

Technical and Bibliographic Notes / Notes techniques et bibliographiques

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

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

Coloured covers/
Couverture de couleur

Covers damaged/
Couverture endommagée

Covers restored and/or laminated/
Couverture restaurée et/ou pelliculée

Cover title missing/
Le titre de couverture manque

Coloured maps/
Cartes géographiques en couleur

Coloured ink (i.e. other than blue or black)/
Encre de couleur (i.e. autre que bleue ou noire)

Coloured plates and/or illustrations/
Planches et/ou illustrations en couleur

Bound with other material/
Relié avec d'autres documents

Tight binding may cause shadows or distortion along interior margin/
La reliure serrée peut causer de l'ombre ou de la distorsion le long de la marge intérieure

Blank leaves added during restoration may appear within the text. Whenever possible, these have been omitted from filming/
Il se peut que certaines pages blanches ajoutées lors d'une restauration apparaissent dans le texte, mais, lorsque cela était possible, ces pages n'ont pas été filmées.

Additional comments: / Various pagings.
Commentaires supplémentaires:

Coloured pages/
Pages de couleur

Pages damaged/
Pages endommagées

Pages restored and/or laminated/
Pages restaurées et/ou pelliculées

Pages discoloured, stained or foxed/
Pages décolorées, tachetées ou piquées

Pages detached/
Pages détachées

Showthrough/
Transparence

Quality of print varies/
Qualité inégale de l'impression

Continuous pagination/
Pagination continue

Includes index(es)/
Comprend un (des) index

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

Title page of issue/
Page de titre de la livraison

Caption of issue/
Titre de départ de la livraison

Masthead/
Générique (périodiques) de la livraison

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

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

The Canadian Patent Office

RECORD

Vol. IX.—No. 7.

JULY, 1881.

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

CONTENTS.

INVENTIONS PATENTED.....	113
INDEX OF INVENTIONS.....	CXXVIII
INDEX OF PATENTEEs.....	CXXIX
ILLUSTRATIONS.....	131

INVENTIONS PATENTED.

No. 12,663. Improvements on Road Scrapers.

(Perfectionnements aux ebourneurs.)

George S. Agee, Mint Hill, Mo., U. S., 20th April, 1881; for 10 years.

Claim.—1st. The carriage A B C, the scraper D, the arched bar E, the keepers F having rollers *g*, the bent and slotted guide standard H having rollers I, the connecting rod J, the lever K having spring lever pawl N, and the catch plate M, for raising, lowering and holding the scraper, the gear segments R S, the lever T having spring lever pawl U, and the catch plate V, for tilting and holding the scraper. 2nd. The combination, with the carriage A B C, and the scraper D, of the arched bar E, the keepers F having rollers G, and the bent and slotted guide standards H having rollers I, whereby the scraper is adjustably connected with the carriage. 3rd. The combination, with the carriage A B C, the scraper D and the arched bar E, of the connecting rod J, the lever K having spring lever pawl N, and the catch plate M, whereby the scraper can be raised, lowered and supported. 4th. The combination, with the scraper D and the arched bar E, of the gear segments R S, the lever T having spring lever pawl U, and the catch plate V, whereby the scraper can be tilted and supported. 5th. The combination, with the scraper to the arched bar E and the gear segments R S, of the shield W, whereby the gear segments R S are protected from the dirt. 6th. The combination, with the carriage A B C, the scraper D, the arched bar E, the lever T and the gear segment S, of the bar Y having gear segment Z and carrying one or more ploughs *a b* whereby the dirt can be loosened and the ploughs tilted.

No. 12,664. Improvements on Traction Engines. (Perfectionnements aux machines de traction.)

John H. Elward, Stillwater, Min., U. S., 23rd April, 1881; for 15 years.

Claim.—1st. The combination, with the traction wheel B, the engine shaft N and mechanism for transmitting power to said wheel from said shaft, of the stationary cone attached to said engine shaft, the sliding cone supported loosely upon said shaft, and the gear wheel attached to said sliding cone, whereby the engine shaft can be rotated while entirely disengaged from the gears. 2nd. The combination, with the boiler, the traction wheels, the chains and stationary gears P P₂, of the bracket P₁ secured directly to the boiler, and the sliding mechanism composed of the chain wheel, the inner sliding wheel, and the outer sliding wheel secured rigidly together concentrically. 3rd. In a traction engine, the combination, with the chain wheel Q, the shaft thereof, and mechanism arranged to rotate said wheel, of a sliding support for said shaft, and a rotating support through which the shaft passes eccentrically. 4th. The combination, with the chain wheel Q, and the gearing mechanism which rotates it, of the sliding chain wheel shaft, the cam disk *q*, the segment gear Q₃, the rack engaging with said segment gear, and a sliding support for the shaft of the chain wheel. 5th. The combination, with the engine and the traction wheels mounted independently of each other, of the counter shaft B₂ mounted beneath the engine, parallel to the axis of the driving wheels, the independently rotated gear wheels on said counter shaft, which engage with the ground wheels respectively, and the friction clutches to connect the counter shaft with the gear wheels thereon, either independently of each other or simultaneously. 6th. The combination of the following elements, viz.: An engine ground traction wheels mechanism connecting the engine shaft with the traction wheels, and adapted to drive said wheels in one direction at a high rate of speed, and in the opposite direction at a slow rate of speed, and mechanism adapted to reverse the direction of rotation of the engine. 7th. The combination, with the traction engine, of a ground wheel provided with isolated projecting ribs inclined alternately in opposite directions and arranged to leave open spaces in each side of the wheel, between the adjacent ends of the ribs of each consecutive pair. 8th. The combination of the following elements, whereby power may be applied to the trac-

tion wheels, independently of each other, viz.: A boiler traction wheels B B₁, friction clutches for imparting power to said wheels, sliding yokes attached to the friction clutches, levers *a a* pivoted to said yokes, and a rigid depending bracket *a* secured to the boiler. 9th. The combination, with the cylinder, the steam chest, and the boiler of an intermediate steam receptacle, several intermediate pipes connecting said steam receptacle with the boiler and separate valves for the pipes respectively to close them. 10th. The combination, with the cylinder, the steam chest or boiler and an intermediate steam receptacle, of a receiving pipe which conveys the steam from said receptacle to the steam chest, and communicates with the receptacle at two or more points. 11th. The combination, with the cylinder, the steam chest, the boiler, an intermediate steam receptacle and a receiving pipe communicating with the intermediate steam receptacle at two or more points, of separate valves arranged to close the entrances of said pipes independently of each other. 12th. The combination, with the cylinder, the steam chest, the boiler and a governor having a reciprocating stem, of the levers *l* loosely connected to the stem of the governor, and arranged to close the steam passage. 13th. The combination of the exhaust pipe, whereby the water of condensation can be withdrawn after it has entered the exhaust pipe. 14th. The combination, with the cylinder, the water receptacle H, the exhaust pipe V and the smoke stack which receives exhaust steam pipe, of the downwardly turned detachable spark pipe H arranged to be attached to the upper end of the stack. 15th. The combination, with the boiler, of the main flue situated at one side of the central vertical line of the boiler, and the return flues arranged above and on both sides of said fire flue. 16th. The combination of the fire flue, the return flues *a*, the front smoke box F, the tight ash vessel F₁, and the rotating door F₂ arranged to close the opening left by withdrawing the ash box. 17th. The combination, with the boiler, the smoke stack and the smoke chamber at the end of the boiler, beneath the smoke stack, of the ash box E and the walls *d* arranged to make a tight passage, whereby refuse may escape without interfering with the draft of the boiler. 18th. The combination, with the boiler and the fire box situated within the boiler, of the ash box E situated outside of the boiler and provided with the inclined ends and with the doors *e e* hinged at their upper sides to automatically close the box. 19th. The combination of the following elements, viz.: the steam dome and drum, the inverted cone *l*, the perforated diaphragm *l* and the boiler having the apertures *i* beneath the cone *l* and arranged to permit both the passage of steam and the return of condensed water. 20th. The combination of the boiler, the fire flue situated within the boiler, and the bridge wall when arranged to have its central vertical lines at one side of the central vertical line of the fire flue. 21st. The combination, with one or more supporting and turning wheels arranged to have their axis inclined to the central longitudinal line of the engine, and two opposite supporting and driving wheels, of a friction clutch, whereby the engine may be put into full motion before connecting it with the driving wheels, and a compensating gearing mechanism, whereby said motion may be imparted to both the driving wheels equally. 22nd. In combination with the fire place and grate of a boiler furnace, the horizontal feeding trough W having an automatically closing door hinged to the bottom of the trough, to serve as a guide for the fuel. 23rd. In combination with the furnace and the extended feed trough, the extensible apron composed of the plates W₅ and W₆ attached to the outer end of the trough. 24th. In combination with the boiler furnace and the grate, the bracket C secured to the furnace wall, and the bridge wall supported loosely upon said brackets. 25th. In combination with the boiler furnace, the grate and the bridge wall, the support C₁. 26th. In combination with the boiler furnace and the bridge wall, the door C₂ composed of two or more parts hinged together. 27th. The combination, with the smoke returning chamber, of the perforated guard, arranged to surround said chamber. 28th. The combination, with the furnace, the return flues and the smoke box, at the front end of said furnace, of a tight ash vessel constructed to permanently hold a body of water beneath said smoke box for quenching cinders, and adapted to be removed entirely from the boiler, and a door arranged to close entirely the opening left by withdrawing said box.

No. 12,665. Telegraph Cable. (Câble télégraphique.)

Edouard Berthoud, Cortaillod, and François Borel, Boudry, Switzerland, 23rd April, 1881; for 15 years.

Claim.—1st. The method of manufacturing telegraph cables by drawing out compound ingots consisting of the conducting wire or wires, the insulating material, and the metallic sheathing. 2nd. As a new article of manufacture, a telegraph cable formed by drawing out compound ingots consisting of the conducting wires, the insulating material, and the metallic sheathing. 3rd. As a new article of manufacture, a compound telegraph

cable wherein each primary conductor is surrounded by a secondary conductor insulated therefrom for receiving a current of sign opposite to that passed through the primary conductor, in order to neutralize induction. 4th. The method of manufacturing drawn telegraph cables by passing a conducting wire covered with cotton through a bath of molten insulating material, and enclosing the whole in a drawn metal tube at one operation. 5th. In apparatus for the manufacture of telegraph cables, the combination of the chamber E charged with lead, the perforated plunger F, tubes G, with nozzle a and die o, said tube G communicating with insulator vessel I and connected by tie bolts H with plunger F, so as to move therewith, all arranged and operating in conjunction with a hydraulic press. 6th. The combination of the insulator vessel I and lead chamber E, with the hot oil baths K K.

No. 12,666. Window Sash Lock. (*Arrête-croisée.*)

John O. Parker, Stratford, Ont., 23rd April, 1881; for 5 years.

Claim.—1st. In combination with a window sash, a pawl E pivoted in a box C and actuated by a spring F, in combination with a notched bar D arranged and operating as specified. 2nd. In combination with a window sash, a two winged spring F, in combination with the pivoted pawl E having flattened ends, to receive the pressure of the spring.

No. 12,667. Improvements on Fountain Pens.

(*Perfectionnements aux plumes-fontaines.*)

Henry A. Walke, Hamilton, Ohio, U. S., 23rd April, 1881; for 5 years.

Claim.—1st. The combination of the holder curved at its lower end, and the pen provided with a valve to automatically close the end of the holder and furnish a supply of ink or cut off the same, said valve being loosely held between the ribs of the pen. 2nd. The combination of a reservoir holder having a bent end, with a pin C and valve E adapted to automatically open and close the lower end of the holder, said pen being thinner and more elastic just above the valve, so as to afford the valve more play in the act of writing. 3rd. In combination, the holder A B, pin C and valve E, said valve being composed of washers e e e e, and rivet and screw e e. 4th. The combination of pen C and the reservoir holder composed of an upper section A, and a lower curved section B, with the extension air tube composed of the fixed section F and the unencumbered longitudinally adjustable section F¹, for regulating the flow of ink to the pen.

No. 12,668. Improvements on Composite Pavements. (*Perfectionnements aux pavés composites.*)

Peter Stuart, Edinburgh, Scotland, 23rd April, 1881; for 5 years.

Claim.—1st. In manufacturing composite pavements, platforms, landings and the like of a layer of broken dry stones, a layer of compressed concrete, and a layer of a composition of broken or cubed granite and cement, with or without the addition of ground or pulverized hematite, magnetic or black oxide, or other iron, or colouring matter, and with or without strengthening iron rods and wires embedded between the said composition and the concrete. 2nd. Laying the composite pavement or other like structure in alternate squares, with the layer of concrete in each alternate square projecting beyond the layer of grain lithic composition. 3rd. The composition of broken or cubed granite and Portland and other cement, with or without the addition of ground or pulverized hematite, magnetic or black oxide, or other iron ore or colouring matter, for the manufacture of pavements, floors, platforms, stair steps, landings and other like structures, and generally for the manufacture of ornamental work in imitation stone. 4th. In the manufacture of pavements, floors, platforms and the like, the dry composition of Portland and other cement and sand, with or without the addition of ground or pulverized hematite, magnetic or black oxide, or other iron ore, or colouring matter, floated into the body of the upper layer of broken granite and cement.

No. 12,669. Improvements in Bed Springs.

(*Perfectionnements aux ressorts des lits.*)

Edwin L. Bushnell, Poughkeepsie, N. Y., U. S., 23rd April, 1881; for 5 years.

Claim.—The spring having at their ends the eyes o having their inner sides open, but of less width than the outer side, whereby the application of the fastening is facilitated and its escape during operation prevented.

No. 12,670. Improvements in Ploughs. (*Perfectionnements dans les charrues.*)

George Thomson and John Thomson, Woodstock, Ont., 23rd April, 1881; (Extension of Patent No. 5,975.)

No. 12,671. Improvements in Hoop Coilers. (*Perfectionnements aux machines à lever les cercles.*)

John B. Pike, Harwick, Ont., 23rd April, 1881; (Extension of Patent No. 6,010.)

No. 12,672. Improvements on the Method of Treating Raw Hominy. (*Perfectionnements dans le traitement du maïs concassé brut.*)

William S. Boon, St. Louis, Mo., Maitland Boon and Rozell H. Hall, Watertown, N. Y., U. S., 23rd April, 1881; for 5 years.

Claim.—1st. As a new article of food, in alkalized raw hominy, in contradistinction to cooked and decorticated corn produced by boiling or scalding the same with lye. 2nd. A new article of manufacture in the described preserved hominy which consists of hulled granulated, raw alkalized dry kernels of corn. 3rd. The process of preserving hominy, consisting of taking the hulled, raw, dry kernels of corn, as they come from the mill, and saturating or wetting them with an alkaline solution, and then drying without washing or cooking the same.

No. 12,673. Improvements in Sights for Fire-Arms. (*Perfectionnements aux mires des armes à feu.*)

George Freund, Cheyenne, Wyoming Ty., U. S., 23rd April, 1881; for 5 years.

Claim.—1st. The usual sight notch, and an angular or other shaped opening vertically below the notch, the bar forming the bottom of the opening being in a line at right angles to a line passing through the centre of the sight notch and opening. 3rd. The usual sight notch, the angular or other shaped peep hole, placed below the sight notch, and having a serrated bottom or edge. 4th. A rear sight for fire-arms made of two or more parts and combined to form the usual sight notch, and a round square triangular, or other shaped opening below, or in a vertical line with the sight notch to serve as a peep hole. 5th. The ratchet or stepped side combined with a spring sight having an upper sight notch, and a lower peep notch or opening, whereby the sight forms a bottom to the lower notch while serving to elevate the sight.

No. 12,674. Improvements on Drying Apparatus. (*Perfectionnements aux appareils de dessication.*)

Augustus J. Kuhn, Lewistown, Penn., U. S., 23rd April, 1881; for 5 years.

Claim.—1st. The hollow box with its means of discharge, and the pipe g with its stuffing box, in combination with the live steam and exhaust pipes. 2nd. The combination, with the annular chamber between shells b c, of the box z having radial tubes o extending into the sand chamber, and the spirally flanged pipe m passing through the hopper to the inlet. 3rd. The combination, with the revolving cylinder and inlet pipe for exhaust steam, of the pipe s for live steam connected with the coupling and passing through the boxing of the revolving steam pipe.

No. 12,675. Improvements on Clothes Pins. (*Perfectionnements aux épingles à linge.*)

Charles S. Simpson, Brompton Falls, Que., 23rd April, 1881; for 5 years.

Claim.—The clothes clamping device, composed of the parts A having groove D, and reduced parts forming space E with part B, and pivot C.

No. 12,676. Improvements on Gold Saving Sluice Boxes. (*Perfectionnements aux boîtes-écluses pour conserver l'or.*)

Maurice M. Murray, Coulterville, Cal., U. S., 23rd April, 1881; for 5 years.

Claim.—The combination, in a sluice box, of the tank or receptacle B, grate H and screw C having spiral blades a.

No. 12,677. Improvements on Thrashing Machines. (*Perfectionnements aux machines à battre.*)

James Ferguson, St. Elmo, Ont., 23rd April, 1881; for 5 years.

Claim.—1st. The combination, with the cylinder shaft, provided with bevelled pinion D, of the vertical shaft F¹ carrying bevelled wheels E F², yoke H having hollow stem G journaled to frame a, shaft I carrying bevelled wheel K and provided with tumbling rod couplings J J. 2nd. The circular band X secured to yoke H, band Y secured to main frame a and a clamping screw or frame to hold the bands conjoined, when the yoke is in an adjusted position, to suit the angle of the tumbling rods. 3rd. The combination, with frame a, of the vertical shaft M having disk O eccentrically connected to shoe Q, by rod P, and carrying a rotary head R having shaft S driven by cog gears T to operate band wheel U, for driving the straw conveyer and to shake the shoe combinedly by suitable bands.

No. 12,678. Improvements on Children's Cribs. (*Perfectionnements aux berceaux.*)

John P. Alexander, Max Elser and DeWitt C. Pendery, Footworth, Texas, (Assignees of Fred H. Brown, St. Louis, Mo.), U. S., 23rd April, 1881; for 5 years.

Claim.—1st. A child's crib or cradle, provided with a musical device operated automatically by the vibrations of the crib body or basket. 2nd. The combination, with the supporting frame A provided with the spring or strings M¹, of the swinging crib basket B having pins on feathers L¹ playing upon said strings. 3rd. The combination, with the supporting frame A and swinging crib B suspended within said frame by hinged rods C, of the pitman H and rock shaft I having crank t, arms K carrying balls or tassels M, set screw O and adjustable fan N. 4th. In a child's crib, the adjustable fan P, in combination with the rock shaft I and mechanism for operating the same.

No. 12,679. Improvements on Boat Plugs. (*Perfectionnements aux tampons des bateaux.*)

Lewis H. Raymond, New York, U. S., 23rd April, 1881; for 5 years.

Claim.—1st. The valve H with a binding ring J hinged to the cage K. 2nd. The combination, with the perforated boat bottom F of the hinged valve H and the cage K. The combination, with the perforated boat bottom F, of the plate A, the hinged valve H and the cage K. 4th. The combination, with the boat bottom F, of the hinged valve, the cage K, the threaded neck B with a perforated top E, and of the screw cap L.

No. 12,680. Improvements in Revolving Book Cases. (*Perfectionnements aux boîtes de bibliothèques tournants.*)

John Danner, Canton, Ohio, U. S., 25th April, 1881; (Extension of Patent No. 6,371.)

No. 12,681. Improvements in Revolving Book Cases. (*Perfectionnements aux bois de bibliothèques tournants.*)

John Danner, Canton, Ohio, U. S., 26th April, 1881; (Extension of Patent No. 6,371.)

No. 12,682. Improvements on Heating Apparatus. (*Perfectionnements aux calorifères.*)

Almon H. Hearington, Rochester, N. Y., U. S., 26th April, 1881; for 5 years.

Claim.—The fire box and water surrounding passages 1 2 3 4, the revolving hopper for supplying fuel through openings 15 16, the revolving ash pan 34, the water surrounded passages for air 22 24 25 26 27 36 38 39, the fire bars containing water 30 31 32 33, also the combination of endless chain and hinged lift for supplying fuel to the tubular steam generators, the winding passages through pipes 5 6 7 8 9, through which heated-air and gases are drawn, or forced, for heating ovens or other places, the method of securing the ends of such pipes 11 12, the double acting plungers 1 2 with water surrounded passages 3 4 7 18 24, water reservoir 19 and regulating valve 5, the double oscillating cylinders 8 and plungers 5, hollow centre 1, lever 3 and crank pin 4, and valve at 13 serving either as pumps or measuring reservoirs, the vessels or chambers in combination with such reservoirs and the fire box, the single acting pump having water surrounded passages and hand lever and loaded plunger serving as safety valve, the base plate having water surrounded passages, the water surrounded pipes and union joints in combination with the different parts of the apparatus, the several water surrounded passages such as 2 19 21, and the distributing valves having water surrounded passages through them, the method of making air tight joints by forcing sharp edged rings into recesses containing lead, the stuffing boxes with packing having channels through which water circulates, the general arrangement of apparatus described for consuming and utilizing different kinds of fuel in such manner as to control, utilize and economize the heat of the smoke, gases and other products of combustion, without the use of a chimney, and to deliver them in any manner, and for any required purpose.

No. 12,683. Improvements on Cots. (*Perfectionnements aux lits de bord.*)

Benton Van Dyke and James F. Barnett, Chicago, Ill., U. S., 26th April, 1881; for 5 years.

Claim.—1st. The stretcher bar F g composed of two pieces, with a space between them to receive the webbing D, and provided with pivots M to turn and in combination with the anchors I forming parts of the pivots. 2nd. Sliding stops H constructed to remain on the rails A, in combination with the stretcher bar F g and webbing D. 3rd. The pocket ties K secured to the under edges of the rails A and combined with the webbing to strengthen the cot and to form pockets for storing away the ends of the cot. 4th. The combination of the webbing D E, loop wires a a a, stretcher bars F g, side rails A, head and foot board C and legs B, also with the stretcher ropes J.

No. 12,684. Improvements on Creamers. (*Perfectionnements aux gardes-lait.*)

Samuel H. Yeoman, Greensboro, and Benjamin B. Prentice, East Hardwick, Vt., U. S., 26th April, 1881; for 5 years.

Claim.—The combination, in an apparatus for raising cream, of a close cabinet A provided with cover B and doors C, refrigerating tank D within the upper part of the cabinet containing milk vessels E having funnel bottoms penetrating the bottom of the tank, and floor H under the tank to form a close air chamber.

No. 12,685. Medical Compound. (*Composé médical.*)

James Bemis, Des Moines, Iowa, U. S., 26th April, 1881; for 5 years.

Claim.—A hoof salve composed of alcohol, spirits of turpentine, neat's foot oil, spirits of camphor, aqua ammonia, beef's gall, sassafras oil, origanum oil, cedar oil, landanum, sal soda, beeswax, lard and rosin.

No. 12,686. Machine for Mining Under Water.*(Machine pour miner sous l'eau.)*

Joseph Hébert, Winnipeg, Man., 26th April, 1881; for 5 years.

Claim.—A machine for mining under water composed of a revolving wheel B having arranged around its periphery, a series of bucket-shaped scoops a, the said wheel projecting through a hole in the bottom of a scow A supporting it and arranged so as to excavate from the bed of the river or other body of water carrying the scow, in combination with a receiving box K provided with a pump and sluicing trough L.

No. 12,687. Improvements on Feed Water Heaters and Filters. (*Perfectionnements aux chauffeurs et aux filtres de l'eau d'alimentation.*)

James N. White, Rothburg, Mich., U. S., 26th April, 1881; for 5 years.

Claim.—1st. The combination, with the feeding heater A and the filtering device, of the boiler supply pipe D opening within a chamber in said filter, and the stop cock V arranged in supply pipe, within said chamber filter. 2nd. The combination, with the feed water heater A and the boiler supply pipe D, of a filtering device arranged within the heater and consisting of a nest of boxes placed one within the other, with intervening spaces and perforated walls, the perforations being above the bottom of the heater, and on a level, or there about, with the inward projecting open end of the boiler supply pipe. 3rd. A feed water heater and filter consisting of the tank A, the inlet water spraying pipe B B the steam pipe C, and the overflow pipe E having the relation to each other, the boiler-supply pipe D, its stop cock V and filtering device arranged within the heater in relation to each other.

No. 12,688. Improvements in Barley Beards. (*Perfectionnements aux ébarbeurs d'orge.*)

James Sendall, Brookport, N. Y., U. S., 26th April, 1881; for 5 years.

Claim.—1st. A chamber at the feeding end provided with a cleaning door at the bottom, in combination with a screening cylinder and a rotating shaft, provided with spirally arranged beater or blades. 2nd. A chamber at the feeding end provided with a cleaning door at the bottom, in combination with a screening cylinder, opening therefrom, an automatic self-regulating discharge door, and a rotating shaft provided with a series of spirally arranged blades or beaters. 3rd. A chamber to separate stones, dirt, etc., from the grain, located in the feeding end of the machine and provided with a cleaning door, the bottom of said chamber being below the screening cylinder. 4th. A chamber to separate stones, dirt, etc., from the grain located in the feeding end of the machine, and provided with a cleaning door, the bottom of said chamber being below the screening cylinder, in combination with an extension of said chamber above the body of the machine and provided with a feeding aperture located on the side facing the rear end of the machine. 5th. The combination of a semi-cylindrical screen, located in, and secured to the body of the machine, and a removable semi-cylindrical screen secured to a removable frame, and adapted to be placed upon the rigid screen to form a completed cylinder. 6th. The combination of a feeding chamber the floor of which is located below the screening cylinder, a cleaning door at the bottom of said chamber, a semi-cylindrical screen secured in the body of the machine, and a semi-cylindrical screen secured to a removable frame. 7th. A discharging door for a barley bearder in which the door is hung and arranged with reference to the centre of gravity, so that it exerts automatically an increased pressure to close itself in proportion as the discharge increases, and vice versa. 8th. A screening cylinder in combination with a vertical door of metals, or other heavy material, hinged at the top and provided with an arm and a regulating weight adjustable thereon, said door operating to increase its tendency to close in proportion as the discharge of grain increases and vice versa. 9th. The combination of the separator P, the barley bearder frame A and one or more U-shaped clamping irons provided with clamping bolts. 10th. The cast iron head T provided with flanges to clamp and hold together the frame A of the bearder, and also support and carry the bearding shaft. 11th. The shaft D in combination with a screening cylinder and flat blades or beaters e screwed into the shaft, set spirally thereon, and set at an angle thereto to feed the grain through the cylinder.

No. 12,689. Improvements on Self-Counting Egg Packers. (*Perfectionnements aux boîtes-compteurs à œufs.*)

James Cameron, Victoria, B. C., 27th April, 1881; for 5 years.

Claim.—1st. The egg tray described, the cradles or compartments of which are formed of cords laced across the tray. 2nd. The tray A having the side boards b b and the end boards c c perforated with the double series of holes e e, in combination with the cords f. 3rd. In the egg trays A, the cradles or egg compartments, which are formed of cords laced across the tray, in combination with the crate formed of the bottom board D, cross bars F, frames G and cover H.

No. 12,690. Improvements on Dumping Carts and Waggon. (*Perfectionnements aux charrettes et aux wagons à bascule.*)

Ze Butt, Ocala, Fla., U. S., 27th April, 1881; for 5 years.

Claim.—1st. A crank axle composed of the straps L spindle K and wooden bar or bars R, the straps L being provided with feet l and bolted to the wooden part. 2nd. The cart body having the body or bottom curved or sloped from or near its middle portion backward and upward, and its front portion similarly curved or sloped upward and forward, in combination with the crank axle. 3rd. The combination of the cart body curved or sloped the cranked axle, and pole or shafts connected to the central members of the axle by hoops and eyes or hinge joint. 4th. The combination of the cart body, curved or sloped, the cranked axle hinged pole or shafts, and the spring H. 5th. The combination of the cart body and hinged tail board D with the self-acting latch F having the projecting end, which is adapted to strike upon the ground and release the catch when the cart is dumped. 6th. The combination, with the cart body, of a rocking seat Q hung upon the cranked shaft q and interposed springs. 7th. The combination of the flaring cart body and wheel A having its spokes and felloes bevelled outwardly, whereby dirt, etc., carried up by wheels will be thrown away from the cart body.

No. 12,691. Improvements on Dumping Waggon. (*Perfectionnements aux wagons à bascule.*)

Kenneth Kennedy, Kenyon, Ont., 27th April, 1881; for 5 years.

Claim.—A dumping wagon box consisting of the rectangularly framed sill pieces A supporting the sides C, the floor constructed of two sections F F telling on pintles G journalled into the longitudinal sills, the ends J fixed to the floor sections and provided with spring catches H engaging with the sills, to hold the sectional bottom horizontally, and, when released, the sections tilt inwardly to dump the contents.

No. 12,692. Improvements on Breast Strap Slides. (*Perfectionnements aux glissants des bricoles.*)

Seth Ward, Princeton, Ind., U. S., 27th April, 1881; for 5 years.

Claim.—1st. The breast strap slide A provided with the loops B B, tongues a and apertures b b. 2nd. The combination of the slide A having loops B, tongues a and apertures b, the strap c having a hole in each end and the snap hooks D.

No. 12,693. Improvements on Trace Buckles. (*Perfectionnements aux boucles des traits.*)

James Lally, Kendall, N. Y., U. S., 27th April, 1881; for 5 years.

Claim.—As an improved article of manufacture in the two part trace buckle, composed of the frame a b c d and the detachable and sliding

frame *c* having a loop *f* on its under side, loop *g* at its ends, and a tongue *h* on its top side.

No. 12,694. Improvements on Heel Skate Fasteners. (*Perfectionnements aux attache-patins.*)

Uri G. Coon, Medina, (Assignee of Elijah S. Coon, Watertown, N.Y., U.S., 27th April, 1881; for 5 years.

Claim.—1st. As an improved article of manufacture, a skate fastener, constructed as described, consisting of a screw threaded hollow plug or thimble a dirt plate for covering the opening in the plug, and a spring for holding the dirt plate in place. 2nd. In heel skate fasteners, the plug *B* constructed, in circular form with a screw thread upon its exterior. 3rd. A spur or ice creeper *G* having a bar provided with a button *I* for holding it to the heel fastener.

No. 12,695. Improvements on Shoe Packs.

(*Perfectionnements aux mocassins.*)

Selby Lee, Ottawa, Ont., 27th April, 1881; for 5 years.

Claim.—As an improved article of manufacture, a shoe pack composed of the vamp *A* with tongue *C*, quarter *B* with sole *D* and heel *E* and front overlapping top *F*, with string *G* to bind the top against the ankle.

No. 12,696. Improvements on Electro-Magnetic Apparatus for Medical Use. (*Perfectionnements aux appareils électro-magnétiques pour des fins médicales.*)

John Butler, New York, N.Y., U.S., 27th April, 1881; for 5 years.

Claim.—1st. An electro-magnetic apparatus for medical use having one electrode formed as a drawing roller and fitted in a handle for use as described. 2nd. In electro-magnetic apparatus for medical use, the permanent magnet *A*, manipulating roller *B* carried by the permanent magnet, and electro-magnet *C* fitted for rotation by the roller.

No. 12,697. Improvements on Boots and Shoes. (*Perfectionnements aux chaussures.*)

George Taylor, Lynn, Mass., U.S., 27th April, 1881; for 5 years.

Claim.—As an improved article of manufacture, a boot or shoe having an elastic gore *d* at the junction of the upper and sole, on one or both sides, and extending from the toe to shank.

No. 12,698. Improvements on Eyelets.

(*Perfectionnements aux œillets.*)

Franklin B. Bradley (Assignee of Adolph Delkescamp), Southington, Ct., U.S., 27th April, 1881; for 5 years.

Claim.—An eyelet having the edge of its outwardly extending flange turned over, beyond a position at right angles to the body of the eyelet and turned inward, or set preparatory to being inserted in the article to which it is to be applied.

No. 12,699. Improvements on Portfolios.

(*Perfectionnements aux portefeuilles.*)

Clark J. Brown, Randolph, N.Y., U.S., 27th April, 1881; for 5 years.

Claim.—1st. The portfolio *A B C* having pockets *D E* and diagonally ruled transverse flaps or strip *F*. 2nd. The combination, with the portfolio *A B C* having pockets *D E*, of a hinged copy slip holder *G*. 3rd. The combination, with a portfolio, of a pen-wiper stitched or otherwise secured to one of its covers. 4th. In a portfolio, a pen-wiper secured thereto in such a manner as to form a loop or pocket to receive the pen-holder. 5th. In a portfolio, the flap or strip *F* having diagonal guide lines. 6th. In a portfolio, the described strengthening strip *a*. 7th. The portfolio *A B C* having pockets *D E*.

No. 12,700. Improvements on Children's Carriages. (*Perfectionnements aux voitures d'enfants.*)

Charles Mattern, Jersey City Heights, N.J., U.S., 27th April, 1881; for 5 years.

Claim.—1st. The combination of the body of a child's carriage having an arc-shaped guide rod with separately sliding front and rear handles, and with devices by which the handles may be guided on and locked to the guide rod when drawn out. 2nd. The combination of the body of a child's carriage and of separately sliding and guiding front and rear handles, with an arc-shaped guide rod, to which the handles are connected by transverse brace rods and guide sleeves. 3rd. The combination, in a child's carriage, of the body *A* having an arc-shaped guide rod *C* with separately sliding and guiding front and rear handles *B* connected at their lower end by a transverse brace-rod *b*, the handle being locked in drawn out position by a slotted sleeve of the brace-rod and a spring catch *e* of the guide rod. 4th. The combination of the body of a child's carriage having bracket sleeves, with separately sliding front and rear handles connected by a transverse brace-rod at their lower ends, said rod fitting into recesses of the guide castings. 5th. The combination in a child's carriage, with the reach having a central supporting frame, of a storage-box basket, or other receptacle secured thereto.

No. 12,701. Improvements in Feed Water Heaters. (*Perfectionnements aux chauffeurs de l'eau d'alimentation.*)

Edward J. Hall, (Assignee of John W. Heylman), Buffalo, N.Y., U.S., 27th April, 1881; for 5 years.

Claim.—1st. The combination with a feed water pipe *A* projecting into the steam space of a boiler or heater, in a downward direction, of a valve seat *c* formed in the lower end of the pipe, a valve *D* arranged below the mouth of the pipe *C* and mechanism whereby the valve is raised to its seat, when the pump ceases to eject water from the feed pipe. 2nd. The combination

with a feed water pipe *A* projecting into the steam space of a boiler or heater in a downward direction, of a valve seat *c* formed in the lower end of the pipe, a valve *D* arranged below the mouth of the pipe, and a guide ball *E* made wedge-shaped in cross section, whereby the spray is divided and deflected. 3rd. The combination with a feed pipe *A*, of the valve *D* having the lower portion of its wings *h* cut away to form an unbroken annular chamber *i* above the valve. 4th. The combination with a feed pipe *A*, of the valve *D*, provided with wings *h*, having bevelled or inclined faces *K*. 5th. The combination, with a feed pipe *A* opening into the steam space in a downward direction and provided with a valve seat *c*, of the valve *D* constructed with a flange *l* at the base of its conical face, whereby the water spray is deflected. 6th. The combination, with a feed pipe *a*, of the valve *D* provided with stem *e* and spring *g*, and the guide ball *E* made wedge-shaped in cross section, and provided with lugs *n*, whereby the downward movement of the valve is limited. 7th. The combination, with a feed pipe *a* provided at its mouth with a valve seat *C*, of the valve *D* provided with wings *h* having their lower portions cut away to form an unbroken annular chamber *i* above the valve, and their upper portions constructed with inclined or bevelled faces *K* and a deflecting flange *l* arranged at the base of the conical face of the valve.

No. 12,702. Improvements on Machines for Covering Mouldings with Cloth. (*Perfectionnements aux machines pour couvrir les moulures avec du drap.*)

John D. Ripson and Thomas Devens, Cambridge, Mass., U.S., 27th April, 1881; for 5 years.

Claim.—The glue receptacle *B*, in combination with a central curved strip *a* and a transverse roller *b* to hold the moulding against the strip, in combination with the frame *D* set diagonally to the plane of receptacle *B* and provided with rows of bristles *c d*, the ends of the bristles lapping. 2nd. The combination, with the reel *E*, guiding spool *F* and supporting wheels *I K*, of the spring guide *G* and grooved wheel *H* for applying the cloth to the upper surface of the moulding and pressing it down thereon. 3rd. The combination, with the mechanism for applying the cloth to the mouldings, and pressing it down thereon, of the supporting wheels *I K* having their edges grooved to prevent the removal of the glue from the under side of the moulding as it passes over the wheels. 4th. The combination, with the mechanism for applying the cloth to the moulding, and pressing it down to the lower edges thereof, of the yielding grooved wheels *L N* adapted to turn up the edges of the cloth on to and flatten them against the under side of the moulding. 5th. In combination with mechanism for applying the cloth and pressing it down to the lower edges of the moulding, the grooved wheels *L N* mounted on yielding spring sides *M P* and made removable therefrom. 6th. The combination with the mechanism for applying the cloth to the moulding, pressing it down thereon, and turning its edges up on to the under side thereof, of the spring pressure block *R* and supporting disk *S* for smoothing down and finishing the surface of the moulding. 7th. The described machine for covering moulding with cloth consisting essentially of the reel *E*, guiding spool *F*, spring guide *G*, grooved wheel *H* supporting wheels *I K*, yielding grooved wheels *L N*, pressure block *R* and supporting disk *S*, the whole combined to operate as described.

No. 12,703. Improvements on Machines for Mining Coal. (*Perfectionnements aux machines à miner la houille.*)

Francis M. Leehner and Joseph A. Jeffreys, Columbus, Ohio, U.S., 27th April, 1881; for 5 years.

Claim.—The combination of the following elements: A rotating cutter, a sliding carriage for said cutter, a screw-threaded shaft to advance the cutter carriage and also to rotate the cutter, and mechanism intermediate between said screw threaded shaft and the cutter, and arranged to transmit rotary motion from the screw threaded shaft to the cutter. 2nd. The combination of the following elements, viz.: a stationary bed frame, a cutter frame arranged to slide upon said bed frame, a rotating cutter mounted upon the sliding frame, an engine secured to the stationary frame, and mechanism operated by said stationary engine and arranged to advance the cutter frame and rotate the cutter. 3rd. The combination of the following elements, viz.: a stationary bed frame, a cutter frame arranged to slide upon said frame, a rotating cutter carried by said sliding frame, an engine cylinder situated in a horizontal axis, and an engine shaft mounted in rear of the sliding frame. 4th. The combination of the following elements, viz.: A stationary bed frame, a cutter frame which slides upon said bed frame, a rotating screw shaft, and a nut which engages with said shaft to advance the cutters, and which rotates in the same direction with the shaft. 5th. The combination of the following elements, viz.: A stationary frame, a sliding cutter frame, a cutter mounted upon said sliding frame mechanism arranged to rotate said cutter, a rotating screw shaft which advances the cutter frame and which is provided with a longitudinal slot, whereby it can engage with the cutter rotating mechanism. 6th. The combination of the following elements, viz.: a stationary bed frame, a sliding cutter frame, mechanism which withdraws the cutter frame, and a continuously rotating screw threaded shaft, arranged to alternately advance the cutter frame and to operate the withdrawing mechanism without being reversed. 7th. The combination of the following elements, viz.: a stationary bed frame, a sliding cutter frame, a screw-threaded shaft arranged to advance the cutter frame, and a second screw-threaded shaft arranged to withdraw the cutter frame and to be operated by the other said screw-threaded shaft. 8th. The combination, with the stationary frame, a sliding frame and a rotating screw-threaded shaft mounted upon the stationary frame, of the detachable nut sections *F₂*, the pivoted eccentrics *E₂* *E₃* and the straps *F₃* *F₄* respectively attached to the nut sections *F₂* *F₃*. 9th. The combination, with a rotating bar, of diamonds arranged between the ends of same bar, to rotate in planes transverse to the axis of the bar. 10th. The combination, with rotating bar *L*, of the projection *l* extending from the face of the bar, and the diamonds *l* embedded within said projections between the ends of the bar. 11th. The combination of the following elements, viz.: The screw-threaded shaft *G*, the sliding cutter frame, the nut at *K* which engages with the thread of the shaft *G* to advance said sliding frame, a rotating cutter, the mechanism which rotates said cutter, and spur wheel *P* which operates the cutter, rotating mechanism and which is rotated by the shaft *G* and transverse said shaft longitudinally. 12th. The combination with the cutter, a sliding cutter frame, the shaft *G* and the nut at *K*, of

the wheels P O which operate the cutter, and the wheels Q Q' which rotate the nut K. 13th. The combination with the sliding cutter frame, of the overhanging brackets P, the yokes or stirrups O, the sprocket shafts O' and the chains Q. 14th. The combination with the cleaner chains Q', of the loops Q' attached to the links of said chains.

No. 12,704. Process for Treating Copper Ores Containing Precious Metals. (*Procédé de traitement des minerais de cuivre contenant des métaux précieux.*)

Paul G. L. G. Designolles, Paris, France, 27th April, 1881; for 15 years.

Résumé.—1e. L'application aux minerais, on autres matières contenant du cuivre, des sels de cuivre ou des sulfures, antimonies, arsénies de cuivre, etc., d'un procédé d'amalgamation électro-chimique c'est à dire, par la trituration des minerais pulvérulents avec le bi-chlorure de mercure, additionné de chlorure de sodium, le tout en présence de fer métallique. 2e. Dans l'adjonction dans la masse après l'amalgamation commencée d'une quantité voulue de mercure métallique, afin de compléter l'amalgamation et de rendre l'amalgame pâteux et susceptible de s'agglomérer et de se fixer sur les plaques amalgamées destinées à le recueillir. 3e. Le système sus-indiqué de séparation préalable par décantation et filtrage de la majeure partie de l'amalgame produit. 4e. Le mode de séparation des métaux précieux contenus dans un amalgame de cuivre, complexe, par simple distillation ou soutirage du dit amalgame, mettant à profit le phénomène de liquation. 5e. Le système d'appareil broyeur à cylindres métalliques tournant librement dans un tambour rotatif. 6e. Le genre d'appareil d'amalgamation à cylindres avec cannelures en hélice tournant librement dans un tambour rotatif. 7e. Le système d'appareil malaxeur à deux corps superposés et munis d'agitateur pour la séparation directe de la majeure partie de l'amalgame obtenu. 8e. Le genre d'appareil de distillation de l'amalgame ou retorte à double enveloppe, avec creusets métalliques à galets de forme tron-conique mobiles sur rails, permettant la manutention facile et le déplacement des dits creusets.

No. 12,705. Improvements on Gates for Railway Crossings. (*Perfectionnements aux barrières pour les traverses des chemins de fer.*)

Jean B. Emond, Quebec, Que., 27th. April 1881; for 5 years.

Résumé.—1e. La combinaison des roues dentées A A mises en mouvement par la manivelle au moyen du pignon C. 2e. La transmission du mouvement ascendant ou descendant de la barrière, de la boîte D à celle de la boîte E, par l'arbre de transmission F. 3e. L'excentrique pratiquée dans la pesée de la barrière, permettant son mouvement sans rencontrer d'obstacles par la manivelle.

No. 12,706. Improvements on Detaching Check Reins. (*Perfectionnements aux crochets des rênes.*)

James McLean, L'Étié, N. B., 28th April, 1881; (Extension of Patent No. 6,052.)

No. 12,707. Improvements on Nut Locks. (*Perfectionnements aux serrures-écrous.*)

Edward T. Smith and James Ritchie, Ottawa, Ont., 28th April, 1881; for 5 years.

Claim.—A nut lock C of a folded sheet of metal, having an indented part D in the folding part I and bolt hole F.

No. 12,708. A Churn. (*Une baratte.*)

Charles H. Warren, Toronto, Ont., 29th April, 1881; (Extension of Patent No. 6,055.)

No. 12,709. Improvements on Boot and Shoe Counters. (*Perfectionnements aux contreforts des chaussures.*)

Levi R. Howe, New York, and Henry W. Shephard, Brooklyn, N. Y., U. S., 29th April, 1881; for 5 years.

Claim.—1st. A counter support composed of metal having its upper edges turned over and its sides corrugated. 2nd. The metal counter support A having its edges B turned over, combined with the corrugations C C in the sides of the support.

No. 12,710. Improvements on Reed Organs. (*Perfectionnements aux harmoniums.*)

The Mason and Hamlin Organ Company, (Assignee of George B. Kelly,) Boston, Mass., U. S., 29th April, 1881; for 5 years.

Claim.—1st. In a reed organ, the combination, with the obliquely arranged top board H having the bevelled front edge b, of the lid J having the bevelled edge a hinged to the bevelled edge of said top board, and provided with the flange d, the free edge of said lid being arranged to close on a level with the lower edge of said top board, whereby a triangular space is inclosed under said lid and board to receive the flange, and the bevelled edge of the rear top board forms the only support of the lid in its raised position. 2nd. A reed organ composed of a series of keys C, valves D, reeds E and their reed chambers, swell Q, wind chests F, bellows G and exhausters H H', all combined and arranged in a manner to bring them within a casing B which is supported upon two uprights A A'. 3rd. The organ case composed of two uprights A A', projecting laterally and vertically above the movement box, and supporting said box endwise between them. 4th. The treadle N having its fulcrum at or near its centre, and so connected to the exhauster of the bellows, that the movements of the exhauster to exhaust the bellows will be controlled and operated in both directions by said treadle. 5th. The treadle N hinged to a cross bar between the upright supporting the box or casing B, said treadle having its fulcrum at or near its centre, and so connected to the exhauster of the bellows that the movement of the exhauster to exhaust the bellows, will be controlled

and operated in both directions by said treadle. 6th. In a reed organ, a key supported at its rear end by the key board or frame, said key being provided with a pin m rigidly secured thereto, which pin projects downwards from the key into an aperture in said supporting frame, whereby the key is guided in its movements.

No. 12,711. Improvements on Shingle Machines. (*Perfectionnements aux machines à bardeau.*)

Martin A. Bidwell, Sacramento, Ky., U. S., 29th April, 1881; for 5 years.

Claim.—1st. The combination of the horizontally reciprocating riving frame E having its middle parts recessed, and its forward end bevelled, and provided with the riving knife H, and the cross bar I provided with the stop-plate J secured to it, so as to receive the riving knife between it and the said bar, with the frame A, the bed F and the driving shaft B. 2nd. The bed F having its upper surface inclined from the centre toward each side, in combination with the reciprocating frame E and the knives i. 3rd. The combination, with the riving frame E and the bed F, of the pivoted bars R, the holding block V, the toothed plate W and the driving mechanism L M N Q for moving the shingle from the riving frame E to the bed F. 4th. The combination, with the riving frame E and the bed F, of the parallel knives t, the sashes g and their driving mechanism f c b r for smoothing and tapering the shingle. 5th. The combination of the arm M, frame N, spring T, connecting bars Q and hinged bars R supporting the serrated plate W, with the driving shaft B provided with the cam L. 6th. The combination of the rock-shaft a, lever r, connecting-rod b, shaft d, cross head e, arm c, bars f and sashes g carrying the shaving knives i, with the reciprocating riving frame E.

No. 12,712. Improvement in the Process of Brewing. (*Perfectionnement dans le procédé de brassage.*)

Henry Calcott, Ashburnham, Ont., 29th April, 1881; for 5 years.

Claim.—The manner of displacing and expelling the strong wort remaining in the hops after the wort is run off by applying water, or weak wort, in a gradual manner by sprinkling the hops by means of a sparger or watering can, or other similar means.

No. 12,713. Improvements on Feed Water Regulators for Boilers. (*Perfectionnements aux régulateurs de l'eau d'alimentation des chaudières.*)

Charles H. Kuhne, Butler, Pa., U. S., 29th April, 1881; for 5 years.

Claim.—1st. The chamber A connected by pipes a b to the boiler float B, cock f, pipe g, cylinders D E connected pistons h i, feed water pipes l m and waste pipe n. 2nd. In feed water apparatus, the combination of a cylinder receiving the water and connected to the boiler, a piston fitted for movement to cut off the connection to the boiler, a float positioned by the water level and a steam cock moved by the float to supply or cut off steam, whereby the piston is moved to cut off the water, or released from steam pressure according to the position of the float.

No. 12,714. Improvements in Clamp Skates. (*Perfectionnements aux patins à crampons.*)

William Wilkie, Guelph, Ont., 29th April, 1881; for 5 years.

Claim.—1st. A metal skate provided with adjustable clasps J for grasping the sole of the boot, an adjusting plate G suitably connected to the said clasps, and holding the heel clasp K, in combination with a nut E or its equivalent arranged to longitudinally adjust the plate G, for the purpose of simultaneously regulating the clasps J K. 2nd. A metal skate provided with a front plate A and heel plate B, for supporting the foot stationary clasps C at the back of the heel, in combination with the heel clasp K adjustably connected to the adjusting plate G, which is provided with a pin H fitting into diagonal slots, in the plates I forming parts of the front clasps J.

No. 12,715. Process for Manufacturing Insoling. (*Procédé de préparation des semelles intérieures.*)

John A. Gallie, Berlin, Ont., 29th April, 1881; for 5 years.

Claim.—The fence C arranged in combination with the blocks A and B or their equivalents, for the purpose of facilitating the manufacture of Panoake Insoling, or its equivalent.

No. 12,716. Improvements on Stovepipe Drums. (*Perfectionnements aux poêles sours.*)

William H. Packham, Dresden, Ont., 29th April, 1881; for 5 years.

Claim.—A stovepipe drum A having a central partition F to form a downward and upward flue, with ingress and egress openings I P in the head B of the drum, for connecting with stovepipe, and provided with through air ducts C and suitable dampers for cutting off and regulating the currents.

No. 12,717. Improvements on Elastic Gores. (*Perfectionnements aux pointes élastiques.*)

Simon Florsheim, Chicago, Ill., U. S., 29th April, 1881; for 5 years.

Claim.—1st. An elastic gore, gusset, or section for wearing apparel composed of a covering material, having tubes, spiral metal springs, inclosed by such tubes and not extending to the edges of the covering material, and stayed at their ends by such covering material, and elastic margins outside of the springs. 2nd. An elastic gore gusset, or section of the character described, the springs arranged in groups and made of a continuous length of coiled wire. 3rd. In an elastic gore, gusset or section of the character described, the metal fastenings C extending across the ends of the tubes, between the thicknesses of the covering material.

No. 12,718. Improvements on Counters for Boots and Shoes. (*Perfectionnements aux contreforts des chaussures.*)

Charles E. Bigelow, Brooklyn, N. Y., U. S., 29th April, 1881; for 5 years.

Claim.—1st. In a metal counter support, a series of transverse slits or slots *o o*. 2nd. The metal counter support A having a seat flange, and provided with a series of transverse slits or slots *o o*.

No. 12,719. Improvements on Car Brakes. (*Perfectionnements aux freins des chars.*)

William Brattle, Coon Rapids, Iowa, U. S., 30th April, 1881; for 5 years.

Claim.—1st. The fulcrum C, lever D, brake shaft E, friction wheel F, pinion F₁, cog wheel *g*, chains H N, sliding buffer K provided with sheave L and fixed sheave M. 2nd. In combination with the break shaft E, the extension fulcrum C, lever D, friction wheel and pinion F F₁, cog wheel *g* and chains H N. 3rd. The combination, with the chain N, of the sliding buffer K provided with sheave L and fixed sheave M, whereby the slack of said chain is taken up.

No. 12,720. Improvements on Pulleys and Snatch Blocks. (*Perfectionnements aux poulies couples et autres.*)

Herbert Loud, Everett, (Assignee of Thomas R. Ferrall, Boston), Mass., U. S., 30th April, 1881; for 5 years.

Claim.—1st. A snatch block having its hook pivoted or journalled to one cheek, and a link hinged to the other cheek, said link being adapted by its free end, to pass over the end of, and embrace the other pivot or journal of said hook, and to be secured thereto by an arm or lip *o* of said journal. 2nd. A snatch or pulley block provided with the closed hollow cheek B B₁; each consisting of a hollow cast metal shell formed with rounded edges *c*, the said cheeks being connected together by a cross bar at their lower extremities, and the journals of the pulley wheel being supported by the walls of the hollow cheeks. 3rd. The combination, with the two hollow cast metal cheeks B B₁ in a snatch or pulley block, of the two straps G G₁ inclosed within the hollow shells constituting the cheeks, the said straps being made with bearings for the journals of the pulley wheel and extending out from the cheeks to connect with the hook, and each cheek being made in a single piece. 4th. The combination, with the two hollow cast metal cheeks B B₁ in a snatch block, of the two straps G G₁ inclosed within the hollow shells constituting the cheeks, the straps G being extended out from one of the cheeks to form an eye for the hinged link, the strap G₁ being formed to provide a bearing for one of the journals of the hook, and both of the said straps being made with bearings for the journals of the pulley wheel. 5th. A cast metal snatch or pulley block having its cheeks cast hollow, and having its hook pivoted or journalled to one cheek, and a link hinged to the other cheek, said link being adapted, by its free end, to pass over the end of and embrace the other pivot or journal of said hook, and to be secured thereto by an arm or lip *o* of said journal. 6th. In combination with a cast metal snatch block, having its cheeks cast hollow, the wrought iron inside straps, the hook J pivoted or journalled to one cheek, and a link hinged to the other cheek, and adapted, by its free end, to pass over the end of, and embrace the other pivot or journal of said hook, and to be secured thereto by an arm or lip of said journal.

No. 12,721. Improvements in the Production of Stereotypes and Electrotypes. (*Perfectionnements dans la production des clichés.*)

George D. McDougald, William Adie, George R. Adams and Peter Fleming, Dundee, Scotland, 3rd May, 1881; for 5 years.

Claim.—1st. Forming the matrices by successively punching, stamping or impressing the characters, letters or signs, or combination of characters, letters or signs necessary to form the matrix, by means of hard types one after the other, onto and into the material of the matrix essentially as described, and whereby ordinary types, and type setting, are dispensed with. 2nd. The machinery or apparatus arranged relatively with a matrix stamping machine for producing the perforated paper, or other strips, for use in said matrix, stamping machine essentially as described, also the modification described, or any other mere modification of the same. 3rd. The machinery or apparatus for use in combination with the said perforated paper, or other strip, for stamping or impressing one after another, unto and into the material of the matrix, the characters, letters, words or signs, or combinations of words, letters, characters or signs, necessary to produce the matrix, the said machinery or apparatus being constructed and arranged as described. 4th. The use, in machinery for producing matrices, of a strip of paper or other material previously perforated with holes, or recesses, in proper position to cause the actuation in a matrix stamping machine at the proper times, of the necessary types, or stamps to produce the required matrix. 5th. The direct acting machinery, or apparatus wherein the matrix stamping types are actuated by means of keys or their equivalents, without the intervention of a perforated strip of paper or its equivalent. 6th. The machine or apparatus for stamping the matrix material with the requisite letters, or signs, the said machine or apparatus being constructed or arranged and operated by air or liquid, under pressure. 7th. The adaptation and use for proof taking of the machines claimed in the preceding third, fifth and sixth claiming clauses.

No. 12,722. Improvements on Combined Sleeping and Drawing Room Cars. (*Perfectionnements aux chars dortoirs et chars salons combinés.*)

Adolphus Davis, Montreal, Que., 3rd May, 1881; for 5 years.

Claim.—1st. The combination, with the cupboards A, of brackets B carrying same and running on wheels. 2nd. The combination, with the cupboard A, of supports for berths secured on either side of same and to each other. 3rd. The combination berth support and hook E. 4th. The combination, with the swinging cupboards A, of the bolt G working in sleeve H raised and lowered and locked in either position in same, by means

of handle G₁. 5th. In a drawing room car chair, a revolving rocking support consisting of a curved spring carrying on its upper end a frame, and bolted at its lower end to an eye or socket resting in a seat formed in the floor, and secured therein by a loose pin or spindle.

No. 12,723. Improvements in Stock Cars. (*Perfectionnements aux chars à bestiaux.*)

James Howard, Hamilton, Ont., 3rd May, 1881; for 5 years.

Claim.—1st. In combination with railway stock or cattle cars, the food boxes A A placed on the top of the car and provided with their sliding doors, spouts and valves for the distribution of food. 2nd. In combination with railway stock cars, of the troughs D E F G, the same being placed in the position shown on or a little above the floor, the latter to admit the auxiliary sliding trough or troughs to be placed under them opposite the door, and provided with inlet and outlet tubes for food and water. 3rd. In combination with railway stock and cattle cars, movable dividers to separate cattle, the same being constructed of any material and arranged to be easily moved out of the way when not required, or the modified gates R₁ R₂. 4th. In combination with the large troughs D E F G, the movable single or double auxiliary troughs X₁ Y₁. 5th. The combination of the food boxes A A with their valves, and spouts, troughs D E F G with their inlets and outlets, balanced lid and fastening appendages, auxiliary trough or troughs X₁ Y₁, movable dividing bars R, gates R₁ or their equivalent mechanical devices.

No. 12,724. Improvements on Self-Levelling Berths for Ships. (*Perfectionnements aux lits de bord suspendus.*)

The Brunswick Berth Company, Hartford, Ct., (Assignee of William T. Milligan, Boston, Mass.), U. S., 3rd May, 1881; for 15 years.

Claim.—1st. The ways D D pivoted to the bulk head and arranged with relation to the berth, and journals or trunnions, and adapted to keep the long axis of the berth horizontal. 2nd. The weighted lever P in combination with the rope *m* of a self-levelling berth.

No. 12,725. Improvements on Telephones. (*Perfectionnements aux téléphones.*)

Charles D. Haskins, New York, U. S., 3rd May, 1881; for 15 years.

Claim.—1st. The combination, with an electro-magnet having a vibratory tongue armature playing between its poles, and a main line and local or bell circuit, of a shunting device connected with, or adapted to be operated by said tongue armature, an extra armature operated by said electro-magnet, and a movable stop operated by said extra armature, to control the movement of said tongue armature and shunting devices, whereby the local or bell circuit may be brought into the main circuit or shunted therefrom, by means of an electric current passing over said main line. 2nd. The combination of the polarized electro-magnet, the vibratory tongue armature D having projecting stud D₂, the disk E having the aperture *e*, the extra armature I and suitable intermediate mechanism, by which motion may be communicated from said extra armature to said disk, and a shunting device or devices, arranged to be operated by said vibratory tongue armature. 3rd. In a series of telephones upon the same main circuit connected with a central station, the combination, with each of the telephones, of a shunt or cut out operated by a current over the main circuit, and a locking device for each of said shunts or cut outs, independently operated for locking by a current in one direction over said main circuit, and for unlocking by a reversed current, whereby any given number of telephones may be placed in communication, and all the other telephones may be cut out of the circuit, by an operator at the central station, except those at stations where the shunt or circuit is locked. 4th. The combination, with the telephone and signal at each station, of a telephone shunt operated by a series of pulsations of the same polarity, and shunt lock and a signal shunt and shunt lock operated independently of each other by means of reversed currents, whereby the operator, at the central station, may call any given station and place it in communication with any other without actuating the signals of any but these two stations, and then shunt out of circuit the call bell, telephone and break key at the remaining stations. 5th. The combination with the vibratory tongue D operated by reversals of the main line current, of the unison stop controlled by said vibratory tongue, and the call bell shunt operated also by said tongue, and controlled by a current over the main line. 6th. The combination, with the vibratory tongue D operated by reversals of the current, of the unison devices controlled by said tongue, and the telephone shunt and its operating devices controlled by a current over the main line. 7th. The combination, with a polarized magnet, of the vibratory tongue armature, the unison devices, and call bell shunt controlled by said tongue and the telephone shunt, and the devices operated by said magnet for actuating said stops and telephone shunt. 8th. The combination, with the telephone switch lever Q carrying the spring arm Q₁ insulated therefrom, and the spring Q₂ in electrical contact therewith, of the metal segment R having its ends so arranged that, when the switch lever is in its normal position, one of the said ends will be in contact with spring arm Q₁ and the telephone switched out of the main circuit, and when the said lever is swung outward, the other end of said segment will be in contact with arm Q₂ and the telephone switched into the main circuit.

No. 12,726. Improvements on Box and Cattle Cars. (*Perfectionnements aux chars à fret et à bestiaux.*)

Thomas Clarke, Truro, N. S., 3rd May, 1881; for 5 years.

Claim.—1st. In a cattle car, the combination of the horizontal cords or chains F F₁ for dividing the car into separate stalls, and vertical stringers G connected to and bracing said horizontal cords or chains. 2nd. The detachable horizontal stall ropes or stringers F F₁ connected to one another by the coupling composed of the link *b*, bent lever *c*, link *d* and sliding ring *e*. 3rd. In a railway freight car, the upper floor or horizontal partition D provided with the water tanks E E inclined vertically in opposite directions and provided with the branches or discharge pipes *n*, connecting end pipes L having faucets *l*, inlets *m* and sliding guards K. 4th. The upper floor or horizontal partition D provided with trap

doors Q at opposite ends, sliding doors Q₁ and the feed aperture o arranged on opposite side of the central slotted platform. 5th. The detachable water and feed buckets P hinged to plates P₁ provided with parallel rods Q Q. 6th. The hinged shutters I provided with the eyes i and hooked rods or arms k for connecting them into feed racks. 7th. The dogs H arranged near the bottom of the car sectional doors B B₁ provided with windows or apertures C in their upper part or section, hinged shutters I and upper floor or horizontal partition D provided with the apertures o, whereby a current of air may be maintained, for ventilating purposes in the lower compartment of the car. 8th. The device for coupling and tightening the stall chains or cords F F₁ composed of a long link b, bent lever c, connecting link d and sliding locking ring e. 9th. A convertible freight car containing an upper and lower story or compartment, said upper compartment being provided with longitudinal water tanks, arranged parallel to one another on opposite sides of the car, and with apertures or openings for feeding hay and other fodder from the upper to the lower story, and the lower story or compartment adapted to be transformed into a series of stalls, fitted with detachable buckets and convertible fodder racks, whereby the car is adapted to be used either as a box car, or as a car for the transportation of live stock.

No. 12,727. Improvements on Coal Stoves.
(*Perfectionnements aux poêles à charbon.*)

The Ranson Stove Works, Albany, (Assignee of Charles A. Hamlin, Greenbush,) N. Y., 3rd May, 1881; for 5 years.

Claim.—1st. A stove for burning bituminous fuel, by igniting and cooking it in one inclosure, and further burning it in the form of gas in a connected adjacent flame chamber, a fuel chamber constructed with oppositely arranged ingress and egress draught openings near its base for limiting the direction of the draught currents to a horizontal passage, in combination with an imperforate bottom plate for supporting the fuel, and an air opening formed at the bottom of the flame chamber for the admission of air into the flame and gases, as they pass from the retorting chamber into the flame chamber. 2nd. An igniting and retorting fuel chamber arranged to utilize an enforced horizontal draught, by means of ingress and egress draft openings formed oppositely in the base of said chamber with the latter connecting by means of its egress openings with an adjacent flame chamber, in combination with a direct draft opening, provided with a damper and connecting the retorting chamber directly with the exit flue for kindling the fire at the base of the retorting chamber, and an ascending flue or flues arranged between the retorting chamber and the shell of the stove connecting the flame chamber with the exit flue, when the direct draught opening from the retorting chamber is closed. 3rd. The combination, with an ignition and retorting fuel chamber, constructed to be operated by an enforced horizontal draught current, by means of ingress and egress draft openings, arranged oppositely at or near the base of said chamber, and an adjacent flame chamber connecting with the retorting chamber, by means of the egress draught opening formed in the latter, and provided at its bottom with an inclined deflecting plate for deflecting the flame and gases issuing from the flame passage upward and forward, of an air opening, formed in or near the bottom of the flame passage, for the admission of air into the gases and flame, when passing from the retorting chamber, where they are evolved to the flame chamber where they are burned more perfectly. 4th. The combination of the ignition and retorting chamber C adapted by means of oppositely arranged ingress and egress draught openings C₁, to utilize and enforce horizontal draught current with an adjacent flame chamber D connecting with the chamber C, by means of the egress draught opening C₂ and containing the inclined deflecting plate G, whereby the flame emitted from the opening C₁ is deflecting upward and forward.

No. 12,728. Improvements on Car Door Hangers.
(*Perfectionnements aux portes des portes de chars.*)

Elias E. Pratt, Norwood, Mass., U. S., 3rd May, 1881; for 5 years.

Claim.—1st. In a runlet for car doors, the improved lug described, the same consisting of the sides E F, plates d d₁ and brackets a a. 2nd. The improved lug in combination with the rails m m. 3rd. The improved runlet consisting of the lug E F d d₁ a a, rails m m, top B and sides C.

No. 12,729. Combined Steam Engine, Traction Engine, Land Roller, Plough, Seed Drill and Harrow.
(*Machine à vapeur, machine de traction, rouleau d'agriculture, charrue, herse et semoir-traceur, combinés.*)

William Stephenson, Jordan, Ont., 3rd May, 1881; for 5 years.

Claim.—1st. The construction of the vertical portion of the boiler B made funnel shaped, or tapering at the bottom. 2nd. In combination with a boiler, the two fans G G₁ or a double fan. 3rd. In combination with the fans G G₁, the sharp pointed tongue G₂ in each of the fans to render them noiseless. 4th. In combination with a boiler, a steam tight jacket K with an exhaust steam space D between it and the boiler. 5th. In combination with a boiler, the pipe I with holes a opposite each alternate space between the grate bars. 6th. In combination with the funnel-shaped bottom of boiler, the partitions g h m n. 7th. In combination with a boiler, the holes E, return flue F, fan G, flues H H₁, opening O and exit flue J. 8th. The combined wheels and land rollers, consisting of the construction of the wheels P P Q Q boiler plate a₁, angle irons c₁, double hubs with two rows of spokes, spikes e₁ passing through boiler plate and angle irons, and secured by nuts s. 9th. The rear roller C₁, the same being provided with spikes, and adjustable movable axle bearing f₁ at one end to steer the rear end of gang ploughs. 10th. A series of adjustable ploughs U placed abreast in the frame R and provided with adjustable apparatus for driving them, and raising and lowering them, each plough so constructed and arranged that it adapts itself to the lay of the uneven ground independently, the said ploughs provided also with very short land sides w extending only as far back as the wing of the share, so as to allow the ploughs to work in such a manner, that one furrow turning over will not interfere, with the plough next to it. 11th. A device for raising and lowering the ploughs consisting of the roller Z, lever e, slotted projections b, and plough beam bars c sliding in the latter, or the equivalent thereof. 12th. In combination

with the gang plough, the supporting bar t held and working in the grooved plate V so as to hold the rear end of plough and allow of sufficient play to the plough as it adjusts itself to the uneven surface of the ground. 13th. The drill D₁ in combination with the boiler and engine gang ploughs and rollers. 14th. The harrow constructed with a series of knife-shaped teeth a₁, the front half of which being set at an angle of 45°, and the last or rear half upright. 15th. The combination of the fan blast, boiler and engine, seed drill, combined wheels and land rollers, adjustable gang ploughs and rear roller, with devices raising and lowering ploughs and steering them, forming a combined machine for seeding, ploughing and rolling prairie land at one operation. 16th. The combination of a harrow and fan blast, boiler and engine when the plough U and frame R are removed.

No. 12,730. Improvements on Mechanical Musical Instruments.
(*Perfectionnements aux instruments de musique mécaniques.*)

George B. Kelley, Boston, Mass., U. S., 3rd May, 1881; for 5 years.

Claim.—1st. The combination of the feeders and bellows with the reed chest situated in the said bellows, and with a perforated sheet. 2nd. The combination of the crank shaft A₁ having cranks B₁ C₁, connecting rods D₁ pivoted to the links G₁ or projections thereof, with feeders and bellows. 3rd. The combination of the feeders and bellows with reed chest situated in said bellows. 4th. The combination of an upright bellows, a reed chest situated in direct connection with the opening or air passage of said bellows, and feeders attached on the sides of said bellows. 5th. The combination of the bellows, feeders and links G₁ with an operating device for moving said links. 6th. The combination of an upright bellows and feeders with a reed chest. 7th. The combination of the movable damper or valve D₂ arranged to operate as a pressure bar or binder upon the sheet E₂ and to close the reed passages. 8th. In the outer casing, the construction and arrangement of pivoted boards G₅ operated by a treadle or similar operating device.

No. 12,731. Improvements on Farm Gates.
(*Perfectionnements aux barrières.*)

Edwin J. Hart and Walter L. Graham, Butler, Pa., U. S., 3rd May, 1881; for 5 years.

Claim.—The combination of the gate, the posts upon which the gate is hung, and against which it closes, and the bar F to which the lower hinge of the gate is secured at one end, and which bar is inserted between the two lower panels of the gate, but not fastened to or connected with the gate, and which is provided with a stop to limit the downward movement of the gate.

No. 12,732. Improvements on Stock Cars.
(*Perfectionnements aux chars à bestiaux.*)

William S. Hunter and Thomas Fuller, Belleville, Ont., 3rd May, 1881; for 5 years.

Claim.—The combination of the chain D, rods F, folding partitions G and chains I.

No. 12,733. Improvements on Cooking and Heating Stoves.
(*Perfectionnements aux poêles de cuisine et de chauffage.*)

Henry A. Brognard, Philadelphia, (Assignee of J. H. Irwin, Morton,) Pa., U. S., 3rd May, 1881; for 5 years.

Claim.—1st. A lamp having a burner B provided with a slotted cone, and an air chamber F which delivers air beneath said cone only, and an air conduit or tube to convey the air to said chamber, combined with a surmounting frame E having one or more holes for the reception of cooking utensils, whereby a lamp stove is constituted. 2nd. A lamp having a burner B provided with a slotted cone and an air chamber F which delivers air beneath said cone only, and a surmounting frame E provided with holes for the reception of cooking utensils, combined with air conduits or tubes extending from said chamber to the vicinity of the outlet of said chimney. 3rd. A stove for heating and cooking purposes having a top provided with one or more holes for the reception of cooking utensils, combined with one or more burners and chimneys, and an air chamber F below the slotted cones of said burners, and which delivers air to the flame only, air conduits or tubes and devices for injecting and ejecting air into said air chamber and out from said chimney, respectively. 4th. A stove for heating and cooking purposes with a top provided with one or more holes for the reception of cooking utensils, combined with burner B and chimney D, and with the air chamber F and air conduits or tubes provided with injectors and ejectors, to inject air into the conduit and eject air from the chimney respectively. 5th. A stove for heating and cooking purposes having a chamber H at the top provided with holes for the reception of cooking utensils, and holes e armed with injecting and ejecting devices around their edges, combined with the burner B with its chimney D and with the air chamber F, and air tube or tubes G connecting said air chamber with the chamber H. 6th. In a stove for heating or cooking purposes, a chamber H at the top having holes for reception of cooking utensils, and burner B below said chamber combined with the chimney D, whereby said chimney is suspended and inclosed, so that heat radiated from the wall of said chimney is saved. 7th. In a stove for heating or cooking purposes a chamber H at the top having holes for the reception of cooking utensils, and burners B below said chamber combined with chimney D and jacket d, whereby said chimney is suspended from above the burner cone b and disconnected therefrom. 8th. In a stove for heating or cooking purposes, a chamber H at the top, having holes for the reception of cooking utensils, and burner or burners B below said chamber, combined with chimney or chimneys D suspended from above the burner cone b and disconnected therefrom.

No. 12,734. Improvements on Plough Coulters.
(*Perfectionnements aux coutres des charrues.*)

Peter Donnelly and Frederick Gardiner, Oshawa, Ont., 3rd May, 1881; for 5 years.

Claim.—The combination of the movable cutting blade D with the stem

A, loop H and wedge I, in such a manner as to make said blade D removable at pleasure.

No. 12,735. Safety Valve. (*Soupage de sûreté.*)

Erastus B. Kunkle, Fort Wayne, Ind., U. S., 7th May, 1881; (Extension of Patent No. 6,134.)

No. 12,736. Improvements on Saw Mill Dogs.
(*Perfectionnements aux clameaux des scieries.*)

John A. Fordan, (Co-inventor with J. E. Thomas.) Barrie, Ont., 7th May, 1881; (Extension of Patent No. 6,147.)

No. 12,737. Improvements in Machines for Perforating Music Paper for Automatic Organs. (*Perfectionnements aux machines à percer le papier de musique pour les harmoniums mécaniques.*)

Roswell T. Smith, Nashua, N. H., U. S., 7th May, 1881; for 15 years.

Claim.—1st. In a machine for cutting music paper for automatic organs, the combination of a series of independent punches, or cutters, a corresponding series of elements each operating independently and automatically to select out of the whole series of cutters, those which are required to act at a given instant, and to drive said selected punches through the paper, and a pattern, or stencil, by which the proper selections is indicated. 2nd. The combination, in said machine, of a series of punches or cutters having independent operation with a corresponding series of elements acting automatically to select, engage with and drive those punches which are required to act at any given moment, a separate pattern sheet or stencil to indicate the proper selection, and adjustable feeding devices to regulate the motion of said stencil. 3rd. The combination, in said machine, of a series of punches, or cutters, a corresponding series of dogs adapted to engage with and drive said punches, a separate series of devices governing the action of the dogs and a pattern sheet or "stencil" to indicate and determine the time of their relative action. 4th. The combination, with a series of punches of feeding devices adapted to give a step by step movement to the paper sheet, of a series of independent dogs G adapted to engage with, and drive the punches either separately or simultaneously a corresponding series of arm H governing the operation of said dogs, a device for disengaging the dogs from the punches after each stroke, and a pattern or stencil sheet to indicate the required relative operation of the punches. 5th. The combination of feed rollers C C₁ provided with suitable mechanism for imparting motion thereto, with the series of independent punches f, a corresponding and distinctly separate series of dogs G having arms H and a reciprocating carrier m and stencil L. 6th. The combination, in a paper perforating machine, of a series of independent punches, a series of reciprocating dogs adapted to engage with, and drive one or more of said punches, and a reciprocating frame carrying said dogs. 7th. The combination, in a paper perforating machine, of a series of independent punches, a corresponding series of dogs to select and drive said punches, a separate series of arms controlling the operation of the dogs, a stencil or pattern sheet which indicate and determines the time of their relative action and devices adapted to remove said arms from all engagements with the stencil after each stroke to permit the stencil to be fed forward. 8th. The combination of the arms H, dogs G, yoke p connected to, and operated by carrier, P and cam lever P₁. 9th. The combination, with the series of punches f, of the reciprocating frame M carrying the yoke n z. 10th. The combination, with the series of punches f, corresponding series of dogs G, spring P₁, arms H, reciprocating frame M and yoke p, of the cam lever P₁, stencil L and grooved roll K. 11th. The combination, in a paper perforating machine, with feed roll c and series of independent punches f, of the pawl and ratchet feed movement consisting of a pitman connected with a crank on the main shaft, an arm d₁ oscillating upon shaft of roll C and provided with an eye e₁ to receive the pitman a, pawl b₁ mounted on said arm, and nuts f₁ f₂ which are adjustable upon the threaded portion of said pitman. 12th. The combination, with the feed rolls C C₁ and a series of independent punches f, of the guide table E having flanged sides e e and located between said feed rolls and the delivery roll B. 13th. In a paper perforating machine, the combination with the stencil supporting roll, of a delivery roll from which said stencil is taken, a receiving roll upon which it is wound and suitable friction devices by which the tension upon the stencil sheet may be regulated. 14th. The combination, in a perforating machine, with the stencil roll K₁ and roll K₂ having an adjustable friction brake, of the receiving roll K₁ geared by a belt with the main shaft, and the pulley L₂ mounted on the shaft of roll K₁ which is provided with a collar L₁ and nut L₃ by which the grip of said pulley can be adjusted, and the tension of the stencil sheet varied accordingly. 15th. The combination, in a perforating machine, with roll K and pivoted roll K₁, of adjustable friction devices by which the tension of the sheet, as it passes from one roll to the other, may be determined. 16th. The combination, in a paper perforating machine, of the feed roll C, and stencil feeding roll K₁, each operated by a pawl and ratchet which is actuated by a pitman upon the main shaft, the rate of feed of each being adjustable, whereby the movement of the stencil may be made equal with, or caused to bear a fixed relation to the movement of the paper sheet D. 17th. The combination, in a paper perforating machine, of a series of independent punches, a series of pivoted fingers or dogs independently mounted upon a vertically reciprocating frame and adapted to engage automatically with and to drive said punches, a series of arms formed on, and projecting from said fingers or dogs over a grooved roll, a corresponding series of pins projecting downward from the ends of said arms, and a pattern or "stencil" sheet passing over the grooved roll and adapted to support the pins upon its imperforate surface and thereby hold the dogs out of engagement with their punches, or to permit said pins to drop through the perforated portions into the grooves of the roll, bringing the dogs into engagement with the punches. 18th. In a paper perforating machine, the combination, with the stencil roll K₁ having dogs L₂, of the stencil sheet provided with a rack L₃ upon or near its edge. 19th. The combination of a grooved roll to which a fixed rate of speed is applied, a stencil or pattern sheet supported on said roll, a series of arms which rest on said stencil and as it is fed forward drop through the perforations into the grooves in the roll, a corresponding series of dogs connected with said arms and mounted upon a vertically reciprocating frame beneath the punches, a yoke to lift the arms above the stencil during its feed movement, and a cam lever to actuate said yoke. 20th. The combination, with the stencil roll K₁, its ratchet feed and devices for regulating the same, of

the take up roll K, pulley L₂, friction clamp L₃ and belt gearing Ka. 21st. The combination of the dogs G, arms H, spiral springs S, yoke p and cam lever P₁, carrier M, grooved stencil roll K₁, rolls K₁ K₂, and stencil sheet L. 23rd. In combination with the grooved stencil roll K₁ and stencil sheet L, the arms H and pins m. 24th. The stencil marking mechanism consisting of a series of marking points or pencils mounted on a vertically reciprocating frame and adapted to be brought into contact with the stencil blank between each feed movement. 25th. The combination, with the stencil marking mechanism, of a rack cutting apparatus consisting of two punches arranged to cut upon the opposite edges of the stencil sheet, said punches being controlled by two corresponding dogs mounted upon a reciprocating carrier, said dogs being caused to engage with the rack cutter by two grooved disks one upon each end of the stencil roll. 26th. The combination, with the stencil roll, of two grooved disks, one placed on each end of said roll, a dog mounted on a reciprocating carrier above each disk, a cutting punch arranged directly above each dog, and a die plate and strip- per between which the stencil blank passes. 27th. The paper feeding mechanism consisting of a flexible belt to which the paper sheet is clamped and by which it is drawn by a step by step movement over the punches. 28th. The combination, with the perforating mechanism, of a flexible endless belt passing over the rolls O₁ O₂, a clamp bar T engaging with said belt, and a roll O₂ placed above the belt.

No. 12,738. Improvements on Knife Cleaners.
(*Perfectionnements aux nettoyeurs de coutellerie.*)

Elizabeth Ferguson, Westminster, Ont., 7th May, 1881; for 5 years.

Claim.—1st. The table A D G constructed of wood, or metal, and having leather, cork, or emery coverings B C F H, handle C and coil springs I. 2nd. In combination with the tablets, the tray J with division K and cup L.

No. 12,739. Improvements in Carriages. (*Perfectionnements dans les voitures.*)

Pierre Dansereau, Montreal, Que., 7th May, 1881; for 5 years.

Claim.—The combination of a top made in folding sections, with the posts D O P arranged to turn down.

No. 12,740. Improvements on Safety Valves.
(*Perfectionnements aux soupapes de sûreté.*)

Frank B. Scovell, Boston, Mass., U. S., 7th May, 1881; for 5 years.

Claim.—1st. The valve E constructed with a piston or disk H fitting in a chamber I, and provided with interior and exterior bearing surfaces and openings S. 2nd. The combination of the auxiliary valve M, the passage L extending from a point between the seat P of the auxiliary valve M and its disk N above, to the chamber I containing the piston H and the main valve F.

No. 12,741. Improvements in Screw Propellers. (*Perfectionnements aux bateaux à hélice.*)

John B. Ward, San Francisco, Cal., U. S., 7th May, 1881; for 5 years.

Claim.—1st. The plane faced removable propeller blades D with their outer edges, preferably in the arc of a circle and made of an elastic metallic substance, said blades being adapted to be secured to the hub, by means of flanges which are cast to the required angle for the blades. 2nd. The straight line faced propeller blades D with their outer edges preferably in the arc of a circle, and formed of sheet steel, or other elastic substance, in combination with the flanges C cast with, or forming part of hub A, said flanges being provided with the slots a for holding the blades, and cast on the angle desired for the blade, whereby the blades may be made thin, elastic and separate from the cast or wrought hub, but may be easily attached to it or removed from it. 3rd. The flanges C cast in the hub A and longer on one side than the other, the longer side being the semi-radius of the blade, in combination with the removable circular straight line blade D, whereby a broad bearing is given to the propeller blade at its most effective point. 4th. A propeller having blades formed separately from the hub, the flange C provided with the slots a, said flanges being given the angle desired for the blades, whereby the blades may be formed with the straight line faces and at the same time, be given the necessary angle to propel the vessel. 5th. A propeller having blades formed separately from the hub and provided with flanges having the angle desired to be given to the blades, and to which the blades D are secured, the supplemental flanges C through which the securing bolts pass, whereby the blades have broad bearings on both sides, and the removal of said blades is facilitated.

No. 12,742. Improvements in Machines for Reducing Wood to Pulp and Fibre. (*Perfectionnements aux machines à réduire le bois en pâte et en fibre.*)

George F. Evans, Mechanic Falls, Me., U. S., 7th May, 1881; for 10 years.

Claim.—1st. In a machine for producing wood fibre for paper and other articles, the cutting cylinder B provided with the cutting edges e e which stand forward of a diametrical line from the base of said cutters. 2nd. The combination of a reciprocating, oscillating, or revolving body of wood A and devices for holding and imparting the desired motion to the same, with either a revolving cutting or a scraping cylinder, whereby the fibres are uniformly cut or scraped from said body of wood and an even plain or convex surface constantly presented to the action of said cylinder. 3rd. The cone-shaped holder E₁ with an opening H₁ therein, in combination with a cutting cylinder set parallel with the sides of said holder, whereby the fibres are cut from the block of wood in lines crosswise of their length.

No. 12,743. Improvements in Vehicle Gears.
(*Perfectionnements aux trains des voitures.*)

Robert McLaughlin, Oshawa, Ont., 7th May, 1881; for 5 years.

Claim.—1st. The running gear of a vehicle having side springs connected together by front and back springs, preferably supplied with pieces of rubber or leather inserted between the plates at the points of connection, the combination of a countersunk pin passing through the plates and rubber

nearest to the outer edges of the bottom plates. 2nd. The running gear of a vehicle having side springs connected together by front and back springs, the shortening of the side springs, so that they must be stretched to enable them to be connected to the side springs. 3rd. In combination with the circular plate *a*, a socket *b* projecting into a recess made around the king bolt *d*.

No. 12,744. Improvements on Magnetic Stays. (*Perfectionnements aux corsets magnétiques.*)

William Wilson, Brooklyn, N. Y., U. S., 7th May, 1881; for 5 years.

Claim.—1st. The combination of the outer perforated fabric, the magnets secured to the inner surface of said fabric, and having perforations coinciding with those of the fabric *F* arranged to cover the magnets, and having perforations coinciding with those of the magnets and outer fabric. 2nd. The combination, with the outer supporting perforated fabric, the perforated imperious fabric *F* and the perforated magnets *B*, of the strips *C D* perforated to coincide with said magnets and outer fabrics, and secured thereto by eyelets.

No. 12,745. Improvements in Skates. (*Perfectionnements dans les patins.*)

George Groom, Hamilton, Ont., 7th May, 1881; for 5 years.

Claim.—1st. In combination with a skate, a pad placed upon and secured to the toe and heel plates respectively, for preventing cold feet, etc., when skating. 2nd. In combination with a skate, a non-conducting water-proof pad *D* of rubber, or equivalent material, secured to the toe and heel plates *B C* respectively.

No. 12,746. Improvements on Spring Mattresses. (*Perfectionnements aux sommiers élastiques.*)

John H. Adams, Kingston, Ont., 7th May, 1881; for 5 years.

Claim.—1st. The box *A*, one end of side *B* and the method of attaching the cross head piece *C* to them, whereby the mattress can be taken apart at any time, by any one without tools of any kind, for the purpose of cleaning or shipping. 2nd. The method of attaching the slat to spring. 3rd. The leather link *E* connecting the spring *G* and the fixed hook *H* thus giving a perfectly elastic noiseless action. 4th. The cross slat *L* in the centre of the other slats, to increase the rigidity of mattress when desired.

No. 12,747. Improvements on Barrel Hoop Cutters. (*Perfectionnement aux machines à tailler les cercles de futaille.*)

Thomas Graydon, Middleton, Ont., 7th May, 1881; for 5 years.

Claim.—1st. The combination of the hoop cutters *A A*, the trimmers *B B B B B B*, the depressed track *q* and the circular frame. 2nd. The combination of the stock holders *C C*, the bevellers *D D D D*, the springs *h h h*, the rests *i i*, the cranks *j j j*, the regulators *k k k*, the automatic levers *m m m m* and the hand levers *n n*. 3rd. The combination of the hoop cutters *A A*, the trimmers *B B B B B B*, the depressed track *q* and the circular frame finger *I* of the stock holders *C C*, the bevellers *D D D D*, the springs *h h h*, the rests *i i*, the cranks *j j j*, the regulators *k k*, the automatic levers *m m m m* and the hand levers *n n*.

No. 12,748. Improvements on the Manufacture of Vegetable Fibre for Upholstery, &c. (*Perfectionnements dans la fabrication de la fibre végétale pour les tapisseries, &c.*)

John G. Stevens, Jersey, N. J., U. S., 7th May, 1881; for 5 years.

Claim.—In connection with the preparatory methods, fibres when finally prepared by crimping or corrugating them, by means of crimping or corrugating rolls, in lieu of twisting them by the roping or other process.

No. 12,749. Remedy for Blood Diseases Such as Scurvy, Gangrene and Black Legs. (*Remède pour les maladies du sang, tel que le scorbut, la gangrène et l'anthrax des extrémités.*)

Archibald C. Sinclair, Winnipeg, Man., 7th May, 1881; for 5 years.

Claim.—A compound of gentian, columba, guassia, potatoes, water cresses, and tartrate of potash.

No. 12,750. Improvements in Smoke Consumers for Steam Boilers. (*Perfectionnements aux foyers fumivores pour les chaudières à vapeur.*)

James Elliot, Montreal, Que., 7th May, 1881; for 5 years.

Claim.—1st. In combination with a steam boiler, the hot air draught under the grate bars with exclusion of cold draughts. 2nd. In combination with a steam boiler, with hot air draught and with pipes and passages for drawing the unconsumed gases into the furnace, the steam pipes arranged for the production of superheated steam and discharging the same over the fire. 3rd. In combination with a steam boiler with hot air draught, the furnace door enclosing the coil of pipes arranged for the production of superheated steam, and with openings for the introduction of the external air and discharge of the heated air, in combination with the superheated steam over the fire.

No. 12,751. Improvements on School Desks. (*Perfectionnements aux pupitres des écoles.*)

James Asher, Fort Erie, Ont., 7th May, 1881; for 5 years.

Claim.—1st. A school desk, or desk and seat combined, having top *H* pivoted at its ends to the ends *A* of the desk or seat, and adjustable, whereby either side of the top can be turned uppermost. 2nd. A school

desk, or desk and seat combined, having a reversible top *H* adjustable as set forth, and enclosing a receptacle *J* for books, &c.

No. 12,752. Improvements on Steam Engines. (*Perfectionnements aux machines à vapeur.*)

Samuel N. Silver, Auburn, Me., U. S., 7th May, 1881; for 5 years.

Claim.—1st. In a motor or pump, the combination of the revolving cylinder *B* formed with chambers *d*, the fixed port chamber *C* having inlet and outlet passages divided by a solid partition. The toothed wheel or disk *o* connected to cylinder *B*, the gear wheel *g* meshing with *o* and fitted to revolve in a plane inclined thereto, and the heads or plungers *e* working in the chambers of cylinder *B* and having the rods connected by loose joints with wheel *g*. 2nd. In a motor or pump, the combination, with the wheel *g* and its shaft *h*, of the boxes *r*, post *k*, pivoted plate *l*, screw shaft *m* and nut. 3rd. In combination with the plate *l* and spring stand of shaft *h*, the rod *w*, yokes *wt*, screw rods *dt*, nuts *ct* and spiral spring.

No. 12,753. Improvements on Carriage Boot Flap Hooks. (*Perfectionnements aux crochets pour les pans des coffres de voitures.*)

Charles F. Littlejohn and Harvey Ford, New Haven, Ct., U. S., 7th May, 1881; for 5 years.

Claim.—The loop *C* attached to one strap and hook *D* constructed with the loop *a* for attachment to the other strap, and the bend *e* above and in rear of said loop, the said bend arranged to receive and engage the loop of the other strap.

No. 12,754. Improvements on Skate Fastening. (*Perfectionnements aux attache-patins.*)

Everett H. Barney, Springfield, Mass., U. S., 7th May, 1881; for 5 years.

Claim.—1st. In combination, the sole clamps *dd* suspended under the sole plate, the pivot *n*, the locking levers *h i* pivoted one to the other, the nut *o*, the clamp rod *f* and the heel clamp *e*. 2nd. In combination, the sole clamps *dd* suspended under the sole plate, the pivot *n*, the locking levers *h i* pivoted one to the other, the nut *o* and the clamp rod *f*. 3rd. The heel clamp *e* provided with the stud in combination with the clamp rod *f* having the annular groove *t* around it. 4th. The combination, with rod *f*, of the pivot *n*, the nut *o*, and of the levers *h i* pivoted one to the other and to said pivot and nut.

No. 12,755. Improvements on Mechanical Musical Instruments. (*Perfectionnements aux instruments de musique mécaniques.*)

Wallace F. Abbott, Montreal, Que., and Moses Harris, New York, U. S. (Assignees of G. B. Kelley, Boston, Mass., U. S., and J. H. Chase, Montreal, Que.) 7th May, 1881; for 5 years.

Claim.—1st. In a mechanical musical instrument, in combination with a lever arranged to be operated by and through perforations in a strip of paper or other suitable material, or otherwise, a valve to a reed, etc., arranged in a chamber between the reed and the wind chest. 2nd. In a mechanical musical instrument, in combination with a lever arranged to be operated upon by and through perforations in a strip of paper, or other suitable material, or otherwise, the lever *R* having an arm *r* and a valve to a reed, etc., arranged in a chamber between the reed and the wind chest. 3rd. In a mechanical musical instrument, a series of levers arranged to be operated upon by and through perforations in a strip of paper or other suitable material, or otherwise, when arranged and brought together. 4th. A board *T* having a series of chambers *S* and opening *p*. 5th. In a reed organ, a valve located in a supplementary air chamber between the wind chest and the reed. 6th. In combination with a valve to a reed located in a supplementary chamber between the wind chest and the reed, the swell board *J*. 7th. The valve *u* having two fulcra. 8th. In a mechanical musical instrument, a tremolo produced by means of a valve attached by a spring or other suitable device in such a manner as to be vibrated by the air passing through the aperture to or from the reeds.

No. 12,756. Improvements in Plates for Boot and Shoe Heels. (*Perfectionnements aux plaques des talons de chaussures.*)

Asa J. Stott, Montreal, Que., 7th May, 1881; for 5 years.

Claim.—1st. The combination of the plate *A* provided with projections *B* and projections *D* with the leather, &c., filling *C*. 2nd. The combination of the plate *A* provided with the dovetailed projections *B* with the leather, &c., filling.

No. 12,757. Mechanism for Controlling the Operation of Harvester Rakes. (*Mécanisme pour contrôler le fonctionnement des râteaux des moissonneurs, &c.*)

Charles D. Dewey, (Assignee of Edward Pridmore,) Brockport, N. Y., U. S., 9th May, 1881; for 5 years.

Claim.—1st. In a tripping mechanism, the combination, with the latch or part to be tripped, of a reciprocating tripping wheel, means for moving the tripping wheel in one direction to trip the latch, and means for moving it in the opposite direction to return it to its first or normal position. 2nd. The combination, with the latch or part to be tripped, of a reciprocating tripping wheel, an actuator for moving the tripping wheel in one direction, step by step, to trip the latch, and means for returning the tripping wheel to its normal or first position. 3rd. The combination, with the latch or part to be tripped, of a reciprocating or adjustable tripping wheel having a step by step movement, in a direction in which it operates, to trip the latch, an actuator for imparting to the tripping wheel a step by step movement, and means for returning the tripping wheel to its normal or first position, whereby the tripping wheel is enabled to be set so as to trip the latch in a greater or less number of steps. 4th. The combination, with the latch or part to be tripped, of a tripping wheel, an actuator for moving the tripping wheel in one direction, step by step, to trip the latch, and means for pre-

senting a return movement of the tripping wheel while being operated upon by the actuator. 5th. The combination, with the latch or part to be tripped, of a tripping wheel, an actuator for moving the tripping wheel in one direction step by step, to trip the latch or part to be tripped, means for preventing the return movement of the tripping wheel while being operated upon by the actuator, and a spring for returning the tripping to its normal or first position, after being released from the detaining means. 6th. The combination with the latch, or part to be tripped, of a tripping wheel, an actuator for moving the tripping wheel in one direction to trip the latch or part to be tripped, means for preventing the return movement of the tripping wheel while being operated upon by the actuator, a spring for returning the tripping wheel to its normal or first position, after being released from its detaining device, and means for automatically releasing the tripping wheel from the detaining device as the latch is tripped. 7th. The combination of the latch or part to be tripped of a tripping wheel, an actuator for moving the tripping wheel in one direction to trip the latch or part to be tripped, and a pawl for holding the tripping wheel from return movement and adapted to be automatically disengaged from the tripping wheel by the latch as it is tripped. 8th. The combination of a reciprocating tripping wheel, a spring for throwing said wheel forward to its first position and a stop for arresting its forward movement. 9th. The combination of a reciprocating tripping wheel, a spring for throwing it forward to its first position, and an adjustable stop for arresting its forward movement, whereby the automatic tripping of the latch can be effected more or less frequently. 10th. The combination, with a tripping wheel and latch or latch bar, of a pivoted pawl arm having a backward and forward movement imparted to it from an actuating shaft, and adapted to engage with the tripping wheel. 11th. The combination, with the tripping wheel and latch, of the pawl arm, the operating side and the cam on the actuating shaft. 12th. The combination, with the tripping wheel and latch bar and actuating mechanism for rotating the tripping wheel step by step to trip the latch, of means for bringing, at will, the tripping wheel into position to trip the latch at once. 13th. The combination, with the tripping wheel and latch, of the pivoted pawl arm having a backward and forward movement, and means for bringing at will, the tripping wheel into position to at once trip the latch. 14th. The combination, with the tripping wheel having the laterally projecting arm, of the pivoted lever for engaging with said arm to carry the tripping wheel into position for at once tripping the latch. 15th. The combination of the pivoted pawl arm having the laterally projecting plate, and the lever for engaging said plate, to raise the pawl arm out of engagement with the tripping wheel.

No. 12,758. Improvements on Spring Bed Bottoms. (*Perfectionnements aux sommiers elastiques.*)

Daniel Edgar, Adrian, Mich., U. S., 9th May, 1881; for 5 years.

Claim.—1st. The combination of the bed bottom frame, the springs A, and the horizontal connecting spirals C D, each spring A being connected with the springs immediately in front and rear, and on each side thereof, by the short spirals C, and each alternate spring A being also connected by the spirals D with the springs diagonally opposite thereto. 2nd. The combination of the frame, the outer springs A and the bracing springs E, whereby the springs are elastically braced against inward strainers. 3rd. The combination, with the frame, the springs A and the horizontal connecting spirals C D, of the brace or supporting spirals E.

No. 12,759. Improvements in Arithmetical Frames. (*Perfectionnements aux tables d'arithmetique.*)

Frederick B. Ginn, Oakland, Cal., U. S., 9th May, 1881; for 5 years.

Claim.—The frame A having the closed back, open front, and grooves B B at the side, between the mat C and back D, in combination with the series of figured or numbered sliding strips E.

No. 12,760. Improvements in Lamp Lighters. (*Perfectionnements aux alumoirs à lampes.*)

William H. D. Newth, Detroit, Mich., U. S., 9th May, 1881; for 5 years.

Claim.—1st. In combination with the chamber A, the tank E, tube C, burner D and wick F. 2nd. In combination with the chamber A, the tank E, tube C, wick F and burner D, the latter of which is provided with a flanged disk d. 3rd. The chamber A, cover B provided with a vent a, tube C, burner D provided with a flanged disk d, and wick F.

No. 12,761. Improvements on Grain Binders. (*Perfectionnements aux lieuses à grain.*)

Allanson Harris, John Harris, James K. Osborne and Lyman M. Jones, Brantford, Ont., (Assignees of H. Curtis, Chicago, Ill., U. S.,) 9th May, 1881; for 5 years.

Claim.—1st. A driving shaft B which derives its motion from the harvesting machine and is provided with an adjustable spring clutch having attached to it a sprocket wheel C, suitably connected to the sprocket wheel D, in combination with the mutilated gearing E F arranged to operate the binding and knotting mechanism. 2nd. In a machine for binding grain driving its intermittent motion from an adjustable spring clutch, a pivoted lever 27, located and raised in the manner described, in combination with the pivoted lever 29, operated by the pin 28, on the mutilated gear E, for the purpose of arresting the movement of the binding and knotting mechanism. 3rd. In a machine for binding grain having a shaft intermittently driven by mutilated gear, a spur pinion K fastened to the said shaft and having attached to or formed upon it an arm or crank for binding grain, having a shaft intermittently driven by mutilated gear, a spur pinion K fastened to said shaft and having attached to, or formed upon it an arm or crank K provided with a stud or its equivalent, to support the binding arm O, in combination with the spur pinion N provided with arm or crank n, supporting the link or stirrup P, which connects the said crank to the short arm o. 4th. In a machine for binding grain having an arm for directing the cord around the sheaf, a take-up arm Q pivoted to the frame A and

provided with a spring Q' arranged to exert an upward pressure on the arm Q, in combination with friction mechanism for checking the passage of the cord paid out to the binding arm. 5th. In a machine for binding grain having a take up arm Q for directing the cord to the binding arm, the friction rollers q having a flange r₁ in combination with a curved shoe or brake r pressing against the flange r₁ and provided with an adjustable screw r₂. 6th. In a machine for binding grain, a guiding lever T pivoted at a point near the knotting device and connected by a pitman S to the bell crank R, in combination with a lug or projection on the back face of the mutilated gear E for the purpose of coming in contact with the crank R upon each revolution of the wheel E and rolling the said crank in a direction which will cause the lever T to be thrown against the cord directing the same between the tying bolt U and lip a. 7th. In a machine for binding grain having a pivoted lever for guiding the cord to the knotting mechanism, the combination of a locking lever V pivoted on the bed plate J and provided with a spring which holds it on a line with the travel of the guiding lever, and a notch to receive the same. 8th. In a machine for binding grain having a toothed holding and cutting knife, a bell crank Y connected by the pitman X to the horse shoe crank W, so as to derive an intermittent movement from the intermittently revolving wheel E, in combination with a pawl 3 so connected to the crank Y that, when thrown forward against a tooth of the holding and cutting knife 4, it is sufficiently rigid to exert a pressure on it to turn the knife on its centre, but when the crank is moved in the opposite direction, the pawl 3 turns on its pivot, when coming in contact with the tooth following. 9th. A toothed cutting and holding wheel 4 pivoted on the frame Z and fluted and grooved on its bottom face, in combination with the plate 5, for the purpose of forming a hold fast for the string ready for the next bundle. 10th. In a toothed or grooved faced pointed cutting and holding wheel, pivoted between the frame Z and plate 5 at a point where its teeth will come in contact with the cord below the locking mechanism, in combination with intermittently operating mechanism arranged to move the wheel 4 upon its centre and cause it to draw the cord between the plate 5 and frame Z, for the purpose of holding the cord ready for tying the next bundle and severing it from the cord encircling the bundle about to be tied. 11th. A spindle I having at one of its ends a bevel pinion H through which it derives an intermittent movement, by the action of the segment of a rack on the face of the gear wheel E, a crank C secured to the spindle I and provided with a rod or pitman 7, in combination with the cam and rack plate 8 arranged to operate the tying mechanism. 12th. A tying bolt U passing through a sleeve 9 journaled within a box 10 and connected to bolt U by a feather key as described, in combination with a mutilated pinion 11 attached to the sleeve 9 and meshing with a rack on the bottom of the plate 8, the movement of which causes the bolt U to revolve. 13th. A tying bolt U having slotted passage way or eye near its point, in combination with a tucker 14 operated by suitable mechanism to force the ends of the cord through the eye. 14th. In a machine for binding grain provided with a sliding cam plate 8, the combination of a pivoted lever 13 connected at one end to the tucker 14 and having at its outer end a pin 12 arranged to transmit the movement of the plate 8 to the tucker 14. 15th. In a machine for binding grain provided with a sliding cam plate 8, having a cam projection 15 upon the back edge, an arm 16 connected to the pull back lever 17 which is pivoted on the bed plate J, in combination with the tying bolt U. 16th. In a machine for binding grain provided with a locking lever V arranged to hold down the guiding lever T, the combination of a pull back lever 17 provided with a pin 21 arranged for the purpose of throwing back the lever V and unlocking the guiding lever T. 17th. In a machine for binding grain provided with a sliding cam plate 8, for operating the knotting mechanism, a pin 19 attached to the said plate and arranged in combination with an inclined groove formed on the pull back lever 17, for the purpose of drawing up the lever 17 and pushing back the tying bolt U. 18th. A tying bolt U having one side flattened and grooved or fluted, fitted within a sleeve 9, having a cam notch 2 cut in it, in combination with a fluted or grooved lip a attached to the bolt U opposite to its flattened side, and operated by the cam notch 20. 19th. A put-up lever T operated as specified and formed with a ridge 22 and ledge 23, for the purpose of guiding the cord into the tying bolt. 20th. In a machine for binding grain unprovided with an ordinary compressor arm, a plate 24 having bevelled wings 25, forming a saddle to receive the sheaf and sustain its weight at the point where the tying takes place, thereby permitting the cord to render freely while the knot is being tied. 21st. The combination of a plate 24 situated over the tying bolt and having a slotted passage way to guide the cord into the groove between the tying bolt U and lip a.

No. 12,762. Method and Machine for Preparing and Welding Pipe Sections. (*Methode et machine pour preparer et souder les sections de tuyaux.*)

Henry Von Hartz and Oram Fix, Cleveland, Ohio, U. S., 9th May, 1881; for 5 years.

Claim.—1st. The method of simultaneously cutting off and preparing the male end of the bevelled pipe, or tube joint which consists in rolling a bevel channel around the pipe or tube upon a mandrel, and holding down the metal on each side of the bevel cut as described. 2nd. The method of simultaneously cutting off a sag end and expanding the female end of a pipe or tube joint, which consists in rolling a bevel channel around the pipe or tube on the mandrel, and allowing the metal free movement on each side of the bevel cut as described. 3rd. The method of preparing and welding the two ends of a pipe or tube, which consists in rolling a bevel channel around one section of the pipe, and holding the metal down as described, to form the male end, and then rolling a bevel channel around the other section of pipe and allowing free movement to the metal to spread at the edge of the channel, to form the female end, then fitting these two sections and rolling them to a homogeneous weld. 4th. The method of preparing and welding two ends of a pipe or tube, which consists in rolling a bevel channel around one section of pipe and holding the metal down beside the channel, to form the male end with a relatively slow movement, and then rolling a bevel channel around the other section, and allowing a free movement to the metal to spread, which latter operation is performed with a relatively quick movement, and then fitting and welding the ends as described. 5th. The rollers D E and G combined for the successive steps of cutting a male end, or female end, and rolling the joint to a flat weld. 6th. The rollers D E G combined with mechanism, whereby they are made to revolve about the mandrel and be projected there against as described.

No. 12,763. Improvements in Ironing Boards.

(*Perfectionnements aux planches à repasser.*)

John M. Hibsternberg, East Saginaw, Mich., U. S., 9th May, 1881; for 5 years.

Claim.—1st. The bosom board A having the oblique tenon C. 2nd. The mortise block B. 3rd. The truss I having longitudinal slide D, through which slides the end of the rod L. 4th. The cross truss J, rod L, truss O and pins E. 5th. The truss O pivoted to the truss I and pivoted to the upper end of the truss J. I.

No. 12,764. Apparatus for Making and Laying Cement Drain Tiles.

(*Appareil pour faire et poser les tuiles de drainage en ciment.*)

Robert J. Wilson, Ridgetown, Ont., (Assignee of C. N. Earl and E. M. Hamilton, Los Angeles, Cal., U. S.,) 9th May, 1881; for 5 years.

Claim.—1st. The outwardly enlarging case or cylinder A, with its tapering feed tube B and hopper D, in combination with the piston D, provided with the movable cone d and flexible core F, whereby the plastic material is forced back and formed into a pipe-shape and the central hole formed at the same time. 2nd. The pipe forming cylinder A with its piston, and lever D E, core F and cone d, and provided with the slots a, in combination with the regulating draw band C, whereby the diameter of the cylinder is changeable and the size of the pipe determined. 3rd. In combination with the pipe forming cylinder A, with its piston D and flexible core F, the weighted hood G, whereby the pipe is prevented from being pressed out of shape after leaving the cylinder. 4th. The pipe forming cylinder A with its piston D and lever E, in combination with the flexible core F attached to said piston by the rod c and provided with the cone-shaped ends d d', whereby the bore or opening through the pipe is formed smoothly and breakage prevented in turning corners or on undulating ground. 5th. The cylinder A with a feed tube B, with its splits or slots a and draw band C provided with the hopper D and weighted hood G, and having the piston D and lever E, said piston having connected with it the flexible cone ended core F, the whole adapted to be placed in a trench along which it is moved by the action of the lever and piston in forming the pipe, whereby the pipe is made and laid at the one operation and at the same time in a continuous piece.

No. 12,765. Improvements on Sad Iron Heaters.

(*Perfectionnements aux chauffoirs des fers à repasser.*)

Charles F. Opdyke and Stillman D. Stone, Hudson, Mich., (Assignees of H. L. Wells, Evanville, Ind.,) U. S., 9th May, 1881; for 5 years.

Claim.—A sad iron heater provided with the combustion chamber A having holes c, heating chamber B divided into compartments C open at top and in front, the flues D connecting with the combustion chamber and the oil reservoir G connected, by pipes H, with the burner tube I in combustion chamber.

No. 12,766. Improvements on Stump Extractors.

(*Perfectionnements aux arrache-souches.*)

William H. Wright, Belmont, N. H., U. S., 9th May, 1881; for 5 years.

Claim.—1st. The frame composed of side bars A and cross bars C C', in combination with the lever D, latch E and ratchet bar G. 2nd. In combination with the ratchet bar G, and latch E, the spring g. 3rd. In combination with the ratchet bar G, latch E and lever D, the spring lever F.

No. 12,767. Improvement in Dating, Cancelling and other Stamps.

(*Perfectionnements aux timbres à dater, maculer et autres.*)

George E. Emerson, San Francisco, Cal., U. S., 9th May, 1881; for 5 years.

Claim.—1st. The combination of a stationary stereotyped representation of a time dial, a type or character representing a pointer, movable concentrically within said dial, a time train for moving said pointer, a platen for simultaneously taking an impression of said dial and its pointer, and a vertically yielding connection between the said pointer and its motor. 2nd. The fixed letters or characters I and dial J mounted upon the bed plate and having the movable pointers m n and the clock mechanism, in combination with the slide R containing the dating letters and figures and the stamp V, the whole combined as described. 3rd. In a hand stamp, the cylinder V provided on its surface with raised characters, letters or words and having at one end a cylindrical bearing, and at the other a bearing with a polygonal section W', in combination with the arms U U, one of which has an opening corresponding to journal section W, and the spring X. 4th. The clock mechanism situated within the case A directly beneath the stamp and having the hour and minute disk q and spindle O, in combination with the hands or pointer stems K L standing in a line above said disk and spindle and so united to them as to be rotated while having a free vertical movement. 5th. The stem L carrying the minute hand and having its lower end slotted, and the sleeve K carrying the hour hand and having the lugs P at its lower end, in combination with the flattened spindle o and the slotted disk q of the clock mechanism, whereby a direct vertical connection is made to drive the index hands without conveying the concussion of the impression pad to the clock mechanism. 6th. A stamp consisting of a cylinder or body V having the raised characters, figures or words upon two or more sides and adapted to receive a blow from an impression pad, so as to imprint the characters upon a document, the polygonal journal W' having its sides corresponding with the characters upon the body and fitting into a similarly shaped socket in the bearing arm, the elongated cylindrical journal w, spring X and the indicating cylinder extension to the journal having characters corresponding with those upon the stamp, whereby its adjustment may be secured. 7th. A chronometric stamp having a clock mechanism adapted to drive the movable index hands or pointers by a loose directed connection, the immovable letters, characters or deals forming a part of or fixed to the bed plate, in line above the clock mechanism and case, and concentric with its driving spindle, in combination with an impression pad, whereby the time of an impression may be indicated upon a document. 8th. A chronometric stamp having a clock mechanism adapted to drive a movable index hand or hands, a fixed bed plate with immovable dials or

characters, and an impression pad, the hollow clock containing case A forming a support for a part of the bed plate and dials and in line directly below the same, the foot B, the connecting arch C and the arm E for supporting and actuating the impression pad.

No. 12,768. Improvements on Electric Lamps.

(*Perfectionnements aux lampes électriques.*)

The Standard Electric Light Company, New York, (Assignee of A. G. Holcombe, Danielsonville, Ct.,) U. S., 9th May, 1881; for 5 years.

Claim.—1st. In an electric arc producing apparatus, an electrical device adapted to release the feeding mechanism of the upper carbon rod and included in the main circuit from the generator, in combination with an electrical device for forming the arc between the ends of the carbon rod by depressing the lower carbon and included in a branch circuit. 2nd. In a to and fro current regulator, the combination of two solenoids. 3rd. In a feeding device for electric lighting apparatus, the brake wheel e actuated by the gravity of the carbon a, and its holding rod c by suitable connecting gearing, the lever f provided with the narrow contact shoe e', the spring h, the adjustable stop screw e2, in combination as set forth. 4th. The combination, with the outside solenoid m and the inside solenoid m1, carrying the carbon holding rocket b1, of the spring n. 5th. In combination, the fixed flat coil f3, lever f, with the flat coil f2 and the brake shoe e', brake wheel e, rod c, and connecting gearing, the carbons a, inside solenoid m1, outside solenoid m and spring n. 6th. In a carbon holder for electric lighting apparatus, a socket provided with a taper hole, in combination with three set screws radially arranged, adapted to hold and adjust different sizes of carbons. 7th. In an electric lighting apparatus, the combination of a resistance coil in a shunt circuit with connecting bars carried by the carbon holders and insulated blocks, whereby the current is caused to pass through the resistance coil when the carbons are consumed. 8th. As an improvement in the art of electric lighting, the combination of a metal or chemical composition with the holding ends of carbon rods adapted to produce colored lights before the carbons are entirely consumed. 9th. As a new article of manufacture, a carbon rod for electric lamps provided, at its end by which it is held, with a colored light producing material. 10th. The combination of the cylinder o placed in the end of the coil of an electric regulator with the moving core or solenoid provided with the piston o3. 11th. In an electric light apparatus the carbon reduction fingers p p, constructed to bear on the commencement of the taper point and down the sides of the carbon rod.

No. 12,769. Improvements on Sole Fastening Machines for Boots and Shoes.

(*Perfectionnements aux machines à clouer les semelles des chaussures.*)

John Hitchcock and Daniel C. Knowlton, (Assignees of O. R. Chaplin,) Boston, Mass., U. S., 9th May, 1881; for 5 years.

Claim.—1st. The shoe nail or sole fastening made from wire of any suitable form having a straight surface on one side from end to end, with the opposite side cut away from a shoulder near the top or head of the nail, and tapering to the point. 2nd. The mechanism for feeding and holding the wire, consisting of the compound lever a2 a5 as with its clamp a3 a4, and feed wheel a9, in combination with the feed lever a10 a11. 3rd. In combination with the wire feed mechanism, the stop lever a14 and its adjusting slides b2 b3, for regulating the motion of the stop lever. 4th. The wire cutting and carrying mechanism consisting of the stationary cutter d and cutter lever d' operated by cam h, in combination with the driver and throat. 5th. In combination, throat d4, throat carrier d5 and cutter lever d', the throat carrier being chambered to receive the cutter lever d'. 6th. In combination, cutters d J K, the first formed with the holes d1 d2 for the wire and the driver, the second formed with the groove j, and the third with the grooves K K', the groove K in connection with groove j forming cutters for cutting away a portion of the wire to shape the nail, and the grooves J K' forming a throat from which the finished nail is driven. 7th. In combination, stationary cutter d, cutter lever d', connecting lever h link h3 and groove cam h. 8th. In a nailing machine, the spring n, in combination with adjusting screw n, and pin n', arranged together as explained. 9th. In a nailing machine, the two shafts B C at right angles to each other, one actuating the driver and wire feed, the other actuating the cutter. 10th. The clutch mechanism described consisting of the shaft B, and the fly wheel C' with its hub Z, in combination with lever R, and clutch x with its inclined end r and shoulder or step r1.

No. 12,770. Improvement on Processes of Separating and Recovering Waste Chemicals used in Deodorizing Distilled Petroleum.

(*Perfectionnement aux procédés pour séparer et revivifier les matières chimiques employées dans la désinfection du pétrole distillé.*)

John R. Minhinnick, London, Ont., 10th May, 1881; for 5 years.

Claim.—The process of separating and recovering chemicals, used in the deodorization of distilled petroleum, after drawing off the refined oil from the mixing vessel, by subjecting the residuum to the action of heat in a close vessel or still, whereby the chemicals will be precipitated, and be capable of removal through a valve in the bottom of the vessel for use again in deodorizing, and the residuum adapted for distillation.

No. 12,771. Improvement on Processes of Separating and Obtaining Naphtha, Benzine, &c., from Distilled Petroleum.

(*Perfectionnement aux procédés pour séparer et produire le naphtha, la benzine, &c., du pétrole distillé.*)

John R. Minhinnick, London, Ont., 10th May, 1881; for 5 years.

Claim.—The process of separating and obtaining naphtha, benzine, &c., from distilled petroleum in a close vessel to the action of steam and air to

eliminate the light oils by vaporization, and then liquifying the vapour by passing it through a condenser, connected to the close vessel.

No. 12,772. Combined Reaping and Mowing Machine. (*Faucheuse-moissonneuse.*)

David M. Osborne and William A. Kirby, (Assignees of C. Wheeler, jr.), Auburn, N. Y., U. S., 10th May, 1881; (Re-issue of Patent No. 3,608.)

Claim.—1st. A gag lever *j* when combined with and arranged to be operated by the driver, the lever *G*, vibrating beam *E*, rocking bar *D* and its crank arm *el*, and chain and link attachment. 2nd. In the pendant gag *X* attached to the front or gear frame *A*, in combination with the projection *Z* on the rear or cutter frame, to aid in raising up said rear frame. 3rd. Connecting the cutting apparatus to the frame of the machine, by an intermediate coupling frame, constructed with two sets of pivots arranged at right angles to each other. 4th. The vibrating beam *E* pivoted to a stand *P* on the gear frame, in combination with the lever *G* and chain *f*. 5th. The double set of lugs *a b* on the drive wheels, the former to increase the traction of said drivers on the ground, the latter to prevent the machine from slipping laterally when working on inclined ground. 6th. The wrought iron *Y*-shaped frame *W*, in combination with the hinged cast iron frames *A B*. 7th. The bushed journal bearings *Z* in the sleeve *B*. 8th. The oil hole cover *ll*, with its arms *l3* and teats *l4*, for the purpose of easy attachment to the frame. 9th. The combination of the gear frame *a* and the rear or cutter frame *B*, when connected to each other and to the main axle by hollow or tubular bearings, so that they both may vibrate about the main axle as a centre of motion, but independent of each other, and when the front frame carries the boxed gearings and the rear frame, the cutting mechanism to be worked by it. 10th. The slot *15* on the gear frame and the end *16* of the sleeve projecting therein and moving up and down through said slot, so as to give lateral support to the independently moving frame. 11th. The combination of a pivoted lever within reach of the driver, a rocking coupling frame, the link connecting said coupling frame and lever together, and a cutting apparatus hinged to said coupling frame. 12th. The gear cover *E* and tooth box cover *j* separately hinged but both fastened to the same hook or hasp *k l*. 13th. The yielding connection, between the pitman and cutter bar, composed of the ball and socket and hollow screw.

No. 12,773. Combined Reaping and Mowing Machine. (*Faucheuse-moissonneuse.*)

David M. Osborne and William A. Kirby, (Assignees of C. Wheeler, jr.), Auburn, N. Y., U. S., 10th May, 1881; (Re-issue of Patent No. 3,608.)

Claim.—1st. In a reel rake for reaping machines, the combination of a series of rake heads having a raising and falling and a rocking or rolling motion, the pivoted switch having a raising and falling motion. 2nd. A reel rake, the heads of which have a raising and falling and a rocking or rolling motion, the pivoted switch having a raising and falling motion, in combination with a crank and arm friction roller carried by the intermediate piece, which sustains the wooden rake heads. 3rd. The combination of the rake stand *24* with the shoe supporting the cutting apparatus, when supported by, and connected to said shoe on both sides of the connection and cutter. 4th. In a reel rake, the heads of which have a raising and falling and a rocking or rolling motion, the rolling motion governed by a crank lever and roller, the coiled spring to aid in controlling the movement of the rake heads. 5th. In a reel rake, the heads of which are arranged to rock or roll on an axis parallel to their length and having a crank arm with a pivoted roller, the pivoted switch *ll* and the wedge-shaped piece *18*, on the crank arm, the several parts being arranged and combined as described. 6th. The clearer *23* for forcing the chain out of the groove of the chain wheel *18*, should it stick therein as it is apt to do. 7th. The chain wheel *18* and clutch box *20* with the spring bolt *21*, for attaching and detaching said chain wheel to or from the main driver. 8th. The hinged supports *R* for the outside supporting wheel *T*, in combination with the adjustable slide *S* for raising and lowering said wheel upon its supports. 9th. The abutment *F*, in combination with the seat support *S* and seat *H*, for making said seat transposable and reversible.

No. 12,774. Improvements on Tricycles. (*Perfectionnements aux vélocipèdes.*)

Francois Fowler, New Haven, Ct., U. S., 13th May, 1881; for 5 years.

Claim.—1st. The combination, in a tricycle, of the yoke frame supported upon the crank axle between the driven wheels, and the curved reach supported by a rear wheel, with the adjustable pivot bolts *cl* *cz* in the yoke and in the reach, and their step bearings *c3* *c4* forming the pivot bearings for the reach. 2nd. The combination of the yoke frame supported upon the crank axle between the driven wheels, and the curved reach supported by a rear wheel, with the adjustable pivot bolts *al* *az* and the curved brace *D*, for said reach pivots to the yoke frame, in vertical lines with said pivot bearings. 3rd. The combination, in a tricycle, of the yoke frame and the reach pivoted thereto and projecting in front thereof, with the steering post *G* provided with a crank lever arm *f*, and the front projecting yoke lever arm *E* having a free connection with the said yoke lever arm, whereby the steering of the front driven wheels is effected through the united and co-operating lever action of the steering post, the pivoted reach and the yoke frame. 4th. The combination of the yoke frame, the reach pivoted thereto, and the steering post carried by the reach, in front of its pivots, with the forward projecting yoke lever arm *E* provided with the radical slot *cz* and the segmental slot *cl*, and the forward projecting post lever arm *F*, the said post and its lever arm having a free connection with said yoke lever arm *E*, through said slots. 5th. The combination of the reach pivoted to the yoke frame *a* and extending in front thereof, with the steering post *G* having a free lever connection with said yoke frame and with the reach *C*, and operating to guide the front driven wheels through the yoke frame and the reach. 6th. The combination of the driven wheels, operated by a crank shaft by foot rests thereon, with a vertically adjustable saddle support *K*, having a free steered connection *kl*, with the steering post *G*, and resting upon a spring *L* thereon, whereby the saddle may be adjusted upon said post in relation to the front pads, to suit the length of the rider's limbs. 7th. The combination of the steering posts *S*, arranged in front of the yoke frame *a* and connected therewith and to the pivoted reach *C*, with the saddle *J* extending over said yoke frame, and over the pair of bearings *cl* *cz* of said reach, and supported upon a spring *L* upon said post, whereby the weight of the rider is brought directly over or forward of the crank axle of the driven wheels. 8th. The combination of the reach pivoted to the yoke

frame, and carrying the steering post in front thereof with the saddle supporting spring *K*, connected to said post by a free sleeve *kl* and to the reach by the link *l*, and hanger *M*. 9th. The combination, in a tricycle, of the yoke frame supported upon the crank shaft between the driven wheels, and the curved reach supported by a rear wheel, with the sleeved heads *m ml*, the spring *n*, the stop pins *o*, the studs *o* and the ratchet wheel hub heads *h h*, whereby the said wheels are relieved from the pressure of the driving ratchet heads, and the outer wheel allowed to turn short independently of the axle. 10th. The combination, in a tricycle, of the driven and steering wheels loose upon the crank axle, and having hollow hub heads *h h*, the inner one of which is provided with ratchet teeth *l*, with the sleeved ratchet heads *m ml* having only a sliding movement upon said axle, the outer hub head being provided with a cap *i*, and a centrally projecting hub part *j*, passing through said cap and forming the bearing for the axle nut *K*, the spokes of said wheels being secured by the nuts *g* with the hollow hub heads. 11th. The combination of the front wheels, provided with circumferential grooves for rubber tires, for land travel, and which are operated by footrests upon a crank axle, with removable chisel blades *d* having side bracing-wings *g* clamped within and upon the bottom of said grooves, the said chisel blades being arranged across said grooves. 12th. A tricycle constructed with front wheels provided with circumferential grooves for rubber tires for land travel, and which are operated by footrests upon a crank shaft, the chisel blades *d* removably clamped and traced within said grooves, and the claw arms *n ml* pivoted upon the axle of the reach supporting wheel.

No. 12,775. Improvements in Saw Sets. (*Perfectionnements aux fers à contourner.*)

Charles Morrill and Asa Farr, New York, U. S., 30th May, 1881; for 5 years.

Claim.—1st. The rectilinearly adjustable pitch plate *D* provided with the slotted tapering leg *d*, in combination with the thumb screw *E* and the punch holder *a*. 2nd. The rectilinearly adjustable pitch plate *D*, in combination with the anvil or die *C*, and the punch *B*. 3rd. The adjustable anvil or die *C*, in combination with the pitch plate *D* and the punch *B*. 4th. In a saw set, a rectilinearly adjustable pitch plate.

No. 12,776. Improvements on Ditching Machines. (*Perfectionnements aux machines à fossayer.*)

William Rennie and Henry Carter, Toronto, Ont., 13th May, 1881; for 5 years.

Claim.—1st. An elevating wheel of a ditching machine having a sectional tire composed of the plates *E*, each plate being separated or detached from the rest. 2nd. An elevating wheel of a ditching machine having a sectional tire composed of the plates, in combination with the body piece *G* hinged to each plate and forming a series of discharging earth buckets. 3rd. The body piece *G*, hinged to each plate *E* and provided with an arm *g*, in combination with the bars *h x* formed to operate the body piece *G*. 4th. An elevating wheel of a ditching machine having a sectional tire composed of the plates *E* with body pieces *G* hinged thereto and provided with arms *g*, in combination with the bars *h x*, rollers *v v* and discharge spout *J*. 5th. The spokes *B* radiating from the hub *C* pivoted to the main frame *a* and having the plates *E* attached to their outer ends, in combination with the stay rods *F* extending from the rim *D* to the bottom of the plate *E*. 6th. The circular guard plate *L* extending from or near the nose of the plough *H* to the frame *J* and hinged at *a*, in combination with travelling earth elevating buckets. 7th. The hand lever *P* pivoted on the vertical bars *l* and extending to within reach of the driver on the seat, in combination with the link *p*, plough *H* and circular hinged guard plate *L*. 8th. The adjustable steadying frame *T* provided with the wheels *V*, in combination with the hand lever *S* pivoted on the frame *J* and extending back to within reach of the driver on the seat, within the crank *Sl* connected by suitable mechanism to the guide bars *X*. 9th. The central guide bars *X* connected to the *T* by the bolt *d*, in combination with the eccentric *Z* provided on the stud or rivet *c* passing through the frame *T* and lever *Zl*. 10th. The steadying frame *T* braced from and pivoted to the rear of the machine by the rods or stays *W*, in combination with the guide bars *X*, eccentric *Z* and lever *Zl*. 11th. The hold fast catch *P* pivoted on the bars *K* and engaging with the notches in the rack *Y*, in combination with the catch *n* pivoted on the end of the crank *Sl*, the lever *S* and rack *Y*. 12th. The stubbing block *f* pivoted to the frame *J* and provided with the rod *K*, in combination with the notches *l* on the back of the rack *Y*. 13th. The tongue *3* provided with a pin *m*, which slides in a groove in the bars *K*, in combination with crank *4* and rod *5*.

No. 12,777. Improvement on Telephonic Fire Alarms. (*Perfectionnements aux appareils téléphoniques d'alarme en cas d'incendie.*)

The Canadian Telephone Company, Montreal, Que., (Assignee of T. A. Watson, Everett, Mass., U. S.,) 13th May, 1881; for 5 years.

Claim.—1st. A system of telephone alarms consisting of a telephone circuit with a central office, and one or more signal boxes located on said circuit, in combination with means for sounding an alarm at said central office in the act of unlocking or opening the doors of said boxes to get access to the telephones located therein. 2nd. A system of telephone alarms consisting of a telephone circuit with a central office, and one or more signal boxes located on said circuit, in combination with means for sounding an alarm at said office and putting the telephones in circuit in the act of unlocking or opening the doors of said boxes, the telephones at the signal stations being shunted when the boxes are closed. 3rd. A telephone fire alarm box composed of a closed box with a door and lock, a telephone located therein, connections for attaching wires to complete an electric circuit through said box, and means for shunting and placing in circuit the telephone, and for altering the electrical condition of the circuit passing through said box, to give an alarm in the act of unlocking or opening the door of said box. 4th. In a telephonic alarm, the telephones inclosed in lock boxes provided with connections for completing an electric circuit therethrough, and also with means for altering the electrical condition of said circuit to operate an alarm by unlocking or opening said boxes. 5th. A system of telephonic alarms in which the telephones are placed in a closed metallic circuit and the alarm is operated by currents traversing a ground circuit of which said telephone circuit forms a part. 6th. The combination, with a closed metallic circuit and telephones placed in said circuit, of a

branch circuit in which a battery is placed connected with the metallic tele- phone circuit and with the ground, and means for completing the battery or ground circuit at one or more stations on the metallic telephone circuit, and for shunting the resistance of the telephones when not in use. 7th. The combination, with a series of closed signal boxes and telephones located therein, a circuit passing through the said boxes and connecting the same with a central office, a branch wire or circuit at the central station, a bat- tery placed in said branch wire, an alarm and a switch for establishing or breaking the connection of said branch wire with the telephone circuit, of devices for closing or opening at any one of said boxes the circuit through the said battery, branch wire switch and telephone circuit to operate afore- said alarm, the said signal boxes being with or without means for shunting the telephones when not in use.

No. 12,778. Improvements on Stakes for Platform Cars. (*Perfectionnements aux ranchers des chars plateformes.*)

John W. Marden, Boston, and Frederick A. Houdlette, Malden, Mass., U. S., 13th May, 1881; for 15 years.

Claim.—1st. The combination of a sliding stake with a head to drop over and secure a side board, and a socket secured to the edge of the car through which the stake drops to a lowered position when not in use. 2nd. The combination of a sliding stake with its securing head, and a lower socket having an offset or shoulder upon which the lower end of the stake may rest, to hold it in an elevated position. 3rd. The combination of a sliding stake with upper end for securing the side board, a lower socket shouldered to retain the stake when elevated, and perforations upon the stake for holding it at a varied height, when side boards are turned down. 4th. The combination of the following elements, viz.: a sliding stake, a top for the same having an arm for holding a side board, a lower shouldered socket in the edge of a platform car, through which said stake drops, an adjusting device to hold the stakes at different heights and hinged side boards to drop entirely out of the way.

No. 12,779. Improvements on Stovepipe Shelves. (*Perfectionnements aux tablettes des tuyaux de poêles.*)

Melville B. Coburn, Cincinnati, Ohio, U. S., 13th May, 1881; for 5 years.

Claim.—1st. Plate E, arm F provided with ridge *t*, and arm D composed of the side plates or arms *h*, lugs *m*, neck *l* and collar A, and provided with suitable means for attachment to the stovepipe drum, etc. 2nd. The combination of the plate E, arm F provided with ridge *t*, and arm D composed of the side plates or arms *h*, lugs *m*, neck *l* and collar A provided with flange *g* and suitably arranged to be clasped around or attached to the stovepipe, etc. 3rd. The combination of plate E, arm F provided with ridge *t* and longitudinal groove *G*, and arm D and rod M. 4th. The combination of plate E, arm F provided with longitudinal groove *G*, arm D and rod M. 5th. The combination of plate E, arm F provided with longi- tudinal groove, arm D, collar A, flange *g* provided with opening *y* and rod M. 6th. The arm F provided with plate E and with groove S, and ridge *t* combined with arm D, consisting of plate *h*, lugs *m*, neck *l*, said arm F being shaped at its outer end by means of the ridge *v* and appropriate bevvels to be used as a lid lifter. 7th. The plate E provided with the studs *u* and with arm F having groove or recess S and ridge *t* combined with arm D, the latter being suitably attached to a collar or equivalent device, for affixing the same to the stovepipe or drum, etc.

No. 12,780. Improvements on the Production of Surfaces for Printing, Stamping, Milling, Embossing, &c. (*Perfectionnements dans la production des surfaces pour imprimer, étamper, monnayer, bosseler, &c.*)

Joseph J. Sacks, Manchester, Eng., 13th May, 1881; for 5 years.

Claim.—The preparation of surfaces for printing, stamping, milling, embossing and other like purposes.

No. 12,781. Pulverizing Machine. (*Machine à pulvériser.*)

Charles Taylor, Montreal, Que., 13th May, 1881; for 5 years.

Claim.—1st. The inside faces of the cylinder discs, formed of, or lined with a substance presenting a grating surface. 2nd. The discharge pipes formed with a curve or angle and made of, or lined with a substance pre- senting a grating surface. 3rd. A rotating disc, arranged with beaters operating which ever way the disc revolves. 4th. The beaters of the operating disc having their striking faces hollowed out. 5th. The beaters F, with hollows F1 and corners *f*.

No. 12,782. Improvements on Slide Valves. (*Perfectionnements aux tiroirs de vapeur.*)

W. S. Hughes, Long Island, N. Y., U. S., 13th May, 1881; for 5 years.

Claim.—1st. A slide valve having its exhaust cavity so constructed with relation to the steam and exhaust ports of the seat that, by the movement of the valve, the cavity is opened by numerous small apertures, or by a gradually increasing aperture. 2nd. The combination of a slide valve hav- ing exhaust cavity *a* and valve seat having ports *b b c*, and the valve face so extended that the exhaust cavity is partially cut off during the move- ment of the valve. 3rd. The slide valve A having exhaust cavity *a* covered by perforated diaphragm *d*. 4th. In slide valves, the exhaust cavity formed with step like sides. 5th. The combination, in a slide valve having its sides made in step like form, of the perforated diaphragm *g*. 6th. In the slide valves, the tapering tongues *e*, forming a portion of the valve face, combined with the exhaust cavity *a*.

No. 12,783. Improvements on Mechanical Thermometers. (*Perfectionnements aux thermomètres mécaniques.*)

William A. Wales, Newton, Mass., U. S., 13th May, 1881; for 5 years.

Claim.—1st. In a mechanical thermometer, the use of two bi-metallic strips arranged as described, so that they shall act at opposite equi-distant points from the centre of the rack, or segment, which they act upon, and serve to communicate the correct temperature by multiplication of action to the index hand, and also arranged with a slight side draw on the pivot of the rack, or segment, thus producing a regular and definite tension which does not increase or diminish in extreme temperature. 2nd. The use of the pin and groove connection between the bi-metallic strip and the rack, or segment, in combination, with the parallel grooves, or stops, in the fixed ends of bi-metallic suspension as a means of correctly adjusting the instrument. 3rd. In a thermometer, the combination of a bi-metallic strip adjustably connected to the segment L, the pinion I on the pointer shaft, and a governing device, consisting of the pivoted cogged segment K engaging with said pinion, and the spring O.

No. 12,784. Improvements on Paper Perforating Machines. (*Perfectionnements aux machines à perforer le papier.*)

Edward W. Blackhall, Toronto, Ont., 13th May, 1881; for 5 years.

Claim.—1st. A universal joint introduced into one of the cutter shafts and combined therewith, for the purpose of enabling the cutters attached there- to to be lifted out of, and returned into working connection, and to be driven by gear wheels continuously in one direction, without altering their rela- tive position. 2nd. The feeding in rolls H, rotary cutters D D1 and frame with finger bars I, the latter, the upper roll and upper cutter being pro- vided with a common intermittent lifting mechanism, combined with the adjustable cutter guards M and conveying rolls K. 3rd. In the feed rolls and rotary cutters, a rotating disc provided with adjustable studs set within cir- cular grooves cut in the face of said disc, in combination with a cam plate connected to the lifting mechanism for imparting an intermittent movement thereto. 4th. In connection with a paper perforating machine, a cylind- rical block pierced with holes equi-distant around its whole periphery with cylindrical punches D2 fitting the said holes and headed at their inner ends, in combination with the bevvelled follower D4 fitted into the face of the block and holding the punches D2 in position.

No. 12,785. Improvements in Car-Couplers. (*Perfectionnements aux attelages des chars.*)

Theophilus Chapman, Uxbridge, Ont., 13th May, 1881; for 5 years.

Claim.—1st. In connection with the draw-head of a railway car, a hori- zontal rod supported in suitable bearings on the said draw-head and ex- tending to the outside of the car, in combination with a lever connected to the horizontal rod and provided with a chain or rope passing over friction pulleys and connecting it to the coupling pin, for the purpose of raising the pin, by twisting the rod referred to. 2nd. A horizontal rod supported in suitable bearings on the said draw-head, in combination with an arm or bracket connected to the said rod and supporting a hinged plate arranged for the purpose of holding up the link, as the two draw-heads approach each other.

No. 12,786. Improvements on Planing Ma- chines. (*Perfectionnements aux machines à raboter.*)

Thomas Cowan and John Ballantine, Galt, Ont., 13th May, 1881; for 5 years.

Claim.—1st. A planing machine provided with a screw or screws, for ad- justing the height of its table gearing driven by a power pulley, and operated by a lever arranged to throw the gearing in and out of gear. 2nd. In combination with a spur wheel C, the pinions D E gearing with each other, the pulley H connected to the pinions D, the lever F carrying the pinions and pulley, and so pivoted to the frame G that the movement of the said lever F throws either the pinion D or pinion E into gear with C, or holds them both out of gear with the said spur wheel C.

No. 12,787. Improvements in Car Brakes. (*Perfectionnements aux freins des chars.*)

William H. Jackson, Duffin's Creek, Ont., 13th May, 1881; for 5 years.

Claim.—1st. In connection with a railway car, a rod C properly supported on the bottom of the car and operated by any suitable motor, a nut E fitted to a screw D on the said rod, in combination with an arm F pivoted to the nut E and connected to the brake chain G by the forked ends *g h*.

No. 12,788. Improvements in Car-Couplers. (*Perfectionnements aux accouplages des chars.*)

William H. Jackson, Duffin's Creek, Ont., 13th May, 1881; for 5 years.

Claim.—A draw-head A recessed as described, in combination with bifur- cated draw pin B provided with pivots C, and arranged within the draw- head that the coupling link C causes the pin to enter the link.

No. 12,789. Improvements on Button Fasten- ers. (*Perfectionnements aux attaches-bou- tons.*)

George W. Prentice, Providence, R. I., U. S., 13th May, 1881; for 5 years.

Claim.—The clip or fastener B having the curved neck portion C and provided with two or more penetrating prongs *a*, in combination with the Shank eye of the button A.

No. 12,790. Improvements on Car-Couplings. (*Perfectionnements aux accouplages des chars.*)

William McCubbin, Chatham, Ont., 13th May, 1881; for 5 years.

Claim.—In a car coupling, the combination of weight B, draw-pin C, link D, lever E, or its equivalent, shaft F and slot or oblong hole G, with any suitable form of draw-head, the uncoupling being effected by revolving the link which carries the draw-pin in the direction of, or toward the car to which the draw head is attached, the coupling being effected by the link striking against the weight below its axis, and thereby partly revolving it forward and carrying the draw-pin into the opening of the link.

No. 12,791. Improvements on Bee Hives. (*Perfectionnements aux ruches.*)

David C. Cripe, North Manchester, Ind., U. S., 13th May, 1881; for 5 years.

Claim.—The rectangular comb frames S having V-shaped upper and diagonal bars, the rabbetted bar V, the notched bars V, the bar W and the pins X combined with the back B, the front C, the sides D E and inclined bottom A.

No. 12,792. Improvements on Harvester Reels. (*Perfectionnements aux râtaux des moissonneuses.*)

William H. Akens, Penn Line, Pa., U. S., 13th May, 1881; for 5 years.

Claim.—The combination of the pivoted rake bars E, cranks F F, rods G G I I and the D-shaped plates K K, with the plate L provided with the flanges or cams M M.

No. 12,793. Improvements on Parasols. (*Perfectionnements aux parasols.*)

James T. Smith, New York, U. S., 13th May, 1881; for 5 years.

Claim.—1st. A parasol arranged to open by the descent of the runner and having a rod or stick equal in length to the range of movement of the runner, and with a knot at its lower end, and its upper end passing completely through the hole in the notch, combined with a runner having an annular projection at the lower end, to form a finger hold adapted to cooperate with the knot on the rod. 2nd. The ring notch E formed with a peripheral groove for the rib wire and with a recessed lower side, in combination with the rod, rib, stretcher and runner. 3rd. The runner composed of a cylindrical portion and a projecting ring, at its lower end, connected with the cylindrical portion by a head in the cylinder on one side, and by the flared or expanded end of the cylinder on the other.

No. 12,794. Ointment. (*Onguent.*)

Edward Frankford, Lockport, Ill., U. S., 13th May, 1881; for 5 years.

Claim.—An ointment compounded of mutton tallow, or unsalted butter, resin, gum pitch, (white pine resin,) honey, bees wax, spirits of turpentine, oil of cumin, oil of rhodium, oil of cedar, oil of hemlock, balsam of fir and tincture of cantharides.

No. 12,795. School Desk and Seat. (*Pupitre et banc d'école.*)

Oliver S. Garretson, Buffalo, N. Y., U. S., 13th May, 1881; (Extension of Patent No. 10,465.)

No. 12,796. School Desk and Seat. (*Pupitre et banc d'école.*)

Oliver S. Garretson, Buffalo, N. Y., U. S., 14th May, 1881; (Extension of Patent No. 10,465.)

No. 12,797. Composition of Matter to be Used Medecinally and as Food. (*Composé médicinal et alimentaire.*)

John L. Johnston, Sherbrooke, Que., 14th May, 1881; (Extension of Patent No. 6,104.)

No. 12,798. Improvements on Machines for Making Lamp Casings. (*Perfectionnements aux machines à faire les enveloppes des lampes.*)

Grenville M. Stevens, Deering, and Hugh J. Chisholm, Portland, Me., U. S., 14th May, 1881; for 5 years.

Claim.—1st. The combination of the dies A B with the exterior case and the flexible drainer. 2nd. The combination of a die a, and a casing F having a shoulder or edge fitting over the rim of the die a, adapted to contain the pulp, and to permit drainage over the rim of the die a, and the plunger D fitting in said casing. 3rd. The combination, in a mould for making lamp casings from pulp, by compression, of the die a, rod c, plunger D, cylinder F, drainer g and notches d. 4th. The combination of the drainer g and notches d, with the female die a. 5th. The process of forming finished articles out of the pulp, consisting in first compressing said pulp

into the required form in dies, and afterwards removing such articles and compressing them into a second set of dies. 6th. As an improved article of manufacture, a lamp casing composed of fibrous compressed pulp.

No. 12,799. Improvement on Boot and Shoe Heels. (*Perfectionnement aux talons des chaussures.*)

Grenville M. Stevens, Deering, and Hugh J. Chisholm, Portland, Me., U. S., 14th May, 1881; for 5 years.

Claim.—A heel for boots and shoes formed wholly of a homogeneous mass of fibrous compressed pulp.

No. 12,800. Improvements in Quarter Curtain Fastenings for Carriages. (*Perfectionnements aux ferrures des couvertures de voiture.*)

Charles Fockler, Dubuque, Ohio, U. S., 14th May, 1881; for 5 years.

Claim.—1st. The combination of the shifting rail B and the clamp C. 2nd. The combination of the quarter curtains A, the shifting rails B and the clamp C.

No. 12,801. Improvements on Electric Alarms and Automatic Registers for Watchmen. (*Perfectionnements aux signaux électriques et aux registres automatiques pour les gardes de nuit.*)

Ellhu T. Quimby, Hanover, N. H., and Isaac T. Campbell, Boston, Mass., U. S., 14th May, 1881; for 5 years.

Claim.—1st. In transmitters for an electric signalling apparatus, the combination for the revolving arm a fitted to close the circuit intermittently, of a magnet and locking device fitted to arrest the arm a automatically at the intermission of the current, and a finger key or keys for releasing the locking device. 2nd. In electric recording instruments for watchmen, the cylinder g, sleeve i, forked lever K, wheel l and spiral cam K' combined with the clock work, magnet and armature carrying the recording pencil. 3rd. In electric signalling apparatus for watchmen, the combination with the recording instrument connected in the main line, of a local battery signalling apparatus and connections forming a local circuit, when arranged so that the local circuit is closed by the retractive movement of the armature of the recording instrument. 4th. The combination with a magnet in the main circuit, of an armature fitted for being retracted by a time movement, a stop for arresting such backward movement, and a local battery and circuit connections to the back stop and to a signal. 5th. The transmitter consisting of a ring b fitted with metallic pins b', the revolving arm a moving in contact with its armature, an electro-magnet fitted to stop the arm a at every retraction of its armature, and finger levers or similar circuit closing devices combined together in an electric circuit with a distant signalling device or indicator. 6th. In transmitters for electric signalling apparatus, the magnet C, spring armature c provided with lug d', escapement arbor c' and arm d' combined with the driving motor of the transmitter. 7th. In electric signalling apparatus, the combination with a transmitter fitted to make successive contact with a continuous series of circuit closing points, of a range of finger levers, or other circuit closing devices, having separate connection with the circuit closing points, a locking device operated by a magnet and fitted to stop the transmitter when the circuit is broken, and the wires of an electric circuit which includes the transmitter, finger levers battery and distant indicator. 8th. In transmitters for electric signalling apparatus, the commutator B combined with the ring d, pins d' and revolving arm a. 9th. In electric signalling apparatus for watchmen, the recording instrument consisting of a cylinder revolved constantly by clock work, and electro-magnet in the circuit, and an armature carrying the recording point or pencil combined for operation. 10th. The combination, with the signalling instrument fitted by operation by a local circuit of a polarized relay in the main circuit having connections in the local circuit that are normally broken, whereby the local circuit is closed by the relay only on reversal of the main current. 11th. Having provisions for automatically setting the apparatus, whereby the fire alarm may be sounded and the negligence alarm made in-operative. 12th. An electric signalling apparatus for watchmen, etc., having provision for preventing in-operativeness of the signal and causing an alarm when the wire is cut or tampered with. 13th. The combination, with the transmitter, of a reversing key or keys placed in the circuit of the transmitter and fitted to reverse the battery and cut out the transmitter.

INDEX OF INVENTIONS.

Alarm for watchmen, electric, E. T. Quimby et al.....	12,801	Gate, farm, E. J. Hart et al.....	12,781
Telephonic fire, the Canadian Telephone Co.....	12,777	“ railway crossing, J. B. Emond.....	12,705
Arithmetical frame, F. B. Ginn.....	12,759	Gear, vehicle, R. McLaughlin.....	12,743
Bearders, barley, J. Sendall.....	12,688	Gore, elastic, S. Floresheim.....	12,717
Bed bottom, spring, D. Edgar.....	12,753	Grain binder, A. Harris et al.....	12,761
Bee hive, D. C. Cripe.....	12,791	Hanger, car door, E. E. Pratt.....	12,728
Benzine from petroleum, obtaining, J. Minhinick.....	12,771	Harrow, W. Stephenson.....	12,729
Berth, ship, The Brunswick Berth Co.....	12,724	Harvester rakes, C. D. Dewey.....	12,757
Binder, grain, A. Harris et al.....	12,761	“ “ W. H. Akens.....	12,792
Blacklegs, remedy for, A. C. Sinclair.....	12,749	Heaters and filters, feed water, J. W. White.....	12,687
Block and pulley, snatch, H. Laud.....	12,720	“ feed water, E. J. Hall.....	12,701
Board, ironing, J. M. Hibsternberg.....	12,763	“ sad iron, C. F. Opdyke et al.....	12,765
Boiler, steam, J. Elliot.....	12,750	Heating apparatus, A. H. Hearington.....	12,682
Boot and shoe, G. Taylor.....	12,897	“ stove, H. A. Brognard.....	12,733
“ “ counter, C. E. Bigelow.....	12,718	Heel, boot and shoe, G. M. Stevens et al.....	12,799
“ “ “ L. B. Howe et al.....	12,709	Hominy, method of treating, H. S. Boon et al.....	12,672
“ “ heel plate, A. J. Stott.....	12,756	Hook, carriage boot flap, C. F. Littlejohn et al.....	12,753
Box, gold saving sluice, M. M. Murray.....	12,876	Hoop cutter, barrel, T. Graydon.....	12,747
Brake, car, W. Brattle.....	12,719	Insoling, J. A. Galle.....	12,715
“ “ M. H. Jackson.....	12,787	Iron heater, sad, C. F. Opdyke et al.....	12,785
Brewing process, H. Calcutt.....	12,712	Ironing boards, J. M. Hibsternberg.....	12,783
Buckles, trace, J. Lally.....	12,693	Krife cleaners, E. Ferguson.....	12,738
Button fasteners, G. W. Prentice.....	12,789	Lamp casings, G. M. Stevens et al.....	12,798
Cable, telegraph, E. Berthoud.....	12,665	“ electric, The Standard electric light Co'y.....	12,768
Car, box and cattle, T. Clarke.....	12,726	Lighter, lamp, W. H. D. Newth.....	12,760
“ sleeping and drawing-room, A. Davis.....	12,722	Lock, window sash, J. O. Parker.....	12,666
“ stock, J. Howard.....	12,723	Mattress, spring, J. H. Adams.....	12,746
“ “ W. S. Hunter et al.....	12,732	Medicinally, composition to be used, J. L. Johnson.....	12,797
Carriage, P. Danereau.....	12,789	Medical compound, J. Bemis.....	12,685
“ child's, C. Mattern.....	12,700	“ use, electro-magnetic apparatus for, J. Butler.....	12,696
Carts and waggons, dumping, Z. Butt.....	12,690	Milling surfaces, production of, J. J. Lack's.....	12,780
Case, revolving book, J. Danner.....	12,680	Mining machine, coal, F. M. Lechner et al.....	12,703
Chemicals used in deodorizing petroleum, recovering, J. R. Minhinick.....	12,770	“ under water, machine for, J. Hébert.....	12,686
Churn, C. H. Warren.....	12,708	Mouldings with cloth, machine for covering, J. D. Ripson et al.....	12,702
Cleaners, knife, E. Ferguson.....	12,738	Mowing and Reaping machine, D. M. Osborne et al.....	12,773
Coal mining machine, F. M. Lechner et al.....	12,703	Music paper perforating machine, R. S. Smith.....	12,737
Collars, hoop, J. B. Pike.....	12,671	Musical instruments, G. B. Kelly.....	12,780
Cooking stove, H. A. Brognard.....	12,733	“ “ W. F. Abbott et al.....	12,755
Copper ore, treating, P. G. L. G. Designolles.....	12,704	Naphtha from petroleum, obtaining, J. Minhinick.....	12,771
Cots, B. G. Vandyke et al.....	12,683	Nut lock, G. T. Smith et al.....	12,707
Coulter, plough, P. Donnelly et al.....	12,734	Ointment, E. Frankford.....	12,794
Counter, boot and shoe, C. E. Bigelow.....	12,718	Ore, treating copper, P. G. L. G. Designolles.....	12,704
“ “ L. B. Howe et al.....	12,709	Organ, reed, The Mason and Hamlin Organ Co'y.....	12,710
Coupler, car, T. Chapman.....	12,785	Packers, self-counting egg, J. Cameron.....	12,689
“ “ W. H. Jackson.....	12,788	Paper perforating machines, E. W. Blackhall.....	12,784
Coupling, car, W. McCubbin.....	12,790	“ “ “ music, R. T. Smith.....	12,737
Covering mouldings with Cloth, machine for, J. D. Ripson et al.....	12,702	Parasols, J. T. Smith.....	12,793
Creamers, S. H. Yeoman et al.....	12,684	Pavements, composite, P. Stuart.....	12,668
Crib, child's, J. P. Alexander et al.....	12,678	Pens, fountain, H. A. Walke.....	12,667
Curtain fastening for carriages, C. Fockler.....	12,800	Perforating machines, music paper, R. T. Smith.....	12,737
Cutter, barrel hoop, S. Graydon.....	12,747	“ “ paper, E. W. Blackhall.....	12,784
Desk and seat, school, O. S. Garretson.....	12,795	Petroleum, obtaining naphtha, etc., from, J. Minhinick.....	12,771
Desk, school, J. Asher.....	12,751	“ recovering chemicals used in deodorizing J. R. Minhinick.....	12,770
Ditching machine, W. Rennie.....	12,776	Pins, clothes, C. S. Simpson.....	12,675
Dogs, sawmill, J. A. Fordan.....	12,736	Pipe sections preparing and welding, H. Von Hartz et al.....	12,762
Drain tiles, making and laying, R. J. Wilson.....	12,764	Planing machines, T. Cowan et al.....	12,786
Drill, seed, W. Stephenson.....	12,729	Plate, boot and shoe heel, A. J. Stott.....	12,756
Door hangers, car, E. E. Pratt.....	12,728	Ploughs, G. and J. Thomson.....	12,670
Drum, stovepipe, W. H. Packham.....	12,716	“ W. Stephenson.....	12,729
Drying apparatus, A. J. Kuhne.....	12,674	Plugs, boat, L. H. Raymond.....	12,679
Elastic gore, S. Florshiem.....	12,717	Portfolios, C. J. Brown.....	12,699
Electro magnetic apparatus for medical use, J. Butler.....	12,696	Printing surfaces, production of, J. J. Sachs.....	12,780
Electrotype, G. D. McDougall et al.....	12,721	Propellers, screw, J. B. Ward.....	12,741
Embossing surfaces, production of, J. J. Sachs.....	12,780	Pulley and snatch block, H. Laud.....	12,720
Engine, steam, S. N. Silver.....	12,752	Pulp and fibre, wood, G. F. Evans.....	12,742
Engine, steam and traction, W. Stephenson.....	12,729	Pulverizing machines, C. Taylor.....	12,781
Engines, traction, J. H. Elward.....	12,664	Rake, harvester, C. D. Dewey.....	12,757
Extractor, stump, W. H. Wright.....	12,766	Reaping and mowing machine, D. M. Osborne et al.....	12,773
Eyelets, F. B. Bradley.....	12,698	Reel, harvester, W. H. Akens.....	12,792
Fasteners, button, G. W. Prentice.....	12,789	Register for watchmen, electric, E. T. Quimby et al.....	12,801
“ heel skate, M. G. Coon.....	12,694	Regulator, feed water, C. H. Kuhne.....	12,713
Fastening for carriages, curtain, C. Fockler.....	12,800	Reins, detaching check, J. McLean.....	12,706
“ machine, sole, J. Hitchcock et al.....	12,769	Roller, land, W. Stephenson.....	12,729
“ skate, E. H. Barney.....	12,754	Sash lock, window, J. O. Parker.....	12,666
Feed water heater, E. J. Hall.....	12,701	Sawssets, C. Morrill et al.....	12,775
Feed water regulator, C. H. Kuhne.....	12,713	Scraper, road, G. S. Agee.....	12,663
Fire alarm, telephonic The Canadian Telephone Co.....	12,777	Screw propellers, J. B. Ward.....	12,741
Fibre and pulp, wood, G. F. Evans.....	12,742	Scurvy, remedy for, A. C. Sinclair.....	12,749
“ vegetable, J. G. Stevens.....	12,748	Seat and desk, school, O. S. Garretson.....	12,795
Filters and heaters, feed water, J. W. White.....	12,687	Seed drill, W. Stephenson.....	12,729
Food, composition, J. L. Johnson.....	12,797	Shelves, stovepipe, M. B. Coburn.....	12,779
Frame, arithmetical, F. B. Ginn.....	12,759	Shingle machine, M. A. Bidwell.....	12,711
Gangrene, remedy for, A. C. Sinclair.....	12,749	Shoe packs, S. Lee.....	12,695
		Sights for fire-arms, G. Freund.....	12,673
		Skate, G. Groom.....	12,745

Skate, clamp, W. Wilkie.....	12,714	Farr, A., et al, saw set.....	12,775
“ fastening, E. H. Barney.....	12,754	Ferguson, E., knife cleaners.....	12,738
Sole fastening machine, J. Hitchcock et al.....	12,769	“ J., thrashing machine.....	12,677
Springs, bed, E. L. Bushnell.....	12,669	Fix, O., et al, preparing and welding pipe sections.....	12,762
Stake for platform cars, J. W. Marden et al.....	12,778	Fleming, P., et al, electrotype.....	12,721
Stamp, dating and cancelling, G. E. Emerson.....	12,767	Floresheim, S., elastic gore.....	12,717
Stamping surfaces, production of, J. J. Sachs.....	12,780	Fockler, C., curtain fastening for carriages.....	12,800
Stays, magnetic, W. Wilson.....	12,744	Ford, H., et al., carriage boot flap hook.....	12,753
Stereotype, G. D. McDougald et al.....	12,721	Fordan, J. A., saw mill dogs.....	12,736
Stove, coal, The Ransom Stove Works.....	12,727	Fowler, F., tricycles.....	12,774
“ cooking and heating, H. A. Brognard.....	12,733	Frankford, E., ointment.....	12,794
Stovepipe drum, W. H. Packham.....	12,716	Freund, F., sights for fire-arms.....	12,673
Stump extractor, W. H. Wright.....	12,766	Fuller, T., et al, stock cars.....	12,732
Surfaces for printing, etc., production of, J. J. Sachs.....	12,780	Gallie, J. A., insoling.....	12,715
Telephone, C. D. Haskins.....	12,725	Gardner, F., et al, plough coultter.....	12,731
Thermometers, W. A. Wales.....	12,783	Garretson, O. S., school desk and seat.....	12,795
Thrashing machine, J. Ferguson.....	12,677	Ginn, F. B., arithmetical frame.....	12,759
Tiles, making and laying drain, R. J. Wilson.....	12,764	Graham, W. L., et al, farm gate.....	12,731
Tricycles, F. Fowler.....	12,774	Groom, G., skate.....	12,745
Upholstery, fibre for, J. G. Stevens.....	12,748	Hall, E. J., feed water heater.....	12,701
Valve, safety, E. B. Kunkle.....	12,735	Hamilton, E. M., et al, making and laying drain tiles..	12,764
“ “ F. B. Scovell.....	12,710	Hamlin, C. A., coal stove.....	12,727
“ slide, W. S. Hughes.....	12,782	Harris, A. & J., et al, grain binders.....	12,761
Vehicle gear, R. McLaughlin.....	12,748	“ M., et al., musical instruments.....	12,755
Waggons and carts, dumping, Z. Butt.....	12,961	Hart, E. J., et al, farm gate.....	12,731
“ dumping, K. Kennedy.....	12,690	Haskins, C. D., telephone.....	12,725
Wood reducing machine, G. F. Evans.....	12,742	Hearington, A. H., heating apparatus.....	12,682
		Hébert, J., machine for mining under water.....	12,686
		Heylum, J. W., feed water heater.....	12,701
		Hibstenberg, J. M., ironing board.....	12,763
		Hitchcock, J., et al., sole fastening machine.....	12,769
		Holcomb, A. G., electric lamp.....	12,768
		Houdlette, F. A., et al., stake for platform cars.....	12,778
		Howard, J., stock car.....	12,723
		Howe, L. B., et al, boot and shoe counter.....	12,709
		Hughes, W. S., slide valve.....	12,782
		Hunter, W. S., et al., stock car.....	12,732
		Irwin, J. H., cooking and heating stove.....	12,733
		Jackson, W. H., car brake.....	12,787
		“ “ car-coupler.....	12,788
		Jeffreys, J. A., et al, coal mining machines.....	12,703
		Johnston, J. L., composition to be used medicinally.....	12,797
		Jones, L. M., grain binders.....	12,761
		Kelly, G. B., musical instruments.....	12,755
		“ “ reed organ.....	12,710
		Kennedy, K., dumping waggons.....	12,691
		Kirby, W. A., et al, reaping and mowing machine.....	12,772
			12,773
		Knowlton, D. C., et al, sole fastening machine.....	12,769
		Kuhn, A. J., drying apparatus.....	12,674
		Kubne, C. H., feed water regulator.....	12,713
		Kunkle, E. B., safety valve.....	12,735
		Lalley, J., trace buckles.....	12,693
		Lechner, F. M., et al, coal mining machine.....	12,703
		Lee, S., shoe packs.....	12,695
		Littlejohn, C. F., et al., carriage boot flap hook.....	12,753
		Loud, H., pulley and match block.....	12,720
		McCubbin, W., car coupling.....	12,790
		McDougald, G. D., et al, electrotype.....	12,721
		McLaughlin, R., vehicle gear.....	12,743
		McLean, J., detaching checkreins.....	12,706
		Marden, J. W., et al., stake for platform cars.....	12,778
		Mason and Hamlin Organ Coys, The, reed organ.....	12,710
		Mattern, C., child's carriages.....	12,700
		Minbinnick, J., obtaining naphtha, etc., from petroleum..	12,771
		“ “ recovering chemicals.....	12,770
		Morrill, C., et al, saw sets.....	12,775
		Murray, M. M., gold saving sluice box.....	12,676
		Newth, W. H. D., lamp lighter.....	12,760
		Opdyke, C. F., et al, sad iron heater.....	12,765
		Osborne, D. M., et al, mowing and reaping machine.....	12,772
			12,773
		“ J. K., et al, grain binders.....	12,761
		Packham, W. H., stovepipe drum.....	12,716
		Parker, J. O., window sash lock.....	12,666
		Pendery, W. C., et al, child's crib.....	12,678
		Pike, J. B., hoop coolers.....	12,671
		Pratt, E. E., car door hangers.....	12,728
		Prentice, B. B., et al, creamers.....	12,684
		“ G. W., button fasteners.....	12,789
		Pridmore, E., harvester rakes.....	12,757
		Quimby, E. T., et al, alarm and register.....	12,801
		Ransom Stove Works, The, coal stove.....	12,727
		Raymond, L. H., boat plugs.....	12,679
		Rennie, W., et al., ditching machine.....	12,776
		Ripson, J. D., et al., machine for covering mouldings..	12,702
		Ritchie, J., et al, nut lock.....	12,707
		Sacks, J. J., production of surface for printing, etc.....	12,780

INDEX OF PATENTEES.

Abbott, W. F., et al, musical instruments.....	12,755
Adams, G. R., et al, electrotype.....	12,721
Adams, J. K., spring mattress.....	12,746
Adle, W., et al., electrotype.....	12,721
Agee, G. S., road scrapers.....	12,663
Akens, W. H., harvester rake.....	12,792
Alexander, J. P., et al., child's crib.....	12,678
Asher, J., school desk.....	12,751
Ballantine, J., et al., planing machines.....	12,786
Barnett, J. F., et al., cots.....	12,683
Barney, E. H., skate fastening.....	12,754
Bennis, J., medical compound.....	12,685
Berthoud, E., telegraph cable.....	12,665
Bidwell, M. A., shingle machine.....	12,711
Bigelow, C. E., boot and shoe counter.....	12,718
Blackhall, E. W., paper perforating machines.....	12,784
Boon, W. S. & M., et al., method of treating hominy.....	12,672
Bradley, F. B., eyelets.....	12,698
Brattle, W., car brake.....	12,719
Brognard, H. A., cooking and heating stove.....	12,733
Brown, C. J., portfolios.....	12,699
Brunswick Berth Coy, The, ship berth.....	12,724
Bushnell, E. L., bed springs.....	12,669
Butler, J., electro-magnetic apparatus for medical use.....	12,696
Butt, G., dumping carts and waggons.....	12,690
Calcutt, H., brewing process.....	12,712
Cameron, J., self-counting egg packers.....	12,689
Campbell, J. T., et al., alarm and register.....	12,801
Canadian Telephone Coy, The, telephonic fire alarm.....	12,777
Carter, H., et al, ditching machine.....	12,776
Chaplin, J. R., sole fastening machine.....	12,769
Chapman, T., car-coupler.....	12,784
Chase, J. H., et al., musical instruments.....	12,755
Chisholm, H. J., et al., boot and shoe heel.....	12,799
“ “ lamp casings.....	12,798
Clarke, T., box and cattle car.....	12,726
Coburn, M. B., stovepipe shelves.....	12,779
Coon, M. G., heel skate fastener.....	12,694
Cowan, T., et al., planing machines.....	12,786
Cripe, D. C., bee hives.....	12,791
Curtis, H., grain binders.....	12,761
Danner, J., revolving book case.....	12,681
Dansereau, P., carriage.....	12,739
Davis, A., sleeping and drawing-room car.....	12,722
Designolls, P. G. L. G., copper ore treating.....	12,704
Devens, T., et al., machine for covering mouldings.....	12,702
Dewey, C. D., harvester rakes.....	12,757
Donnelly, P., et al., plough coulters.....	12,734
Earl, C. N., et al., making and laying drain tiles.....	12,764
Edgar, D., spring bed bottom.....	12,758
Elliott, J., steam boiler.....	12,750
Elsler, M., et al, child's crib.....	12,678
Elward, J. H., traction engines.....	12,664
Emerson, G. E., dating and cancelling stamps.....	12,767
Emoud, J. B., railway crossing gate.....	12,705
Evans, G. F., wood reducing machine.....	12,742

Saylor, C., boots and shoes.....	12,697	Thomas, J. E., saw mill dogs.....	12,736
Scovell, F. B., safety valve.....	12,740	Thomson, G. & J. ploughs.....	12,670
Sendall, J., barley bearders.....	12,688	Van Dyke, et al., cots.....	12,683
Shephard, H. W., et al., boot and shoe counter.....	12,709	Von Hartz, H., et al., preparing and welding pipe sections.....	12,762
Silver, S. N., steam engine.....	12,752	Wales, W. A., thermometers.....	12,783
Simpson, C. S., clothes pins.....	12,675	Walke, H. A., fountain pens.....	12,667
Sinclair, A. C., remedy for blood diseases.....	12,749	Ward, J. B., screw propeller.....	12,741
Smith, E. T., et al., nut lock.....	12,707	Warren, C. H., churn.....	12,708
“ J. T., parasols.....	12,793	Watson, T. A., telephonic fire alarms.....	12,777
“ R. T., machines for perforating music paper.....	12,737	Wells, H. L., sad iron heater.....	12,765
Standard Electric Light Coy, The, electric light.....	12,768	Wheeler, C., jr., mowing and reaping machine..	12,772 12,773
Stephenson, W., steam engine.....	12,729	White, J. W., feed water heaters and filters.....	12,687
Stevens, G. M., et al., boot and shoe heel.....	12,799	Wilkie, W., clamp skate.....	12,714
“ “ “ lamp casings.....	12,798	Wilson, R. J., making and laying drain tiles.....	12,764
“ J. G., vegetable fibre.....	12,748	“ W., magnetic stays.....	12,744
Stone, S. D., et al., sad iron heater.....	12,765	Wright, W. H., stump extractor.....	12,766
Stott, A. J., boot and shoe heel plate.....	12,756	Yeoman, S. H., et al., creamers.....	12,684
Taylor, C., pulverizing machines.....	12,781		

Patents issued up to 20 June, 1881, Claims and Drawings of which will appear in a subsequent number of the Patent Record.

- No. 12,802. Louis Wagner, of Mulheim, Germany, "Wagner's Phosphorfree Matches," patented 14th May, 1881.
- No. 12,803. Peter Shacker, Cleveland, Ohio, "Shacker's Belt Fastener," patented 14th May, 1881.
- No. 12,804. Hans Amundsen and Ole Amundsen, both of Little Falls, Wisconsin, "Hans O. Amundsen's Improved Device for Feeding Steam Boilers," patented 14th May, 1881.
- No. 12,805. Clinton Furbish, of Brooklyn, N.Y., "The Furbish Process for the Manufacture of Glucose," patented 14th May, 1881.
- No. 12,806. Elouild Duplessis, St. John's, Quebec, "Duplessis' Improved Captain," patented 14th May, 1881.
- No. 12,807. Theodore Frelinghymson Conklin, of Fond-du-Lac, Wisconsin, "Conklin's Faucet," patented 14th May, 1881.
- No. 12,808. Peter McGregor, Ottawa, Ontario, "McGregor's Nut Lock Fastening," patented 14th May, 1881.
- No. 12,809. Charles Clarence Longard, of Halifax, Nova Scotia, "Longard's Improved Boiler for Hot Water Apparatus," patented 14th May, 1881.
- No. 12,810. George Cook De Lametter, North Walcott, N. Y., U. S. A., "The Improved Fruit Drier," patented 14th May, 1881.
- No. 12,811. Charles Powell, Toronto, Ontario, "Powell's Model Pump," patented 14th May, 1881.
- No. 12,812. William A. Ducker, of Burgoyne, Ontario, "Ducker's Nut Lock," patented 14th May, 1881.
- No. 12,813. Mathew Tindale, of St. Sophia, Quebec, "Tindale's Process and Compound Preparation of Family Groats," patented 17th May, 1881.
- No. 12,814. John George Smith, Montreal, Quebec, "Smith's Perfect Joint Sectional Boiler," patented 17th May, 1881.
- No. 12,815. George Roger Prowse, of Montreal, "Prowse's Dumping and Shaking Grate," patented 17th May, 1881.
- No. 12,816. Albert Smith Kennedy, Cobourg, Ontario, "Kennedy's Improved Felt Boot," patented 17th May, 1881.
- No. 12,817. Thomas Phillips, of Akeron, Ohio, U. S. A., "Phillips' Bag," patented 17th May, 1881.
- No. 12,818. Thomas Phillips, of Akeron, Ohio, "Phillips' Bag," patented 18th May, 1881.
- No. 12,819. William Armstrong, of De Pese, Wisconsin, "Armstrong's Stump Extractor," patented 18th May, 1881.
- No. 12,820. William Armstrong, of De Pese, Wisconsin, "Armstrong's Stump Extractor," patented 19th May, 1881.
- No. 12,821. Gideon Hamilton, of Brooklyn, N.Y., "Hamilton's Wooloid," patented 19th May, 1881.
- No. 12,822. Osborne Julius Willard, of Mayville, N.Y., U. S. A., "The Willard Bronze Monuments," patented 19th May, 1881.
- No. 12,823. Anthony Weston Burke, of Stayner, Ontario, "Burke's Washing and Wringing Machine," patented 19th May, 1881.
- No. 12,824. Isaac Newton Cherry, milkman, and Robert Newton Cherry, both of Jersey City, N.Y., "Cherry's Self-Feeding Hand Ratchet Drill," patented 19th May, 1881.
- No. 12,825. Morris Henry Pulaski, Philadelphia, Penn., "Pulaski's Show Box," patented 19th May, 1881.
- No. 12,826. Paget Higgs, City of New York, "Higgs' Dynamo-Electric Machine," patented 19th May, 1881.
- No. 12,827. Alonzo Stockbridge Gear, City of New York, "Alonzo Stockbridge Gear's Perpetual Tension Propelling Belt," patented 19th May, 1881.
- No. 12,828. John Bernard Logan and Abner Greenleaf, both of Baltimore, Maryland, "Water Tower," patented 19th May, 1881.
- No. 12,829. James Watt, of Watertown, Mass., "Watt's Steam Hammer," patented 19th May, 1881.
- No. 12,830. William Augustus Leggo, City of New York, "Leggo's Automatic Telegraph," patented 19th May, 1881.
- No. 12,831. William Miller, of Fort Wayne, Indiana, "Miller's Anti-Friction Axle Boxes," patented 19th May, 1881.
- No. 12,832. Orazio Lego, City of New York, "Lego's Electrical Conductor for Telegraph and other Purposes," patented 19th May, 1881.
- No. 12,833. Elouild Duplessis, of St. John's, Quebec, "Duplessis' Open Top Horizontal Press," patented 19th May, 1881.
- No. 12,834. François Xavier Bertrand de la Cité de St. Hyacinthe, Québec, "La Machine à Scier le Bardeau Améliorée de F. X. Bertrand," patented 19 Mai, 1881.
- No. 12,835. George Simpson Strong, of Philadelphia, "Strong's Improved Feed Water Heater," patented 19th May, 1881.
- No. 12,836. Edward Pinder, of Orono, Ontario, "Pinder's Flexible Iron Harrow," patented 19th May, 1881.
- No. 12,837. J. Leah Crosby Gilman, of Messina, N. Y., "Gilman's All-Healing Rupture Cure," patented 19th May, 1881.
- No. 12,838. Antoine Desgouttes, de Paris, France, "Grille Bombée Desgouttes," patented 19 Mai, 1881.
- No. 12,839. James Iredale, of Toronto, Ontario, "Iredale's Improved Coal Oil Stove or Lamps," patented 19th May, 1881.
- No. 12,840. Robert Orme Dobbin, of Berlin, Ontario, "Dobbin's Tight Barrel Pointer," patented 19th May, 1881.
- No. 12,841. William Henry Knight, City of Quebec, "Knight's Snow Plough and Earth Excavator," patented 19th May, 1881.
- No. 12,842. Jerome Bonaparte Stockham, of Jackson, Michigan, "J. B. Stockham's Patent Adjustable Loose Pulley," patented 19th May, 1881.
- No. 12,843. David Richardson Nichols, of Brockville, Ontario, "Nichols' Folding Cot/Bedstead," patented 19th May, 1881.
- No. 12,844. William Samuel Hickson and Moses Albert Payne, both of St. Thomas, Ontario, "Hickson & Payne's Automatic Force Pump," patented 19th May, 1881.
- No. 12,845. Giles Hall and George William Dauch, both of the City of East St. Louis, Illinois, "Hall's Machine for Separating Precious Metals from their Ores," patented 19th May, 1881.
- No. 12,846. Anna Dormitzer, City of New York, "The Improved Window Cleaning Chair," 21st May, 1881.
- No. 12,847. William Irwin, of Scougou, Ont., "Irwin's Improved Fire Escape," 21st May, 1881.
- No. 12,848. Albert S. Weaver, of Aylmer, Ont., "Weaver's Improved Fifth Wheel," 21st May, 1881.
- No. 12,849. Arthur Jacob Bowslaugh, of Grimsby, Ont., "Bowslaugh's Band Cutter," 21st May, 1881.
- No. 12,850. Chapin C. Cook and Jasper N. Green, both of Santa Cruz, Cal., "The Cook Green Permutation Padlock," 21st May, 1881.
- No. 12,851. Lawrence Glenn, of Ottumwa, Iowa, "Glenn's Improved Air Brake," 21st May, 1881.
- No. 12,852. William Augustus Leggo, City of New York, "Leggo's Automatic Telegraph Receiving Medium," 21st May, 1881.
- No. 12,853. Abraham Calvert Searr, of Maryborough Township, Ont., "Searr's Double Stroke Improved Diamond Harrow," 21st May, 1881.
- No. 12,854. Dorwin Dorman Pennoyer and Caleb French Whitther, both of the City of Dover, New Hampshire, "Pennoyer's Improved Composition for Roofs of Buildings, Ships Bottoms, etc.," 21st May, 1881.
- No. 12,855. William Selkirk Haggard, of La Fayette, Ind., U. S. A., "Haggard's Improved Waggon Tongue Support," 21st May, 1881.
- No. 12,856. Guillaume Boivin, of Montreal, Que., "Guillaume Boivin's Seamless Boot (or Shoe)," 21st May, 1881.
- No. 12,857. Alexander Cameron, of London, Ont., "Cameron's Improvements on Machines for Sharpening Reaper and Mower Knives," 21st May, 1881.
- No. 12,858. Robert Hodges Bishop, of Holloway Road and Henry Frederick Hailes, of Homey, both of Middlesex, England, "The Instantaneous Adjustable Skate," 21st May, 1881.
- No. 12,859. Louis Gathmann, of Chicago, "Gathmann's Brush Grain Cleaner," 21st May, 1881.
- No. 12,860. Henry Fairchild King, of Carry, Penn., "King's Sectional Boiler," 23rd May, 1881.
- No. 12,861. Louis Guyon, de Verchères, dans le Comté de Verchères, Province de Quebec, "Guyon's Ditch Shovel," 23rd May, 1881.
- No. 12,862. George Allan, of the City of London, Eng., "Allan and Brown's Compound Relay," 23rd May, 1881.
- No. 12,863. George Allan, of the City of London, Eng., "Allan and Brown's Compound Relay," 23rd May, 1881.
- No. 12,864. Adelaar Frank Martel, of the City of Montreal, Que., "Martel's Railway Car Brake," 23rd May, 1881.
- No. 12,865. George Joseph Capewell, of Cheshire, in the State of Connecticut, U. S. A., "Capewell's Little Jack, the Grant Tack-Drawer and Driver," 30th May, 1881.
- No. 12,866. Louis Bredaunaz, de la Cité de Montréal, Province de Quebec, "Nouveau Moyen de Roue," 30th May, 1881.
- No. 12,867. Hiram Stevens Maxim, of the City of Brooklyn, N. Y., U. S. A., "Maxim's Electric Lamp," 30th May, 1881.
- No. 12,868. Hiram Stevens Maxim, of Brooklyn, N. Y., U. S. A., "Maxim's Commutator for Magneto Electrical Machines," 30th May, 1881.
- No. 12,869. Alvin Nelson Woodard, of Hadley, Michigan, U. S. A., "Woodard's O. K. Jack," 30th May, 1881.
- No. 12,870. Jonathan Hugill, of Hamilton, Ont., "Hugill's Improved Metal Fence Post," 30th May, 1881.
- No. 12,871. Charles Otis Chapin and Henry Augustus Chapin, both of the City of Springfield, Mass., U. S. A., "Chapin's Improved Process for Making Paper Pulp from Vegetable Fibres," 30th May, 1881.
- No. 12,872. Marquis Franklin Suley, of the City of Tremon, Nebraska, U. S. A., "Suley's Stock Car," 30th May, 1881.
- No. 12,873. Hugh S. Joines, of Santa, Fe., in the territory of New Mexico, U. S. A., "Joines' Nut Lock," 30th May, 1881.
- No. 12,874. William Henry Howland, of Oakland, Cal., U. S. A., "Howland's Ore Crushing and Pulverizing Machine," 30th May, 1881.
- No. 12,875. William Joseph Copp, of Hamilton, Ont., "Copp's Improved Dampener Grate," 30th May, 1881.
- No. 12,876. James Gazeley's of Waterlied, N. Y., U. S. A., "Gazeley's Machine for Cutting Cylindrical Forms from Stone, and Improvement in Preparing Natural Stones for Building, and other similar purposes," 30th May, 1881.
- No. 12,877. William Augustus Leggo, of the City and State of New York, U. S. A., "Leggo's Automatic Telegraph, Stylus Lubrication," 30th May, 1881.
- No. 12,878. William Augustus Leggo, of the City and State of New York, U. S. A., "Leggo's Telegraph Key," 30th May, 1881.
- No. 12,879. Robert Emmett Greenwell, of Osago, Kansas, U. S. A., "Greenwell's Improved Railway Joint," 30th May, 1881.
- No. 12,880. John Atkinson, of the Town of Bolton, in the County of

Lancaster, Eng., "Atkinson's Apparatus for Preventing the Boiling Over of Beer," 30th May, 1881.

No. 12,881. John Holland, of the City of Cincinnati, Ohio, U. S. A., "Holland's Process of Treating Iridium and its Native Alloys for use in the Arts," 30th May, 1881.

No. 12,882. Marvin Orlando Stoddard, of the Town of Poultney, Vt., U. S. A., "Stoddard's Churn Cover," 30th May, 1881.

No. 12,883. Joseph Andrew Safford, of Boston, Mass., "Safford's Shoe Sole Sewing Machine," patented 30th May 1881.

No. 12,884. William Scott, Faulkner, Mass., "Scott's Improved Car Coupler," patented 30th May, 1881.

No. 12,885. John Fensom, Toronto, Ont., "Fensom's Improved Hoist," 30th May, 1881.

No. 12,886. William H. Burden and Frederick Cheever Burden, Cleveland, Ohio, "W. H. and Fred. C. Burden's Car Axle in other journal oiler," 30th May, 1881.

No. 12,887. Lyman W. Whipple, New York, N. Y., U. S. A., "Machines for making Napped Fabrics," 30th May, 1881.

No. 12,888. Hans Jacob Muller, New York, U. S. A., "The American Dynamo Electric Machine," 30th May, 1881.

No. 12,889. William H. Howland, California, U. S. A., "Howland's Mining Rifle," 31st May, 1881.

No. 12,890. David Maxwell, Paris, Ont., "Maxwell's Improvements in Harvesting Machines," 31st May, 1881.

No. 12,891. William D. Gray, Milwaukee, Wis., U. S., "Gray's Grinding Mill, 31st May, 1881.

No. 12,892. Thomas C. Hewitt, London, Ont., "Hewitt's Improvements in Lightening Rods," 1st June, 1881.

No. 12,893. Henry Schlimms, Listowell, Ont., "Schlimm's Hip Strap," 1st June, 1881.

No. 12,894. Ernest C. Saunders, Montreal, Que., "The Concentrated Compound Extract of Coffee, Process and Apparatus," 1st June, 1881.

No. 12,895. John L., and Robert Marr, Woodhouse, Ont., "Marr's Chisel Pointed Saw Tooth," 1st June, 1881.

No. 12,896. Nicolas E. Reynier, Paris, France, "Le Traitement Electro Chinique Raynier," 1st June, 1881.

No. 12,897. Frederick J. Clenver, of F. S. Clenver & Sons, Redlion St., Holborne, Eng., "F. S. Clenver's Patent Terebine Soap, etc.," 1st June, 1881.

No. 12,898. Anson G. Ronan, Quebec, Que., "Ronan's Steam Fire Engine," 1st June, 1881.

No. 12,899. William Thompson Martien, Philadelphia, U. S. A., "Pagan's Automatic Safety Railroad Switch," patented 6th June, 1881.

No. 12,900. James M. Keen, Digby, N. S., "Keen's Aerating Churn," patented 6th July, 1881.

No. 12,901. Camille A. Faure, Paris, France, "Perfectionnements aux batteries galvanique polarisation dites piles secondaires," patented 6th June, 1881.

No. 12,902. Thomas Smith and George G. Carty, London, Ont., "Smith and Carty's Triumph Cover Top," patented 6th June, 1881.

No. 12,903. Allen S. Fisher, Clinton, Ont., "Fisher's Improved Shovel," patented 6th June, 1881.

No. 12,904. Michael Nicholson, Baltimore, U. S. A., "Nicholson's Improved Signal Head Light," 6th June, 1881.

No. 12,905. Frank S. Dobson, Clifford, Ont., "Dobson's Bark Cutter," patented 6th June, 1881.

No. 12,906. Duncan McFee, Montreal, Que., "McFee's Corner Filler," patented 6th June, 1881.

No. 12,907. James M. Bois, Aurora, N. Y., U. S. A., "Hydraulic Air Compressor," patented 6th June, 1881.

No. 12,908. William Clendenning, Montreal, Que., "Clendenning's Self Locking Gates," patented 6th June, 1881.

No. 12,909. Guillaume Boivin, et Siméon Steobin, Montreal, Que., "Chausure perfectionne sans pareille de Guillaume Boivin," patented 6th June, 1881.

No. 12,910. John McPherson, Seabright, N. J., U. S. A., "McPherson's System of Watering Stock in Cars," patented 6th June, 1881.

No. 12,911. Henry DeLewis, Halifax, N. S., (Extension of Patent No. 6,235), "Ganulated Soap," patented June 6th, 1881.

No. 12,912. Henry A. Howe, Detroit, Mich., U. S. A., "Casting Chills," patented June 7th, 1881.

No. 12,913. M. W. Tucker, Sumner, Mich., U. S. A., "Draft Equalizer," patented June 7th, 1881.

No. 12,914. Hiram E. Bush, Hamilton, Ont., "Force Pump," patented June 7th, 1881.

No. 12,915. M. C. Ireland, J. Pieroe, et al., "Submarine Gold Mining Apparatus," patented June 7th, 1881.

No. 12,916. Thomas Dill, Toronto, Ont., "Steam Shovel and Derrick Car," patented June 7th, 1881.

No. 12,917. E. J. Mayor and P. T. Gibb, Montreal, Que., "Rat Trap," patented June 7th, 1881.

No. 12,918. P. B. Wilson, Baltimore, Md., "Amalgamator," patented June 7th, 1881.

No. 12,919. J. P. Johnson, Toronto, Ont., "Waggon Gear," patented June 7th, 1881.

No. 12,920. C. W. Ferguson, Jamesville, Wis., U. S. A., "Lamp Chimney Cleaner," patented June 7th, 1881.

No. 12,921. T. Parker, Menominee, Wis., "Sluicing Gate," patented June 7th, 1881.

No. 12,922. Canadian Telephone Company, "Insulating Compound," patented June 7th, 1881.

No. 12,923. F. H. C. Mey, Buffalo, N. Y., and M. J. Stark, "Grain Drier," patented June 7th, 1881.

No. 12,924. L. B. Miller and P. Diehl, Elizabeth, N. J., "Sewing Machine," patented June 9th, 1881.

No. 12,925. J. W. Honchin and J. R. Honchin, Brooklyn, N. Y., "Hydro-Carbon Furnace," patented June 9th, 1881.

No. 12,926. F. W. Nichols and H. P. Lancaster, Lynn, Mass., "Blackning and Burnishing Machine," patented June 9th, 1881.

No. 12,927. W. A. Sawyer, Davenport, Mass., U. S. A., "Measuring Machine," patented June 9th, 1881.

No. 12,928. J. Alexander, Toronto, Ont., "Refrigerator," patented June 9th, 1881.

No. 12,929. W. T. Renser, Madison, Wis., U. S. A., "Buckle," patented June 9th, 1881.

No. 12,930. C. A. Moshen, Sharon, Vt., "Dairy Bureau," patented June 9th, 1881.

No. 12,931. E. Duplessis, St. John, Que., "Baling Press," patented June 10th, 1881.

No. 12,932. G. Cutter, Sutton, Que., "Climax Evaporator," patented June 10th, 1881.

No. 12,933. J. Ward and J. R. Houchin, Brooklyn, N. Y., "Furnace," patented June 10th, 1881.

No. 12,934. W. R. Park, Boston, Mass., U. S. A., "Valve Operating Mechanism," patented June 10th, 1881.

No. 12,935. J. Stevens and J. R. Davies, Neenah, Wis., U. S. A., "Governor for Middlings Purifiers," patented June 10th, 1881.

No. 12,936. Thomas Burke, Portsmouth, Va., "Thread Former," patented June 10th, 1881.

No. 12,937. J. Johnson, Newburyport, Mass., U. S. A., "Railway Passenger Car Saloon," patented July 10th, 1881.

No. 12,938. J. W. and J. R. Houchin, Brooklyn, N. Y., "Hydraulic Furnace," patented June 10th, 1881.

No. 12,939. J. T. Coleman, Toronto, Ont., "Pump," patented June 10th, 1881.

No. 12,940. G. G. Carver and H. Faxon, Boston, Mass., patented June 10th, 1881.

No. 12,941. F. M. Hurtle, Dowag ne, Mich., U. S. A., "Sand Band," patented June 10th, 1881.

No. 12,942. W. R. Parks, Palmer, Mass., "Hot Water Boiler," patented June 11th, 1881.

No. 12,943. A. Montant, New York, N. Y., U. S., "Fastener for Holding open Trunks," &c., patented June 10th, 1881.

No. 12,944. H. Marks, Baltimore, U. S. A., "Reversible Coat," patented June 10th, 1881.

No. 12,945. R. M. Lockwood and W. V. O. Lockwood, "Telephone," patented June 10th, 1881.

No. 12,946. C. T. Brandon, Toronto, Ont., (Extension of Patent No. 6,211), "Washboard Nail-er," patented June 11th, 1881.

No. 12,947. E. Whitehouse, Brooklyn, N. Y., "Net Frames," patented June 11th, 1881.

No. 12,948. A. Barter, New Richmond, Que., "Shingle Machine," patented June 11th, 1881.

No. 12,949. J. Dennis, Toronto, Ont., "Truss Bridge," patented 11th June, 1881.

No. 12,950. G. W. Roberson & J. B. Roberson, Salem, N. Y., "Animal Trap," patented 11th June, 1881.

No. 12,951. J. A. Holt, Toronto, Ont., "Manufacture of Glucose," patented 11th June, 1881.

No. 12,952. J. Watson, Ayr, Ont., "Mowing Machine," patented 11th June, 1881.

No. 12,953. W. M. Whitney, Elizabeth, N. J., "Method and Means of Clasping Belts," patented 11th June, 1881.

No. 12,954. J. R. Fish, Grand Rapids, Mich., "Side Bar for Locomotives," patented 11th June, 1881.

No. 12,955. F. W. Kepner, Houlton, Maine, "Mill Feed," patented 11th June, 1881.

No. 12,956. J. Hopwood, Lancaster, Eng., "Pedomotive Machine," patented 11th June, 1881.

No. 12,957. W. R. Quinan, San Francisco, Cal., "Detomte Powder," patented 11th June, 1881.

No. 12,958. S. U. Baker, Providence, R. I., "Fabrio Hose," patented 11th June, 1881.

No. 12,959. F. Thibault and T. Hawkins, San Francisco, Cal., U. S. A., "Rotary Engines," patented 11th June, 1881.

No. 12,960. T. A. Collins, Watertown, N. Y., "Shoes," patented 11th June, 1881.

No. 12,961. Adolphus Davis, Montreal, Que., "Plate wheel," patented 11th June, 1881.

No. 12,962. W. J. Johnston, Harwich, Ont., "Road Scraper," patented 11th June, 1881.

No. 12,963. O. H. Burdett and J. C. Dickerson, New Athens, Ohio, "Wheel," patented 11th June, 1881.

No. 12,964. I. W. Shaler, Brooklyn, N. Y., U. S. A., "Carbureter," patented 11th June, 1881.

No. 12,965. W. C. Siffkere, Victoria, B. C., "Patent Fuel," patented 12th June, 1881.

No. 12,966. W. H. Gordon, Detroit, Mich., "Cheese Safe," patented 12th June, 1881.

No. 12,967. J. V. Nichols, Brooklyn, N. Y., "Electric Lamp," patented 12th June, 1881.

No. 12,968. W. Hewitt, London, Ont., "Grain Gleaner," patented 12th June, 1881.

No. 12,969. H. S. Maxim, Brooklyn, N. Y., "Electric Machine," patented 12th June, 1881.

- No. 12,970. H. S. Maxim, Brooklyn, N. Y., U. S. A., "Brush for Magneto Electric Machine," patented 12th June, 1881.
- No. 12,971. W. McKenzie and J. H. Mason, Detroit, Mich., U. S. A., "Multiple Carbureter," patented 12th June, 1881.
- No. 12,972. H. E. Plant, London, Ont., "Gearless Safety Governor," patented 12th June, 1881.
- No. 12,973. E. B. Reynolds, Cleveland, Ohio, U. S. A., "New Light," patented 12th June, 1881.
- No. 12,974. E. Thacher, of Pittsburgh, Pa., "Iron Bridge Trusses," patented 12th June, 1881.
- No. 12,975. H. Bicker, of Toronto, Ont., "Gas Saving Governor," patented 12th June, 1881.
- No. 12,976. B. C. Meyer, of Bethalto, Ill., "Automatic Scale," patented 12th June, 1881.
- No. 12,977. C. W. Cheney, Athol, Mass., "Mowing Machines," patented 12th June, 1881.
- No. 12,978. C. Norton, Abion, Penn., U. S. A., "Carriage Spring," patented 12th June, 1881.
- No. 12,979. Antoine Racicot, Montreal, Que., "Royal Drops," patented 15th June, 1881.
- No. 12,980. A. Racicot, Montreal, Que., "Magic Pills," patented 15th June, 1881.
- No. 12,981. Antoine Racicot, of Montreal, Que., "A. Racicot's Destructor of Cholera," patented 15th June, 1881.
- No. 12,982. Antoine Racicot, of Montreal, Que., "A. Racicot's Anti-Veneral Oil," patented 15th June, 1881.
- No. 12,983. William Edward Tate, of Parrsboro, N. S., "Tate's Gaff Fish Hook," patented 15th June, 1881.
- No. 12,984. Reynolds Trenholm White, of Boston. and Mary Ann Wildes, of Cambridge, Mass., "White's Hospital Cot and Stretcher," patented 15th June, 1881.
- No. 12,985. Sarah McReynolds King, of Hamilton, Ont., "The Poor Man's Friend and Blood Purifying Bitters," patented 15th June, 1881.
- No. 12,986. Adolphus Davis, of Montreal, "Davis' Shaft Coupling," patented 15th June, 1881.
- No. 12,987. William Green Raoul, of Macon, Georgia, U. S. A., "Raoul's Car Axle Box," patented 15th June, 1881.
- No. 12,988. Gilbert Brewster, of Harvey, New Brunswick, "Brewster's Patent Holloware Cleaner," patented 15th June, 1881.
- No. 12,989. Charles G. Burke, of New York, U. S. A., "Burke's Improved Marines' Compass, and the Markings Thereof," patented 15th June, 1881.
- No. 12,990. Max Adler, of New Haven, Connecticut, "Alder's Polyform Corset," patented 15th June, 1881.
- No. 12,991. William Bambridge, of Oshawa, Ont., "Bambridge Side Bar End Spring Buggy," patented 15th June, 1881.
- No. 12,992. Edward G. Shortt, of Carthage, N. Y., U. S. A., "Shortt's Direct Acting Pumping Engine," patented 15th June, 1881.
- No. 12,993. James Atkins Woodbury, Joshua Merrill, George Patten and Edward Franklin Woodbury, all of the City of Boston, Mass., "Improved High Pressure Air Engine," patented 15th June, 1881.
- No. 12,994. George Alexander Dick, of Cannon st. London, and Charles Adolph Dick, of Leyland Road, Lee, Eng., "Dick's Ferro Bronze," patented 15th June, 1881.
- No. 12,995. William B. Crick, of Clinton, Ont., "Crick's American Spring Bed," patented 15th June, 1881.
- No. 12,996. Charles Churchill Davison, of Moncton, New Brunswick, the "Double Spring Stirrup Draw Bar," patented 15th June, 1881.
- No. 12,997. Charles Churchill Davison, of Moncton, N. B., "The Tumbling Hook Self Coupler," patented 15th June, 1881.
- No. 12,998. Philip H. Holmes, of Gardiner, Maine, U. S. A., "Wood Fibre for Paper Pulp and Process and Machine for Producing Wood Fibre," patented 15th June, 1881.
- No. 12,999. Nathan Hayden, of Chicago, Ill., "Hayden's Two Needle Attachment to Sewing Machines," patented 15th June, 1881.
- No. 13,000. John Addison Coleman, of Providence, R. I., U. S. A., "Coleman's Horse Shoe Nail Machine," patented 15th June, 1881.
- No. 13,001. Alver Worden, of Ypsilante, Mich., U. S. A., "Worden's Spring Butt," patented 15th June, 1881.
- No. 13,002. Clark Barunm Gregory, of Beverley, N. J., U. S. A., "Gregory's Improved Furnace," patented 15th June, 1881.
- No. 13,003. Edgar Kerr, of Petham, Ont., "The Stone Fruit Dryer," patented 15th June, 1881.
- No. 13,004. James Elliot of Montreal, Que., "Elliot's Fuel Economizer and Smoke Consumer," patented 15th June, 1881.
- No. 13,005. James Elliot, of Montreal, Que., "Elliot's Fuel Economizer and Smoke Consumer," patented 15th June, 1881.
- No. 13,006. The Canadian Telephone Company, of Montreal, Que., "Watson's Telephone Circuit," patented 16th June, 1881.
- No. 13,007. The Canadian Telephone Company, of Montreal, Que., "Watson's Telephone Signal Apparatus," patented 16th June, 1881.
- No. 13,008. James Naylor, jr., of Rochester, N. Y., U. S. A., "Naylor's Hoop Dresser," patented 16th June, 1881.
- No. 13,009. Lewis Permington Harder, of Hoosick Falls, N. Y., U. S. A., "Harder's Improved Stove Cover Lifter," patented 16th June, 1881.
- No. 13,010. Louis Bredannaz, de Montréal, "Nouveau Joint à Tubulure pour Jante de Roue," patenée 16th June, 1881.
- No. 13,011. James Alford House, of Bridgeport, Conn., U. S. A., "House's Improved Mode and Apparatus for Manufacturing Stiffeners for Corsets, etc," 15th June, 1881.
- No. 13,012. Daniel Webster Hensley, Grove City, Ill., U. S. A., "The Honsely Loose Pin Double Acting Spring Hings," patented June 16th, 1881.
- No. 13,013. Charles G. Burke, New York, U.S.A., "Cosmography or Kosmography," patented June 20th, 1881.
- No. 13,014. The European Electric Company, New York, U.S.A., "Hussey's Improved Magnets Electric Machine," patented June 20th, 1881.
- No. 13,015. Joseph Belanger, Detroit, Mich., U.S.A., "Suspensory Shelf for Preserving Bodies after Death," patented June 20th, 1881.
- No. 13,016. Wm. Haskin, Pittsburg, Penn., U.S.A., "Haskin's Improved Clutch for Rolls, Shafts, Pinions, &c.," patented June 20th, 1881.
- No. 13,017. Ephraim Shay, Haring, Mich., U. S. A., "Shay's Improved Locomotive Engine," patented June 20th, 1881.
- No. 13,018. Enoch Lewis Taylor, Philadelphia, Penn., U.S.A., "Taylor's Improved Car Wheel," patented June 20th, 1881.
- No. 13,019. John Henry Cahoon, Keenanville, Ont., "Cahoon's Paragon Washer and Wringer," patented June 20th, 1881.
- No. 13,020. George Knowles Snow, Watertown, Mass., U.S.A., "Snow's Improvements in Collars and Cuffs," patented June 20th, 1881.

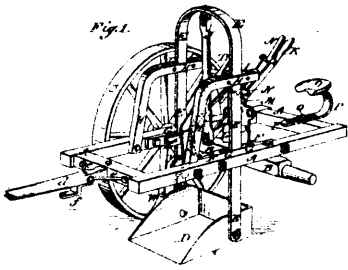
THE CANADIAN PATENT OFFICE RECORD.

ILLUSTRATIONS.

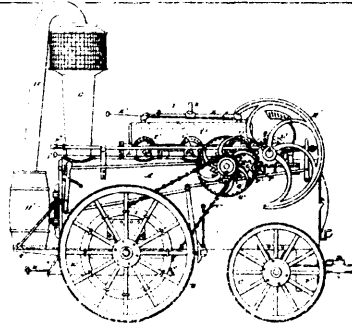
Vol. IX.

JULY, 1881.

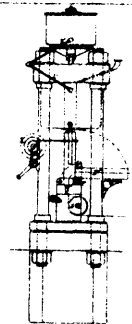
No. 7.



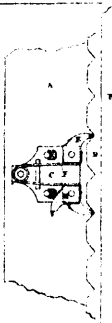
12663 Agee's Improvements on Road Scrapers.



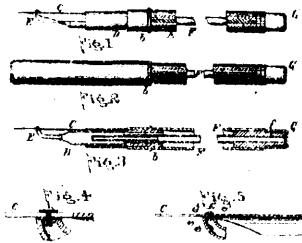
12664 Elward's Improvements on Traction Engines.



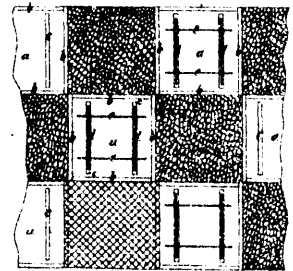
12065 Berthoud & Borel's Telegraph Cable.



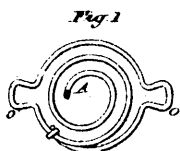
12666 Parker's Window Sash Lock.



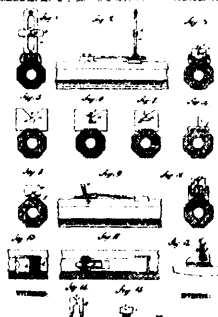
12607 Walke's Improvements on Fountain Pens.



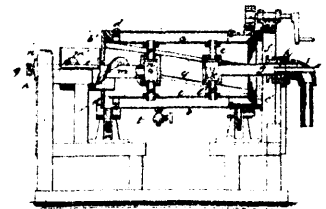
12608 Swart's Improvements on Composite Pavements.



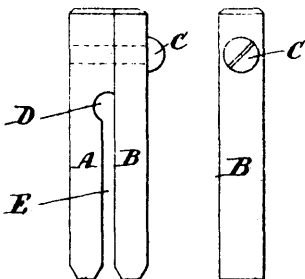
12669 Dushnell's Improvements in Bed Springs.



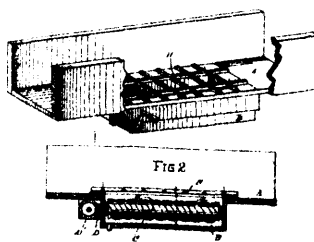
12673 Freund's Improvements on Sights for Firearms.



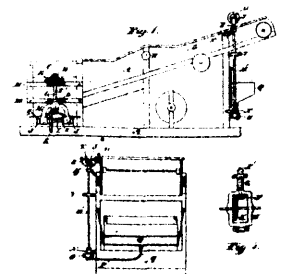
12674 Kahn's Improvement on Drying Apparatus.



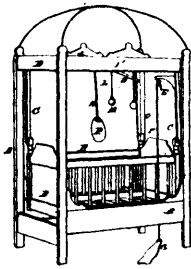
12675 Simpson's Improvements on Clothes Pins.



12676 Murray's Improvements on Gold Saving Sluice Boxes.



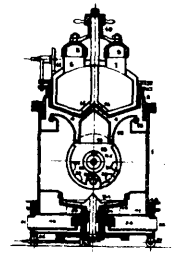
12677 Ferguson's Improvements on Thrashing Machines.



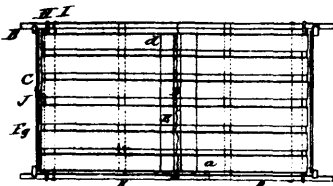
12678 Brown's Improvements on " Child's Cribs."



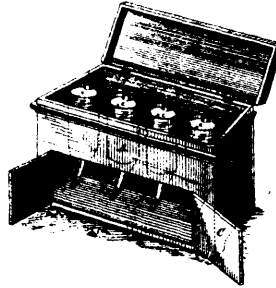
12679 Raymond's Improvements on Boat Plugs.



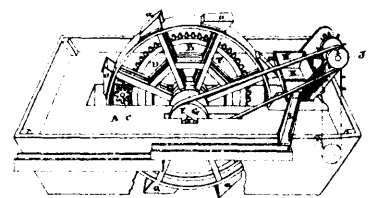
12682 Herington's Improvements on Heating Apparatus.



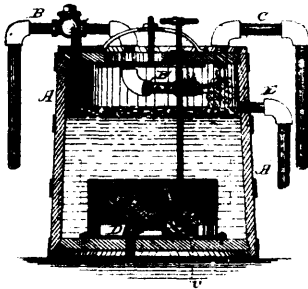
12683 Van Dyke's improvements on Cots.



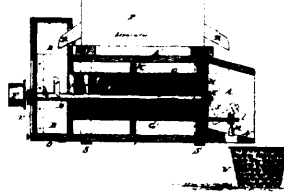
12684 Yoeman's & Prentice's Improvements on Creamers.



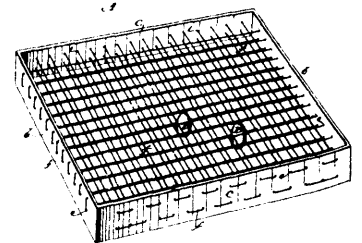
12686 Hébert's Machine for Mining under Water.



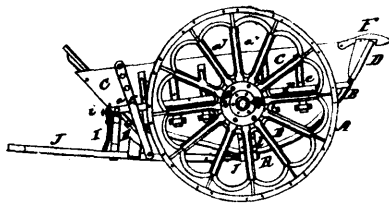
12687 White's Improvements on Feed Water Heaters and Filters.



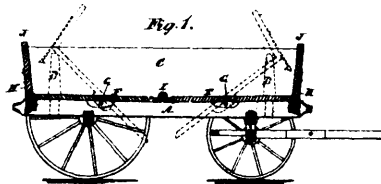
12688 Sendall's Improvements in Barley Bearders.



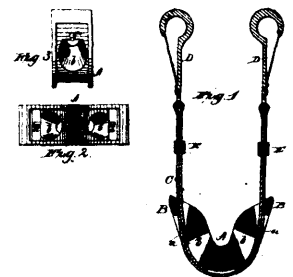
12689 Cameron's Improvements on Self-Counting Egg Packers.



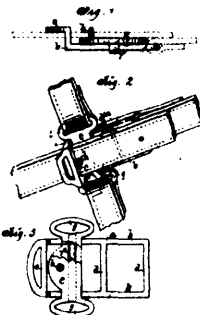
12690 Butt's Improvements on Dumping Carts and Waggons.



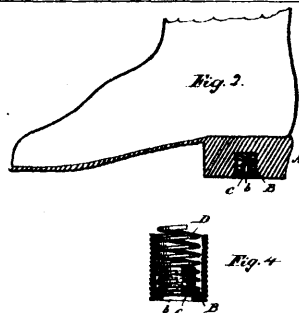
12691 Kennedy's Improvements on Dumping Waggons.



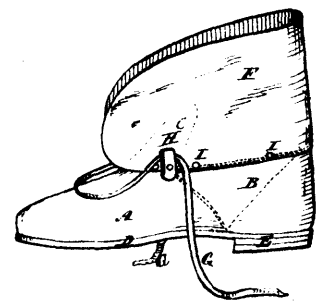
12692 Ward's Improvements on Breast Strap Slides.



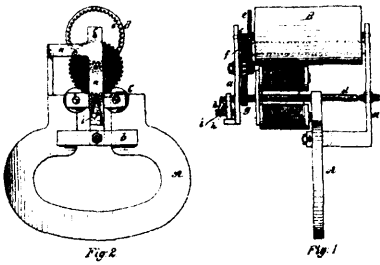
12693 Kendall's Improvements on Trace Buckles.



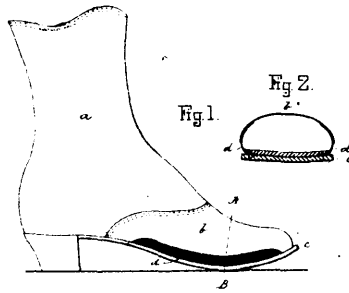
12694 Coon's Improvements on Heel Skate Fasteners.



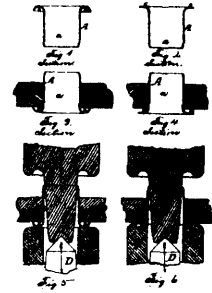
12695 Lee's Improvements on Shoe Packs.



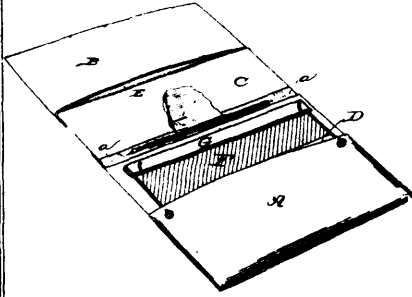
12696 Butler's Improvements on Electro Magnetic Apparatus for Medical Use.



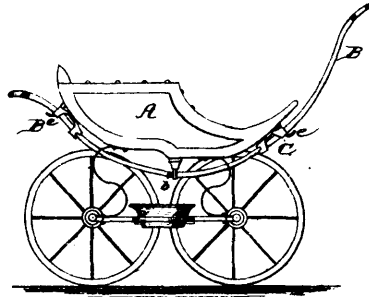
12697 Tayler's Improvements on Boots and Shoes.



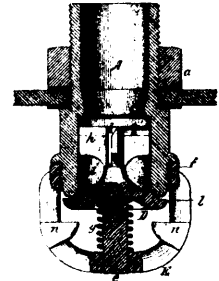
12698 Deikescamp's Improvements on Eyelets.



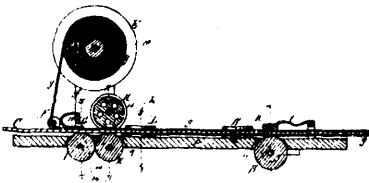
12699 Brown's Improvements on Portfolios.



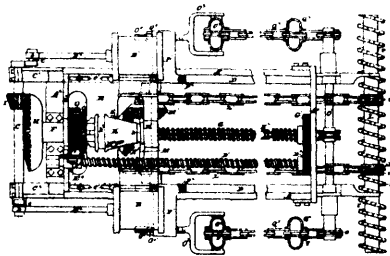
12700 Mattern's Improvements on Child's Carriages.



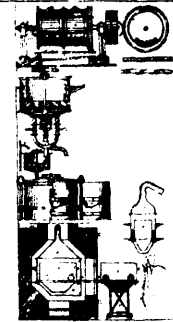
12701 Heylman's Improvements on Feed Water Heaters.



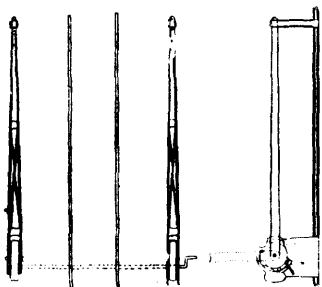
12702 Ripson's Improvements on Machines for Covering Mouldings with Canvas.



12703 Lechin's Improvements on Machines for Mining Coal.



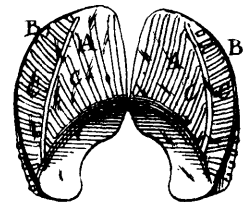
12704 Designolle's Process for Treating Copper Ores Containing Precious Metals.



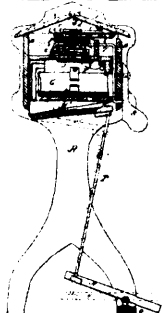
12705 Emoud's Improvements on Gates for Railway Crossings.



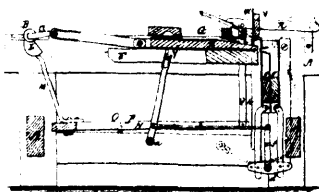
12706 Smith's Improvements on Nut Locks.



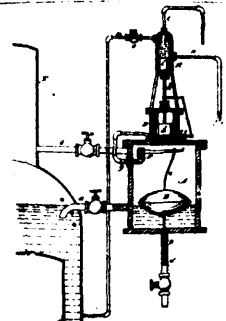
12709 Howe & Shephard's Improvements on Boot and Shoe Counters.



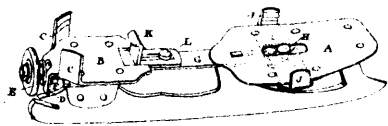
12710 Kelly's Improvements on Reed Organs.



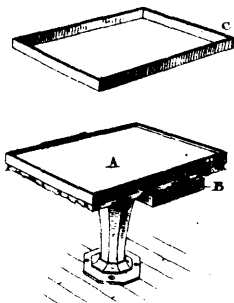
12711 Bidwell's Improvements on Shingle Machines.



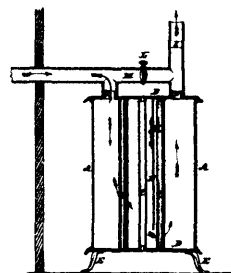
12713 Kuhne's Improvements on Feed Water Regulators for Boilers.



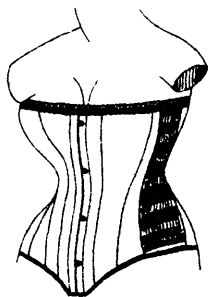
12714 Wilkie's Improvements in Clamp Skates.



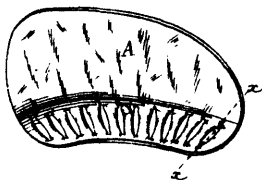
12715 Gallie's Process for Manufacturing Insoling.



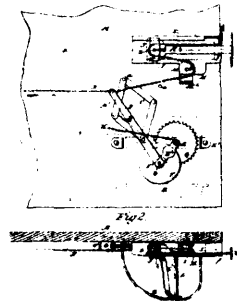
12716 Packham's Improvements on Stovepipe Drums.



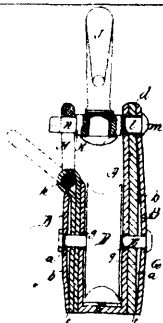
12717 Fiorsheim's Improvements on Elastic Gores.



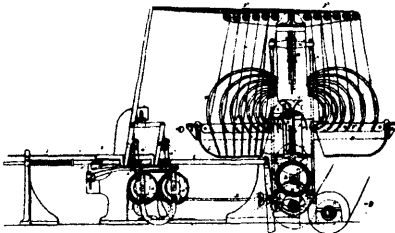
12718 Bigelow's Improvements on Counters for Boots and Shoes.



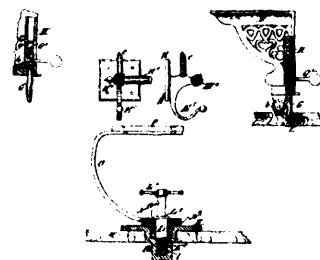
12719 Brattle's Improvements on Car Breaks.



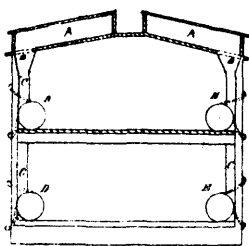
12720 Ferrall's Improvements on Pulleys and Snatch Boxes.



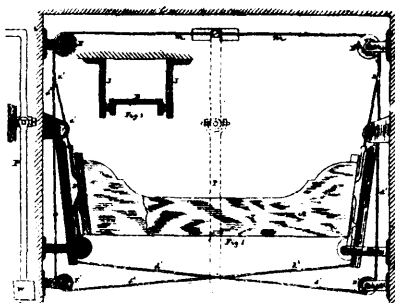
12721 McDougald, Adie, Adams & Fleming's Improvements in the Production of Stereotypes and Electrotypes.



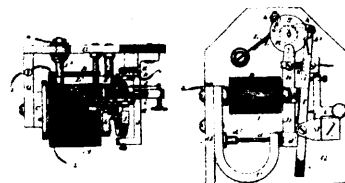
12722 Davis' Improvements on Combined Sleeping and Drawing-Room Cars.



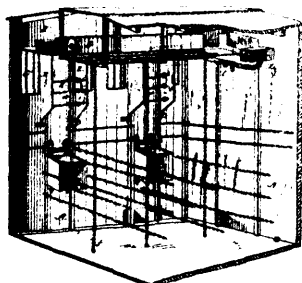
12723 Howard's Improvements in Stock Cars.



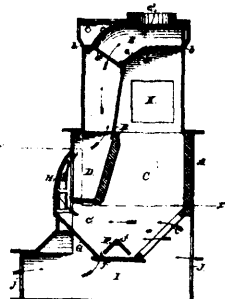
12724 Milligan's Improvements on Self-Levelling Berths for Ships.



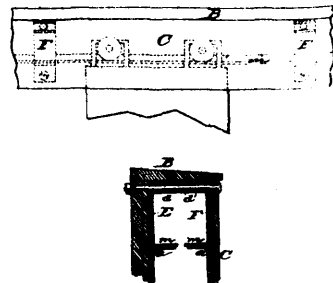
12725 Haskin's Improvements on Telephones.



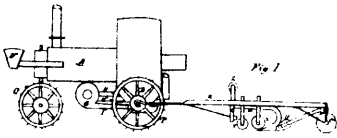
12726 Clarke's Improvements on Box and Cattle Cars.



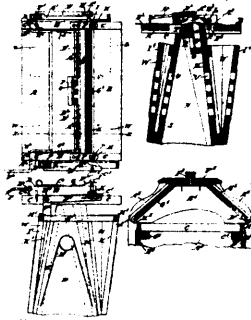
12727 Hamlin's Improvements on Coal Stoves.



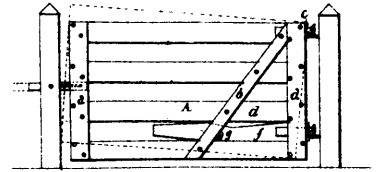
12728 Pratt's Improvements on Car Door Hangers.



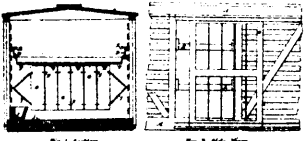
12729 Stephenson's Combined Steam Engine, traction Engine, Laid Roller, Plough, Seed Drill and Harrow.



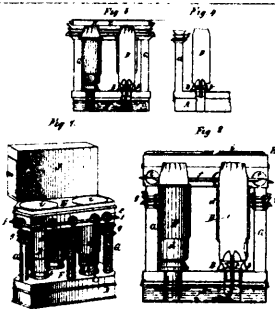
12730 Kelley's Improvements on Mechanical Musical Instruments.



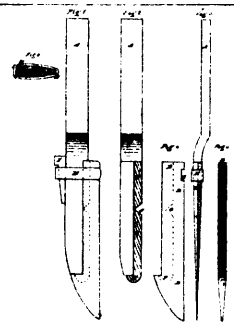
12731 Hart's Improvements on Farm Gates.



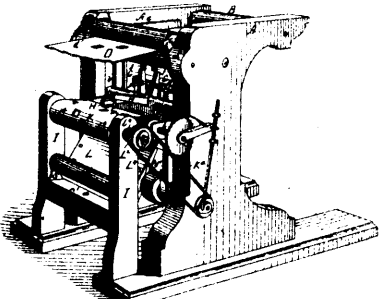
12732 Brant's Improvements on Stock Cars.



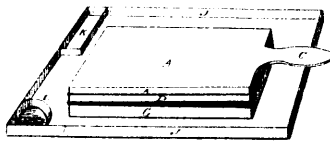
12733 Irwin's Improvements on Cooking and Heating Stoves.



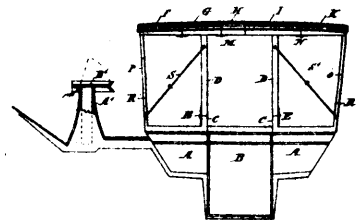
12734 Donnelly & Gardiner's Improvements on Plough Coulters.



12737 Smith's Improvement in Machines for Perforating Music Paper for Automatic Organs.



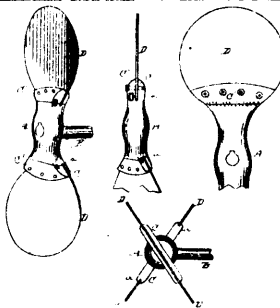
12738 Ferguson's Improvements on Knife Cleaners.



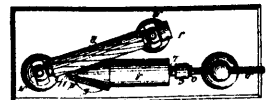
12739 Dansereau's Improvements in Carriages.



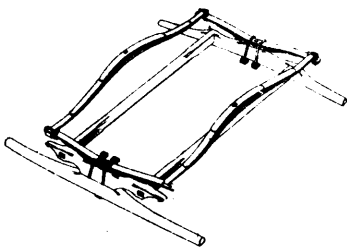
12740 Scovell's Improvements on Safety Valves.



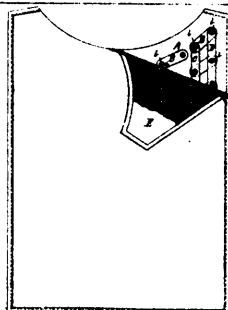
12741 Ward's Improvements in Screw Propellers.



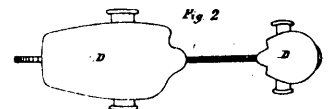
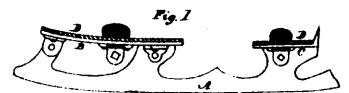
12742 Evans' Improvements in Machines for Reducing Wood to Pulp and Fibre.



12743 McLaughlin's Improvements in Vehicle Gears.



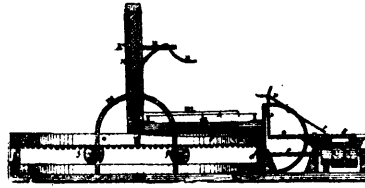
12744 Wilson's Improvements on Magnetic Stays.



12745 Groom's Improvements in Skates.



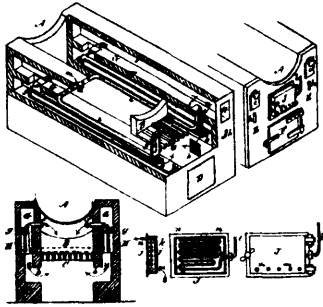
12746 Adams' Improvements on Spring Mattresses.



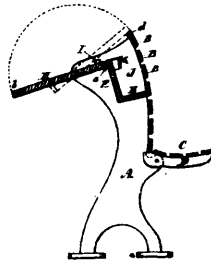
12747 Graydon's Improvements on Barrel Hoops.



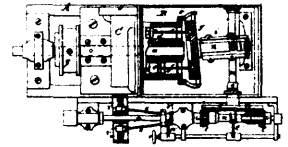
12748 Stevens' Improvements on the Manufacture of Vegetable Fibre for Upholstery, &c.



12750 Elliott's Improvements in Steam Boilers.



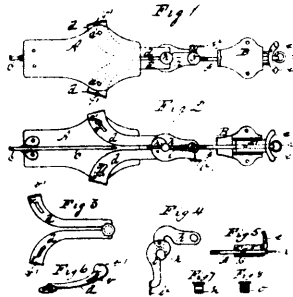
12751 Asher's Improvement on School Desks.



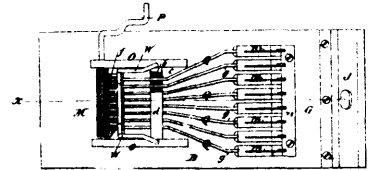
12752 Silver's Improvements on Steam Engines.



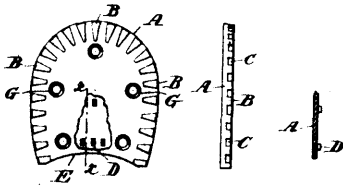
12753 Littlejohn's Improvements on Carriage Boot Flap Hooks.



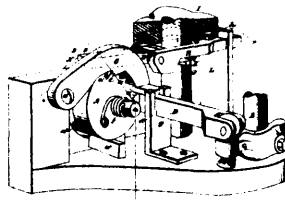
12754 Barney's Improvements in Skate Fasteners.



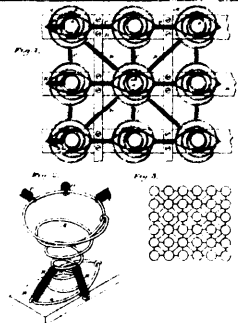
12755 Kelley & Chase's Improvements on Mechanical Musical Instruments.



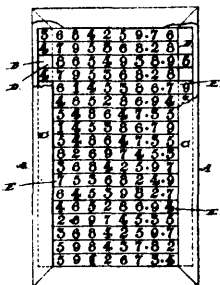
12756 Stott's Improvements in Plates for Boot and Shoe Heels.



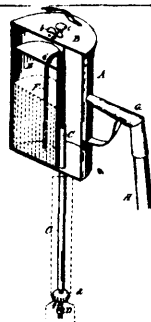
12757 Fndmore's Mechanism for Controlling the Operation of Harvester Reakes, &c.



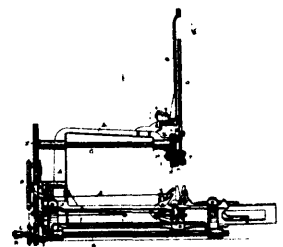
12758 Edgar's Improvements on Spring Bed Bottoms.



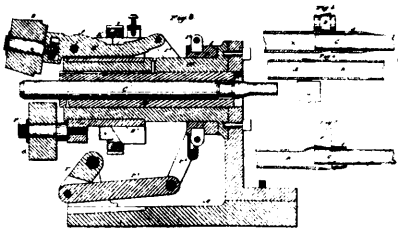
12759 Ginu's Improvements in Arithmetical Frames.



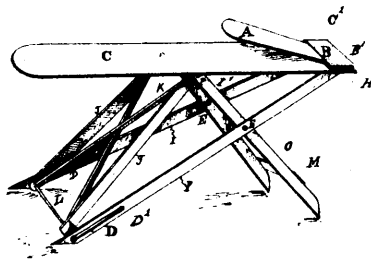
12760 Newth's Improvements in Lamp Lighters.



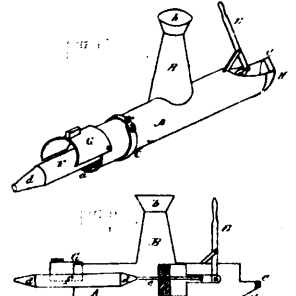
12761 Curtis' Improvements on Grain Binders.



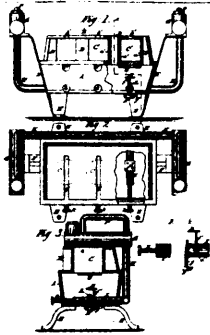
12762 Hartz's Method and Machine for Preparing and Welding Pipe Sections



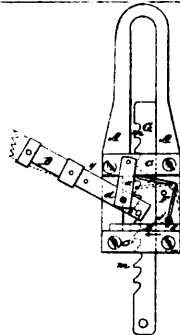
12763 Hibsternberg's Improvements in Ironing Boards.



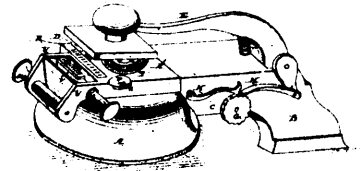
12764 Earl & Hamilton's Apparatus for Making and Laying Cement Drain Tiles.



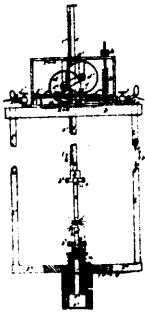
12765 Wells' Improvements on Sad Iron Heaters.



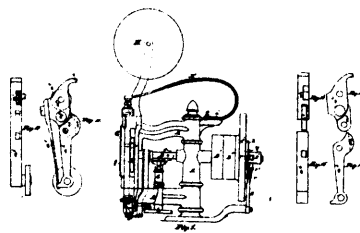
12766 Wright's Improvements on Stump Extractors.



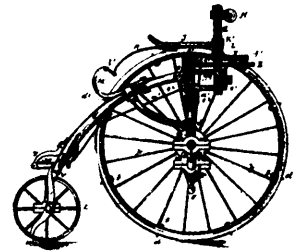
12767. Emerson's Improvement in Dating, Cancellling and other Stamps.



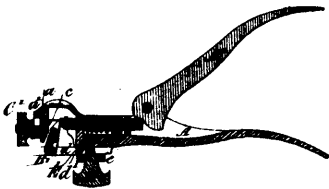
12768. Holcombe's Improvements on Electric Lamps.



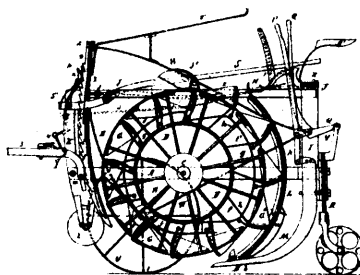
12769 Chaplins' Improvements on Sole Fastening Machines.



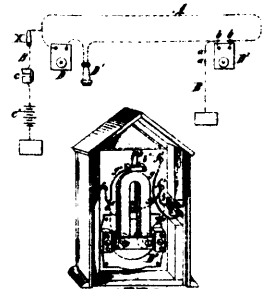
12774 Fowler's Improvements on Tricycles.



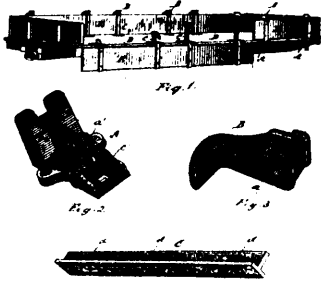
12775 Morrill's Improvements in Saw Sets.



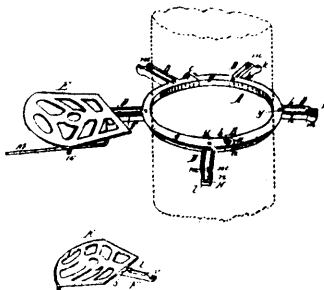
12776 Rennie & Carter's Improvements on Ditching Machines.



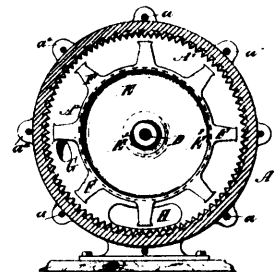
12777 Watson's Improvements in Telephone Fire Alarms.



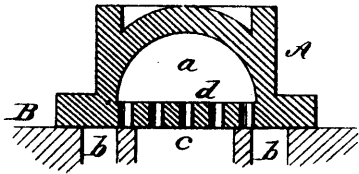
12778 Marden's Improvements on Stakes for Platform Cars.



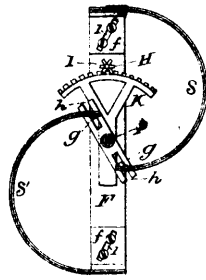
12779 Coburn's Improvements on Stovepipe Shelves.



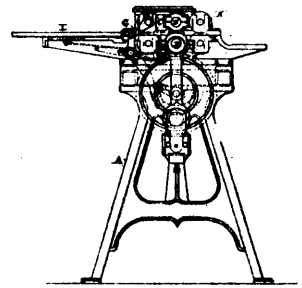
12781 Taylor's Pulverizing Machine.



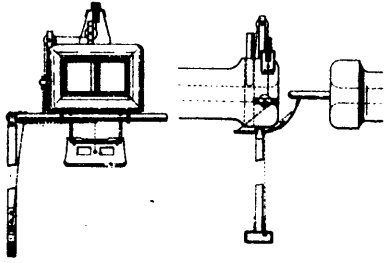
12782 Hughes' Improvements on Slide Valves.



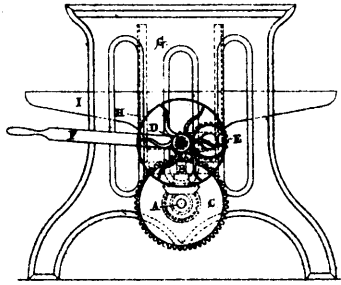
12783 Wales' Improvements on Mechanical Thermometers.



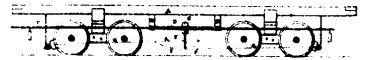
12784 Blackhall's Improvements on Paper Perforating Machines.



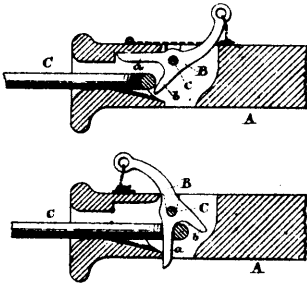
12785 Chapman's Improvements in Car-Couplers.



12786 Cowan & Ballantine's Improvements on Planing Machines.



12787 Jackson's Improvements on Car Brakes.



12788 Jackson's Improvements in Car-Couplers.



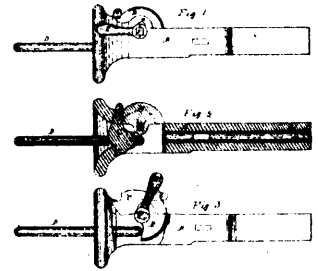
Fig. 2.



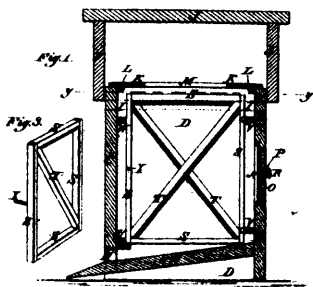
Fig. 3.



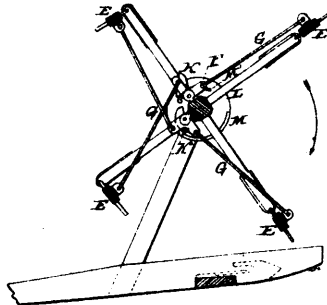
12789 Prentice's Improvements on Button Fasteners.



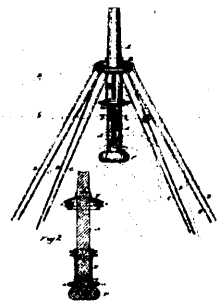
12790 Cubbin's Improvements on Car Couplings.



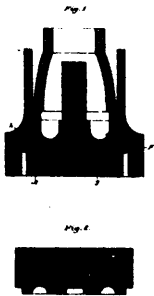
12791 Cripe's Improvements on Bee Hives.



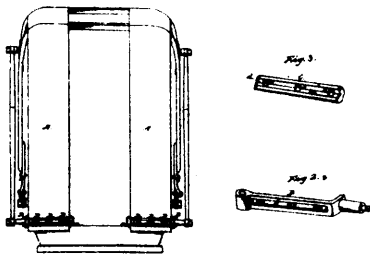
12792 Akens' Improvements on Harvester Reels.



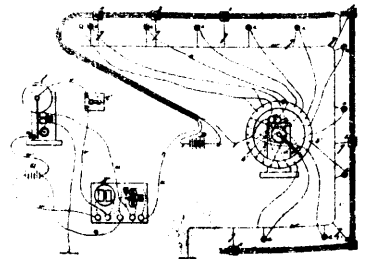
12793 Smith's Improvement on Parasols.



12798 Stevens & Chisholm's Improvements on Machines for Making Lamp Casings.



12800 Fockler's Improvements in Curtain Fastenings for Carriages.



12801 Quimby & Campbell's Improvements on Electric Alarms and Automatic Registers for Watchmen.