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INVENTIONS PATENTED.

No. 15,231. Improvements in Fruit Presses.

(Perfectionnements aux pressoirs.)

Félicie F. N. Marais, New-York, N. Y., U. S., 31st July, 1882; for 5 years.

Claim.—1st. A hand press consisting of a suspended perforated cylinder, a plunger fitted in and guided by the same and provided with a cross handle, whereby it can be moved vertically and rotated. 2nd. The combination of the platform, perforated cylinder, plunger, handle, threaded stem, and cross bar having an opening receiving said stem. 3rd. The combination, with the platform, perforated cylinder and plunger, of a canvas bag surrounding the cylinder and rings *n* in the bag, adapted to hooks *i* on the platform.

No. 15,232. Apparatus for the Purification of Gas. (Appareil de lavage du gaz.)

Thomas N. Kirkham, David Hulett, Samuel Chandler, jr., and Josiah Chandler, London, Eng., 1st August, 1882; (Extension of Patent No. 7770.)

No. 15,233. Apparatus for the Purification of Gas. (Appareil de lavage du gaz.)

Thomas N. Kirkham, David Hulett, Samuel Chandler, jr., and Josiah Chandler, London, Eng., 2nd August, 1882; (Extension of Patent No. 7770.)

No. 15,234. Improvements in Saw Frames.

(Perfectionnements dans les montures des scies.)

Comas J. Shurlay and Jerome C. Dietrich, Galt, Ont., (Assignees of Edward M. Madden, Middleton, N. Y., U. S.,) 2nd August, 1882; Extension of Patent No. 9119.)

No. 15,235. Improvements in Saw Frames.

(Perfectionnements aux montures des scies.)

Comas J. Shurlay and Jerome C. Dietrich, Galt, Ont., (Assignees of Edward M. Madden, Middleton, N. Y., U. S.,) 3rd August, 1882; (Extension of Patent No. 9119.)

No. 15,236. Spark Arrester.

(Arrête-flammèche.)

David June, (Co-inventor with Robert Brayton and Onatus F. French,) Fremont, Ohio, U. S., 3rd August, 1882; (Extension of Patent No. 7735.)

No. 15,237. Improvements on Ice Houses.

(Perfectionnements aux glaciers.)

Joseph E. Baril, Montreal, Que., 4th August, 1882; (Extension of Patent No. 7740.)

No. 15,238. Improvements on Cultivator Teeth. (Perfectionnements aux dents des cultivateurs.)

Gottlieb Bettschen, Wilmot, Ont., 4th August, 1882; for 5 years.

Claim.—1st. The particular shape of the steel blade A and B with the slit C therein. 2nd. The shape of the shank embracing the curved coultter F, the brace G and the flanges H, and its combination with the steel blade A B and C.

No. 15,239. Compound to be used in Place of Butter and Lard for Cooking Purposes. (Composé pour remplacer le beurre et le saindoux pour faire la cuisine.)

Samuel H. Cochran, Everett, Mass., U. S., 4th August, 1882; for 5 years.

Claim.—1st. The method or process of purifying, flavoring and deodorizing beef suet, oil, and the fat or oil of swine by mixing therewith slippery elm bark. 2nd. The method or process of purifying, flavoring and deodorizing cotton seed oil and its equivalent oils, by mixing therewith slippery elm bark. 3rd. The compound composed of beef suet oil, cotton seed oil and its equivalent, deodorized and purified, and beef stearine. 4th. The compound composed of swine's fat or oil, or cotton seed oil deodorized and purified, with slippery elm bark and beef stearine. 5th. The combination of beef suet oil or swine's fat with cotton seed oil and its equivalents and beef stearine.

No. 15,240. Improvements in the Preparation of Yeast. (Perfectionnements dans la préparation de la levûre.)

Samuel Levy, Denver, Col., U. S., 4th August, 1882; for 5 years.

Claim.—The process of preparing compressed yeast, by mixing starch with a mash of rye, corn and malt, in a fermenting tub, adding from time to time to the mixture, as the fermentation grows weak, a warm mixture of rye and malt, skimming the yeast from the surface as it rises, setting it in water and then drying it, making the process continuous.

No. 15,241. Improvements in Bretzel Machines. (Perfectionnements aux machines à craquenelles.)

William Lampert, Henry Huber, Crestline, Theo. H. Butler, George W. Earhart and William M. Crawford, Columbus, Ohio, U. S., 7th August, 1882; for 5 years.

Claim.—1st. Two cylinders disposed one above the other, and having removable cutters, or dies of a proper form with projections and openings. 2nd. In a machine for making bretzels and the like, one of its cylinders or dies provided with a cone for discharging to one side scraps of dough resulting from the formation of the bretzel. 3rd. The combination, with cylinder C₁, of the cone G with its smaller end disposed at the open side or end of said cylinder. 4th. The combination of the cylinder C₁ and cone G with the inclined chute G₁. 5th. A cylinder having two inner cylinders, one arranged within the other, the inner one acting as a weight to expel the dough and the other one to guide and withdraw the studs. 6th. The combination of the cylinder C, perforated cylinders I₁, headed studs H and cylinder I. 7th. The combination of the inner cylinders I₁ and die carrying C, with a series of heated studs to each die, or mould, through which they are projected and withdrawn automatically. 8th. The chute L and rollers M M₁ combined with the die cylinders C C₁ and connecting gear.

No. 15,242. Improvement on Harvesters.

(Perfectionnement des moissonneuses.)

Simon P. Graham, London, Ont., 7th August, 1882, for 5 years.

Claim.—1st. The combination of the oscillating shears F and shears G, with or without channels or concaves on their faces, pivot F₁, shear bar F₂ and slide bar E₂. 2nd. The combination of the cog wheel B, lugs B₁, spokes B₂, shoulder C and rim of wheel A₁. 3rd. The combination of the cog pinion C, cam C₂, stud pin D, lever D₁, bracket D₂, segment arm E and side frame A. 4th. The combination of the frame A₁, stud pin D, segment arm E, segment E₁, grooved and friction rollers L and shear bar F₂. 5th. The frame A provided with stud pin A₂ and bracket A₃, constructed of wrought angle iron. 6th. The combination of the shear bar F₂, segment arm E and stud pin H₁, for the purpose of admitting of the tilting of the shear bar F₂ without alter-

ing the position of the reaper table. 7th. The combination of the segment arm E, stud pin D, lever D₁, bracket D₂, cam C₂ and shear bar F₂, for the purpose of retaining the same stroke of cut to the shears when the shear bar is raised or lowered.

No. 15,243. Improvements in Corsets.

(*Perfectionnements dans les corsets.*)

Byron Baldwin, New York, N.Y., U.S. 7th August, 1882; for 5 years.

Claim.—1st. A corset fabric, or foundation fitted to the form of the wearer combined with stiffeners of close-coiled wire B, inserted in pockets in said foundation, whereby they are restrained from lateral movements with respect to said foundation. 2nd. The combination, with a corset, of the series of tubular stiffeners B, of close-coiled wire. 3rd. As a new article of manufacture, a corset having a series of close-coiled wire stiffeners inserted in pockets, so as to be confined and restrained from lateral movement.

No. 15,244. Improvements on Machines for Making Bolts, Spikes, Rivets, etc.

(*Perfectionnements aux machines à faire les boulons, clous borbés, rivets, etc.*)

George H. Waring and Charles Miller, Indiantown, N.B., 7th August, 1882; for 15 years.

Claim.—1st. In a spike machine, the intermittently revolving wheel G, adapted to carry several dies, in combination with the reciprocating tool carrying head E. 2nd. The intermittently revolving die wheel G provided with the claw plates S, in combination with reciprocating wedge-shaped head K₁. 3rd. The wheel G formed with recesses, in combination with removable dies H. 4th. The dies H formed of the chambered block h and the jaw h₁ hinged therein. 5th. The combination, with the die wheel G and the dies H having the hinged jaws h₁, of the head block K. 6th. The intermittently revolving die wheel G provided with the claw plates S and carrying the dies H, having the hinged jaws h₁, the reciprocating wedge-shaped head K₁ and the reciprocating bevelled head block K. 7th. The combination, with the revolving die wheel G, of the water trough Q, for cooling the wheel and dies. 8th. The blank cutting knives J and J₁ adapted to be adjustable for cutting the blanks square or diagonally, off from the rod as desired. 9th. The gear wheel C formed, or provided with the cam I, in combination with the shaft L formed with the cranks k and k₁, in combination with the rod J₁ and the knives J and J₁. 10th. The combination with the shaft D provided with the cam N, of the yoke L₁ and rod L₂ formed with the loop l for imparting to the head block K, a straight reciprocating motion. 11th. The combination, with the shaft D provided with the cam N of the yoke P and rod a formed with the loop w, for imparting a straight reciprocating motion to the wedge-shaped head K₁. 12th. As an article of manufacture, the blanks n, for railroad spikes, made pointed at both ends so that they may be shaped and headed with a small amount of power. 13th. The die wheel formed with recesses, in combination with the removable dies H and the keys p and screw p¹ for holding the dies in the recesses of the die wheel. 14th. The eccentric shaft D provided with the cams N and N¹, in combination with the sliding head E, reciprocating head block K, reciprocating wedge-shaped head K₁ and intermittently revolving die wheel G₁ provided with the plates S and adapted to carry the dies H formed with the hinged jaw h₁. 15th. The combination, with the dies having the hinged jaws h₁ formed with the lugs b, of the cam plate M for opening the jaws, for discharging the spike.

No. 15,245. Improvements on Hydraulic Air Compressing Apparatus.

(*Perfectionnements aux appareils hydrauliques pour comprimer l'air.*)

James M. Bois, Rochester, N.Y., U.S., 7th August, 1882; for 5 years.

Claim.—1st. In an hydraulic air compressing apparatus, the combination, with two cylinders, of gates located between the cylinders and a water supply connection between said gates, floats located within the cylinders and arranged to actuate a system of levers to release the discharge valves, and systems of levers actuated by the discharge valves and arranged to close the gate of one cylinder, and open the gate and close the discharge valve of the other cylinder. 2nd. In an hydraulic air compressing apparatus, the combination, with two cylinders, of gates located between said gates, floats located within the cylinders and arranged to actuate a system of catch levers, discharge valves provided with stems adapted to engage with said catch levers, and systems of levers actuated by the discharge valves and arranged to close the gate of one cylinder, and open the gate and close the discharge valves of the other cylinder. 3rd. In an hydraulic air compressing apparatus, the combination, with the two cylinders, of gates located between the cylinders, and a water supply connection between said gates, floats located within the cylinders and arranged to actuate a system of levers to release the discharge valves, a system of levers pivoted to the stems of the said discharge valves, and arranged to close the gate of one cylinder, and open the gate and close the discharge valves of the other cylinder. 4th. In an hydraulic air compressing apparatus, the combination, with the two cylinders, of gates located between the cylinders and a water supply, gate levers to which the gates are attached, connection between said gate levers, floats arranged to actuate a system of levers to release the discharge valves, and a system of levers connecting the stems of the discharge valves with the free ends of the gate levers. 5th. In an hydraulic air compressing apparatus, the combination, with the two cylinders, of gates located between the cylinders and a water supply discharge valves provided with valve stems, and connections between the stems of the corresponding valves of the two cylinders. 6th. In an hydraulic air compressing apparatus, the combination, with a primary reservoir and a secondary reservoir located below it, of two cylinders, gates located between them and the secondary reservoir, connections between said gates, of floats located within the cylinders and arranged to actuate a system of levers to release the discharge valves, and systems of levers actuated by the discharge valves and arranged to close in one

impulse the gate of one cylinder, and to open the gate and close the discharge valves of the other cylinder.

No. 15,246. Improvements on Upright Pianos.

(*Perfectionnements aux pianos droits.*)

Gerhard Heintzman, Toronto, Ont., 7th August, 1882; for 5 years.

Claim.—1st. The hinge E composed of the links e, c, e, A. 2nd. In combination with the hinge E, the centre panel A, upper cross bar B, uprights e, cross bar D and spring G. 3rd. In combination with the panel A, the fall board F, latch f, keeper g, lever h, bracket i and spring j.

No. 15,247. Improvements on Feeders for Carding Engines.

(*Perfectionnements aux cylindres nourrisseurs des cardes en fin.*)

William C. Bramwell, Hyde Park, Mass., U.S., 7th August, 1882; for 5 years.

Claim.—The combination, with the bar J provided with fingers J₁, and the rotary or oscillating shaft B having movable bearings, of a system of levers and connections, intermediate of said bar J and shaft B, whereby the position of the latter will be changed by the movement of said fingers.

No. 15,248. Improvements on Machines for Dressing Journals of Car Axles and Treads of Wheels.

(*Perfectionnements aux machines à dégrossir les fusées des essieux et les jantes à rebord des roues.*)

Joseph N. Smith, Brooklyn, N.Y., U.S., 7th August, 1882; for 5 years.

Claim.—1st. In a machine for dressing cylindrical surfaces, the combination of the following elements, namely: a shaft mounted rotatively and a pulley fixed thereon, a sleeve mounted rotatively on said shaft and provided with a cutter bearing arm, and a cutter moving arm, a cutter or dressing wheel mounted rotatively on the cutter bearing arm, and a pulley fixed on the cutter arbor, a belt arranged to couple the driving pulley with that on the cutter arbor, mechanism for moving the cutter to and from the surface to be dressed, and mechanism for moving the cutter across the face of the work to be dressed. 2nd. A machine adapted for simultaneously dressing the two journals of a car axle, and the treads of the two wheels thereon comprising bearings in which the axle is rotatively mounted, two diamond dressing wheels for the wheel treads mounted on radial arms, and driven from a shaft upon which said arms are mounted two dressing wheels for the axle journals mounted on radial arms, and driven from a shaft upon which said arms are mounted, the shaft which bears and drives the wheel tread dressing mechanism, and mechanism for feeding the cutters up to and across the face of the work. 3rd. A machine for dressing cylindrical surfaces comprising two centres in which to rotatively mount the object to be dressed, a shaft H rotatively mounted, sheave K fixed on the shaft H, a sleeve L mounted loosely on the said shaft, and provided with means for adjusting it longitudinally, an arm L on the sleeve bearing the cutter shaft, a cutter and sheave K₁ on the shaft arranged to be driven from the shaft H, an arm L₂ on the sleeve L and a rod adjustable as to length, arranged to couple the arm L₂ with a fixed part of the machine. 4th. In a machine for dressing car axle journals and the treads of the wheels fixed thereon, the combination, with the bed plate and centres for rotatively mounting the axle, of a split pulley adapted to be fixed and adjusted on the axle, the driving shaft H, driving pulley J, gear wheels O, sheaves G and K₁, c, f, shaft H₁, gear wheel O, sleeve L₃, arm L₄ bearing the cutter, the milling wheel g₁, sheaves K₂ K₃, belt f₁, adjusting nut N₁, arm L₅ and a rod adjustable as to length, arranged to couple the end of the arm L₅ with some fixed part of the machine. 5th. The combination, with the shaft H and a sheave K fixed thereon, of the sleeve L, nut N, dog l, bearing arm L, arm L₁, cutter g, sheave K₁, arm L₂, nut i, section h and section h₁, provided with a hook to engage a fixed part of the machine. 6th. The combination, in a machine for dressing cylindrical surfaces, of a rotatively mounted shaft H on which is fixed a sheave K, a sleeve L bearing a radial arm L₁ said arm having a bearing in its free end for the cutting wheel, the said cutting wheel, the sheave K₁, the belt f, the nut N and the dog l mounted on the sleeve bearing and arranged to engage a groove in the nut. 7th. The combination, with the bed plate and a bearing for the live centre D made movable along said bed plate, of the arm I fixed on said bearing, the sleeve L, screw-threaded at its end and rotatively mounted in said arm, the nut N and the dog l, the shaft H extending through the sleeve L and the cutting mechanism mounted on an arm projecting from said sleeve, and arranged to be driven from the shaft H, whereby the movement of the bearing of the centre D imparts equal movement to the cutting mechanism.

No. 15,249. Improvements on Telephones.

(*Perfectionnements aux téléphones.*)

John B. Bennett, Indianapolis, Ind., U.S., 7th August, 1882; for 5 years.

Claim.—1st. In acoustic or mechanical telephones, a curved speaking tube arranged so that its mouth is at right angles with the diaphragm with which the inner end of the tube has open communications. 2nd. The combination of a curved speaking tube, a disk or plate having a concentrating chamber in open relation to the speaking tube and the diaphragm. 3rd. In acoustic or mechanical telephones, a cubical case having on one face the circular aperture L, in combination with the curved speaking tube within, and the plate or disk having a concentrating chamber in open relation with the speaking tube and the diaphragm. 4th. In acoustic telephones, a hammer and arm connected with suitable clock alarm or gearing, located and arranged so that the travel of its vibration will be on a plane with and slightly above the diaphragm, whereby the hammer operates against the eye, or wire, attached to the diaphragm. 5th. In acoustic telephones, a compound

diaphragm, composed of a metallic plate, and a non-metallic plate placed together. 6th. A cubical case A having at one side an aperture, in combination with the curved speaking tube B, the piece E, chambers G, diaphragm I II and signalling apparatus. 7th. A telephone consisting of the combination of a cubical case, a diaphragm located close to, and parallel with one of the sides of the case, and a speaking tube in open relation with, and extending from a position nearly central with the diaphragm to one of the other sides of the cubical case.

No. 15,250. Improvements on Fire Escapes.

(*Perfectionnements aux sautoirs d'incendie.*)

David S. Thomas, North Platte, Neb., U. S., 7th August, 1882; for 5 years.

Claim.—1st. In a jointed ladder, a supporting chain or rope, and a reel, said ladder and rope wrapped around the reel, in combination with ratchet wheels for the purpose of raising the ladder upwards. 2nd. The combination of a reel, a chain and jointed ladder wound thereon, a ratchet wheel for the raising of the ladder upward, a spiral formed upon the end of the reel and stud on the side of the slotted supporting frame, whereby the reel is drawn forward toward the ratchet wheel as the ladder and chain are unwound. 3rd. The combination of the reel, the ladder and its supporting chain wound thereon, the ratchet wheel for raising the ladder upwards and drawing the chain from the reel, and a guiding wheel around which the chain passes. 4th. The supporting frame D provided with a slot E in each of its front legs, whereby the frame may be raised and lowered at its front end for the purpose of changing the inclination of the ladder. 5th. The combination, with the jointed ladder provided with a pulley at its upper end, of an elevator having a roller or slide attached to its upper end, and an elevating rope and a drum, whereby the elevator can be raised upon the ladder. 6th. In combination with the supporting frame D provided with slot E, a shaft S provided with hand wheels *h* and rope S' wrapped thereon, and attached at each end to the supporting frame. 7th. The combination, with a jointed ladder wrapped upon a reel and tapered throughout its length of the ratchet wheels CC turning on the screw-threaded sleeves *c*. 8th. In combination with the elevator R, a shaft R₁ having crank *c* and provided with reels R₁ and rope R₂ wound thereon, and attached at the other end to the slide *f*.

No. 15,251. Improvements on Heel Burnishers for Boots and Shoes.

(*Perfectionnements aux astics pour les talons des chaussures.*)

Zothique Beaudry, St. Mase, Que., 7th August, 1882; for 5 years.

Claim.—1st. A heel burnisher for boots and shoes, the working face of which is constructed of the convex portion *b* and the two wings or extensions *c c* forming opposite continuations of the convex portion. 2nd. The combination, with a heel burnisher for boots and shoes, of a suitable block or support provided with two edges *l* and *m* capable of adjustment in relation to the burnisher. 3rd. The combination, with a boot and shoe burnishing tool, of a vertically arranged brace rod connected with the burnishing tool, the end of said brace-rod being provided with a rest arranged to bear against the arm of the operator, whereby force from the arm can be applied to the burnisher. 4th. The combination, with a boot and shoe burnishing tool, of a vertically arranged brace-rod connected with the burnishing tool and extending in an upward and outward direction from the same, the upper end of said brace-rod being provided with a rest arranged to bear against the arm of the operator above the elbow, whereby force from the arm can be applied to the burnisher. 5th. The combination, with a burnisher for boots and shoes, of a brace-rod having at one end a swivelled connection with the burnisher, and at the other end provided with a swivelled rest adapted to bear against the arm. 6th. In a hand burnisher for boots and shoes, a stock *j* provided with the edge or edges *l m* located at one side of a suitable burnishing face for the heels of boots and shoes, in combination with the rod *k*, socket *n*, thumb piece *m* and spiral spring *r*. 7th. In a hand burnisher for boots and shoes, the combination, with the burnisher, of a brace-rod Q, which is swivelled thereto, and to an arm rest P, and at each side is provided with spiral springs, or other suitable elastic connections.

No. 15,252. Improvements on Grinding Mills.

(*Perfectionnements aux machines à remouler.*)

Frank Wilson, John L. Wilson and James E. Wilson, Easton, Penn., U. S., 7th August, 1882; for 5 years.

Claim.—1st. The combination, with the shell or casing having the projecting teeth on its interior, of the rotary shaft carrying the cutters which pass between said teeth. 2nd. The combination, with the rotary grinding mechanism, of an open or perforated disk. 3rd. The combination, with the shell or casing, having a web plate provided with a row of projecting teeth, set into its interior walls, of the rotary shaft carrying the cutters moving between said teeth, and a perforated disk for the final passage of the ground material. 4th. The combination, with the shell or casing, having the flange and rim at its end, and the rotary grinding shaft, of the cross-piece or plate having a central hub, and arranged on the outside of, and adapted to hold in position the cap piece. 5th. The described grinding machine.

No. 15,253. Improvements on car axle rolls.

(*Perfectionnements aux cylindres pour les essieux des chars.*)

Elijah Hallett and Richard Thompson, Pittsburg, Penn., U. S., 7th August, 1882; for 5 years.

Claim.—1st. The housings B, adjusting screws E E and set of flangeless roughing rolls C, in combination with the friction roll F. 2nd. The combination of the housings B B, adjusting screws E E, set of finishing rolls C' C' F₁ having adjustable flanges N N. 3rd. The roughing rolls C C F₁ with their housings and mechanism, in combination with the flanged finishing rolls C' C' F₁ and their housings and mechanism.

No. 15,254. Improvements on Electric Railway Signals.

(*Perfectionnements aux signaux électriques des chemins de fer.*)

Charles D. Tisdale and John D. Gould, Boston, Mass., U. S., 7th August, 1882; for 5 years.

Claim.—1st. The signal and main electro-magnet and its armature to control it, and a normally closed main circuit, the armature of the said magnet being arranged to be retained in either position up to the poles of the said magnet, or retracted therefrom while the said magnet is magnetized, in combination with a circuit breaker in the said main circuit, whereby the main magnet may be demagnetized, and its armature retracted, and an auxiliary magnet and circuit therefor, to govern the return movement of the armature from its retracted position up to the poles of the main magnet. 2nd. The signal and its controlling main electro-magnet and armature, arranged as described to remain in either position assumed, while acted upon by the said magnet alone, and a normally closed main circuit for said magnet, and an auxiliary electro-magnet, in a normally open branch of the said main circuit adapted, when magnetized, to attract the said armature up to the poles of the main magnet, combined with a momentarily operated circuit breaker and closer, in the said main branch circuits, respectively adapted to be operated by a train while passing them, and located at proper points, the former to break the main circuit and permit the retraction of the armature, and the latter to close the auxiliary or branch circuit, and cause the movement of the armature to the poles of its main magnet. 3rd. The signal and main magnet, and its armature and retractor, to control it, the said magnet being in a normally closed circuit, provided with a breaker adapted to remain closed, except while positively open by a train in passing, combined with an auxiliary magnet and circuit therefor, provided with a circuit controller and adapted for momentary action, the said auxiliary magnet being adapted to govern the movement of the armature from its retracted position up to the poles of the main magnet. 4th. The signal and main magnet, its armature and normally closed circuit to control it, combined with the auxiliary magnet, in a normally open branch of the main circuit, and an auxiliary battery in the said branch, the effect of which is thus confined wholly to the said auxiliary magnet, and the circuit controllers in the said main branch circuits. 5th. The signal and its controlling main and auxiliary magnets and circuits therefor, combined with an electric switch to open the said main circuit, it being adapted in its return movement, by which it closes the said circuit, to also operate the auxiliary circuit and magnet. 6th. The circuit breaker consisting of a lever and anvil therefor, and a spring by which the said lever is normally held in contact with its anvil, the said circuit closer being mounted upon a sleeper, or foundation, chambered to permit an independent downward movement of the rail, and the end of the lever extended under the rail and operated thereby.

No. 15,255. Improvements on Brick Machines.

(*Perfectionnements aux machines à brique.*)

Daniel Davis, London, (Thp.) Ont., 7th August, 1882; (extension of patent No. 1591.)

No. 15,256. Improvement in Lubricating Oil.

(*Perfectionnement dans l'huile lubrifiante.*)

Henry Fink and Catharine Fink, Baltimore, Md., U. S., 7th August, 1882; (extension of patent No. 9071.)

No. 15,257. Improvements on Nut Locks.

(*Perfectionnements aux arrête-écrous.*)

Joseph H. Burrows, Burnet E. Light, John M. Lamb, Boise City, Idaho, and William C. Anderson, San Francisco, Cal., U. S., 7th August, 1882; for 5 years.

Claim.—1st. A nut made as described, with one or more recesses in its face, which recesses are provided on their bottom with a transverse ridge or projection. 2nd. The combination, with the screw bolt F, of the nut A provided with one or more recesses B, provided on the bottom with a projection C, and of the keys E provided in the bottom edge with two diverging recesses G forming a nose H between them. 3rd. In a nut lock, the wedge E having one end sharpened, and the other end bevelled inwardly from the top to the bottom, and provided with the diverging recesses G forming a nose H between them.

No. 15,258. Improvements in Fire Guards and Escapes.

(*Perfectionnements aux sautoirs-protecteurs d'incendie.*)

John O'Neil, Pakenham, Ont., 7th August, 1882; for 5 years.

Claim.—1st. In combination with the sustaining-frame provided with notches, or shaft bearings, the adjustable screws having their edges provided with crank shafts, whereby the screens may be wound into rolls for transportation on the frame. 2nd. In combination with the base frame and the girder C, the ladders *d* secured at their upper ends to the girder, and attached at their lower ends to the frame by means of the hinged weighted connections. 3rd. The base-frame, mast sections *b* and screen G, in combination with the ropes *h* and the winding shaft H provided with an operating crank. 4th. A fire guard tubular extensible mast provided with appliances to sustain a curtain, and with openings at the top and bottom to permit the passage of water through them. 5th. The combination, with the masts and girders, of the intermediate braces *m*₁ and spring *n*. 6th. In combination with the truck, its masts and girders, pulleys mounted thereon, and provided with endless ropes or chains *r*₁ bearing appliances for elevating and supporting the supplemental curtain. 7th. The combination of the main wheeled truck, the three extensible masts mounted thereon, with appliances for extending the masts, and the three flexible curtains and appliances for elevating said curtains independently of each other. 8th. In combination with the base frame, the extensible masts and the screens, the ropes or chains for elevating the masts and screens, winding shaft H, wind-

ing drums *q* and their shafts, the gear wheels connecting the two shafts, and the hand cranks. 9th. In combination with the main wheeled truck, its masts, curtains and belts *fi*, the supplemental single masted truck provided with the elevating ropes *h*, whereby it is adapted to cooperate with the main apparatus to elevate a certain suspended between the two.

No. 15,259. Improvements in Insulating and projecting telegraph wires. (*Perfectionnements dans l'insulation et le recouvrement des fils télégraphiques.*)

William E. Banta, John M. Dodd and Abner M. Crothers, Springfield, Ohio, U.S., 7th August, 1882; for 5 years.

Claim.—1st. A supporting or insulating case, or enclosure, for telegraph wires and other electrical conductors, which consists of a series of troughs A hermetically connected and hermetically closable by a coping B, the said troughs being provided interiorly with posts D and spools E for support and attachment of the wires or devices. 2nd. A hollow street pavement curb adapted to form a supporting and insulating case, or enclosure for telegraph wires and other electrical conductors, which consist of a series of troughs A hermetically closable by a coping B, the said trough being provided interiorly with posts D, and spools E for support and insulation of the wires or conductors. 3rd. The combination, with suitable troughs, of the posts D, spools E, washers F, and wires G adapted to support the electrical conductors.

No. 15,260. Improvements on Mill-Stones. (*Perfectionnements aux meules des moulins.*)

André St. Denis, Sherbrooke, Que., and Malcolm McFarlane, Stratford, Ont., 7th August, 1882; for 5 years.

Claim.—1st. In a run of mill-stones, the combination of the plate E and driver D with the bed stone A. 2nd. In a run of mill-stones, the combination of the bevelled guard M with the runner B. 3rd. In a mill stone, the doubly inclined peripheral grooving.

No. 15,261. Improvements in Boiler Coverings. (*Perfectionnements aux couvertures des chaudières.*)

Terence Sparham, Brockville, Ont., 8th August, 1882; for 5 years.

Claim.—A boiler covering composed of equal parts of finely powdered plumbago, soapstone and mica, mixed with sufficient coarse molasses, to form a paste of proper consistency to be applied to the boiler, or other articles requiring such covering.

No. 15,262. Improvement in Starching Machines. (*Perfectionnements aux machines à amidonner.*)

Demmon Rowley and Cecil G. Rowley, Jamestown, N. Y., U. S., 8th August, 1882; for 5 years.

Claim.—1st. A steam chest having an opening and a steam pipe entering therein, in combination with an internal revolving cylinder with loose balls therein, the cylinder being provided at the ends with suitable bearings and having fixed ribs for carrying the loose balls up the sides. 2nd. The combination of steam chest A, pipe *b*, cylinder B provided with, ribs D D and loose balls *a a* within said cylinder.

No. 15,263. Improvements in Vices.

(*Perfectionnements aux étaux.*)

Alexander Hendry, Fayetteville, Ark., U. S., 8th August, 1882; for 5 years.

Claim.—1st. The combination, with the movable or one jaw of a revolving bench vice, of the adjustable device E E'. 2nd. The combination, with the jaw B, of the revolving bench vice A A' having reversible collar casting *b* and nutted bolt *b*₁, of the adjustable device E E'. 3rd. The combination, with the jaw of a revolving vice, of the device E E' having slots *c* and adjusting screws *e*.

No. 15,264. Improvements on O. G. Eave Trough Machines. (*Perfectionnements aux machines à larmiers en ogive.*)

William B. Chambers, Welland, Ont., 8th August, 1882; for 5 years.

Claim.—1st. In combination with an *o g* eaves trough machine, a movable plate or block F placed in the recess B and operating in connection with it. 2nd. In combination with an *o g* eaves trough machine, a movable plate or block F pivoted in the recess B of the center piece A. 3rd. In combination with the center piece A or movable plate or block F, the slots *b b* to admit a lateral movement of the said movable plate or block F. 4th. The movable plate or block F provided with the groove *f*, end pieces *q q* and openings *h h*. 5th. In an *o g* eaves trough machine, the stop L to prevent the beader rod from springing upon the centre while beading.

No. 15,265. Improvements on Rocking Fire Bars. (*Perfectionnements aux barres de grilles oscillantes.*)

James G. Galley, London, Eng., 8th August, 1882; for 5 years.

Claim.—1st. The movable firebar consisting of the body of the bar *a* combined with the end pivots *b b* and the tapering projections or teeth *p*. 2nd. The combination of the body of the movable firebar *a* with the angled feather *g*. 3rd. The combination, with the movable firebars *a* and angled feathers *g*, of the pins *h*, the notched bar *i* and the handle *l* connected to the bar *i*. 4th. The combination, with the notched bar *i* and handle *l*, of the spring *t*.

No. 15,266. Improvements on Fanning Mills. (*Perfectionnements aux tarares-cribleurs.*)

Carl C. Eddy and Ambrose A. Levan, Pekin, N. Y., U.S., 8th August, 1882; for 5 years.

Claim.—1st. The combination of the casing A with the reversible chute or spout N, having studs M M, the T-lever H having slot L and suitable operating mechanism. 2nd. The combination of the casing A with the reversible chute or spout N, the shoe, the T-lever H and suitable operating mechanism. 3rd. The combination, with the shoe having a cross piece E, of a set or gang of sieves suitably secured or connected to each other, the lower one extending beyond the others so as to pass under the said cross piece E, which thereby serves to hold the entire set in position. 4th. The combination of the shoe having cross piece E and slots in which a screw threaded rod F, having a tightening nut G vertically adjustable, with the set or gang of sieves C, D₁ which are suitably secured together, the lower are extending under the cross piece E, which serves to hold the front end of said set of sieves in position, their rear ends being clamped between the sides of the shoe by means of the rod F and nut G. 5th. The combination, with the shoe of the rock shaft, suitable bearings therefor, the arms cranks N₁ O, lever P₁ pivoted upon the side of the casing, and a hammer or crank N₁ adapted to strike the sieves. 6th. The combination, with the shoe of the rock shaft M₁ and crank N₁ provided with a threaded opening Q and an adjustable screw threaded, hammer K₁ and mechanism for operating said rock shaft.

No. 15,267. Improvements on Combined Hay Rakes and Loaders. (*Perfectionnements aux râtaux charge foin.*)

Thomas F. Flynn, London, Ont., 8th August, 1882; for 5 years.

Claim.—1st. The combination of the axle tree B with disks E E₁ shaft G, frames C C₁, endless carriers I I, slats H, rake heads J J and guide strips S S. 2nd. In combination with the above, the shafts G₁ G₂, frame C₂, disks E₂ E₃, carriers I I guide strips S S, grooved guide and tension shaft T and tension bands R R. 3rd. The combination of the cross bar L with rake teeth K K, arms M M, springs O₁, frame C₁, guide P, rod N, eye N₁ and stud O.

No. 15,268. Broom-holder. (*Porte-balai.*)

Henry M. Wells and Thomas R. Fuller, Toronto, Ont., 8th August, 1882; (extension of patent No. 7754.)

No. 15,269. Improvements on Hydrants. (*Perfectionnements aux bornes fontaines.*)

William Dodd and Sullivan C. Andrews, Portland, Me., U. S., 8th August, 1882; (extension of patent No. 7743.)

No. 15,270. Improvements on Syrups, Mineral Waters, etc. (*Perfectionnements aux sirops, eaux minérales, etc.*)

Horace L. Bowker, Boston, Mass., U. S., 8th August, 1882; (extension of patent No. 7749.)

No. 15,271. Improvements on Laundry Tables. (*Perfectionnements aux tables de buanderie.*)

William Dicer, Marrengo, Mich., U.S., 9th August, 1882; for 5 years.

Claim.—1st. The combination, with the board D, of the hinged leg L provided with the projecting pins *n n*, the screw threaded rods *a* having the hand nuts *d d*, and the clamping levers I I rigidly connected together at their rear ends by a cross bar N. 2nd. The combination, with a laundry table having clamping levers I, of the rod *b* having screw threaded ends, hand nuts and blocks G G, base board C provided with the inclined jaw B and cleat E, and the bosom board A hinged to said cleat and bevelled at its inner end and provided with the cleat F.

No. 15,272. Improvement on Sediment Collectors for Steam Boilers. (*Perfectionnements aux collecteurs des dépôts dans les chaudières à vapeur.*)

David Hanna, Ogdensburg, N. Y., U. S., 9th August, 1882; for 5 years.

Claim.—1st. In combination with a sediment collecting basin arranged within a boiler, the nozzle B having an upper and under conical plate, the latter provided with graduated openings connected with the supply pipe of the boiler and with or without blow-off cock *b*₁. 2nd. In combination with a springing nozzle or other feeding device discharging into the steam space, thereof, the funnel or basin C having the blow-off pipe C₁ and valve or cock *b*₂. 3rd. The combination in a steam boiler, of the nozzle B consisting in an upper conical imperforate plate A₂ and an under conical plate A₁ provided with perforations increasing in size from the centre towards its periphery, having feed-water pipe *a* and discharging into the steam space, with the pan or collector C and blow-off pipe C₁.

No. 15,273. Device for Converting Reciprocating into Rotary Motion. (*Appareil pour convertir le mouvement alternatif en mouvement rotatoire.*)

Absalom G. Smyth, Hamilton, and John Smith, Brantford, Ont., 9th August, 1882; (extension of patent No. 7753.)

No. 15,274. Improvements in Ventilating Windows. (*Perfectionnements aux croisées d'aérage.*)

Sarah Hart, (Assignee of Heaman Hart,) Munsie, Ind., U.S., 10th August, 1882; for 5 years.

Claim.—1st. In a window, the bottom *e*, bottom *d* and bottom *c*, space *s* and strip *t*. 2nd. The combination of openings *a*, wire screen *b*, space *s* and deflector *f*.

No. 15,275. Improvements in Button Boots and Shoes. (*Perfectionnements aux chaussures boutonnées.*)

Edouard Lanthier, Montréal, Que., 10th August, 1882; for 5 years.

Claim.—1st. The toe piece or vamp *C* of a button boot or shoe with incision *Ci* cut so as to give any lap or seam desired. 2nd. The combination, in a button boot or shoe, of the toe piece or vamp *C*, sides or quarters *A* and *B* and button hole piece *D*.

No. 15,276. Improvements on carriage seats. (*Perfectionnements aux sièges des voitures.*)

John W. Anderson, Lancaster, (Assignee of Theophilus Weaver, Harrisburgh,) Penn., U.S., 10th August, 1882; for 5 years.

Claim.—1st. In carriage seat supporting frames each composed of two uprights *d d'* and two transverse bars *F K*, pivoted or fulcrumed together to form a freely shifting lay down parallelogram with an added transverse bar or seat attaching arm *A* hinged to bar *F* and applied to hold in erected position the said uprights and to release the same. 2nd. The seat supporting frames *d d'* *A* *F K* with parts constructed and combined as set forth, the extensions *H H2* or their equivalents on the hinge parts *A F*, for limiting the lift of the seat in adjusting it and for securing it. 3rd. In the self stayed shifting frames for supporting the rear seat *B* of a carriage, the combination of two attracting plates *B2 K* and two braces *R R1* pivoted together freely, of which the riser form brace *R* is squarely retreated rearward at its middle, presenting a perpendicular brace between said plates at both positions of said seat, and permitting the front seat *A*, of any length desired, to be retired under the rear seat when it is adjusted forward. 4th. The self-sustained jump seat frames *B2 K R R1* whose riser form brace *R*, limits the movement thereof both ways, in combination with said brace the extension *K1*. 5th. The combination of the rear carriage seat *B* and two self-sustained shifting frames *B2 K R R1*, of which latter the braces *R* are retreated rearward at their middle to admit the front seat *A* of full length in front of and under them, when adjusted as a single seated carriage. 6th. The rear seat *B* of a carriage supported solely on self-sustained shifting frames *B2 K R R1* independent of the sides of the carriage body, in combination with the skirtings *N* and the shifting panel *M* attached to said seat, for closing the carriage body as a single seated conveyance. 7th. The panel attachment *M* hinged to the back of jump seat *B*, in combination with the keepers *g*, the eyes *m* and base *M1*, all co-operating. 8th. In combination with the lazy back arms *b1*, the stops *a2* arranged away from the knuckles *a1*, by which the folding arms *E* are jointed to the handles *E1*.

No. 15,277. Improvements on Automatic Feeding Apparatus for Nail Cutting Machines. (*Perfectionnements aux appareils d'alimentation automatique des machines à découper le clou.*)

Louis M. Sénécal, St. Henri (Town,) and J. de Gaspé Stuart, Montreal, Que., 10th August, 1882; for 5 years.

Claim.—1st. In combination with a nail cutting machine, a transverse horizontal spindle carried in front of same and receiving position rocking motion through a series of levers and rods from a cam mounted on the cam shaft of the nail machine, said transverse shaft imparting such rocking motion through pulleys to a barrel or cylinder carrying the nail plate, either side of which is thereby presented to the cutters. 2nd. The triple cam operating by its rotation, to give to the levers *D* suitably pivoted independent longitudinal and simultaneous lateral rocking motion. 3rd. The barrel or cylinder holding the nail plate formed in two parts and rotated in different proportions of a complete revolution. 4th. The combination, with the cylinder *K*, of spring *N* engaging with stop or recess in cylinder *K1* and rotating it for the desired distance, and detent *N3* for disengaging same. 5th. The combination, with the cylinder rotated alternately in either direction and holding the nail plate, of nipping levers which, by means of a projection on the end of one engaging with a cam on the rim of the cylinder, simultaneously open the nippers and feed the nail plate forward. 6th. The combination, with the cylinder holding nail plate, of a rod suitably carried, supporting the nipping levers and provided with retractile spring, and set screw for regulating extent of retraction and amount of feed. 7th. In a nail feeding apparatus, the combination, with the barrel holding the nail plate, of the nose pieces or conductors *L L*. 8th. The stop *L1* secured on the bed plate and pressing against nose piece *L*. 9th. The combination, with one of the standards carrying the cylinder, of the levers *R* and *P* operated by cam *Q* on shaft *H*, and arm *O* connected adjustably with lever *P* and having thereon spring *S* operating against lever *K*. 10th. The combination, with the pulleys *H1 H2* and *k*, of wire or other metallic ropes. 11th. In a nail feeding apparatus, the transverse shaft carrying the feed mechanism and provided with devices whereby its position, with respect to the nail cutting machine, may be varied either vertically or laterally, or by which it may be moved further from or nearer to said machine. 12th. The combination of the arm *O* secured to the nail cutting machine, so as to move free in two directions, and lever *P* connected with horizontal shaft carrying feed apparatus, these being provided with suitable means for connection together and, when detached, disconnecting the nail feed apparatus from the nail cutting machine. 13th. In a nail feeding apparatus, the combination of the following elements, viz: a cam on the shaft of the nail machine conveying initial motion, levers and rods for imparting same in either direction to rock shaft, a cylinder holding plate and rotated in either

direction from shaft by metallic ropes, mechanism for feeding the plate forward and regulating amount of feed, devices for rocking cylinder while being rotated, and means for conducting plate to the bed plate and regulating same.

No. 15,278. Improvements in printing presses. (*Perfectionnements aux presses d'imprimerie.*)

George L. Adams and John C. Ellsworth, Fowlerville, Mich., U.S., 10th August, 1882; for 5 years.

Claim.—1st. In a printing press having a flat bed to be reciprocated by hand power an impression cylinder, the combination of said cylinder journaled in movable bearings with the pivoted hand lever connected with said bearings and having its handle in proximity to the handle for reciprocating the bed, whereby the impression cylinder can be raised and lowered, and the bed reciprocated by the operator, all without change in the latter's position. 2nd. The combination, with the impression cylinder journaled in movable bearings having springs above them, of the vertical lifting rods, the rock shaft, the cams *P*, the lever *R*, connecting link *S* and the hand lever *T* having its handle projecting in proximity to the handle by which the bed is reciprocated.

No. 15,279. Remedy for Diphtheria, Catarrh and Croup. (*Remède pour la diphthérie, le catarrhe et le croup.*)

Henry Dierlam, Zurich, and Justus Linge, Hay, Ont., (Assignees of Edward Evans, Oregon, Mo., U.S.,) 10th August, 1882; for 5 years.

Claim.—A compound of ground alum, borax, powdered cubes, crystallized nitrate of silver and golden seal root.

No. 15,280. Improvements on Thill Couplings. (*Perfectionnements aux armons des limonières.*)

The Guelph Carriage Goods Company, Guelph, Ont., (Assignee of Alexander P. Ladd, of St. Lawrence, N. Y., U.S.,) 10th August, 1882; (extension of patent No. 7761.)

No. 15,281. Improvements on Thill Couplings. (*Perfectionnements aux armons des limonières.*)

The Guelph Carriage Goods Company, Guelph, Ont., (Assignees of Alexander P. Ladd, St. Lawrence, N. Y., U.S.,) 11th August, 1882; (Extension of Patent No. 7761.)

No. 15,282. Improvements on Cocks and Valves. (*Perfectionnements dans la robinetterie des machines à vapeur.*)

David R. Ashton, Clapton, and James N. Sperryn, Brixton Hill, Eng., 11th August, 1882; for 5 years.

Claim.—1st. In a screw down cock or valve in which the valve spindle is furnished with a cupped plunger or piston, and the body of the cock is formed with a barrel in which said plunger or piston works. 2nd. In a screw down cock or valve, the combination, with a valve and spindle provided with a cupped plunger or piston working in a barrel on the body as specified, of a screw-down cap handle or knob pressing on but turning independently of the valve spindle. 3rd. In a screw down cock or valve, a screw cap enclosing and screwing upon a barrel formed on the body and acting on a valve spindle having a suitable packing or piston contained in the barrel. 4th. A screw-down cock or valve in which the valve spindle has a cupped plunger or piston working in a barrel and is pressed by a screw cap, in which the cap is connected to the spindle so as to lift it when unscrewed, whilst turning independently thereof.

No. 15,283. Improvements on Saw Jointers and Gauges. (*Perfectionnements aux machines et aux jauges pour affûter les scies.*)

Robert E. Poindexter, Indianapolis, Ind., U.S., 11th August, 1882; for 15 years.

Claim.—1st. In a saw jointer and gauge, the combination of the frame *A* and gauge plate *E* having a slot *e*. 2nd. The combination of the frame *A* provided with ribs *a a2*, stay portions *b b* and lugs *d d*, the clamping bar *B*, the screw *C* and the file. 3rd. The combination of the frame *A* provided with the ribs and flanges *a a2 A1 A2*, stay bars *b b* and lugs *d d*, the clamping bar *B*, screw *C*, file *D* and gauge plate.

No. 15,284. Improvements on Hoop Buckles. (*Perfectionnements aux manchons des cercles.*)

James M. Williams, jr., Hamilton, Ont., 11th August, 1882; for 5 years.

Claim.—A metal buckle and rivets in one piece and used for joining hoops together.

No. 15,285. Improvements in Mitts. (*Perfectionnements dans les mitaines.*)

John Thurman, Philadelphia, Penn., U.S., 11th August, 1882; for 5 years.

Claim.—As a new article of manufacture, the mitt knitted or otherwise formed of woolen, or other material, and composed of the body *A*, wrist *B* formed of continuous yarns and having apertures *C D*, the latter being formed by the narrow strips *d* of the yarn.

No. 15,286. Improvements on Hay Stackers.*(Perfectionnements aux machines à metre le foin en meules.)*

Jacob H. Bean, Macon, Ill., U.S., 11th August, 1882; for 5 years.

Claim.—1st. A frame work of sufficient height suitably braced and stayed, combining two pairs of parallel rails serving as supports and guides, of a travelling elevating device provided with wheels or equivalent, and actuated by cords, or equivalent, running over pulleys and being controlled and deviated at each end of its course by notches. 2nd. The counter-balanced starting back lever L having its cross arm L pivoted to the frame work, and working in combination with the elevating rake. 3rd. An elevating rake or platform consisting of the front and rear prongs *r r* secured to the bars *r² r³*, arms *r⁴* carrying friction bowls *b¹ b²* or equivalent devices, and pulley P. 4th. The combination of the elevating rake with the rails F¹ F² and the frame work generally. 5th. The rail F constructed with a short leg *f* at the top and combined with the rail F² constructed with and to form notches *f² f³*, in combination with the general frame work. 6th. The pulleys P P¹ P² and the cords C or equivalents, combined with the bracket B, rake R and the general frame work F. 7th. The notch *f³*, leg *f* formed in and forming part of the rails F¹ F², in combination with the arms *r⁴*, bowls *b¹ b²* or equivalents, and platform carried by said arms to form dumping device.

No. 15,287. Improvements on Refrigerators*(Perfectionnements aux garde-manger.)*

George H. Aird, Brantford, Ont., (Assignee of John O. Beck, Laporte, Ind., U.S.) 11th August, 1882; (Extension of Patent No. 7763.)

No. 15,288. Improvements on Car Brakes.*(Perfectionnements aux freins des chars.)*

John W. Cloud, Allentown, Penn., U.S., 11th August, 1882; for 5 years.

Claim.—1st. In combination with any proper mechanism for applying brake pressure to the wheels of auxiliary mechanism, for increasing or decreasing the amount of pressure so applied in proportion to the increase or decrease in the load of the car. 2nd. In combination with a spring of proper construction adapted to actuate a proper brake device, a base for said spring moved by a part of the car body above the carrying springs, which has a vertical movement proportioned to the variations in the weight of the load. 3rd. In combination with the spring G, friction pulley *i* and the pulley *j*, the auxiliary mechanism K L for increasing or decreasing the pressure of the friction pulley in proportion to the increase or decrease in the weight of the load. 4th. In combination with the bolster K having a vertical movement directly proportioned to the load, and the spring plank D having no such movement, the interposed mechanism L adapted to increase or decrease the amount of brake pressure in proportion to the increase or decrease in the weight of the load. 5th. In combination with the spring G adapted to actuate the friction pulley *i*, the base L connected to and receiving movement from a part of the car body having a vertical movement proportioned to the variations in the load. 6th. In combination with a spring adapted to actuate proper brake devices, a movable base for determining the amount of pressure exerted by the spring, and means for holding the spring out of action. 7th. In combination with a spring adapted to actuate proper brake devices, a movable base for the springs for actuating the base to increase or decrease the pressure exerted by the spring.

No. 15,289. Improvements on Car-couplings.*(Perfectionnements aux attelages des chars.)*

Lewis P. Bajliff, Wapakoneta, and John Coup, Cleveland, Ohio, U.S., 11th August, 1882; for 5 years.

Claim.—1st. A draw-head having concave lower wall, recessed upper wall, and transverse rock shaft B provided with key *b*, in combination with the hinged plate D, spring E, the rotating of said rock shaft releases the coupling hook. 2nd. In combination with the rock shaft B, key *b* and the coupling hook C, the hinged plate D and spring E. 3rd. In combination with the rock shaft B the mechanism for rotating the frame consisting of the grooved wheel *w* connected by cord or chain K with vertical sliding rod *r* playing in brackets *f g* and operated by either of the levers *l* or *m*, connected to said rod *r* by the link coupling joint *h*, for either coupling or uncoupling cars.

No. 15,290. Improvements in Oil Ejectors for Lubricating Steam Machinery.*(Perfectionnements aux godets à l'huile pour graisser les machines à vapeur.)*

George F. Miller, (Assignee of Claudius Verniaud and Milton S. Cabell,) Quincy, Ill., U.S., 11th August, 1882; for 15 years.

Claim.—The oil reservoir A, the valved pipe K for introducing water of condensation into the oil reservoir, the upper joint pipe C having the valve with conical valve seat, the steam filled glass gauge, the lower joint pipe G, the pipe O, condenser B and drain cock F.

No. 15,291. Apparatus for Recovering waste Alkalies.*(Appareils de revivification des alkalis per-lus.)*

John A. Fisher, Dundas, Ont., (Assignee of John W. Dixon, West Manayunk, Penn., U.S.) 11th August, 1882; (Extension of Patent No. 7767.)

No. 15,292. Apparatus for Recovering waste Alkalies.*(Appareils de revivification des alkalis per-lus.)*

John A. Fisher, Dundas, Ont., (Assignee of John W. Dixon, Manayunk, Penn., U.S.) 11th August, 1882; (Extension of Patent No. 7767.)

No. 15,293. Improvements in Car-couplings.*(Perfectionnements aux attelages des chars.)*

Bernard W. Arnold, Litchfield, Ill., U.S., 12th August, 1882; for 15 years.

Claim.—1st. The combination, with the draw-head having an inclined ridge *b* for guiding the link L and having a dovetailed slot D in its top provided with jaws C extending upwards from the top, and arranged to hold on a shoulder *c* the shoulder *c²*, of the coupling bar E being partly dovetail sectioned and having, in its lower end, a pin Et adapted to slide in the grooves *d* in the slots D and Dt in the draw head, and hold the coupling pin in proper position to be engaged and released by the link. 2nd. In combination with the coupling bar E, the rocking shaft R with lever R² being worked by handles R¹ and connected to the said coupling bar by the link *r*. 3rd. The depression *a* in the lower part of the rear portion of the recess B, in combination with the coupling bar E, shoulder *c²* and link L, for the purpose of adjusting the height of the free or projecting end of the link when coupling.

No. 15,294. Improvements on Devices for Manufacturing Railway Frogs.*(Perfectionnements aux appareils pour fabriquer les rails de croisement des chemins de fer.)*

Frederic C. Weir, Cincinnati Ohio, U.S., 12th August, 1882; for 5 years.

Claim.—1st. The art of making railway frogs from rails by cutting off the flanges and heads of the point rails by means of shears, shaping said point rails in dies so as to form the taper or point joint and bending to the proper angle, the several parts of the frog by means of bending jacks, the said shears, dies and bending jacks being all operated by a powerful press or presses. 2nd. The art of making railway frogs from short sections of rails by cutting, by shears, the flanges and head of the point rails, shaping by means of dies the flanges of the short point rails, so that said rails will partially rest upon the flange of the main point rail fitting, by means of dies, the taper point of the rails to each other, and bending by means of bending jacks the several sections to the desired angle, said shears, dies and bending jacks being operated by a powerful press or presses. 3rd. In appliances for making railway frogs the combination, with a powerful press, or presses, of shears for cutting the flanges and heads of the point rails, shaping dies for shaping the flanges of the short point rails, so as to enable said rail to rest upon the flange of the main point rail, dies for fitting the taper points of the rails to each other, and bending by means of bending jacks the several sections to the desired angle, said shears, dies and bending jacks for bending the various parts to the desired angles. 4th. In combination with the press platen and pressure plate, the shears *f g* and clamp L *l* for shearing the flanges and heads of the point rails of railway frogs. 5th. In combination with a press platen and press plate, the clamping dies D¹ D² and the swaging die D³ for shaping the flange of the short point rail, to partially fit and rest upon that of the main point rail. 6th. In combination with a press platen and press plate, the dies H¹ *m* *h* and H² *h* for shaping the head, web and flanges of one point rail to accurately fit the other point rail. 7th. A jack for bending railway rails composed of the press A B, supporting horns *s s*, stud R¹ and adjustable stop *r*. 8th. The channel dies T *t* with grooves *u* and edging-tools *v*, for bending and finishing the channel irons.

No. 15,295. Improvements on Wire Fence Nails.*(Perfectionnements aux clous des clôtures en fil de fer.)*

Charles W. Dean and Edgar Wareham, South Wareham, Mass., U.S., 12th August, 1882; for 5 years.

Claim.—1st. In a nail-blank B having a raised head *c* and divergent sharp pointed legs of unequal length, having the outer bevels of their points parallel with each other. 2nd. A nail having a raised head and divergent sharp-pointed legs of unequal length, the shorter leg having the bevel of its point bent parallel with the long leg.

No. 15,296. Improvements on Car-Couplers.*(Perfectionnements aux attelages des chars.)*

James A. Gowans and John MacMillan, Paris, Ont., 12th August, 1882; for 5 years.

Claim.—1st. A draw-head having a projecting lug formed on its top, in combination with a link provided with a projecting tail piece pivotally connected to the draw-head and operated by mechanism arranged to throw the link into a horizontal or vertical position. 2nd. A coupling link C provided with a tail piece *a* having a pivot pin *b* near its end, in combination with the arms *c* arranged to receive the pivot pin and themselves pivoted on the sides of the draw-head in such a manner that they are permitted to fall forward, but prevented passing backward beyond a vertical position. 3rd. A coupling link C provided with a tail piece pivotally connected to the draw-head and having pivotally fixed to its end a link *d*, in combination with a connecting rod D connected at one end to the link *d*, and at the other to the bell crank E pivoted upon the end of the car. 4th. A coupling link C provided with a tail piece pivotally connected to a draw-head and suitably connected to one end of the bell crank E, which is pivoted upon the end of the car, in combination with the horizontal rod F supported in bearings G on the end of the car and extending towards either side of the same, the said rod being jointed at *f* for the purpose of permitting the vertical adjustment of the rod caused by the altering angle of the bell crank as the rod is moved longitudinally. 5th. In a car coupling in which the coupling link is pivotally connected to the draw-head and connected to the horizontal rod F by a rod and bell crank, the combination of a vertical rod H connected to the rod F and extending to the top of the car, the said rod H being pivoted to the back of the car upon a pin passing through a vertical slot. 6th. In a car-coupler in which the coupling link is pivotally connected to the draw-head and operated by the horizontal rod F, the combination of a spring J arranged to act against the horizontal rod F, at or near

the joint *f*, for the purpose of holding the coupling link in a horizontal or vertical position. 7th. A coupling link *C* provided with a tail piece pivotally connected to the draw-head, in combination with the rod *D* connected at one end directly to the link *C*, and at the other end to the ball crank *E* pivoted upon the end of the *e*.

No. 15,297. Improvements on Crushers and Pulverizing Mills. (*Perfectionnements aux broyeurs et aux moulins à pulvériser.*)

Robert McCully, Philadelphia, Penn., U. S., 12th August 1882; for 5 years.

Claim.—1st. In an organized machine for crushing and pulverizing ore, a jaw, or jaws, adapted and designed to be simultaneously reciprocated longitudinally and transversely. 2nd. In a jaw, or jaws, and mechanism for moving said jaw, or jaws, simultaneously in two different directions. 3rd. The combination, with jaws having flaring and vertical corrugated working faces, of mechanism for imparting to one or both of said jaws a simultaneous longitudinal and transverse movement. 4th. The combination of the following elements, viz.: a jaw, or jaws, mechanism for imparting to one or both of said jaws a simultaneous longitudinal and transverse movement, and means for taking up the wear of said jaws. 5th. A fixed jaw and a movable jaw, in combination with mechanism for imparting to said movable jaw a simultaneous movement in two different directions. 6th. A housing or frame, adapted for use as a jaw holder to form a fixed jaw support, and in combination therewith, a jaw and mechanism for imparting to said jaw a simultaneous reciprocating movement in two different directions. 7th. The combination, with jaws, of means for reciprocating the same in one direction, a spring or springs, for holding said jaws apart, and means for reciprocating them laterally. 8th. The combination, with the jaws, of means for holding the same out of contact with each other, means for reciprocating one or both simultaneously in different directions, and means for taking up the wear of jaws. 9th. The combination of a fixed jaw and a movable jaw with means for reciprocating the latter longitudinally and transversely. 10th. The combination, with a fixed jaw, of a jaw designed and adapted to move, to and fro, said fixed jaw, and to reciprocate across the face of the same. 11th. The combination, with a jaw or jaws, adapted and designed to reciprocate longitudinally only, of friction rollers between said jaw or jaws, and the frame of the machine. 12th. The combination of a longitudinally reciprocating jaw, or jaws, with friction rollers between said jaw or jaws, and the frame of the machine and mechanism for adjusting the jaws to and from each other. 13th. The combination of grinding disks *B* *B* mounted on unaligning shafts *C* *C* with the frames *D* *D*, and interposed friction rollers between said disks and frames. 14th. In a grinding mill, the combination of two disks or plates mounted on separate and unaligning shafts, with a frame or carriage back of each disk having a bearing for one of said shafts, and friction rollers interposed between said frames and disks. 15th. The combination of two plates or disks mounted on unaligning shafts and provided with mechanism for moving said disks and shafts vertically and laterally. 16th. The combination of a frame *A* provided with blocks *E* *E*, the frames *D* *D* having bearing *d* *d*, the shafts *C* *C* out of line with each other, the bearing *O*, disks *B* *B* and friction rollers *f* *f*. 17th. The combination of disks *B* *B*, shafts *C* *C*, frames *D* *D* having bearings *d* *d*, and mechanism for moving said frames towards said disks, the latter bearing upon friction rollers interposed between the disks and frames. 18th. The combination of disks *B* *B* with shaft *C* *C*, friction rollers *f* *f*, frames *D* *D* having bearing *d* *d*, and mechanism interposed between said frames *D* *D* and the mill frame for adjusting the frames *D* *D* to and from the grinding disks. 19th. The combination of disks *B* *B* with shafts *C* *C*, friction rollers *f* *f*, the frames *D* *D* having bearings *d* *d*, and collars *N* *N*. 20th. The combination of frame *A* with secondary frames *A* *A*, designed and adapted to be moved vertically, the shafts *C* *C* having bearings *O* *O*, the frames *D* *D* having bearings *d*, and adjusting mechanism *H* *H*, friction rollers *f* *f* and disks *B* *B*. 21st. In a grinding mill composed of two grinding disks or plates mounted on unaligning shafts, the combination therewith of friction rollers *f* *f* with frames *D* *D* adapted to slide upon blocks *E* *E*. 22nd. The combination, with disks *B* *B* and shafts *C* *C* of the frames *D* *D* having bearing *d* *d* and slotted ends *d* interlocking with blocks *E* *E* secured to the frame of the mill. 23rd. The frame *D* having slotted ends *d* *d*, bearing *d* *d* and screw nut *G*. 24th. The disks *B* having flange *b*, ring *b* with inclined face. 25th. The combination of disks *B* *B* with shafts *C* *C*, frames *D* *D*, friction rollers *f* *f* and screw rods *H* *H*. 26th. The combination of disks *B* *B* with shafts *C* *C*, friction rollers *f* *f*, frames *D* *D*, bearings *O* movable upon plates *O* provided with screw *o*, the adjustable blocks *E*. 27th. The combination of grinding disks, friction rollers, supporting frames therefor, and mechanism for adjusting said frames to and from said disks. 28th. The combination, with the grinding or pulverizing surfaces, of an adjustable frame or frames therefor, with interposed rollers between said frame and surfaces. 29th. The combination, with grinding disks, or plates arranged vertically or horizontally, of adjustable frames therefor, an interposed friction roller and an adjustable feed mechanism. 30th. The combination, with grinding disks, or plates arranged vertically, or horizontally, the axis of which may, or may not, align with each other, of adjustable or sliding frames therefor, an interposed anti-friction roller mechanism between said disks and adjustable frames, and a centrally located feed therefor operated by a screw to form a force or screw feed.

No. 15,298. Improvements on Adjustable Hames. (*Perfectionnements aux attelles mobiles.*)

Edward D. Cole, Macon, Ill., U. S., 12th August, 1882; for 5 years.

Claim.—1st. The sleeve or socket *A* having set screws, or equivalent devices, to hold firmly therein the two parts *B* *C* of the hame. 2nd. The combination, with the two halves or part of the hame *B* *C*, of the sleeve *A* fitting the central ends of the said parts. 3rd. A hame being in two parts, the central ends fitting a sleeve or socket *A* in which they are adjustably held.

No. 15,299. Improvements on Flexible Shafts. (*Perfectionnements aux arbres de couche flexibles.*)

Frank A. Curtis, Meriden, Ct., U. S., 12th August 1882; for 5 years.

Claim.—1st. As an article of manufacture the flexible shaft consisting of the non-metallic core, wrapped with a fabricated covering. 2nd. The flexible shaft consisting of the non-metallic core, wrapped with a fabricated covering, the fabricated surface fabricated, by wire wound thereon.

No. 15,300. Improvements on Trolling Hooks. (*Perfectionnements aux hameçons pour trôler.*)

Charles R. Buck, Dover, Ont., 12th August, 1882; for 5 years.

Claim.—The combination of protecting wires *A* with a trolling hook.

No. 15,301. Improvements on Barrel Trucks. (*Perfectionnements aux camions pour les barils.*)

Joseph J. Swain, Montebello, Ala., U. S., 12th August 1882; for 5 years.

Claim.—The combination of cant hook *E*, sliding block *G*, ratchet *I* and pawl *J* with a barrel truck.

No. 15,302. Improvements on Trace Carriers. (*Perfectionnements aux porte-traits.*)

William H. Main, Boscobel, Wis., U. S., 12th August, 1882; for 5 years.

Claim.—1st. The seat or socket *C* extending across the frame and carrying the spring bolt *E* and adapted to be actuated alternately, or simultaneously, in rotation with the side hooks *G*. 2nd. In combination with a trace carrier frame having a socket *C* and side hooks *G*, the spring bolt *E* made in two parts, so that said parts can slide on each other. 3rd. The frame *A* provided with two side bars, which are extended to form the hooks *G*, and having bolt *E* surrounded by spring *F*, the ends of the bolt adapted to engage with the said hooks. 4th. A trace carrier having side hooks and a transverse spring bolt.

No. 15,303. Improvements in Fanning Mills. (*Perfectionnement dans les tarars cribleurs.*)

James W. Russell, (Assignee of John Courtman.) Ottawa, Ont., 12th August 1882; (Extension of Patent No. 7791.)

No. 15,304. Improvements on Rotary Churns. (*Perfectionnements aux barattes rotatoires.*)

James Burbank, (Assignee of Maxime Caissé.) Danville, Que., 12th August, 1882; (Extension of Patent, No. 7787.)

No. 15,305. Improvements in the Means of Operating Microphones. (*Perfectionnements dans les moyens de faire fonctionner les microphones.*)

François Van Ryselberghe, Schaarbeck, Belgium, 14th August, 1882; for 5 years.

Claim.—The means of increasing the intensity of the variations of an induction current, arising out of the variations in the resistances of microphone contacts, and which consists in employing for the microphone, either a secondary battery, or a thermo-electric pile.

No. 15,306. Improvements on Time Locks. (*Perfectionnements aux serrures à mécanisme d'horlogerie.*)

Henry F. Newbury, Brooklyn, N. Y., U. S., 14th August, 1882; for 5 years.

Claim.—1st. In combination with a time lock, a flexible or supplemented support or supports therefor, to prevent it from being thrown out of operative relation to the door bolts of the safe or vault, in which it is used, by the force of an explosion, or other sudden or heavy shock directed against the exterior of such structure, and means connected therewith, and constructed and arranged to prevent the retraction of the lock bolt in the event of the clock work being broken. 2nd. The combination in a time lock, of the shafts of the clock work and secondary or supplemental bearings, to prevent the disengagement of the train in case the shafts become broken. 3rd. In combination with the time mechanism of a chronometric lock, a device pivoted, or otherwise secured, to one of the wheels, or other revolving parts thereof, and arranged to be moved from the normal position by centrifugal action, whenever the speed of the time movement is unduly accelerated, and a device arranged to be acted upon by such centrifugal device, when thus moved from its normal position. 4th. In combination with a device pivoted, or otherwise secured, to one of the wheels or other revolving parts of a chronometric lock, and arranged to be moved from its normal position by centrifugal force, whenever the speed of the time movement is unduly accelerated, a device arranged to be acted upon by such centrifugal device when thus moved from its normal position, and supplemental or auxiliary bearings, for the shafts of the wheels composing the clock train, whereby the continuity of the train between the main spring and the centrifugal device will be preserved.

No. 15,307. Improvements on Attachments for Time Locks. (*Perfectionnements aux dispositions aux serrures à mécanisme d'horlogerie.*)

Henry F. Newbury, Brooklyn, N. Y., U. S., 14th August 1882; for 5 years.

Claim.—1st. The combination of a time lock and a supplemental locking mechanism consisting of a dog or check, and means for holding such dog or check out of action during the normal condition of the time lock, some portion of this supplemental mechanism being arranged in proximity to the lock, whereby the supplemental dog or check may be brought into action to prevent the retraction of the door bolts of the safe or vault, on which the lock is used, on the occurrence of a shock capable of breaking or displacing the parts of such lock. 2nd. The combination of a time lock and supplemental guard, a check, provided with a spring stop, or equivalent detent, of convenient construction, arranged to hold such guard or check under the normal action of the mechanism, out of engagement with the bolt work of the safe, or vault door, on which the lock is used, or with the parts controlling such bolt work, but also adapted to yield upon the occurrence of a shock capable of breaking or displacing the parts of the time movement, and thus release such supplemental guard or check, and permit it to come into action to prevent the retraction of the bolt work. 3rd. In combination with a time lock and a supplemental guard or check, to prevent the withdrawal of the bolt work of the safe on which such lock is used, in case the parts of the time movement become broken or displaced by a shock, a latch or stop, to prevent the return of such supplemental guard or check to its normal position. 4th. In combination with a supplemental guard or check, designed to prevent the withdrawal of the bolt work of a safe or vault door, upon the breaking or displacement of the parts of the time lock in such safe or vault, a pendulum latch or detent, for holding such supplemental guard or check in its locking position.

No. 15,308. Improvements on Time Locks and Attachments Therefor. (*Perfectionnements et dispositions aux serrures à mécanisme d'horlogerie.*)

Henry F. Newbury, Brooklyn, N. Y., U. S., 14th August 1882; for 5 years.

Claim.—1st. In combination with a time lock mounted on the interior of a safe, or similar structure, a yielding device arranged in proximity thereto, or constituting a part thereof, and constructed to be moved out of its normal position under the force of an explosion, or other heavy and sudden shock, directed against the exterior of the safe or vault so as to interrupt the normal operative relation between the main spring or springs of the lock and the door bolts, or between the latter and the door spindle. 2nd. In combination with a time lock mounted on the interior of a safe, or similar structure, a yielding device arranged in proximity thereto, or constituting a part thereof, and constructed to be moved out of its normal position under the force of an explosion, or other heavy and sudden shock directed against the exterior of the safe or vault, so as to interrupt the normal operative relation between the main spring or springs of the lock and the door bolts, or between the latter and the door spindle, and a latch or stop to hold the parts out of engagement when once disconnected. 3rd. The combination of a time lock mounted on a flexible or hinged support, whereby it is made capable of movement relatively to the door, or wall, to which it is attached, with a supplemental checking device, and means for connecting the same with the bolt, or equivalent part of the lock, whereby such supplemental device is under the control of the lock when the latter is operating normally, but is disconnected therefrom, when the lock is subjected to a sudden and heavy shock.

No. 15,309. Improvements on Modes of Mounting Time Locks. (*Perfectionnements aux modes de monter les serrures à mécanisme d'horlogerie.*)

Henry F. Newbury, Brooklyn, N. Y., U. S., 14th August, 1882; for 5 years.

Claim.—In combination with the time mechanism of a chronometric lock, a yielding or flexible support therefor, and means for preserving the continuity of the connection between the parts thus flexibly mounted and the adjacent parts, whereby the time mechanism of the lock is held at such distance from the door or wall of the structure in which it is used, as to protect it from injury under the force of an explosion directed against the exterior of the structure, and of a character to break the parts of the clock work of the lock if mounted in any of the methods heretofore practiced, the control of the lock over the door bolts being thereby preserved.

No. 15,310. Improvements on Railroad Switches and Signal Whistles. (*Perfectionnements aux aiguilles et aux sifflots à signalux des chemins de fer.*)

Rodney F. Crowther, Baltimore, Md. U. S., 14th August, 1882; for 5 years.

Claim.—1st. The combination of a treadle A₁ projecting up along side of the track, with a horizontal rock shaft 4 having an upward projecting throw arm q and also a sidewise projecting arm on which is mounted a weight P, means to connect the treadle and throw arm, a horizontal rock shaft q having an upward projecting arm f₂, a wheel I mounted on the rock shaft and provided with a notch i, a push pawl n attached to the throw arm q and adapted to engage with notch i on the wheel, a switch shifting bar E and means to connect the latter with the upward projecting arm f₂, whereby the switch may be opened. 2nd. The combination of the switch shifting bar E with a horizontal rock shaft g having an upward projecting throw arm f₂, and also having a sidewise projecting arm on which

is mounted a weight F, means to connect the shifting bar and throw arm, a wheel I mounted on the rock shaft and having a notch K, an upright locking lever l provided with a lug 2 to engage with the notch, a treadle B projecting up alongside of the track, and means to connect the treadle and locking lever, whereby the switch is locked or held to its position when open, and by the movement of the treadle is unlocked and closed. 3rd. In combination with the shifting bar of a switch, a treadle connected to the shifting bar, and designed to operate the whistle-valve on an approaching locomotive. 4th. The combination, with the shifting bar of a switch, of a treadle u connected to the shifting bar, and a locomotive provided with a whistle-valve operating device, and adapted to be moved by the treadle when the switch is open.

No. 15,311. Improvements in Ready Made Roofing Felt. (*Perfectionnements dans le feutre à toiture préparé à l'avance.*)

Ozius A. Smith and Frederick L. Kane, Atlanta, Ga., U. S. 14th August 1882; for 5 years;

Claim.—A prepared or ready made roofing, composed of sheets of felt paper or cloth, cemented together solidly, except at one or both of the edges of the upper layer or layers.

No. 15,312. Rolls for Making Horse Shoe Blanks. (*Cylindres pour faire les ébauches des fers à cheval.*)

Theodore S. Very, Boston, Mass., U. S., (assignee of Hazen J. Batchelder,) 14th August, 1882; (extension of patent No. 7774.)

No. 15,312. Improvements on Caloric Engines. (*Perfectionnements aux machines caloriques.*)

John Buckett, Southwark, Eng., 14th August, 1882; for 15 years.

Claim.—1st. In a caloric engine, an air passage round the air inlet valve to the working cylinder, and its seating, so arranged that the air from the air pump takes up a portion of the heat evolved at the said valve. 2nd. A sliding or movable piece subject to the action of a revolving cam or tappet, and mechanism for adjusting its position with relation to the said cam or tappet, for the purpose of fixing the point of maximum, or latest cut off, of the motive fluid to the cylinder. 3rd. The combination of a sliding or movable piece with an adjustable link and a revolving cam or tappet, for the purpose of fixing or adjusting the point of maximum, or latest cut off, of the motive fluid to the working cylinder. 4th. A sliding or movable piece subject to the action of a revolving cam or tappet, for a shorter or longer period in each revolution, according to the position it assumes under the control of a governor, for the purpose of effecting an automatic variable cut off of the flow of motive fluid to the working cylinder. 5th. The combination of a sliding or movable piece, subject to the action of a revolving cam or tappet, for a longer or shorter period in each revolution according to the position it assumes under the action of a governor for the purpose of effecting an automatic cut off, and a link of adjustable length, carrying the said sliding or movable abutment, whereby the point of maximum cut-off may be regulated. 6th. The combination of a sliding or movable piece, normally subject to the action of a cam or tappet, for the purpose of operating the inlet valve of the cylinder, and mechanism whereby the said piece may be withdrawn from the action of the said cam or tappet, to stop the engine. 7th. The combination of a sliding or movable piece j, cam or tappet k, link j, bar m, shaft n and handle l. 8th. The combination of a movable piece and two cams or tappets, carried on one sliding piece, one of the said cams or tappets being arranged in the right position for the forward motion of the engine, and one in the right position for the backward motion of the engine, and the whole being so arranged that either of the said cams or tappets, can be set so as to act upon the movable piece, or that both can be set clear of it. 9th. The combination of two cams or tappets k k' set one for forward motion, and one for backward motion, sliding piece j' carrying said tappets, movable piece j, clutch lever r, and handle q. 10th. An air cushion for retarding or modifying the closing of the valves. 11th. The combination of a cylinder g₂, a piston g₃, an outlet passage g in the piston, and an air inlet valve g₄, whereby the closing of the valves to the cylinders is retarded or modified. 12th. The combination of a cam or tappet, a sliding or movable piece, a lever operated by the motion of the said piece, an air inlet valve controlling the flow of fluid to the working cylinder, and an air cushion for modifying the closing of the valve. 13th. A fuel feeding valve of a combined conical and partially spherical shape. 14th. The combination of a retort, a working cylinder and a valve situated between the said retort and the said working cylinder, whereby access of working fluid from the former to the latter can be cut off. 15th. A receiver into which air is delivered by a pump at such times as the full power of the engine is not required to be exerted on the external work, or when the engine is driven by its own momentum, or by an external force. 16th. The combination of a retort, an air inlet valve surrounded by an air passage for the circulation of cold air, and operated by a sliding or movable piece, under the action of a cam or tappet, its closing being retarded or modified by an air cushion, a working cylinder or cylinders and a pump.

No. 15,314. Improvements in Plastering and Ornamenting Walls and Ceilings. (*Perfectionnements dans le crépissage et l'ornementation des murs et des plafonds.*)

David W. Stockstill, Thomas J. McGeary, Edward W. Anderson and Julius C. Smith, Washington, D. C., U. S., 14th August, 1882; for 5 years.

Claim.—1st. The process of pressure moulding plaster or composition consisting in, first, filling a portable mould with soft plaster, or composition of proper consistency, to hold its form so that it shall project a little from the mould, second, moving the filled mould against the wall, or surface, so that the plaster or composition shall

adhere by its projected portion, and finally, removing the mould and leaving the ornamentation in place. 2nd. A pressed sheet metal mould provided with guide-flanges and adapted to receive the plafter, or composition, to apply the same to the wall, and to draw easily therefrom. 3rd. A plasterer's mould for ornamental work pressed in form from sheet zinc or zinc composition.

No. 15,315. Improvements on Apparatus used in Torpedo Operations and in Searching for submerged Bodies. (*Perfectionnements aux appareils à torpilles et pour chercher les corps submergés.*)

Charles A. McEvoy, London, Eng., 14th August, 1882; for 15 years.

Claim.—In primary and secondary coils, a telephone and mechanism yielding pulsating electric currents, and a cable containing insulated conductors passing from these into water to other primary and secondary coils at its further end.

No. 15,316. Improvements in Car-Couplings. (*Perfectionnements aux attelages des chars.*)

James C. Mitchell, James A. Smith and Alden R. Tinkham, Lancaster, N.H., U.S., 14th August, 1882; for 5 years.

Claim.—1st. The combination of the draw-bar B provided with the inclined plane E, with the link pin C and the elevating pawl D hinged thereto. 2nd. The combination, with the draw-bar, provided with the two inclined planes E and F, with the link pin and its elevating pawl D.

No. 15,317. Improvements on Paper Machines. (*Perfectionnements aux machines à papier.*)

Charles Bremaker, Louisville, Ky., U. S., 14th August, 1882; for 5 years.

Claim.—1st. The composition bottom S composed of a sheet of prepared cotton duck G, a sheet of prepared paper N and a double sheet of leather O, in combination with the frame D. 2nd. A pulp screen box having a composition bottom S composed of prepared cotton duck G, prepared paper N and leather O, the metal bars K R and V V with round corners, in combination with the interior wood covering T, pipes G² and flange H. 3rd. A pulp screen box having composition bottom S, the yokes B¹, wood filling F¹ and adjusting screws G¹, in combination with the nut J, sleeve L¹, slit K¹ and jamb nut J². 4th. In a pulp screen box, the cam blocks W, steel die Z and disk O² with its involute points D¹, in combination with the shaft N¹ by which it is operated. 5th. In a breast roll box, the combination of the cross partitions V¹ and slides W¹. 6th. The combination of the valve A², stern B², plate C² and gearing D², by which it is operated.

No. 15,318. Manufacture of Pigments.

(*Préparation des couleurs.*)

William Johnson, Montreal, Que., (assignee of Thomas Griffiths, Liverpool, Eng.) 15th August, 1882; (extension of patent No. 7932.)

No. 15,319. Improvements on Hose Pipe Nozzles. (*Perfectionnements aux lances des tuyaux élastiques.*)

John E. Prunty, Baltimore, Md., U. S., 16th August, 1882; for 5 years.

Claim.—1st. A hose-pipe nozzle having a shut off valve or cock therein, a lateral discharge aperture situated in the rear of said valve or cock, and means for controlling or suspending the lateral discharge independently of the said valve or cock. 2nd. A hose pipe nozzle having an exterior circumferential groove or lateral discharge opening, adjustable in width, in communication with the interior of the nozzle, by means of a series of apertures. 3rd. A hose-pipe nozzle having a circumferential discharge-aperture controllable in width by means of a screw or threaded outer sleeve. 4th. A hose-pipe nozzle having a lateral or circumferential discharge aperture adjustable in width, and curved faces to guide or direct the current of water discharged through the said aperture.

No. 15,320. Process and Apparatus for Preserving Milk. (*Procédé et appareil de conservation du lait.*)

Heinrich W. L. O. Von Roden, Hambourg, Germany, 16th August, 1882; for 5 years.

Claim.—1st. The process of heating milk in vessels closed by oil, or by oil-covered corks, then reheating the milk to about 220° for an hour. 2nd. In the process of preserving milk, the application of the hose *a* or cylinder *a*1.

No. 15,321. Improvements on Kettles and other Utensils. (*Perfectionnements aux chaudrons et autres ustensiles.*)

Félix Ménard, Montreal, Que., 16th August, 1882; for 5 years.

Claim.—Les découpages E du chaudron et F du couvercle, et les parties A B C D qui servent à ouvrir et fermer le chaudron sans le découvrir, de manière à laisser bouillir ou refroidir, sans être obligé d'enlever le couvercle, et d'exposer ainsi à la poussière ce qu'il contient.

No. 15,322. Process and Apparatus for Treating the Refuse of Starch and other Substances. (*Procédé et appareil de traitement des déchets amidon et autres substances.*)

William T. Jebb, Buffalo, N.Y., U.S., 16th August, 1882; for 5 years.

Claim.—1st. The process of preparing wet grain offal for use as food for animals by, first, separating the bulk of the moisture from the offal by pressure, then removing the remaining moisture by heat, and then regrinding, crushing or disintegrating the dried offal to a substantial uniform degree of fineness. 2nd. The process of preparing wet grain offal for use as food for animals by, first, separating the bulk of the moisture by pressure, then removing the remaining moisture by heat, and then grinding the dried offal and mixing it with ground grain. 3rd. The combination of an apparatus A, whereby the bulk of the moisture is separated from the offal by pressure, a drier E in which the remaining moisture is removed by heat, and a mill P in which the dried offal is reground. 4th. The combination of an apparatus A, whereby the bulk of the moisture is separated from the offal by pressure, a drier E in which the remaining moisture is removed by heat, a mill P in which the dried offal is reground, and a mixing machine T in which the reground offal is mixed with ground grain. 5th. In a drier, a rotating hollow cylinder *f* constructed with double walls forming a steam space *f*² between them, and provided with means whereby the material to be dried is repeatedly elevated and dropped in said cylinder. 6th. In a drier, a rotating hollow cylinder *f* constructed with double walls forming a steam space *f*², and transverse steam pipes J communicating at their ends with said steam space. 7th. The combination of a rotating cylinder *f* provided with a steam space *f*², head H and openings *h* formed between the cylinder and the head H. 8th. The combination of a rotating cylinder *f* provided with a steam space *f*², head H, openings *h* and discharge pipe *j* having its depending end arranged in the head H. 9th. The combination of a rotating cylinder *f* provided with a steam space *f*², head H and pipes J. 10th. The combination of the cylinder *f* provided with a steam space *f*², and openings through which the dried material is discharged, a casing M enclosing the cylinder *f* and means whereby an air current is drawn along the outer side of the cylinder, and through the interior thereof.

No. 15,323. Improvements on Wind Mills. (*Perfectionnements aux moulins à vent.*)

James E. Jones, Dickinson, Ks., U.S., 16th August, 1882; for 15 years.

Claim.—1st. The combination of a tower adapted to rotate horizontally, a vane made separate from the shaft of the wind wheel and secured to the tower. 2nd. The combination of the tower formed of two upright timbers secured to intervening blocks and having pivots at the ends and a socket, the gudgeon arranged in the hollow pivot at the lower end of the tower, the connecting rod having a swivel joint to connect with the piston rod, the pitman flexibly jointed to the connection rod, the wheel shaft supported at the side of the tower, and the vane secured to the tower apart from the said shaft. 3rd. The combination of the tower adapted to rotate horizontally, the wind wheel supported on a short shaft at the side of the tower and the vane having an arm hinged to the tower and held in its normal position by a lever and weight, and the chain and lever for operating the vane. 4th. The combination, with the tower, of a connection rod made separate from the pitman and having means whereby the lever pivoted to the tower may be connected to said rod, to operate the pump by hand at will. 5th. The combination, with the tower, of the plate *v* to support the weight of the tower, the guys for supporting the tower, the piston or pump rod arranged in the hollow gudgeon, the coupling *v*¹, the tower blocks cut in halves, the gudgeon *y* and the stuffing box *x*.

No. 15,324. Improvements on Fifth Wheels for Waggon. (*Perfectionnements aux ronds d'avant-train.*)

Egbert P. Carter, Arcade, N.Y., U.S., 16th August, 1882; for 5 years.

Claim.—1st. The construction in one piece, of the plate B and fifth wheel A, of a waggon in which the upper half or wheel is composed of a circle A over at the front, and provided on the rear side with extension pieces or frames C C, cast or formed on to the fifth wheel and also to the cross plate B and curving below the fifth wheel, and having side flanges *m* for attachment to the wooden reaches, all the above parts in one casting or piece. 2nd. The combination of the fifth wheel A, plate B, reach frames C C all in one piece, the axle plate D and the clip tie plate G. 3rd. The clip tie plate G with the central semi-circular hollow *i* and the hole *k*, for the receipt *o*1 of the safety brace end *k*1 and with the lugs *g g g*, in combination with an axle and axle plate D, and to be bolted thereto. 4th. In combination with the clip tie plate G *i k*, the safety brace H having its end bent down into a pin *k*1 and held by a nut underneath plate G.

No. 15,325. Improvements in Finishing Woven Cotton. (*Perfectionnements dans le finissage des tissus de coton.*)

Fred. B. Wilkins, Clinton, Mass., U. S., 16th August, 1882; for 5 years.

Claim.—1st. The improved process of finishing ginghams and other woven cotton fabrics, the same consisting in submitting the fabric, in a closed tank or vessel, to the action of steam under pressure. 2nd. Finishing ginghams and other woven cotton fabrics, by submitting the same, in a closed tank or vessel, to the action of steam under pressure, the employment of a blanket or wrapper, for enclosing the cuts when in the tank or vessel.

No. 15,326. Improvements in Phosphorescent Compositions. (*Perfectionnements dans les composés phosphorescents.*)

Merrill B. Sherwood, jr., Buffalo, N.Y., U. S., 17th August, 1882; for 5 years.

Claim.—A phosphorecent composition consisting of monosulphide of calcium, combined with carbonate of lime, magnesia and silic.

No. 15,327. Improvements on variable bench planes. (*Perfectionnements aux rabots à talle variables.*)

Amos Fales, Denver, Col., U. S., 17th August, 1882; for 5 years.

Claim.—1st. In a variable bench-plane constructed with a stock A, changeable cutter E and separate changeable front and back form plates H I, the said form plates being independently attached to the stock. 2nd. The stock A constructed with a ledge or bracket D, projecting from one side thereof and of sufficient width to support all the different width of cutters used with the laterally acting wedge G, to clamp the cutters on the ledge, and with the vertical flange F on one side of which the front and back form plates are attached. 3rd. The separate form plates or moulds H I, each constructed with the horizontal extended body or form K, the vertical flange G for attaching to the stock flange F, and the ledge or shoulder J for holding them accurately in line under the flange F. 4th. The combination, with the stock A, of the cross bar J and gauge stop K, the former being horizontally adjustable in the stock, and the latter mounted and vertically adjustable in the cross bar. 5th. The auxiliary stock L and its removable cutter-holder O and mould forms P, in combination with the main instrument.

No. 15,328. Improvements on Stop Motions for Looms. (*Perfectionnements aux mécanismes casse-mèche des métiers à tisser.*)

Frederick O. Tucker, Hartford, Ct., U. S., 17th August, 1892; for 5 years.

Claim.—The forked bar G in combination with the feeler shaft F, the cam H and the lever J, said bar and feeler shaft being connected to the frame D adapted to be attached to the lay, and said cam and lever being connected with the arm C adapted to be attached to the breast beam of a loom.

No. 15,329. Improvements on Stock Cars. (*Perfectionnements aux chars à bestiaux.*)

Louisa Hay, Ottawa, Ont., 17th August, 1882; for 5 years.

Claim.—1st. The arrangement of a passage 6 extending from end to end on one side, or partly on one side and partly on the other side, stalls extending across the car heading towards said passage, each stall provided with a gate to separate the animals and closing the entrance to the adjoining stall, said stall divided into two sections, or divisions, by passage 4 the doors thereto being at the middle of the side of the car, and each section provided with a hay rack, feeding trough, grain trough and water supply fed through the roof of the car. 2nd. A series of stalls divided by fixed partitions provided with gates H hung to swing, to close the adjoining stall, when empty, and, when occupied, dividing the cattle by locking to the side of the car. 3rd. The overhead grain supply trough 13 located over passage 6 and provided with perforated sliding bottom and tubes discharging into the feed troughs, access to said troughs being through the roof provided with a trap door to each trough.

No. 15,330. Improvements on Metallic Packing and Supports for Valve Rods. (*Perfectionnements aux garnitures métalliques et aux supports des tiges de soupapes.*)

Edwin P. Monroe, New York, U. S., 17th August, 1882; for 15 years.

Claim.—1st. The valve and valve stem connected therewith and adapted to permit independent movement of the valve to and from its seat combined with the elliptical springs F G adapted to be held in place between the said valve and valve stem, whereby the said valve stem is supported and its packing relieved of its weight. 2nd. The elliptical springs F G combined with the connecting pieces H forming therewith a rectangular frame adapted to fit over the exhaust chamber of a valve and be held in proper position thereby, to provide a support for the valve rod. 3rd. In a packing for piston rods and similar articles, a packing receptacle connected with the cylinder head, or other partition, by a ball joint, or spherical bearing surface, combined with packing having a universal rocking movement in the said receptacle, is permitted to rock to accommodate lateral deviations of the packed rod, whereby the said receptacle and the packing to rock to accommodate angular deviations of the said rod and receptacle relative to one another. 4th. The packing receptacle connected with the cylinder head and having a curved, or inclined outer surface, combined with the vertical piston rod and the metallic packing located in the end of the said receptacle and wedged into close connection with the outside of the rod and the inside of the receptacle, whereby water flowing along the packed rod is prevented from passing between the rod and packing or entering the receptacle. 5th. The packing and its receptacle, combined with the coupling to attach the said receptacle to the cylinder head, and an overhanging portion, or shield, to cover and protect the joint between the said receptacle and its coupling. 6th. The rod, its packing and the receptacle therefor, and the spring M to press the said packing to its seat or bearing, combined with the independent spring S to press the receptacle to its bearings in the partition that the packed rod is to enter. 7th. The combination of the rod, its packing and the receptacle therefor, and the spring M to press said packing into its receptacle and also to press said receptacle to its bearing in the coupling. 8th. The packing provided with a spherical bearing surface and the receptacle therefore combined with the coupling for the said receptacle, the said coupling and receptacle having a spherical bearing surface, whereby the said packing may have a universal movement to enable it to accompany and properly fit the packed rod in its deviations from a true rectilinear movement. 9th. The packing and its receptacle connected with the partition through which the packed rod enters by a joint permitting movement of the said receptacle relative to the partition combined with the shield Q to cover and protect the said joint.

No. 15,331. Improvements on Rosettes for Bridles. (*Perfectionnements aux bosselles des brides.*)

Rolandis Sloat, Butler, Ind., U. S., 17th August, 1882; for 5 years.

Claim.—The main portion composed of the screw-threaded ring a and back plate a, the fastening staple B having its ends b b passed through the plate a and turned down against said plate, and the ornamental screw-threaded and removable outer cap C adapted to be screwed to the main part A, so as to conceal the fastening B.

No. 15,332. Improvements on Heaters for Steam Engines. (*Perfectionnements aux réchauffeurs des machines à vapeur.*)

Clement Hollands, Kintail, Ont., 17th August, 1882; for 5 years.

Claim.—1st. The combination of the valve B and the pipe D. 2nd. The combination, with the valve B and the pipe D, of the pipe I.

No. 15,333. Improvements in the Method of, and Apparatus for Preventing Induction in Telegraphic and Telephonic Systems. (*Perfectionnements dans la méthode d'empêcher le courant d'induction dans les systèmes télégraphiques et téléphoniques, et appareil pour cet objet.*)

François Van Rysselberghe, Schaarbeck, Belgium, 17th August, 1882 for 5 years.

Claim.—1st. The method of rendering non-perceptible in the telephone, the currents used for telegraphy, be they primary, derived or induced, by making the emission and extinction of said currents gradual. 2nd. In telephonic and telegraphic systems, the application and use of condensers installed in derivation upon the inducing wires. 3rd. In telegraphic and telephonic systems, the application and use of electro-magnets intercalated at the transmission station between the battery and the wire, or between the battery and the earth. 4th. In telegraphic and telephonic systems, the application and use of rheostat keys. 5th. In telephoning systems, the application and use of diapasons or other equivalent devices, for creating upon all the wires a confused noise.

No. 15,334. Improvements on Machines for Jointing and Sharpening Circular Saws. (*Perfectionnements aux machines à ajuster et affûter les scies rondes.*)

William R. Parsons, Morrisburg, Ont., 17th August, 1882; for 5 years.

Claim.—1st. In combination with the rails A A and carriage B provided with feed screw F and means for clamping the saw, the axially adjustable bar C having a tangentially fixed flat smooth steel plate E, whereby said plate, when in contact with a rotating saw, the teeth will be jointed and, when the saw is moving at slow speed, and case hardened by frictional contact with said plate, when running at a high speed. 2nd. The combination, in a machine for jointing, sharpening and case hardening the teeth of circular saws, of the base rails A A provided with check blocks H H at one end, and feed screw F passing through a block at the opposite end, and carriage B having an axially adjustable transverse bar C provided with a smooth faced friction plate E, whereby said plate can be adjusted to suit large or small saws, and fixed by set screws D.

No. 15,335. Improvements on Apparatus for Drying and Pulverizing Offal. (*Perfectionnements aux machines de dessiccation et de trituration des rebuts de viande.*)

John F. Gubbins, Chicago, Ill., U. S., 17th August, 1882; for 5 years.

Claim.—1st. An apparatus for drying and pulverizing refuse matter, consisting of a steam jacketed cylinder and a rotary shaft composed of concentric pipes and intermediate trussing, provided with broad teeth, or fingers, located in the lower part of the chamber and adapted to be rotated at a high speed, whereby it is caused to throw or project the material in a separated condition through the open interior of the chamber. 2nd. The drying apparatus, consisting of the steam jacketed cylinder A, shaft F located in the lower part thereof, and armed with teeth or blades, scrapers J and mechanism for imparting a travelling motion to the scrapers. 3rd. In a drying apparatus, a heater or agitator shaft composed of two concentric pipes F and G and intermediate braces or trussing. 4th. The agitator shaft consisting of concentric pipes F G, braces or trussing d and end pieces e. 5th. In a drier, a yielding or elastic reciprocating scraper provided with a rack, in combination with a pinion and means for rotating the pinion alternately in reverse direction. 6th. In combination with the rack bar K and scraper connected therewith, the pinion L, pulleys O O and P, belts Q R and fingers S S, whereby the belts alternately passed upon pulley P. 7th. The scraper J consisting of the arms pivoted to an intermediate support and separated and pressed outward by a spring W. 8th. In combination with the pivoted scraper arms J, the intermediate threaded stem h and nuts f a. 9th. In a drier, a shaft composed of concentric pipes and intermediate trusses and armed with broad teeth, or arms, whereby the shaft is adapted to be rotated at high speed, thereby to cause the material to be projected from the shaft into the open space of the containing chamber. 10th. The scraper J provided with adjustable steel plates J₁. 11th. The drier consisting of steam jacketed chamber A provided with feed and discharge openings, shafts B having teeth H spirally arranged thereon, scraper J and means for imparting a travelling motion to the scrapers.

No. 15,336. Improvements on Sleighs.*(Perfectionnements aux traîneaux.)*

David M. Kirkpatrick, Kansas, Mo., U. S., 17th August, 1882; for 5 years.

Claim.—1st. The combination, with the body having openings in its sides and provided with staples, or their equivalent, of the doors arranged to cover the same and provided with suitable rods adapted to slide in the staples, their upper front corners adapted to be supported by the points of the body and be retained in that position. 2nd. The combination, with the body constructed of sheet metal, braced on the inside by suitable ribs, or braces mounted on runners, and having openings cut or otherwise formed in its sides, of the doors formed of like material and adapted to slide outside and over said openings to close the same.

No. 15,337. Steam Boiler Injector.*(Injecteur de chaudière à vapeur.)*

Charles H. Stewart, Chelsea, and Norris H. Spaulding, Boston, assignees of William T. Messinger, Boston, Mass., U. S., 17th August, 1882; (Extension of Patent No. 7783.)

No. 15,338. Improvements on Lubricators.*(Perfectionnements aux graisseurs.)*

Ross J. Hoffman, Binghamton, N. Y., U. S., 22nd August, 1882; for 5 years.

Claim.—1st. The combination of the main supply pipe, with two or more branch pipes, separate engines connected therewith, and an automatic lubricator connected to the main supply pipe, between the generator and the branch pipe nearest thereto. 2nd. The combination of the steam supply pipe and branch pipes, the pipe D and pipe C c c, all in communication with the lubricator. 3rd. The pipe f in combination with the pipe D, the pipes C c c with supply pipe and lubricator. 4th. In combination with the oil cup of a lubricator, and with the steam passage c thereof, the tube h, pipes g and i. 5th. In combination with the oil cup of a lubricator, the hollow bias, or tube K and glass l, and the pipe c' having inclined end or face.

No. 15,339. Improvements on Holdbacks, Snap Hooks, Neck Yokes, etc.*(Perfectionnements aux ragots des limonnières, crochets à ressort, jougs, etc.)*

Callender I. Calvert, Philadelphia, Penn., U. S., 22nd August, 1882; for 5 years.

Claims.—1st. The hook A and attaching plate B with throat C, in combination with the spring tongue D connected at one end to said plate B and having its free end within the channelled back of the plate and extended beyond the edge of the throat. 2nd. The hook A, plate B and spring tongue D, in combination with the back rubbing plate B'. 3rd. The hook A, attaching plate B with throat C, in combination with the spring tongue D and rubber plate B', said tongue having its free end within the channelled back of the plate, and extended beyond the edge of the throat, and the plate B' being secured back of the tongue.

No. 15,340. Improvements on Machines for Driving and Dressing Piles.*(Perfectionnements aux machines à chasser et dresser les pieux.)*

Andrew L. Gilbert, Albany, and Horace N. Gilbert, Fulton, N. Y., U. S., 22nd August, 1882; for 5 years.

Claim.—1st. In a pile driver, the turn-table, the leaders and the brace-frame adapted to be adjusted with relation to the leaders. 2nd. The combination, with the turn-table C, the leaders D and the brace frame E provided with the pivoted slide blocks g, of the inclined ways h, whereby a greater inclination of the leaders is obtained by a shorter movement of the blocks. 3rd. The combination, with the turn-table C, the leaders and the brace frame E, and the pivoted blocks g, of the inclined ways h provided with racks i, the shaft l, the pinion R and means for operating said shaft. 4th. The turn-table C carrying adjustable pivoted leaders and sustained on a hollow pivot through which the wire rope passes. 5th. The combination of shaft r, back gears v, shafts s, pinions w and racks t, with the platform B and car A. 6th. The leaders formed of T-plates a' and angle plates b'. 7th. In a machine for sawing off and tenoning piles, the combination of the adjustable platform, the swinging derrick, the saw-frames carrying vertically and horizontally cutting-saws with mechanism for operating the same. 8th. The combination, with the adjustable platform C and swinging derrick D, of the saw frames E F carrying arbors, saws and operative mechanism, whereby horizontally and vertically cutting saws may be successively brought to cut the piles.

No. 15,341. Improvements in Car Couplings.*(Perfectionnements aux accouplages des chars.)*

George W. Vunk and Byron E. Huntley, Brockport, N. Y., U. S., 22nd August, 1882; for 5 years.

Claim.—1st. The combination, with the draw-heads B B', of the hold pins E E' respectively, having the latches r and r' therein. 2nd. In combination with the draw-heads B B', the link pin K having the link L articulating in the eye in the upper end thereof. 3rd. In combination with the draw-heads B B', the tilting blocks I I' attached to the end of the body or frame of the car. 4th. In combination with the draw-heads B B', hold pins, tilting blocks, and a link pin and link.

No. 15,342. Improvements in Steam Valves.*(Perfectionnements aux soupapes de vapeur.)*

Walter S. Phelps, Wortendyke, N. J., U. S., 22nd August, 1882; for 5 years.

Claim.—1st. The grooved follower ring p, combined with the compressing rings m and packing rings n of the piston valve. 2nd. In a piston valve provided with two compression rings m and packing rings n separated by a follower p, the outer rings m being fitted to receive steam from the chest, and the inner rings from the cylinder.

No. 15,343. Apparatus and Process for the Manufacture of Bone Black and Ammonia.*(Appareil et procédé pour fabriquer le noir animal et l'ammoniac.)*

Hamilton Y. Castner and Edwin B. Castner, New York U. S., 22nd August, 1882; for 5 years.

Claim.—1st. In charring the bone, combining air with the volatile portions from the bone, heating the mixed gases and then passing such gases over hot slacked lime, through a cooler and then into intimate contact with acid. 2nd. The manufacture of ammonia feeding the material continuously through a hot cylinder and from the latter into a closed vessel and simultaneously conducting the gases from the cylinder for conversion. 3rd. In charring the material, oxidising the gases by passing the same with air through heated pipes and decomposing the nitrogenous gases and forming ammonia by passing the said gases over hot slacked lime. 4th. In combination with the closed carbonizing cylinder, a closed receptacle T secured detachably to the discharge pipe of the cylinder. 5th. The combination, with the cylinder, its feed and propelling appliances, of a discharge pipe having two or more branches, and a valve e'. 6th. The combination of a feed device, whereby the bone is introduced continuously into the cylinder, a continuous screw in the cylinder, whereby the bone is carried along the cylinder and discharged, and a pipe a for conveying the gases from the cylinder to the converting apparatus. 7th. The combination, with the carbonizing and lime cylinders, of a pipe a having an air inlet and formed into coils arranged within a heating chamber. 8th. The combination, with the carbonizing and lime cylinders and connecting pipe and heating coil, of an air inlet and an exhaustor. 9th. The combination, with the condensing coil p of the above bone black and ammonia apparatus, of a tank l. 10th. The combination of the carbonizing and lime cylinders, condensing coil, exhaust and converter and appliances whereby the gas from the coil is brought into intimate contact with acidulated fluid.

No. 15,344. Improvements on Steam Boilers.*(Perfectionnements aux chaudières à vapeur.)*

Patrick Fitzgibbons, Oswego, N. Y., U. S., 22nd August, 1882; for 5 years.

Claim.—1st. A return flue boiler, having at the front end a subjacent fire box communicating with a combustion chamber on the rear end of the boiler by flues extended through the rear portion of the boiler, a smoke box and stack on the front end of the boiler, communicating with the rear combustion chamber by flues extended through the length of the boiler and communicating also with the fire box by flues extended through the forward portion of the boiler directly to the fire box. 2nd. The combination of the boiler B provided with the return flues ff, combustion chamber C and smoke box D the furnace F arranged underneath the boiler and extended part way the length thereof and having, at its rear end, a vertical extension projecting into the boiler, the flues A A' extended from said extension respectively rearward to the combustion chamber C and forward to the smoke box D, and valve or damper V.

No. 15,345. Improvements in Harrows.*(Perfectionnements aux herse.)*

Benjamin F. Rix, Homer O. Hitchcock and Peyton Ranney, Kalamazoo, Mich., U. S., 22nd August, 1882; for 5 years.

Claim.—1st. In a cultivating device, having shares operated by coil springs, the combination of the share beams, having the obliquely angled plate, the reversible tooth and curved rod bearing the spring, the upper end of said rod being loosely located in the slot of the tooth. 2nd. In a harrow, the combination of the lower beam and its casting, the perforated upper beam, the hinging bolt and the hinged tooth.

No. 15,346. Improvements on Balances.*(Perfectionnements aux balances.)*

Frederick A. Roeder and Alfred Springer, Cincinnati, Ohio, U. S., 22nd August, 1882; for 5 years.

Claim.—1st. In a scale beam, having its fulcrum support and terminal pendent connections, formed of stretched metallic wires acting torsionally. 2nd. The frame B constructed of diagonal cross braces, and a wire stretched between and around the ends of the braces and constituting one or more of the peripheral sides of a rectangular frame said side or sides, being utilized as a torsional pivot for a scale beam. 3rd. In combination with the scale beam A, the frames B having diagonal braces holding wire in tension, used as the terminal supports for the scale pendants. 4th. In a torsional pivot balance one or more auxiliary scale beams pivoted in the same vertical plane, with the main beam and connected therewith through the terminal pivot frames. 5th. In a torsional pivot balance, the combination of the main and auxiliary beams A A' and central and terminal pivot frames B B'. 6th. In a torsional pivot balance, the frame B B' as constructed, each consisting of a wire stretched around the extremities of two cross-bars diagonally arranged. 7th. The shaft F provided with eccentric cams g, in combination with the springs E as a motion arrester for balances. 8th. In a platform scale the bifurcated levers L L' supported upon stretched wire pivots and connected by a suspended link B' secured

ed to the levers upon stretched wire pivots and connected by a suspended link B3 secured to the levers upon stretched wire pivots, all acting torsionally. 9th. In a platform scale, in combination with the system of levers L, L2 and their connections, the torsion frames B1 B1 suspended from the levers and constituting the pivot supports of the platform P. 10th. In a platform scale, in combination with the supporting lever system, the torsion frame B4 connecting the supporting levers with the balance beam. 11th. In a platform scale, in combination with the standards h supporting the platform upon the compound levers, the motion arresters consisting of the pivots or shafts, having thereon cranks P, operating parallel plates m and hand lever n.

No. 15,347. Improvements in Car Starters.

(*Perfectionnements aux appareils de mise en mouvement des chars.*)

George A. Evans, Kingsey, and Henry T. Evans, Notre-Dame de Toutes Grâces, Que., 22nd August, 1882; for 5 years.

Claim.—1st. The combination of an axle provided with a ratchet wheel, a double acting pawl arranged to engage with the ratchet wheel and a sliding draw bar connected with the pawl. 2nd. In a double acting pawl or dog, adapted and arranged to engage automatically with a ratchet on the car axle when moved toward either end of the car. 3rd. In combination with a car axle having a ratchet wheel secured upon it, a swinging yoke mounted upon the axle and carrying a pawl or dog, a spring arranged to hold the yoke normally in an upright position, a sliding draw bar and intermediate connection between the pawl and draw-bar, whereby the movement of said bar is made to first tip the dog and cause it to engage with, and turn the ratchet, then to disengage from the ratchet. 4th. The axle a provided with ratchet wheel C, yoke D, pawl H, spring b, bands or chains I, I1, arms J, draw bar K, spring E and pulley G.

No. 15,348. Improvements on Carpet Fasteners.

(*Perfectionnements aux moyens d'assujétir les tapis.*)

Daniel N. Baldwin, Albert, (Assignee of James A. Wilmot, Riverside, N. B., 22nd August, 1882; for 5 years.

Claim.—1st. A carpet fastener, composed of the lower plate jaw A having a tooth C and provided with holes B or prongs, to secure the same to the floor, and hinged by post or standard D, or other contrivance, to an upper jaw plate E, provided with teeth H or other suitable means for retaining the carpet, and actuated by a spring G, whereby the upper jaw will be retained, opened or closed.

No. 15,349. Improvements on Harness and Trace Couplings, Neck Yokes and Pole Clips.

(*Perfectionnements aux accouplages des harnais et des traits, aux crochets des jougs et des timons.*)

George W. Hunter, Yo Semite Valley, Cal., U. S., 22nd August, 1882; for 5 years.

Claim.—The link A with its bolt a having the head b, in combination with head C provided with the shank D, said head having the hole F made eccentric to its circumference, and the slot G, so that the bolt may be introduced and tightened by turning within the hole.

No. 15,350. Improvements on clothes racks.

(*Perfectionnements aux séchoirs à linge.*)

Henry F. Gray, Columbus, Ohio, U.S., 22nd August, 1882; for 5 years.

Claim.—The combination of the shelf or top part A having back or support B and centre piece C, notched segments D slotted at c, and arms E slotted at their inner ends, and provided with the hooks F and springs G.

No. 15,351. Improvements on Extension Furniture.

(*Perfectionnements aux meubles à rallonge.*)

Alfred F. Potts, Indianapolis, Ind., U. S., 22nd August, 1882; for 5 years.

Claim.—1st. The extensible furniture and receptacles described. 2nd. Extensible furniture, composed of trays, frames or receptacles, connected by pivoted bars, to permit said trays to be brought together to close said receptacle, or to be separated, while maintained parallel to open it. 3rd. The combination, in an extensible article, of crossed bars and intermediate supports for articles to be displayed. 4th. The combination, with trays or receptacles connected by cross bars, of movable doors or lids covering the trays. 5th. The combination, with a desk, cabinet or other article or structure, of an extensible receptacle consisting of trays connected by cross bars. 6th. A receptacle composed of trays and cross connecting bars, combined with a support connected to, and supporting the end tray, whereby the receptacle can be closed against, or extended from said support. 7th. The combination of a receptacle composed of trays connected by bars, and a support provided with an opening into which the receptacle can be slid in and out when folded together. 8th. The extensible receptacle composed of trays and bars, the inner tray hinged or connected to a box sliding in a case. 9th. The sliding drawer or receptacle composed of two divisions, the outer hinged to the inner to fall to a vertical position when withdrawn. 10th. The combination of a support, trays connected by cross arms to be folded and extended, and a lid t. 11th. The bracket J combined with the extensible receptacle. 12th. The lid b combined with an extensible receptacle. 13th. A dropping platform c combined with an extensible receptacle. 14th. The combination, with a desk or case, of receptacles open at the inner sides and capable of being moved in and out. 15th. The combination, with the case of a desk or other article, of a receptacle and guides and pivots arranged to permit the receptacle to be slid in and out, and to swing after being drawn out. 16th. The combination, with a case, of receptacles capable of being extended therefrom, and supports or casters

for the same. 17th. A frame or case supporting extensible receptacles, composed of trays connected by cross arms or bars.

No. 15,352. Improvements in Car Brakes.

(*Perfectionnements aux freins des chars.*)

Peter Lord, Jean B. Vinet and Avila S. Vinet, Montreal, Que., 22nd August, 1882; for 5 years.

Claim.—1st. The combination of the wheels and axles of a car, having brakes operated by a lever G, with bar M, pulley A1 having conical recess, conical pulley B2 having neck C2, actuating chain, &c. D1, levers P and T. 2nd. The combination of the bar M, levers P and T, each provided with an operating mechanism, and operating the bar M with pulley A1 having conical recess, conical pulley B2 having neck C2, with axle F, whereby the chain D1 and lever G are operated.

No. 15,353. Machine for Separating and Scouring Wheat.

(*Machine à séparer et nettoyer le blé.*)

Hiram J. Livergood, Brantford, Ont., 22nd August, 1882; (Extension of Patent No. 7794.)

No. 15,354. Improvements on Bushes and Bung.

(*Perfectionnements aux dés et aux bondons.*)

William W. Jackson, Chicago, Ill., U. S., 22rd August, 1882; for 15 years.

Claim.—1st. In a barrel bung, the bushing adapted to be screwed into the barrel and having a conical seat, in combination with the conical bung provided with a recessed holding, or packing ring. 2nd. A bushing formed with shoulder b and a conical seat having vertical grooves D, ending in inclined ways e e, in combination with the bung, having a rubber packed shoulder e and bevelled lugs C C. 3rd. A bung for barrels or casks provided with lugs which turn upon inclined ways to lock the bung in the barrel or cask. 4th. A bung B having lugs C C, in combination with a bushing A, provided with inclined ways e e and grooves D. 15th. A bung B having an opening for the insertion of a wrench, with recess g.

No. 15,355. Improvements on Harrows.

(*Perfectionnements aux herses.*)

William Kelly, Saranac, Mich., U.S., 23rd August, 1882; for 5 years.

Claim.—In a wheel harrow, the combination of the arched axle A having the arms rigidly fixed to it, the locking lever D on this axle, the bail G pivoted to lever D, the blocks a a on the suspended frame E having bail G pivoted to them, the bail F pivoted to said frame directly below the pivoted ends of the bail G, and also pivoted to the axle, the front and rear transverse bars of frame E, and the double harrow teeth crossing the tops of said bars and secured to them by plates d.

No. 15,356. Improvements on Draught-Equalizers.

(*Perfectionnements aux régulateurs du tirage.*)

Steven Marvin and William T. Marvin, Burnettsville, Ind., U. S., 23rd August, 1882; for 5 years.

Claim.—The combination of the double tree A, stay spring C, reinforcing spring D, centre plate E, bearings F F and staples G G.

No. 15,357. Improvements in Organs.

(*Perfectionnements aux orgues.*)

Ellis L. Mundy, Norwalk, Ohio, U.S., 23rd August, 1882; for 5 years.

Claim.—1st. The reed cells having bevelled partitions situated between them and communicating above with a single or common air chamber. 2nd. In a reed organ, the partitions B constructed to retain the reeds in their position, and formed and provided with inclined or bevelled tops. 3rd. In combination with the reed cells, the independent adjustable slides a-ranged to vary the apertures of the individual air vents. 4th. In combination with the reed cells, the independent perforated slides arranged to vary the apertures of the individual air-vents.

No. 15,358. Improvements in Horse Collars.

(*Perfectionnements aux colliers de cheval.*)

Carl Roehl and Charles F. Klenze, Davenport, Iowa, U.S., 22rd August, 1882; for 5 years.

Claim.—1st. The combination, with metallic hame-plates A and hames B secured thereto, and provided with a locking device N, whereby their lower ends are connected, of the extension plates D and hame extensions C secured together and attached adjustably to the parts A B, the upper ends of the hame extensions C being connected by a hinge. 2nd. The combination, with the plate A, of the hame B provided with the depression b and slot f, for adjusting the bolt c. 3rd. The combination, with the plate A, of the hame B provided with the depression b terminating in an opening b1, through which the screw nut e1 is inserted and removed. 4th. The combination, with the plate A and hame B provided, on their adjacent sides, with depressions a b and a slot f formed in the hame, of the extension plate D fitted against the outer side of the plate A and hame B, a hame extension C secured to the plate D and a screw bolt e passing through the parts C D and slot f, and having its screw-nut e1 arranged in the depression a b. 5th. The combination, with the hame B provided on its rear side with a depression i and having a slot i1, of a hame eye cast with a shank H, which fits over the outer side of the hame, and a fastening bolt k passing through the shank H and slot i1, and secured in place by a nut k1 arranged in the depression i. 6th. The combination, with the plate A, of a hame B, provided with a groove i on its rear side, and a lateral opening m through which the

nut *k* can be introduced in the groove *i*. 7th. The combination, with the hames B, of a fastening device, each part of which is provided with a flange *n*, grooves *p* formed in the upper or rear sides of the hames, and extending to their end to form openings for the introduction of the screw-nuts *o*, slots *p* formed in the hames, and screw bolts *o*, whereby the flanges *n* are adjustably secured to the hames. 8th. The combination, with the pads Q of the plates A having their edges bent, or closed over the projecting edges of the pads. 9th. A pad provided with a back *q* having openings *r*, for the introduction of the stuffing material.

No. 15,359. Improvements in Horse Collars.

(*Perfectionnements aux colliers de cheval.*)

Carl Roehl and Charles F. Klenze, Davenport, Iowa, U. S., 23rd August, 1882; for 5 years.

Claim.—1st. The combination, with the metallic hame plates A, of the adjustable extensions B connected by a hinge *g*, and a locking device H composed of a bolt portion H¹ and a socket portion H², both attached adjustably to their respective hame-plates. 2nd. The locking device H composed of a bolt portion H¹ and a socket portion H², the bolt portion being composed of a hollow stud *k*, flat headed bolt K and spring *m*, and the socket portion being constructed with a cavity *o* provided with an elongated opening *p* and spiral grooves *g*. 3rd. The combination, with the hame-plates A, of the locking portions H¹ H² provided with flanges *h* and secured to the hame-plates by bolts *e* passing through elongated slots *e*³.

No. 15,360. Improvements on Churns.

(*Perfectionnements aux barattes.*)

William W. Kitchen, Grimsby, Ont., 23rd August, 1882; for 5 years.

Claim.—1st. A double action cataract pendulum churn A consisting of two boxes I I joined together at right angles to form the bottom and ends of the churn, with sides K and cover F. 2nd. The combination of the churn A, pendulum C and weight E, secured by pin G.

No. 15,361. Improvements on Wind-Mills.

(*Perfectionnements aux moulins à vent.*)

Clarence J. Hamilton and William O. Allen, Plymouth, Mich., U. S., 24th August, 1882; (reissue of pat. 14,007.)

Claim.—1st. A wind mill wherein the sails are automatically controlled and governed with relation to the force of the wind, by the centrifugal action of the weights which turn the sails upon their arms. 2nd. In a wind-mill, and in combination with the plate I and its connections, the laterally moving ring N and frame O secured to the yoke R by means of the bars P, said yoke being secured to the lever S, and by means of which the said ring and its frame are projected or retracted, for the purpose of operating the lever M, fulcrumed on the plate I.

No. 15,362. Improvements in Sleds.

(*Perfectionnements dans les traîneaux.*)

Robert A. Haldeman, Cincinnati, Ohio, U.S., 25th August, 1882; for 5 years.

Claim.—1st. The seat having the two runners B at the rear end, rigidly attached to the seat, in combination with the single runner M in front, secured to a swivel which projects centrally through the forward end of the seat. 2nd. The seat having at its forward end the boxing D provided with the flange E and lugs F in combination with the swivel H, having the cross handle I, shoulder J, lug K, ears L, runner M attached thereto.

No. 15,363. Improvements in Telegraphic and Telephonic Apparatus.

(*Perfectionnements aux appareils télégraphiques et téléphoniques.*)

François Van Rysselberghe, Schaerbeck, Belgium, 25th August, 1882; for 5 years.

Claim.—1st. The special arrangement of ordinary telegraphic and telephonic apparatus, clearly indicated in the drawing, the object of which being to separate the undulating currents of telephony and of harmonic telegraphy, from the continuous or instantaneous currents of ordinary telegraphy, by means of condensation, or of induction, and which permits the exchange simultaneously, by the same wire, of electric signals of different nature, such as of ordinary telegrams at the same time as spoken, or harmonic messages without putting the telephonic or harmonic circuit in metallic or conductive contact, with the ordinary telegraphic circuit which thus remains entirely independent.

No. 15,364. Improvements on Hame Clips.

(*Perfectionnements aux liens des attelles.*)

Edward D. Cole, Macon, Ill., U.S., 25th August, 1882; for 5 years.

Claim.—As an improved article of manufacture, the metal clip D having tangs A and A, one of which is extended to form a flat bearing, and is provided with the ears *c c* extending from its end, the screw B and encircling sleeve B.

No. 15,365. Improvement in Methods of Repairing Structures with Beton.

(*Perfectionnement dans les méthodes de réparer les constructions avec du béton.*)

John C. Goodridge, Jr., New York, N. Y., U.S., 25th August, 1882; for 15 years.

Claim.—1st. The method of repairing structures with beton, or concrete, by surrounding same, more or less, completely with moulds, leaving an interval between said moulds and the structure, and then

filling said interval with beton or concrete. 2nd. The method of repairing a structure, the foundation of which is defective, by surrounding or facing the defective portions with a wall placed at a distance therefrom, and thence undermining and replacing such defective foundation piece-meal. 3rd. The method of repairing a structure and increasing its bearing surface, by incasing the same with beton or concrete. 4th. The method of repairing a pile bridge and converting the same into a pier bridge, by surrounding said piles with moulds, and incasing the same with beton or concrete. 5th. The method of filling moulds containing water, to repair structures with beton or concrete, by means of an inclined plane. 6th. The method of lightening work formed of beton or concrete, by imbedding therein while in a plastic condition, empty barrels or boxes. 7th. The method of increasing the mass of the structure formed of beton and economizing the use of the beton itself, by imbedding in the same, while in a plastic condition, barrels, boxes, or the like filled with stone or earth.

No. 15,366. Improvements on Oil Cans.

(*Perfectionnements aux bidons à huile.*)

William G. Durham, Greensborough, Ga., U. S., 25th August, 1882; for 5 years.

Claim.—1st. The combination, with the cylindrical oil can turning in bearings in the end standards of the frame, having connecting cross strips, of the flat spring, adapted to engage one of the cross strips and retain the can in an upright position. 2nd. The combination, with the frame A having end standards B B connected by longitudinal cross strips C C, of the cylindrical oil can E having bearings G G in said standards and provided with vail J and outlet spout, or tube K and on its under rear side with a flat spring L adapted to engage one of the cross strips.

No. 15,367. Improvements on Butter Workers.

(*Perfectionnements aux battes à beurre.*)

Emma E. Sully, Cascades, Que., 25th August, 1882; for 5 years.

Claim.—1st. In a butter worker having a hinged cover, or lid with folding leg to support the same when thrown back. 2nd. The combination of a butter table T having grooves G, roller or worker W, spout S, receptacle R with spout S¹ and the tub V. 3rd. The combination of a butter worker, with a suitable reservoir, or receptacle R within the dairy communicating with tubs, or other vessels V outside. 4th. An inclosed butter worker combined with a suitable receptacle, for draining inside the dairy.

No. 15,368. Improvements on Stone and Ore Crushers.

(*Perfectionnements aux machines à broyer la pierre et le minéral.*)

Samuel L. Marsden, New Haven, Ct., U. S., 26th August, 1882; for 5 years.

Claim.—1st. The combination of an upright, fixed cylindrical jaw and an opposite concave swinging jaw plate. 2nd. A fixed cylindrical jaw constructed in sections, provided with suitable devices, whereby they may be placed in, or lifted from position, and devices whereby they may be united to each other. 3rd. As a means for holding the fixed jaw down in place, the combination of the transverse key M, slotted plates M¹ and lugs *h*. 4th. A stone and ore crusher containing the following elements, a cylindrical jaw, an opposite concave jaw plate, a toggle lever with socketted head, an adjustable toggle block and adjustable lever and toggle fulcrum, or bearings. 5th. The combination, with the toggle lever O having rear head-socket *o*, of the adjustable bearings O. 6th. The combination with the toggle lever O, having face socket *r*, toggle G and swinging jaw H having rear socket S², of the adjustable toggle bearings *r*² S. 7th. The combination, with the toggle lever O, having a rear head socket O¹ and provided with adjustable bearings *o*, of the toggle block P having face socket *q* and adjustable lever fulcrum *q*².

No. 15,369. Improvements on Sewing Machines.

(*Perfectionnements aux machines à coudre.*)

The Garretson Ruffler Company, (Assignee of Thomas B. Garretson,) Oskaioosa, Iowa, U. S., 26th August, 1882; for 5 years.

Claim.—The combination, with the presser foot A having brackets E E and rod F, of the carrier G, having set screw L and pushing blade K, plate H having slot *m*, guide strip I and the spring O.

No. 15,370. Manufacture of Paper Bags.

(*Confection des sacs en papier.*)

James C. Wilson, Montreal, Que., (Assignee of Lorenzo D. Bonner, Boston, Mass., U. S.) 26th August, 1882; (Extension of Patent No. 1944.)

No. 15,371. Improvements in the Art of Brewing Malt Liquors.

(*Perfectionnements dans l'art de brasser les liqueurs de malt.*)

Joseph F. Gent, Columbus, Ind., U. S., 26th August, 1882; for 15 years.

Claim.—The art of brewing malt liquors by producing the wort from malt, hops, and hullers corn-flakes.

No. 15,372. Improvements in the Manufacture of Waterproof Articles.

(*Perfectionnements dans la fabrication des objets imperméables.*)

William O. Callender, London, Eng., 26th August, 1882; for 15 years.

Claim.—The manufacture of waterproof articles by the use, in conjunction with cloth, paper, leather, or other suitable material, of the compound material produced by combining the natural deposits of bitumen with the oil residue, or its equivalent, whether the compound be vulcanized, or used without being vulcanized.

No. 15,373. Improvements on Grinding Mills.

(*Perfectionnements aux moulins à mouler.*)

Frank Wilson, John L. Wilson and James E. Wilson, Easton, Penn., 26th August, 1882; for 5 years.

Claim.—1st. The grinding cylinder having diagonally disposed ridges, each ridge being notched or serrated. 2nd. The grinding cylinder having diagonally disposed notches or serrated ridges formed with an abrupt edge and a rounded or inclined edge, in combination with the grinding disk having a roughened face. 3rd. The combination, with the shell A having interior grooves B, flange C with roughened face E and rim D, of the grinding cylinder J, having diagonally disposed serrated or grooved ridges M, disk L having roughened face Q, shaft K and cap plate T. 4th. The combination with the shaft carrying the disk of the cap plate having the screw-threaded and nutted bolts and the cross plate having central socket for the shaft. 5th. The described grinding mill.

No. 15,374. Improvements on Ice Skates.

(*Perfectionnements aux patins.*)

John Bartlett, Oshawa, Ont., 28th August, 1882; for 5 years.

Claim.—1st. An improved skate, having the sole and heel plates connected by means of pintles or pivots (forming toggle joints) to a slotted lever having an adjusting screw rod attached to it and moving with it, whereby the said heel and toe clamps are set or adjusted simultaneously. 2nd. The mode of fastening the heel and toe plates, to the skate or runner, by riveting projecting portions of the skate runner (passing through small slots in the plate) over a double bracketed piece of steel *c*, which fits into and over a slot in the skate runner. 3rd. The mode of affixing the heel knife *L*, so that it enters the boot heel, in a straight line. 4th. The combination, with the runner A, the toe plate B and the heel plate C, of the longitudinally movable sole plate E, the transversely movable sole clamps F and the devices for moving and locking the sole plate. 5th. The combination, with the runner A, the toe plate B provided with slots D and the heel plate C, of the longitudinally movable sole plate E, the transversely movable sole clamps F provided with diagonal slots *c*, the pintles G attached to the sole plate E and passing through the slots *c*, *d*, and of devices for moving and locking the sole plate E. 6th. The combination of a longitudinally movable sole plate E with the lever H pivoted to the rear end of the same, and the lever *k* pivoted to the lever H and to the sliding heel clamp L. 7th. The combination, with a skate, of the longitudinally movable sole plate E, the clamps F, the longitudinally movable slotted lever H, the lever K, the pintle K', the screw rod N and the nut O. 8th. The combination, with a skate, of the movable sole plate E, the lever H having its end J bent downwards, and a lipped, or turned-up portion X, the clamp F, the lever K, the pintle K', the screw rod N and the nut O. 9th. The combination, with a skate, of the movable sole plate E, the clamps F, the levers H K and the slot *p* of the heel plate C. 10th. In combination with runner A, the toe plate B with the bracketed piece X provided with a slot *a* and the heel plate C with the bracketed piece X of the longitudinally movable sole plate E provided with a tongue *b*, the clamps F and the levers H K.

No. 15,375. Improvement on Combined Window-Cleaning Chairs and Fire-Escapes.

(*Perfectionnement des chaises pour laver les croisées et aux sauveteurs d'incendie, combinés.*)

Anna Dorfmitzer, New York, N. Y., U. S., 28th August, 1882; for 10 years.

Claim.—1st. The combination, with the platform A and step frame D, of the clamping device G consisting of clamping bar G¹, blocks G² and plates L, racks I, screw H, travelling nut H' and pivoted bars *n*. 2nd. As a means for supporting the combined chair and fire-escape in position on a window sill, the combination, with the screw-adjusted bar G, of the blocks G², serrated end plates L and racks I. 3rd. The combination, with the window-cleaning chair provided with platform A, step frame D and suitable clamping devices and hangers, of the rope ladder P, windlass Q, ratchet S, pawl T, connected eccentric regulating lever and cord U V and basket W.

No. 15,376. Process for Treating and Preserving Fermented and Fermentable Liquids.

(*Procédé de traitement et de conservation de liqueurs fermentées et fermentables.*)

Charles W. Ramsay, Brooklyn, N. Y., U. S., 28th August, 1882; for 5 years.

Claim.—The process of arresting, or preventing fermentation in fermented, or fermentable liquids, by first vaporizing the liquid and then subjecting it, while in the vaporous state, to violent shocks, or concussions.

No. 15,377. Process for Treating and Ageing Liquors.

(*Procédé pour traiter et vieillir les liqueurs.*)

Charles W. Ramsay, Brooklyn, N. Y., U. S., 28th August, 1882; for 5 years.

Claim.—The process for oxidizing, or ageing whiskey, brandy, gin, and also distilled and fermented liquids, by first vaporizing the said liquids into a fine spray, or attenuated atomic form, then while in this form, submitting the vapours to shocks, or concussions, and

finally, while still in the vaporous state, impregnating them with atmospheric air, or pure oxygen.

No. 15,378. Improvements in sights for small fire-arms.

(*Perfectionnements aux mires des petites armes à feu.*)

Thomas Gilbert, London, Eng., 28th August, 1882; for 5 years.

Claim.—1st. The manufacture and use of the improved sight for small arms constructed as described and represented in the drawing. 2nd. A sight for small arms having a number of notches on one side. 3rd. A sight for small arms having a number of pieces of silver, or platinum, in notches on the said sight. 4th. A sight for small arms having a number of notches on one side thereof, of a dark colour, the said notches having pieces of silver, or platinum, or the like.

No. 15,379. Improvements in Driving and Carrying Chains.

(*Perfectionnements aux chaînes sans fin et pour transporter.*)

Christopher W. Levalley, St. Paul, Min., U. S., 28th August, 1882; for 5 years.

Claim.—1st. In a chain link cast with the hook B, end bar E, side bars A A reduced thinner than the end bar, a wedge-shaped frictional projection G extending from and supported by the side bars A A, and an aperture C all cast in one piece. 2nd. A chain link cast with the hook B, the end bar E and side bars A A, one of which is made thinner than the end bar E, and a bucket L projecting from said side bars, all cast in one piece. 3rd. A chain link having the hook B the end bar E, side bar A made thinner than the end bar E, which connects the hook with said end bar by the part G, all cast in one piece. 4th. A chain link provided with the hook B, end bar E, side bars A A made thinner than the end bar E, and a bucket for transporting material and the recess C all cast integral with the bucket. 5th. A chain link having a portion G adapted to engage with a driving wheel and having said projection formed hollow, or with a cavity therein, to receive and transport material.

No. 15,380. Improvements on Seamless Boots.

(*Perfectionnements des bottes sans coutures.*)

Thomas T. Marshall, Jarvis, Ont., 28th August, 1882; for 5 years.

Claim.—A seamless boot, or shoe, formed from a pattern and crimped on the crimping machine, the foot opening cut after crimping.

No. 15,381. Improvements on waggon gears.

(*Perfectionnements aux trains des wagons.*)

William T. Shaver, Eldora, Iowa, U. S., 28th August, 1882; for 5 years.

Claim.—In combination with the waggon box A, transverse spring K and side springs M, the rocking rod, or equalizer N provided with forked ends *a* and bolt *b*, whereby the waggon gear is made more elastic.

No. 15,382. Improvements in the Manufacture of Boots and Shoe Heels.

(*Perfectionnements dans la confection des talons des chaussures.*)

William S. Childs, Montreal, Que., 29th August, 1882; for 5 years.

Claim.—1st. The art or process of making heels, by connecting together in a mould lifts formed of more than one piece, subjecting same to pressure so as to form them into a block and dividing said block into heels by a band saw. 2nd. The mould A formed with ridges *a a*. 3rd. The combination, with the press E, of the mould A placed therein and containing lifts connected together at each end of which is a pressed head. 4th. The combination, with the press E and follower, of the mould A containing lifts and presser heads B B'. 5th. In a band sawing machine used for cutting up into heels, blocks of cemented lifts guides placed above and below the table in order to turn the band saw in either direction from a vertical line.

No. 15,383. Improvements in Protectors for Telegraphic Instruments.

(*Perfectionnements aux protecteurs des appareils télégraphiques.*)

Charles T. Howard, Providence, R. I., U. S., 28th August, 1882; (Extension of Patent No. 14,908.)

No. 15,384. Improvements on Protectors for Telegraphic Instruments.

(*Perfectionnements aux protecteurs des appareils télégraphiques.*)

Charles T. Howard, Providence, R. I., U. S., 29th August, 1882; (Extension of Patent No. 14,908.)

No. 15,385. Combined Trap and Ventilator for Sewers and Drains.

(*Trappe-ventilateur d'égoût et de fossé.*)

François X. Rousseau, Montreal, Que., 29th August, 1882; (Extension of Patent No. 7805.)

No. 15,386. Fanning Mill.

(*Tarare-cribleur.*)

Thomas Wilson, Richmond, Ont., 29th August, 1882; (Extension of Patent No. 1641.)

No. 15,387. Improvements in the mode of Forming Electric Connections on Railway Trains. (*Perfectionnements dans la manière d'établir des communications électriques sur les trains de chemins de fer.*)

Jesse B. Lowe and Frank S. Lowe, Pulaski, N. Y., U. S., 29th August, 1882; for 5 years.

Claim.—1st. In an organized system of electric conductors attached to the cars of a railway train, for the purpose of signalling the engineer in charge of the train, the combination with the electrical conductors A and A' attached to each car, and adapted to connect and disconnect by means of the attached conducting pieces G, and the flexible conductors E provided with the metallic springs *e*, and constructed and arranged to operate with the springs *e*, and one or more push buttons F fixed in or on the cars, and electrically connected to the conductors A and A', of the battery C and electric alarm zong belt D fixed on the engine of the train. 2nd. In an open circuit system of electric conductors, the combination, with the conduction pieces G provided with the projections *g*, of separable conductors provided with springs *e* and *e'* adapted to engage in the pieces G and with each other in such manner that a closing of the open circuit will be automatically effected by every engagement and disengagement of said spring with the pieces G. 3rd. The device for connecting and disconnecting the lines of open circuit electric conductors composed of the conductive pieces G containing the projections *g* and insulated from each other, and the springs *e* and *e'* insulated from each other and adapted to engage with each other and the pieces G in such manner that the open circuit will be momentarily closed every time the said springs are connected to or disconnected from the said pieces G.

No. 15,388. Improvements in Car Couplings.

(*Perfectionnements aux accouplages des chars.*)

Jesse A. Quackenbush, East Saginaw, and Daniel L. C. Eaton, Saginaw, Mich., U. S., 23th August, 1882; for 5 years.

Claim.—1st. The combination of the block B having a slot *f* and internal shoulder W, with the pivoted trigger *m* occupying a position in the slot *f* but adapted to project from the front of the same and having a projecting finger *n* adapted to bear on the shoulder *w* of the block. 2nd. The combination of the draw head having a recess *b*, the block B having a recess *d*, slot *f* and shoulder *w*, the pin E guided by said recesses *b* and *d*, and the pivoted trigger *m* adapted to the slot *f* and having a projection *n* for bearing on the shoulder *w*.

No. 15,389. Improvements on Self-Extinguishing Stoves and Ventilators.

(*Perfectionnements aux calorifères à extinction automatique et aux ventilateurs.*)

William F. Condon, East Saginaw, Mich., U. S., 30th August, 1882; for 5 years.

Claim.—1st. The combination, with a stove door having a fastening lip, of a spring actuated bolt having a bevelled end and adapted to be raised by the lip of the door striking against the same and then by the spring forced over the lip. 2nd. The combination, with a stove and its door, of a spring actuated bolt having a bevelled and recessed tongue, or end, adapted to fit down over the lip, or catch of the door and hold it closed. 3rd. The spring bolt composed of shank *j*, recessed and bevelled tongue *l*, intermediate shoulder *k*, a spring H and a casing for the parts. 4th. The combination, with a stove and its smoke escape, of a valve having a horizontal, circular and a vertical play and provided with lugs to limit its circular movement. 5th. The combination, of a stove and its smoke escape, a valve having a horizontal and a vertical play and provided with a rib on its bottom face, and a bar for the valve to play on provided with a groove corresponding to the rib for its reception. 6th. The combination, with a stove and its smoke escape, of a horizontally and vertically moving valve provided with lugs projecting below its face, transverse rods for the valve to move on and the lugs to strike against and pendent lips for the edge of the valve to strike against. 7th. The combination of a stove and its smoke escape, a plate K provided with pendent lips *o*, a valve L provided with lugs *q* and ribs *p*, and rods M provided with grooves *b*. 8th. The combination of a stove, a fire pot Q, water tank P and pipes connecting water tank and fire pot provided with plugs S. 9th. The combination of a stove, fire pot Q, water tank P, pipes R connecting the water tank with top of fire pot, pipes converging from the water tank to the bottom of the fire pot, and plugs S for closing the pipes. 10th. The combination, with a stove door, of a valve *a* provided with a bead *e* and a strap for holding the valve to the door, provided with a recess for the bead on the valve. 11th. The damper valve *r* having an arm *v*. 12th. The combination of damper valve *r* provided with notch *w* and rod *s* provided with pin *x* fitting into the notch *w*. 13th. The combination of a cylinder D, water tank P and communicating air spaces *vz* around and above the water tank.

No. 15,890. Improvements on Variable Valve Gears for Steam and other Engines.

(*Perfectionnements aux appareils de soupapes variables pour les machines à vapeur et autres.*)

Wilberforce Johnson, Liverpool, Eng., 31st August, 1882; for 5 years.

Claim.—1st. In a variable valve gear for steam and other motive power engines, consisting of an inner ring, or disks *c* revolving with and attached obliquely to the main shaft, in combination with an outer ring or strap D connecting to the valve rod K whose relative positions to each other can be changed at pleasure, and thus the lead of the valves of the engine altered. 2nd. The combination of an inner ring or disk *c* pivoted on two pins or centres B on opposite sides of the main shaft A, so as to stand as required in a plane perpendicular to the axis of the shaft, or at an oblique angle on either side, with an outer ring or strap D sliding freely thereon, carrying pins F, actuating

the valve rod, the angular position of which pin can be regulated by lever or otherwise, and the lead of the valves regulated while the engine is in motion. 3rd. The pivoted ring *c* made in two halves and bolted together, thus enclosing the ends of the pivots, in combination with the sliding ring D fitting into the groove formed by the two halves of C. 4th. The combination of the ring C adjusted or adjustable so as to stand obliquely to the axis of the shaft, the sliding D, carrying pins F, actuating the valve gear, with the adjustable guide H regulating the angle that the pins F shall make with the pivots B. 5th. The combination of the ring D sliding on a path adjusted at, or adjustable to an angle oblique to the shaft, with the pins F and slotted frame E actuating the valve gear. 6th. The combination of the lever R, sliding ring N, sleeve M and connecting device P with the pivoted disk C. 7th. The combination of the lever R, the slide M, the quadrant or link N, the quadrant lever O and the link E with the disk C.

No. 15,391. Improvements in Car Couplers.

(*Perfectionnements aux accouplages des chars.*)

Charles E. Mark, Flint, Mich., U. S., 31st August, 1882; for 5 years.

Claim.—1st. In combination with a draw-bar cored, or recessed interiorly by a longitudinal bar H pivoted to the former, near the rear end and formed at its front ends with a hook I adapted to grasp the coupling link by the vibration of the draw-bar. 2nd. In combination with the draw-bar C and bar H having the hook I, the recess *b* to support and strengthen the free end of the hook. 3rd. The draw-bar C and bar H arranged between guides B B in the frame A of the car, in combination with the partition D F, spring E and key J. 4th. The draw-bar C and bar H pivoted together and arranged within the guides B B on the frame A, in combination with mechanism for lifting the rear end of the draw-bar.

No. 15,392. Improvements on Bee Hives.

(*Perfectionnements aux ruches.*)

Selim Pitet, Port Perry, Ont., 31st August, 1882; for 5 years.

Claim.—1st. A series of bee hives constructed with removable ends or sides and united to each other at the ends or sides. 2nd. The combination, with a bee hive A, of a removable attic C. 3rd. The combination, with a bee hive A, of the removable attic C provided with openings C' covered with wire netting D. 4th. The combination, with a bee hive, of a pivoted button provided in one end with an opening closed by wire netting. 5th. The combination, with the honey board E provided with an opening G, of the pivoted button H provided in one end with an opening I covered with wire netting. 6th. The combination with the bee hive, or box A having inwardly projecting cross strips E₁ on the upper edges of the ends of the honey board E having transverse cleats or strips F projecting over the ends. 7th. The combination, with the bee hive or box A having inner rabbets in the upper edges of the longitudinal sides, of the honey frames O provided with top and bottom cross strips O₁ O₂. 8th. The combination, with the bee hive or box A, of the frames O and the wire netting frames P. 9th. The combination, with the bee hive or box A provided with apertures or slots M, of the slide J provided with angle-shaped slots K. 10th. The combination, with the bee hive or box A, of the hooks Q and the eyes or staples R for the purpose of connecting a series of hives sidewise or otherwise. 11th. The combination, with the bee hive or box A, of the removable ends, the pins Y, the cross strips E and the screws Z. 12th. The combination, with the bee hive or box A, of the frames O, the wire netting frames P and the top plates X'.

No. 15,393. Improvements in Traction Engines. (*Perfectionnements aux machines de traction.*)

Jacob Nixon, Winfield, Ks., U. S., 31st August, 1882; for 5 years.

Claim.—1st. The combination, with the frame or truck, of two or more gangs of wheels rigidly mounted on axles within the frame, said axles being so arranged relatively, that the wheels of one gang will intermesh or overlap those of the adjacent gang. 2nd. The combination, with the frame and wheels, of an endless belt or track consisting of an inner layer of belting, transverse bars secured thereto, and an elastic covering. 3rd. In a track for traction engines, consisting of two or more strips of flexible material having transverse metallic bars interposed between them. 4th. A track for traction engines consisting of the combination, with an inner layer of flexible material of transverse metallic bars riveted thereto, and an outer layer or covering of elastic material. 5th. The combination, with the frame or truck of gangs of wheels mounted rigidly on axles within the frame, the outer wheels of the gang being provided with annular flanges and an endless track adapted to be guided by said flanges.

No. 15,394. Improvement in Fence Posts.

(*Perfectionnement des pieux de clôture.*)

Samuel Heaton, Cedar Rapids, Iowa, U. S., 31st August, 1882; for 5 years.

Claim.—1st. The link D in combination with the post A and brace B, for locking the upper extremities of the braces against the post. 2nd. In combination with the post A, brace B and link D, for locking the upper extremities of the brace to the post, the link C attached to the base B' and passing through the slot A'.

No. 15,395. Improvements in the Manufacture of Telegraph Conductors and Materials for Covering and Insulating Wire or other Conductors.

(*Perfectionnements dans la fabrication des conducteurs télégraphiques et aux matériaux pour recouvrir et isoler les fils conducteurs ou autres.*)

William O. Callender, London, Eng., 31st August, 1882; for 15 years.

Claim.—1st. The manufacture of the compound material produced by combining the natural deposits of bitumen with the oil residue, or its equivalent, whether the compound be vulcanized, or used without being vulcanized. 2nd. The manufacture of insulated conductors for telegraphic or other purposes, by covering or coating the conducting wires with the compound prepared and vulcanized.

No. 15,396. Improvements on Dies for Shaping and Setting Springs. (*Perfectionnements aux étampes pour façonner et parer les ressorts.*)

Edward Spaulding, Brooklyn, N. Y., U. S., 31st August, 1882; for 5 years.

Claim.—1st. A pair of dies having the longitudinal concave and convex shape for longitudinally curving or shaping the plates or leaves of elliptic springs and also having transverse convex and concave faces for simultaneously producing said longitudinal curves and also the transverse concave convex shape. 2nd. A pair of dies having the longitudinal convex and concave shape for longitudinally curving or shaping the plates or leaves of elliptic springs, also the transverse convex and concave shape for transversely curving the plates, the arrangement being such that they produce the transverse concavity in the longitudinally convex side and the transverse convexity in the longitudinally concave side of the plates. 3rd. A pair of dies having the longitudinally convex and concave shape for longitudinally shaping and curving the plates or leaves of elliptic springs, also the transverse convex and concave shape for transversely curving said plates the transverse curvatures of both the dies being formed on one and the same radius, for making the plates thicker in the middle and diminishing in thickness therefrom to the edges. 4th. The method of reshaping and setting the hardened leaves or plates of elliptic springs consisting of subjecting them after being heated for drawing the temper and while hot to squeezing or swaging pressure in the dies employed for previously shaping them, the said pressure being continued till the heat is reduced to the normal temperature or thereabout. 5th. A pair of dies constructed with longitudinal and transverse curves for shaping the leaves of elliptic springs and also provided with the socket or recess D, and stud E for simultaneously shaping said leaves or plates and also forming the studs and indentations.

No. 15,397. Improvements on Hay Unloaders. (*Perfectionnements aux machines à décharger le foin.*)

Jacob M. Hendricks, Trenton, Ont., 31st August, 1882; for 5 years.

Claim.—1st. In combination with the rack of a farm wagon, two or more division pieces provided with pins or hooks at convenient heights, also slings composed of ropes or chains provided, with rings at each end. 2nd. In combination with a farm wagon loaded in sections separated by means of slings and division stakes the coupler C and a suitable hoisting arrangements. 3rd. The construction and arrangement of the coupler C consisting of a slotted bar, levers L L, link l, abutment T T, eye t, cord R' and rope or chain R2. 4th. The construction and arrangement of a single or double sling, consisting of a rope or chain R having a ring r at one end, and a ring or rings r1 capable of passing upon the locking lever L1 at the other end or ends. 5th. The method of loading hay, straw and similar produce in sections divided by slings placed ready for attachment to the lifting tackle. 6th. The method of handling hay, straw and similar produce in removing it to or from the barn or stack, in combination with a suitable hoisting arrangement. 7th. The combination of the rack of a farm wagon B b, division stakes D D, slings R r r1, coupler C and a convenient hoisting arrangement.

No. 15,398. Improvements in Coal Stoves. (*Perfectionnements dans les poêles à charbon.*)

Clarence Rathbone, Albany, (assignee of Charles A. Hamlin, Greenbush,) N. Y., U. S., 31st August, 1882; for 5 years.

Claim.—The combination, with a fuel magazine or feeder, of an agitable rear grate fixed in an inclined position directly beneath the said magazine, and a horizontal bottom grate or fire bed placed contiguously to the lower edge of the inclined rear grate, the said bottom grate being composed of two movable sections having their axes arranged in parallel lines, and both sections being adapted to move synchronously to cut by a positive movement the debris from the lower part of the fire and to support the superimposed fuel.

No. 15,399. Improvements on Electric Arc Lamps. (*Perfectionnements aux lampes électriques en arc.*)

William M. Thomas and Samuel W. Skinner, Cincinnati, Ohio, U. S., 31st August, 1882; for 5 years.

Claim.—1st. An arc electric lamp in series having a fixed helix in a main circuit that includes the electrodes, a helix of high resistance surrounding said fixed helix in a circuit derived from said main circuit and attached to the positive electrode, and a simultaneously movable core common to both helices, whereby the feed and position

of the electrode are controlled and equal action maintained throughout the series by the joint action of two opposing electric forces. 2nd. A stationary helix in the circuit which includes the electrodes, in combination with a surrounding movable helix in a circuit derived from the said main circuit and a simultaneously movable core common to both of said helices and adapted and arranged to be lifted by electric influence from the stationary helix and to be subject to depression by repulsion upon the attached differential helix which surrounds said main helix so as to maintain uniform arc lengths throughout the series. 3rd. A stationary helix in a circuit which includes the arc in combination with a shifting positive electrode, to which are attached a suction core which occupies an axial position within said helix and is attracted upward thereby, and an overflow helix of high resistance that encircles said stationary helix and is in a circuit derived therefrom and, when energized, acts in mechanical opposition thereto in proportion to the overflow. 4th. The combination of a stationary helix in communication with the positive rheophore and the following members attached to and moving with the positive electrode to wit: a sliding conductor upon a bared track on said helix's periphery, an interior suction core and an exterior concentric differential shunt. 5th. A shifting conductor which is rigidly attached to and which travels with the consuming electrode upon a longitudinal bared track, on the exterior periphery of a stationary helix, said conductor together with the portions of said helix thus brought into circuit constituting the electrical communication from the generator to said electrode so as to shift the said helix's magnetic field and to maintain a practically constant magnetic equipoise to the said electrode there being also attached to said shunt a counterpoise and a suction core and differential overflow coil which are concentric with and respectively interior and exterior to said helix. 6th. A shifting conductor which is rigidly attached to and travels with the consuming electrode upon a longitudinal bared track on the periphery of the prime helix and which constitutes the electrical communication from the generator to the said electrode so as to shift the helix's magnetic field and to maintain a practically constant magnetic equipoise to the said electrode, in combination with a similarly attached and travelling suction core and a differential coil that surrounds said helix, and is so wound with a wire of higher resistance than the normal arc and so connected with line beyond it as to direct the overflow and to counteract the core suction in proportion to such overflow. 7th. The combination, with a stationary helix C, conveying current through bared track c on said helix exterior periphery and thence through a shifting conductor U T S to the electrode, the following members attached to said conductor to wit: a central armature or suction core, the positive electrode N and a coil d of higher resistance than that of the normal arc concentric with an exterior to the stationary helix and electrically connecting said conductor with line beyond the arc so as to divert the overflow, and so wound as to be repelled by said stationary helix in proportion to the overflow energy. 8th. The combination, with stationary helix C, having electrical connection above with the positive rheophore and below through bared track c in its exterior periphery and shifting conductor U T S with the positive electrode the following members attached to and travelling with said electrode to wit: a suction core interior to and attracted by said helix and a longitudinally guided differential coil d that surrounds said helix and has at or near its mid-length, slots b which receives the wheels U of said conductor.

No. 15,400. Improvements on Machines for Quarrying Slate. (*Perfectionnements aux machines à tirer l'ardoise.*)

Adam R. Reese, Phillipsburg, N. J., and John J. Detwiller, Easton, Penn., U. S., 31st August, 1882; for 5 years.

Claim.—1st. An open frame supported on adjustable legs and supporting a reciprocating saw carriage having end pieces d d which clasp the said frame, and its actuating mechanism provided with revolving saws or cutters. 2nd. The combination, with the open frame A, of the screw threaded legs C C, collars C1 C1, cross beams C2 C2, screw rods C3 C3 and set screws b b whereby said frame may be adjusted with the surface of the rock. 3rd. The combination, with the frame A and beams C2, of the screw-threaded rod C3, whereby said frame and its supported parts are raised or lowered. 4th. The combination, with the adjustable frame A, of the sliding carriage D having end pieces d d and carrying saws E E, which have a forward and polary movement and are adapted to cut upward against the rock, whereby the machine shall be held more firmly to the rock and prevented from rising. 5th. The combination, with the frame A, of the sliding saw carriage D, carrying rotary saws E E and gear wheel E2 and shaft F1 provided with pinions F F and racks G G. 6th. The combination, with the frame A and sliding carriage D carrying saws E E, shaft E1 and gear wheel E2, of the revolving shaft H, carrying sliding gear wheel H1, whereby the saws are moved. 7th. The combination, with the frame A and saw carriage D provided with sprocket wheel R, of the revolving shaft P1 provided with sprocket wheel P2, guide pulley Q1 and endless chain Q, whereby said saw carriage is moved reciprocally backward and forward. 8th. The combination, with the frame A having attached racks G G, and sliding saw carriage D provided with shaft and pinions F1 F1, of the movable rack sections G1 G1. 9th. The combination, with the frame A and the stays T, of the angle plates T1 pivoted to said stays, and the wedges T2, whereby the machines may be adjusted and stayed in position.

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- No. 15,491. J. B. Dewey, Colborne, and D. H. Minakor, Cobourg Ont., Assignees, "Improvements in Harness," (Ext. of Patent No. 7,866), 1st Sept., 1882.
- No. 15,492. T. Mann, Portland, Oregon, "Brick and Mortar Elevator," (Ext. of Patent No. 7,853), 1st Sept., 1882.
- No. 15,493. W. T. Jobb, Buffalo, N. Y., Assignee, "Improvements in Apparatus for Manufacturing Grape-Sugar," 1st Sept., 1882.
- No. 15,494. J. Rielly, Sherbrooke, Que., "Portable House," (Ext. of Patent No. 14,733), 1st Sept., 1882.
- No. 15,495. J. Rielly, Sherbrooke, Que., "Portable House," (Ext. of Patent No. 14,733), 2nd Sept., 1882.
- No. 15,496. W. H. Rowe, Little Britain, Ont., "Gang Plows," 2nd Sept., 1882.
- No. 15,497. G. H. Merrill, Boston, Mass., "Lubricating Compounds," 2nd Sept., 1882.
- No. 15,498. M. S. Chapman, Elkhart, Ind., "Barbed Fences," 2nd Sept., 1882.
- No. 15,499. A. Gatchell, Boston, Mass., "Process for Treating Copper," 2nd Sept., 1882.
- No. 15,510. G. Gale, Waterville, Que., "Machine for Coiling Wire," 2nd Sept., 1882.
- No. 15,511. The Gerald Sewing Machine Cabinet Company, New York, N. Y., Assignee, "Table or Stand for Sewing Machines," 4th Sept., 1882.
- No. 15,512. D. Johnson, Combermere, Ont., "Vehicle Wheels," 5th Sept., 1882.
- No. 15,513. J. A. Mumford, Avondale, N. S., "Double-block Shingle Sawing Machine," (Ext. of Patent No. 7,917), 5th Sept., 1882.
- No. 15,514. T. S. Sarnay, Comberwell, and J. M. Alprovidence, Herne Hill, England, "Accumulator Plates," 7th Sept., 1882.
- No. 15,515. F. J. Sheldon, Longwood, Wis., "Gate Hangings," 7th Sept., 1882.
- No. 15,516. E. L. Brazener, Hamilton, Ont., "Attachment to Collar Blocks," 7th Sept., 1882.
- No. 15,517. W. H. Law, Peterborough, Ont., "Moulding Machine," 7th Sept., 1882.
- No. 15,518. W. H. Law, Peterborough, Ont., "Water Hydrants," 7th Sept., 1882.
- No. 15,519. J. Alexander, Toronto, Ont., "Lager Beer Refrigerator," 7th Sept., 1882.
- No. 15,520. C. K. Vilas, Alstead, N. H., "Reversible Fire-Box," 7th September, 1882.
- No. 15,521. S. Adams, and S. Adams, Jr., Rome, N. Y., "Gang Saw," 8th Sept., 1882.
- No. 15,522. La F. Wildermuth, Columbus, Ohio, "Wire Coiling Machine," 8th Sept., 1882.
- No. 15,523. W. P. Healy, Somerville, Mass., "Wire Rope Attachments," 8th Sept., 1882.
- No. 15,524. F. C. Weir, Cincinnati, Ohio, "Machine for Cutting Railroad-Rails for Frogs and Switches," 8th Sept., 1882.
- No. 15,525. T. C. Hewitt, London, Ont., "Metallic Barbed Fences," 8th Sept., 1882.
- No. 15,526. J. Bowen, Lancaster, Ohio, "Bed Bottom," 8th Sept., 1882.
- No. 15,527. The Universal Knitting Machine Co. of Ontario, Toronto, Ont., Assignee, "Knitting Machine," 8th Sept., 1882.
- No. 15,528. J. Ritchie, and W. H. D. Newth, Detroit, Mich., "Locomotive Ash Pan," 8th Sept., 1882.
- No. 15,529. J. H. Nute, and A. F. Downie, New Glasgow, N. S., "Rope Serving Machine," 8th Sept., 1882.
- No. 15,530. B. Chamberlain, J. H. Wilson, R. Lamb, H. E. Palmer, and G. H. Palmer, Bellefontaine, Ohio, "Railway Car Heater," 8th Sept., 1882.
- No. 15,531. The George T. Smith Middlings Purifier Co., Jackson, Mich., Assignees, "Conveyor for Flow Mills," 9th Sept., 1882.
- No. 15,532. H. McCoy, Indianapolis, Ind., "Single and Double-Tree Clip," 9th Sept., 1882.
- No. 15,533. E. L. Bushnell, Poughkeepsie, N. Y., "Car Seat and Berth," 9th Sept., 1882.
- No. 15,534. A. A. Noyes, Steamboat Rock, Iowa, "Horse Hay Rake," 9th Sept., 1882.
- No. 15,535. G. G. Thomas, Philadelphia, Penn., "Heating Stove," 9th Sept., 1882.
- No. 15,536. J. Maunder, and E. Rogers, Little Britain, Ont., "Harrow," 9th Sept., 1882.
- No. 15,537. T. P. Cordrey, Massillon, Ohio, "Rotary Dumping Car," 9th Sept., 1882.
- No. 15,538. M. C. Walsh, New York, N. Y., Assignee, "Apparatus for Stowing Carcoes in Vessels," 9th Sept., 1882.
- No. 15,539. M. C. Walsh, New York, N. Y., Assignee, "Improvements on Jacks," 9th Sept., 1882.
- No. 15,540. M. C. Walsh, New York, N. Y., Assignee, "Flexible Hose or Pipe," 9th Sept., 1882.
- No. 15,541. C. S. Anthony, and J. Manheim, Taunton, Mass., "Devices for Preventing the Accumulation of Frost and Steam upon Store Windows," (Ext. of Patent No. 7,885), 9th Sept., 1882.
- No. 15,542. W. E. Wilcox, and L. A. Kelsey, Cleveland, Ohio, "Railway Journal Box," (Ext. of Patent No. 7,900), 9th Sept., 1882.
- No. 15,543. T. Horton, Bluffton, Ind., "Hand Corn Planter," 11th Sept., 1882.
- No. 15,544. T. Horton, Bluffton, Ind., "Hand Corn Planter," 11th Sept., 1882.
- No. 15,545. S. North, Hamilton, Ont., "Pipe Junction or Boundary Indicator," 11th Sept., 1882.
- No. 15,546. H. McCoy, Indianapolis, Ind., "Single Tree Clip," 11th Sept., 1882.
- No. 15,547. J. E. Munsen, New York, N. Y., "Selecting Device," 11th Sept., 1882.
- No. 15,548. H. R. Cassel, New York, N. Y., "Improvements on Heating Metals," 11th Sept., 1882.
- No. 15,549. O. Hobert, Oswego, Ill., "Two Wheeled Vehicle," 11th Sept., 1882.
- No. 15,550. E. Badlam, Oswegatchie, N. Y., "Combined socket and clasp for connecting the Fellics and Spokes of Carriage Wheels together," 11th Sept., 1882.
- No. 15,551. J. Bowen, Lancaster, Ohio, "Spring Bed Bottom," 11th Sept., 1882.
- No. 15,552. W. S. Wisner, Brantford, Ont., Assignee, "Lock and Spring Attachment for Cultivator and Seed Sowing Teeth," (Ext. of Patent No. 15,038), 11th Sept., 1882.
- No. 15,553. H. G. H. Reed, Milwaukee, Wis., "Car Couplings," 12th Sept., 1882.
- No. 15,554. A. N. Rouché, Bay City, Mich., "Chalk Holders," 12th Sept., 1882.
- No. 15,555. M. Golding, Trenton, N. J., "Pulverizing Machine," 12th Sept., 1882.
- No. 15,556. S. Strunz, Pittsburgh, Penn., "Leaching Apparatus," 12th Sept., 1882.
- No. 15,557. O. Bergstrom, Finshytan, Sweden, "Improvements on Rakes," 12th Sept., 1882.
- No. 15,558. B. Morton and A. Tilley, Toronto, Ont., "Improvement on Veneering," 12th Sept., 1882.
- No. 15,559. G. Gregory and G. Austin, Skaneateles, N. Y., "Road Scraper," 12th Sept., 1882.
- No. 15,560. F. Rivard, Montreal, Que., "Boot and Shoe Fastening," 12th Sept., 1882.
- No. 15,561. J. Costin, Brantford, Ont., "Fanning Mill for Cleaning Grain," 12th Sept., 1882.
- No. 15,562. E. Brule, Neillville, Wis., "Device for taking up the wear in Axle Boxes," 12th Sept., 1882.
- No. 15,563. H. T. Harding, Maitland, N. S., "Check Rein," 12th Sept., 1882.
- No. 15,564. The Otter Sweeper Co's, Otterville, Ont., Assignees, "Window and Door Screens," 13th Sept., 1882.
- No. 15,565. W. A. Boland, Jackson, Mich., "Apparatus for attaching Buttons to Shoes, etc.," 13th Sept., 1882.
- No. 15,566. W. A. Campbell and G. H. Patterson, Montreal, Que., "Combustion Apparatus," 13th Sept., 1882.
- No. 15,567. G. A. Bari, Havana, Cuba, Benjamin Odie and Felipe Perozo, New York, N. Y., "Sugar Cane Shredder," 13th Sept., 1882.
- No. 15,568. G. W. Dettman, Bowmansville, Ont., "Piano Forte," 14th Sept., 1882.
- No. 15,569. A. Dobbie, Thorold, Ont., "Hoisting Machine," 14th Sept., 1882.
- No. 15,570. The North American Chemical Co's, Montreal, Que., Assignees, "Salt Drier," 15th Sept., 1882.
- No. 14,471. H. M. Harvey, Melbourne, Ont., and J. M. Scribner, Campbellford, Ont., "Device for Restraining Vicious and Unruly Animals," 15th Sept., 1882.
- No. 15,572. J. Davy, Springfield, Ont., "Extension Ladder and Fire escape," 15th Sept., 1882.
- No. 55,473. C. Roach, Minneapolis, Minn., "Sheet Iron Bending Machine," 15th Sept., 1882.
- No. 15,574. H. C. Grover, Nunda, N. Y., "Fruit Evaporator," 15th Sept., 1882.
- No. 15,575. Levi Abrahams, Montreal, Que., "Cigar Protector," 16th Sept., 1882.
- No. 15,576. A. R. Gayhart, Chicago, Ill., "Fruit Drier," 16th Sept., 1882.
- No. 15,577. J. W. Cuthbertson and J. D. Anderson, Bothwell, Ont., "Metallic Coal Oil Barrel," 18th Sept., 1882.
- No. 15,578. H. Leggett, Renfrew, Ont., "Dumping Wagon," (Ext. of Patent No. 7,969), 18th Sept., 1882.
- No. 15,579. J. C. Mackey, Hamilton, Ont., "Percolator for Tea and Coffee," 18th Sept., 1882.
- No. 15,580. D. F. Van Liew, Aurora, Ill., Assignee, "Car Door for Freight Cars," 18th Sept., 1882.
- No. 15,581. C. N. Chadwick, Brooklyn, N. Y., "Nursing Corset," 18th Sept., 1882.
- No. 15,582. J. B. Petter, Yeovil, Eng., "Improvements on Stoves," 18th Sept., 1882.
- No. 15,583. J. B. Parent, Quebec, Que., "Car Coupling," 18th Sept., 1882.
- No. 15,584. P. E. Mignault, Actonvale, Que., "Car Couplers," 18th Sept., 1882.
- No. 15,585. A. J. Morrow, Bosanquet, Ont., "Improvements on Churn Power," 19th Sept., 1882.

No. 15,486. J. E. Gallagher, Olean, N. Y., "Tamping and Firing Devices for Torpedoes," 19th Sept. 1882.

No. 15,487. John Tackaberry, Alliston, Ont., "Improvements on Animal Powers," 19th Sept. 1882.

No. 15,488. J. L. Rodgers, Springfield, Ohio, "Turbine Wheel," 19th Sept. 1882.

No. 15,489. J. M. Stanley and G. Desjardins, Pembroke, Ont., "Saw Log Sleigh," 19th Sept. 1882.

No. 15,490. G. Pennoyer, Chicago, Ill., "Buggy Springs," 19th Sept. 1882.

No. 15,491. W. H. Halladay, Chicago, Ill., "Automatic Saw Sharpener," 19th Sept. 1882.

No. 15,492. L. Coté, St. Hyacinthe, Que., "Counter Forming Machine," 19th Sept. 1882.

No. 15,493. G. Hill, Liverpool, Eng., "Steam Boiler," 19th Sept. 1882.

No. 15,494. A. F. Gimmerling, Milwaukee, Wis., "Smoothing Machines," 19th Sept. 1882.

No. 15,495. M. P. Bray, New Haven, Conn., "Corset Stay," 19th Sept. 1882.

No. 15,496. H. J. Livergood, Brantford, Ont., "Middling Purifying Machine," 19th Sept. 1882.

No. 15,497. A. Womack and J. M. Martin, Emmetville, Idaho, "Fire Upsetting Machine," 19th Sept. 1882.

No. 15,498. N. W. Herring, Millport, Penn., and F. B. Keeney, Warsaw, N. Y., "Baling Press," 19th Sept. 1882.

No. 15,499. G. J. Shimer, Freemansburg, Penn., and S. J. Shimer, Milton, Penn., "Metallie Bearing," 19th Sept. 1882.

No. 15,500. J. T. Walker, Falmouth, Mass., "Horse Detacher," 19th Sept. 1882.

No. 15,501. I. Robbins, Camden, N. J., "Chromatic printing press," 19th Sept. 1882.

No. 15,502. A. Hoag, Grand Isle, Vt., "Hand corn and bean planter," 19th Sept. 1882.

No. 15,503. B. C. Bort, Chateauguay, N. Y., "Milk Pan," (Ext. of Patent No. 7934.) 20th Sept. 1882.

No. 15,504. J. H. Elward, Oregon, Ill., "Drive Chain," 21st Sept. 1882.

No. 15,505. J. H. Elward, Oregon, Ill., "Saw Mill Feed," 21st Sept. 1882.

No. 15,506. E. M. Crandall, Chicago, Ill., "Barbed Wire Fence," 21st Sept. 1882.

No. 15,507. L. Dow, Boston, Mass., "Fence Post and Fence," 21st Sept. 1882.

No. 15,508. J. A. Robinson, Jackson, Mich., "Dental Plate," 21st Sept. 1882.

No. 15,509. H. A. Weber and M. A. Scovell, Urbana, Ill., "Glucose," 21st Sept. 1882.

No. 15,510. H. A. Weber and M. A. Scovell, Urbana, Ill., "Sugar and Syrup," 21st Sept. 1882.

No. 15,511. T. S. Peck, Burlington, Vt., Assignee, "Wire Lock Clip Post," 22nd Sept. 1882.

No. 15,512. E. Salomon and E. Arnaunt, Montreal, Que., "Machine for making hinges," 22nd Sept. 1882.

No. 15,513. J. H. Fisher, Deerfield, Ill., "Car Door Lock, 23rd Sept. 1882.

No. 15,514. C. A. Sager, Valparaiso, Ind., "Ice Cutting Machine," 23rd Sept. 1882.

No. 15,515. J. E. Stong, Newtonbrook, Ont., "Farm Gate," (Ext. of Patent No. 7957.) 23rd Sept. 1882.

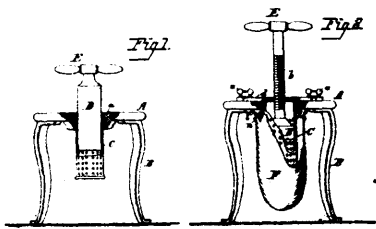
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ILLUSTRATIONS.

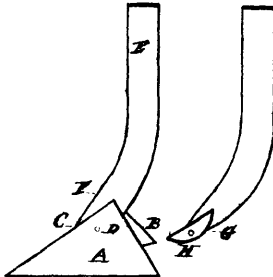
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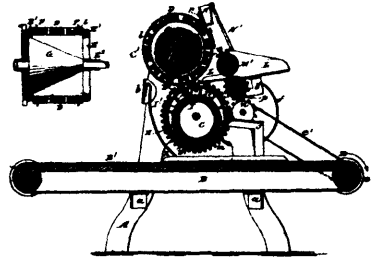
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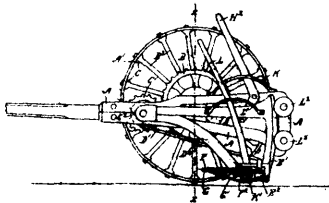
15231 Mara's Improvements in Fruit Presses.



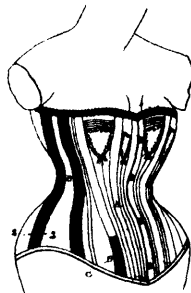
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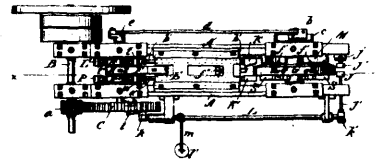
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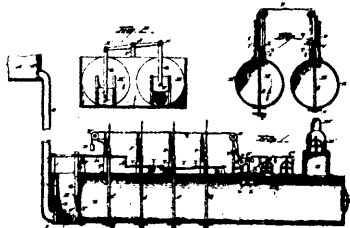
15242 Graham's Improvement on Harvesters.



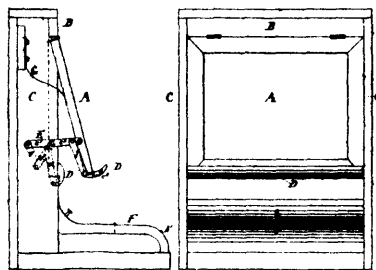
15243 Baldwin's Improvements in Corsets.



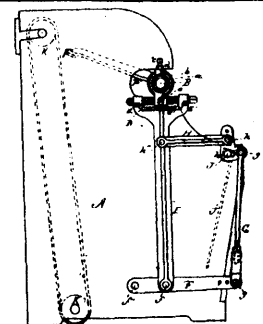
15244 Waring's Improvements on Machines for Making Bolts, Spikes, Rivets, &c.



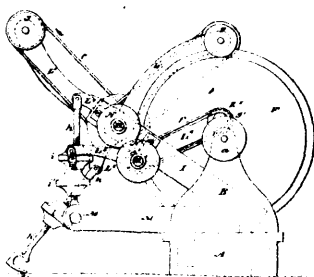
15245 Bois' Improvements on Hydraulic Air Compressing Apparatus.



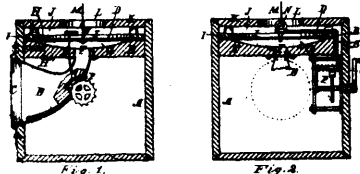
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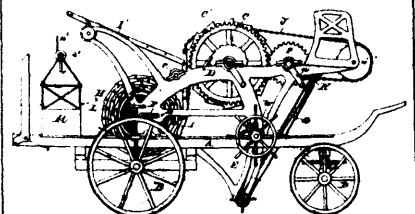
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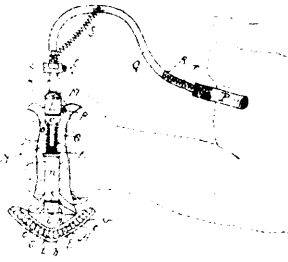
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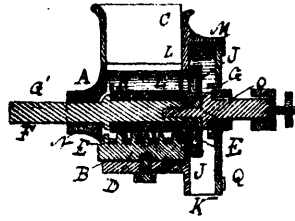
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15250 Thomas's Improvements on Fire-Escapes.



15251 Beaudry's Improvements on Heel Brushes for Boots and Shoes.



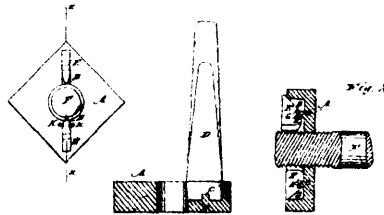
15252 Wilson's Improvements on Grinding Mills.



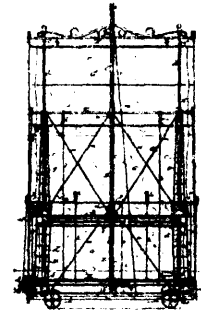
15253 Hallett's Improvements on Car Axle Rolls.



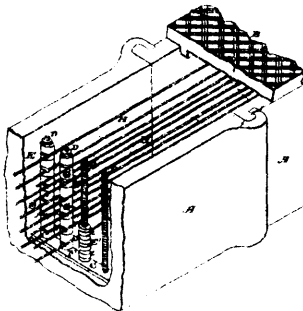
15264 Tisdale's Improvements on Electric Railway Signals.



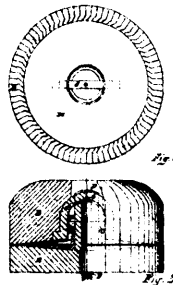
15257 Burrows' Improvements on Nut Locks.



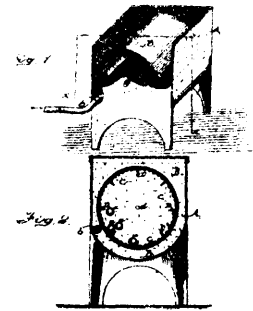
15258 O'Neil's Improvements on Fire Guards and Escapes.



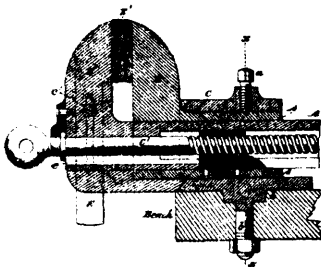
15259 Bauta's Improvements on Insulating and Protecting Telegraph Wires.



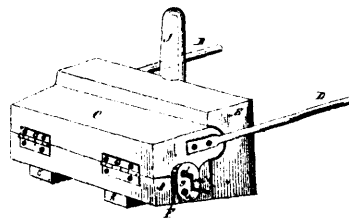
15260 St. Denis' Improvements on Mill Stones.



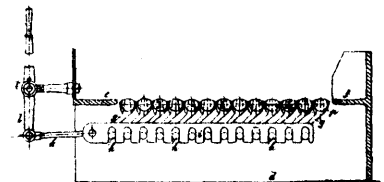
15262 Rowley's Improvements in Starching Machines.



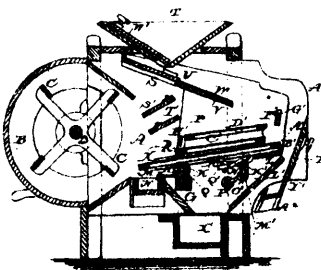
15263 Hendry's Improvements in Vices.



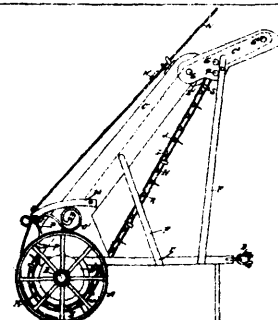
15264 Bradley's Improvements on O.G. Eaves Trough Machines.



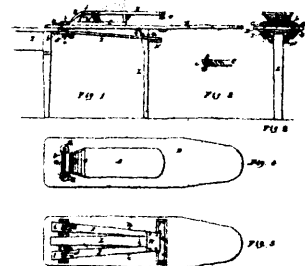
15265 Galley's Improvements on Rocking Fire Bars.



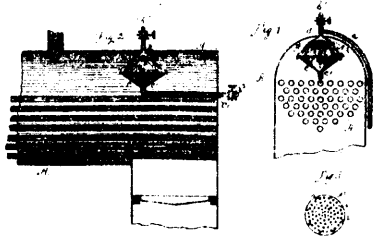
15266 Eddy and Levans' Improvements on Fanning Mills.



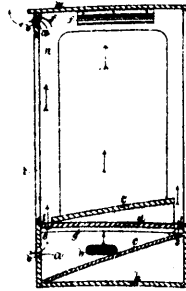
15267 Flynn's Improvements on Combined Hay Rakes and Loaders.



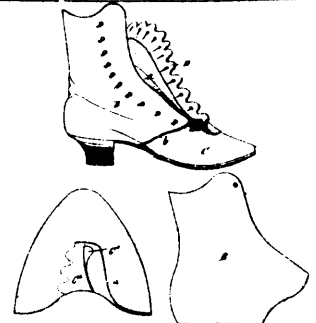
15271 Dicer's Improvements on Laundry Tables.



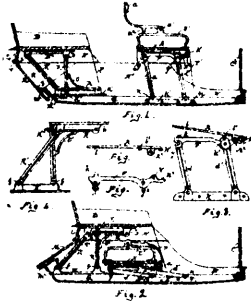
15272 Hanna's Improvement on Sediment Collectors for steam Boilers.



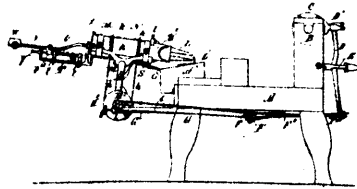
15274 Hart's Improvements in Ventilating Windows.



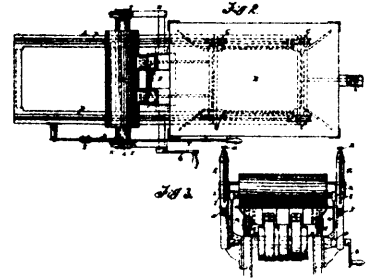
15275 Lanthier's Improvements in Button Boots and Shoes.



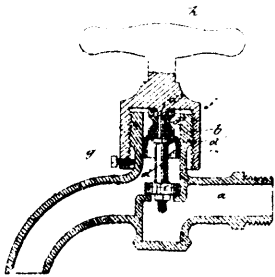
15276 Weaver's Improvements on Carriage Seats.



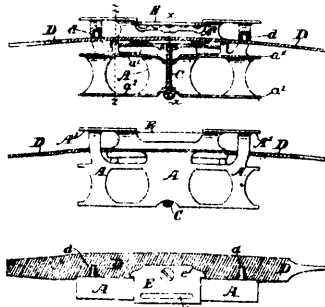
15277 Sénécal's Improvements on Automatic Feeding Apparatus for Nail Cutting Machines.



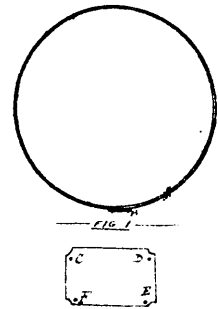
15278 Adams's Improvements in Printing Presses.



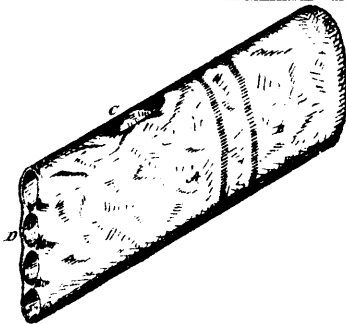
15282 Ashton & Sperry's Improvements on Cocks and Valves.



15283 Poindexter's Improvements on Saw Joints and Gauges.



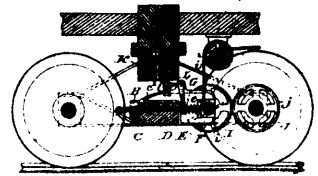
15284 Williams's Improvements on Hoop Buckles.



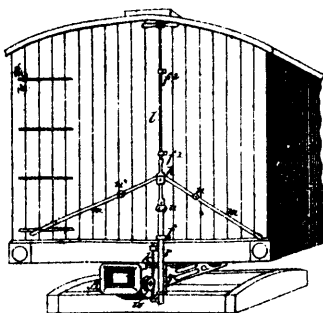
15285 Thurman's Improvements in Mitts.



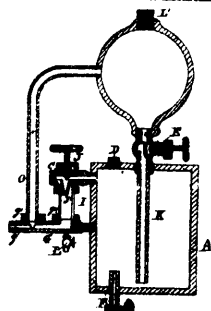
15286 Bean's Improvements on Hay Stackers.



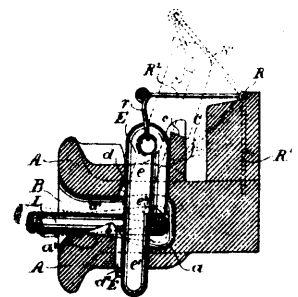
15288 Cloud's Improvements on Car Brakes.



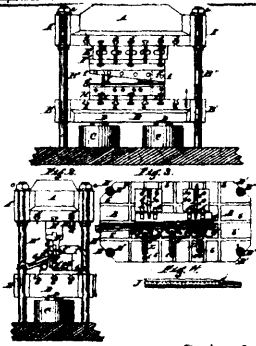
15289 Bayliff and Coup's Improvements on Car Couplings.



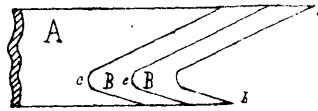
15290 C. Verniaud and Co's Improvements in Oil Ejectors for Lubricating Machinery.



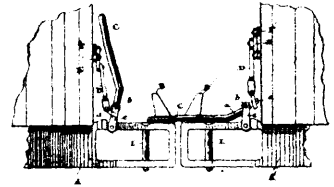
15293 Arnold's Improvements in Car Couplings.



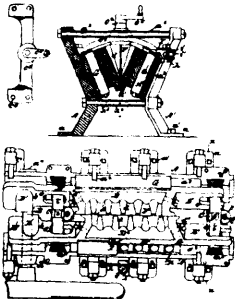
15294 Weir's Improvements on Devices for Manufacturing Railway Frogs.



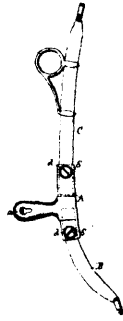
15295 Dean's Improvements on Wire Fence Nails.



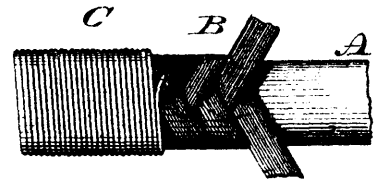
15296 Gowau's Improvements on Car Couplers.



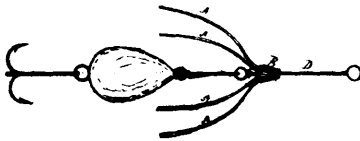
15297 McCully's Improvements on Crushers and Pulverizing Mills.



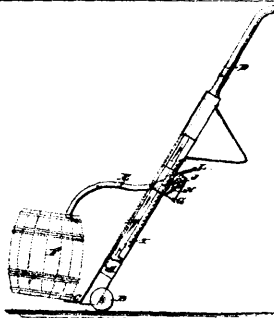
15298 Cole's Improvements on Adjustable Hames.



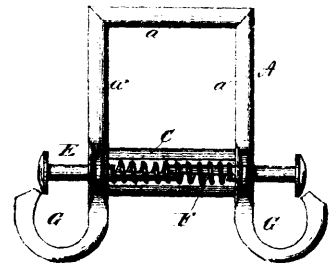
15299 Cortis's Improvements on Flexible Shafts.



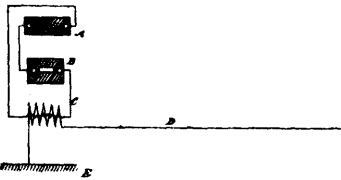
15300 Buck's Improvements on Trolling Hooks.



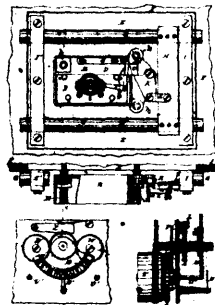
15301 Swain's Improvements on Barrel Trucks.



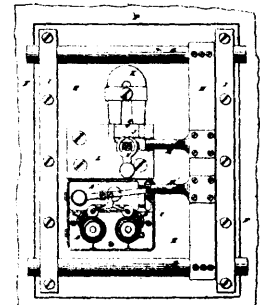
15302 Main's Improvements on Trace Carriers.



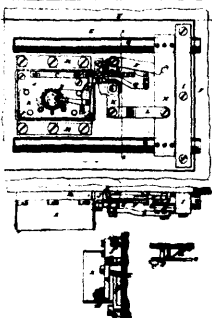
15305 Rysellberghe's Improvements in the Means for Operating Microphones.



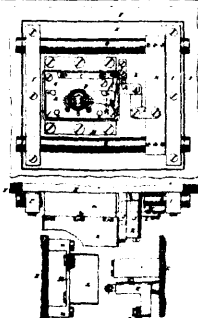
15306 Newbury's Improvements on Time Locks.



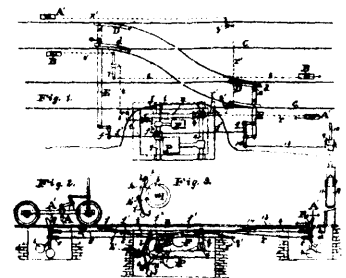
15307 Newbury's Improvements on Attachments for Time Locks.



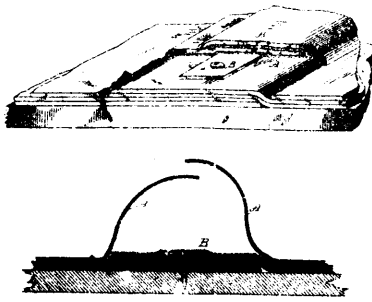
15308 Newbury's Improvements on Time Locks and Attachments Therefor.



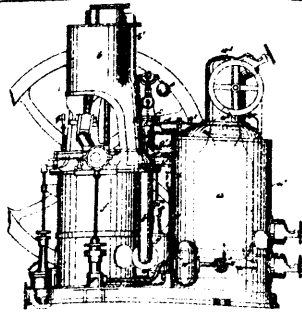
15309 Newbury's Improvements on Modes of Mounting Time Locks.



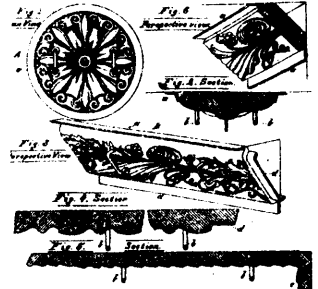
15310 Crowther's Improvements on Railroad Switches.



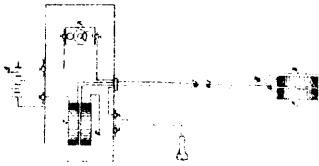
15311 Smith & Kane's Improvements in Ready Made Roofing Felt.



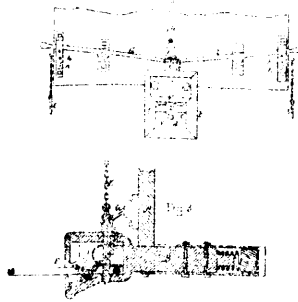
15313 Bucket's Improvements on Caloric Engines.



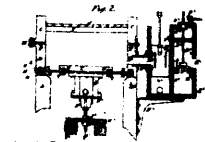
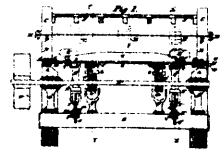
15314 Stockstill and McGeary's Improvements in Plastering and Ornamenting Walls and Ceilings.



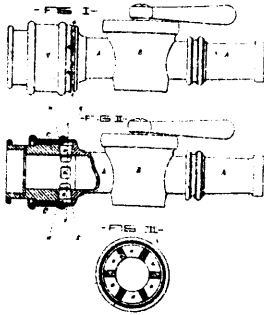
15315 McEvoy's Improvements on Apparatus to be used in Torpedo Operations and in Searching for Submerged Bodies.



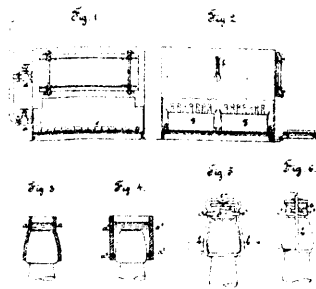
15316 Mitchell's Improvements in Car Couplings.



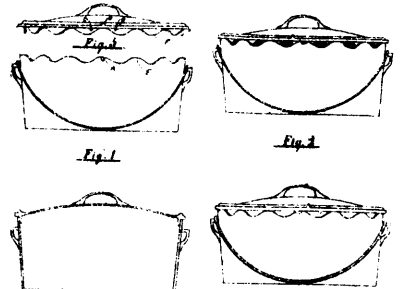
15317 Bremaker's Improvements on Pulp Screen and Breast Roll Boxes for Paper Machines.



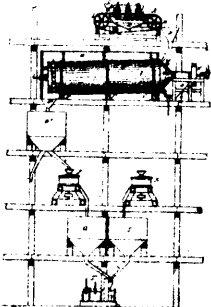
15318 Prunty's Improvements on Hose Pipe Nozzles.



15323 Von Roden's Process and Apparatus for Preserving Milk



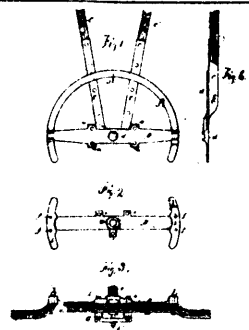
15321 Menard's Improvements in Kettles and other Utensils.



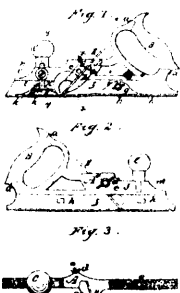
15322 Jehu's Process and Apparatus for Treating the Refuse of Starch and other Substances.



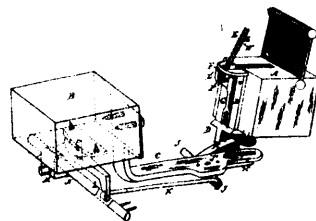
15323 Jones's Improvements on Wind Mills.



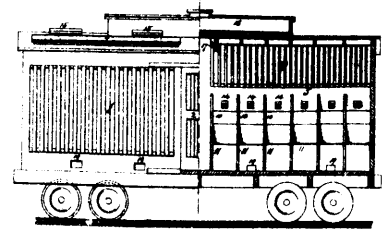
15324 Carter's Improvements on Fifth Wheels for Waggons.



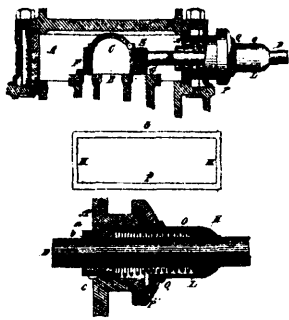
15327 Fales's Improvements on Variable Bench Planes.



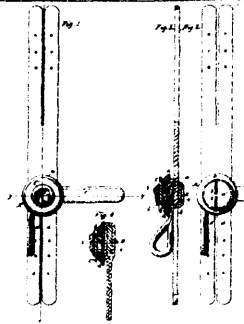
15328 Tucker's Improvements on Stop Motions for Looms.



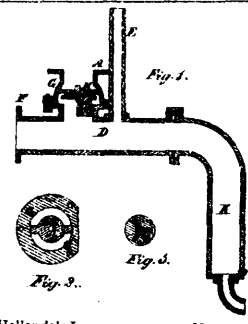
15329 Hay's Improvements on Stock Cars.



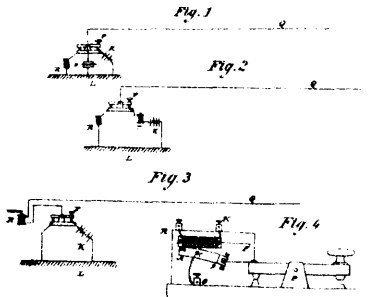
15330 Monroe's Improvements on Metallic Packing and Supports for Valve Rods.



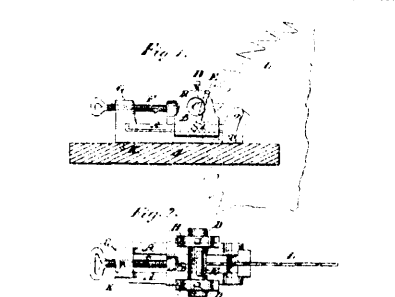
15331 Steat's Improvements on Rosettes for Bridles.



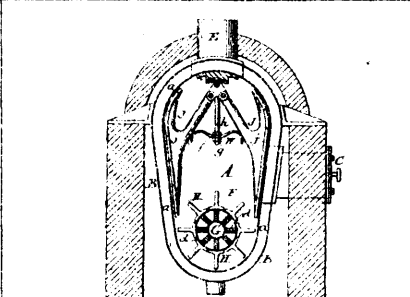
15332 Holland's Improvements on Heaters for Steam Engines.



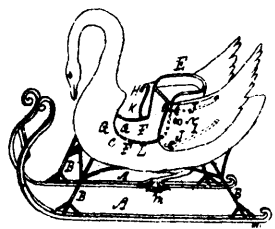
15333 Ryselberghe's Improvements in the Method of, and Apparatus for Preventing Induction in Telegraphic and Telephonic Systems.



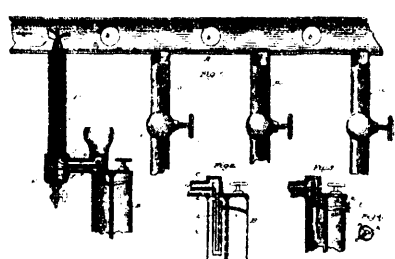
15334 Parson's Improvements on Machines for Jointing and Shaping Circular Saws.



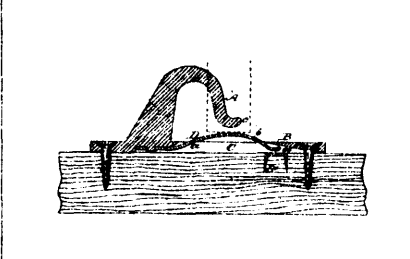
15335 Gubbins's Improvements on Apparatus for Drying and Pulverizing Offal.



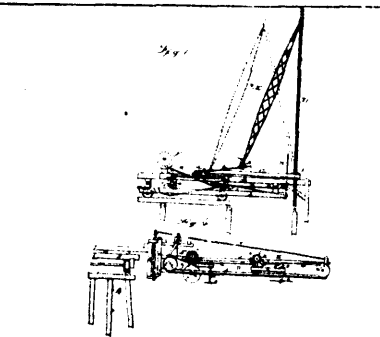
15336 Kirkpatrick's Improvements on Sleighs.



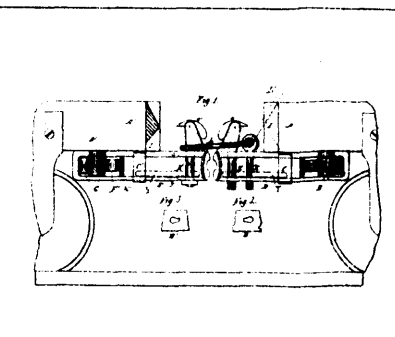
15338 Hoffman's Improvements on Lubricators.



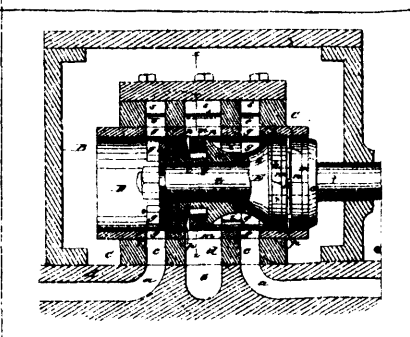
15339 Calvert's Improvements on Holdbacks, Snap Hooks, Neck Yokes, &c.



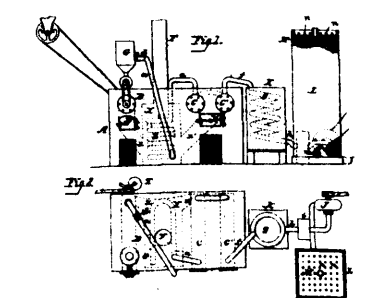
15340 Gilbert's Improvements on Machines for Driving and Dressing Piles.



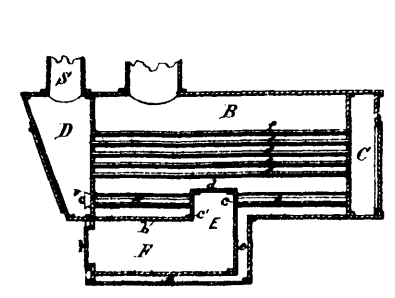
15341 Vunk's Improvements in Car Couplings.



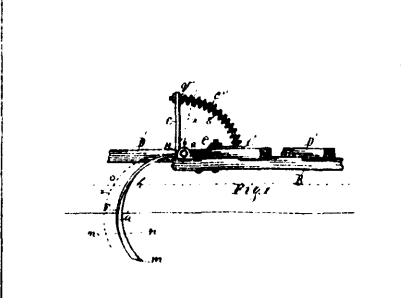
15342 Phelp's Improvements in Steam Valves.



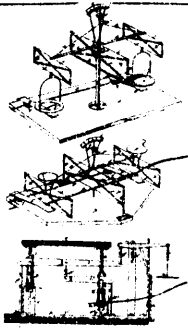
15343 Castner's Apparatus and Process for the Manufacture of Bone Black and Ammonia.



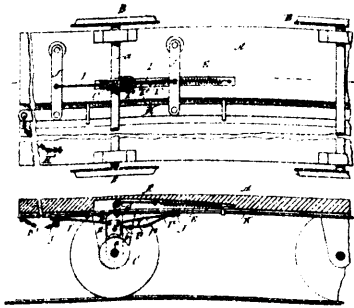
15344 Fitzgibbon's Improvements on Steam Boilers.



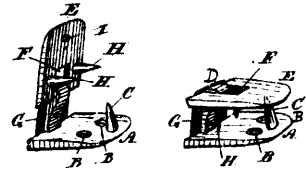
15345 Rix's Improvements on Harrows.



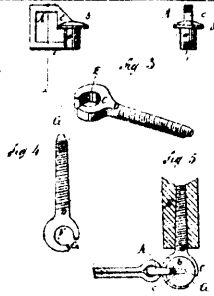
15346 Roeder's Improvements on Balances.



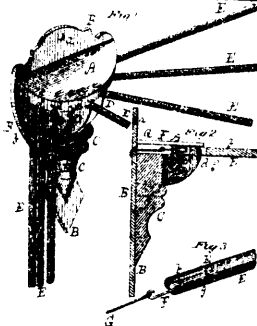
15347 Evans's Improvements on Car Starters.



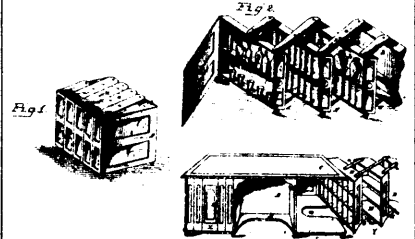
15348 Wilmot's Improvements on Carpet Fasteners.



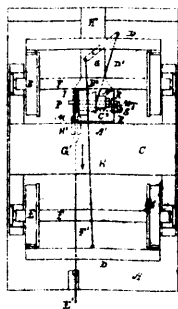
15349 Hunter's Improvements on Harness and Trace Couplings, Neck Yokes and Pole Clips.



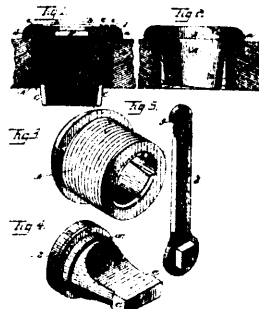
15350 Gray's Improvements on Clothes Racks.



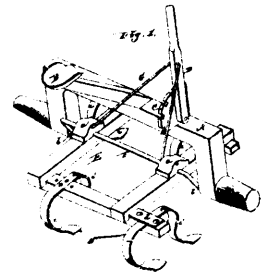
15351 Pott's Improvements on Extension Furniture.



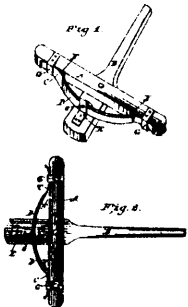
15352 Lord's Improvements in Car Brakes.



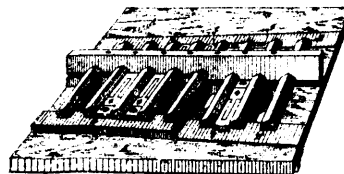
15353 Jackson's Improvements on Bushes and Bungs.



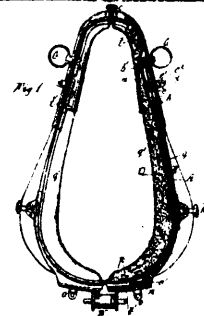
15355 Kelly's Improvements on Harrows.



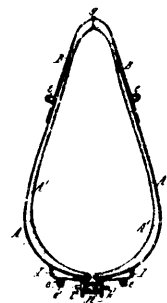
15356 Marvin's Improvements on Draught's Equalizers.



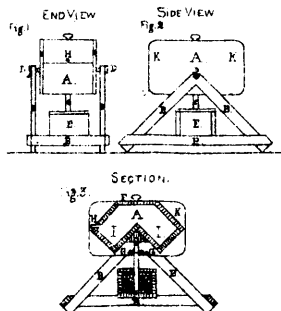
15357 Mundy's Improvements in Organs.



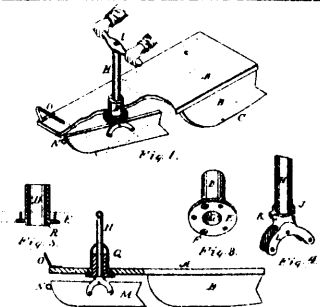
15358 Roehl's Improvements in Horse Collars.



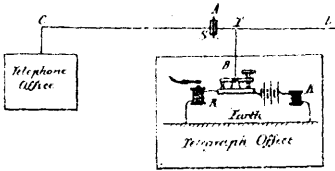
15359 Roehl's Improvements in Horse Collars.



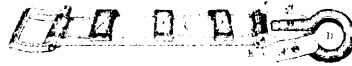
15360 Kitchen's Improvements on Churns.



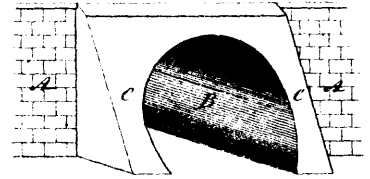
15362 Haldeman's Improvements in Coasting Sleds.



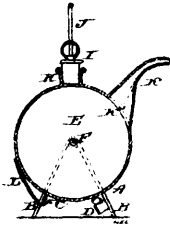
15363 Rysselberghe's Improvements in Telegraphic and Telephonic Apparatus.



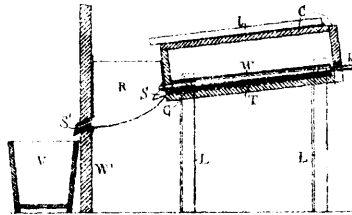
15364 Cole's Improvements on Flame Clips.



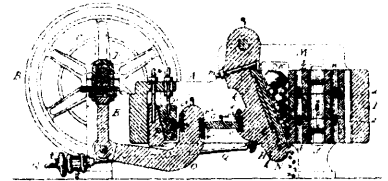
12365 Goodridge's Improvements in Methods of Repairing Structures with Beton.



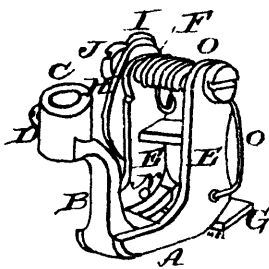
15366 Durhani's Improvements on Oil Cans.



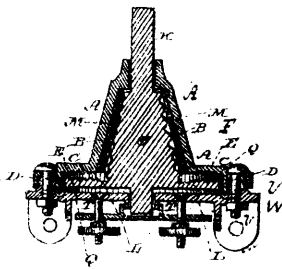
15367 Sully's Improvements on Butter Workers.



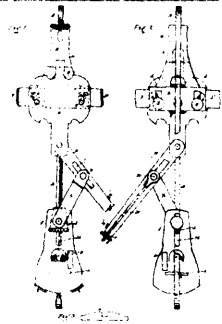
15368 Marsden's Improvements on Stone and Ore Crushers.



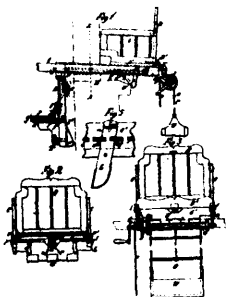
15369 Garretton's Improvements on Sewing Machines.



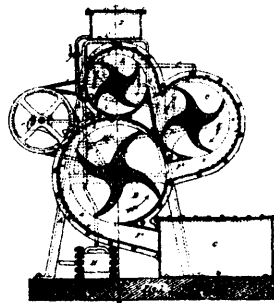
15373 Wilson's Improvements on Grinding Mills.



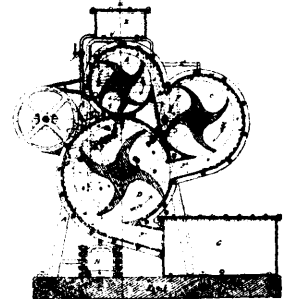
15374 Bartlett's Improvements on Ice Skates.



15375 Dormitzer's Improvements on Combined Window Cleaning Chairs and Fire Escapes



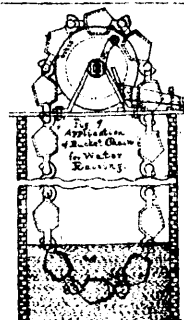
12376 Ramsay's Process for Treating and Preserving Fermented and Fermentable Liquids.



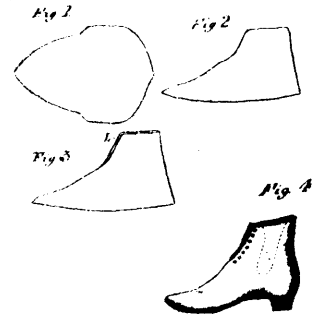
15277 Ramsay's Process for Treating and Ageing Liquors.



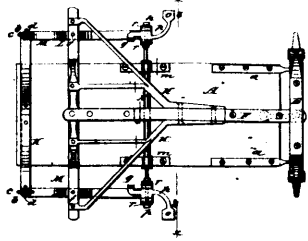
15378 Gilbert's Improvements in Sights for Small Fire Arms.



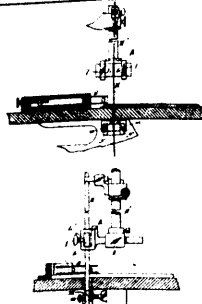
15379 Levalley's Improvements in Driving and Carrying Chains.



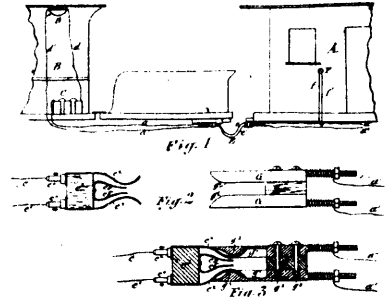
15380 Marshall's Improvements on Seamless Boots.



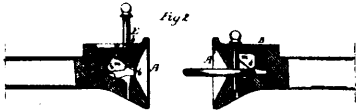
15381 Shaver's Improvements on Waggon Gears.



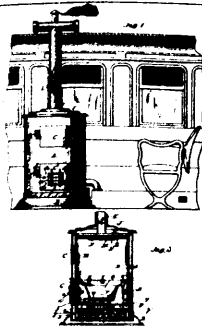
15382 Child's Improvements in the Manufacture of Boot and Shoe Heels.



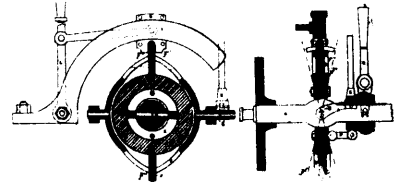
15387 Lowe's Improvements in the Mode of Forming Electric Connections on Railway Trains



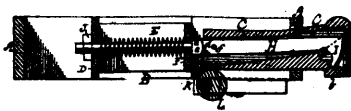
15388 Quackenbush's Improvements in Car Couplings.



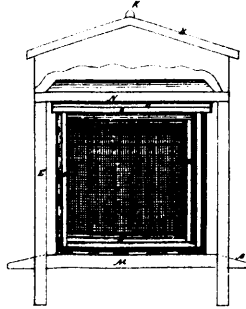
15389 Condon's Improvements on Self-Extinguishing Stoves and Ventilators.



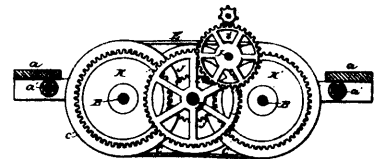
15390 Johnson's Improvements on Variable Valve Gears for Steam and other Engines.



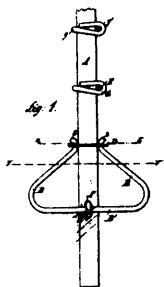
15391 Mark's Improvements on Car Couplings.



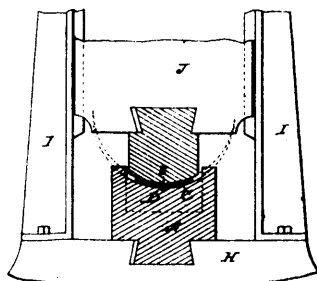
15392 Pettet's Improvements on Bee Hives.



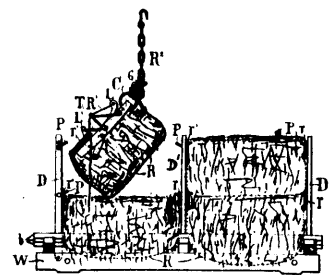
16393 Nixon's Improvements in Traction Engines.



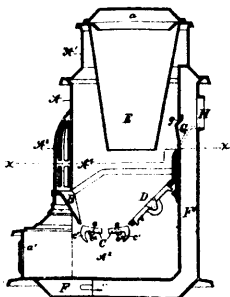
15394 Heaton's Improvements in Fence Posts.



15396 Spaulding's Improvement on Dies for Shaping and Setting Springs.



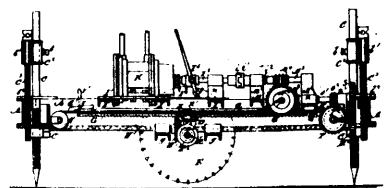
15397 Hendrick's Improvement on Hay Unloaders.



15398 Hamlin's improvements in Coal Stoves.



15399 Skinner and Thomas' Improvements on Electric Arc Lamps.



15400 Reese's Improvements on Machines for Quarrying Slate and other Rocks.