming the sand in the flask, and after the sand is rammed the plunger and pattern can be moved downwards, independent of the frame and flask to remove the pattern; 2nd. The combination with a moulding flask constructed to have a vertical movement imparted to it, of a swinging rammer bracket arranged upon a vertical standard for pressing the sand when the flask is raised; 3rd. The combination with a moulding flask constructed to have a vertical movement imparted to it, of a swinging bracket consisting of the rammer O and tucker X, arranged upon a vertical standard, said tucking plate provided with the projections and recesses on its face, the reverse of the pattern for tucking in the sand around the pattern before ramming; 4th. The combination of the upright rod L, having the collars a a the swinging bracket or rammer O arranged between said collars and the sliding frame C C; 5th. The process of forming pattern plates from the pattern itself, by first forming a pattern bed and casting metal directly around and in contact with the same.

#### No. 7426. Improvements on Heaters.

(Perfectionnements aux appareils de cuisson.)

Elijah E. Spencer, St. Armand East, Que. (Assignee of William A. Morrison), 1st May, 1877, for 5 years.

Claim.—The combination of the heater B with the evaporating pan A, for the particular purpose of utilizing the extra heat and steam escaping from the boiling sap in the evaporating pan A, to heat the sap (or other ice, liquids, &c.) running in cold from a faucet or pipe connected to the sap vessel, and to cause the sap to run off, either hot or boiling, from the shoe E or the end of the pipes D.

#### No. 7427. Combined Child's Chair and Carriage. (Chaise-voiture d'enfant.)

Daniel L. Thompson, Charles A. Perley, and Gilman Waite, Templeton, Mass., U. S., 1st May, 1877, for 5 years.

Claim.—1st. The seat and roller carrying legs adapted to be expanded and contracted, in combination with a catch and stud to be engaged by it to automatically lock the legs to the seat and hold them when the seat is elevated; 2nd. The combination with the seat and roller carrying legs movable with relation to the seat, of links and a catch and stud; 3rd. A combined child's chair and carriage composed of a seat, roller carrying legs, links, spring catches and studs, and a hinged table.

#### No. 7428. Improvements on Portable Fences.

(Perfectionnements aux clôtures mobiles.)

Ralph Murray, Rossmore, Ont., 1st May, 1877, for 5 years.

Claim.—The combination of the stiles B, horizontal bars C, vertical bars or braces D, with the long posts or braces A, pins E and short posts or braces F.

#### No. 7429. Improvements on Men's Shirts.

(Perfectionnements aux chemises d'hommes.)

Arthur E. Fish, Belleville, Ont., 1st May, 1877, for 5 years.

Claim.—The combination of the band C, collar D and opening E.

#### No. 7430. Improvements in Preserving Chambers.

(Perfectionnements aux réfrigérants.)

Thomas Armstrong, Jr., Bathurst, N. B., 1st May, 1877, for 5 years.

Claim.—1st. In connection with a freezing and preserving chamber A, the arrangement and combination of transverse metallo pans C C, said pans containing the freezing materials and forming partitions dividing the chamber into sections or compartments of suitable width, to contain the fish or other materials when packed transversely in the compartments, 2nd. The arrangement and combination of broad flat pans D D, in connection with the vertical pans C C and covers E E on the top of the chambers, 3rd. The arrangement and combination of the doors G on the top of the chamber. 4th. In combination and connection with the freezing pans C C the air spaces J J interposed between the inner and outer walls and flours of the chamber. 5th. The waste or drainage pipes H and L in connection with the freezing pans C C and air spaces J J respectively. 6th. The method or system of packing fish in a preserving chamber A by laying them transversely in the several compartments B B into which it is divided by the vessels C C containing the freezing materials.

#### No. 7431. Self-Acting Waggon Brake.

(Frein automate de waggon.)

Robert Brown, Kingsley Falls, Que., 1st May, 1877 for 5 years.

Claim.—A brake adapted to be applied to the hind wheels of a waggon, to be drawn by two or more horses and to brake or release the wheels by the backward or forward motion of the horses respectively, such mechanism consisting of the sliding pole or tongue D the sliding bar F placed centrally under the reach G the circular plate E with concentric slot J, fixed to the inner end of the pole, the friction roller G with its carriage H fixed to the end of the sliding bar F, the sockets J and K adapted to be fixed to the reach G and sliding bar F respectively, the transverse brake beam H rigidly attached to the sliding bar F, the slides or guides K K the brake shoes J J, the pins M, clasp N or its equivalent, for locking the pole D to the socket E, with or without communication with the driver's seat.

#### No. 7432. Improvements on Hotel Indicators.

(Perfectionnements aux indicateurs d'hôtelleries.)

August Fuchs, Berlin, Ont., 1st May, 1877, for 5 years.

Claim.—The combination of the bell wires B springs C, triggers D, supporting frame E number plates F trigger frames G levers H, block work A, connecting rod J, bell K, resetting frame M N and connecting rod L.

#### No. 7433. Improvements on Reaper Tables.

(Perfectionnements aux tables de moissonneuses.)

William Russell Dundas, Ont., 1st May, 1877, for 5 years.

Claim.—1st. The combination of an angle bracket C with the table D. 2nd. The combination of stationary bracket E, corner bracket B, angle bracket C and rod F.

#### No. 7434. Improvements on Safety Valves.

(Perfectionnements aux soupapes de sûreté.)

Frank B. Scovell, Waterford, Ont., 1st May, 1877, (Extension of Patent No. 7321), for 5 years.

#### No. 7435. Improvements on Safety Valves.

(Perfectionnements aux soupapes de sûreté.)

Frank B. Scovell, Waterford Ont 1st May 1877 (Extension of Patent No. 7321), for 5 years.

#### No. 7436. Machine for Dressing Mill Stones.

(Machine à rhabiller les meules.)

John S. Young, Dartford, Ont., 7th May, 1877, for 5 years.

Claim.—1st. The combination of the pick D and pick head A with cross head C, pick carriage B, spring J, handle F and set screw I, 2nd. The combination of the arm rest G with the truck H, 3rd. The combination of the pick carriage B, truck H and bed piece O.

**No. 7346. Platform Scale Protector.***(Protecteur de bascule.)*

David A. Gilbert, Morrisville, Vt., U. S., 10th May, 1877, for 5 years.

*Claim.*—1st. In a platform scale, an elevated curb surrounding the platform or opening for the ordinary platform, in combination with a cover resting on the platform or lower beams. 2nd. A removable curb surrounding the ordinary platform and a cover fixed to beams or legs that rest on said platform. 3rd. The cover (in sections or whole) made with a flange fitting over the curb and adapted to rest on the lower platform or beams, and to receive and bear the load to be weighed.

**No. 7438. Improvements on Fringing Machines.***(Perfectionnements aux machines à franger.)*

Jesse B. Lincoln, Providence, R.I., U.S., 10th May, 1877, for 5 years.

*Claim.*—1st. The series of metallic hooks or points *b b* set into a fringing surface at intervals; 2nd. The rotating wheel *F* having on its periphery a series of fringing points *b b*, in combination with a feeding mechanism *E*; 3rd. The combination of the table *A* and revolving finger *F*; 4th. The table *A*, bearings *B C*, spindles *D G*, crank *H*, gearing *d l*, wheel *F*, fringing points *b b* and guard *J*.

**No. 7439. Machine for Grinding Wheat.***(Machine à moudre le blé.)*

John S. Detwiler, Philadelphia, Pa., U.S., 10 May, 1877, for 5 years.

*Claim.*—1st. The combination of a pair of stones set to grind coarse with a second pair of stones, of larger diameter, set to grind fine and run at a slower speed than the upper and smaller pair of stones, the partially ground grain falling from the upper to the lower stones and passing from the latter in the form of flour; 2nd. The millstone dress consisting of straight, broad and shallow furrows, only leading direct from the eye to the skirt of the stone.

**No. 7440. Improvements on Steam Engines.***(Perfectionnements aux machines à vapeur.)*

George G. Lafayette and Pitt W. Stroug, Brockville, Ont., 10th May, 1877, for 5 years.

*Claim.*—1st. The trunk *B* sliding obliquely on the shaft *A* passing through its centre and having a slot *H* eccentric thereto, and a sleeve *C* with slot *K* transversely thereto and held by a stud *D* to the shaft *A* by a set screw *L* whereby, by changing motion of the said trunk, the centre of the sleeve is thrown across the centre of the shaft and the sleeve partially rotated. 2nd. The collar or ring *F* integrally combined with the trunk *B* for the attachment of a lever for its operation. 3rd. The trunk *B* having slot *L*, in combination with the sleeve *C* held to the shaft *A* and provided with guide block *J*, for keeping the sleeve from turning on the trunk.

**No. 7441. Improvements on Seeding Machines.***(Perfectionnements aux machines à semer.)*

John M. Westcott, Milton, Ind., U.S., 10th May, 1877, for 5 years.

*Claim.*—1st. The combination of scalloped feed wheel *C* and sleeve *E*, the sleeve *E* being of smaller diameter than the wheel *C* to provide for the free access of grain to both the periphery and ends of the scallops; 2nd. The combination of the peripheral seed wheel and the sliding sleeve *E*, provided with cut off wings *e e* at top and bottom of its seed cup; 3rd. The combination of revolving peripheral feed wheel *C* and sleeve *E* the wheel having a bearing at its outer end and at its other end a projecting hub *C* resting and revolving within the sleeve *E*; 4th. The combination of sliding shaft *D*, collar *G*, jaw arm *K*, pointer slide *L* and scale *M*; 5th. The combination of sliding shaft *D*, collar *G*, swivelling jaw arm *I* and lever *H*; 6th. The combination of sliding shaft *D*, collar *G*, indicator *K L M*, swivelling jaw *I* and lever *H* connected and operating, as specified.

**No. 7442. Machine for Threshing and Separating Grain.***(Machine à battre et séparer les grains.)*

John H. Edward, St. Paul, Minn., U.S., 10th May, 1877, for 5 years.

*Claim.*—1st. A mounted thresher and adjusting mechanism whereby the front end of the machine can be adjusted or levelled relatively to the front axle; 2nd. The combination with the wheel *A*, of hooked rod *a* and cross tie *a*; 3rd. The combination with the concave of toggle levers, a crank shaft or rock shaft and links connecting the crank shaft with the toggle levers for adjusting the position of the concave; 4th. The combination with a crank wheel *F*, the pitman *F* and connecting bar *F* for the adjusting plate *f*; 5th. In a separating machine, the separating table *E* provided with blind slats and shouldered wires *e e*; 6th. The combination with crank arms *E* *E* of an adjustable connecting bar *F*; 7th. The combination in a thresher and separator, of the slatted separating table *E*, shouldered fingers *e*, grain table *G* and the grain rack or radicle belt *G*; 8th. In a thresher and separator, a grain table *G* provided with the trap or hinged portions *G*; to afford access to the interior of the machine; 9th. In a grain separator, the combination with the fan of a winnower shoe having an adjustable false bottom; 10th. In a separator, the combination of a blast fan, a screen and an adjustable false bottom made in two parts hinged to each other; 11th. In combination with the winnower shoe the supplemental returning board *J* and adjustable segments *Y*; 12th. The belt crank *L* and link in combination with link *I*, hinged to the shoe, and adjustable link *I*; 13th. Link *I* in combination with spout *L* and adjusting plate *L*; 14th. Spout *L*

having bottom openings *I I* and slides *I I*, in combination with the centrally pivoted grass seed screen *I*; 15th. In a grain separator, the combination of an overblast fan and a central blast deflector *N*, with the screen or sieve *I* and the bottom board of the winnower shoe; 16th. The combination with the overblast fan, the central blast deflector and the screen of an adjustable bottom board in the winnower shoe; 17th. The combination of the adjustable tailings board *J* and returning spout *g* with the nest of sieves consisting of the long coarse meshed upper sieve and the short finer meshed lower sieves; 18th. In combination with the swinging plate *T* and shafts *R S*, the pulley *R S* belt *P* and pulley *u* and supporting mechanism for driving the swinging stacker.

**No. 7443. Improvements on Mowers and Reapers.***(Perfectionnements aux faucheuses-maisonnettes.)*

William N. Whiteley, Springfield, Ohio, U.S., 10th May, 1877, for 5 years.

*Claim.*—1st. The combination of two independent driving and supporting wheels an adjustable gear frame and a universal jointed crank shaft to drive the cutters, the said shaft being mounted in the said frame; 2nd. The combination of two independent driving and supporting wheels, an adjustable gear frame, a universal jointed crank shaft mounted in said gear frame, a hinged pole for guiding the machine and a draft rod connection from its front end of the adjustable gear frame to an independently acting wheel on the guiding pole; 3rd. In combination with the adjustable frame *A*, the universal jointed crank shaft *G H*, the hinged or jointed cutting apparatus *C I* hinged or jointed around the said crank shaft, hinged pole *L*, the foot lever *M* mounted upon said pole and connected to the adjustable frame in such manner that the operator can lift the front end of said adjustable frame and carry the weight upon the pole; 4th. The combination of an adjustable gear frame or universal jointed crank shaft, hinged cutting apparatus with the lifting lever *J* mounted upon said adjustable frame, in such a manner that the operator may turn the cutting apparatus into an elevated position and, by means of the foot lever, place the weight upon the pole of the machine; 5th. The combination of the universal jointed crank shaft *G H* with the cutting apparatus, hinged around the same, the cross joint of the cutting pivot *D* placed on a line with the centre of the universal joint of the crank shaft and so arranged that the points of the guard fingers may be turned up and down and the cutting apparatus rise and fall to meet the undulations of the ground and be turned to a vertical position while the machine is in gear and the knives in full play; 6th. The combination of the universal crank shaft, the foot lever to lift the heel of the cutting apparatus, the hand lever to control the outer end of the cutting apparatus and the tilting lever for lifting and depressing the points of the guard fingers upon a joint coincident with the universal jointed crank shaft; 7th. The combination of the universal jointed crank shaft mounted in the adjustable gear frame with jointed cutting apparatus, around the centre of the crank shaft the hinged connection between the cutting apparatus and the adjustable frame placed upon a line crossing the centre of the universal crank shaft, and the tilting lever connecting the cutting apparatus and vibrating gear frame, in such a manner that the up and down movement of the cutting apparatus and gear frame does not alter or affect their relative position; 8th. The combination of two independent driving and supporting wheels, the vibrating gear frame carrying the universal jointed crank shaft, the hinged pole to guide the machine, the hinged cutting apparatus moving around the centre of the crank shaft, the foot lever to raise the heel of the cutting apparatus, the hand lever to raise the outer end of the cutting apparatus, and the tilting lever to raise and lower the points of the guard fingers all arranged for joint operation.

**No. 7444. Improvements on Churns.***(Perfectionnements aux barattes.)*

Oliver W. Davis, Waterbury, Vt., U.S., and Walter H. Nelson, Sherbrooke, Que., 10th May, 1877, for 5 years.

*Claim.*—The combination of the body *A* with the oscillating supports *B* and bearings *C*, frame *D* with handles *G G*, and springs *E E* with metallic box *H* and brace *K*.

**No. 7445. Improvements in Rock Drills.***(Perfectionnements aux forêts de mines.)*

Simon Ingersoll, Stamford, Conn., U.S., 10th May, 1877, for 5 years.

*Claim.*—1st. The swell *H* of larger diameter than the central part of the piston *H* and extending around the same, in combination with the partial bushings *g g* arranged at a distance apart and with the cylinder *G*; 2d. The pins *K K* having the head *K* fitted steam tight, in combination with the piston *H H*, and with the part *N n*, spring *n*, spring *m* and levers *L U z*; 3d. The chuck *h* with its dove-tailed base end arranged to fit the annular dove-tailed hole *h*, on the end of the piston rod, and the mortised retaining bar *h*, in combination with the drill *M* and piston rod *h*; 4th. The tripod legs *V* attached to the machine by the ball and socket joints *v* and the securing bolts *v*; 5th. The tripod leg *W* attached to the machine by means of the laterally pendulous joint *w* and the fixing screw *w*.

**No. 7446. Process for the Preparation of Animal Food.***(Procédé de préparation de la viande.)*

John L. Johnston, Sherbrooke, Que., 10th May, 1877, for 5 years.

*Claim.*—1st. The abstraction of a portion of the juices of animal food previous to its being subjected to a process of salting. 2nd. The separation of the bones from animal food previous to its being salted for the preparation of compressed corn beef. 3rd. The addition to animal food, at any stage or stages, during the process of its being prepared or packed for future use, of a portion or portions of the expressed salts of flesh or soluble constituents of animal food.

**No. 7447. Oil Cup for Carriage and Waggon Axles.**

(*Godel a graisse d'essieux de voitures et de wagons.*)

Miles Latmer, Hastings, Mich., U.S., 10th May, 1877, for 15 years.

*Claim*—The arrangement of tapped oil cup C having head B stopper A and the thread end D the shell E having slot F and screwing slot J and tapped extremity K, in combination with the cylindrical valve G having stop valve and clearing pin H the whole combined.

**No. 7448. Motive Power for Vessels.**

(*Propulseur de vaisseau.*)

Thomas S. Seabury, New York, U.S., 10th May, 1877, for 5 years.

*Claim*—Propelling vessels by the aid of a motive power derived from the action of the sea upon a vessel provided with a submerged plate E, arms D and shaft C placed in the boxes B in the side A of a vessel.

**No. 7449. Horse Shoe Nail Finishing Machine.**

(*Machine a finir le clou a cheval.*)

Randolph Hersey, Montreal, Que., 10th May, 1877, for 5 years.

*Claim*—1st. The combination of the rest *a* having one or two auxils *b* and punch die *c*, with the vibrating slide *d* having openings *e* and *f*, and with the bevelling dies *g* and clipping dies *h*. 2nd. The combination of the spring arm W, sliding bar *h* having openings *i* and *j*, and tube *k*, or tubes *l* and *m*. 3. The combination of the sliding bar *h* having openings *i* and *j*, and *n* standards *o* having plates *p*. 4th. The combination of the spring lever W, sliding or vibrating bar *h* having nail recesses *i* and *j*, stop *q* and set screws *r* whereby the bar *h* is caused to remain stationary at the end of each of its strokes. 5th. The combination of the sliding bar *h* having openings *i* and *j* with dies *b* and *c*. 6th. The combination of the dies *b* with guides *v*. 7th. The combination of the guides *v* with the auxiliary guides *v*. 8th. The combination of the sliding bar *h*, pendulum B and tube *c*, or tubes *e* and *f*. 9th. The combination of the guides *v* with springs *s*. 10th. The combination of the guides *v* with bolt *p*. 11th. The combination of the guides *v*, springs *s* and bolt *p*. 12th. The dies *b* having openings *e*, and rest *q* having openings *f* with guides *i* and *v*. 13th. In an elongated blank bevelling and clipping machine, the combination of a sliding or vibrating bar *h*, for holding the blanks with the bevelling and clipping dies.

**No. 7450. Improvements in the Manufacture of Shovels.**

(*Perfectionnements dans la fabrication des pelles.*)

Henry W. Shepherd, (Assignee of John Graves), New York, U.S., 19th May, 1877, for 5 years.

*Claim*—A shovel constructed out of a single sheet or piece of metal, having its handle projecting directly from the blade and the excess of metal left in forming the rim, being worked up to impart a half round or semi-circular form to the handle at its union with the blade and rim.

**No. 7451. Improvements on Clutch Boxes.**

(*Perfectionnements aux manchons d'embrayage.*)

Henry Martin, Lancaster, Pa., U.S., 10th May, 1877, for 5 years.

*Claim*—The spiral rib *a* on the clutch sleeve D, and in combination therewith a lever *b*.

**No. 7452. Improvements on Hoisting Machines.**

(*Perfectionnements aux elevateurs.*)

Corydon Knowlton, Sangerville, Me., U.S., 12th May, 1877, for 15 years.

*Claim*—1st. The arrangement of the driving wheel G and its pinion E, operating on an axle independent of the shafts of the wheels B and C, and is about a line with the latter; 2nd. Providing the yoke A with a lug H for carrying the axle of the wheel G and pinion E; 3rd. The provision of a brake S, one end secured to the yoke A and coiled around a hub P, cast with the driving wheel G; 4th. The yoke A constructed with the lower ends united and provided with a hook I, for applying double purchase.

**No. 7453. Improvement on Glass Veneers.**

(*Perfectionnement dans le plaquage en verre.*)

James Budd, New York, U.S., 15th May, 1877, for 5 years.

*Claim*—1st. The process of manufacturing ornamental glass veneers and panels consisting of, first: Applying to the rear face of the glass a design in colors by painting or transferring, second: Applying over the whole a coating of colors composed of dry colors and Portland cement or plaster of Paris mixed in a solution of gelatinous matter. third: A second coating of colors ground in japan and finally backing the whole with an impervious coating composed of varnish and plaster of Paris or Portland cement. 2nd. The process of manufacturing glass panels and veneers consisting of first: Applying to the rear face of the glass a coating of colors composed of dry colors and Portland cement or plaster of Paris mixed in a solution of gelatinous matter, second: A second coating of colors ground in japan and finally in backing the whole with an impervious coating or backing of varnish and Portland cement or plaster of Paris. 3rd. A glass veneer or panel having on its rear face an ornamental design in colors, a second coating of colors and a protecting backing of Portland cement and varnish combined or of varnish and plaster of Paris.

**No. 7454. Improvements on a Churn.**

(*Perfectionnements a une barail.*)

Michael Sweeney, Belleville, Ont. 15th May, 1877 for 5 years.

*Claim*—The combination of the standard B, key C horizontal bar D, lever F, pivot G, rack H, pinion J, guard K and blades M.

**No. 7455. Apparatus for Cooling and Heating Milk.**

(*Appareil a rechauffer et refroidir le lait.*)

Varenon P Hill, Hamuil, N. Y. U.S., 15th May, 1877 for 5 years.

*Claim*—1st. The combination of a series of vats G H I having circulating arteries connected by tubes F J to horizontal pipes D E and tanks A B having relative adjustment whereby an ebb and flow circulation is maintained by their alternative elevation. 2nd. The combination of a steam generator K, horizontal pipes D E and tubes F J, vats C H I having circulating arteries, and the tanks A B whose elevation is relatively adjustable for condensing the steam and supplying the generator. 3rd. The combination of a water heater having a coil *l*, pipes D D, tubes F J and one or more vats G H I having circulating arteries, and the tanks A B whose elevation is relatively adjustable.

**No. 7456. Clothes Washer.**

(*Laveuse a linge.*)

Albert Poirier, St. Jacques de l'Acadiguan, Que. 15th May, 1877, for 5 years.

*Resume*—La boite A dans ses differentes dispositions, et la maniere de s'en servir.

**No. 7457. Process of Heating and Brazing Brass Tubes.**

(*Procedé pour chauffer et braser les tuyaux de cuivre.*)

Jules Werneininger and Charles Maus, Montreal, Que. 15th May, 1877, for 5 years.

*Claim*—The combination of the roseets L M the cutter N and the furnace and its attachments A, the opening to feed B the opening through which the heat strikes the tube, the grate bars C blow pipe D ash pit E, plug F throttle valve G standard H, and the box or casing J.

**No. 7458. Improvement on the Combustion of Liquid Hydro-Carbons.**

(*Perfectionnement dans la combustion des hydro-carbures liquides.*)

Thomas H. Hicks and Thomas H. Tracey, London, Ont., 15th May, 1877, for 5 years.

*Claim*—The combination of heated air with steam and tar for the more perfect combustion of the same.

**No. 7459. Automatic Gas Lighter.**

(*Allumoir automatique a gaz.*)

John Ruthven, Ottawa, Ont., 15th May, 1877, for 5 years.

*Claim*—1st. The box C or its equivalent provided with a projecting flanged guide B, and containing the band I, in combination with the spring trigger K for the purpose of igniting the gas escaping from the burner A, to which the apparatus is attached; 2nd. The thumb-wheel H and wipers E or their equivalent, in combination with the projecting sides K of the trigger K. 3rd. The trigger K attached to the guide B, and provided with a striking point L, in combination with an intermittently moving band I charged at regular intervals with a fulminating compound.

**No. 7460. Improvement in Steering Propellers.**

(*Perfectionnement dans la maniere de gouverner les batavats a helice.*)

Frank G. Fowler, Bridgeport, Ct., U.S., 15th May, 1877, for 5 years.

*Claim*—1st. The index A in combination with a marine propeller whose thrust or propelling force can be exerted in a direction corresponding with any point of the compass; 2nd. With scale *m* in combination with the index A and a marine propeller whose thrust can be exerted in any direction.

**No. 7461. Improvements in Weaving Looms.**

(*Perfectionnements aux metiers a tisser.*)

James Lyall and William Lyall, New York U.S. 15th May, 1877, for 5 years.

*Claim*—1st. The mechanism for producing a dwell in the backward movement of the lay while the shuttle is being moved. 2nd. The combination of the mechanism specified for producing the dwell movement of the lay with the mechanism for producing two blows of the lay on the filling. 3rd. The mechanism for producing a dwell movement in connection with the shuttle carriage and positive motion shuttle. 4th. The shuttle K and shuttle carriage *h*, in combination with the neway *g* shuttle rail *k*, and bobbin or spool holder. 5th. The yielding arms *f*, with eyes for the weft thread in combination with the bobbin or spool and the shuttle. 6th. The hook is actuated by the bent lever *l* as the lay presses up the filling, in combination with the slide bar *js* and stock *cs*. 7th. The combination of the dwell mechanism for the lay with the shuttle carriage *h*, neway *g*, positive motion shuttle *k* and shuttle rail *l*. 8th. The combination, in a positive motion loom in which the shuttle is moved across by a reciprocating carriage of a dwell motion mechanism for actuating the shuttle and a dwell motion mechanism for actuating the lay. 9th. The combination in a loom for weaving irregular fabrics of a fractional traction for the fabric and a pawl bar with a range of holding pawls, standing away from the lay; 10th. In a loom for weaving irregular fabrics, a pawl bar near the fell provided with numerous pawls standing away from the lay.

**No. 7462. Machine for Blowing Organs.***(Machine à souffler les orgues.)*

George M. Healey, Port Hope, Ont., 15th May, 1877, for 5 years.

*Claim.*—The combination of the two levers P, axle rollers Q, bearings L, oscillating rods d, blow pedals F, and the bent projection t.**No. 7463. Improvements on Churns.***(Perfectionnements aux barattes.)*

William H. Bodkin and Alexander McBride, London, Ont., 15th May, 1877, for 5 years.

*Claim.*—The use of the perforated inner cylinder b through which the cream is alternately drawn in and forced out, whilst being at the same time agitated by the dash.**No. 7464. Improvements on Railway Car Springs.***(Perfectionnements aux ressorts des voitures de railvoies.)*

George F. Godley, Philadelphia, Pa., U. S., 15th May, 1877, for 5 years.

*Claim.*—1st. The forms of bars BC DE F H I having thick and thin parts in cross section, the parts that become upset having sloping sides b c d e f h i which become parallel in coiling; 2nd. The bars D E having flaring edges d e which meet before the spiral becomes solid and form additional springs, said bars having as great a thickness of metal through x x as through y y; 3rd. The bars G H I for forming spirals, the coils of which fit into one another when the spring becomes solid; 4th. The trefoil car spring case consisting of the telescope or sliding sections constructed and adapted for the reception of 3 spiral springs; 5th. The combination with trefoil case O, of spiral springs P P arranged within said case, 6th. The combination with the bolster S T, of springs P P, so that two springs of each case will be nearer the middle or centre of said bolster than the remaining or third spring, 7th. In combination with the bolsters S T, the trefoil cases O O and spiral springs P P.**No. 7465. Improvements on a Lift-Gauge.***(Perfectionnements à un appareil pour essayer la force musculaire.)*

Orlando Thayer, Buffalo, N. Y., U. S., 15th May, 1877, for 5 years.

*Claim.*—A combined test gauge and apparatus for applying electricity in which the handles of the test gauge are capable of being charged with positive and negative electricity respectively, whereby the person manipulating said handles establishes the circuit between the two poles of a galvanic battery while applying his power to said handles; 2nd. An elastic test gauge consisting of a suitable case provided with the frame E, having the toothed segment F engaging with a pinion on the indicator shaft, the rods I attached to the plate H and each connected with the battery wires N; 3rd. The combination with the case A, of the rods I, plate H, springs h, segment F, rod G and the pinion on the indicator shaft.**No. 7466. Car axle Box. (Boîte d'essieu de wagon.)**

William W. Whitaker, Gloversville, N. Y., U. S., 15th May, 1875, 6 years.

*Claim.*—1st. An axle box provided with a divided hopper B filled with waste, or equivalent absorbent, arranged to afford a constant supply of lubricant to the axle by the operation of capillary attraction in such waste; 2nd. The combination, in an axle box, of a dividing plate C, oil conducting bearing plate E and absorbent G, the capillary attraction in which latter operates to return the lubricant once used to the axle for re-use continuously.**No. 7467. Improvements on Plough Clevises.***(Perfectionnements aux volées de charrues.)*

David Urquhart, Port Perry, Ont., 15th May, 1877, for 5 years.

*Claim.*—1st. The oscillating plough clevis formed integrally of the arm A, segment B and cross-head F perforated; 2nd. The regulating bolt H passing through the plough beam C, in connection with the perforated segment B having oscillating arm A pivoted to the plough beam C.**No. 7468. Improvements in Shoe Fastenings.***(Perfectionnements dans l'ajustage des souliers.)*

Frank G. Farnham, Hawley, Pa., U. S., 15th May, 1877, for 5 years.

*Claim.*—1st. The base plate A having perforations a and a central lug a' arranged upon it; 2nd. The base plate A, in combination with the washer or stitch plate a; 3rd. The spring key B formed of one piece of spring metal and having a central looped seat b and a looped end b' for the reception and accommodation of the lug a; 4th. The face plate C having a central opening c and attaching lugs c; 5th. The base plate A, the spring key B, and the face plate C.**No. 7469. Improvements in Picture Frames.***(Perfectionnements aux cadres d'images.)*

Charles Lippe, New York, U. S., 15th May 1877, for 5 years.

*Claim.*—Holding the frame E to frame A by aid of the pins G G and the plates I and L.**No. 7470. Improvements in the Manufacturing of Picture Frames.***(Perfectionnements dans la fabrication des cadres d'images.)*

Charles Lippe, New York, U. S., 15th May, 1877, for 5 years.

*Claim.*—Spandrels made of papier maché, gypsum, plaster of Paris, or other light fusible and plastic material.**No. 7471. Improvements in Hoes.***(Perfectionnements dans les hoes.)*

Moses Johnson, Lockport, N. Y., U. S., Whitfield Douglas and Edwin R. McCall, Hamilton, Ont., 15th May, 1877, for 5 years.

*Claim.*—1st. A hoe and ferrule made from a single piece of steel with double or single blade C C. 2nd. The ferrule cut from the middle length of the blade and bent together to form the ferrule, and made fast to handle by means of two rivets; 3rd. The openings G from whence the ferrule was cut which prevents the earth from clogging to hoe blade around the ferrule. 4th. A hoe C C with or without corrugations E; 5th. A hoe C having double blades, and double blades left at right angles with ferrule for thinning out turnips, &c., or being used as a scraper and constructed with or without corrugations.**No. 7472. Combined Feed Water Heater, Lime Extractor, and Condenser.***(Appareil à chauffer l'eau d'alimentation et extraire la chaux, et condensateur combinés.)*

William J. Austin and Willis A. Austin, Chicago, Ill., U. S., 15th May 1877, for 5 years.

*Claim.*—1st. An enclosing shell within which is contained one, two or more alternately arranged steam chambers and filtering chambers, through which the water passes successively in a subdivided condition from the top downwards; 2nd. The combination with the alternately arranged steam chambers and filtering chambers, the exhaust pipe F provided with one, two or more spreading discs K; 3rd. The combination with a feed water pipe perforated to throw water in sprays, of the flanged disc I, 4th. In combination with the alternately arranged steam and filtering chambers, the feed pipe D with perforations and flanged disc I; 5th. The combination with the shell A and exhaust pipe F, of the perforated diaphragms G.**No. 7473. Machinery for Making Screws.***(Appareil à faire les vis.)*

Henry S. Lausdell, Brooklyn, N. Y., U. S., 15th May, 1877, for 5 years.

*Claim.*—The combination with the basin or hopper D, of the rotating screw or screw blank lifter E; 2nd. The grooved guide F within the basin or hopper D, in combination with the rotating lifter E; 3rd. The hood G, in combination with the grooved guide F, the double pronged or divided screw or screw blank lifter E and the basin or hopper D; 4th. The drop tube H, in combination with the grooved guide F, the screw or screw blank lifter E, and the basin or hopper D; 5th. The vibrating screw or screw blank carrier I, in combination with the drop tube H and the box L having a receiving cavity h; 6th. The combination of the plunger m, the support tube K to the chuck J, the box L having a screw or blank receiving cavity h and the screw or screw blank carrier I, 7th. The combination of the sliding mandrel O, the arm P thereon, the bell crank Q and the rotating screw or screw blank lifter E operated from said bell crank; 8th. The combination of the sliding mandrel O, the arm S, the bar w and the toe k of the carrier I; 9th. The combination with the chuck J which holds the work to be threaded, of a centering tumbler B; 10th. The combination of a centering tumbler B, with the sliding die holders G, G' or other mechanism for cutting the threads on screw blanks, or on the ends of rods, and so that said centering tumbler is adjusted into position and out of the way by said mechanism; 11th. The combination of the slide C, with the pivoted centering tumbler B, the switch f, the fixed guide g and the lever catch a; 12th. The combination of the fixed guard or protection D, with the pivoted centering tumbler B, constructed with a bearing or resting surface e; 13th. The die holders G, G' in combination with the plate H constructed to concentrically enter said die holders; 14th. The combination of the cone or wedge J, with the pivoted or swinging die holders G, G', having reduced portions S and the frame Et in which said die holders slide.**No. 7474. Improvements in Feed Cookers.***(Perfectionnements dans les poêles de cuisine.)*

John P. Martin, Xenia, Ohio, U. S., 15th May, 1877, for 5 years.

*Claim.*—1st. An adjustable feed cooking cylinder or drum having a weighted bottom or base B for retaining it in the water vessel; 2nd. The cylinder C having conical flanges E E', in combination with the cylinder A and the grate D; 3rd. The combination of the main cylinder A, the interior cylinder C having grate D, the flanges E E', ventilator H and exit pipe I having a damper a.**No. 7475. Sash Relishing Machine.***(Machine à assembler à mi-bois)*

William H. Fisher, Selins Grove, Pa., U. S., 15th May, 1877, for 5 years.

*Claim.*—1st. The saw C with the tables B and D, the chisel F with its operating rod G and crank wheel H, all arranged upon a common frame A and the operative parts driven by a common driving shaft I; 2nd. The chisel F and its arbor F' united together by the screw f and jamb nut f; 3rd. The table D adjustable, as to height, by means of the screws d d, the shaft E and the cog wheels e e.**No. 7476. Improvements in Fruit Jars.***(Perfectionnements dans les pots à fruits.)*

Adam Dickey, Middletown, Ohio, U. S., 15th May, 1877, for 5 years.

*Claim.*—A fruit jar composed of black glass.

**No. 7477. Improvements on Sewing Machines.***(Perfectionnements aux machines à coudre.)*

William Muir, Montreal, Que., 18th May, 1877, (Extension of Patent No. 1163), for 5 years.

*Claim.*—1st. The novel combination of the hub *d*, cam *e* and sleeve *f*, ratchet with pawl *m*, disc *l* and connecting rod *n*; 2nd. The novel combination of the hub *d*, groove wheel *o*, sleeve *g*, cam *q* and pin *p*, disc *k*, ratchet wheel *i*, pawl *n* and connecting rod *n*.

**No. 7478. Improvements on Road Scrapers.***(Perfectionnements aux éboueurs de chemins.)*

William Murphy, Topeka, Kansas, U.S., 18th May, 1877, for 5 years

*Claim.*—1st. The curved scraper *b* constructed with the eyes or loops *b* and *b* and adapted to be placed on and operated by a triple armed frame *c* with capability of adjustment at any desired angle; 2nd. The combination with a carriage *A* and scraper *b*, hinged to the axle *a* with capability of a vertical swinging movement, of a ratcheted lever *e* hinged to the hounds *d* in front of the axle *a* and arranged and adapted to automatically catch and hold the scraper *b* clear of the ground.

**No. 7479. Improvements on Steam Valves.***(Perfectionnements aux soupapes de vapeur.)*

Jonathan Neff, Petersburg, Ont., 18th May 1877 for 5 years

*Claim.*—The steam chest *A*, the four-headed balanced piston valve *B* with the relief ports *P P*, the caps *I I* and screw *H*.

**No. 7480. Improvements on Sheet Metal Cans.** *(Perfectionnements aux boîtes métalliques.)*

Louis V. Sone, New York, U.S., 18th May, 1877, for 15 years.

*Claim.*—1st. A sheet metal can, one or both heads of which are formed by bending over parts of the blank or blanks which form the body, and uniting the edges of the parts thus bent over into lock seams traversing the face of the head. 2nd. A sheet metal can, both heads of which are formed either wholly or in part by bending over portions of the blank or blanks which form the body, and uniting the edges of the parts thus bent over into seams traversing the face of the heads. 3rd. A sheet metal can the head or heads of which are formed by uniting the edges of the blank or blanks into upright seam or seams, which stand out at right angles with the surface of the heads.

**No. 7481. Improvements on Direct Acting Engines.** *(Perfectionnements aux machines à simple effet.)*

Edward S. Winchester and Harvey K. Flagler, Boston, Mass., U.S., 18th May, 1877, for 5 years.

*Claim.*—An engine having its valve carried with the piston and operated by the momentum imparted thereto by the movement of the piston, in combination with the cylinder *A* provided with suitable steam passages, the piston *I* having the valve *M* fitted in a cavity therein whereby the valve is operated wholly or mainly by the momentum imparted to it by the movement of the piston. In combination with a valve arranged to be operated by the momentum imparted to it by the movement of the piston, the passages

*to it* whereby steam or air is admitted to move or sustain the valve and afterward allowed to escape. A cylinder *A* provided on its exterior with a screw thread fitting into a nut or holder *G* provided with a corresponding thread and secured to the column or stand which supports the machine. The nut or holder *G* of spherical form in combination with a clamp or socket *D* adapted to receive it. Rotating the cylinder by a ratchet mechanism operated by an eccentric on the shaft which rotates the piston. Pivoting the ratchet or pawl *U* to a bar or rod which slides through the holder or nut through which the cylinder is fed; The hollow collar *K* in communication with the steam or air passages in the cylinder head and moving longitudinally with the cylinder but not rotating therewith, in combination with one or more passages for conducting the steam or air into the cylinder; The cylinder *A* having a shoulder at its rear end, in combination with the cylinder head *H* forced against it by means of the screw sleeve *F*; An engine having one or more buffers located within an extension of the cylinder and outside of the steam chamber. The buffers composed of rubber or elastic rings *m m* with an interposed metallic partition in combination with the piston *I* having shoulders thereon arranged to strike against the buffers on opposite sides of the partition.

**No. 7482. Improvements on Hand Fire Engines.** *(Perfectionnements aux pompes à incendie.)*

Valentine Straube, Waterloo, Ont., 18th May, 1877, for 5 years.

*Claim.*—1st. The combination of the twin exhauster pumps *B* horizontally placed in a portable tank *V* *vice versa* and having connection with a receiving chamber *O* by tubes *N* provided with valve *P*. 2nd. The combination of the horizontally operating twin pumps *B* working bar *W*, rocker *u* and lever *T* for working the piston rods *J* reciprocally in opposite directions. 3rd. The twin pump cylinders *B*, each having a valve *L* and air tube *X*. 4th. The twin exhausters *B* each having a diaphragm *F* with valve *G* and inlet *I* with a cylinder *H*, formed by the perforated end plates *E*, flanges *G* and bed pieces *D*, for excluding foreign matter from entering and choking the pumps.

**No. 7483. Machine for Making Match Sticks.***(Machine à faire le bois des allumettes.)*

McCintock Young, Frederick Md U.S., 18th May, 1877, for 5 years.

*Claim.*—1st. The combination of the independent pawls or fingers *T* in series, upon the same vibrating stud or arm with the perforated plates *S*, so as to insure the feeding along of said plates. 2nd. The combination of the cooking frames *D E*, bar *F* and projecting arm *z*, and coupling bars *G* for the purpose of imparting four motions to the block feeding mechanism; 3rd. The combination with the four motion feed of the knife edge feeding points. 4th. The block holding mechanism provided with the separate points *t* for supporting the wood that is to constitute the match stick when cut off; 5th. The plate *S* provided with the huddles *u*, coupling bar *v* and stud or pin *w*.

**No. 7484. Shoe Sole Buffer.***(Tampon de semelle de soulier.)*

Freeman Winslow, Salem, Mass. U.S. 18th May, 1877, for 5 years.

*Claim.*—The supporting wooden cone frustrum *A* and the felt disc or conic frustrum *B* and its abrasive covering *a*, also the combination of the shank *K C*, the wooden frustrum *A*, the felt frustrum *B* and the abrasive covering *a*.

## Lists of Patents issued up to 18th June, 1877, but not yet Officially published in the Patent Office Record.

No. 7485. P. K. Seiderick, Albany, N.Y., U.S.A., "Baling Press," 18th May, 1877.

No. 7486. J. W. Sharret, Portsmouth, Va. U.S.A., "Reefing Fore-and-Aft Sails of Vessels," 18th May, 1877.

No. 7487. H. P. Malone, Cleveland, Ohio, U.S.A., "Oil Stove," 18th May, 1877.

No. 7488. J. Murphy, Huntington, Que., "Combined King-Bolt, Double Clip, and Bolster for Vehicles," 18th May, 1877.

No. 7489. W. C. Carlton, Boise City, Idaho Ter., U.S.A., "Bolt and Bolt Cutter," 18th May, 1877.

No. 7490. O. P. Cobb, Aurora, Ind., U.S.A., (Assignee of W. Haddock, Hadding Penn. U.S.A.), "Nail Cutting Machine," 18th May, 1877.

No. 7491. J. S. Hall, Monterey, Cal., U.S.A., "Sewing Machine," 18th May, 1877.

No. 7492. E. Moore, Canterbury, N.B., "Burglar Proof Lock," 18th May, 1877.

No. 7493. J. C. Steele, Alma, Ont., and J. W. Anderson, Elora, Ont., "Scow Fence," 18th May, 1877.

No. 7494. S. Otley and J. Otley, Chicago, Ill., U.S.A., "Cement," 18th May, 1877.

No. 7495. J. L. Ryder, Islesborough, Maine, U.S.A., "Rein Supporter," 18th May, 1877.

No. 7496. L. C. Warner, New York, U.S.A., and J. D. V. Warner, Bridgeport Conn., U.S.A., "Corset," 18th May 1877.

No. 7497. O. F. Bunker and H. R. Randall, Brooklyn, N.Y., U.S.A., "Gas and Air Carburetor," 21st May, 1877.

No. 7498. D. H. Burrell Little Falls, N.Y., U.S.A., and J. D. McEachen, Galb, Ont., "Beat Hoop," 21st May, 1877.

No. 7499. J. E. Howard and C. E. Howard, Reading, Mass., U.S.A., "Metallic Hair Brush," 1st June, 1877.

No. 7500. A. H. Dixon, Toronto, Ont., "Mirror Sign," 1st June, 1877.

No. 7501. J. Fraser, Charlotteville, Ont., "Combined Drill and Broad Cast Sowers," 1st June, 1877.

No. 7502. C. Robinson Eau Claire, Wis., U.S.A., "Plow Clevis," 1st June, 1877.

No. 7503. G. B. Izzard, Hamilton, Ont., "Spring Bed Bottom," 1st June, 1877.

No. 7504. G. A. Coulson, Wingham, Ont., "Rubber Spring," 1st June, 1877.

No. 7505. H. T. Davis, Sherman, Texas, U.S.A., "Quilting Frame," 1st June, 1877.

No. 7506. J. G. Hallas, and W. N. Weeden, Waterbury, Conn., U.S.A., "Lamp Burner," 1st June, 1877.

No. 7507. G. Boivin Montreal, Que., "Moccasin," 1st June, 1877.

No. 7508. S. P. Bane, Chatham, Ont., "Toe Weight Shoe," 1st June, 1877.

No. 7509. D. Maxwell, Paris, Ont., "Harvester Rake," 1st June, 1877.

No. 7510. J. I. Pellerin and H. Pellerin, Montreal, "Coupe-Cuir à la Piquire," 1st June, 1877.

- No. 7511. W. H. Kershaw, Widnes, England, "Roof Covering," 1st June, 1877.
- No. 7512. J. H. Lewars, J. McCarty, and E. A. Collins, Philadelphia, Pa., U.S.A., "Lamp Collar," 1st June, 1877.
- No. 7513. J. R. Smith, Brockville, and J. H. Merkle, North Williamsburg, Ont., "Butter Worker," 1st June, 1877.
- No. 7514. J. Anderson, Gouverneur, N.Y., U.S.A., and J. R. Middlemiss, Montreal, Que., "Snow Plow," 1st June, 1877.
- No. 7515. J. S. Nelson, Bradford, Iowa, U.S.A., "Motive Power," 1st June, 1877.
- No. 7516. W. S. Ingraham, Waukegan, Ill., U.S.A., "Sickle Grinding Machine," 1st June, 1877.
- No. 7517. C. R. Hicks, (Assignee of A. J. Robinson, Troy, N.Y., U.S.A.), "Ventilator," 1st June, 1877.
- No. 7518. D. N. Ellsworth, London, Ont., "Churn Dasher," 1st June, 1877.
- No. 7519. W. Shannon, Colborne, Ont., (Assignee of A. B. Coleman, Lynville, N.Y., U.S.A.), "Whimbletree," 1st June, 1877.
- No. 7520. T. Cochrane, Petrolia, Ont., "Oil Still, (Extension of Patent No. 1520), 7th June, 1877.
- No. 7521. J. Haish, DeKalb, Ill., U.S.A., "Wire Fence Barb," 7th June, 1877.
- No. 7522. W. S. Childs, Montreal, Que., "Elastic Heel and Shank," 7th June, 1877.
- No. 7523. E. Brough, Greenville, Mich., U.S.A., "Churn," 7th June, 1877.
- No. 7524. S. Snell, Watertown, N.Y., U.S.A., "Animal Trap," 7th June, 1877.
- No. 7525. C. G. Patterson, (Assignee of J. E. Sherman, Boston, Mass., U.S.A.), "Process for Refining Iron and Steel," 7th June, 1877.
- No. 7526. L. Cooley, Appleton, Wis., U.S.A., "Washing Machine," 7th June, 1877.
- No. 7527. A. R. Koerber and J. Sheridan, Toronto, Ont., "Musical Reed Instrument," 7th June, 1877.
- No. 7528. S. Freeze, Doaktown, N.B., and J. Fairley, Ludlow, N.B., "Emery Grinder for Use in Rotary Saw Mills," 7th June, 1877.
- No. 7529. C. L. Girard, Montreal, Que., (Assignee of M. P. Flanders, Ausable Forks, N.Y., U.S.A.), "Lamp Extinguisher," 7th June, 1877.
- No. 7530. C. D. Smith, Philadelphia, Pa., U.S.A., "Furnace for Steam Boilers," 7th June, 1877.
- No. 7531. J. A. Johnston, Simcoe, Ont., "Fruit Dryer," 7th June, 1877.
- No. 7532. E. Pullan, Detroit, Mich., U. S. A., "Sliding Wall Protector and Towel Holder," 7th June, 1877.
- No. 7533. F. E. Hall and C. W. Richardson, Portland, Me., U. S. A. "Rein Holder," 7th June, 1877.
- No. 7534. T. Van Kannel and C. F. Rapp, Cincinnati, Ohio, U. S. A., "Reversible Hinged Slated," 7th June, 1877.
- No. 7535. R. Eaton, J. M. Vernon and G. Sanderson, Montreal, Que., "Railway Freight Car," 8th June, 1877.
- No. 7536. J. B. Hall and J. R. Stillman, Toronto, Ont., "Horse Boot," 8th June, 1877.
- No. 7537. R. A. Tilghman, Philadelphia, Pa., U. S. A., "Stone Cutting Mixture," 8th June, 1877.
- No. 7538. J. McLean, L'Etete, N. B., "Combined Check and Driving Rein," 8th June, 1877.
- No. 7539. W. T. Jones, Doon, Ont., "Mower and Reaper," 8th June, 1877.
- No. 7540. J. S. McMurray and T. R. Fuller, Toronto, Ont., (Assignee of E. D. Brouson, Amsterdam, N.Y., U.S.A.), "Broom Bag," 8th June, 1877.
- No. 7541. F. Sibley and J. Holmwood, Jr., Buffalo, N. Y., U. S. A., (Assignee of A. Luckenback, Buffalo, N. Y., U. S. A.), "Cammeled Chewing Gum," 8th June, 1877.
- No. 7542. J. M. MacKay, Quebec, Que., (Assignee of A. M. Bécland, Quebec, Que.), "Washer," 8th June, 1877.
- No. 7543. G. W. Hooper, Green, Me., U. S. A., "Double Acting Force Pump," 8th June, 1877.
- No. 7544. W. W. Ellis, Salmon Beach, N. B., "Horse Hay Fork," 11th June, 1877.
- No. 7545. C. Sauners, Cape Vincent, N. Y., U. S. A., "Fanning Mill," 11th June, 1877.
- No. 7546. J. Brown, Mulabide, Ont., "Grain Thrashing Machine," 11th June, 1877.
- No. 7547. W. J. McCausland, Dallas, Texas, U. S. A., "Fluting and Slat Iron," 11th June, 1877.
- No. 7548. B. C. Tilghman, Philadelphia, Pa., U. S. A., "Stone Sawing and Grinding," 11th June, 1877.
- No. 7549. J. A. J. Shultz, Saint Louis, Mo., U. S. A., "Fulled Box Hite," 11th June, 1877.
- No. 7550. E. Salomon, Montreal, Que., "Heel Counter," 11th June, 1877.
- No. 7551. F. J. Henry, St. Catharines, Ont., "Mower and Reaper Knife Sharpener," 11th June, 1877.
- No. 7552. L. L. Leathers, Oakland, Cal., U.S.A., "Artificial Stone," 11th June, 1877.
- No. 7553. M. Tarley, Council Bluffs, Iowa, U.S.A., "Horse Collar," 11th June, 1877.
- No. 7554. L. D. Hurd, Wellsville, N. Y., U.S.A., "Gearing for Waggon and other Vehicles," 11th June, 1877.
- No. 7555. J. A. J. Shultz, Saint Louis, Mo., U. S. A., "Belting Leather and Leather Stalling and Fulling Machine," 11th June, 1877.
- No. 7556. W. G. Smith, Montreal, Que., (Assignee of T. M. Fell and H. B. Bunster, New York, U.S.A.), "Art of Utilizing Bisulphide of Carbon and Glycerine for the Production of Motive Power," 11th June, 1877.
- No. 7557. J. Field, and R. E. Hammill, Auster, Ont., "Cross Spring Buggy Gearing," 14th June, 1877.
- No. 7558. M. Bray, Newton, Mass., U. S. A. (Assignee of A. Dawes, Wakefield, Mass., U.S.A.), "Shoe Lacing Stud," 14th June, 1877.
- No. 7559. A. R. Howse and J. Spratt, Victoria, B.C., "Suspension Rail and Tramway," 14th June, 1877.
- No. 7560. W. Church, West-Haven, Ct., U. S. A., (Assignee of T. Sault New-Haven, Ct., U.S.A.), "Washing Machine," 14th June, 1877.
- No. 7561. M. H. Collins, East Medway, Mass., U. S. A., "Stranged Musical Instrument," 14th June, 1877.
- No. 7562. J. P. Reel and A. J. Seyler, Cedarville, Ill., U. S. A., "Middling Purifier," 14th June, 1877.
- No. 7563. A. M. Michael, and W. Michael, Mapleton, Ont., "Stamp Extractor," 14th June, 1877.
- No. 7564. W. N. Whitely, Springfield, Ohio, U. S. A., "Harvester," 14th June, 1877.
- No. 7565. D. R. Shaw, Toronto, Ont., "Corking Machine," (Extension of Patent No. 1522), 14th June, 1877.

INDEX OF INVENTIONS.

Axle box, W. W. Whitaker.....	7106
Axles, waggon, M. Latimer.....	7446
Boxes, clutch, H. Martin.....	7131
Brake, waggon, R. Brown.....	7131
Cans, metal, L. V. Sone.....	7480
Car axle box, W. W. Whitaker.....	7106
Carriage, child's, D. L. Thompson, et al.....	7427
Chambers, preserving, T. Armstrong, Jr.....	7130
Churn, M. Sweeney.....	7164
Churns, O. W. Davis.....	7414
" W. H. Bodkin et al.....	7463
Condenser, W. J. & W. A. Austin.....	7172
Cookers, feed, J. P. Martin.....	7471
Drills, rock, S. Ingersoll.....	7145
Engines, direct acting, E. S. Winchester et al.....	7481
" Bre, V. Straube.....	7482
Feed cookers, J. P. Martin.....	7471
Fences, portable, R. Murray.....	7128
Fire engines, V. Straube.....	7182
Food, animal, J. L. Johnston.....	7416
Frames, picture, C. Lippe.....	7169, 7470
Fringing machines, J. B. Lincoln.....	7138
Fruit jars, A. Dickey.....	7476
Gas lighter, J. Ruthven.....	7459
Glass veneers, J. Budd.....	7153
Grain threshing, J. H. Edward.....	7442
Grinding wheat, J. S. Detwiler.....	7439
Heater, water, W. J. & W. A. Austin.....	7172
Heaters, E. E. Spencer.....	7126
Hoes, M. Johnston et al.....	7171
Hoisting machines, C. Knowlton.....	7452
Horse shoe nail, R. Hersey.....	7419
Hydro-carbons, T. H. Hicks et al.....	7158
Indicators, hotel, A. Fuchs.....	7432
Jars, fruit, A. Dickey.....	7176
Lift gauge, O. D. Thayer.....	7165
Looms, weaving, J. & W. Lyall.....	7161
Match sticks, M. Young.....	7483
Milk cooling, V. P. Hill.....	7455
Millstones, dressing, J. S. Young.....	7486
Moulding sand, J. B. McCune et al.....	7125
Mowers and reapers, W. N. Whiteley.....	7113
Nail, horse shoe, R. Hersey.....	7119
Oil cup, M. Latimer.....	7116
Organs, blowing, G. M. Healy.....	7462
Picture frames, C. Lippe.....	7169, 7470
Plough clevises, D. Urquhart.....	7467
Propellers, steering, F. G. Fowler.....	7460
Railway springs, G. F. Godley.....	7464
Reaper tables, W. Russell.....	7433
Reapers and mowers, W. N. Whiteley.....	7413
Road scrapers, W. Murphy.....	7178
Sand moulding, J. B. McCune et al.....	7425
Sash rebating, W. H. Fisher.....	7175
Scale platform, D. A. Gilbert.....	7437
Screws, making, H. S. Lansdell.....	7173
Seedling machines, J. M. Westcott.....	7441
Sewing " W. Muir.....	7477
Shirts, men's, A. E. Fish.....	7429
Shoe fastenings, F. G. Farnham.....	7168
" sole buffers, F. Winslow.....	7484
Shovels, H. W. Shepard.....	7450
Springs, car, G. F. Godley.....	7464
Steam engines, G. G. Lafayette et al.....	7110
" valves, J. Neff.....	7179
Tubes, brass, J. Wornentinger et al.....	7157
Valves, safety, F. B. Scovell.....	7134, 7135
" steam, J. Neff.....	7479
Veneers, glass, J. Budd.....	7553
Vessels, motive power for, T. S. Seabury.....	7448
Waggon brake, R. Brown.....	7431
Washer, clothes, A. Poirier.....	7456
Wheat grinding, J. S. Detwiler.....	7139

INDEX OF PATENTEES.

Armstrong, T. J., preserving chambers.....	7430
Austin, W. J. & W. A., condenser.....	7472
Bodkin, W. H., et al., churns.....	7463
Brown, R., waggon brake.....	7431
Budd, J., glass veneers.....	7453
Davis, O. W., churns.....	7414
Detwiler, J. S., grinding wheat.....	7439
Dickey, A., fruit jars.....	7176
Douglas, W., et al., hoes.....	7471
Edward, J. H., grain threshing.....	7412
Farnham, F. G., shoe fastenings.....	7168
Fish, A. E., men's shirts.....	7429
Fisher, W. H., sash rebating.....	7475
Fingler, H. K., et al., engines.....	7181
Fowler, F. G., steering propellers.....	7100
Fuchs, A., hotel indicators.....	7432
Gilbert, D. A., plank scale.....	7437
Godley, G. F., railway springs.....	7464
Graves, J., shovels.....	7450
Healy, G. M., blowing organs.....	7462
Hersey, R., horse shoe nail.....	7419
Hicks, T. H., et al., hydro-carbons.....	7458
Hill, V. P., cooling milk.....	7455
Ingersoll, S., rock drills.....	7445
Johnson, M., et al., hoes.....	7471
Johnston, J. L., animal food.....	7416
Knowlton, C., hoisting machines.....	7452
Lafayette, G. G., et al., steam engines.....	7440
Lansdell, H. S., making screws.....	7473
Latimer, M., axle oil cup.....	7447
Lincoln, J. B., fringing machines.....	7438
Lippe, C., picture frames.....	7169, 7470
Lyall, J. & W., weaving looms.....	7461
McBride, A., et al., churns.....	7463
McCall, E. R., et al., hoes.....	7171
McCune, J. B., et al., sand moulding.....	7425
Maas, C., et al., brass tubes.....	7457
Martin, H., clutch boxes.....	7451
" J. P., feed cookers.....	7174
Morrison, W., heaters.....	7426
Muir, W., sowing machines.....	7477
Murphy, W., road scrapers.....	7478
Murray, R., portable fences.....	7428
Neff, J., steam valves.....	7179
Perley, C. L., et al., child's chair.....	7427
Poirier, A., clothes washer.....	7456
Russell, W., reaper tables.....	7433
Ruthven, J., gas lighter.....	7459
Scovell, F. B., safety valves.....	7434, 7435
Seabury, F. S., motive power for vessels.....	7418
Shepard, H. W., shovels.....	7450
Spencer, E. E., heaters.....	7126
Sone, L. V., metal cans.....	7480
Straube, V., fire engines.....	7482
Strong, P. W., et al., steam engines.....	7440
Sweeney, M., churn.....	7454
Thayer, O. D., lift gauge.....	7465
Thompson, D. L., et al., child's carriage.....	7427
Tracy, T. H., et al., hydro-carbons.....	7158
Urquhart, D., plough clevises.....	7467
Walte, G., et al., child's carriage.....	7427
Wanzer, R. M., et al., sand moulding.....	7425
Wornentinger, J., et al., brass tubes.....	7457
Westcott, J. M., seedling machines.....	7441
Whitaker, W. W., axle box.....	7466
Whiteley, W. N., mowers and reapers.....	7143
Winchester, E. S., et al., engines.....	7481
Winslow, F., shoe sole butter.....	7184
Young, J. S., dressing millstones.....	7436
" M., match sticks.....	7483



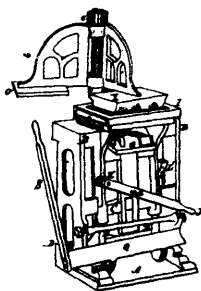
# CANADIAN PATENT OFFICE RECORD.

## ILLUSTRATIONS.

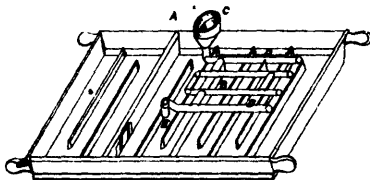
Vol. V.

JUNE, 1877.

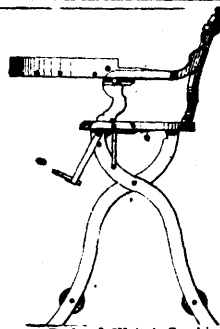
No. 6.



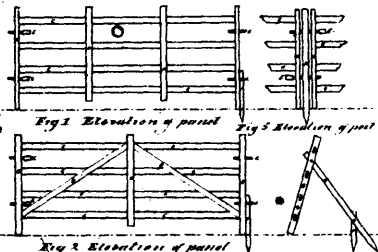
7425 McCune & Wanzer's Sand Moulding Machine.



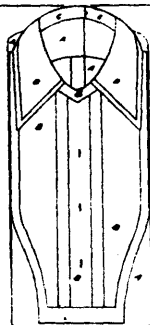
7426 Morrison's Improvements on Heaters.



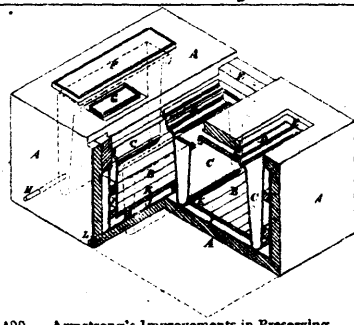
7427 Thompson, Perley & Waite's Combined Child's Chair and Carriage.



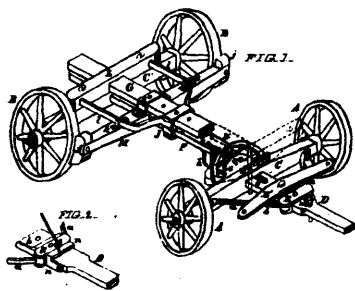
7428 Murray's Improvements on Portable Fences.



7429 Fish's Improvements on Men's Shirts.



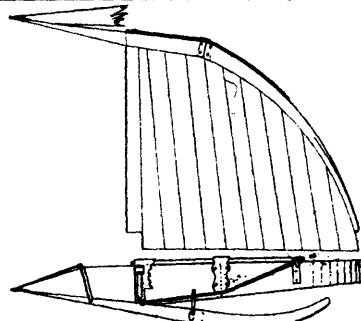
7430 Armstrong's Improvements in Preserving Chambers.



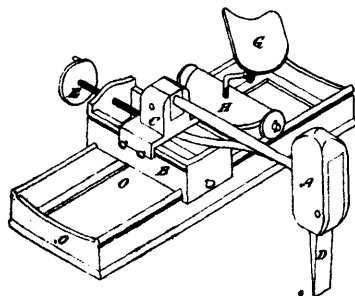
7431 Brown's Self-Acting Wagon Brake.



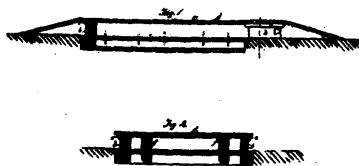
7432 Fuchs' Improvements on Hotel Indicators.



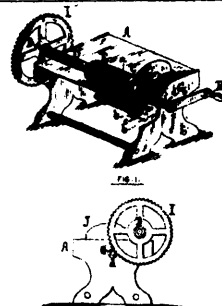
7433 Russel's Improvements on Reaper Tables.



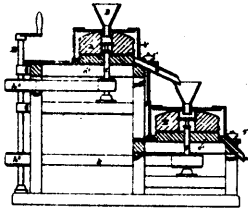
7436 Young's Machine for Dressing Mill Stones.



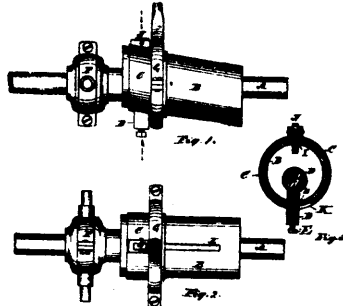
7437 Gilbert's Platform Scale Protector.



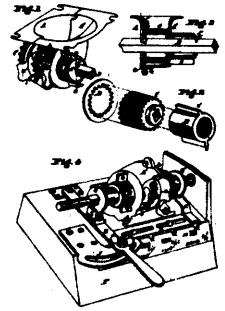
7438 Lincoln's Improvements on Fringing Machines.



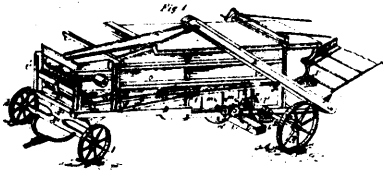
7439 Detwiler's Machine for Grinding Wheat.



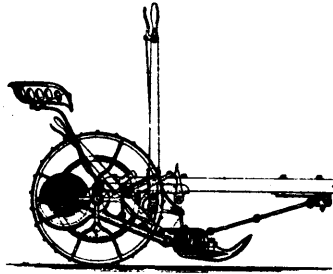
7440 Lafayette & Strong's Improvements on Steam Engines.



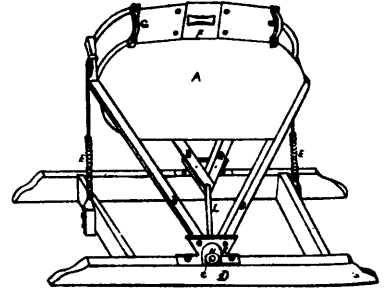
7441 Westcott's Improvements on Seeding Machines.



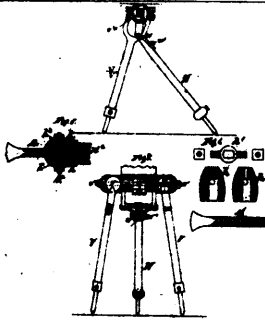
7442 E Iward's Machine for Threshing and Separating Grain.



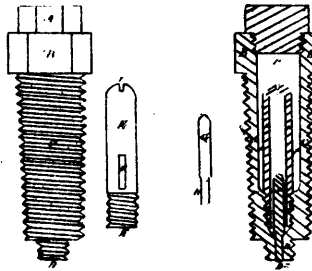
7443 Whitely's Improvements on Mowers and Reapers.



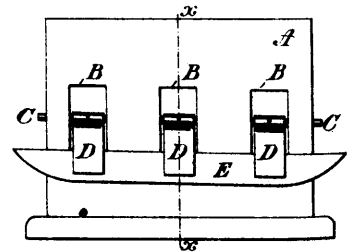
7444 Davis & Nelson's Improvements on Churns.



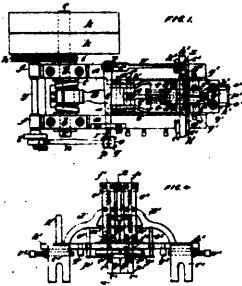
7445 Ingersoll's Improvements in Rock Drills.



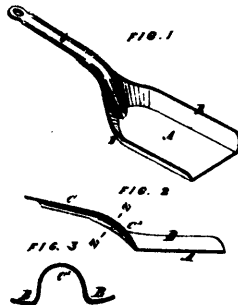
7447 Latimer's Oil Cup for Carriage and Waggon Axles.



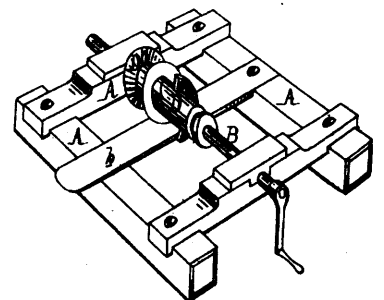
7448 Seabury's Motive Power for Vessels.



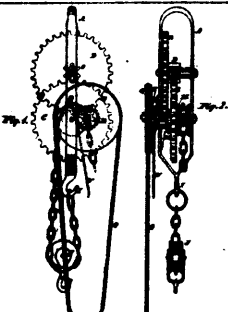
7449 Hersey's Horse Shoe Nail Finishing Machine.



7450 Graves' Improvements in the Manufacture of Shovels.



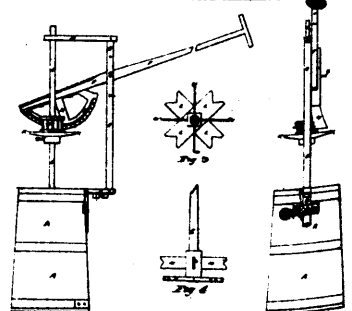
7451 Martin's Improvements on Clutch Boxes.



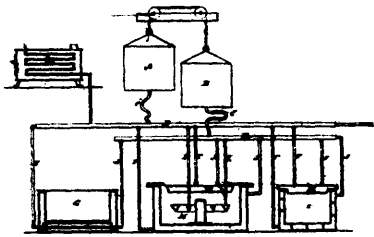
7452 Knowlton's Improvements on Hobbing Machines.



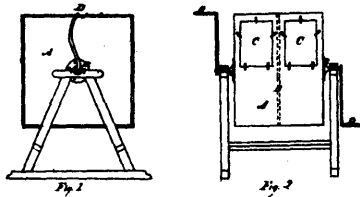
7453 Budd's Improvement on Glass Veneers.



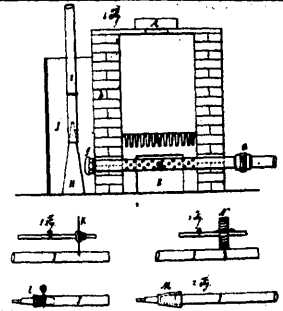
7454 Sweeney's Improvements on a Churn.



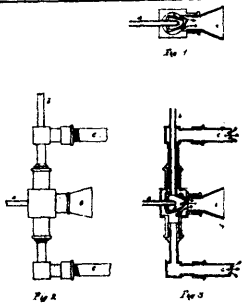
7455 Hill's Apparatus for Cooling and Heating Milk.



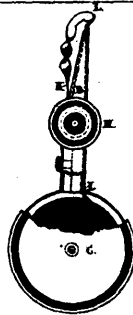
7456 Poirier's Clothes Washer.



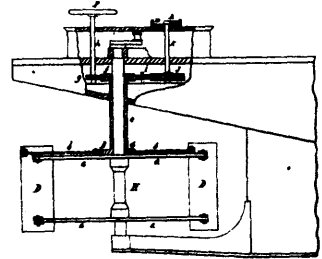
7457 Wermelinger & Maa's Process of Heating and Brazing Brass Tubes.



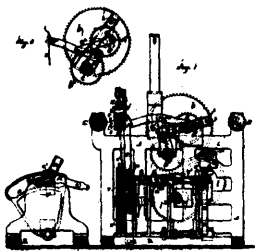
7458 Hicks & Tracey's Improvement on the Combustion of Liquid Hydro-Carbons.



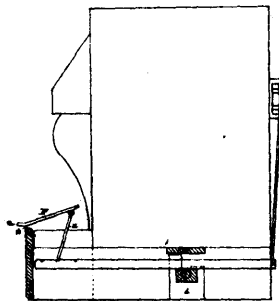
7459 Ruthven's Automatic Gas Lighter.



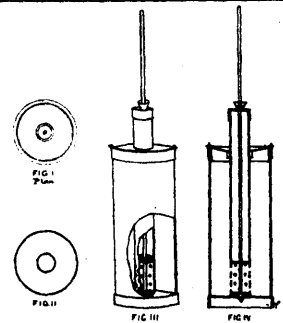
7460 Fowler's Improvement in Steering Propellers.



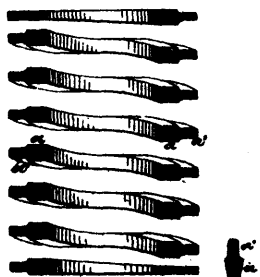
7461 Lyall's Improvements in Weaving Looms.



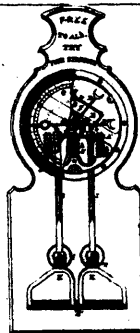
7462 Healey's Machine for Blowing Organs.



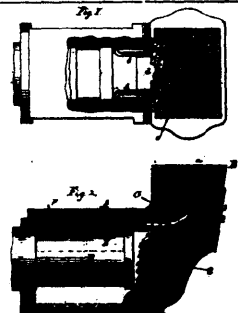
7463 Bodkin & McBride's Improvements on Churns.



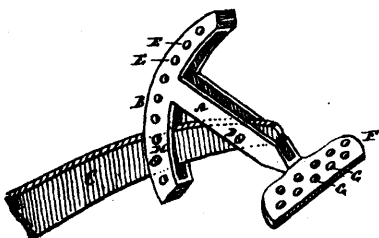
7464 Godley's Improvements on Railway Car Springs.



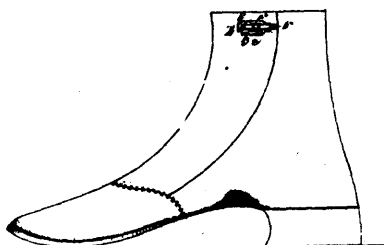
7465 Thayer's Improvements on a Lift-Gauge.



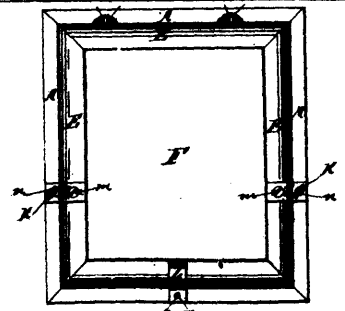
7466 Whitaker's Car Axle Box.



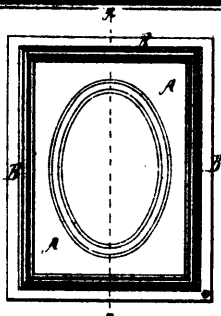
7467 Urquhart's Improvements on Plough Clevises.



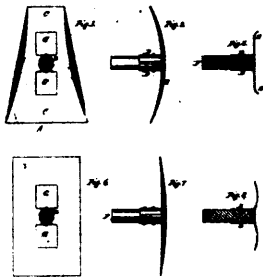
7468 Farnham's Improvements in Shoe Fastenings.



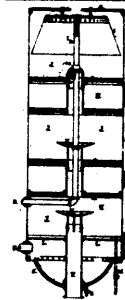
7469 Lippe's Improvements in Picture Frames.



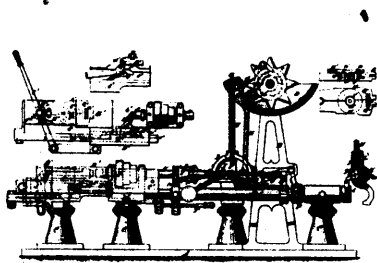
7470 Lippe's Improvements in the Manufacturing of Picture Frames.



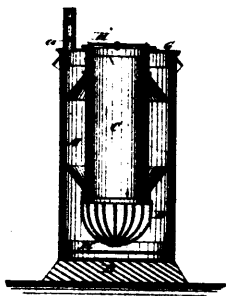
7471 Johnson, Douglas & McCall's Improvements in Hoes.



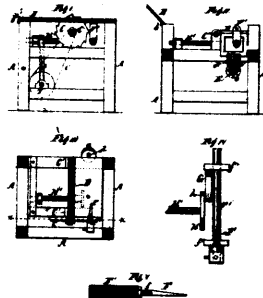
7472 Austin's Combined Feed Water Heater, Lime Extractor, and Condenser



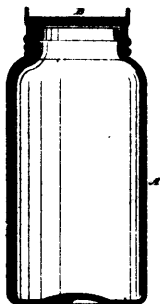
7473 Lansdell's Machinery for Making Screws.



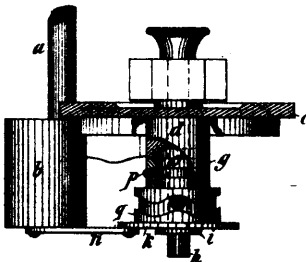
7474 Martin's Improvements in Feed Cookers.



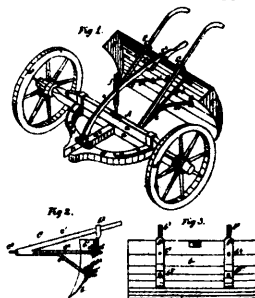
7475 Fisher's Sash Relishing Machine.



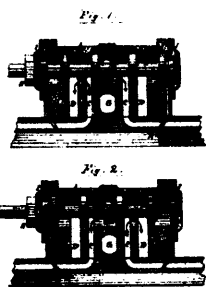
7476 Dickey's Improvements in Fruit Jars.



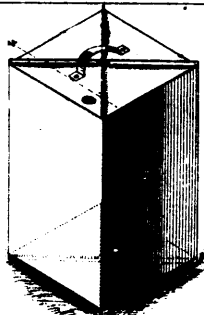
7477 Muir's Improvements on Sewing Machines.



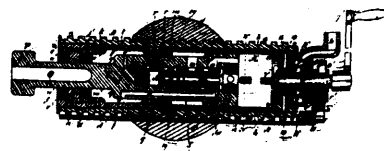
7478 Murphy's Improvements on Road Scrapers.



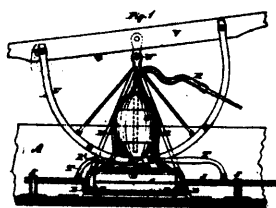
7479 Neff's Improvements on Steam Valves.



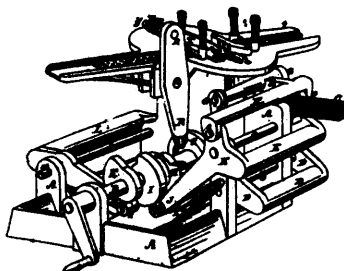
7480 Sone's Improvements on Sheet Metal Cans.



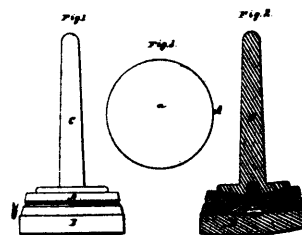
7481 Winchester & Flagler's Improvements on Direct Acting Engines.



7482 Straube's Improvements on Hand Fire Engines.



7483 Young's Machine for Making Match Sticks.



7484 Winslow's Shoe Sole Buffer.