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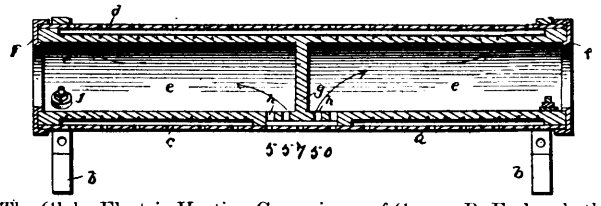
No. 55,750. Electric Heater. (*Chauffeur électrique.*)

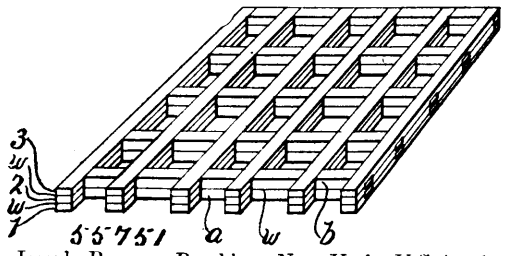


The Globe Electric Heating Co, assignee of George B. Fraley, both of Philadelphia, Pennsylvania, U.S.A., 1st May, 1897 ; 6 years. (Filed 9th October, 1896.)

Claim.—1st. An electrical heater consisting of a perforated metallic casing open at both ends, a fireproof inner cylinder a wall at or near the centre of said cylinder forming two chambers therein, openings in said chambers registering with the perforations in the casing and strands of wire coiled around said fireproof cylinder through which the current flows substantially as described. 2nd. An electrical heater composed of the metallic perforated casing, a fireproof cylinder therein, a dividing wall in said cylinder connecting with the perforated casing, a wall or inclosure surrounding said openings and flush with the lower wall of the casing, flanges at each end of the cylinder closing the ends of the casing and forming a chamber between the inner cylinder and the casing, substantially as described.

No. 55,751. Secondary-battery Support.

(*Support pour piles secondaires.*)

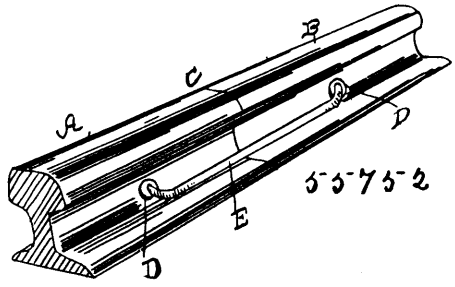


John Joseph Rooney, Brooklyn, New York, U.S.A., 1st May, 1897 6 years. (Filed 14th December, 1896.)

Claim.—1st. A grid for a secondary battery plate made up of layers of strips of wool-felt laid together in sets of rows which cross each other so as to form pockets or holes between the rows, substantially as described. 2nd. A grid for a secondary battery plate made up of layers of strips of wool-felt, the strips forming the different layers being fastened together by sealing-wax, the strips being laid in sets of rows which cross each other, so as to form pockets or holes between the rows of strips, substantially as described. 3rd. A grid for a secondary battery plate made up of layers of strips of insulating and porus material, the strips being disposed in rows which cross each other, forming rows of holes or pockets between the rows of strips and conductors laid between the strips, one along each row of holes or pockets and midway between the faces of the grid, substantially as described.

No. 55,752. Electric Rail-bond.

(*Fil électrique pour joints de rails.*)



George Haskell Scott, Worcester, Mass, U.S.A., 1st May, 1897 ; 6 years. (Filed 7th December, 1896.)

Claim.—1st. An improved electric rail-bond, comprising in combination a connecting rod or wire, and two collars, one for each end of said rod, or wire adapted to fit over the ends thereof, and in the openings of the rails, and made cylindrical in shape, also provided with an external, annular rib or flange at its inner end, and an internal annular bevel at its outer end flaring outward from its longitudinal opening, and also preferably having the exterior of its outer end beveled in the opposite direction to said internal bevel, substantially as and for the purpose set forth. 2nd. The combination of the rail and the connecting rod or wire, with the collar D adapted to fit in the usual transverse opening in said rail and over the end of said connecting rod or wire, and having the internal annular bevel *b* flaring from its longitudinal opening, whereby, when said beveled end of the collar is hammered against a metal block, placed over the connecting rod or wire against the inner end of said collar, the central portion thereof will be first forced or squashed out to hold the rod or wire in place, and then, by continued blows, headed, and the end of the rod or wire also headed to securely hold the parts and form a perfect electric bond connection, substantially as set forth.

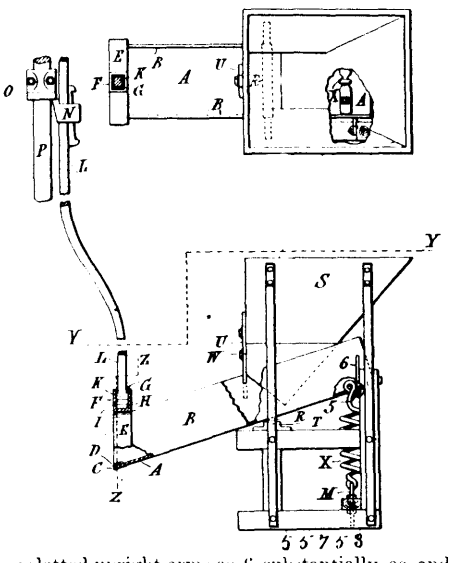
No. 55,753. Ore Feed for Stamp Mill.

(*Alimentateur de minerai pour moulins à broyer.*)

Alexander Woodroffe Goyder, Hillgrove, New South Wales, Australia, 1st May, 1897 ; 6 years. (Filed 11th January, 1897.)

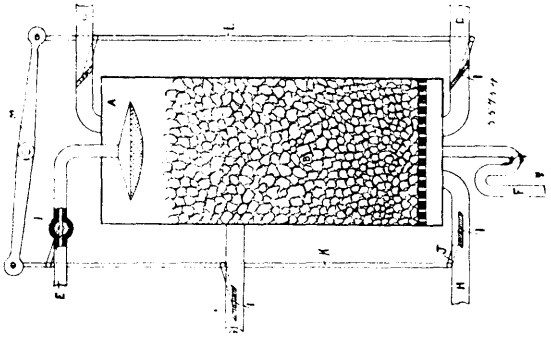
Claim.—1st. The combination of an inclined ore shoot pivoted upon its frame having a lip as D at its delivery end, with a feed hopper as S provided with a comb as U substantially as set forth. 2nd. The combination with the parts claimed in the first claim, of a yoke as E having a hollow shank and (in order) an elastic block, a non-elastic block, and the foot of a jogger fitted therein substantially as

hereinbefore set forth. 3rd. The combination with the parts claimed in the first claim, of a spring as X and an adjustable plate



as 5 having slotted upright arms as 6 substantially as and for the purposes set forth. 4th. The combination with an inclined ore shoot, of a fork as E having a shank as F having a recess as G, and (in order) an elastic block H, non-elastic block I, and foot K of a jogger inserted in such recess all substantially as set forth. 5th. In combination with the frame of a shoot, an adjustable plate having a horizontal base and upright arms for regulating the angle of inclination of the shoot when the rebound of said shoot has been effected by a spring, substantially as set forth.

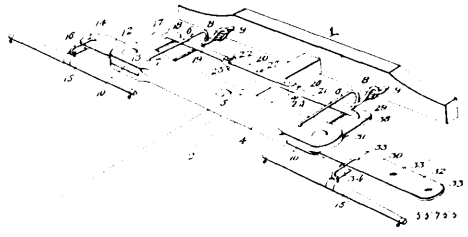
No. 55,754. Air and Water Vapour for Gas.
(*Vapeur à eau et air pour le gaz.*)



Ludwig Mond, Wrinnington Hall, Norwich, Chester, England, 1st May, 1897; 6 years. (Filed 12th January, 1897.)

Claim.—1st. In combination with the process of obtaining ammonia by the partial combustion of fuel containing nitrogen with a mixture of air and steam and of using the heat of combustion to generate a part of that steam, obtaining motive power with the gas from which the ammonia tar and steam have been separated by means of gas engines and utilizing the waste heat of the exhaust gases of these gas engines to further heat and load with water vapour the air to be used for the partial combustion of the fuel. 2nd. The process of producing steam in the manufacture of gas in gas producers, which consists in gasifying fuel by partial combustion with a mixture of hot air and steam, separating the ammonia, using the heat of the partial combustion to produce a moist and warm air, utilizing the gas by explosion or combustion for motive power by means of gas engines and passing the hot exhaust gases of these gas engines alternately with water and the aforesaid moist and warm air through a regenerator, whereby the mixture is sufficiently heated and loaded with water vapour to serve the purpose of gasifying the fuel in gas producers under the most favourable conditions for obtaining ammonia as a by-product. 3rd. The process of utilizing the heat of hot gases, which consists in passing the said hot gases and water alternately in the same direction over a large surface of refractory material and passing air in the reverse direction while the water is passing. 4th. The improvement in the process of utilizing the heat in the hot exhaust gases of a gas engine, or in other hot gases, which consists in passing the said gases and water alternately over a large surface of refractory material and leading off the steam formed for use in gas producers. 5th. The improvement in the process of utilizing the heat in the hot exhaust gases of a gas engine or in other hot gases, which consists in passing the said gases alternately with air, which may already contain a certain amount of moisture, in opposite directions through a chamber or chambers filled with refractory materials and subsequently bringing the hot air leaving these chambers into contact with water, preferably hot water, so as to obtain a suitable mixture of air and water vapour for use in gas producers. 6th. A chamber loosely stacked with refractory materials in combination with the exhaust pipe from a gas motor entering above, exit pipe for said gases escaping below, a water supply entering also above, an escape pipe for surplus water below, and escape for steam near the top, and a valve mechanism whereby the water and the exhaust gases are (alternately with each other) passed through the chamber and cut off and the steam escape is opened during the passage of the water and cut off therewith. 7th. A chamber loosely stacked with refractory material provided with an entrance at the top and exit below for hot gases, an entrance above and an exit below for the passage of water, an entrance below and an exit near the top for the passage of air or a mixture of air and steam and means for alternating the passage of the hot gases with the simultaneous passage of the air and water aforesaid, substantially as and for the purposes described.

No. 55,755. Draft Equalizer. (*Régulateur de tirage.*)



Lorenzo Dow Whitten, Beverly, Illinois, U.S.A., 1st May, 1897; 6 years. (Filed 9th March, 1897.)

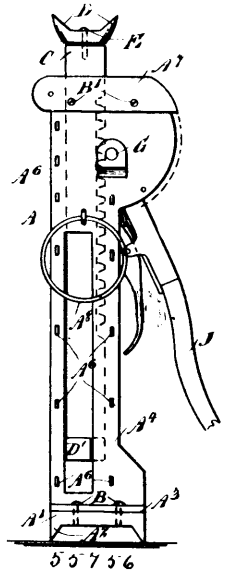
Claim.—1st. A draft equalizer, comprising the axle 1, tongue 2, and the double tree centrally secured to the tongue 2 by a bolt 5, and having its outer ends connected to the axle by stay links $6-6^1$, provided with snap hooks 8 engaging the eyebolts 9 secured to said axle, in combination with the adjustable connecting rod 20, the outer ends of which are secured to the angle levers 12—30, fulcrumed in horizontal slots in the outer ends of the double tree 3, substantially as shown and described. 2nd. A draft equalizer, comprising the axle, the tongue and the double tree 3, the outer ends of which are provided with horizontal slots $10-10^1$, the angle levers 12—30 fulcrumed therein, the lever 12 having arms of equal length and the lever 30 arms of unequal length, in combination with the adjustable connecting rod 20 connecting the rear arms of said levers and comprising the member 19 having a plane portion provided with vertical holes 27 and a depending arm 26 provided with a nut 24, the corresponding member 21 having the plane portion provided with adjusting holes 55, and a vertical arm 23 provided with a nut 22, substantially as shown and described. 3rd. A draft equalizer, comprising the axle, the tongue, and the double tree provided with a horizontal slot 10, in which is fulcrumed the angle lever 12, having arms of equal length, and a horizontal slot 10^1 in which is fulcrumed the angle lever 30 having a shorter arm 35, and a longer arm 32 provided with a series of adjusting holes 33, 33^1, 33^2, in combination with the adjustable rod 20 connecting said angle levers, and comprising the members 19 and 21, detachably and adjustably secured together, substantially as shown and described.

No. 55,756. Logging Jack. (*Cric pour billots.*)

John E. Gilchrist, South Bend, Washington, U.S.A., 1st May, 1897; 6 years. (Filed 8th March, 1897.)

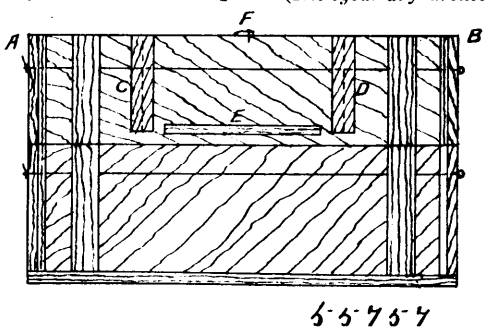
Claim.—1st. A logging-jack, or the like, comprising a casing, a lifting-rack fitted to slide in the casing, a shaft extending transversely of the casing, a pinion on the shaft engaging the rack, a ratchet wheel on said shaft, a pawl engaging the ratchet wheel and adapted to hold the rack in an elevated position, a working lever having a hooked end adapted to be hung on said shaft, and a pawl carried on said working lever and arranged to engage said ratchet wheel, whereby when the said lever is operated said ratchet wheel is turned, substantially as set forth. 2nd. A logging jack or the like comprising a casing, a lifting-rack fitted to slide therein, a shaft extending transversely of the casing, a pinion on the shaft meshing with the rack, a ratchet wheel on the shaft, a pawl engaging said ratchet-wheel to hold the rack in an elevated position, a working lever, a spring pawl carried on said working lever, in position to engage the ratchet wheel to turn the same when the lever is manipulated, a slotted hand lever having one end loosely coupled to said pawl and its outer end in position to be engaged by the hand of the operator, and a fulcrum pin for said hand lever mounted on the working lever and engaging the slot in the hand lever, substantially as set forth. 3rd. The logging jack having the lifting bar provided with a head and with a lateral claw at its lower por

tion, in combination with means for operating said lifting bar, substantially as described. 4th. The logging jack having a lifting rack,



a ratchet mechanism engaging the teeth of the rack, and a roller engaging the opposite side of the rack, substantially as described.

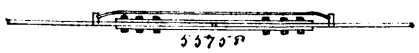
No. 55,757. Fork Scraper. (*Nettoyeur de fourches.*)

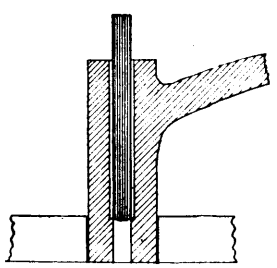


James A. Henry, Stockton, Manitoba, 1st May, 1897; 6 years. (Filed 26th February, 1897.)

Claim.—A scraper attachment for a farm fork comprised of a piece of wood sixteen to twenty-four inches long, from six to eight inches wide, and about three-quarters of one inch thick, having one edge chamfered and faced with metal, and the other edge bored to admit the tines of a fork, substantially as and for the purpose hereinbefore set forth.

No. 55,758. Electric Rail Bond.
(*Fil électrique pour joints de rails.*)





Edward Dooley, Chicago, Illinois, U.S.A., 1st May, 1897; 6 years. (Filed 22nd February, 1897.)

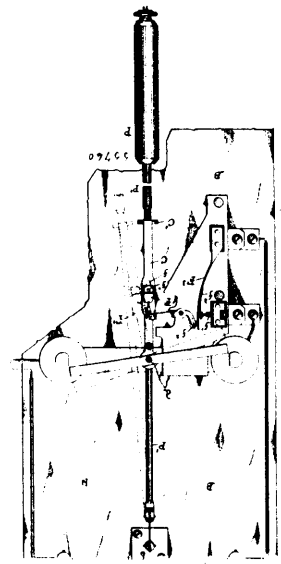
Claim. The making of a reduced bore in bond head, thereby causing an expansion of metal by action of the pin, substantially as and for the purpose hereinbefore set forth.

No. 55,759. Process for the Production of Non-Alcoholic Wines. (*Procédé pour la production de vins non alcooliques.*)

Hermann Muller Thurgau, Waedensweil, Switzerland, 1st May, 1897; 6 years. (Filed 12th February, 1897.)

Claim.—1st. A process for the production of preservable fruit juices without alcohol consisting in subjecting the fruit juice separated from the skins and the stones, out of contact with the air, for about half an hour to the action of steam or water heated to about 60° to 70° Celsius, and then leading this juice through sterilised pipes into containers also sterilised afterwards filtering the juices and subjecting them to another similar heating. 2nd. A process for the production of naturally coloured and preservable fruit juices consisting in subjecting the fruit juice and the skins for several minutes to the action of the heat and in then separating the juice from the skins and in subjecting the juice out of contact with air, for about half an hour to the action of steam or water heated to about 60° to 70° Celsius, and then leading this juice through sterilised pipes into containers also sterilised, afterwards filtering the juices and subjecting them to another similar heating. 3rd. A process for the production of naturally coloured preservable fruit juices consisting in passing the fruit juice suitably heated and freed from the skins and stones through a reservoir which contains the skins and in then subjecting out of contact with the air, for about half an hour to the action of steam or water heated to about 60° to 70° Celsius, and then leading this juice through sterilised pipes into containers also sterslised, afterwards filtering the juices and subjecting them to another similar heating. 4th. A process for the production of preservable fruit juices containing little alchol, consisting in fermenting the juices until the desired degree of alchol is obtained and in then subjecting the fruit juice out of contact with air, for about half an hour to the action of steam or water heated to about 60° to 70° Celsius, and then leading this juice through sterilised pipes into containers also sterilised, afterwards filtering the juices and subjecting them to another similar heating.

No. 55,760. Electric Clock. (*Horloge électrique.*)



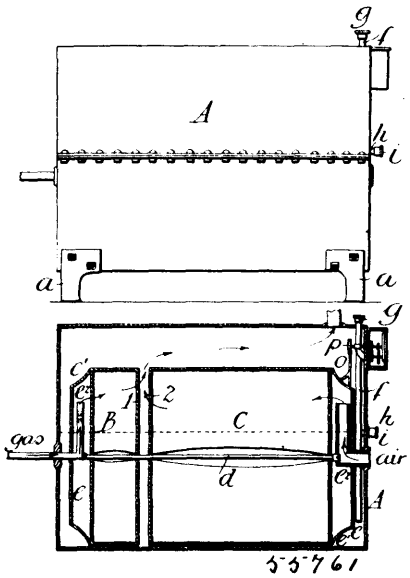
Sigismund Fisher, Brooklyn, New York, U.S.A., Victor D. Bremer, James G. White and Edward Righter, all of New York, State of New York, U.S.A., 1st May, 1897; 6 years. (Filed 10th February, 1897.)

Claim.—1st. The combinatiion with a swinging pendulem and its crutch, of a recessed block on said crutch, a fulcrumed circuit-closing lever, a gravity-pendant pivoted to one end of said lever adjacent to said block, and a circuit-closing device operated by the opposite end of the circuit-closing lever when the pendant is engaged by the recessed block. 2nd. The combination of a swinging pendulem, a crutch for said pendulem, a block on said crutch provided with a recess at its upper end, a fulcrumed circuit-closing lever, a gravity-pendant pivoted to said lever, spring-contacts operated by said lever when the pendant is engaged by the block, an armature mounted on the spindle of said crutch, and an electro-magnet adapted to impart oscillating motion to said armature and an impulse to the pendulem when the circuit is closed by the periodical engagement of the block with the pendant, substantially as set forth. 3rd. The combination with a pendulem and its crutch, said crutch being intermittently operated by electric impulses imparted to the same, of a striking-train, the main wheel of which is provided in its circumference with groups of teeth for striking the hours, intermediate recesses between said groups of teeth, an eccentric on the arbor of the hour-hand, a spring-pawl engaged by said eccentric and adapted to turn the main wheel of the striking mechanism for one tooth at each rotation, a

circuit-closing device operated by a pawl on the crutch, and an electric bell in said circuit so as to strike the full hours at each full rotation of the hour-wheel, substantially as set forth.

No. 55,761. Apparatus for Mixing Gas and Air.

(*Appareil pour le mélange de gaz et air.*)

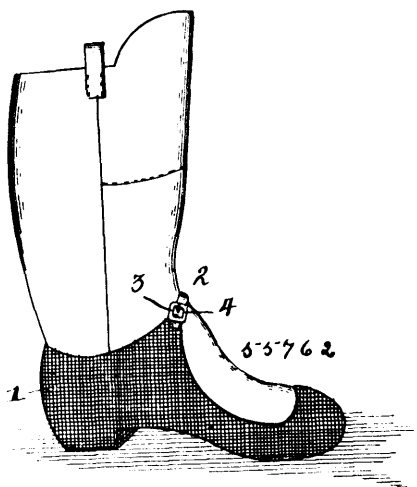


George Roscoe Cottrell, New York, U.S.A., 1st May, 1897 ; 6 years. (Filed 8th February, 1897.)

Claim.—1st. In an apparatus of the class described the combination with a cyndrical casing having an outlet pipe for mixed air and gas, an inlet-pipe for air, an inlet-pipe for gas, said inlet-pipes arranged respectfully at opposite ends of said casing and provided with journal-bearings, two drums mounted on a single shaft eccentrically in said casing and upon said bearing, each of said drums being divided by means of a partition into two compartments, one of which compartments communicating with the inlet-pipe for air and gas respectfully, and the other compartment divided by spiral blades into suitable chambers and communicating with the inlet-compartment and having the discharge end of said spiral compartment provided with discharge-openings, the discharge openings of one drum being adjacent to but out of line with the discharge-openings of the other drums, substantially as described. 2nd. In an apparatus of the class described, the combination with a cylindrical casing containing the screw-drums, of a water-supply or filling pipe leading from the inlet in the top of the casing and extending downward concentrically with the interior of the casing to a point near the base, an overflow branch in said pipe, and closures for the latter and the water inlet.

No. 55,762. Foot Wear Protector.

(*Protecteur de chaussure.*)

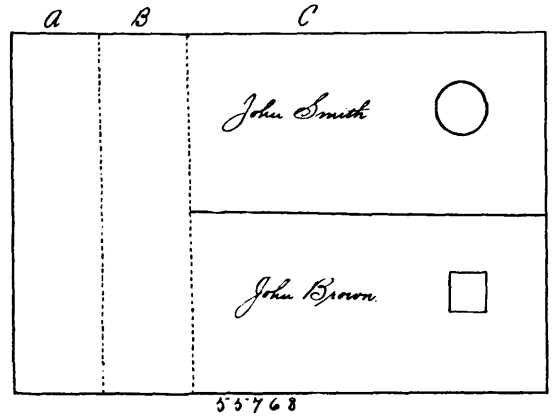


Alfred B. Seay, Leslie, Iowa, U.S.A., 1st May, 1897; 6 years. (Filed 5th February, 1897.)

Claim.—1st. A protecting slipper for foot wear made from woven wire encasing the shoe upper and extending across the bottom of the sole, said slipper having flaps connecting it to the foot wear, substantially as herein shown and described. 2nd. A detachable protecting slipper adapted to fit over the boot or shoe and constructed of woven wire and having flaps, and a buckle for fastening the flaps together, substantially as herein shown and described. 3rd. A protecting slipper made of a body of woven wire fabric covered with a flexible protecting fabric and adapted to encase the shoe upper and extend across the sole thereof, said slipper having a device for securing it in position, substantially as herein shown and described.

No. 55,763. Electric Ballot Paper.

(*Papier de ballot électrique.*)



Donald R. Macdonald, Alexandria, Ontario, Canada, 1st May, 1897 ; 6 years. (Filed 26th January, 1897.)

Claim.—The double counterfoil attachment with members substantially as shown and described.

No. 55,764. Treatment of Sulphide Ores of Lead.

(*Traitement de minérai sulfhydrique de plomb.*)

Thomas Huntington and Ferdinand Heberlein, both of Pertusala, Italy, 1st May, 1897 ; 6 years. (Filed 15th March, 1897.)

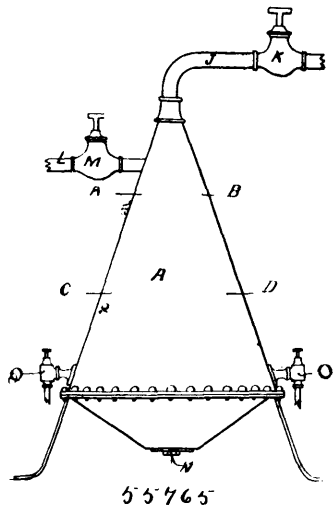
Claim.—1st. The herein described method of treating sulphide ores of lead preparatory to reduction to metal, which consists in mixing with the ore to be treated the oxide of an alkaline earth metal (or ferrous or manganous oxide) subjecting the mixture to heat in the presence of air, then reducing the temperature, and finally passing air through the mass to complete the oxidation of the metal, substantially as and for the purpose set forth. 2nd. The herein described method of treating sulphide ores of lead preparatory to reduction to metal, which consists in mixing an oxide of an alkaline earth metal such as calcium oxide with the ore to be treated, subjecting the mixture in the presence of air to a bright red heat (about 700° C.), then cooling down the mixture to a dull red heat (about 500° C.), and finally forcing air through the mass until the ore, reduced to an oxide, fuses, substantially as set forth. 3rd. The herein described method of treating sulphide ores of lead preparatory to reduction to metal, which consists in mixing ferrous oxide or manganous oxide with the ore to be treated, subjecting the mixture in the presence of air to a bright red heat (about 700° C.), then cooling down the mixture to a dull red heat (about 500° C.), and finally forcing air through the mass until the ore, reduced to an oxide, fuses, substantially as set forth. 4th. The herein described method of reducing sulphide ores of lead to sulphate, in the preparation thereof for reduction to metal, which consists in subjecting the sulphide to a high temperature in the presence of an oxide of an alkaline earth metal (or of ferrous or manganous oxide) and oxygen, whereby the oxide, taking up oxygen, is converted into dioxide, and then lowering the temperature until the latter yields the portion of its oxygen taken up to combine with the sulphur in the ore, substantially as set forth.

No. 55,765. Filter. (*Filtre.*)

Vital Alfred Emond, Québec, Qué., Canada, 1er mai 1897 ; 6 ans. (Déposé le 13 mars 1897.)

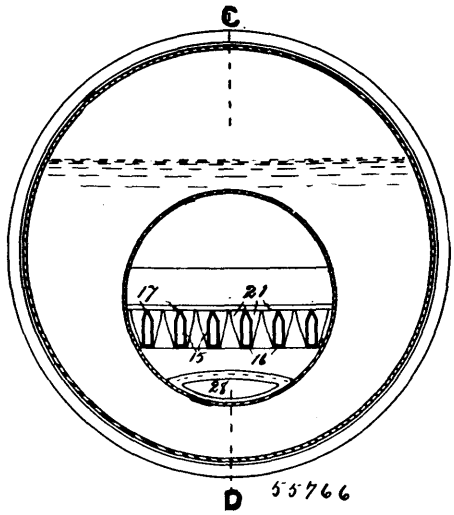
Résumé.—1° La combinaison des entonnoirs aux cercles perforés pour détruire la pression et le courant de l'eau, et du cercle non perforé près du fond de l'entonnoir pour changer le cours de l'eau, tel que le tout est décrit et pour les fins indiquées. 2° La combinaison des pièces perforées et tamis superposés dans intérieur de l'entonnoir pour le filtrage de l'eau et pour retenir les saletés au fond du filtre tel que décrit et pour les fins indiquées. 3° La combinaison du cercle, évasé non perforé et du tamis en forme d'entonnoir adapté au cercle le tout assujetti à la tête de l'entonnoir intérieur tel que décrit et pour les fins indiquées. 4° La combinaison des tuyaux d'alimentation J, du tuyau de sortie M et des entonnoirs A et B de telle manière que l'eau introduite entre les entonnoirs doit passer par le fond où elle perdra toute sa pression vu la plus grande capacité de cette partie du filtre d'avec le tuyau d'alimentation

Cette eau y séjourne quelque temps et y dépose toutes les saletés quelle contient avant d'être refoulée au tuyau de sortie en passant à



travers les tamis où elle achève de se filtrer, tel que le tout est décrit et pour les fins indiquées.

No. 55,766. Fire Grate. (*Grille de foyer.*)



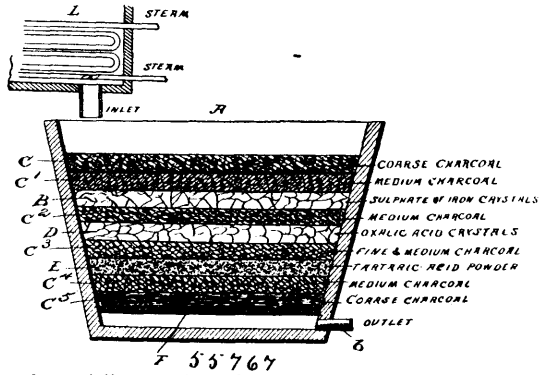
Benjamin Arthur Thomas, Handsworth, Stafford, and John Powell, Altadore, Moseley, Birmingham, both in England, 1st May, 1897; 6 years. (Filed 15th March, 1897.)

Claim.—1st. In fire grates, the side ribs 21 having intervening air spaces 22, in combination with the hollow bar 15 having the narrowed upper surface 17, all substantially as set forth and shown and for the purposes specified. 2nd. In fire grates, the combination with the hollow bar 15, having the narrowed upper surface 17, of the alternate long and short interlacing ribs 21 and 21^a, as described and shown in Figs. 7 and 8. 3rd. In fire grates, the side ribs 21 combined with the hollow bar 15 made in two parts, which together form the whole, all substantially as set forth and shown. 4th. In fire grates, the bridge and bar bearer, consisting of two parts 26 and 27, all substantially as set forth and shown. 5th. In fire grates, the combination with the fire bar 15 and bridge and fire bar bearer 26 of the plates 31, substantially as set forth and shown.

No. 55,767. Process of Extracting Gold from Solutions. (*Procédé pour extraire l'or des solutions.*)

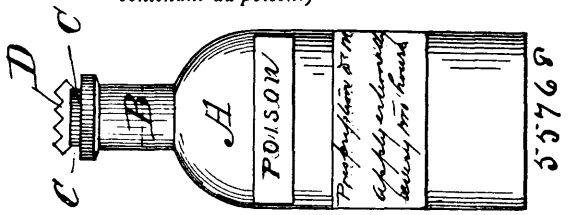
Giles Otis and Joseph Carter Hames, both of Colorado City, Colorado, U.S.A., 1st May, 1897; 6 years. (Filed 17th March, 1897.)

Claim.—1st. The process herein described of recovering gold and platinum from their aqueous solutions of these metals which consists in passing the said aqueous solutions through a mass of vegetable carbon, sulphate of iron, oxalic acid and tartaric acid, arranged as shown to generate chemical electric reagents and reactions, of these elements, and to reduce and precipitate in the vat or vats, the precious metals of gold and platinum, and so continuously preserve the efficiency of the combination, substantially as and for the purpose described. 2nd. The process herein described of recovering gold and platinum metals from aqueous solutions of these metals, which consists in passing said solutions through a mass of vegetable carbon having associated with it sulphate of iron, oxalic acid and tartaric



acid, substantially as and for the purpose described. 3rd. The process herein described of recovering gold and platinum from aqueous solutions of these metals which consists in passing said aqueous solutions, as positive elements, through a mass of vegetable carbon having associated with it, sulphate of iron, oxalic acid and tartaric acid combined as shown in the drawing and all as negative elements, to secure the reductions and depositions of these metals in and upon the carbon, and afterwards burning out the carbon, reducing and melting these metals into a mass, substantially as and for the purpose described.

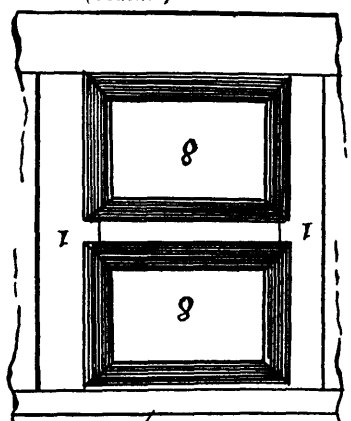
No. 55,768. Guard for Medicine Bottles Containing Poison. (*Avertisseur pour bouteilles de médecine contenant du poison.*)



Peter Weiss, Toronto, Ontario, Canada, 1st May, 1897; 6 years. (Filed 22nd March, 1897.)

Claim.—1st. A guard for a medicine bottle containing poison consisting of a pointed instrument extending beyond the cork sufficiently to engage the hand of a person withdrawing it substantially as specified. 2nd. A guard for a medicine bottle containing poison, consisting of a pointed instrument, substantially triangular shaped, the pointed end of the instrument inserted into the body of the cork, and the top extending above the top of the cork, and provided with a series of points adapted to prick the hand of the person withdrawing the cork, substantially as specified.

No. 55,769. Bin. (*Huche.*)

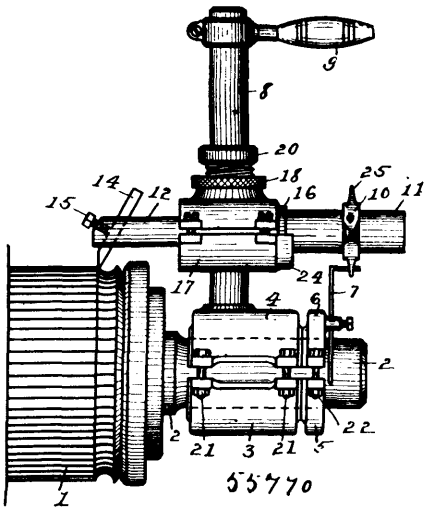


Rufus M. Bixby, Foster, Iowa, U.S.A., 1st May, 1897; 6 years. (Filed 27th March, 1897.)

Claim.—In combination, the front and rear uprights of a counter, plates secured thereto and provided with upwardly extending flanges, strips having at their sides upwardly extending flanges, and a bin having an opening in its rear wall and provided at its upper edge with guide-grooves which engage the said guide-flanges, substantially as set forth.

No. 55,770. Commutator Truing Device.

(*Appareil à tourner les commutateurs.*)



Percy B. Bosworth and Edward A. Barnes, both of Fort Wayne, Indiana, U.S.A., 1st May, 1897; 6 years. (Filed 29th March, 1897.)

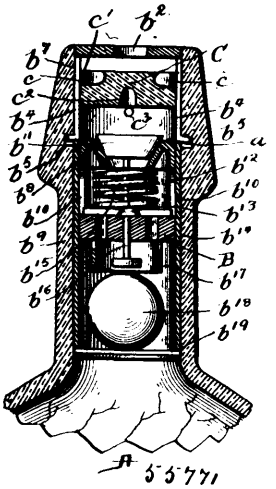
Claim.—1st. A commutator truing or turning device, consisting of a two-part base adapted to be rotatably mounted on the armature shaft, means for securing the same against longitudinal displacement, a hand-crank fixed in said base at right angles to the plane of the said shaft and provided upon its free end with an operating handle, a driving-head vertically adjustable on said crank, laterally aperatured for the tool holder and provided with an internally screw-threaded revoluble sleeve arranged on the same axial line with said lateral aperature, a cylindrical tool holder mounted in said sleeve and said aperture, as shown, arranged in parallel relation with the said shaft, carrying a cutting tool upon its working end and having in its rear end a rigid screw adapted for a horizontal feeding eng. gement with said sleeve, as described, a feed-wheel fixed on said sleeve and adapted for an actuating engagement with a feed-pin arranged in a fixed position relatively to said shaft, all substantially as described. 2nd. In a hand turning device for truing or turning down commutators, the combination of a hand-crank rotatably mounted upon the armature shaft by means of a pair of adjustable and separable supporting blocks, a two-part separable collar fixed on said shaft for the purpose specified, an actuating feed-pin fixed in said collars as shown, a laterally apertured driving-head slidably mounted on said crank, having a pair of screw-threaded collars to afford a limited vertical adjustment as described, and having a forwardly projecting rotatably mounted and internally screw-threaded sleeve whose longitudinal opening is coincident with said lateral aperture in the driving-head, a reciprocating tool-holder mounted in said driving-head and threaded sleeve as described, carrying in its working end a cutting tool, and provided at its rear end with a rigid screw adapted for a horizontal feeding engagement with said sleeve, a rigid feed-wheel mounted on said sleeve and adapted for an actuating engagement with said feed-pin, substantially as described. 3rd. In a commutator truing or turning device, a driving-head provided with a revoluble feeding sleeve for the reciprocating tool-holder, a tool-holder loosely mounted in said head and arranged in said sleeve by a screw-threaded connection, and adapted for a longitudinal feed therein, a cutting tool adjustably mounted in the working end of said tool holder, a feed-wheel fixed on said sleeve to rotate the same, means for rotatably mounting said driving-head on the armature shaft with the reciprocating tool-holder in parallel relation therewith, and means for actuating the said feed-wheel, all substantially as described. 4th. The combination in a commutator truing device of a driving-head having a revoluable feeding-sleeve for the reciprocating tool-holder, a tool-holder loosely mounted in said head and arranged in said sleeve by a screw-threaded connection and adapted for a longitudinal feed therein, a rigid screw 13 mounted as shown in the rear end of said sleeve and having a horizontal feeding engagement therewith, a cutting tool adjustably mounted in the working end of said tool-holder, a feed-wheel fixed as shown on said sleeve to rotate the same, means for rotatably mounting said driving-head on the armature shaft with the reciprocating tool-holder in parallel relation therewith, and means for actuating the said feed-wheel, all substantially as described.

No. 55,771. Non-refillable Bottle.

(*Appareil pour empêcher le remplissage des bouteilles.*)

Alexander McEachen, Brampton, Michigan, U.S.A., 1st May, 1897; 6 years. (Filed 18th March, 1897.)

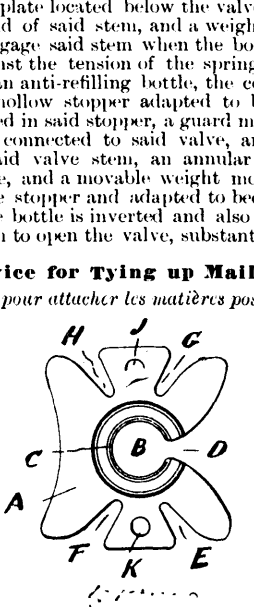
Claim.—1st. In an anti-refilling bottle, the combination with a bottle proper, of a hollow stopper adapted to be mounted in its neck, a spring pressed valve mounted in said stopper and adapted to close the opening through the same, and means for protecting



the valve from interference from without, substantially as described. 2nd. In an anti-refilling bottle, the combination with a bottle proper, of a hollow stopper adapted to be mounted in its neck and formed with a valve seat, a valve mounted on said seat, a valve stem pendent from said valve, and a movable weight also mounted in said stopper and adapted to engage said valve stem to open the valve upon the bottle being inverted, substantially as described. 3rd. In an anti-refilling bottle, the combination with a bottle proper having an annular groove formed in its neck, of a hollow stopper provided with springs adapted to engage said groove, a spring pressed valve mounted in said stopper and adapted to close the opening through the same, a pendent valve stem connected to said valve, and a weight mounted below said valve stem in said stopper and adapted to engage said stem and open the valve when the bottle is inverted, substantially as described. 4th. In an anti-refilling bottle, the combination with a bottle proper, of a stopper adapted to be mounted in its neck, a valve mounted in said stopper, and a protecting block also mounted in said stopper above said valve and having an annular groove formed in its side, and diametrically arranged grooves upon its top and bottom communicating with said annular groove, substantially as described. 5th. In an anti-refilling bottle, the combination with a bottle proper, of a hollow stopper adapted to be applied in the neck of the same, a valve mounted in said stopper, a valve stem connected to said valve, a guide bar mounted on said valve stem and adapted to engage the hollow stopper, a spring for normally holding said valve seated, an apertured plate located below the valve stem and adapted to receive the end of said stem, and a weight mounted below said plate so as to engage said stem when the bottle is inverted to open the valve against the tension of the spring, substantially as described. 6th. In an anti-refilling bottle, the combination with a bottle proper, of a hollow stopper adapted to be applied in the same, a valve mounted in said stopper, a guard mounted above said valve, a valve stem connected to said valve, an apertured plate adapted to guide said valve stem, an annular apertured flange formed on said plate, and a movable weight mounted below said annular flange in the stopper and adapted to become seated upon said flange when the bottle is inverted and also engage the lower end of the valve stem to open the valve, substantially as described.

No. 55,772. Device for Tying up Mail Matter.

(*Appareil pour attacher les matières postales.*)

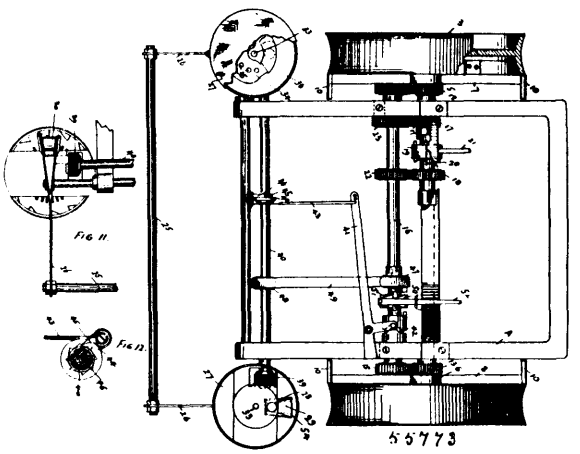


Alexander John Chapman, Linwood, Victoria, Australia, 3rd May, 1897; 6 years. (Filed 3rd April, 1897.)

Claim.—The hereinbefore described fastening device consisting of the metallic plate A, having the beaded central hole B, slot D, recesses E, F, G and H, eyes J and K and string I, as hereinbefore described and illustrated in my drawings.

No. 55,773. Machine for Checking Corn, etc.

(Contrôleur pour semoirs de graines.)

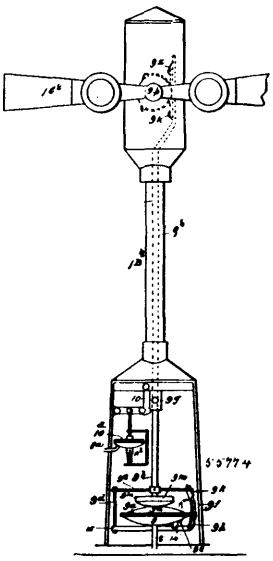


Moses C. Nixon, Omaha, Nebraska, U.S.A., 3rd May, 1897; 6 years. (Filed 29th May, 1897.)

Claim.—1st. In a check-rower, the combination with the dropping attachment and the running gear of the machine, of the counter-shaft operatively connected with said dropping attachment, the mechanism interposed between said counter-shaft and running-gear for continuously operating said shaft, the mechanism interposed between said counter-shaft and running gear for imparting a step-by-step movement to said shaft, and the means adapted to be operated to throw either of said mechanisms into or out of action so as to convert said machine at will from a hill planter to a drill. 2nd. In a check-rower, the combination with the dropping attachment and the running-gear of the machine, of the counter-shaft operatively connected with said dropping attachment, the mechanism interposed between said shaft and running-gear for continuously operating said shaft, the pawl-and-ratchet mechanism interposed between said shaft and running-gear for imparting a step-by-step movement to said shaft, and the means for throwing either of said mechanisms into or out of action at will. 3rd. In a check-rower, the combination with the rotating axle and the dropping attachment, of the counter-shaft, the interchangeable gear interposed between said counter-shaft and axle for operating the same at variable speeds, the second counter-shaft operatively connected to said dropping attachment, and the interchangeable driving mechanisms interposed between said first and second counter-shafts for driving said second shaft step-by-step or continuously at will. 4th. In a check-rower, the combination with the dropping attachment, and the rotating axle of the machine, of the counter-shaft and the interchangeable gearing for varying the relative speed between said shaft and axle, the second counter-shaft operatively connected to the dropping attachment, the driving mechanism between said counter-shafts for continuously operating the second shaft, the mechanism between said shafts for imparting a step-by-step movement to said second counter-shaft, and the means for throwing either of said mechanisms into or out of action so as to convert the machine at will from a hill planter to a drill. 5th. In a check-rower, the combination with the drive-wheel and its axle, of the marker arm mounted loosely upon the said axle, the shoe carried by said arm engaging the rim of said wheel, and the variable speed gearing adapted to be interposed between said marker-arm and drive-wheel whereby the relative rotative speed of said marker-arm and drive-wheel may be varied. 6th. In a check-rower, the combination with the drive-wheel and its axle, of the marker-arm mounted loosely upon the said axle and having frictional engagement with said wheel, the dropping-attachment, the operative connection between said marking-arm and dropping attachment, and the interchangeable train of gears connected to said dropping attachment, and adapted to be thrown into engagement with said axle and to overcome the frictional engagement of said marker and drive-wheel and to drive said dropping attachment at a different relative speed. 7th. In a check-rower, the combination with the dropping attachment and the running gear, of the machine, of the counter-shaft operatively connected to the dropping attachment, the rocker-arm actuated by the running gear, and the pawl-and-ratchet attachment interposed between said rocker-arm and said counter-shaft so as to impart a step-by-step movement to said shaft. 8th. In a check-rower, the combination with the dropping attachment and the rotating axle of the machine, of the gear-carrying sleeve mounted loosely upon said axle, the friction device carried thereby engaging the adjacent drive-wheel, the counter-shaft driven by said sleeve-gear, the step-by-step driving connection between said counter-shaft and dropping attachment, the differential loose gear connection between said counter-shaft and said axle, and the clutch for locking said loose differential gear on said axle to drive said dropping attachment at a different speed in opposition to the frictional connection of said sleeve gear with the drive-wheel.

No. 55,774. Railway Signal and Switch Apparatus.

(Appareil de signal et aiguille de chemin de fer.)



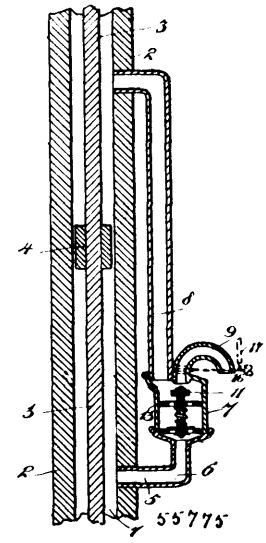
Benjamin B. Morgan, Ypsilanti, Michigan, U.S.A., 3rd May, 1897; 6 years. (Filed 7th April, 1897.)

Claim.—1st. In a block signal for railways, the combination with a track, a signal post and case carrying said signal, a time signal in conjunction with the block signal and the block signal post, of transparent receptacles adapted to be filled with coloured liquid, a valve adapted to close the outlet of one of said receptacles, means for automatically closing said valve by the passing of a train along the track, means whereby the time signal is set and the block signal displayed automatically and simultaneously with the closing of said valve and by the passage of said train, and means for automatically opening said valve whereby the block signal is withdrawn by said train passing out at the opposite end of the block, substantially as described. 2nd. In a block signal for railways, the combination and arrangement of a transparent chamber exposed to view, a coloured liquid adapted to be forced therein, means for automatically forcing said liquid therein by the passing of a train upon an adjacent track, an air pump located at the opposite end of the block, means for automatically actuating the same by the passage of the train out from said block, a communicating pipe connecting said air pump with means for automatically actuating a discharge valve, whereby a passageway is opened leading from said indicating chamber and the liquid discharged therefrom, substantially as described. 3rd. In a block signal for railways, the combination and arrangement of a transparent chamber exposed to view, a coloured liquid adapted to be forced therein, means for automatically forcing said liquid therein by the passing of a train upon an adjacent track, an air pump located at the opposite end of the block, means for automatically actuating the same by the passage of the train out from said block, a communicating pipe connecting said air pump with means for automatically actuating a discharge valve, whereby a passageway is opened leading from said indicating chamber and the liquid discharged therefrom, and a relief valve operating to automatically release the air from the receiving chamber of said air pump, whereby the air is continually being forced into the apparatus and discharged therefrom after doing its work, substantially as and for the purpose described. 4th. In a block signal for railways, the combination and arrangement of a transparent chamber exposed to view, a coloured liquid adapted to be forced therein, means for automatically forcing said liquid therein by the passing of a train upon an adjacent track, an air pump located at the opposite end of the block, means for automatically actuating the same by the passage of the train out from said block, a communicating pipe connecting said air pump with means for automatically actuating a discharge valve, whereby a passageway is opened leading from said indicating chamber and the liquid discharged therefrom, a relief valve operating to automatically release the air from the receiving chamber of said air pump, whereby the air is continually being forced into the apparatus and discharged therefrom after doing its work, and means connected with the track whereby the air is positively discharged from the operating trip chamber simultaneously with the setting of the signal, substantially as described. 5th. In a block signal for railways, the combination and arrangement of a transparent chamber exposed to view, a coloured liquid adapted to be forced therein, means for automatically forcing said liquid therein by the passing of a train upon an adjacent track, an air pump located at the opposite end of the block, means for automatically actuating the same by the passage of the train out from said block, a communicating pipe connecting said air pump with means for automatically actuating a discharge valve, whereby a passageway is opened leading from

said indicating chamber and the liquid discharged therefrom, an intermediate air pump connected with said communicating pipe and adapted to be operated by hand, whereby air may be forced into said pipe and withdraw said signal in the manner hereinbefore set forth, substantially as described. 6th. The combination of a railway track, a track connection, an air pump suitably connected thereto and operated thereby, two compressing sub-chambers connected by communicating pipe E, one sub-chamber having a movable wall connected to and adapted to operate a signal apparatus, and containing means for discharging the air therefrom after performing work, substantially as described. 7th. In an apparatus for actuating a signal, and analogous purposes in connection with railways, the combination of said railway, a track connection adapted to be actuated by the passage of a train, an air compressing apparatus consisting of two elastic diaphragms g^1, g^2, inclosing a chamber having a centrally fixed diaphragm H^1, a check valve located in an aperture in said fixed diaphragm to permit the rapid passage of air from one side thereof to the other, and means to permit the air to return slowly from the compression chamber, an air compression chamber located contiguous thereto, a valve located in the walls of said chamber, and means connecting the opposite diaphragm from that actuated by the track connection with the valve in said compression chamber in such manner that the action of the diaphragm upon the compression of the air behind it shall open said valve in the compression chamber, and retain the same open during the time of the slow withdrawal of the air from behind the diaphragm operating said valve, substantially as described 8th. In a liquid block signal for railways, the combination of a transparent chamber open to observation upon each side, a coloured liquid adapted to be placed within said chamber, means leading from said chamber to the source of supply of said coloured liquid whereby the same may be withdrawn, and means controlling the discharge of said coloured liquid, consisting of a plate containing two apertures, one aperture connected with said signal reservoir and opening out into the surface of said plate, the other aperture connecting with a discharge pipe and also opening into the face of said discharge pipe contiguous to the opening of the first named aperture, an elastic diaphragm covering both apertures and rigidly secured at its edges to said plate, and means whereby the diaphragm is controlled and held or withdrawn against the pressure of the liquid in the indicating signal chamber, substantially as described. 9th. In a liquid block signal for railways, the combination of a transparent chamber open to observation upon each side, a coloured liquid adapted to be placed within said chamber, means leading from said chamber to the source of supply of said coloured liquid whereby the same may be withdrawn, and means controlling the discharge of said coloured liquid, consisting of a plate containing two apertures, one aperture connected with said signal reservoir and opening out into the surface of said plate, the other aperture connecting with the discharge pipe and also opening into the face of said discharge plate contiguous to the opening of the first named aperture, an elastic diaphragm covering both apertures and rigidly secured at its edges to said plate, means whereby the diaphragm is controlled and held or withdrawn against the pressure of the liquid in the indicating signal chamber, consisting of a swinging block impinging against the outer face of said elastic diaphragm and controlled by a toggle joint, and means for operating said toggle joint upon the passage of a moving train, substantially as described. 10th. In a liquid block signal for railways, the combination with a transparent indicating chamber, of a central opaque diaphragm located therein, the lower edges of said diaphragm being cut out to permit the transmission of light and the free communication between the liquid upon either side thereof, substantially as described. 11th. In an apparatus for actuating a signal and analogous purposes in connection with railways, the combination of a railway, a track connection adapted to be actuated by the pasage of a train, an apparatus consisting of two elastic diaphragms inclosing a chamber having an interposed, centrally-fixed diaphragm, a check valve located in an aperture in said fixed diaphragm to permit the passage of air from one side thereof to the other, and means to permit the air to return slowly from the compression side of said diaphragm to the initial pressure side, substantially as described, 12th. In a track signal device, the combination of a track consisting of two rails, a spring rail in connection with each rail thereof, not adjacent but successive one to the other, block connections adapted to be operated by the spring rails respectively, connections between the blocks arranged in such manner that the depression of one block on one side operates to withdraw the other block from operative contact with the outside spring rail, and means to hold it in an inoperative position, substantially as described. 13th. In a combined track and signal device for railways, the combination of a single track and a rail connection with each rail thereof, the two rail connections not being adjacent but successive in their relative positions, means whereby the operation by a passing train of one rail connection disconnects the other rail connection whereby the same is prevented from operating, a pneumatic retarding device adapted to hold said latter connections in an operative position, and means whereby the length of time it is so held is controlled, substantially as described. 14th. In a signal device for railways, the combination of a track, a rail connection with each rail thereof, the two connections not being adjacent but successive in their relative positions longitudinal with the track, means whereby the operation by a passing train of the rail connection first reached disconnects the other rail connection and prevents the same from operating, an electric connection consisting of a pneumatic retarding device operated by said track connection and carrying therein electrical contacts adapted to engage fixed electrical contacts in such manner that the electric connections are successively operated by the separate track connections, and also successively disconnected from operating and held in an inoperative position by the retarding device, substantially as described. 15th. A combined track and signal connection consisting of the combination of a pneumatic retarding device composed of a lower movable diaphragm carrying thereon an electrical connection, an upper movable diaphragm T^2, means whereby the lower diaphragm is operated by a track connection actuated by a passing train, an interposed fixed diaphragm containing a valved aperature for the quick passage of inclosed air, and a small aperture for the return thereof, substantially as described. 16th. In a combined track and signal connection, the combination of a pneumatic retarding device composed of a lower movable diaphragm, an upper movable diaphragm, means whereby the lower diaphragm is operated by a track connection, a fixed diaphragm interposed between the two movable diaphragms containing a valved aperture for a quick passage of inclosed air from below to the upper side of said interposed diaphragm, a small aperture for the slow return of air, and an unyielding connection between the upper and the lower diaphragm compelling a simultaneous movement of the two diphragms with reference to each other. 17th. In a pneumatic railway signal, the combination of a signal and signal rod, a bellows adapted to actuate the signal rod, and provided with a valve stopped vent, a lever adapted to actuate the valve, and means actuated by the signal rod whereby the valve is opened whenever the rod passes prescribed limits in either direction, substantially as described. 18th. In a pneumatic signal for railways, in combination with the signal and the rod, a catch adapted to engage with and sustain the same, a link adapted to actuate the catch, and a pneumatic bellows adapted to actuate the link, substantially as described. 19th. In a pneumatic signal for railways, the combination of a train actuated lever, an actuating station and a signal station, both provided with bellows, means of communication between the two bellows, a catch adapted to engage with and sustain the signal, a link adapted to actuate the catch, and a pneumatic bellows adapted to actuate the link, substantially as set forth. 20th. In a pneumatic railway signal, the combination of a signal and signal rod, bellows adapted to operate the signal rod, and provided with a valve stopped vent, a lever adapted to actuate the valve, and means actuated by the signal rod whereby the valve is opened whenever the rod passes prescribed limits, and means for retaining the valve open until the signal rod has returned to another prescribed limit, and thence closing said valve, thereby cushioning the further passage of said signal rod, substantially as described. 21st. In a combined switch and signal apparatus, the combination of a switch, a rod and lever operating the same, an extension rod connecting with the rod operating said switch, means consisting of a rotating lever, an intermediate mechanism for operating a semaphor, a casing surrounding the journal of said lever, the perforation therein forming a bearing for an extension rod, and locking means upon said lever whereby the extension rod is adapted to lock the lever in a predetermined position when the switch is thrown, substantially as described.

No. 55,775. Anti-freezing Pump Attachment.

(Appareil pour empêcher les pompes de geler.)



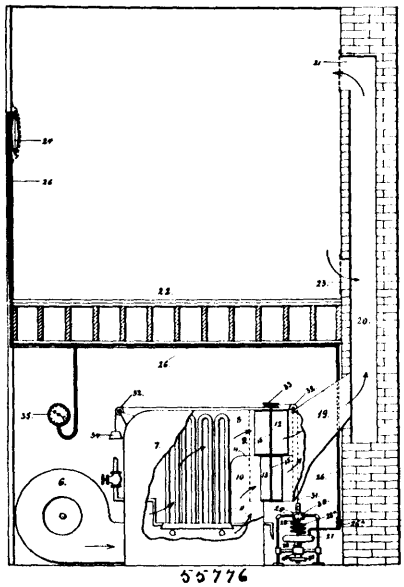
Daniel F. Humphreys, Milton, North Dakota, U.S.A., 3rd May, 1897; 6 years (Filed 7th April, 1897.)

Claim.—1st. In an anti-freezing pump attachment, the combination with a discharge-pipe having a bend therein and an opening formed in said discharge-pipe on the upper side of said bend, of a

valve stationed in said discharge-pipe, adapted, when water is being drawn, to rise and close said opening, and when the drawing of water ceases, to fall and uncover said opening, and means for closing the discharge-pipe below said opening when said valve falls, substantially as described. 2nd. In an anti-freezing pump attachment, the combination with a discharge-pipe having a bend therein, and an opening formed in said discharge-pipe on the upper side of said bend, of a valve stationed in said discharge-pipe, adapted, when water is being drawn, to rise and close said opening, and when the drawing of water ceases, to fall and uncover said opening, a valve-rod attached thereto, an apertured valve head thereon, and a spring-pressed valve held on said valve-head, substantially as described. 3rd. The attachment having upper and lower sockets adapted for connection with the upper and lower portions of the discharge-pipe, an overflow pipe arranged to connect with said upper socket, and a valve device arranged between the sockets and adapted to connect them with each other at the same time it cuts off the overflow pipe from the upper socket, and to cut off the lower socket from the upper socket at the same time the latter is connected or open to the overflow pipe, substantially as described.

No. 55,776. Heating and Ventilating System.

(*Système de chauffage et ventilation.*)



55776

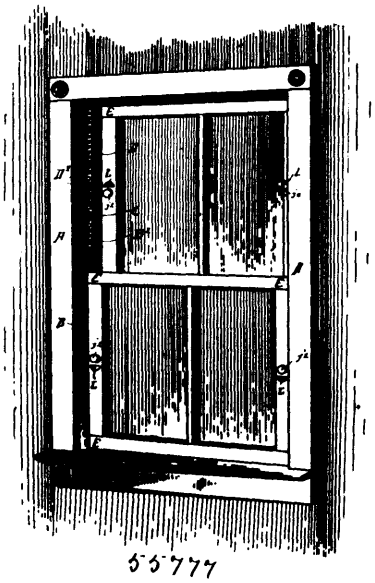
William P. Powers, Chicago, Illinois, U.S.A., 3rd May, 1897; 6 years. (Filed 7th April, 1896.)

Claim.—1st. In an air-heating and ventilating system, separate ducts for currents of air at different temperatures, in combination with means for controlling the flow of the air currents and a gradually-acting thermostatically-governed motor for controlling said means and operating to vary the position of the controlling means according to changes of temperature, substantially as described. 2nd. In an air-heating and ventilating system, separate ducts for currents of air at different temperatures, in combination with means for forcing the air, means for heating the current of air passing through one of the ducts, means for controlling the flow of the air-currents, and a gradually-acting thermostatically-governed motor for controlling said means, the construction of said duct-controlling means being such as to close one of the ducts in proportion to the extent to which the other is opened, whereby the air is directed proportionally through each of said ducts, according to the variations of temperature in the apartment to be controlled, substantially as described. 3rd. In an air-heating and ventilating system, separate ducts for currents of air at different temperatures in combination with valves or dampers for controlling the ducts, a pneumatically-operated pressure device for controlling the valves or dampers and operating against a gradually-increasing resistance, and a thermostat for maintaining the air-pressure proportionally to the temperature of the apartment to be controlled, substantially as described. 4th. In an air-heating and ventilating system, separate ducts for currents of air at different temperatures in combination with valves or dampers, one for each duct and set obliquely with reference to the duct, said dampers being connected to each other, and a gradually-acting thermostatically-controlled motor for controlling the dampers and operating to vary their position according to changes of temperature, substantially as described.

No. 55,777. Sash Fastener. (*Arrête-croisée.*)

Helena A. Book, Waterbury, Connecticut, U.S.A., 3rd May, 1897; 6 years. (Filed 7th April, 1897.)

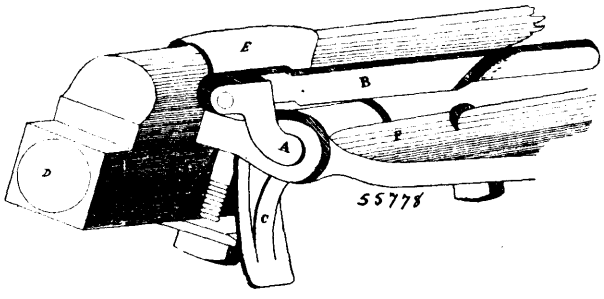
Claim.—In a sash holder and lock substantially as described, the combination with the plate D, having a projected rack portion D^1, of the sash E having a vertical recess of a width equal that of the plate D, whereby to lap the edges of said plate, pinions held to



55777

rotate in the upper and lower ends of the said recess *f*, and to engage rack portions D^1, the plates *j* held in the recess *f*, having a lug member *j* at each end adapted to engage the recesses, the seats in the pinions, the spring device for normally holding the said plate in engagement with the said pinions, such plate having an outwardly-extended member j^1 passing through the sash, substantially as shown and for the purposes described.

No. 55,778. Shaft Coupling. (*Armon de limonière.*)



55778

Stewart H. Ewing and George Deloge, both of Detroit, Michigan, U.S.A., 3rd May. 1897; 6 years. (Filed 26th April, 1897.)

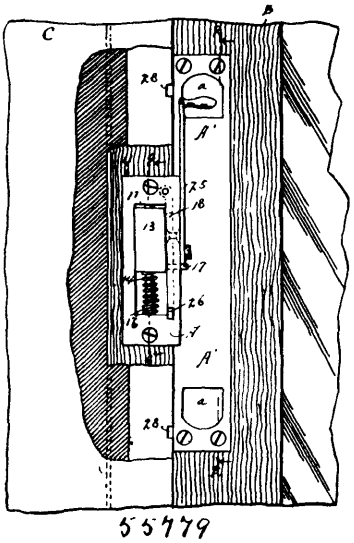
Claim.—The combination of the bolt A, the lever B and the spring C, substantially as and for the purposes set forth.

No. 55,779. Window-Fastener. (*Arrête-croisée.*)

William Gardiner, Elizabeth, New Jersey, U.S.A., 3rd May, 1897; 6 years. (Filed 7th April, 1897.)

Claim.—1st. A window-fastener, consisting of a casing provided with an inclined slot, a block mounted to slide on an inclined guide in the said casing and provided with a projection engaging the said inclined slot, the said block at one point in its movement extending beyond the front face of the casing and at another point being substantially flush with the said front face of the casing, a device for operating the said block, and a latch adapted to be engaged by the projection on the said block and operated when the block is carried to its withdrawn position, as and for the purpose set forth. 2nd. A window-fastener, consisting of a casing having an opening in its front face, a block mounted to slide in the said casing, and which at one point in its movement extends beyond the front face of the casing and at another point is substantially flush with the said front face of the casing, a latch operated by the movement of the said block, and a cam operating upon the said block, as and for the purpose set forth. 3rd. A window-fastener, consisting of a casing having an opening in its front face, and provided with an inclined slot, a block mounted to slide in the said casing, and which at one point of its movement extends beyond the front face of the casing, and a cam engaging the said stud for operating the block, as and for the purpose described. 4th. A casing having an inclined slot and provided with a sliding frictional surface, which surface at one point in its movement is beyond the front face of the casing and at another point is withdrawn from the said front face, the said frictional surface being provided with a projection engaging the said

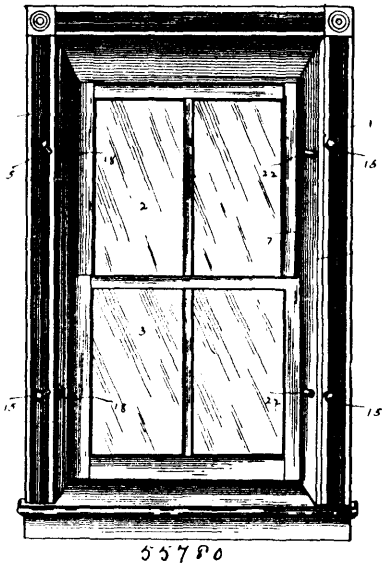
slot in the casing, a latch having an inclined surface adapted to be engaged by the said projection, the said latch being operated by the



55779

movement of the frictional surface when drawn to its withdrawn position, and a cam operating upon the surface, as and for the purpose set forth. 5th. A window-fastening consisting of a casing having an opening in its front face, a pin having a downward and inward inclination and extending longitudinally of the said front opening in the casing, a sliding friction-face having movement on the said pin, the outer portion of the said friction-face being parallel with the outer face of the casing, a latch operated by the movement of the friction-face, and a cam operating upon the said friction-face, as and for the purpose set forth. 6th. A window-fastener consisting of a casing having an opening in its front face and provided with an inclined slot, a pin having a downward and inward inclination and extending longitudinally of the said front opening in the casing, a sliding friction-face having movement on the said pin and provided with a stud working in the slot of the casing, the outer portion of the said friction-face being parallel with the outer face of the casing, a latch operated by the movement of the friction-face, a cam operating upon the stud of the said friction-face, a spring having bearing against the friction-face and compressed when the said face is operated by the said cam, and a tension device connected with the latch, operating to normally force the latch outward beyond the casing, the said projecting portion of the latch being adapted for engagement with a keeper, and the friction-face being adapted for engagement with a surface opposed to the front face of the casing, as and for the purposes specified.

No. 55,780. Window. *(Fenêtre.)*

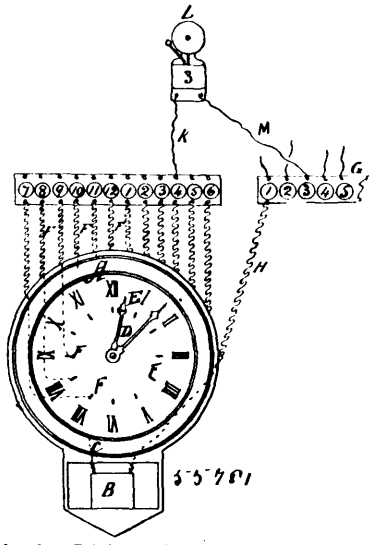


55780

James Madison Wheeler and Matilda Fannie Proskine, both of Fish's Eddy, New York, U.S.A., 3rd May, 1897; 6 years. (Filed 7th April, 1897.)

Claim.—1st. In combination with a window-frame, two sashes located therein, parting-strips extending half-way up said frame, check-rails adapted to guide the sashes, latches secured upon said rails, screws secured upon the casing and adapted to engage the latches when the latter are swung inward whereby the sashes may be locked against vertical movements and lateral vibrations, as specified. 2nd. The herein-described combination of a window-frame, two sashes adapted to slide therein, half-length parting-strips for guiding the sashes when in their lowered position check-rails fitted within the frame and adapted to be moved to and from the sashes, latches carried by said rails, said latches having forked noses, escutcheons secured upon the face of the frame, screws threaded through lugs formed upon said escutcheons, said screws having reduced portions for the engagement of the noses of the latches, and knobs for swinging the latches into engagement with the screws, substantially as and for the purpose set forth. 3rd. The herein-described combination of a window-frame, two sashes adapted to slide vertically therein, half-length parting-strips for guiding said sashes, check-rails fitted within said frame and also adapted to give guidance to said sashes, plates carried by the rails, latches pivoted to said plates, knobs attached to the latches for their operation and forked noses formed with said latches, escutcheons secured to the frame having lugs formed therewith and having openings and elongated slots formed in the escutcheons, and screws threaded through said lugs said screws having reduced portions for engagement with the noses of the latches, substantially as and for the purpose set forth.

No. 55,781. Electric Bell. *(Cloche électrique.)*

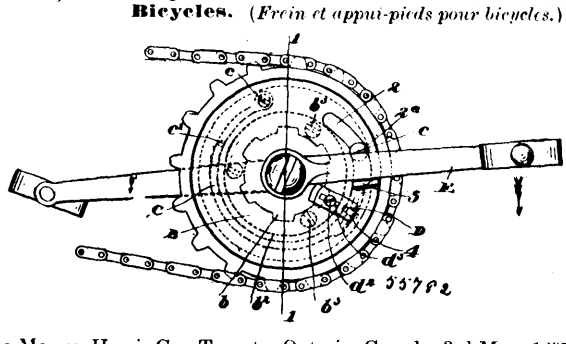


55781

Luc Séraphin Paulet, Lévis, Québec, Canada, 3 mai 1897; 6 ans. (Déposé le 22 mai 1896.)

Résumé.—Un avertisseur électrique, comprenant une horloge A, portant une pile B dont l'un des pôles est réuni au mécanisme, une aiguille D, portant une roulette métallique E, un cadran isolé du mécanisme et pourvu de points de contact tels que F, reliés à des points correspondants aux heures de la journée, une série de points de contact G, désignés par des signes quelconques reliés à l'autre pôle de la pile et une cloche ou autre avertisseur formant un circuit complet, le tout tel que décrit et pour les fins indiquées.

No. 55,782. Stop-motion Brake and Foot-rest for Bicycles. *(Frein et appui-pieds pour bicycles.)*



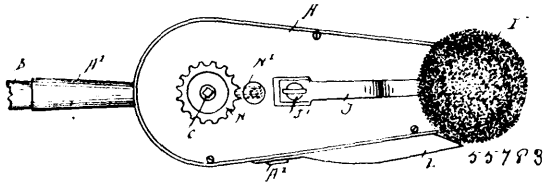
55782

The Massey-Harris Co., Toronto, Ontario, Canada, 3rd May, 1897; 6 years. (Filed 5th April, 1897.)

Claim.—1st. In a stop-motion brake and foot-rest for bicycles, the combination with the crank axle and the pedal cranks, and a drive-wheel loosely mounted on such axle having a brake-flange, of a disc fixedly held on the axle, a band-brake carried thereby and arranged to be engaged by the retarding movement of one of the

pedal-cranks, whereby it is moved into engagement with the brake-flange and a lock mechanism connected with the brake-band adapted to positively connect the loose wheel and the disc when the said brake-band is relieved from pressure of the pedal-crank and to be moved out of a locked position by back pressure on the pedal-crank as set forth. 2nd. The combination with the axle and a drive-wheel loosely held thereon, having a fixed brake-flange, of a disc fixedly secured to the axle, a spring-band held on such disc to encircle the said brake-flange, the free end thereof being projected in the path of one of the pedal cranks, said disc having a lug, a crank loosely held on the axle adapted to engage the brake band by a retarding pressure thereon, and a locking means for connecting the loose and fixed members arranged to be moved to an unlocked position by the brake-band as it is moved toward the brake-flange, substantially in the manner shown and for the purpose specified. 3rd. In a stop-motion brake and foot-rest for bicycles, the combination of a fixed disc upon a crank-shaft, having an extending sleeve and a flange B having recesses *b*, a stout spring secured to and placed at a distance from the axis of the said disc, a projecting lug on one end of the spring and made to pass through an opening in the fixed disc and engage a loosely mounted pedal-crank, on the said shaft, a slot in the said spring placed at some distance from its projecting lugged end, of a sliding plate on the opposite side of the said disc, having projections at each end, the one projecting portion passing through an aperture in the disc and into the slot in the spring, and the other projection passing through a slot to within the said disc at a point towards its centre, substantially as specified. 4th. In a stop-motion brake and foot-rest for bicycles the combination of a fixed disc upon a crank-shaft, a stout spring held on the disc around the shaft and at some distance from its axis, the loose end thereof projecting through the said disc and being engaged by a loosely mounted pedal-crank on the said shaft and a projecting shoulder upon the said disc and made to engage the opposite side of the pedal-crank, of a loosely mounted sprocket carrying disc mounted and arranged to turn in close proximity to the fixed disc, an extending flange having a band on its periphery, and recesses on its inner side secured to the loosely mounted disc within the arc of the spring on the fixed disc, a slidable plate arranged upon the outer side of the fixed disc having projections on each end which pass through the slotted apertures in the said disc, the projection on the outer end engaging in a slot in the spring which encircles the band-covered flange on the loosely mounted-disc, and the projection on the opposite end of the slidable plate, when in its normal position is engaged by one of the the recesses on the inner side of the band, covered flange secured to the loose disc, and thereby locking the same substantially as and for the purpose specified. 5th. The combination, with the crank-axle, the pedal crank loosely held thereon, the disc fixedly held thereon, having a crank engaging stop member 5 and an opening 2 having a recess a^1 disposed adjacent the member 5, and a spring brake-band held on the disc, having one end secured thereto and its free end projected through the opening 2, and provided with a pedal-crank engaging portion, said end being normally held in the recess a^1 of the drive wheel or disc *xx* having a brake-flange provided with a series of internal recesses *b*, and the plate *d*, held to slide on the fixed disc having a member adapted to engage the recesses *b* and having its other end connected to the free end of the brake-band, all being arranged substantially as described.

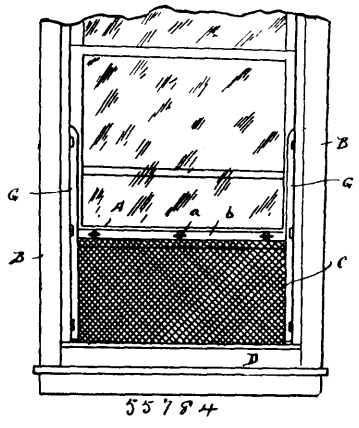
No. 55,783. Rotary Brush. (*Brosse rotatoire.*)



William S. Beard, Pine Bluff, Arkansas, U.S.A., 4th May, 1897; 6 years. (Filed 17th April, 1897.)

Claim.—1st. a rotary brush comprising a casing, a spring-motor held in said casing, a train of gear-wheels driven from said train of gear-wheels, brushes secured on said shaft, brackets held on the casing and forming journals for the outer ends of the shaft, and end brushes held on the extreme outer ends of said shaft, substantially as shown and described. 2nd. A rotary brush comprising a casing, a spring-motor held in said casing, a train of gear-wheels driven from said spring-motor, a brush-shaft journalled in said casing, and driven from said train of gear-wheels, brushes secured on said shaft, brackets held on the casing and forming journals for the outer ends of said shaft, end brushes held on the extreme outer ends of said shaft, and means substantially as described, for stopping and releasing said spring-motor, as set forth. 3rd. A rotary brush, comprising a casing, a brush-shaft projecting from opposite sides of the casing at one end thereof, a brush on each projecting part of the shaft, a spring-motor in the casing and geared with the brush-shaft and a receptacle for receiving the sweepings from the brushes, said receptacle being secured to the underside of the casing, and projecting forwardly under the brushes, substantially as described. 4th. In a brush, the combination with a casing, of a shaft projecting from opposite sides thereof, a brush on each projecting part of the shaft, said shaft projecting beyond the brushes, and end brushes detachably secured to the ends of the said shaft in alinement with the main brushes, substantially as described. 5th. In a brush, the combination with a casing, of a shaft projecting from opposite sides thereof, and having its ends screw-threaded, brushes on the shaft, the said shaft projecting beyond the outer ends of the brushes, end brushes, and nuts secured centrally in the ends of the end brushes, and screwing on the ends of the shaft, substantially as described.

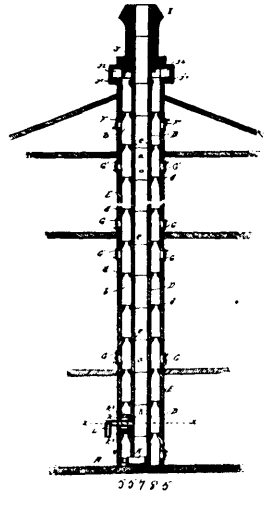
No. 55,784. Window Screen. (*Store de fenêtre.*)



Elmer E. Monroe, Richmond, Indiana, U.S.A., 4th May, 1897; 6 years. (Filed 9th April, 1897.)

Claim.—The combination with a window-frame, and the lower sash, of a spring-controlled roller having a housing D removably supported on the window sill, a screen C having its lower end attached to said roller and its upper end detachably secured to the lower portion of the sash, balls H secured to the side edges of said screen, and the grooved ways G secured to the sides of the window-frame and provided at their lower ends with outwardly-turned guides *h* to hold the housing E in position, and the inner portions of said grooved ways G being enlarged to receive the balls H on the side edges of the screen, substantially as described.

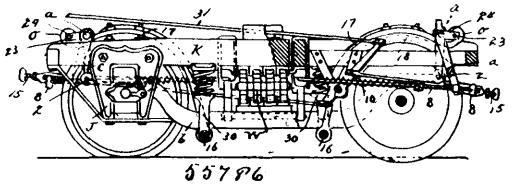
No. 55,785. Safety Flue and Ventilator.
(*Conduit de sûreté et ventilateur.*)



Robert G. Moon, Bedford, Iowa, U.S.A., 4th May, 1897; 6 years. (Filed 9th April, 1897.)

Claim.—A combined smoke and ventilating flue composed of similar sections, the inner sections forming a smoke-passage and the outer sections an air-space surrounding the inner sections, and a top section fitted uponthe topmost inner section and extending over the space between the inner and outer sections, and having a lower flange encircling and forming a space with the top edge portion of the next lower section and having corner-pieces notched in their lower ends to receive the corners of the said next lower section and hold the aforesaid top section in proper position substantially in the manner set forth, for the purpose described.

No. 55,786. Car Brake. (*Frein de chars.*)

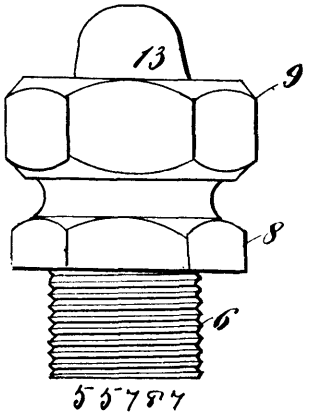


55786

John W. Rice and Jesse Button, both of Springfield, Mass., U.S.A., 4th May, 1897; 6 years. (Filed 9th April, 1897.)

Claim.—1st. The curved brake straps hung by one end to the truck at points below the car-axles, and extending therefrom over the car-wheels, and terminating in loops at their extremities on the opposite sides of said wheels, combined with the eccentric shaft having laterally-extending lugs thereon between which said loops enter and to which they are connected, and means for rocking said shaft, substantially as described. 2nd. The shaft 16, the posts 30, having bearings therein for said shaft, the brake straps 17, hung by one end on said shaft and having loops *o*, on their opposite ends combined with the eccentric shaft *a*, having the lugs 24, between which said loops are connected, and means for rocking said shaft *a*, whereby the said straps are moved toward and from the wheels, substantially as set forth. 3rd. The curved brake straps hung by one end to the truck at points below the car-axles, and extending therefrom over the car-wheels, and terminating in loops at their extremities on the opposite sides of said wheels, combined with the eccentric shaft having laterally-extending lugs thereon between which said loops enter and to which they are connected, the brake-lever 32, a rod connecting said lever, and said eccentric shaft, substantially as set forth. 4th. The eccentric shaft *a*, bearings for the ends of said shaft consisting of the eye-bolts *c*, pivotally connected to the equalizing bars *b* of the truck, combined and operating, substantially as set forth. 5th. The eccentric shaft having the separated lugs 3, 4, 5 thereon, the bolt 6, extending through said lugs, the bearing-block 12, on said bolt, the link 13, having a sliding engagement with said block, the brake-lever 32, connected to said link, and means for longitudinally adjusting said link on said block, combined and operating, substantially as set forth. 6th. The eccentric shaft, the bolt 6, connected to said shaft, and having a screw-threaded perforation through its head, combined with the screw-rod 3, engaging said bolt-head, and having its free end supported in the truck-frame, and the spring 10, carried on said screw-rod, substantially as set forth. 7th. The posts 30, supported on the equalizing-bars *b*, having shaft bearings in their lower ends, the shaft 16, supported in said bearings, the brake-straps 17, hung on said shaft, the collars 19, and 21, and nuts 35, on said shaft, serving to adjust said shaft and straps, and retain the same in operative positions, combined and operating, substantially as set forth.

No. 55,787. Safety Appliances for Steam Boilers, Steam Engines, etc. (*Appareil de sûreté pour chaudières et machines à vapeur.*)

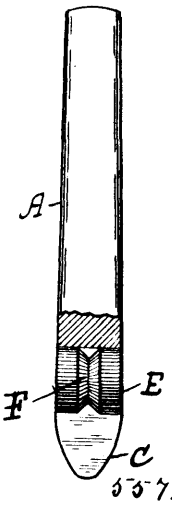


55787

Stanley Reynolds and Harry Reynolds Docking, both of Croyden, assignees of Francis William Greengrass, Epsom, all in Surrey, England, 4th May, 1897; 6 years. (Filed 9th April, 1897.)

Claim.—1st. A safety appliance for boilers, heaters and other steam apparatus, the same consisting of a hollow, semi spherical or dome-shaped restraining device of graduated thickness, and the apex of which is adapted to be blown out, substantially as shown and described. 2nd. A safety appliance for boilers, heaters and other steam apparatus, the same consisting of a hollow, semi-spherical or dome-shaped restraining device of graduated thickness, and the apex of which is adapted to be blown out, said device being provided at its base with an annular flange or rim whereby it is adapted to be connected with a steam apparatus, substantially as shown and described.

No. 55,788. Saw Set. (*Outil à contourner.*)

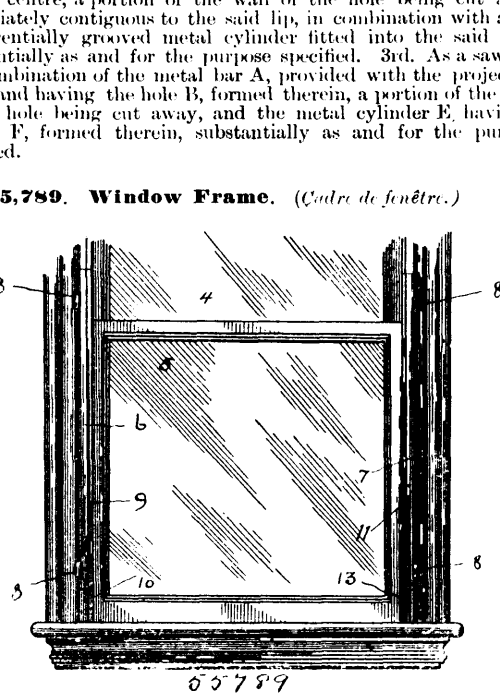


55788

The Welland Vale Manufacturing Co., assignee of Samuel K. Watt, all of St. Catharines, Ontario, Canada, 4th May, 1897; 6 years. (Filed 10th April, 1897.)

Claim.—1st. As a saw set, a metal bar having a projecting lip at its lower end and having formed within it at the upper end of the lip a groove or recess turned to one side from the plane of the face of the said projecting lip, substantially as and for the purpose specified. 2nd. As a saw set, a metal bar having a circular hole formed therein near one end, and a projecting lip extending downwardly with a face parallel to a vertical tangent to the said hole but nearer to the centre, a portion of the wall of the hole being cut away immediately contiguous to the said lip, in combination with a circumferentially grooved metal cylinder fitted into the said hole, substantially as and for the purpose specified. 3rd. As a saw set, the combination of the metal bar A, provided with the projecting lip C, and having the hole B, formed therein, a portion of the wall of the hole being cut away, and the metal cylinder E, having a groove F, formed therein, substantially as and for the purpose specified.

No. 55,789. Window Frame. (*Cadre de fenêtre.*)

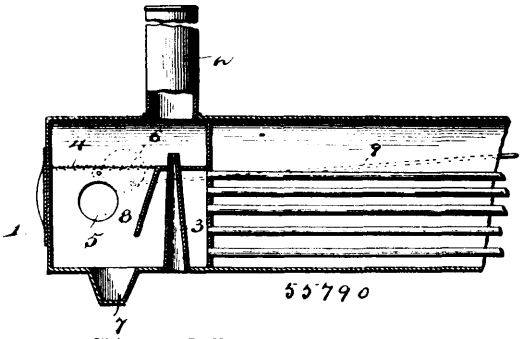


55789

Clarence Rockwell Arnold, Wellsville, Ohio, U.S.A., 4th May, 1897; 6 years. (Filed 9th April, 1897.)

Claim.—The combination of a window-frame provided with inner and outer sashways, movable sections 6 and 7 hinged to the window-frame, and fitting in recesses or cutaway portions thereof, and completing the same, the sections 6 carrying the portions 9 of the bead 10 and adapted to provide an entrance to the ways of the inner or lower sash to permit the same to be removed from and replaced in the window-frame, and the other section carrying the parallel portions 11 and 12 of the beads 13 and 14 of the inner and outer sashways and providing, when swung open, an entrance to both of said ways to permit the upper or outer sash to be removed, and curved bolts mounted on the hinged sections at the inner edges thereof, and concealed within the same and disposed transversely of the window-frame in position for engaging the adjacent portion thereof when the sections are closed, substantially as described.

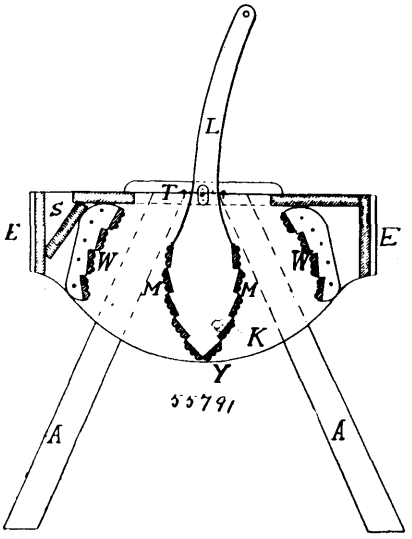
No. 55,790. Draft Regulator. *(Régulateur du tirage.)*



James Frew, Chippewa Falls, Wisconsin, U.S.A., 4th May, 1897; 6 years. (Filed 10th April, 1897.)

Claim.—The combination of the smoke box of a locomotive boiler formed in one side intermediate its top and bottom with a valve controlled air inlet opening, and in its bottom portion with a cinder trap or receptacle, the steam exhaust nozzle extending upwardly within the smoke box and adjacent to the front flue sheet of the boiler, a deflector 8 extended from said front flue sheet of the boiler and arranged in advance of the nozzle and at an inclination, said deflector being set at a slight angle to a vertical plane so as to lie in a plane intersecting both the stack and the cinder trap or receptacle, whereby large cinders are deflected downwardly into the trap or receptacle and whereby air entering the side inlet opening is reflected upward into the stack, and a horizontal intercepting screen extending from the upper end of the inclined portion of the deflector to the front end of the smoke box and disposed in a plane above the side air inlet opening, substantially as set forth.

No. 55,791. Washing Maching. *(Machine à laver.)*



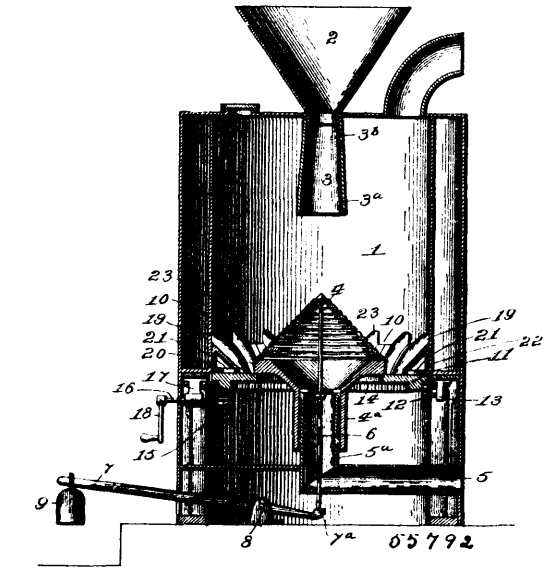
Donald Ross, Sarnia, Ontario, Canada, 4th May, 1897; 6 years. (Filed 10th April, 1897.)

Claim.—1st. The combination of one movable washboard M M and stationary washboards W W and the bottom of the case K substantially as and for the purposes hereinbefore set forth and described. 2nd. The combinations of levers L L and fulcrums F F substantially as and for the purposes hereinbefore set forth and described. 3rd. The combination of the bearing D and swinging cap C substantially as shown for the purposes specified. 4th. In a clothes washing machine the use of levers having a curved form substantially as set forth.

No. 55,792. Furnace. *(Fournaise.)*

James Gardner Sanderson, Scranton, Pennsylvania, U.S.A., 4th May, 1897; 6 years. (Filed 10th April, 1897.)

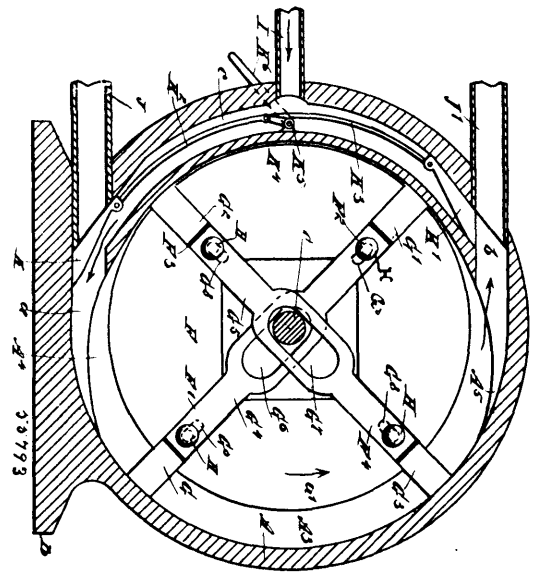
Claim.—1st. The combination of a grate, a rod secured thereto, a pivoted lever adapted to carry the rod at one end, a number of elongated teeth carried by said grate and adapted to be engaged by a rack, and suitable means for reciprocating the rack, substantially as shown and described. 2nd. A grate having a conical head formed of plain and corrugated rings arranged alternately, substantially as shown and described. 3rd. A hollow conical grate formed of plain and corrugated rings arranged alternately one upon the other, having draft-passages between the rings and provided with means for oscillating the grate, substantially as shown and described. 4th. In a furnace, the combination of a suitable boiler, a vertical fuel-magazine located in said furnace, a combustion-chamber having a



conical grate provided with a tubular portion having openings formed in it, located therein, said grate being hollow and having openings from the interior to the combustion-chamber, a draft-passage in communication with the tubular portion of said grate, and suitable means for turning the grate so as to regulate the draft, substantially as and for the purpose set forth. 5th. In a furnace, the combination of a combustion-chamber having a corrugated tapered lower end, a corrugated conical grate fitting in the lower end of said combustion-chamber and having connected therewith suitable means for raising it within the combustion-chamber and at the same time oscillating it, substantially as shown and described. 6th. In a furnace, the combination of a combustion-chamber having a tapered lower end, a grate having a conical head, a rod secured to said grate, a pivoted lever adapted to carry the rod at one end, and to be operated at its other end to raise the grate, a series of teeth carried by said grate, a rack in engagement therewith and a lever secured to the rack for reciprocating it, substantially as shown and described. 7th. A conical grate made of a number of superposed rings resting one upon another with their parallel faces over-lapped to prevent the escape of fuel and spaced apart to form lateral air-passages and having grooves on their surface in communication with the lateral air-passages, substantially as and for the purpose set forth. 8th. A hollow conical grate formed of a number of superposed rings each being provided with openings and lugs, and with lateral projections for forming an intermediate space, substantially as shown and described. 9th. A hollow conical grate formed of a number of rings, each being provided with lugs and openings adpated to fit in a corresponding opening and receive a corresponding lug on a superposed ring for the purpose of spacing the rings apart and prevent any relative movement of the rings, substantially as shown and described. 10th. A furnace having a fuel-magazine, a combustion-chamber with an inwardly-inclined base, a conical grate located beneath the magazine and within the combustion-chamber, a vertical rod supporting the said grate, a pivoted lever supporting the said rod, and a lever having means in connection therewith for revolving or oscillating the grate, substantially as shown and described. 11th. In a furnace having a conical grate, a ribbed end tapering fire-pot surrounding the grate, and means for rotating said fire-pot, substantially as and for the purpoce set forth. 12th. In a furnace having a conical grate, a tapered ribbed fire-pot mounted in a horizontal position concentric with the grate, rollers upon which said fire-pot is rotatable and means substantially as described for engaging and rotating the fire-pot, substantially as and for the purpose set forth. 13th. In a furnace having a conical grate, a ring mounted horizontally and concentrically with the grate adjacent to its lower edge, the toothed or ribbed segments mounted upon said ring and tapering toward the edge of the grate, and means for producing a relative motion between the grate and ring, substantially in the manner and for the purpose set forth. 14th. In a furnace having a conical grate, and suitable means for discharging ashes therefrom, a downwardly flaring fuel-magazine mounted centrally above the conical grate, substantially as and for the purpose set forth. 15th. In combination with a furnace having a lifting conical grate, a lever for imparting the lifting movement to the grate, and a counterbalance on the lever, for counterbalancing the weight of the fuel on the grate, substantially as described. 16th. In a furnace, the combination of a conical grate, a ring mounted horizontally and concentrically with its inner edge beneath the grate, means for rotating one of the said parts, and means for counterbalancing the weight of the grate and its load.

substantially as and for the purpose set forth. 17th. In a furnace, the combination of the conical grate, having a tubular extension, a draft flue telescoping with said tubular extensions, a rod mounted axially in the grate and extending downwardly beyond the flue, and a counterbalanced lever suitably fulcrumed and supporting said rod, all substantially as herein set forth. 18th. In a furnace, the combination of a conical grate, a suitable fire-pot, a flue for supplying air or steam for supporting combustion, and having an upward extension, a central rod supporting the grate, and a downward tubular extension on the grate telescoping with the upward extension on the flue, substantially as and for the purpose set forth. 19th. In a furnace, the combination of a conical grate having suitable means for supporting it, a fire-pot having formed on its under side a circular rack, a pinion working in said rack, a shaft turning said pinion, and means without the furnace for turning said shaft, substantially as and for the purpose set forth.

No. 55,793. Rotary Engine. (*Machine rotative.*)

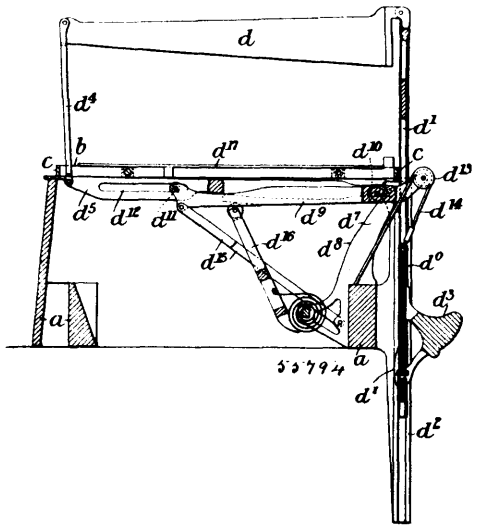


William Joseph Walker, Canmore, Alberta, N.W.T., 4th May, 1897; 6 years. (Filed 10th April, 1897.)

Claim.—1st. A rotary engine, comprising a cylinder formed with a segmental working chamber having tangential inlet and outlet ports, a piston mounted to turn in the said cylinder, and sets of piston heads, of which each set has its heads arranged to slide diametrically on the piston, so that one head in moving inward on coming in contact with the surface of the cylinder causes the other head to move outward into the said working chamber to be acted on by the motive agent, so as to turn the piston, substantially as shown and described. 2nd. A rotary engine provided with a cylinder, a piston having movable piston heads, and operating in the said cylinder, the latter being provided with a supply port, and tangential ports opening into the cylinder diametrically opposite each other and connected with the said supply port, exhaust pipes connected with the said cylinder, ports and valves for controlling the opening and closing of the said exhaust pipes, and a connection between the supply port and the cylinder ports, substantially as shown and described. 3rd. A rotary engine provided with a cylinder, a piston having movable piston heads, and operating in the said cylinder, the latter being provided with a supply port, tangential ports opening into the cylinder diametrically opposite each other and connected with the said supply port, exhaust pipes connected with the said cylinder, ports and valves for controlling the opening and closing of the said exhaust pipes, a connection between the supply port and the cylinder ports, and means substantially as described for imparting a simultaneous movement to the said valves, as set forth. 4th. A rotary engine provided with a piston having diametrically arranged grooves, piston heads fitted to slide in the said grooves, bars for connecting opposite piston heads with each other, and bolts for connecting the said bars to the said heads, the bolts passing through elongated slots in the said heads, to permit of adjusting the latter to take up the wear, substantially as shown and described. 5th. A rotary engine comprising a cylinder, a piston mounted to move in said cylinder, a shaft carrying the said piston and extending through the cylinder heads, the shaft being provided with collars and packing devices for each cylinder head, and each formed of a flexible disc having two rings, of which one presses against the said collar, and the other against the inner face of the cylinder head, substantially as shown and described. 6th. A rotary engine provided with a packing device, comprising a flexible disc and two rings secured thereon, substantially as described.

No. 55,794. Cheese Cutting Apparatus.

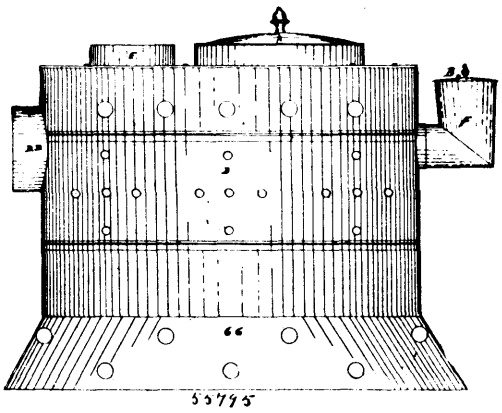
(*Couteau à fromage.*)



Alfred Saunders, Brighton, England, 4th May, 1897; 6 years. (Filed 10th April, 1897.)

Claim.—1st. A cheese cutting apparatus wherein a knife or wire is connected to slides or other devices and designed when not required for use to be pulled below the top of the counter or platform in connection with which it is arranged, substantially as described. 2nd. In an apparatus for cutting cheese, the combination of a knife carried by a slide and adapted to move through a slot in the table or platform of the apparatus, the sides of which slot are designed to move toward each other when the knife is not between them, substantially as described. 3rd. In apparatus for cutting cheese, the combination of a cutting wire adapted to work through a slot in a table or platform, the said wire being permanently secured at one end and at the other end attached to a slide moving in suitable guides, substantially as described. 4th. In apparatus for cutting cheese, a wire designed to pass through a slot in a table or platform, the said wire at one end being attached to a slide and at the other end to a movable arm or lever, so that the said wire is operated from both ends, substantially as described. 5th. In apparatus for cutting cheese, the combination of a cutting wire attached to straight steel bands adapted to be coiled upon a drum and to be operated through suitable gearing, substantially as described.

No. 55,795. Heating Stove. (*Poêle de chauffage.*)

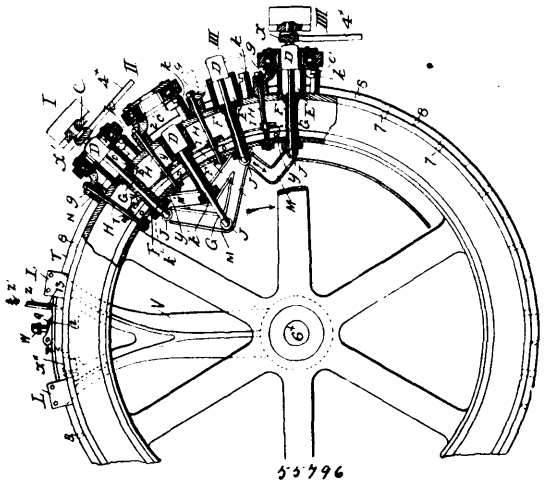


Eliza Jane Climo, assignee of Jonathan Brey Climo, both of Coburg, Ontario, Canada, 4th May, 1897; 6 years. (Filed 10th April, 1897.)

Claim.—As an article of manufacture, a sheet metal heating stove comprised of an outer shell or body D, having bottom plate W, air openings O, H, D, D, and a flaring base G, G, movable top C, having openings for smoke pipe and feeding E and E, E, fire-box H^1, having an integral bottom and cleats 1, 2, 3, 4, 5, draught pipe F having cover B, all constructed, formed and combined substantially as and for the purpose hereinbefore set forth.

No. 55,796. Machine for Finishing Leather.

(*Couteau à fromage.*)



55796

Ellis Spear and Frank Leander Middleton, both of Washington, Columbia, assignees of Alonzo Louis Sweet, Chicago, Illinois, all in the U.S.A., 4th May, 1897; 6 years. (Filed 8th July, 1895.)

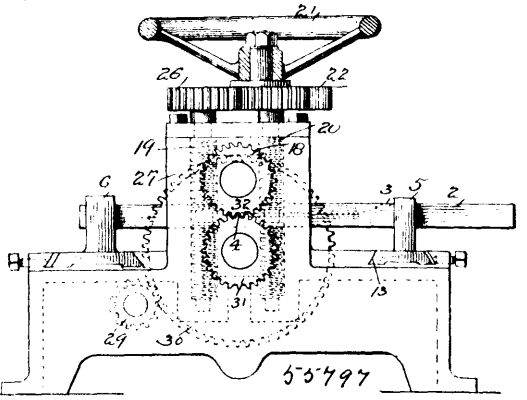
Claim.—1st. In combination, a die comprising die members and clamping means, a movable carrier for the die and its clamping means to move the same from station to station and means for operating the clamping means automatically as the die with its clamp reaches the proper station, substantially as described. 2nd. The die comprising the frame, the die members, the clamping ring having the cam surfaces and the inclined fingers for returning the dies to normal position. 3rd. The die comprising the die members, the rollers having extended axles, the clamping ring having cam surfaces acting on the roller, and the inclined fingers to engage the roller axles, substantially as described. 4th. In combination, the die comprising the die members with means for moving them towards and from each other said members co-operating to form a die cavity between them, and the loop stick with means for moving the same into and out of the die cavity, said dies when in their inward position pressing the blank simultaneously about all sides of the loop stick located between them, substantially as described. 5th. In combination, a movable carrier, a die mounted thereon to move therewith and comprising a series of die members movable towards and from each other and co-operating to form a die cavity between them, means also movable with the carrier to clamp said dies and a loop stick, also mounted on the carrier to move therewith and means for reciprocating the loop stick into and out of the die cavity, substantially as described. 6th. In combination, the die comprising the frame, and the die members forming a die cavity between them, the reciprocating loop stick with operating means for moving the loop stick into and out of said cavity and means for moving the die into and out of line with the loop stick, substantially as described. 7th. In combination, the movable carrier, the and loop stick carried thereby, means for moving the die into and out of line with the loop stick and means for advancing and retracting the loop stick, substantially as described. 8th. In combination, the movable carrier, the swinging die thereon having a die cavity, the reciprocating loop stick with means for moving the same into and out of the die cavity and means for operating said parts, substantially as described. 9th. In combination, the reciprocating loop stick, the die movable into and out of line with the same, the support for the die and loop stick and means for advancing and retracting the loop stick to and from the die, and also, for advancing and retracting the loop stick when the die is moved aside, substantially as described. 10th. In combination, the die comprising the die members, the reciprocating loop stick arranged to enter the cavity and means reciprocating with the loop stick for closing said cavity, substantially as described. 11th. In combination, the die comprising the die members, forming a die cavity between them, the loop stick movable into and out of the die cavity, with operating means therefor and means adjacent to the loop stick arranged to receive the same when retracting and to discharge the loop therefrom, substantially as described. 12th. In combination, the die comprising the die members, forming a die cavity between them, the reciprocating loop stick movable into and out of the die cavity and means reciprocating therewith arranged to receive the loop stick when retracting to discharge the loop therefrom, substantially as described. 13th. In combination, the die comprising the frame, with the die members, the reciprocating loop stick movable into and out of the die, means reciprocating with the loop stick to close the opening, said means being movable independently of the loop stick and acting to discharge the loop from the loop stick, substantially as described. 14th. In combination, the die comprising the frame, with the die members, the reciprocating loop stick movable into and out of the die, and the loop stick case reciprocating with the loop stick and arranged to close the opening and means for operating the said case and loop stick whereby the said stick will retract within the case to discharge the loop, substantially as described. 15th. In combination in a die frame, the radially movable die members, the loop stick, the front plate *n* and the removable bushing *m*, substantially as described. 16th. In combination, in a die, the frame, the radially movable die members, the loop stick with means for reciprocating the same, means for moving the die aside, and the bushing *m* on the die arranged to receive the loop stick when advanced, substantially as described. 17th. In combination, the movable carrier, the loop sticks and cases movable on the same, the dies movable into and out of line with the loop sticks and cases and means for retracting the loop stick and case from the die and for retracting the loop stick within the case, for advancing the loop stick and case and protruding the stick to receive a new blank, and for retracting and advancing the said stick and case in the same relative position to the die, and means for operating the die to and from position, substantially as described. 18th. In combination, the die comprising the die members, the reciprocating loop stick, the reciprorating case, the supports for said parts, means for moving the die into and out of line with the loop stick, means for advancing the loop case and protruding the loop stick therefrom to receive the new loop and for retracting and advancing the loop case and stick in the same relative position to place the loop in the die, substantially as described. 19th. In combination, the carrier, the dies, the reciprocating loop stick having shanks, the loop stick cases with hollow shanks, the rollers on the shanks, the cams M, M[1] for operating the said parts and means for moving the dies into and out of line with the loop stick, substantially as described. 20th. In combination, the carrier, the dies, the reciprocating loop stick and case, the cam tracks M, M[1] for operating said parts, the said tracks meeting at one point and a single track to operate both the loop stick and case simultaneously, substantially as described. 21st. In combination, the carrier, the dies pivoted thereto, the shafts H connected to the dies, the cam Y for operating the shafts and dies and the reciprocating loop sticks on the carrier with means for operating the same. 22nd. In combination, the carrier, the dies comprising the die members and the clamping ring and means for operating the said ring comprising the upper and lower arms to engage parts of the ring, said arms being pivotally supported. 23rd. In combination, the carrier, the dies with the rotary clamping rings and the pivoted yoke arranged at one station to engage and turn the ring when the die arrives at the said station. 24th. In combination, the carrier, the dies with clamping rings, the pivoted yoke arranged at one station for operating the ring and the guide rollers for steadying the carrier, substantially as described. 25th. In combination, the moving carrier, the dies with the clamping rings supported on the carrier to move therewith and means for turning the rings arranged adjacent to the path of the die for operating the ring when the die arrives at that station, substantially as described. 26th. In combination, the carrier, the reciprocating loop sticks, the dies pivoted to the carriers and arranged to be swung upwardly and the catch studs adapted to support the dies in proper position, substantially as described. 27th. In combination, the carriers comprising the inner and outer flanges, the loop sticks reciprocating therein, the pivoted die frames, and the shafts H therefor journalled in said flanges, substantially as described. 28th. In combination, the carrier, the dies and loop sticks, the vibrator, the push pawl carried thereby, the stop pin and the releasing pawl also carried by the vibrator, substantially as described. 29th. In combination, the carrier, the dies with the clamping rings and the locking and unlocking means arranged adjacent to the path of the carrier to operate the said rings, substantially as described. 30th. In combination, a loop stick, a die, means for moving one of said parts into and out of line with the other and means for moving one of said parts in a direction axially of the loop stick and die cavity whereby the loop stick will enter the die cavity, substantially as described.

No. 55,797. Machine for Making Seamless Leather Articles. (*Machine pour faire des objets en cuir sans couture.*)

Ellis Spear and Frank Leander Middleton, both of Washington, Columbia, assignees of Alonzo Louis Sweet, Chicago, Illinois, all in the U.S.A., 4th May, 1897; 6 years. (Filed 8th July, 1895.)

Claim.—1st. In a splitting machine, the combination of the knife, the rollers and the guides for the leather having ways or grooves for the side edges thereof, said knife being intermediate of and in line with said ways. 2nd. A splitting machine for leather and the like, comprising a knife, the rollers for engaging the leather and guiding the same, and means for holding and guiding the leather at its edges, consisting of the movable frame having bearings for the edges of the leather, substantially as described. 3rd. A splitting machine comprising the knife, the rollers and the movable carrier for the leather engaging the side edges thereof, and means for operating the rollers to feed the leather with its carrying frame forward to the knife, substantially as described. 4th. A leather splitting machine, comprising the knife, the rollers, the carrying frame comprising the side bars having shoulders against which the leather abuts and means for operating the rollers to feed the leather with said guide bars forward, substantially as described. 5th. A

leather splitting machine, comprising the knife and the leather carrrying means, consisting of the side bars having grooves in the



inner sides to receive the edges of the leather, and means between the bars for engaging and guiding the leather to the knife, substantially as described. 6th. A leather working machine, comprising the knife and the guide and holding bars having grooves in their faces to receive the edges of the leather and the rollers arranged to engage and guide the leather intermediate of the said grooved bars, substantially as described. 7th. A leather splitting machine, comprising the knife, the guide bars having the grooves to receive the edges of the leather and the stop shoulders at the ends of said grooves, and the guiding means for the leather intermediate of the guide bars, said knife being of less width than the distance between the grooves of the guide bars. 8th. A leather splitting machine, comprising the knife, the grooved bars for holding the leather, the intermediate guiding means for the leather, said grooved bars being adjustable towards and from each other, substantially as described. 9th. A leather splitting machine, comprising the knife, the grooved guide bars, the rollers and the bearings for the grooved bars, arranged to slide laterally in ways in the frame, substantially as described. 10th. A leather splitting machine, comprising the knife, the grooved guide bars, adjustable laterally of the machine and the rollers made up of sections arranged to be held by said guide bars to make a roller of greater or less length, substantially as described. 11th. A leather splitting machine, comprising the knife, the grooved guide bars, adjustable towards and from each other laterally of the machine, and the roller made up of adjustable sections, splined to the roller shaft on each side of a solid shaft portion, said sections being arranged to be held in engagement or separated to make a longer, or shorter roller, substantially as described. 12th. In combination in a leather splitting machine, the rolls, the carrying frame for the leather having ways engaging the side edges thereof and arranged to move the said leather against the knife, and the knife with means for reciprocating or oscillating the same intermediate of said ways, leaving the side edge of the leather intact, substantially as described. 13th. In combination the frame, the guide bars for holding the leather, the upper and lower rolls, the knife and means for adjusting the rollers towards and from the cutting line, consisting of the right and left screws and the movable boxes having threads engaging the screws, substantially as described. 14th. A leather splitting machine, comprising the knife, the carrying frame for the leather and the clamping means thereon for clamping the edges of the leather, substantially as described. 15th. A leather splitting machine, comprising the knife, the carrying frame for the leather comprising the two guide bars and a clamping means carried by said guide bars to clamp the edges of the leather, substantially as described. 16th. A leather splitting machine, comprising the knife, the grooved bars for holding the leather and the clamping means for holding the leather edges in said grooves, substantially as described. 17th. In combination the knife, the grooved guide bars, the clamping jaws carried thereby and forming between them continuations of the said grooves and means for operating the said clamps, substantially as described. 18th. In combination the knife, the guide bars having recesses, the clamping jaws carried thereby and having inclined ribs, the clamping slide having inclined recesses engaging therewith, and the operating rod extending through the guide bars, substantially as described. 19th. In combination the knife, the guide bars arranged to receive the leather, the clamps carried by the guide bars and the operating connections between the clamp arranged to operate them simultaneously and uniformly, substantially as described. 20th. In combination the knife, the recessed and grooved guide bars, the clamping jaws forming continuations of the grooves and movable towards and from each other and the clamping slides,, with means for operating the same longitudinally, said slides having connections with the clamping jaws, substantiallly as described. 21st. A leather splitting machine, comprising the leather carrying bars adjustable towards and from each other, the knife arranged between the bars and the rollers adjustable as to width, substantially as described. 22nd. In combination in a leather splitting machine, means for holding and guiding the side edges of the leather, the knife arranged betweeen said holding means to act on the leather intermediate of its edges, means for reciprocating or oscillating the knife and the feed rolls for feeding the leather to the knife, substantially as described.

No. 55,798. Photometer. (*Photomètre.*)

FIG. 1.

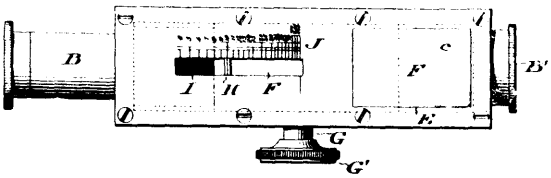
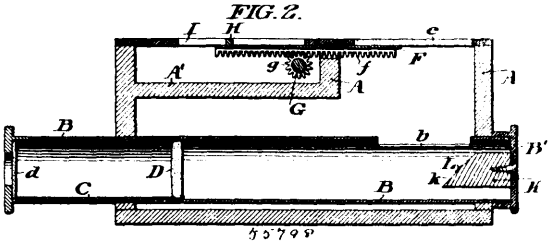


FIG. 2.



Edwin James Houston and Arthur Edwin Kennelly, both of Philadelphia, Pennsylvania, U.S.A., 4th May, 1897; 18 years. (Filed 1st July, 1896.)

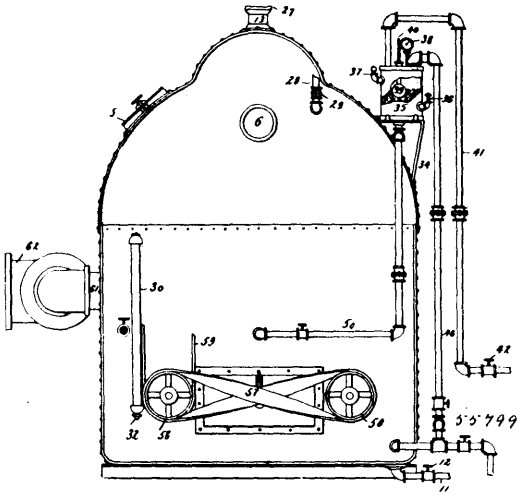
Claim.—1st. The hereinbefore described method of measuring illumination, which method consists in definitely diffusing the effective light in a given region by means of a secondary illuminator, exposing a test object in definite relation to such diffused secondary illumination only, definitely obscuring the test object to the limit of visibility, and comparing with a standard, that condition of illumination of the test object which corresponds with the limit of visibility of said test object, substantially as set forth. 2nd. The combination of an inclosed chamber having a definite aperture for the restricted admission of light, a secondary illuminator, substantially as set forth, a test object arranged within said chamber in definite relation to said secondary illuminator and exposed to the secondary illumination only, means substantially as set forth for permitting inspection of the test object, and means substantially as set forth for obscuring the test object to the limit of visibility. 3rd. The combination of a closed box having an aperture for the restricted admission of light, a secondary illuminator arranged in the described relation to said aperture, a test object arranged within said box in definite relation to said secondary illuminator and exposed to secondary illumination only, an aperture for permitting inspection of the test object, and means substantially as set forth for reducing the secondary illumination to the limit of visibility of the test object. 4th. The combination of a light-proof box, having an aperture for the restricted admission of light, a plate of translucent material covering the said aperture, means substantially as set forth for reducing the area of said aperture, a test object arranged within said box in definite relation to said plate and exposed to the illumination through said translucent material, and means substantially as set forth for permitting inspection of the test object.

No. 55,799. Process of and Apparatus for Separating Naphtha and Oil. (*Procédé et appareil pour séparer le naphte et l'huile.*)

Gottlieb F. Wetzger, Elyria, Ohio, U.S.A., 4th May, 1897; 6 years. (Filed 21st July, 1896.)

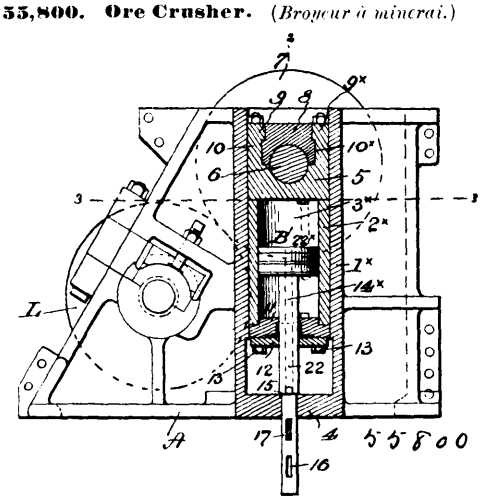
Claim.—1st. The herein described process of separating oil from its volatile solvent, which consists in heating the mixture of oil and solvent to a temperature at which the solvent will vapourize, in injecting hot water into said mixture, in mechanically agitating the mass, and removing the resulting vapours until the vapourization of the solvent is completed, substantially as and for the purpose specified. 2nd. In an apparatus for separating naphtha from oil, the combination of a separator tank, having a vapour outlet, with a heating device, water pipes, and mechanical agitators, all contained within said tank below the operative level of the mixture therein, a hot water tank, connected with said water pipes, and means for forcing hot water from said tank into and through said water pipes, substantially as and for the purpose specified. 3rd. In an apparatus for separating naphtha from oil, the combination of a separator tank having an oil and naphtha inlet, a vapour outlet, and an oil outlet, with a steam coil, and one or more perforated spraying pipes within the tank, a steam inlet pipe connected with said coil, a water tank connected by a pipe with the outlet end of said coil, and a hot water pipe connecting said tank with said perforated pipes, substantially as and for the purpose specified. 4th. In an apparatus for separating naphtha from oil, the combination of a tank having an arch-shaped top, a trough suspended in the tank near said top, and one or more vapour exit pipes connected with said trough and

passing therefrom downward and out of said tank, with means for heating the contents of the tank to a temperature which will



vapourize the naphtha, substantially as and for the purpose specified. 5th. In an apparatus for separating naphtha from oil, the combination of a tank having an oil and naphtha inlet, and an oil outlet, with a steam coil, one or more spraying pipes, and a trough, all within the tank, and vapour exit pipes leading from said trough outside of said tank, a steam inlet pipe connected with said coil, a water tank connected by a pipe with the outlet end of said coil, and a hot water pipe connecting said tank with said spraying pipes, substantially as and for the purpose specified. 5th. In an apparatus for separating naphtha from oil, the combination of a tank having an oil and naphtha inlet, a vapour outlet, and an oil outlet, with a steam coil, and one or more spraying pipes, all within the tank, with steam outlet and inlet pipes connected to opposite ends of said coil, a hot water pipe connected to said spraying pipes, and means for forcing hot water through said pipes, and a combined safety and vacuum valve connected with said tank, substantially as and for the purpose specified.

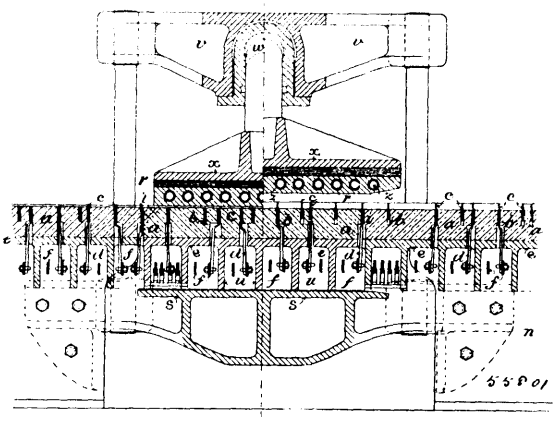
No. 55,800. Ore Crusher. (*Broyeur à minerai.*)



John Roger, Denver, Colorado, U.S.A., 5th May, 1897; 6 years. (Filed 21st September, 1896.)

Claim.—1st. In an ore crushing mill, the combination of a crushing-roller journalled in stationary bearings, movable cylinders formed with bearings, and having upper and lower conduits communicating between the cylinders, a crushing-roller journalled in the bearings of the cylinders, and stationary pistons in the cylinders having hollow stems opening, respectfully, above and below the piston-heads, whereby the elastic medium is delivered into the cylinders above or below the piston-head. 2nd. In a crushing roller-mill, the combination of vertically arranged housing, sliding bearings in the housing, formed with cylinders and connected by a cross piece having a passage opening into the base of each cylinder, pistons in the cylinders, one of which is formed with a stem having an interior passage opening into the cylinder below the piston, and a pipe leading into the hollow piston stem to conduct an elastic fluid into the cylinder, substantially as and for the purpose specified. 3rd. In a crushing roller-mill, the combination of oppositely arranged vertical housings, sliding bearings in the housings formed with cylinders and connected by a cross-piece having upper and lower passages opening respectfully at the top and bottom of the cylinders, pistons in the cylinders provided with hollow stems, opening respectively above and below the pistons into the cylinders, and pipes leading into the passages of the piston stems to conduct an elastic fluid above or below the pistons, substantially as described.

No. 55,801. Manufacture of Linoleum, Cork Carpets etc. (*Machine pour la fabrication de linoleum tapis de liége etc.*)



John Ingleby, Headingly Leeds, York, England, 5th May, 1897; 6 years. (Filed 17th October, 1895.)

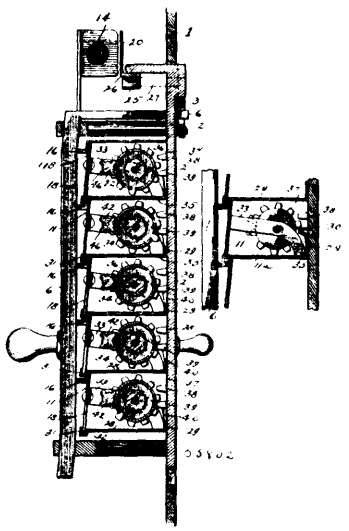
Claim.—1st. A machine for the manufacture of linoleum, cork carpets and the like fabrics, comprising moulds A, formed of side and end pieces *h* and *i* and a block or blocks *a*, having the upper surface grooved along the outlines of the desired pattern, and provided with retractile web *c* fitting in said grooves and capable of retractile movement therein, said blocks *a* mounted on successive bed mould plates *e*, which latter are carried capable of being slid thereon on a bed slide B, means and connections for setting up, supporting and withdrawing said end pieces and webs *c*, consisting of rails *o* and *p* cross bars f^1 f^{11} and f^{111}, vertical rods *d*, and side rods *g*, and a press having a press plate *y* acting during compression on the side plates *h* all substantially as set forth. 2nd. In a machine for the manufacture of linoleum, cork carpets and the like fabrics, a mould consisting of blocks *a*, grooved or divided on the upper portion along the outlines of the desired pattern, provided with retractile webs *c* fitting therein capable of retractile movement, whereby the webs can be set up to the height of the uncompressed material and withdrawn until their outer edges are perfectly level with the surface of the blocks *a*, substantially as set forth. 3rd. In an apparatus for the manufacture of linoleum and the like fabrics, the combination of grooved blocks *a*, retractile webs *c*, connecting rods *d*, cross bars *f*, and the side rods *g*, substantially as herein set forth. 4th. In apparatus for the manufacture of linoleum and the like fabrics, the combination of grooved blocks *a*, mould plate *e*, connecting rods *d*, cross bars *f*, hinged locking bars *i* and retractile webs *c*, substantially as and for the purpose herein set forth. 5th. In apparatus for the manufacture of linoleum and the like fabrics, the combination of a bottom press plate *s*, movable top press plate *y* with a compartment mould formed of movable side and end plates *h* and *i* and grooved block or blocks *a*, having retractile webs *c*, and the mould plate *e*, substantially as herein set forth. 6th. In compartment moulds used for manufacturing linoleum and the like fabrics, the combination of retractile webs *c*, attached to the side plates *h* depressed only by the action of the press plate *y* and supported up to the press by rails *o*, with independent retractile webs c^1, and additional supporting rails *p*, the webs of the series last mentioned being arranged to drop when left unsupported by the rails last mentioned, substantially as set forth. 7th. In apparatus for the manufacture of linoleum and similar fabrics, a series of moulds divided into compartments, retractile webs corresponding to the boundary lines between the different colours and tints of the pattern, devices for locking these moulds together, mechanism for compressing their contents, and mechanism for withdrawing the said webs, substantially as set forth. 8th. In apparatus for the manufacture of linoleum and similar fabrics as above described and claimed, the modification obtained by arranging the retractile webs so as to divide the space of the mould into numerous small compartments, uniform in size and shape or sizes and shapes, for the purpose of being able to produce fresh designs from the same mould by merely using fresh stencil plates, substantially as set forth.

No. 55,802. Voting Machine. (*Machine à voter.*)

Adrian Orren Abbott, Hudson, Michigan, U.S.A., 5th May, 1897; 6 years. (Filed 12th February, 1897.)

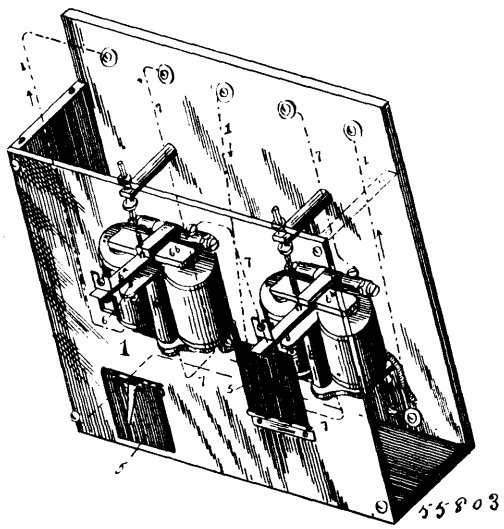
Claim.—1st In a voting machine the combination of the series of slides each provided with registers having main spur-wheels, and

movable to bring said registers into voting position, and a drop-bar having means for engaging the main spur-wheel of each register



thus brought into voting position and actuating it as explained. 2nd. In a voting machine, the combination of the slides containing means for indicating a vote and movable to bring said means into a voting position, a drop-bar for actuating said means thus brought into voting position and the rectifying-bar constructed to bring into accurate alignment the portions of the slides to be voted and having working connection with said drop-bar for releasing it, as explained. 3rd. In a voting machine the combination of the slides each containing a series of wheel-registers having a toothed actuating wheel, and movable to bring any register into a voting position, and a drop-bar mounted to reciprocate and having teeth projecting into the plane of the tooth-actuating wheels when in voting position, as explained. 4th. In a voting-machine, the combination of the movable slides having registers, the drop-bar arranged to actuate said registers, the pawl engaging said drop-bar to hold it in an elevated position and the rectifying-bar having releasing connection with said pawl, as explained. 5th. In a voting machine, the combination of the movable slides arranged to be moved to bring selected portions of them into a voting position, the return-bar 19 for returning the slides to normal position, an inclosure for the voting-machine, having a door, and connection between the door and inclosure, and the bar 19 whereby the latter is operated to return the slides by the exit of the voter, substantially as explained. 6th. In a voting-machine, the combination of the registering device, the drop-bar for actuating the same having the projecting end 27, and the inclined elevating tongue 25, movable beneath the projection 27 for raising the drop-bar, as explained. 7th. In a voting-machine, the combination of the slides having means for indicating a vote add movable to bring said indicating means into voting position, the return-bar 19 arranged to engage all the slides and movable for returning them to normal position, and means for fixing said bar 19 at different points for the purpose of cutting off the movement of the slides and preventing the bringing of their ends into the voting position when it is desired to prevent the voting of the names thereon, substantially as explained. 8th. In a voting-machine, the combination of the slides having a series of registers, and movable to bring said registers into a voting position, gear-wheels on said registers for moving them, and a flange projecting between the teeth of all the registers on each slide to prevent their rotating, but having a cut-away portion to permit them to be rotated at the voting position as explained. 9th. In a voting-machine, the combination of a slide arranged to receive the names of parties to be voted for on one side, a series of brackets 33 secured to the slide and at points opposite the names and registers mounted in the respective brackets as explained. 10th. In a voting-machine, the combination of the plate 11*a* and the slide 11 having secured to its back the brackets 33 carrying registers 34 and mounted to slide upon said plate as explained. 11th. In a voting-machine, the combination of the angle-plate formed with the front groove, and the slide having its edge inserted in the groove and having secured to its back portion the bracket which extends down and bears upon the angle-plate and affords bearing for the register as explained. 12th. In a voting-machine, the combination of the angle-plate 11*a* formed with the horizontal portion 28, the upright portion 29 and the flange 30, and the slide arranged to move on said plate and carrying register located to receive the flange 30 between the teeth of one of its wheels, as explained. 13th. In a voting-machine, the combination of a vertical series of angle-plates formed with the horizontal portion 28, the vertical portions 29 having flanges 30, and with the channels 31, making rear shoulders 32, the series of slides having bearings at their lower edges in the channels 31 and at their upper edges against shoulder 32, the brackets 33 secured to the rear sides of the slides and projecting downward to bear at 35 upon the horizontal portions 28 of the plates, and registers 34 having sprocket-wheels 36 mounted in the brackets 33 in position to receive the flanges 30 between the teeth of said sprocket-wheels, all substantially as and for the purposes set forth.

No. 55,803. Fire Alarm Signal. (*Avertisseur d'incendie.*)

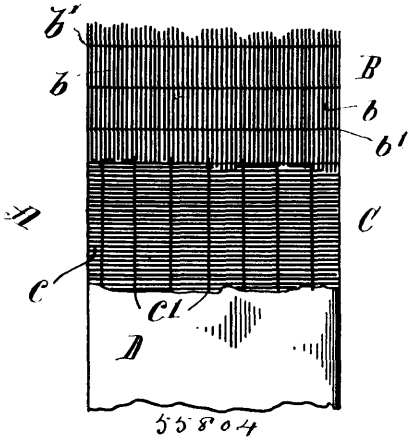


Edwin A. Speer and Jasper P. Collins, both of Toledo, Ohio, U.S.A., 5th May, 1897; 6½ years. (Filed 19th November, 1896.)

Claim.—1st. An automatic fire-alarm, comprising a circuit containing a relay and battery and controlled by a two-point thermostat, a second circuit controlling an alarm, a battery in said second circuit, and means controlled by the second point of the thermostat for throwing the batteries into combined action for sending the fire-alarm, substantially as and for the purpose specified. 2nd. An automatic fire-alarm, comprising a circuit containing a relay and battery and controlled by a two-point thermostat, a second circuit containing a battery and controlling an alarm, means controlled by the first point of the thermostat for sending a preliminary signal, and means controlled by the second point of the thermostat for throwing the batteries into combined action for sending the fire-alarm, substantially as and for the purpose specified. 3rd. A normally-closed circuit containing a battery, a magnet in said circuit whose normally-attracted armature controls a detent, which, in turn, controls an alarm, a spring adapted to retract said armature, another battery, in combination with a two-point thermostat the opening of which permits the release of the armature, to send a preliminary signal, and the further operation of which unites said two batteries, to again actuate said armature to send the fire-signal, substantially as and for the purpose specified. 4th. In combination, a normally-closed circuit, containing a two-point thermostat and a relay, a second normally-closed circuit controlled by the relay and containing an alarm controller, adapted to give a preliminary and a fire-signal upon the actuation of the first and second points of the thermostat respectively, the arrangement of said thermostat and circuits being such that the repeated operation of the first point of the thermostat shall, of itself, be insufficient to produce a fire-alarm, substantially as and for the purpose specified. 5th. In an automatic fire-alarm and signaling system, a series of thermostats, one or more magnets controlling circuit-breakers, and an electric conductor in normally-closed circuit with said thermostats and said magnets, in combination with an electrically-controlled signalling instrument, an electric conductor in normally-closed circuit with said signalling instrument through the contact-pieces of said circuit-breaker, and means in said thermostats for closing said latter circuit independently of said circuit-breakers, substantially as and for the purposes specified. 6th. In an automatic fire-alarm and signalling system, a series of thermostats, one or more magnets controlling circuit-breakers, and an electric conductor in normally-closed circuit with said thermostats and said magnets, in combination with an electrically-controlled signalling instrument, an electric-conductor in normally-closed circuit with said signalling instrument through the contact-pieces of said circuit-breaker, and means in said thermostats for shunting the currents of said former circuit and said latter circuit together, substantially as and for the purpose specified. 7th. An automatic fire-alarm and signalling system, comprising a series of thermostats, one or more circuit-breakers, an electric conductor in normally-closed circuit with said thermostats and controlled said circuit-breaker an electrically-controlled signalling instrument, an electric conductor in normally-closed circuit with said signalling instrument, controlled by said circuit-breaker and connected with said thermostats, a receiving or recording instrument, and an electric line connected and normally in closed circuit with said signalling instrument and with said receiving or recording instrument, substantially as and for the purpose specified. 8th. In an automatic fire-alarm and signalling system, a thermostat comprising a frame

or case, an expansible body, such as a concavo-convex disc or diaphragm secured therein, composed of a conducting metal, a normally-closed circuit including said diaphragm, an adjustable make-and-break contact-piece mounted upon, carried by and electrically connected with said diaphragm, two other contact-pieces in said thermostat, one being in the normally-closed circuit with said diaphragm, the other being connected with another circuit, a battery connected with each of said circuits, the arrangement of the parts being such that the initial expansion of said diaphragm breaks said normally-closed circuit, and the further expansion of said diaphragm electrically connects said diaphragm with the other of said two contact-pieces, and throws said two batteries into combined action for transmitting the fire-alarm, substantially as and for the purpose specified.

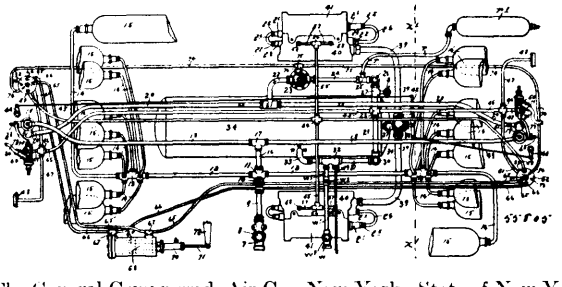
No. 55,804. Belting. (*Courroie.*)



James Freeman Brown, Needham, Mass, U.S.A., 5th May, 1897: 6 years. (Filed 25th January, 1897.)

Claim. A belt or belting made of two materials or textile fabrics, one consisting of warp threads or longitudinal cords having associated therewith, woof threads or transverse cords, as few as possible, simply for the purpose of keeping the warp threads or longitudinal cords in their relative position, and the other material or textile fabric consisting of a material or textile fabric as is in common use and suitable for belt making, associated together and treated with rubber or any other suitable substance, compound, or material, and stitched together and folded, substantially as, and for the purpose described.

No. 55,805. Air Storage Motor Car.
(*Moteur à air pour chars.*)

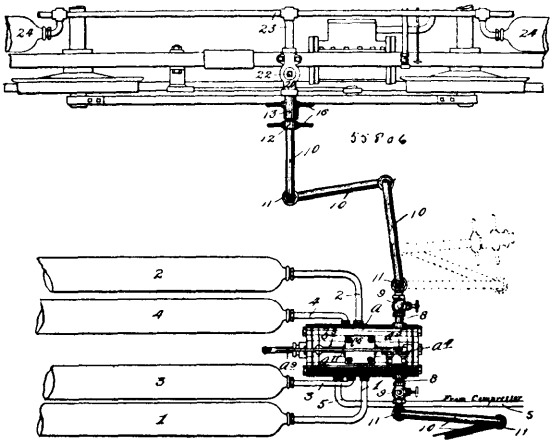


The General Compressed Air Co., New York, State of New York, assignee of Robert Hardie, Rome, New York, and Herman Haupt, Washington, Columbia, all in the U.S.A., 5th May, 1897; 6 years. (Filed 15th February, 1897.)

Claim.—1st. The combination with an air engine, of a fluid pressure regulator or reduction valve, controllable at will, for affording increased pressure, and supplemental supply or starting connections, controllable at will, with said parts so arranged that the increased pressure may be rendered available to the engine through the starting connections or through the main supply connections only as may be desired, substantially as described. 2nd. The combination with an air engine and a fluid pressure regulator or reduction valve in the main supply connections, of supplemental supply or starting connections for admitting fluid when cut off through the main connections, and a common or combination valve for controlling said fluid pressure regulator and said supplemental or starting connections, substantially as described. 3rd. In an air motor car or locomotive, the combination with the car driving motor or motors and a brake motor, of a fluid pressure regulator in the main supply connections for said motors, supplemental supply or starting connections to said car driving motor or motors, and a common or combination valve for controlling said pressure regulator, said starting connections and said brake motor, at will, substantially as described. 4th. The combination with an air engine, high pressure storage reservoirs and a reduction valve in the main or normal supply connections from said reservoirs to the engine of auxiliary supply connections, controllable at will, for tapping said high pressure storage, independent of said reduction valve, for emergency use, in case of accident to the reduction valve or normal supply connections, substantially as described. 5th. In an air storage motor car or locomotive wherein air is stored at comparatively high and used at comparatively low pressure, and is passed through a hot water reheater before reaching the engine or engines, the combination with the main or normal supply connections containing a reduction valve, of a pair of check valves in the working pressure connections, between the reduction valve and the reheater, an auxiliary valve for tapping the high pressure system, independent of said reduction valve, and connections from said auxiliary valve tapping said working pressure connections between said two check valves, substantially as and for the purposes set forth. 6th. The combination with an air engine, high pressure storage reservoirs, and a reduction valve in the main or normal supply connections, of a shut-off valve in said main or normal supply connections on the high pressure or storage side of the reduction valve, an auxiliary valve tapping the high pressure storage system on the reservoir side of said shut-off valve, and connections from said auxiliary valve to the main supply connections on the working or low pressure side of said reduction valve, substantially as described. 7th. In an air storage motor car or locomotive, wherein the air is stored at comparatively high, and used at comparatively low pressure and is passed through a hot water reheater before reaching the engine or engines, the combination with the normal supply connections containing a reduction valve, of a pair of check valves in the working pressure connections between the reduction valve and the reheater, a shut-off valve in the normal supply connections, on the high pressure side of the reduction valve, an auxiliary supply valve on the storage side of said shut-off valve, for tapping the high pressure system independent of the reduction valve, auxiliary connections from said auxiliary valve to the working pressure pipe between said two check valves, all substantially as and for the purposes set forth. 8th. The combination with an air engine, high pressure storage reservoir and a reduction valve in the main or normal supply connections, of an auxiliary valve and connections for tapping said high pressure storage, independent of said reduction valve, upon emergency, and a safety valve in the supply connections to the engine, on the working side of said reduction valve, for insuring safety in the use of the auxiliary or high pressure connections, substantially as described. 9th. In an air storage motor car or locomotive, the combination with the high pressure storage reservoirs and the reduction valve, of a train pipe tapping the working pressure connections, and a train valve in said train pipe provided with means for connection with a trailer extension or branch of said train pipe, under the control of said valve, substantially as described. 10th. The combination with a train of cars, of a compressed air motor on one of said cars, applied to propel the train, a train pipe with flexible couplings between cars for supplying said motor, branch pipes connecting the local reservoirs on the several cars, with said train pipe, and automatic reducing valves in said branch pipes, substantially as and for the purposes set forth. 11th. In an air storage motor car or locomotive, the combination with the storage reservoirs and the engines, of a reduction valve in the main supply connections, a hot water reheater between the reduction valve and the throttle valve, a pair of check valves in the working pressure dry pipe between the reduction valve and the reheater, a train pipe tapping said dry pipe between said check valve, a train valve in said train pipe provided with connections for utilizing storage from a trailer, under the control of said valve, a shut-off valve in the high pressure connections, on the storage side of said reduction valve, an auxiliary valve for tapping the high pressure system on the storage side of said shut-off valve, connections from said auxiliary valve to said train valve, and a safety valve tapping said dry pipe between said check valves, all substantially as and for the purposes set forth. 12th. In an air storage motor car or locomotive, the combination with the engines and storage reservoirs, of a hot water reheater, through which the air is passed before entering the engine or engines, comprising a suitable shell or casing provided with baffle-plates, a perforated distributing pipe near the bottom of the same, with its perforations arranged to deliver the dry and cold air downward and outward into the hot water, near the lowest level thereof, and a perforated collecting pipe at or near the top of said shell, and having its perforations arranged to receive from above, all substantially as and for the purposes set forth. 13th. The combination with air engine, high pressure storage reservoirs and a reduction valve in the supply connections, of a cushion reservoir in the working connections, on the low pressure side of said reduction valve, substantially as and for the purposes set forth. 14th. In an air storage motor car or locomotive, wherein the air is passed through a hot water reheater before entering the engines, the combination with the engine cylinders and distribution valves, of cylinder relief valves piped back to the engine valve chests, for taking care of the water of condensation in the cylinders, without noise, substantially as described. 15th. In the air storage motor car or locomotive herein described, the combination with the common or so-called combination valves, one on each platform, for controlling the supplemental supply connections, the increased pressure connections or accelerator and the brake motor connections, of a single detach-

able handle for both of said valves, and co-operating parts on the handle, the valve stem or shaft and the valve casing, s) constructed and arranged that the handle can only be applied or removed in the idle position of the valve, and that when the handle is removed the valve will be locked to the casing, in said idle or blanking position, substantially as described. 16th. The combination with an engine, having distribution valves composed of a main member 61 and a riding cut off member 62, of the supplemental supply connections under the control of a manually operated valve, tapping the supplemental ports 59 opening to the main valve seat, and the ports 63 in the main valve extended outward on the face of the valve, for co-operation with said supplemental ports 59, in the seat, for starting the engine, when the riding cut-off member of the distribution valve is in its cut-off position, substantially as described. 17th. The combination with the storage reservoirs, driving engines, reduction valve, hot water air reheater and brake motor, of a check valve in the working pressure pipe between the reheater and reduction valve, and the combination valve with its supply pipe tapping said working pressure pipe between said check valve and said air only, in the pipes controlled by said combination valve, substantially as described.

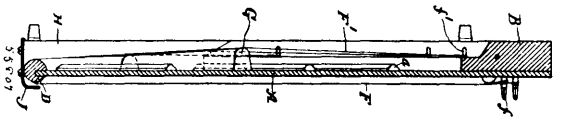
No. 55,806. Charging Station for Air Storage Motor Cars. (*Station pour charger les moteurs à air pour chars.*)



The General Compressed Air Company, New York, State of New York, assignee of Robert Hardie, Rome, New York, both in the U.S.A., 5th May, 1897; 6 years. (Filed 15th February, 1897.)

Claim.—1st. A device for charging supply reservoirs from a compressor or other primary source and for charging a storage car or other receiver from said battery of said supply reservoirs, comprising a valve and valve-seat, with the ports therein arranged to permit the several supply reservoirs to be connected with the storage car, in succession, under a step-by-step movement of the valve, while always keeping open the compressor or source connection and delivering therefrom first to the untapped reservoirs in advance of the valve and then to the storage car on reaching the last of the reservoirs, substantially as and for the purposes set forth. 2nd. A charging device involving the combination with a valve-seat, having a series of supply ports and a discharge port, of a valve having an admission port, a series of outlet or discharge ports and a port connecting said admission port with all of said outlet ports, in the valve, with the ports in the seat and in the valve in reverse relation to each other, for permitting the supply ports of the seat to be connected with the discharge port thereof, under a step-by-step movement of the valve, substantially as described. 3rd. A device for charging an air storage car or other receiver from one or more supply reservoirs, comprising a valve and valve-seat with co-operating ports for connecting the supply reservoir or reservoirs to the car, and with co-operating ports for bleeding the charging pipes, after the charge is made, under the control of said valve, substantially as described. 4th. The combination with a charging valve and valve seat, having their ports arranged for tapping a series of supply reservoirs or other sources in succession, under a step-by-step movement of the valve, of a power device for operating said valve, and a controller for the power device, with said parts so arranged that hand movement of the controller will set the power device into action for moving the valve, and the movement of the charging valve will set the power device to automatically stop the charging valve at the end of its predetermined step of movement, substantially as described. 5th. The combination with a charging valve and valve chest, of pistons on the charging valve rod within said chest, a controlling valve and valve seat with ports arranged for the application of fluid pressure to either or to both of said pistons, and manipulating connections for said controlling valve, so arranged that said controlling valve may be set by hand for applying pressure to move the charging valve, and will be set automatically by the charging valve for applying pressure to stop the charging valve at the end of its predetermined step of movement, substantially as described. 6th. The combination with a charging valve and valve seat, with their ports arranged for drawing the charge from a series of supply reservoirs or other sources, in succession, under a step-by-step movement of the charging valve, of a fluid pressure power device for operating said charging valve, including a controlling valve normally rendering the pressure operative to hold the charging valve wherever set, and a hand lever with connections to both of said valves, so arranged that the controlling valve may be set by hand for rendering the pressure operative to move the charging valve, and that the movement of the charging valve will automatically restore the controlling valve to its normal position, for rendering the pressure to stop and hold the charging valve at the end of its predetermined step-of movement, substantially as described. 7th. The combination with the swivel jointed metallic pipe car connections, of the charging nozzle swivelled on the outermost pipe section and composed of the two members 12 and 13, with the rear members 12 screwing into the outer member 13, behind the collar 14, on said pipe section, the packing ring 15 between said collar 14 and a shoulder of the member 13, and the handles or operating devices 16, all co-operating as described.

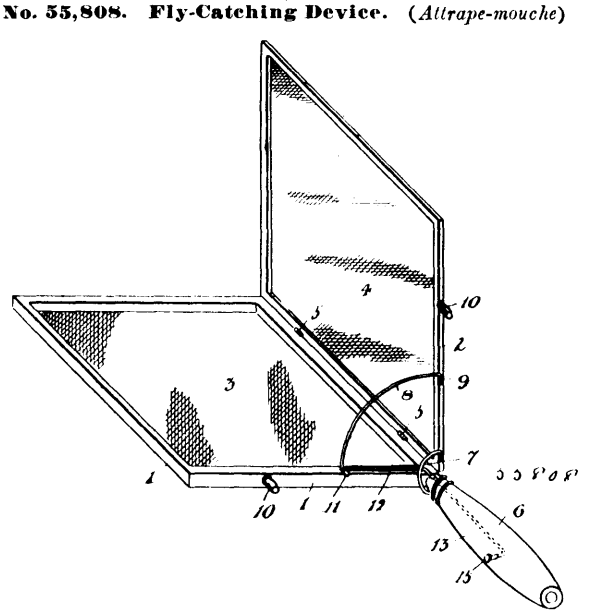
No. 55,807. Stringed Musical Instrument.
(*Instrument de musique à cordes.*)



James Eveleth Maynadier, Taunton, assignee of George Arthur Fullerton, Boston, both in Mass., U.S.A., 5th May, 1897; 6 years. (Filed 15th February, 1897.)

Claim.—1st. In a stringed musical instrument the thin flat sheet of wood A, cross-piece B across one edge of sheet A, rod D across the opposite edge of sheet A, front and rear strings F F¹ extending on both sides of sheet A and about rod D, and means for straining those strings, the double strain of the strings being borne by sheet A as a strut, all combined and arranged substantially as and for the purpose specified. 2nd. In a stringed musical instrument the thin flat sheet of wood A, cross-piece B across one edge of sheet A, rod D across the opposite edge of sheet A, front and rear strings F F¹ extending on both sides of sheet A and about rod D, means for straining these strings, and a strip G, between the rear strings F¹ and sheet A, by which undue buckling of sheet A under the strain of the strings may be prevented by adjusting the strip G, all combined and arranged substantially as and for the purpose specified.

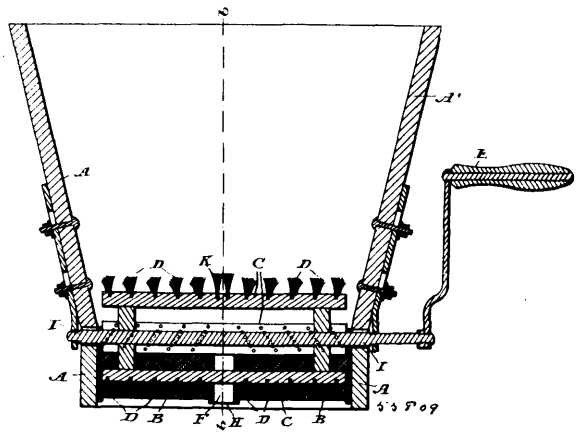
No. 55,808. Fly-Catching Device. (*Attrape-mouche*)



Adolard Villemaire, Clarence Creek, Ontario, Canada, 5th May, 1897; 6 years. (Filed 15th February, 1897.)

Claim.—1st. A device for catching flies, consisting of two parts or wings hinged together, a handle secured to one of the said wings, a spring adapted to close one of the said wings down on the other, a hinged brace adapted to hold the said wing open, and means for pushing the said brace out of engagement and allowing the said wings to close when desired as set forth. 2nd. In a device for catching flies, the combination with the brace 8 hinged to the frame 2 and engaging the notch 11 in the frame 1, of the lever 13 pivoted at 14, the push button 15 and the arm 12, substantially as set forth.

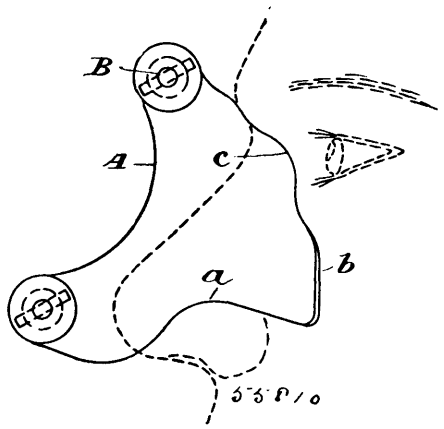
No. 55,809. Device for Sifting Flour, etc.
(*Tamis à fleur etc.*)



Henry Hammond Hillman, Nottingham Road, Derby, England, 5th May, 1897 ; 6 years. (Filed 15th March, 1897.)

Claim.—In an apparatus or device for sifting flour or the like the combination of a box or hopper in sections A, A¹, with adjustable hinges G and containing a sieve B, with recessed annular central portion H, a revolving drum carrying brushes D adapted to carry the coarser or foreign matter into the recessed portion H of the sieve aforesaid the said drum also carrying an intermittant agitating device such as the brush K, substantially as set forth.

No. 55,810. Appliance for Correcting Nasal Deformity. (*Appareil nasal.*)



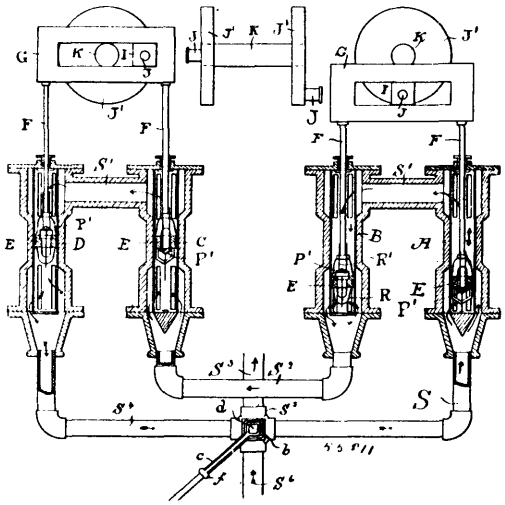
Lees Kay, Wavertree, Liverpool, England, 5th May, 1897 ; 6 years. (Filed 15th February, 1897.)

Claim.—1st. Two plates A A adapted to be pressed upon the sides of the nose by screws B B said plates having nostril spaces *a* and cheek and eyebrow abutment prominences *b* and *c*, all in combination as described. 2nd. Two plates A A adapted to be pressed upon the sides of the nose by a spring C, whose pressure is regulated by a set screw B, said plates having nostril spaces *a* and cheek and eyebrow abutment prominences *b* and *c*, all in combination as described. 3rd. The combination with plates A A adapted to be pressed upon the sides of the nose by screws B B, and provided with nostril spaces *a* and cheek and eyebrow abutment prominences *b* and *c*, of a plate A¹ adapted to be pressed upon and shape the front of the nose by a screw B¹ threading in a bridge piece D carried in said side plates, as described.

No. 55,811. Engine. (*Machine à vapeur.*)

Adoniram J. Collar, Yreka, California, U.S.A., 5th May, 1897 ; 6 years. (Filed 16th February, 1897.)

Claim.—1st. A hydraulic engine consisting of cylinders arranged in pairs, one of each pair receiving water under pressure at one end and delivering it into its mate at the opposite end, a diagonal pipe by which water is delivered from the second cylinder of the first pair to the first cylinder of the second pair, a connection between the opposite ends of the second pair, open pistons reciprocating within said cylinders connecting with cranks upon a common crank shaft and valves closing the pistons so that the pressure of the water is alternately applied to the various pistons. 2nd. A hydraulic engine consisting of the combination of two pairs of cylinders, one cylinder of each pair receiving water under pressure at one end and delivering it into its mate at the opposite end, a connection whereby water is delivered from the second cylinder of one pair to the first cylinder of the other pair, open pistons reciprocating in the cylinders,



slides reciprocating in guides and connected with the piston-rods so that each pair of pistons moves in unison, transverse slots made in said slides, and other slides connected with the crank pins movable in said transverse slots whereby power applied to either piston of a pair acts through the common connecting slide upon the single crank pin. 3rd. A hydraulic engine consisting of parallel cylinders arranged in pairs with pistons reciprocating therein, piston rods connecting the pistons of each pair with a slide movable in guides parallel with the line of travel of the piston rod, transverse slides movable in channels across the main slides and connected with a common crank pin whereby the power applied to either piston of a pair is transmitted to the single crank pin, mechanism connected with the pistons whereby pressure of water is applied to move one piston of a pair in one direction and the other piston in the opposite direction. 4th. A hydraulic engine consisting of parallel cylinders arranged in pairs, with pistons reciprocating therein, piston-rods by which each pair of pistons is connected with a common slide and crank pin, cylindrical linings extending from end to end of the cylinders, within which linings the pistons are fitted with packing rings, chambers formed at the ends of the cylinder of larger diameter than the central portion of the linings, with slots or channels through which water can pass into and out of the linings, valves movable so as to leave central openings through the pistons when the latter are moving against the flow of water and closable against the pistons so that the pressure of the water may be applied thereto when the pistons move within the unperforated portions of the cylinders. 5th. In a hydraulic engine, cylinders having a central portion with a lining adapted to fit therein, enlarged end sections through which the lining extends with slots or channels whereby communication is had from the interior to the exterior of the lining within these enlarged ends, a supply pipe through which water is admitted to one end of the cylinder exterior to the lining, and a pipe by which it discharged from the opposite end of the cylinder, a cage connected with the pistons a valve movable within the cage so as to close against the central open portion of the piston when the latter is moving in the direction of the water flow, and be moved into the head of the cage so as to leave free passage through the piston when the latter is moving in the opposite direction. 6th. In a hydraulic engine, the combination, of a plurality of cylinders arranged in pairs, one cylinder of each pair receiving water under pressure at one end and delivering it into its mate at the opposite end, a connection whereby water is delivered from the second cylinder of one pair to the first cylinder of the other pair, a connection between the opposite ends of the second pair, pistons and devices transmitting power to a common rotary shaft, and mechanism whereby the flow of the current is interrupted within the various cylinders in such order that its force will be applied to move the various pistons and transmit their power successively to the shaft. 7th. In a hydraulic engine of the class described, inlet discharge and connecting pipes, a cock or valve intermediate therewith consisting of the exterior casing, concentric plugs turnable within the casing, together and independently, whereby change of direction of the current is effected. 8th. In a hydraulic engine of the class described, supply and discharge pipes and pipes connecting with the cylinders at opposite ends of the apparatus, a casing with which all said pipes connect, a plug turnable within the casing whereby the direction of the water through the pipes may be changed, an interior plug turnable independently to and within the exterior plug and spring-actuated valves in said interior plug whereby extraordinary pressure is relieved. 9th. In a hydraulic engine, a pipe by which water is supplied thereto under pressure, a safety valve consisting of an open top vertical tube connecting with the supply pipe having perforations made through it near the point of connection, a second tube slidable exterior thereto

and having the upper end closed and normally held down by weight or spring, said tube being forced up by extraordinary pressure so as to expose the discharge openings of the inner tube and allow the escape of water. 10th. In a hydraulic or other engine, reciprocating pistons and piston rods, cross-heads with which the piston rods are connected, movable in exterior guides, a transversely moving crank pin box fitting a guide channel in the cross-head and anti-frictional rollers linked together and travelling between the crank pin box and the interior of the cross-head, and spring plates by which the joints are kept from pounding.

No. 55,812. Plugger for Filling Teeth.

(*Tampon pour remplir les dents,*)

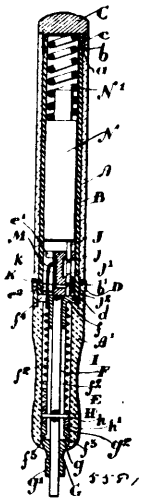


Fig 1/2

Hugh McLaren, assignee of Robert Henry Booty, both of Toronto, Ontario, Canada, 5th May, 1897; 6 years. (Filed 18th February, 1897.)

Claim.—1st. In combination the plugger rod, the collar connected thereto by a pin, the slotted sleeve *xx* having the upper end secured to the case, the spiral spring on the sleeve, the plunger in the upper rod, means to release such plunger upon each upward movement of the plugger rod and the spring-pressed hammer designed to impart a longitudinal movement to such rod, as and for the purpose specified. 2nd. In combination the plugger rod, the collar connected thereto by a pid, the slotted sleeve having the upper end secured to the case, the spiral spring on the sleeve, the plunger in the upper portion of the rod, notches in the plunger, spring-pressed pin designed to engage with the notches, means for withdrawing such pin from the notch in the plunger, and the spring-pressed hammer designed to impart a longitudinal movement to such rod, as and for the purpose specified. 3rd. In combination the plunger rod, the collar connected thereto by a pin, the slotted sleeve having the upper end secured to the case, the spiral spring on the sleeve, the plunger in the upper portion of the rod, notches in the plugger, spring-pressed pin designed to engage with the notches, a bevelled plate on the upper end of the pin, the spring dog connected at the upper end of the slotted sleeve and having a hooked end designed to engage with the bevelled plate on the spring-pressed pin, and the spring-pressed hammer designed to impart a longitudinal movement to such rod, as and for the purpose specified. 4th. In combination the plunger rod, the slotted sleeve having an upper flange, the lower sleeve with a knurl connected to the slotted sleeve, the collar surrounding the slotted sleeve and connected by a pin, extending through the slots in the sleeve, to the plugger rod, the internal casing having a threaded lower end, the collar D screwed on to such casing and designed to hold the threaded flange at the top of the slotted sleeve, the plunger rod and means for releasing such plunger rod, and the spring-pressed hammer in the upper portion of the casing, as and for the purpose specified. 5th. In combination the inner casing having a threaded upper end, the hammer, the spiral spring above such hammer, and the cap *xx* internally threaded and designed to be adjustable upon the threaded upper end of the inner casing, as and for the purpose specified. 6th. In combination the plugger rod and means for operating the same, the collar secured to such rod and having a downward projection, a sleeve secured from longitudinal movement in the bottom end of the casing provided with a suitable knurl, and a recess in the top of such sleeve to receive the projection of the collar attached to the plunger rod, as and for the purpose specified. 7th. In a plugger, the inner casing having a lower threaded end, a collar screwed on to the same, the outer hard rubber casing fitting above the collar, and the lower hard rubber portion of the casing having a reduced upper end which is screwed into the collar attached to the inner casing, as and for the purpose specified.

No. 55,813. Machine for Marbling Paper.

(*Machine pour marbrer le papier.*)

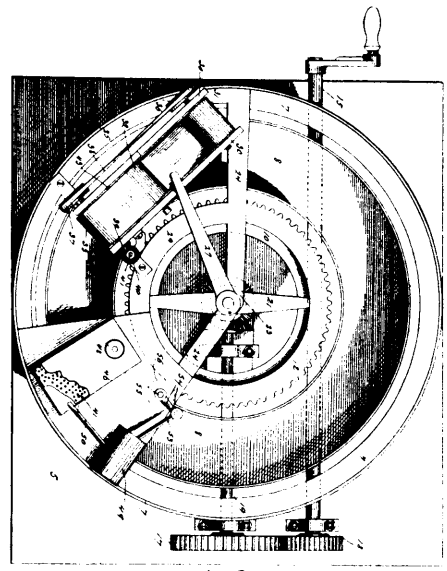


Fig 1/3

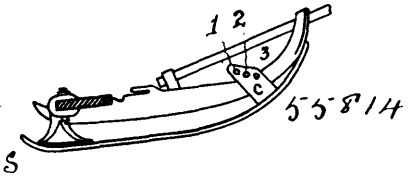
Josiah Miles Reed, New York, State of New York, and William Hughes, Cranford, New Jersey, both in the U.S.A., 5th May, 1897; 6 years. (Filed 20th February, 1897.)

Claim.—1st. In a machine for marbling paper, the combination with a suitably supported main tank or vessel, of a plurality of rollers supported thereover, one of which is adapted to receive a roll of paper, and one of which is mounted directly over said tank, said paper being adapted to be passed around said last-named roller, and to be rewound on another roller, and a colour tank or receptacle provided with a perforated bottom, said main tank or vessel being adapted to receive sizing, on which the colours are deposited, and said paper roller, and said colour tank or receptacle being adapted to be carried around said main tank or receptacle, substantially as shown and described. 2nd. In a machine for marbling paper, the combination with a suitably supported annular tank or vessel, of a revoluble frame mounted thereover, three rollers supported on said frame, and at one side thereof, a supplemental roller supported immediately below two of said rollers, and immediately over said tank or vessel, a colour tank or receptacle also supported on said revoluble frame, and provided with a perforated bottom, and means for revolving said frame, substantially as shown and described. 3rd. In a machine for marbling paper, the combination with a suitably supported annular tank or vessel, of a revoluble frame mounted thereover, a paper roller supported above said annular frame, a roller at each side thereof, around one of which the paper is adapted to be drawn, and upon the other of which the paper is adapted to be rewound, a supplemental roller directly below two of said rollers, and directly over one side of said tank or vessel, said supplemental roller being provided with a plurality of radial rods or arms, and means for revolving said rollers, and a colour tank mounted on said frame, and provided with a perforated bottom, and means for revolving said frame around said annular tank or vessel, substantially as shown and described. 4th. In a machine for marbling paper, the combination with a suitably supported annular tank or vessel, of a vertical shaft passing centrally therethrough, a frame mounted on said shaft and revoluble around and over said tank or vessel, a plurality of paper rollers mounted on said revoluble frame, one of which is adapted to receive a roll of paper which is adapted to be passed over another roller adjacent thereto, and to be rewound on the third roller, at the opposite side thereof, a supplemental roller mounted below two of said rollers, and directly over one side of said annular tank or vessel, and provided with a plurality of radial arms or rods, and colour tanks also mounted on said revoluble frame, and provided with a perforated bottom, substantially as shown and described. 5th. In a machine for marbling paper, the combination with a suitably supported annular tank or vessel, of a vertical shaft passing centrally therethrough, a frame mounted on said shaft and revoluble around and over said tank or vessel, a plurality of paper rollers mounted on said revoluble frame, one of which is adapted to receive a roll of paper, and which is adapted to be passed over another roller adjacent thereto, and to be rewound on a third roller at the opposite side thereof, a supplemental roller mounted below two of said rollers, and directly over one side of said annular tank or vessel, and provided with a plurality of radial arms or rods, and colour tanks also mounted on said revoluble frame, and provided with perforated bottoms, air pump, and means for operating said rollers and said air pump in communication with said tanks, substantially as shown and described. 6th. In a machine for marbling paper, the combination with a suitably supported annular tank

or vessel, of a vertical shaft passing centrally therethrough, a frame mounted on said shaft, and revoluble around and over said tank or vessel, a plurality of paper rollers mounted on said revoluble frame, one of which is adapted to receive a roll of paper, which is adapted to be passed over another roller adjacent thereto, and to be rewound on a third roller at the opposite side thereof, a supplemental rolier mounted below two of said rollers, and directly over one side of said annular tank or vessel, and provided with a plurality of radial rods or arms, and colour tanks also mounted on said revoluble frame, and provided with a perforated bottom, and air pump, in communication with said tanks and means for operating said rollers and said air pump, consisting of a gear ring, suitably supported adjacent to said annular tank or vessel, and vertical shafts, one of which is provided with a pinion which operates in connection with said gear ring, and with a crank which is connected with the piston rod of the air pump, and the other being provided with a pinion, which operates in connection with said gear ring, and with a bevelled gear wheel which operates in connection with a corresponding bevelled gear wheel mounted on the shaft of one of said rollers, substantially as shown and described. 7th. In a machine for marbling paper, the combination with a suitably supported annular tank or vessel of a vertical shaft passing therethrough, and adapted to be revolved by means of transverse shafts and gear wheels suitably supported below said tank or vessel, a frame mounted upon said vertical shaft, above said tank or vessel and revoluble thereon, three rollers supported upon said frame, and arranged in line with each other, a supplemental roller mounted below two of said rollers, and immediately over one side of said tank or vessel, and provided with a plurality of radial arms or rods, and colour tanks also mounted on said revoluble frame, and provided with the perforated bottom an air pump in communication with said colour tanks, and means for revolving said rollers, and for operating said air pump, substantially as shown and described. 8th. In a machine for marbling paper, the combination with a suitably supported annular tank or vessel, of a vertical shaft passing therethrough and adapted to be revolved by means of transverse shafts, and gear wheels suitably supported below said tank or vessel, a frame mounted upon said vertical shaft, above said tank or vessel, and revoluble thereon, three rollers supported upon said frame, and arranged in line with each other, and a supplemental roller mounted below said rollers, and immediately over one side of said tank or receptacle, and provided with a plurality of radial arms or rods, colour tanks also mounted on said revoluble frame and provided with perforated bottoms, an air pump in communication with said colour tanks and means for revolving said rollers, and for operating said air pump, consisting of a gear ring suitably supported above and concentrically of said tank or vessel, and vertical shafts which are operated thereby, one of which is provided with a crank, which is connected with the piston rod of the air pump, and the other with a bevelled gear wheel, which operates in connection with a corresponding bevelled gear wheel mounted on the shaft of one of said rollers, substantially as shown and described. 9th. In a machine for marbling paper, the combination with a suitable frame of an annular tank or vessel, supported a plurality of paper rollers supported above said frame, a supplemental roller supported immediately below the same, and immediately over said tank or vessel, said annular tank or vessel being adapted to receive sizing tanks 46 adapted to contain colouring material, and to deposit said material on the sizing, and means for revolving said paper rollers, and the supplemental roller substantially as described.

No. 55,814. Mowing Machine Clamp.

(*Crampon pour faucheuses.*)

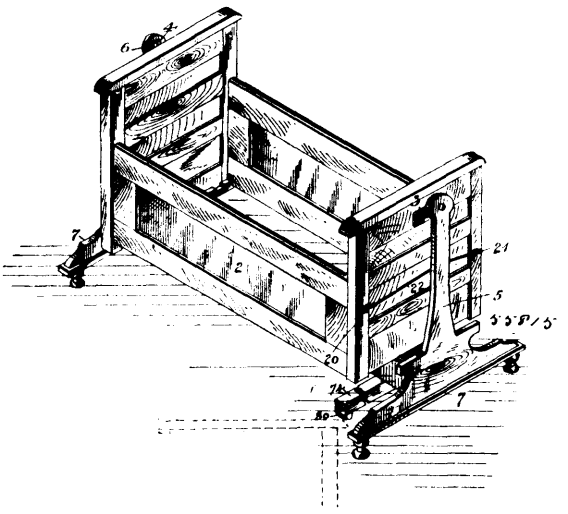


David Tolton and Andrew Tolton, both of Guelph, Ontario, Canada, 5th May, 1897; 6 years. (Filed 5th March, 1897.)

Claim.—1st. The screw clamp *a*, with or without serrated wedge *b*, for securing the points of counter shoes to the inside shoe of ordinary front, centre, or rear cut or Buckeye mowers, or the simple loops *c* with adjusting holes and a strap bolt for Noxon, Maxwell, or other such like mowers, as and for the purpose as hereinbefore described and illustrated in the drawings. 2nd. The bracket A, hook B, and strap bolt C, or the bracket D slotted to receive, and provided with an octagonal washer E, secured to the cutter bar of the machine with set screws, said washer having a hole set to one side (through which it is bolted to the counter shoe) so that it can be adjusted by turning the washer round, in order to get the counter shoe fairly under the inside shoe of the mower so it will run forward in a straight line, both brackets for the purpose of attaching the rear of a counter shoe to the inside shoe of mowers, so as to enable them to be used for harvesting pease and other such like crops as hereinbefore described and illustrated in the drawings. 3rd. The counter shoe S, provided with screw clamp *a*, with or without a serrated wedge *b*, or the loops *c* with the adjusting holes 1, 2 and 3 for securing its points to the inside shoe of mowers, in combination with the rear brackets A, B and C, figures V and VI, or the bracket D E, figures VII and VIII, for securing its rear to the inside shoe of mowers, the whole combined and operating as hereinbefore described and illustrated in the drawings. 4th. The method and principle of regulating the elevation of the cutter bar of mowing machines, by clamping counter shoes on to the cutter bar adjacent to the inside shoe of the machine, thus regulating the elevation of the cutter bar irrespective of the thickness of the counter shoe, for the purpose of enabling mowing machines to be used for harvesting pease and such like crops as hereinbefore described and illustrated in the drawings hereunto annexed.

No. 55,815. Cradle for Children.

(*Berceau pour enfants.*)



John J. Bukolt, Stevens Point, Wisconsin, U.S.A., 5th May, 1897; 6 years. (Filed 9th March, 1897.)

Claim.—1st. A self-rocking cradle, comprising the standards 5, 6, the cradle body 2 suspended in the upper ends of said standards, the shaft 35 journalled in said standards, the spiral spring 37 mounted on said shaft and having one end secured thereto, the escape-wheel 28, to the hub of which the opposite end of said spring is secured, a pawl 23 pivoted on a stationary stud on the bed plate 8, the oscillating shoe 13, pivoted to the bed plate, the pawl 25 pivoted on said shoe, said pawls 23 and 25 alternately engaging the teeth on the escape-wheel, in combination with the oscillating arm 17 secured to said shoe, and the flexible cord 22 connected to the free end of said arm, and the cradle body at a point below that from which the body is suspended, substantially as and for the purpose set forth. 2nd. A self-rocking cradle, comprising the standards 5, 6, the cradle body 2 suspended in the upper ends thereof, the shaft 35 journalled in said standards, the sprial spring 37, mounted on said shaft and having one end secured thereto, the escape-wheel 28, to which is secured the opposite end of said spring, the oscillating shoe 13 mounted on the bed plate 8, and provided with the projecting stud 65, the pawl 25 having shoulder 60, plate 57 having a radial arm 58, and an angular arm 59, and coiled springs 60, 62, in combination with the projecting stud 64, the pawl 23, having shoulder 50, the plate 46 having a radial arm 47 and an angular arm 48, the coiled springs 52 and 54 mounted on said bed plate 8, the oscillating arm 17, and the flexible cord 22 connecting the said arm and suspended cradle body, substantially as and for the purpose set forth. 3rd. A self-rocking cradle, comprising the main spring 37 and shaft 35, the collar 38 formed with the integral arms 39, 40 and teeth 41, the standards 6, the gravity pawl 43 formed with an integral detent 43 and pivoted to said standard, substantially as and for the purpose set forth. 4th. A self-rocking cradle, comprising the standards, the cradle suspended therefrom, the shaft 35 and main spring 37, and the escape-wheel mechanism substantially as described, in combination with the spring 66, secured to one of said standards, the foot 74, the flexible cord connecting said spring and foot lever, the drum 72 loosely mounted on the shaft 35, the pawl 75 mounted on said drum, and the arms 39 and 40, provided with pins 79, 79, and formed integral with the collar 38 located in the path of the pawl 75, substantially as and for the purpose set forth.

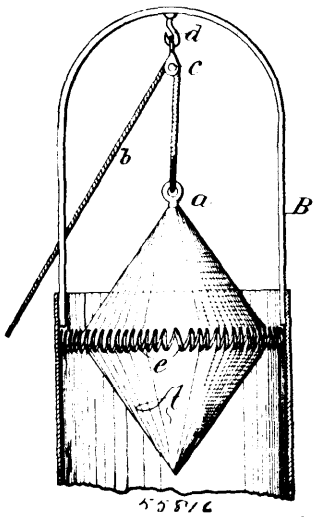
No. 55,816. Device for Cleaning Chimneys.

(*Appareil pour nettoyer les cheminées.*)

George R. Dayrell, William H. Bryant, George Hunter and Robert W. Clark, all of Vancouver, British Columbia, Canada, 5th May, 1897; 6 years. (Filed 23rd March, 1897.)

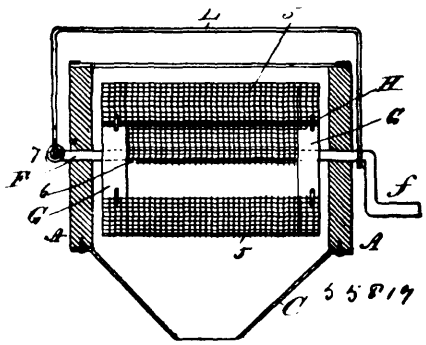
Claim.—1st. In an apparatus for chimney cleaning, a body arranged to fit within such chimney having a spirally coiled wire around its exterior and arranged to engage with the walls of said

chimney, and means for raising and lowering the same, as specified. 2nd. An apparatus for cleaning vertical flues or chimneys composed



of a body arranged to loosely pass within said flues or chimneys having a wire coiled around its outer walls, the said wire being made to engage the inner walls of flues or passages through which the said apparatus is drawn, substantially as and for the purposes set forth.

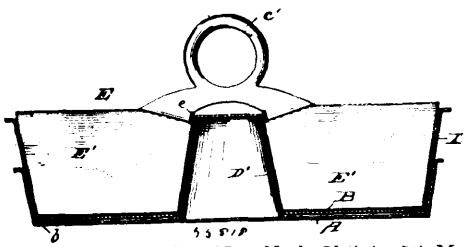
No. 55,817. Rotary Ash Sifter. (*Tamis à cendre.*)



George Prentice Harrison, Toronto, and Samuel John Stratton, Hamilton, both in Ontario, Canada, 5th May, 1897; 6 years. (Filed 7th April, 1897.)

Claim.—1st. In an ash sifter, a partition extending from the outer periphery of a rotary screen to its centre, substantially as and for the purpose specified. 2nd. In an ash sifter, a rotary screen having a permanent opening without cover, and a partition extending from one side of said opening to the centre of the screen, to act as a break to facilitate the operation of sifting ashes, substantially as specified. 3rd. In an ash sifter, the combination, of a rotary screen secured to end discs, having a permanent opening, an internal partition extending from the outer periphery of the screen to its centre, an outer casing surrounding said screen, having a hinged door and a shaft or axle made to pass through the casing, and the screen discs or ends, and a handle for carrying the sifter, all constructed substantially as and for the purpose specified.

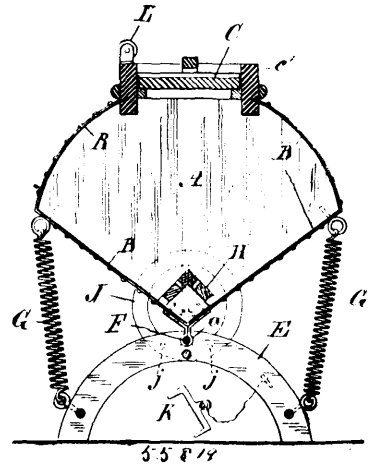
No. 55,818. Baking Pan. (*Tourtière.*)



Randolph S. Mains, Brooklyn, New York, U.S.A., 5th May, 1897; 6 years. (Filed 7th April, 1897.)

Claim.—1st. A bake pan consisting of a pan proper, a removable false bottom, and an independent removable ring extending up from the edge of the false bottom to a point above the upper edge of the sides of the pan, and constituting false sides for the pan, substantially as described. 2nd. A bake pan consisting of a pan proper, a removable ring having a flange at its lower edge, a removable cone having a flanged lower edge, and a removable false bottom resting on said flanges, substantially as described. 3rd. A bake pan consisting of a pan proper, a removable false bottom, a removable ring extension, and an independent removable cone having a closed upper end, substantially as described. 4th. In a baking pan, the combination with the pan proper, of a slicing device comprising a central hub and a series of radial arms rigid on the hub and extending out to the sides of the pan, substantially as described. 5th. In a baking pan, the combination with the pan proper, of the false bottom having a central tubular extension, a ring extension on the bottom, and a slicer having a hub sleeved on the extension, and a series of radial blades extending out in proximity to the ring, substantially as described.

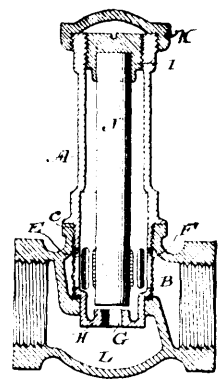
No. 55,819. Washing Machine. (*Machine à laver.*)



Edward J. Goodier, Petrolia, Ontario, Canada, 5th May, 1897; 6 years. (Filed 12th April, 1897.)

Claim.—1st. A washing machine, comprising a suds box A, having a curved top and converging straight sides secured to sector-shaped vertical ends, said box hinged at the bottom to a supporting stand E, to rock thereon, said stand and box connected vertically by coiled wire spiral springs G, as set forth. 2nd. The combination in a washing machine of a suds box having a curved top, converging sides or bottom, and sector-shaped ends provided with a covered aperture at top and internally at the bottom with a perforated cross bar H, a stand E, supporting said box and hinged thereto to rock thereon, and vertical spiral springs G, connecting said box and stand as set forth.

No. 55,820. Thermostatic Valve.
(*Soupape thermostatique.*)

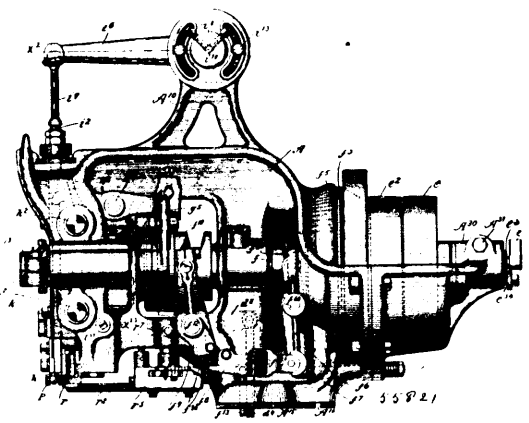


Warren Webster and Co., Camden, assignee of Meredith Leitch, Merchantsville, both in New Jersey, U.S.A., 6th May, 1897; 6 years. (Filed 12th April, 1897.)

Claim.—1st. In a thermostatic valve, the combination with the body of an ordinary globe or angle valve, of the supplemental valve, seat piece adapted to be applied to the valve seat of the old body to adapt the same for use as a thermostatic valve. 2nd. In a thermostatic valve, the combination of a cage adapted to fit the body of an ordinary globe or angle valve, so as to close the valve seat in said body, and provided further with a valve seat discharging through said cage into the discharge chamber of the body, with an expanding piece supported within the cage and adapted when expanded to close upon the valve seat aperture in the cage. 3rd. The

combination with the valve body, of the valve seat cage adapted to fit the valve seat of said body and provided with openings E. 4th. The combination with the valve body of an ordinary globe or angle valve, of a supplemental valve seat piece fitting the valve seat of the valve body, extending through and to a distance below said seat and provided with an outlet in said extended part discharging into the discharge chamber or side of the body. 5th. In a thermostatic valve, the cage adapted to fit the valve seat of an ordinary globe or angle valve, and provided with a valve seat opening, in combination with an expanding piece adjustably carried by the cage. 6th. The expanding piece for a thermostatic valve, consisting of a central core, a compound metallic expanding piece arranged in the form of a spiral about the core, and a valve piece carried by one end of the spiral expanding piece. 7th. The expanding piece for a thermostatic valve, consisting of a central core, a compound metallic expanding piece arranged in the form of a spiral about the core, and a valve piece carried by one end of the spiral expanding piece and located immediately adjacent to the end of the central core. 8th. In a thermostatic valve, the combination of a core piece adjustably carried by the valve body, an expansible piece supported by the core pieces, and a valve piece carried by the outer end of the expansible piece and located immediately adjacent to the end of the core-piece, whereby the inward adjustment of the core-piece will be limited by the valve piece when the valve piece reaches the valve seat.

No. 55,821. Pegging Machine. (*Machine à cheviller.*)

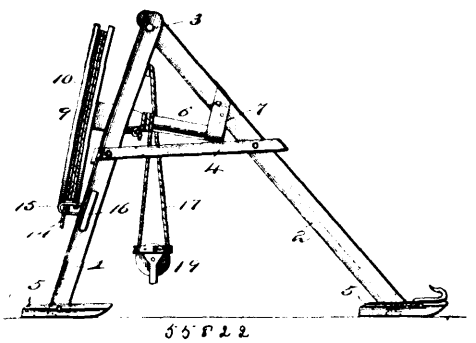


The Davey Pegging Machine Company, Portland, Maine, assignee of John Francis Davey and Sherman William Ladd, both of Beverly, Mass., all in the U.S.A., 6th May, 1897; 18 years. (Filed 12th April, 1897.)

Claim.—1st. The combination of a rotatable horn or work support provided with a work supporting surface, and with a pair of cutting jaws both movable with relation to said surface, and actuating mechanism therefor, substantially as described. 2nd. The combination of the rotatable horn or work support, with a pair of cutting jaws operating in a direction transverse to the plane of the horn, both of said jaws being movable towards and from the axis of the horn, and actuating mechanism therefor, substantially as described. 3rd. The combination of the rotatable horn, with a removable horn tip and cutting device supported and operating in said horn tip and removable therewith from the horn, substantially as described. 4th. In a pegging machine, a vertically movable horn or work support capable of complete rotation and having a tip or cover provided with a central perforation concentric with the axis of rotation of the horn, combined with a cutting device supported in said horn and operating below said perforation in the tip thereof, and peg driving mechanism, and connecting mechanism substantially as described between said peg driving mechanism and said cutting device whereby the latter is operated at each peg driving operation unaffected by the vertical and rotary movement of the horn, substantially as described. 5th. The combination of the horn or work support capable of complete rotation and having a tip provided with a perforation concentric with the axis of rotation of the horn, a cutting device in said horn and means to move it to cut the peg-tip, a pegging mechanism comprising an awl and driver and means for moving said awl and driver laterally to feed the material, and actuating mechanism for driving the awl longitudinally into the material at or near the beginning of said lateral feed movement, and for moving the awl wholly through the material at the completion of said lateral movement, substantially as described. 6th. The combination of the horn or work support, and a peg-tip cutting device therein, with a pegging mechanism comprising a peg driver, and an independently movable awl and awl guide, and means for moving the same latterally to feed the material, and actuating mechanism for producing independent longitudinal movements of said awl and awl guide, substantially as described. 7th. The combination of the presser foot and vertically yielding horn or work support, with a pegging mechanism comprising an awl and peg driver, and means for moving the same laterally and depressing the material from the presser foot to feed the material, and actuating mechanism for producing a partial longitudinal movement of the awl whereby it enters the material, but does not project therethrough during the lateral feed movement of the awl, and is caused to pass wholly through the material when said lateral feed movement is not taking place, substantially as described. 8th. The combination of the horn or work support, with a pegging mechanism comprising an awl and peg driver, and means for positively reciprocating the same laterally to feed the material, and actuating mechanism for producing a partial longitudinal movement of the awl whereby it enters the material, but does not project therethrough during the lateral feed movement of the awl, and is caused to pass wholly through the material when said lateral feed movement is not taking place, substantially as described. 9th. The combination of the awl and independently movable awl guide with actuating mechanism for producing independent longitudinal movements of said awl and awl guide, substantially as described. 10th. The combination with a yielding upwardly pressed work support and a presser foot or work clamp co-operating therewith, of an awl and awl guide and laterally moving carrier therefor, and actuating mechanism for producing a lateral movement of said carrier, and independent longitudinal movements of said awl and awl guide, substantially as described. 11th. The combination of the horn or work support, with the pegging mechanism comprising a peg driver, and an awl and independently movable awl guide, and means for moving the same laterally to feed the material, and actuating mechanism for producing independent longitudinal movements of said awl and awl guide, substantially as and for the purpose described. 12th. The combination of the horn or work support having a tip provided with a perforation, and a cutting device in said horn operating below the perforation in its tip, with a pegging mechanism comprising a peg driver, and an independently movable awl and awl guide, and means for moving the same laterally to feed the material, and actuating mechanism for producing independent longitudinal movements of said awl and awl guide, substantially as and for the purpose described. 13th. The combination of the rotatable horn having a tip provided with a central opening concentric with the axis of rotation of the horn, of a pair of pivotally connected cutting jaws operating in the horn tip below the opening thereof and actuating mechanism for intermittently operating said cutting jaws, substantially as described. 14th. The combination of the main supporting frame or base with a horn or work support and supporting bearing therefor, vertically adjustable on said base, and a machine head supporting column also vertically adjustable on said base, substantially as described. 15th. The combination of the main supporting frame or base with a horn or work support and supporting bearing therefor, vertically adjustable on said base, and a machine head supporting column also vertically adjustable on said base, and engaged with said horn whereby equal vertical adjustment of the machine head and horn is secured, substantially as described. 16th. The combination of the horn or work support, of the peg driving mechanism comprising an awl and driver, and actuating mechanism and a supporting frame therefor, and means for adjusting said frame of the peg driving mechanism in a horizontal direction on the supporting column whereby the plane of the awl and driver may be brought into proper alignment with the horn, substantially as described. 17th. The combination of the rotatable horn and supporting bearing therefor with a non-rotating horn depressing link, a cutter in said horn and actuating connections therefor comprising a rod passing through the shank of the horn and rotating therewith, and an actuator for said rod having a bearing support in said horn depressing link, substantially as described. 18th. The combination of the horn bearing with the horn having a shank rotatably supported in said bearing, a spring contained in the shank of the horn and engaged at one end therewith, a support for the other end of the spring, an annulus fixed to the horn shank below the lower end of its bearing socket, and an annulus loosely encircling the horn shank between the annulus fixed thereon and the lower end of the bearing socket, and means connected with said loose annulus for depressing the horn against the stress of the spring therein, substantially as described. 19th. The combination of the horn bearing, with the horn having a shank rotatably supported in said bearing, a spring contained in the shank of the horn and engaged at one end therewith, a support for the other end of the spring, an annulus fixed to the horn shand below the lower end of its bearing and an annulus loosely encircling the horn shank between the annulus fixed thereon and the lower end of the bearing, means connected with said loose annulus for depressing the horn against the stress of the spring therein, and an anti-friction bearing between said loose annulus and said fixed annulus, and an anti-friction bearing at one end of the spring, substantially as described. 20th. The combination of the material feeding and peg driving mechanism of a pegging machine, with a gauge for the material to be operated upon, a spring pressed slide for said gauge provided with a cam having a locking shoulder, and a gauge shifter co-operating with said cam whereby said slide is shifted and locked against the stress of its spring or released for movement by its spring, substantially as described. 21st. The combination of the material feeding and peg driving mechanism of a pegging machine, with a gauge for the matertal to be operated upon, a spring pressed slide for said gauge, and a shifting lever for said slide, and adjustable fulcrum piece for said shifting lever, substantially as described. 22nd. The combination of the material feeding and peg driving mechanism of the pegging machine, with a gauge

for the material to be operated upon, and means for connecting the same with the frame work of the pegging mechanism having provision for vertical adjustment with relation thereto, substantially as described. 23rd. The combination of the horn or work support, with the peg driving mechanism comprising an awl and driver, an actuating mechanism and supporting frame therefor, and means for adjusting the said frame of the peg driving mechanism with relation to the horn in a direction at right angles to the plane through the awl and driver and also in the direction of the said plane whereby the awl and driver may be accurately located with reference to the axis of the horn, substantially as described. 24th. The combination of the awl and driver, with a carrier therefor having a rectilinear vibrating movement and provided with opposite cam engaging surfaces, and a cam interposed between and engaging with said surfaces, having portions of its periphery concentric but of different radius and connected by curves such that the difference across the cam between opposite tengential engaging surfaces is constant for all positions of the cam, substantially as described. 25th. The combination of the awl and driver, with a carrier therefor, and an actuating cam continuously engaged at opposite sides with said carrier which is provided with adjustable bearing pieces for engaging with said cam, substantially as described. 26th. The combination of the awl and driver bars and the vibrating carrier therefor, with the feed cam k^4 engaged at opposite sides with said carrier whereby the latter is moved positively in both directions, substantially as described. 27th. The combination of the driver bar, with the actuating rocker arm therefor pivotally supported in the frame and the actuating spiral spring and spring support, said spring having its ends in line with the axis thereof and secured in the said arm and spring support respectively, and said spring support being adjustably secured to the bearing support of said actuating arm, substantially as described. 28th. The combination of the awl bar and actuating rock shaft therefor provided with a slotted arm, of the actuating cam and the slide actuated thereby and connected with said arm in the slot therefor whereby the movement of the awl may be varied, substantially as described. 29th. The combination of the awl bar, with the actuating rock shaft therefor provided with arms, one connected with the said awl bar, and an actuating cam and slide actuated thereby connected with the other arm of said rock shaft, and means for angularly adjusting one of said arms on said rock shaft substantially as and for the purpose described. 30th. The combination of the awl and driver, with a carrier therefor provided with guide pins k^2 and supporting guideways therefor, and the cam k^4 for positively actuating said carrier in both directions, substantially as described. 31st. The combination of the vibrating carrier and peg driver supported thereon, with the peg wood guide supported on said carrier, and vibrating therewith, the peg wood feed roll and ratchet on said carrier, and the pawl and pawl carrier co-operating with said ratchet and means for engaging said peg wood guide and pawl carrier whereby the latter may be caused to accompany the former during a portion of its vibratory movement, substantially as described. 32nd. The combination of the peg wood feed ratchet t^4 and transversely vibrating support therefor, with the pawl t^5 and movable spring pressed pawl carrier $t^{5\,1}$, said ratchet support and pawl carrier being provided with co-operating engaging projections y, y^3, substantially as and for the purpose described. 33rd. The combination of the driving pulley of the machine provided with a friction surface, with the main shaft, and a clutch member connected to rotate therewith but capable of independent longitudinal movement thereon and provided with friction surfaces at its opposite ends, and a stationary friction surface or brake, and means for moving said clutch member into engagement with the driving pulley or brake, substantially as described. 34th. The combination of the driving pulley of the machine provided with a friction surface, with the main shaft, and a clutch member connected to rotate therewith but capable of independent longitudinal movement thereon and provided with friction surfaces at its opposite ends, and a stationary friction surface or brake, and means for yieldingly impelling said clutch member towards engagement with one of said friction surfaces, and means for positively moving said clutch member into engagement with the other of said friction surfaces, substantially as described. 35th. The combination with the main shaft, of a clutch member connected to rotate therewith but capable of independent longitudinal movement thereon, and provided with friction surfaces at its opposite ends, a stationary friction surface at one side of said clutch member, and a driving pulley at the other side thereof, and a bearing support for said driving pulley independent of the main shaft, substantially as described. 36th. The combination of the driving pulley of the machine, provided with a friction surface, with the main shaft, and a clutch member connected to rotate therewith but capable of independent longitudinal movement thereon and provided with friction surfaces at its opposite ends, and a stationary friction surface or brake, a cam on said driven shaft, and a trip arm adapted to be actuated by said cam, whereby said clutch member is shifted from engagement with one to engagement with the other of said friction surfaces, substantially as described. 37th. The combination of the driving pulley of the machine, provided with a friction surface, with the main shaft, and a clutch member connected to rotate therewith but capable of independent longitudinal movement thereon, and provided with friction surfaces at its opposite ends, and a stationary friction surface or brake, a cam on said driven shaft, and a trip arm adapted to be actuated by said cam whereby said clutch member is shifted from engagement with one to engagement with the other of said friction surfaces, said trip arm being yieldingly pressed in the opposite direction whereby when disengaged from said cam the clutch is shifted in the reverse direction, substantially as described.

No. 55,822. Stump Puller. (*Arrache-souche.*)

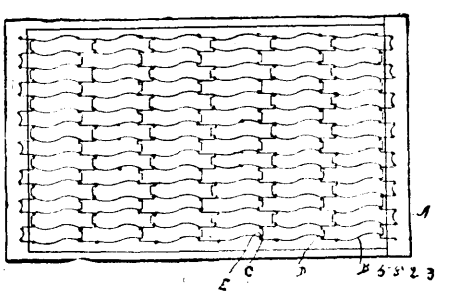


55822

John William Hamegan and Leo Hamegan, both of Hersey, Wisconsin, U.S.A., 6th May, 1897; 6 years. (Filed 12th April 1897.)

Claim.—In a stump extractor, the combination of a frame, a shaft journalled to the frame and having flattened sides at its outer end, an extracting rope having connection with the shaft, a grooved rim, parallel braces forming chords of the rim, oppositely-disposed C-braces located between the parallel chord braces and secured to the latter, and having their terminals abutting against the rim, means for clamping the middle parts of the C-braces against the flattened sides of the shaft, and a rope secured at one end to the rim and wound about the latter and adapted to have the power applied thereto, substantially as and for the purpose set forth.

No. 55,823. Spring Bed. (*Sommier élastique.*)



55823

John R. Rolison, Howell, Michigan, U.S.A., 6th May, 1897; 6 years. (Filed 7th April, 1897.)

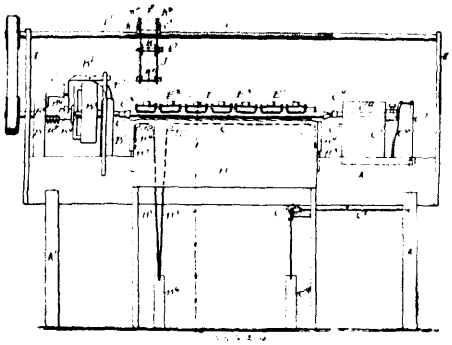
Claim.—1st. A spring bed having a wire fabric composed of transverse rows of longitudinally-extending spring-wires, links formed with ogee bends and with hooks at their ends, and of transversely-extending quadrangularly-looped connecting wires between the rows of links, each formed with eyes at the corners of the loops into which the hooked ends of two adjacent rows of wire links are engaged and held in correspondingly-longitudinal lines with each other, and with their bent portions in the plane of the fabric, substantially as described. 2nd. A spring bed having a wire fabric composed of transverse rows of longitudinally-extending spring wires, links formed with ogee bends and with hooks at their ends, and of transversely-extending connecting wires between the rows of links, each formed with continuous V-shaped angles and provided with eyes L at each angle for the purpose of retaining the hooked end C of the links B, in correspondingly-longitudinal lines with each other, and with their bent portions in the plane of the fabric, substantially as described.

No. 55,824. Hose Machine. (*Machine à boyaux.*)

Samuel K. Wilson, assignee of Robert Thompson Burchell, both of Trenton, New Jersey, U.S.A., 6th May, 1897; 6 years. (Filed 12th April, 1897.)

Claim.—1st.—In a hose machine, the combination with the removable mandrel, and means for supporting and rotating the same, of a shaft adjacent to the mandrel, a series of adjacent spring arms carried by said shaft and having at their free ends bearings which are adjacent to said mandrel, and a short roller journalled in the bearings of each of said arms, together with means whereby said arms with their rollers may be moved towards and away from the mandrel, substantially as specified. 2nd. In a hose machine, the combination of the mandrel, and mechanism for rotating the same, a counterweighted shaft journalled above and to the rear of said mandrel, the series of collars adjustably secured thereto, the series of spring arms carried by said collars, and the series of rollers

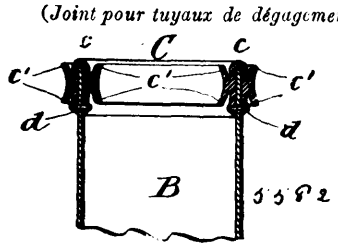
journalled at the free end portions of said arms, adjacent to the mandrel, substantially as specified. 3rd. In a hose machine, the



short driving shaft having a centre bearing at one end, and having a cap secured over said centre, said cap having an angular tapered socket, of a mandrel having a squared end adapted to fit the socket, a centre bearing at its opposite end, a short centreing shaft for said bearing, a half-funnel-shaped cap on said shaft adapted to receive the mandrel end, a spring for holding said centreing shaft in contact with the mandrel, and means for withdrawing said centreing shaft out of contact with the mandrel, substantially as described. 4th. In a hose machine, the combination of the mandrel, its driving and centreing shafts, the pulley on the driving shaft, the clutch mechanism, the compound shifting lever, the counterweighted shaft, the series of spring roller-carrying arms adjustably secured to said shaft, and the lever also secured to said shaft, and adapted, when depressed, to engage and actuate the shifting lever to throw the clutch mechanism into operation, substantially as specified. 5th. In a hose machine, the combination with the removable mandrel, the rock-shaft journalled adjacent to said mandrel, a series of spring arms carried by said shaft and terminating at their free ends in bearing forks adjacent to the said mandrel, and a short roller journalled in each of the said forks, the series of rollers so journalled being arranged to break joints with each other, substantially as specified. 6th. In a hose machine, the combination with the mandrel, of the feed-table having the parallel rollers, H^1, H^1, the roller H^2 above one of the rollers H^1, the vertically movable slides in which the roller H^2 is journalled, a treadle, and connections between the treadle and the said slides whereby they may be raised, substantially as specified. 7th. In a hose machine, the combination with the removable mandrel, the driving shaft therefor, the endwise-movable treadle-operated centreing shaft, the feed-rollers for said mandrel, the counterweighted rock-shaft adjacent to the mandrel and behind the same, the series of spring arms carried by said shaft, and having each at its free end portion, adjacent to the mandrel, a loosely journalled short roller, the cutter-carrying arms carried by the same shaft as the spring arms, and the cutters, substantially as specified. 8th. In a hose machine, the combination with a revolving mandrel, of a shaft journalled parallel therewith and formed with a helical thread, the semi-cylindrical traveller engaging said shaft and supported and travelling thereon, the hanger having lateral arms whose upper end portions are secured to the top portion of said traveller, a roll journalled in said hanger, and means for putting the axis of said roll under more or less friction, substantially as specified.

No. 55,825. Connection for Waste Pipes.

(Joint pour tuyaux de dégagement.)

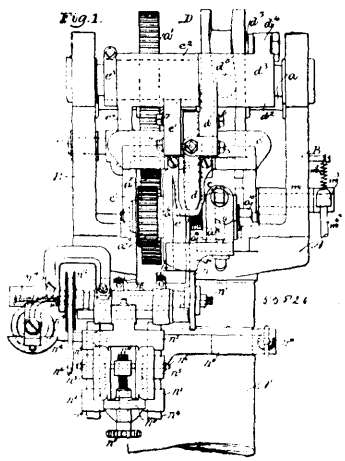


William Henry Burnett, Red Hook, New York, U.S.A., 6th May, 1897; 6 years. (Filed 12th April, 1897.)

Claim.—1st. In a connection of the class described, the combination, with the bowl provided with an annular groove or recess surrounding its outlet end, of the pipe provided with an annular flexible or elastic ring received by and compressed within said groove, substantially as and for the purpose set forth. 2nd. In a connection of the class described, the combination, with the bowl provided with an annular groove or recess surrounding its outlet end, of the pipe carrying its top edge and interiorly and exteriorly projecting flexible or elastic ring adapted to be received by and compressed within said groove, substantially as and for the purpose set forth. 3rd. In a connection of the class described, the combination, with the bowl having an annular groove or recess surrounding its outlet end, of the pipe carrying an annular flexible or elastic ring provided with laterally projecting flanges adapted to be compressed against the wall of said groove, substantially as and for the purpose set forth. 4th. In a connection of the class described, the combination, with the bowl having an annular groove or recess surrounding its outlet end, of the pipe carrying an annular flexible or elastic ring provided with a concave projecting flange at its side, said concave flange being adapted to be compressed by suction against the wall of said groove, substantially as and for the purpose set forth. 5th. In a connection of the class described, the combination, with the bowl provided with an annular groove or recess surrounding its outlet end, of the pipe carrying an annular flexible or elastic ring surrounding its top edge and provided at its interior and exterior sides with projecting flanges adapted to be compressed against the walls of the groove, substantially as and for the purpose set forth. 6th. In a connection of the class described, the combination, with the bowl provided with an annular groove or recess surrounding its outlet end, of a pipe carrying an annular flexible or elastic ring provided at its interior and exterior sides with concave projecting flanges adapted to be compressed against the walls of the groove, substantially as and for the purpose set forth. 7th. In a connection of the class described, the combination, with a bowl having an annular groove or recess surrounding its outlet end, of the pipe carrying at its top the annular flexible or elastic ring embodying an approximately U-shaped top portion projecting over and embracing the top edge of the pipe and provided at the interior and exterior sides with lateral flanges or projecting portions adapted to be compressed against the walls of the groove, substantially as and for the purpose set forth. 8th. In a connection of the class described, the combination, with the bowl provided with a groove or socket surrounding end the outlet and extended with relation thereto, of a pipe carrying a cushion compressed within said socket and forming a sliding connection therewith, substantially as and for the purpose set forth. 9th. In a connection of the class described, the combination of the bowl and pipe having a relatively sliding connection, substantially as and for the purpose set forth. 10th. In a connection of the class described, the combination of the bowl and pipe having a flexible or elastic movable connection, substantially as and for the purpose set forth.

No. 55,826. Welt-Seam Trimming Machine.

(Machine pour achever les bordures.)



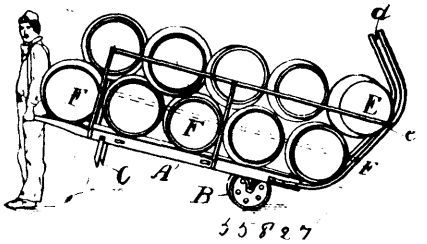
Zachary Taylor French and William Christian Meyer, both of Boston, Mass., U.S.A., 6th May, 1897; 6 years. (Filed 12th April, 1897.)

Claim.—1st. In a welt-seam trimming machine, a welt-seam trimming knife turning on an axis, and means for holding and feeding the work, having as a co-operative part of it a device which acts upon the underside of the welt and projects inwardly and terminates close to the point where the cutting is being done, thereby entering the gradually contracted space between said knife and welt, tangent to the curvature of the knife, and holding the work directly opposite where the cutting is being done, substantially as described. 2nd. In a welt-seam trimming machine, the combination of a work-support at the face side of the welt, a continuously rotating crown knife at the opposite side thereof, and a pair of intermittent clamp-feeding jaws, and means for operating them to grip the work and feed it along against the cutting edge of the continuously rotating knife, substantially as described. 3rd. In a welt-seam trimming machine, a welt-seam trimming knife moving in the arc of a circle transversely to the progress of the work, and a feeding device for the work, one member of which acts upon the underside of the welt, and is located between the knife and the welt, and has a recess in which said knife works, substantially as described. 4th. In a welt-seam trimming machine, the combination of a continuously rotating crown knife, and a pair of intermittent clamp-feeding jaws arranged substantially tangential to said crown knife, and projecting laterally to a point in advance of and also to a point back of the cutting edge of the knife, to thereby grip the

work at a point where the cutting is being done, also in front of and also back of said point, substantially as described. 5th. In a welt-seam trimming machine, the combination of intermittent clamp feeding jaws, and a continuously rotating crown knife, said jaws being substantially tangential to said crown knife and arranged with the cutting edge of the knife between the sides of the rear jaw, that the jaws may grip the work in front of and also back of said cutting edge, substantially as described. 6th. In a welt-seam trimming machine, the combination of a work-support at the face side of the welt, a continuously rotating crown knife at the opposite side thereof, a pair of clamp feeding jaws arranged substantially tangential to said crown knife, and means for operating them to grip the work and feed it along, substantially as described. 7th. In a welt-seam trimming machine, the jaws *d*, *e*, means for operating them to grip the work and feed it along, the rear jaw *e* having a guide-way upon its rear side, and a continuously rotating crown knife which enters and works in said guide-way, substantially as described. 8th. In a welt-seam trimming machine, the combination of a pair of clamp feeding jaws, means for operating them to grip the work and feed it along, a work-support at the face side of the welt, and a crown knife at the opposite side thereof, which assists in holding the work while the feeding jaws return for a new grip, substantially as described. 9th. In a welt-seam trimming machine, the combination of a welt-seam trimming knife, clamp-feeding jaws and a work-support, and an adjusting device for adjusting said work-support in and out, substantially as described. 10th. In a welt-seam trimming machine, the combination with feeding mechanism, of a continuously rotating crown knife, a sleeve to which it is secured, a longitudinally adjustable rod or shaft upon which said sleeve is mounted, and means for rotating said sleeve, substantially as described. 11th. In a welt-seam trimming machine, the combination with a work-support, and feeding mechanism for the work, of a welt-seam trimming knife, a movable knife-carrying frame therefor, a spring for moving it toward and from the work-support, and a treadle and suitable connections for moving it in the opposite direction, substantially as described. 12th. In a welt-seam trimming machine, the combination with a work-support, and feeding mechanism for the work, of a welt-seam trimming knife, and a yielding knife-carrying frame therefor, whereby the knife is free to move with relation to the work-support, substantially as described. 13th. In a welt-seam trimming machine, the combination with feeding mechanism for the work, of a crown knife, a rotating shaft bearing it, driving gear thereon, and a knife-carrying frame supporting said shaft, and means for moving said frame freely in and out, substantially as described. 14th. In a welt-seam trimming machine, the combination of feeding mechanism for the work, a work-support, a continuously-rotating crown knife, its shaft, and means for rotating it, a knife-carrying frame supporting said shaft, and means for moving said frame freely in and out, substantially as described. 15th. In a welt-seam trimming machine, the combination with feeding mechanism for the work, of a continuously rotating crown knife, a knife-carrying frame, driving mechanism for said crown knife, a co-operative part of which is borne by said knife-carrying frame, and means for moving said knife-carrying frame in and out while the knife is operating, substantially as described. 16th. In a welt-seam trimming machine, the combination of a pair of clamp feeding jaws, means for operating them to grip the work and feed it along, a work-support at the face side of the welt, and a crown knife at the opposite side thereof which assists in holding the work while the feeding jaws return for a new grip, and a spring pressed knife-carrying frame for said crown knife, substantially as described. 17th. In a welt-seam trimming machine, the combination of feeding mechanism for the work, two work-supports as *c* and *r* located a short distance apart to receive the welt-seam between them, and a curved trimming knife crossing said space, and means for moving it substantially at right angles to the progress of the work, substantially as described. 18th. In a welt-seam trimming machine, the combination of feeding mechanism for the work, two work-supports as *c* and *r* located a short distance apart to receive the welt-seam between them, and a curved trimming knife crossing said space, means for adjusting its position with relation to the work-supports, and means for moving it substantially at right angles to the progress of the work, substantially as described. 19th. In a welt-seam trimming machine, the combination of feeding mechanism for the work, two work-supports as *c* and *r* located a short distance apart to receive the welt-seam between them, and a curved trimming knife crossing said space, means for moving it freely in and out with relation to the work-supports, and means for moving it substantially at right angles to the progress of the work, substantially as described. 20th. In a welt-seam trimming machine, the combination of a continuously rotating crown knife, feeding mechanism, a work-support adapted to enter the crease, and a rest *r* located beneath said knife and projecting forward to a point to bear upon the sole inside the welt, substantially as described. 21st. In a welt-seam trimming machine, the combination of two work-supports as *c* and *r*, located a short distance apart to receive the welt-seam between them, the latter being adjustable in and out, and a curved knife crossing said space, substantially as described. 22nd. In a welt-seam trimming machine, a crown knife having a flaring flange and two work-supports as *c* and *r*, located a short distance apart to receive the welt-seam between them, said knife working in and across said space, the work-support *r* being made adjustable in and out, substantially as described. 23rd. In a welt-seam trimming machine, a crown knife having a flaring flange and two work-supports as *c* and *r*, located a short distance apart to receive a welt-seam between them, said knife working across said space, the work-support *r* being adjustable in a vertical line toward and from the work-support *c*, substantially as described. 24th. In a welt-seam trimming machine, the combination of a pair of clamp feeding jaws, means for moving them to engage the welt and feed along the work, a work-support at the face side of the welt, and a welt-seam trimming knife at the opposite side thereof, substantially as described. 25th. In a welt-seam trimming machine, the combination of a pair of clamp feeding jaws, means for moving them to engage the welt and feed along the work, a work-support at the face side of the welt, and a welt-seam trimming knife at the opposite side thereof having a broad face substantially in parallelism with said work-support, and co-operating therewith to clamp and hold the welt between them while the feeding jaws are returning to grip the welt, substantially as described. 26th. In a welt-seam trimming machine, the combination of a work-support, a pair of feeding jaws, the front jaw terminating just above the work-support, and a trimming knife, substantially as described. 27th. In a welt-seam trimming machine, the combination of the loop-like work-support *c*, feeding jaws *d e*, the front jaw working back and forth within said loop, and a welt-seam trimming knife, substantially as described. 28th. In a welt-seam trimming machine, the combination of a welt-seam trimming knife having a cutting edge upon the side, and a pair of clamp feeding jaws, and means for operating them to grip the welt, and feed along the work against the cutting edge of the moving knife, substantially as described. 29th. The combination of a trimming knife, and means for operating it, a grinding wheel, and means for operating it to grind said knife, and means for moving one of said parts repeatedly into and out of engagement with the other, substantially as described. 30th. The combination of a trimming knife, and means for operating it, a grinding wheel, and means for operating it to grind said knife, and means for automatically moving one of said parts repeatedly into and out of engagement with the other, holding it in engagement but a short interval of time, substantially as described. 31st. In a welt-seam trimming machine, a rotatable trimming knife and a rotatable grinding-wheel, and means for repeatedly moving one of said parts into contact or engagement with the other, while the machine is in operation, substantially as described. 32nd. In a welt seam trimming machine, a rotatable trimming knife and a rotatable grinding-wheel, and means for moving one of said parts back and forth across the other, touching as they pass, substantially as described. 33rd. In a welt-seam trimming machine, a trimming knife, means for operating it, grinding-wheel, a rotatable shaft to which it is secured, means for automatically reciprocating said rotating shaft longitudinally, thereby moving the grinding-wheel into and out of engagement with said knife, substantially as described. 34th. In a welt-seam trimming machine, a trimming knife, means for operating it, a grinding-wheel, a rotatable shaft to which it is secured, means for automatically reciprocating said rotating shaft longitudinally, thereby moving the grinding-wheel back and forth across the bevelled edge of the knife while the latter is operating, substantially as described. 35th. In a welt-seam trimming machine, a trimming knife, means for operating it, a grinding-wheel, a rotatable and longitudinally reciprocating shaft to which it is secured, and a support for said shaft adjusted vertically, whereby the grinding-wheel may be adjusted toward and from the knife, substantially as described. 36th. In a welt-seam trimming machine, a crown knife, means for rotating it, a grinding-wheel, a shaft to which it is secured, a bearing in which said shaft is free to rotate and slide longitudinally, means for rotating said shaft, and means for automatically reciprocating it longitudinally, whereby the grinding-wheel is moved into and out of engagement with the crown knife, substantially as described. 37th. In a welt-seam trimming machine, a trimming knife, a grinding-wheel for it, a shaft to which said grinding-wheel is secured, a bearing for said shaft in which it is free to rotate and slide longitudinally, means for rotating said shaft, a worm thereon, a worm-wheel engaged and driven by it, and a crank connection, substantially as described. 38th. In a welt-seam trimming machine, the combination of a crown knife and means for rotating it, a pair of jaws adapted to compress or beat out a welt, means for operating them to recurrently close upon the welt, and means for moving them, when closed upon the welt to feed along the work, substantially as described. 39th. In a welt-seam trimming machine, the combination of a crown knife for trimming the welt-seam, and a pair of oscillating or reciprocating jaws, one of which is movable towards and from the other, and a cam having circumferential and lateral cam grooves, and arms engaging said grooves and connected with said jaws, substantially as described. 40th. The combination of a work-support at the face side of the welt, and a pair of jaws adapted to compress or beat out the welt, means for operating them to recurrently close upon the welt, and means for moving them when closed upon the welt to feed along the work, substantially as described. 41st. The combination of a work-support at the face side of the welt, and a pair of oscillating or reciprocating jaws, one of which is movable towards and from the other, and a cam having circumferential and lateral cam grooves, and arms engaging said grooves and connected with said jaws, substantially as described. 42nd. In a welt-seam trimming machine, the combination of a pair of jaws adapted to compress or beat out a welt, means for operating them to recurrently close upon the welt,

means for moving them when closed upon the welt to feed along the work, a work-support at the face side of the welt, and a welt-seam trimming knife at the opposite side thereof, substantially as described. 43rd. In a welt-seam trimming machine, the combination of a pair of jaws adapted to compress or beat out a welt and to serve as feeding devices for the work, a work-support, a continuously rotating crown-knife, a knife carrying frame therefor, and means for moving said frame freely in and out, substantially as described. 44th. In a welt-seam trimming machine, the combination of a work-support at the face side of the welt, a continuously rotating crown knife at the opposite side thereof, a pair of jaws arranged substantially tangential to said crown knife adapted to compress or beat out the welt, means for operating them to recurrently close upon the welt, and means for moving them when closed upon the welt to feed along the work, substantially as described.

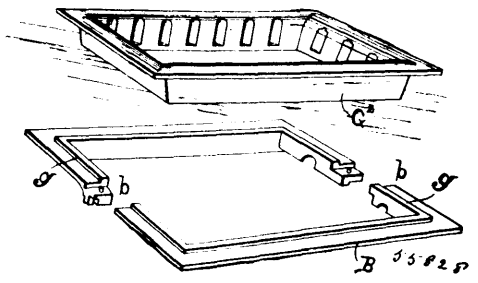
No. 55,827. Barrel Truck. (*Camion pour barils.*)



William A. Hull, Cedar Rapids, Iowa, U.S.A., 6th May, 1897; 6 years. (Filed 12th April, 1897.)

Claim.—1st. In a barrel-truck, the combination with the truck-frame A provided with suitable wheels B B, of the curved end bars D D, the side rails E E, having offsets *e*, and standards F F, having offsets *f f*, substantially as and for the purpose set forth. 2nd. In a barrel-truck, the combination with the truck-frame and its carrying-wheels, of the curved end bars D D connected by tie-rods *d d*, the offset side rails E E and standards F F, and the adjustable stops G G, substantially as and for the purpose set forth. 3rd. In a barrel-truck, the combination with the truck-frame and its carrying-wheels, of the barrel-rack composed of the curved end bars D D connected by suitable tie-rods, and the offset side rails and standards, the back-stops and pivoted legs, substantially as and for the purpose set forth.

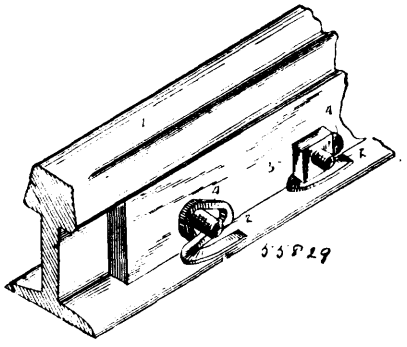
No. 55,828. Stove and Grate. (*Poêle et grille.*)



Bradley Woodhull, Scranton, Pennsylvania, U.S.A., 6th May, 1897; 6 years. (Filed 12th April, 1897.)

Claim.—1st. The combination with the fire-box having the opening in one end, and the inwardly projecting brackets rigidly connected with said fire-box, one of said brackets extending up in line with the opening, of the grate-frame supported on said brackets, a removable section closing the opening in the fire-box and the grate supported in bearings beneath the grate-frame and in position to be withdrawn through the opening in the fire-box without disturbing the grate-frame or the fire-box lining overlying the grate-frame, substantially as described. 2nd. The combination with the fire-box having the opening in one end thereof and the brackets rigidly connected with said fire-box at the ends and projecting inwardly, of the grate-frame supported on said brackets, the pivoted grate-sections mounted in bearings in the fire-box, intermeshing gears connecting said grate-sections located outside of the bracket at the end of the fire-box adjacent to the opening and a removable section for closing said opening, substantially as described. 3rd. The combination with the fire-box having the grate-frame-supporting ribs on its front and rear and the inwardly-projecting brackets at opposite ends, of the sectional grate-frame supported by said ribs and brackets, the fire-box lining overlying the grate-frame and the sectional grate supported in bearings below the grate-frame on opposite sides of the brackets, substantially as described. 4th. The combination with the fire-box having the inwardly-projecting grate-frame-supporting bracket formed with the wide base, and the grate-frame supported by said bracket, of the oscillatory grate formed of grate-bars located at opposite sides of the bracket and having intermeshing cog-wheels, said cog-wheels lying outside of the wide base of the supporting-bracket for the grate-frame, substantially as described. 5th. The combination with the fire-box having the inwardly-projecting grate-frame supporting bracket provided with a relatively wide base and the grate-frame supported by said bracket, of the oscillatory grate bars, cog-wheels located thereon and lying outside of the base of the bracket, and a removable section in the fire-box having the journals for the ends of the grate-bars located outside of the grate-frame-supporting bracket, whereby said section may be removed and the grate-bars withdrawn without disturbing the grate-frame and fire-box lining, substantially as described. 6th. In a setting, such as described, the combination with the oscillatory grate, of the fire-box having the bearing bridge-plates formed thereon within the wall of the fire-pot and having openings at top and bottom for the circulation of air around the journals of the grate, substantially as described. 7th. The combination with the fire-box having the bridge-plate on its inner side with openings at top and bottom of the same for the circulation of air between said bridge-plate and wall of the fire-box and bearings formed in said bridge-plate, of the oscillatory grate-bars having journals working in said bearings, the grate-frame and the fire-box lining lying within said bridge-plate, substantially as described. 8th. The combination with the fire-box having the bearings for the oscillatory grate-bars formed in one end thereof, of the removable section for closing the opposite end of said fire-box having the bridge-plate on its inner side with an air-space behind the same and bearings for the outer ends of the grate-bars formed in said bridge-plate, substantially as described.

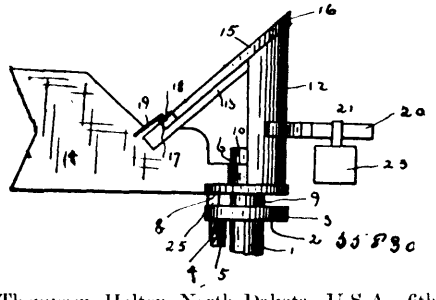
No. 55,829. Nut Lock. (*Arrête-écrou.*)



Lorenzo D. Spragg, Mairon, Ohio, U.S.A., 6th May, 1897; 6 years. (Filed 12th April, 1897.)

Claim.—As an improved article, a nut lock consisting of the spring-metal bar having its upper end curved to embrace a bolt and then bent forward and outward to form a horizontal portion in a different plane from the curved portion, and against which the bottom of a nut is adapted to bear, and then bent outward, backward, and downward, and flattened and adapted to bear upon the base of a rail, substantially as described.

No. 55,830. Spark Arrester. (*Arrête-étincelle.*)



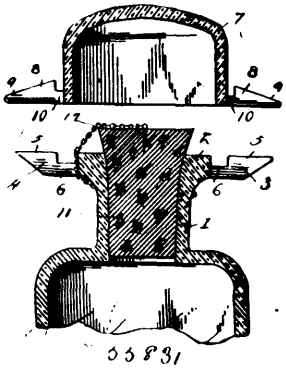
Joseph T. Thompson, Halton, North Dakota, U.S.A., 6th May, 1897; 6 years. (Filed 12th April, 1897.)

Claim.—1st. In a wind-guard and spark arrester, the combination with the smoke stack and cup-shaped receptacle secured thereto, of the rotatable wind-guard, the inclined wire-gauze or perforated shield, the wing-vane and the adjustable counterbalance-weight, substantially as described. 2nd. The combination with the smoke-pipe, the cup-shaped receptacle, the rotatable hub and rim, of the rotatable guard, the wind-vane secured thereto, the inclined perforated metal or wire-gauze shield, the lug at the lower end thereof, the eyes, the pivoted hooks engaging therewith, and the adjustable counterbalance-weight, substantially as described. 3rd. The combination with the smoke-pipe, the rotatable hub, the radial arms and ring, the wind-vane secured thereto, and the cup-shaped receptacle, of the wind-guard, the downwardly-inclined arms secured thereto, and to the wind-vane, the downwardly-inclined flanged shield engaging therewith the adjustable counterbalance-weight, substantially as described. 4th. The combination with the smoke-pipe, the rotatable hub, the radial arms and rim, the blade secured

to one of said arms, and the wind-guard, wind-vane and shield, of the cup-shaped receptacle having openings in the bottom, and a discharge-pipe provided with a closing-plug, substantially as described.

No. 55,831. Non-Refillable Bottle.

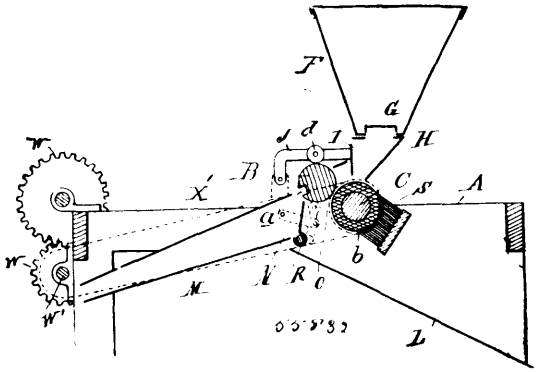
(*Appareil pour empêcher le remplissage des bouteilles.*)



Alfred Turner, Gallitzin, Pennsylvania, U.S.A., 6th May, 1897; 6 years. (Filed 12th April, 1897.)

Claim.—1st. In a non-refillable bottle, the combination with a bottle-neck provided with a lug of a cap for said neck which is provided with a lug or ear, said lugs or ears being adapted for fusing together. 2nd. In a non-refillable bottle, the combination with a bottle neck provided with a lug or ear having a reduced or easily frangible portion, of a cap for said neck which is provided with an ear also having a reduced portion, said ears being adapted for fusing together. 3rd. In a non-refillable bottle, the combination with a bottle-neck provided with a lug or ear, of a cork or stopper located in the neck, and an upper cap which covers the stopper, said cap being provided with a lug or ear, said ears being adapted for fusing together. 4th. In a non-refillable bottle, the combination with a bottle-neck provided with a lug or ear, of a cork or stopper located in the neck, a chain connecting said stopper with the neck, and a cap covering the stopper and provided with a lug or ear said ears adapted for fusing together.

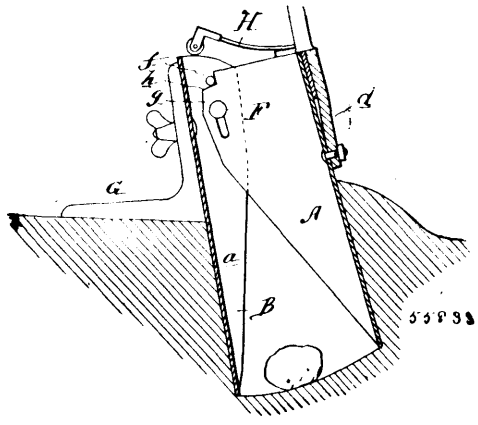
No. 55,832. Bean Picker. (*Moissonneuse de fèves.*)



George Franklin Crippen, Ypsilanti, Michigan, U.S.A., 6th May, 1897; 6 years. (Filed 12th April, 1897.)

Claim.—1st. The combination of two rolls adapted to revolve in proximity to each other, one having a yielding surface and the other a hard polished surface with a longitudinal groove formed therein, means for feeding the beans to be separated into the throat between said rolls, whereby the poor beans will first be drawn between said rolls by their frictional contact therewith, and the remainder will be carried through in the groove in the roll, and means for directing the beans discharged from the groove into a separate receptacle. 2nd. The combination with two rolls adapted to revolve in proximity to each other, one having a yielding surface and the other a hard polished surface with a longitudinal groove formed therein, of a hopper above said rolls for the beans to be separated, a mechanical feed therefor adapted to discharge the beans periodically into the throat between said rolls, and a vibrating wing below said rolls adapted to direct the separate discharges into different receptacles. 3rd. The combination with the rolls B and C in proximity to each other, the former provided with a longitudinal groove *a*, of a hopper above said rolls, a mechanical feed from said hopper to the throat between the rolls, the gate I above and the swinging wing H below said rolls, and mechanism timed to operate the parts, substantially as and for the purpose described. 4th. In a bean picker, the combination of a roll having a hard polished surface and provided with a longitudinal groove and a roll journalled in proximity thereto provided with a yielding surface, for the purpose described. 5th. In a bean picker, the combination with a hopper, two rolls below said hopper in proximity to each other, one being provided with a longitudinal groove, a movable gate between the hopper and the rolls, means moving with one roll for operating said gate, a plurality of chutes below the rolls, a movable wing adapted to direct the beans passing between the rolls into one of said chutes, and means operated by one of said rolls for shifting said wing. 6th In a bean picker, the combination with a frame, a hopper, a reciprocating feed bar in said hopper, two rolls journalled in the frame in proximity to each other, one provided with a longitudinal groove, means for directing the beans from the hopper to the rolls, a movable gate, means operated by one of said rolls for moving said gate, a plurality of chutes below the rolls, a swinging wing adapted to direct the beans passing between the rolls into one of said chutes, means operated by one of said rolls for shifting said wing, mechanism for driving said rolls, and means for reciprocating said feed bar.

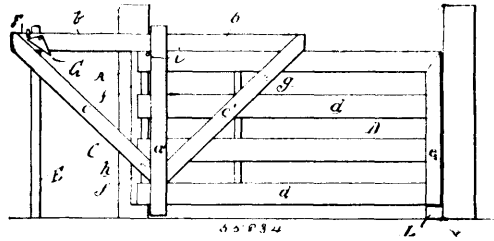
No. 55,833. Potato Planter. (*Semoir à patates.*)



Adoniram J. Calburn, Greenville, Michigan, U.S.A., 6th May, 1897; 6 years. (Filed 12th April, 1897.)

Claim.—1st. In a planter, a beak, comprising a stationary jaw and a jaw slidably and pivotally secured to the stationary jaw, and a stop device to prevent the sliding movement of said jaw when the planter is being withdrawn from the ground after the potato has been dropped. 2nd. In a planter, the combination with the beak, comprising a stationary jaw and a movable jaw hinged thereto so as to have a swinging and a longitudinally sliding movement, of means for holding said jaw free to swing except in its closed position, and for locking it in said position, consisting of a lug or pin on one jaw and a rigid shoulder on the other jaw adapted to engage the pin and having a segmental holding portion, and a locking portion at substantially right angles thereto. 3rd. In a planter, the combination with a beak, comprising a stationary jaw, and a movable jaw hinged thereto and adapted to lock in its closed position by a longitudinal sliding movement, of means for preventing the accidental opening of said jaws, consisting of the spring H secured to one jaw and bearing on the upper edge of the other jaw. 4th. In a planter, the combination with the beak and the handle therefor, of the bracket E connecting said handle and beak, having the U-shaped portion *b*, with the upper securing portion *c*, the lower securing portion *d*, and the spur *e*, for the purpose described. 5th. In a potato planter, a beak comprising a stationary jaw, a movable jaw having a pivotal and sliding connection therewith and means for locking the jaws in closed position, consisting of a projection on one jaw and a locking shoulder on the other jaw engaging said projection.

No. 55,834. Gate. (*Barrière.*)



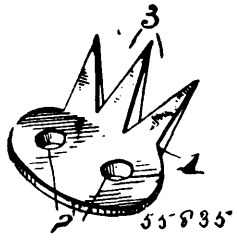
William H. Palmer, Yale, Michigan, U.S.A., 6th May, 1897; 6 years. (Filed 12th April, 1897.)

Claim.—1st. In a sliding and swinging gate, a hinged carrier frame comprising separated upright bars, a horizontal bar secured between at the upper end and extending upon opposite sides thereof and separated diagonal brace bars, in combination with the gate proper, slidingly secured to said frame between said separated bars.

2nd. In a sliding and swinging gate, a hinged carrier frame comprising the separated upright bars *a*, *a*¹, the horizontal bar *b* secured between at the upper end and extending upon opposite sides thereof, and the separated diagonal brace bars *c*, *c*¹, in combination with the gate D, sliding between the separated bars of the carrier and comprising the rails *d* and end uprights *e* and *f*, the latter having its sides flush with the sides of the rail, and the anti-friction rolls *g* and *h* on the upper and lower part of the carrier upon which the rails of the gate bear. 3rd. In a sliding and swinging gate, the combination with a carrier frame and the gate proper slidingly secured thereto, of a post having the vertically adjustable bar secured thereto to which said carrier frame is hinged.

No. 55,835. Rug or Carpet Fastener.

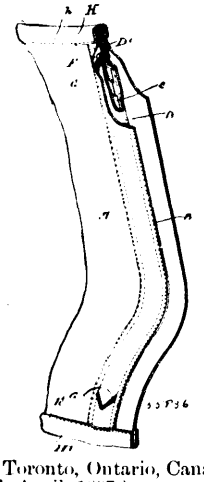
(*Appareil pour assujétir les tapis.*)



Joseph Alexander Dabrowski, New York, State of New York, U.S.A., 6th May, 1897; 6 years. (Filed 12th April, 1897.)

Claim.—1st. As a new article of manufacture, a fastening device for rugs and carpets consisting of a plate adapted to be secured to the floor and provided with pointed prongs thereon. 2nd. As a new article of manufacture, a fastening device for rugs and carpets consisting of a plate adapted to be secured to the floor and provided with pointed prongs thereon, the said prongs extending upwardly from the main body part of the plate. 3rd. As a new article of manufacture, a fastening device for rugs and carpets consisting of a plate adapted to be secured to the floor and provided with pointed prongs thereon, the said prongs extending upwardly from the main body part of the plate and extending outwardly on substantially radial lines.

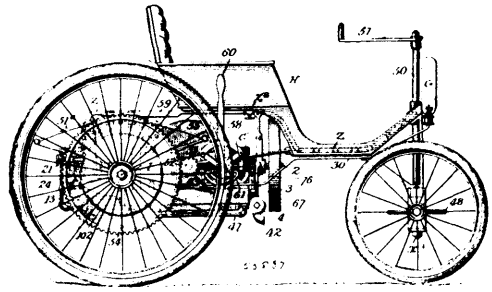
No. 55,836. Corset. (*Corset.*)



Frederick Crompton, Toronto, Ontario, Canada, 6th May, 1897; 6 years. (Filed 12th April, 1897.)

Claim.—1st. In a corset, in combination the body of the garment and pocket, the steel, a textile fabric covering for same folded longitudinally over the steel and cemented thereto, and so arranged as to extend beyond the ends of the steel and form flexible ends, and fastening devices near the top and bottom edges of the corset and extending through the flexible ends and garment for securing the said steel from longitudinal displacement, as and for the purpose specified. 2nd. In a corset, in combination the body of the garment and pocket, the steel, a textile fabric covering for same folded longitudinally over the steel and cemented thereto, and so arranged as to extend beyond the ends of the steel and form flexible ends, the top and bottom binding and the stitching holding the same in position and extending through the flexible ends of the covering of the steel, as and for the purpose specified. 3rd. In a corset, in combination the body of the garment and pocket, the steel, a textile fabric covering for same folded longitudinally over the steel and cemented thereto, and so arranged as to extend beyond the ends of the steel and form flexible ends, fastening devices near the top and bottom edges of the corset and extending through the flexible ends and garment and eyelets extending through the flexible ends of the cover of the steel, as and for the purpose specified. 4th. In a corset, in combination the body of the garment and pocket, the steel, a textile fabric covering for same folded longitudinally over the steel and cemented thereto, and so arranged as to extend beyond the ends of the steel and form flexible ends, fastening devices near the top and bottom edges of the corset and extending through the flexible ends and garment, eyelets extending through the flexible ends of the cover of the steel and embroidery stitching passing through the eyelets, pocket and body of the garment on each side of the covered steel, as and for the purpose specified. 5th. In a corset, in combination the body of the garment and pocket, the steel, a textile fabric covering for same folded longitudinally over the steel and cemented thereto, and so arranged as to extend beyond the ends of the steel and form flexible ends, fastening devices near the top and bottom edges of the corset and extending through the flexible ends and garment for securing the said steel from longitudinal displacement and reinforcing strips on each side of the steel extending partially over the same and past the ends of the steel into the flexible ends, as and for the purpose specified.

No. 55, 837. Motor Vehicle. (*Voiture à moteur.*)

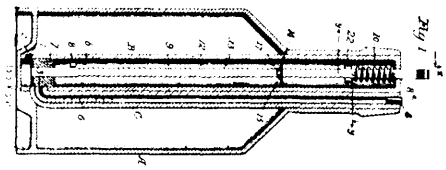


James Philip Erie, Los Angeles, California, U.S.A., 6th May, 1897; 6 years. (Filed 12th April, 1897.)

Claim.—1st. The combination with the body and wheels, and axle of a motor vehicle, of a drividg shaft arranged longitudinally on the vehicle, two gas engines on opposite sides of the shaft connected to drive the same, and gearing between the shaft and one of the axles, substantially as set forth. 2nd. The combination of a vehicle body and wheels, and axles, of a driving shaft, and connections between the same and one of the axles, and gas engines connected to turn said shaft and arranged beyond the rear of the vehicle body, and a fly wheel on said shaft below the body of the vehicle, substantially as set forth. 3rd. The combination with the rear axle of a vehicle, of a frame supported thereby and supporting the driving engine at one side of the axle and the driving shaft and gearing at the opposite side, substantially as set forth. 4th. The combination of the two engines in line with each other, the driving shaft at right angles thereto, an axle at right angles to the driving shaft, and means for putting the axle into and out of connection with the driving shaft, substantially as set forth. 5th. A motor vehicle having a frame supported by the rear axle thereof and below the body, and the motor engine on opposite sides of a longitudinal shaft, and connections, tanks, and gears all supported by the frame, substantially as described. 6th. The combination with the gas engine cylinder and water jacket thereof, of a cooler consisting of a tank provided with air pipes 44, the water space of said tank connected with said water jacket to permit the water to circulate through both the cooler and the water jacket, substantially as set forth. 7th. The combination of the two engines, igniter tubes, casings and burners, of the connecting tube 22 having a discharge opening X¹, substantially as described. 8th. The combination of one or more gas engines and a mixing casing and a mixing tank, and means for heating the contents of the tank and for heating the air, substantially as described. 9th. The combination of two gas engine cylinders, a tank, and means for supplying the same with air and vapour, a communication between said tank and each cylinder, and an exhaust pipe communicating with the exhaust and extending through the said tank, substantially as set forth. 10th. The combination with the gas engine cylinder, of a mixing casing, air pipe and oil pipe, spring actuated valve 27, and a pump F, means for positively operating the pump, and means for heating the air and vapour, substantially as described. 11th. The combination of the engine shaft 2, friction wheels, movable independently, bearing wheels, disc 55, and operating parts and appliances, substantially as described. 12th. The combination with the friction discs, and independently movable friction wheels, of a lever 60 and connections substantially as hereinbefore set forth, whereby to move t e said wheels independently and each to any desired extent, substantially as set forth. 13th. The combination in a motor vehicle, of the axles, wheels, motor engine, and gear 54 driven from said engine, a gear 102 connected with one of the wheels, a gear 101 connected with an axle and pinions 100 between the gears 101 and 102 and carried by the gear 54, substantially as set forth. 14th. The combination with a shaft or axle I and driving gear 54, and with a wheel to be driven therefrom, of gears upon the wheel and axle, and intermediate pinians carried by the driving gear 54, substantially as and for the purpose set forth. 15th. The combination with the frame and wheels of a vehicle, of a motor engine, and connections for driving the wheels

therefrom at the rear, and an oil reservoir arranged at the front and constituting a dash board, substantially as set forth. 16th. A motor vehicle embodying the general features of construction arranged and operating substantially in the manner and for the purposes hereinbefore set forth and illustrated in the accompanying drawing.

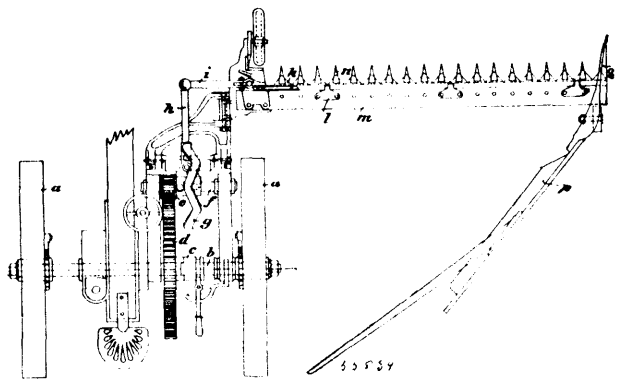
No. 55,838. Bottle. (*Bouteille.*)



James Philip Eric, Los Angeles, California, U.S.A., 6th May, 1897; 6 years. (Filed 12th April, 1897.)

Claim.—1st. A bottle provided with a discharge tube or passage communicating with the interior of the bottle at or near the lower end thereof, and a stopper at the lower end of said tube adapted to be operated from the exterior of the bottle to open and close communication between the tube and the bottle, substantially as described. 2nd. A bottle provided with a discharge tube or passage communicating with the interior of the bottle at or near the lower end thereof, and a self-seating stopper at the lower end of said tube adapted to be operated from the exterior of the bottle to open and close communication betewen the tube and the bottle, substantially as described. 3rd. A bottle provided with a graduated discharge tube or passage communicating with the interior of the bottle at or near the lower end thereof, and a stopper at the lower end of said tube adapted to be operated from the exterior of the bottle to open and close communication between the tube and the bottle, substantially as described. 4th. A bottle provided with a discharge tube or passage communicating with the interior of the bottle at or near the lower end thereof, a stopper at the lower end of said tube adapted to be operated from the exterior of the bottle to open and close communication between the tube and bottle, and a second stopper in the upper end of the tube, substantially as described. 5th. A bottle provided with a discharge opening and a stopper controlling the same, of an inaccessible indicating device operated with the stopper to indicate when the bottle has been opened, substantially as described. 6th. A bottle provided with a discharge opening and a stopper controlling the same, of a visible inaccessible intermittently movable indicating device adapted to be operated by the stopper to indicate when the bottle has been opened, substantially as described. 7th. A bottle provided with a discharge opening and an inaccessible stopper for controlling the discharge opening, means for operating the stopper from the exterior of the bottle, and devices for automatically locking the stopper to close the discharge opening at a predetermined time, substantially as described. 8th. A bottle provided with a discharge, and an inaccessible stopper, adapted to be moved from the exterior of the bottle to open and close the discharge opening, and inaccessible means for automatically locking the stopper to close the discharge opening after the stopper has been moved a number of times, substantially as described. 9th. A bottle provided with a discharge opening, and an inaccessible self-closing stopper, adapted to be moved from the exterior of the bottle to open the discharge opening, and inaccessible means for automatically locking the stopper in its closed position, substantially as described.

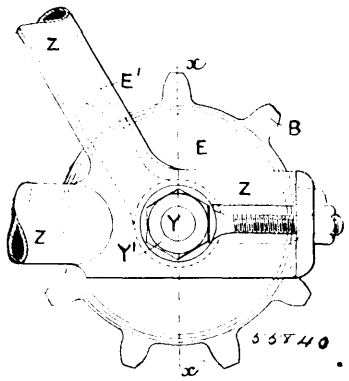
No. 55,839. Mowing Machine. (*Faucheuse.*)



Fritz Schwenke, Meiningen, Germany, 6th May, 1897; 6 years. (Filed 12th April, 1897.)

Claim.—In a mowing machine, the combination with the cutter bar and cutting fingers of an undulating cam-wheel and lever engaging therewith and with the cutter bar to produce a to and fro movement of said bar on the rotation of the cam-wheel.

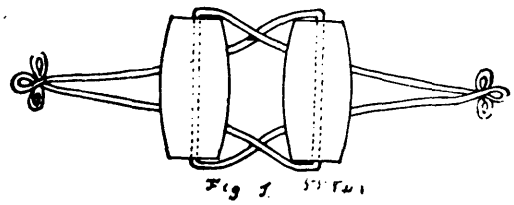
No. 55,840. Brake for Bicycles. (*Frein de bicycles.*)



Robert Scott Anderson, Toronto, Ontario, Canada, 7th May, 1897; 6 years. (Filed 4th January, 1897.)

Claim. 1st. A vehicle brake consisting of an elastic ring or strap with separate ends encircling a suitable bed therefor, said bed consisting of a circular rim formed on or attached to the wheel hub and an internal brake drum fixed to the axle or frame of the machine, one end of the elastic ring engaging with said bed and the other end engaging with the sprocket rim which is loosely mounted on said bed or hub, substantially as described. 2nd. A vehicle brake consisting essentially of a bed formed on two flanged sleeves mounted on one end of the hub of the driving-wheel, of a ring of teeth forming a sprocket-wheel mounted loosely on the said bed, of an elastic ring or strap mounted loosely on the said bed and having its one end engaging with the projections on the bed and its other end engaging with the said sprocket-wheel, and off an internal drum fixed to the axle or frame of the machine concentric with the hub of the wheel and fitting over the elastic ring or strap mounted on the bed or the hub, as set forth. 3rd. In a bicycle, in combination with the driving-wheel, of a sleeve such as C screwed on to one end of the hub of the said wheel, and having a circumferential flange a and a transverse projection a^2 on its periphery, of a sleeve such as A^1 screwed on to the end of the hub of the driving-wheel so as to act as a lock nut to the sleeve A, and having a flange such as a^1 on its periphery, of a sprocket-wheel such as B, mounted loosely on the sleeve A, and having a transverse slot such as b^1 through its web b, of an elastic ring or strap such as C mounted on the sleeve A with its one end c^1 bearing against the transverse projection a^2 thereon, and having a projection such as c on its other end adapted to engage with the slot b^1 on the web b of the sprocket-wheel, and of an internal brake drum such as F, surrounding the sleeve A carrying the elastic ring or strap C and fixed to the axle of the driving-wheel or to the frame of the machine so that it has no rotative movement, all combined arranged and adapted to operate in the manner and for the purpose set forth.

No. 55,841. Bicycle Holder. (*Porte-bicycle.*)



Edward Simpson, Toronto, Ontario, Canada, 7th May, 1897; 6 years. (Filed 24th February, 1897.)

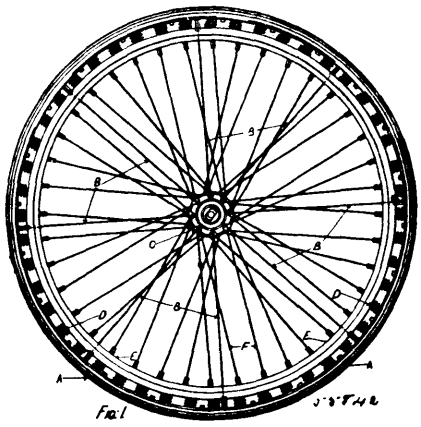
Claim.—The use either separately or in combination of spring arms acting automatically either curved or straight, either with or without rollers at the outer ends thereof for the purpose of grasping the tire and rim or either of them of the front or rear wheel of a bicycle or both thereof, or by any other part of a bicycle by which the same may be held and retained in any position whatsoever.

No. 55,842. Wheels for Cycles, Road Vehicles, etc.
(*Roue de cycles, voitures, etc.*)

Richard Thomas Bellemey, Sydney, New South Wales, Australia, and Charles Bellemey, Rush Street, Wallahra, near Sydney, 7th May, 1897; 6 years. (Filed 25th February, 1897.)

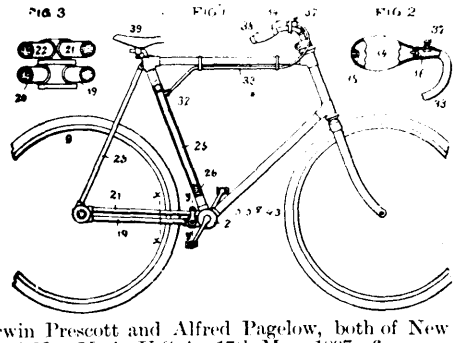
Claim.—1st. An improved wheel for cycles, road vehicles and the like, consisting principally of an inner wheel made up of the hub, the rims, spokes, the rim a flexible or spring connection between said rim and the tire, and a tire having tire spokes, and a central stiffening or bracing and adjusting ring or boss, substantially as herein described and explained. 2nd. In a wheel for cycles, road vehicles and the like, the combination and arrangement with a tire such as A, having tire spokes such as B, and a central brace and adjusting ring such as C, of springs such as D, a rim such as E,

having rim spokes such as F, and hub such as F^1 substantially as herein described and explained, and as illustrated in the drawing.



3rd. In a wheel for cycles, road vehicles and the like, the combination and arrangement with the instrumentalities set out in the preceding (second) claiming clause of a pneumatic ring such as C^1, with or without a seat ring such as C^2, substantially as herein described and explained, and as illustrated in figures 3 and 4 of the drawings. 4th. In a wheel for cycles, road vehicles and the like, the combination and arrangement with a tire such as A, having tire spokes such as B, and a rim such as E, of the fastening devices, substantially as herein described and explained, and as illustrated in figures 6, 7, 8, 9, 10 and 11 of the drawings. 5th. In a wheel for cycles, road vehicles and the like, the combination and arrangement with a tire such as A, and a rim such as E, of tire spokes such as B, and oval orifices such as E^6, in the said rim, substantially as herein described and explained, and as illustrated in the drawing.

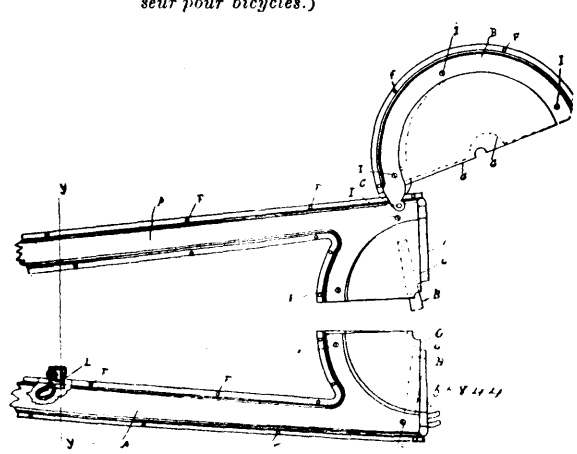
No. 55,843. Vehicle Propelling and Controlling Apparatus. (*Appareil de propulsion et de contrôle pour voitures.*)



Sydney Irwin Prescott and Alfred Pagelow, both of New York, State of New York, U.S.A., 17th May, 1897; 6 years. (Filed 26th February, 1897.)

Claim.—1st. Vehicle propelling and controlling apparatus comprising a power exerting device, a power delivering device turning the vehicle wheel, and power transmitting and returning columns of fluid communicating with power exerting and delivering devices. 2nd. Vehicle propelling and controlling apparatus comprising a valved power exerting device, a valved power delivering device acting on the vehicle wheel and power transmitting and returning columns of fluid communicating with the valved power exerting and delivering devices. 3rd. Vehicle propelling and controlling apparatus comprising a power exerting shaft, a power delivering shaft turning the vehicle wheel, a chamber eccentrically surrounding each shaft, a rotary piston on each shaft within its respective chamber, each piston provided with radially-reciprocating valve mechanism, and power transmitting and returning columns of fluid communicating with the chambers at the power exerting and delivering valved-piston mechanisms. 4th. Vehicle propelling and controlling apparatus comprising a power exerting device, two independent power delivering devices one at each side of the vehicle wheel to turn the same, and two power transmitting and two returning columns of fluid, all four fluid columns communicating with the power exerting device and one power transmitting and one returning column of fluid communicating with each of the power delivering devices and applying the propelling power in balance at both sides of the vehicle wheel. 5th. Vehicle propelling and controlling apparatus comprising a power exerting device, a power delivering device turning the vehicle wheel, power transmitting and returning columns of fluid communicating with the power exerting and delivering devices, and an adjustable cut-off controlling the fluid and varying its pressure on the power and delivering device, thereby regulating the speed of the vehicle. 6th. Vehicle propelling and controlling apparatus comprising a power exerting device, a power delivering device turning the vehicle wheel, power transmitting and returning columns of fluid communicating with the power exerting and delivering devices, and a reservoir receiving some of the fluid when the power exerting device is at rest while the power delivering device is in motion, said fluid compressing air in the reservoir thereby exerting back pressure on the power delivering device and applying the brake. 7th. Vehicle propelling and controlling apparatus comprising a power exerting device, a power delivering device turning the vehicle wheel, power transmitting and returning columns of fluid communicating with the power exerting and delivering devices, a reservoir receiving some of the fluid when the power exerting device is at rest while the power delivering device is in motion, said fluid compressing air in the reservoir thereby exerting a back pressure on the power delivering device and applying the brake, and a valved outlet from the reservoir controlling escape of air to relieve the back pressure and take off the brake. 8th. Vehicle propelling and controlling apparatus, comprising a a power exerting device, a power delivering device turning the vehicle wheel, power transmitting and returning columns of fluid communicating with the power exerting and delivering devices, a reservoir receiving some of the fluid, and an elastic bulb having an inlet and check valves and adapted to force air under pressure into the fluid reservoir and apply the brake by back pressure of the air on fluid. 9th. Vehicle propelling and controlling apparatus comprising a power exerting device, a power delivering device turning the vehicle wheel, power transmitting and returning columns of fluid communicating with the power exerting and delivering devices, a reservoir receiving some of the returning fluid, an elastic bulb having air inlet and check valves and adapted to force air under pressure into the fluid reservoir and directly apply the brake, and a valve located between the reservoir and bulb and adapted to relieve the pressure in the reservoir and release the brake after application of the brake by fluid pressure due to stopping of the power exerting device and continued operation of the power delivering device by momentum of the driving wheel. 10th. Vehicle propelling and controlling apparatus comprising a power exerting device, a power delivering device turning the vehicle wheel, power transmitting and returning columns of fluid communicating with the power exerting and delivering devices, adjustable cut-off mechanism in the conduits for the power transmitting column or columns of fluid and a locking device preventing unauthorized opening of the closed cut-off and thereby preventing rotation of the driving wheel of the vehicle. 11th. In vehicle propelling and controlling apparatus the vehicle driving wheel combined with means directly rotating the wheel and having a laterally sliding connection therewith, and "union" couplings holding the wheel to its rotating means and permitting removal of the wheel at its laterally sliding connection. 12th. Vehicle propelling and controlling apparatus comprising a power exerting device, power delivering devices turning the vehicle wheel, and power transmitting and and returning columns of fluid communicating with the power exerting and delivering devices, said power delivering devices having a laterally sliding connection with the vehicle wheel, and "union" couplings holding the wheel to the power delivering devices which rotate it and permitting removal of the wheel at its sliding connection without opening the fluid chambers or conduits.

No. 55,844. Bicycle Gear Case and Guards, and Lubricator. (*Boîte d'engrenage, garde et graisseur pour bicycles.*)

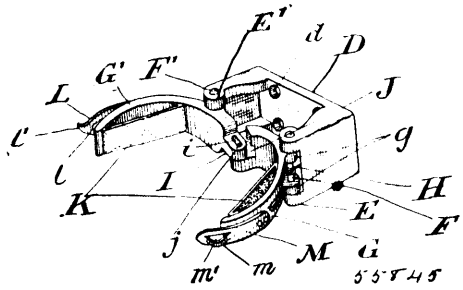


Alexander Wellington Shaw, Brampton, Ontario, Canada, 7th May, 1897; 6 years. (Filed 12th March, 1897.)

Claim.—1st. The combination of gear case and guard *a*, *a*, figures 2 and 3, and leather lining, dotted lines *d*, *d*, figure 13, substantially as and for the purpose hereinbefore set forth. 2nd. The combination with the gear case and guard *a*, *a*, figures 2 and 3, and leather lining, dotted lines *d*, *d*, figure 13, of the leather chain pads *b*, *b*, figure 7, substantially as and for the purpose hereinbefore set forth,

3rd. The combination with the gear case and guard *a*, *a*, figures 2 and 3, and leather lining, dotted lines *d*, *d*, figure 13, and the leather chain pads *b*, *b*, figure 7, of the lubricator figure 12, substantially as and for the purpose hereinbefore set forth. 4th. The combination with the gear case and guard *a*, *a*, figures 2 and 3, and leather lining, dotted lines *d*, *d*, figure 13, and the leather chain pads *b*, *b*, figure 7, and the lubricator figure 12, of the automatic extension *d*, *d*, figure 2, substantially as and for the purpose hereinbefore set forth. 5th. The combination with the gear case and guard *a*, *a*, figures 2 and 3, leather lining, dotted lines *d*, *d*, figure 13, the leather chain pads *b*, *b*, figure 7, lubricator, figure 12, and automatic extension *d*, *d*, figure 2, of the rear gear case and guard attachment *h*, figure 2, and in section figure 6, substantially as and for the purposes hereinbefore set forth. 6th. The combination with the gear case and guard *a*, *a*, figures 2 and 3, leather lining, dotted lines *d*, *d*, figure 13 the leather chain pads *b*, *b*, figure 7, automatic lubricator, figure 12, automatic extension *d*, *d*, figure 2, rear gear case and guard attachment *h*, figure 2, of the transparent celluloid shields *g*, g^1, to the right and left of line *y*, *y*, in figure 2, and in section at figure 6, *g*, *g*, and figure 4, *g*, *h*, *i*, *j*, substantially as and for the purpose hereinbefore set forth. 7th. The combination with the gear case and guard *a*, *a*, figures 2 and 3, leather lining, dotted lines *d*, *d*, figure 13, the leather chain pads *b*, *b*, figure 7, automatic lubricator, figure 12, automatic extension *d*, *d*, figure 2, rear gear case and guard attachment *h*, figure 2, celluloid shields *g*, *g*, figure 2, of the front gear case, and guard attachments figures 10 and 11, substantially as and for the purpose hereinbefore set forth.

No. 55,845. Bicycle Holder. (*Porte-bicycles.*)



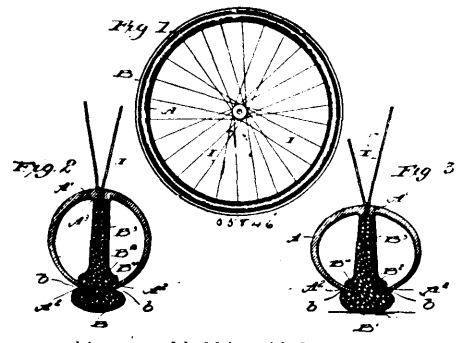
Louis Linneaus Martin, Toronto, Ontario, Canada, 7th May, 1897; 6 years. (Filed 13th March, 1897.)

Claim.—1st. A cycle holder, consisting of jaws suitably hinged together at their rear ends, a bracket to which the jaws are pivotally connected at a suitable distance from the rear ends, means for holding the jaws normally open to receive the tire, and means for automatically locking the jaws together when caused to close on each other so as to embrace the tire, substantially as specified. 2nd. A cycle holder, consisting of curved jaws suitably hinged together at their rear ends, a bracket to which the jaws are pivotally connected at a suitable distance from their rear ends, springs so located as to hold the jaws normally open to receive the tire, and means for automatically locking the jaws together when caused to close on each other so as to embrace the tire, substantially as specified. 3rd. In a cycle holder, the combination of bracket D, the pivots F, F^1, the jaws G, G^1, suitably pivoted on the pivots F, F^1, and adjustably hinged together at their inner ends, the springs H, the slotted spring-holder L, and spring-tongue M, provided with catch *m* adapted to engage the slot *l*, substantially as specified. 4th. In a cycle holder, the combination of bracket D, provided with bosses E, E^1, the pivots F, F^1, the jaws G, G^1, with perforated lugs *g* formed thereon to receive the pivots, the projection I slotted at *i*, and formed on the end of one jaw, and the recess J in the end of the other jaw, and hinge pin *j* for holding the ends adjustably together, the elastic bands K, the springs H, the spring-holder L, with slot *l*, and upwardly turned l^1, the spring tongue M provided with catch *m* adapted to engage in the slot *l*, substantially as specified.

No. 55,846. Vehicle Wheel. (*Roue de voitures.*)

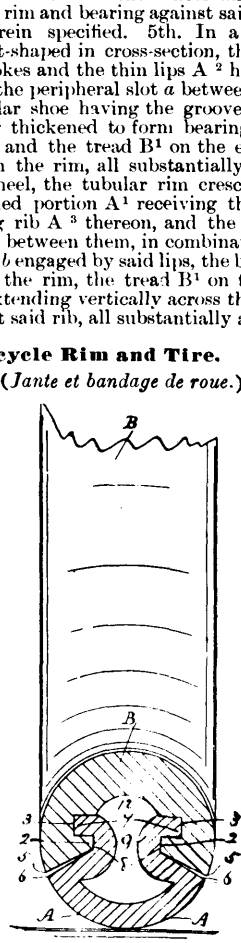
Charles Emerson Bulkley, Summit, New Jersey, U.S.A., 7th May, 1897; 6 years. (Filed 23rd March, 1897.)

Claim.—1st. In a vehicle wheel, a tubular rim of resilient material, having a peripheral slot on the line of the tread, the free edges and side walls of the tube serving as springs to support the load, in combination with an annular shoe serving as a bearing surface for the wheel and having a supporting flange bearing against the inner face of the rim diametrically opposite the slot, substantially as herein specified. 2nd. In a vehicle wheel, a tubular rim of resilient material having a peripheral slot on the line of the tread, the free edges and side walls of the tube serving as springs to support the load, in combination with an annular shoe matching said slot and held therein to serve as a bearing surface for the wheel, and having a supporting flange extending across the rim and bearing against the inner face thereof diametrically opposite said slot, all substantially as herein specified. 3rd. In a vehicle wheel, a tubular rim of resilient material, reinforced interiorly along the line of attachment of the spokes to receive the latter and having a peripheral slot on the line of the tread, in combination with an



annular shoe matching to and held in said slot to serve as a bearing surface for the wheel and having a portion extending across the rim and bearing on said reinforce, substantially as herein specified. 4th. In a vehicle wheel, a tubular rim of resilient material, receiving the spokes in a thickened portion and gradually thinned therefrom toward a peripheral slot formed on the line of the tread, in combination with an annular shoe matching to and held in said slot to serve as a bearing surface for the wheel and having a portion extending across the rim and bearing against said thickened portion, substantially as herein specified. 5th. In a vehicle wheel, the tubular rim crescent-shaped in cross-section, the thickened portion A^1 receiving the spokes and the thin lips A^2 having their adjacent edges rounded and the peripheral slot *a* between them, in combination with the annular shoe having the grooves *b*, engaged by said lips, the neck being thickened to form bearing surfaces B^4 on the interior of the rim, and the tread B^1 on the exterior thereof, and the flange B^3 within the rim, all substantially as herein specified. 6th. In a vehicle wheel, the tubular rim crescent-shaped in cross-section, the thickened portion A^1 receiving the spokes, the additional strengthening rib A^3 thereon, and the thin lips A^2 having the peripheral slot *a* between them, in combination with an annular shoe having grooves *b* engaged by said lips, the bearing surface B^4 on the interior face of the rim, the tread B^1 on the exterior thereof, and the flange B^3 extending vertically across the interior of the rim and abutting against said rib, all substantially as herein specified.

No. 55,847. Bicycle Rim and Tire.
(*Jante et bandage de roue.*)

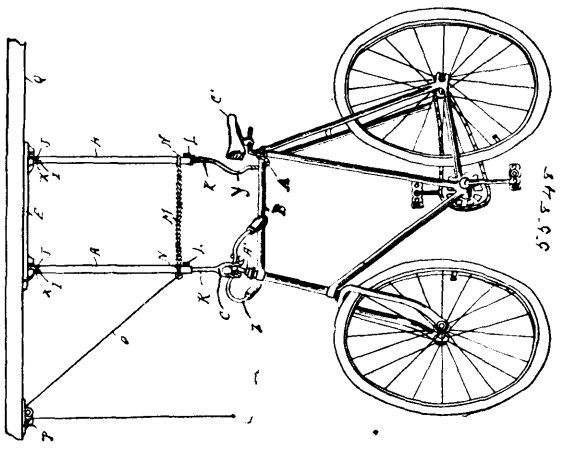


Charles Gentle, Hamilton, Ontario, Canada, 7th May, 1897; 6 years. (Filed 27th March, 1897.)

Claim.—1st. A bicycle rim having an annular channel to produce continuous side grooves and continuous side tongues and outer continuous shoulders at suitable angles forming a part of said tongue in combination with a flexible tire having continuous tongues, grooves and shoulders to conform to said rim, substantially as described. 2nd. A bicycle tire of flexible construction having an inner continuous channel forming walls apart with outer side continuous tongues, and outer continuous shoulders at suitable angles, continuous side grooves formed between said tongues and shoulders, in combination with a rim having an annular channel formed with tongues, grooves and shoulders continuous therewith and conforming to the construction of the tire to admit the same, the inner parts

of said shoulders in contact, substantially as described. 3rd. A bicycle rim having an annular channel with continuous inner tongues which form continuous side grooves and outer continuous shoulders radially inclined, in combination with a flexible tire having a continuous channel with tongues, grooves and shoulders to conform to and fit into said rim, substantially as described. 4th. A rim and tire of the character described, each having central continuous channels formed with continuous tongues and grooves to fit into each other, said tongues forming continuous shoulders that when together a complete circular section is formed continuous with the rim and tire, substantially as described.

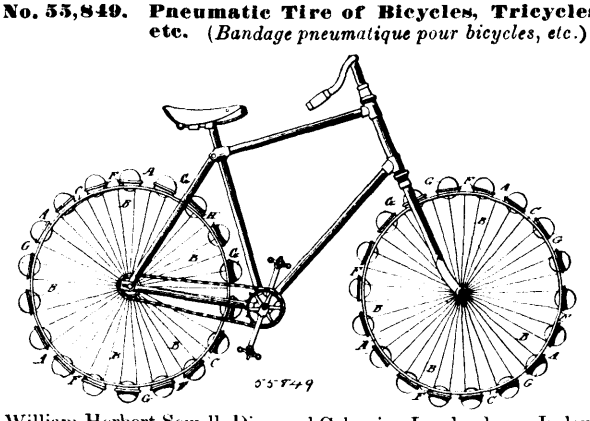
No. 55,848. Bicycle Support. (*Support de bicycles.*)



Newell A. Eddy, Bay City, Michigan, U.S.A., 7th May, 1897; 6 years. (Filed 29th March, 1897.)

Claim.—1st In bicycle-supports, the combination of the limbs A, A, provided with openings B, B, the hook D, and its curve Y, and the twin hooks C, with their arms or rods K, K, inserted into the openings B, B, of the limbs A, A, and secured by the thumb-screws L, L, the pintles H, H, provided with perforated ears X, X, the supporting plate E, provided with screw-holes F, F, and cavities G, G, the said cavities provided with an opening in their bottom, the said pintle journalled in the said cavity and its ears X, X, projecting through the lower side of said supporting-plate E, and journalled to the limbs A, A, by means of pins J, J, the chain M and the collars N, which connect the limbs A, A, the cord O, secured to one of the collars N, and the pulley or sheave P, substantially as described. 2nd. In bicycle-supports, the combination of adjustable brackets R, R, provided with screw-holes T, T, and grooves U, U, the sliding bars S, S, slid into the grooves U, U, and held in position by the thumb-screws V, V, combined with the supporting-plate E, and its cavities G, G, with its perforated ears X, X, projecting through the lower side of the said supporting-plate E, the limbs A, A, provided with the openings B, B, the said limbs journalled to the perfotated ears X, X, by means of the pins J, J, the twin hooks C, and the hook D provided with the curve Y, the rods or arms K, K, inserted into the openings B, B, and secured by the thumb-screws L, L, the chain M, and collars N, N, that connect the limbs A, A, the cord O and pulley or sheave P, substantially as described.

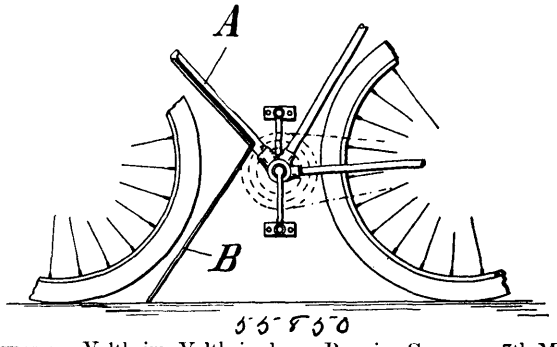
No. 55,849. Pneumatic Tire of Bicycles, Tricycles, etc. (*Bandage pneumatique pour bicycles, etc.*)



William Herbert Sewell, Diamond Coleraine, Londonderry, Ireland, 7th May, 1897; 6 years. (Filed 29th March, 1897.)

Claim.—In cycles or other vehicles, constructing the tires of a series of balls placed in nests or pockets in or on the rim of the wheel at any suitable distance apart, whereby the vehicle is run on a discontinuous series of arcs or points of a pneumatic sphere, substantially as and for the purposes hereinbefore described and shown in the accompany of drawing.

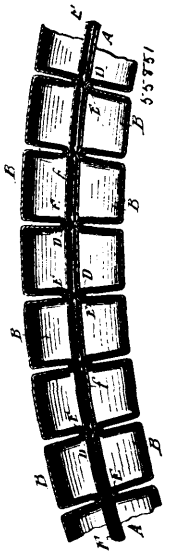
No. 55,850. Bicycle Support. (*Support de bicycles.*)



Agnes von Veltheim, Veltheimsburg, Prussia, Germany, 7th May, 1897; 6 years. (Filed 29th March, 1897.)

Claim.—1st. Rest for bicycles, consisting of a bar pivotally fixed with one end in a slit or groove of a frame bar, substantially as set forth. 2nd. Rest for bicycles, consisting of a bar pivotally fixed with one end in a recess of a frame bar, in said recess being fixed a spring pressing against the back of the bar, the other end having a notch into which catches a spring, substantially as set forth,

No. 55,851. Pneumatic Tire. (*Bandage pneumatique.*)



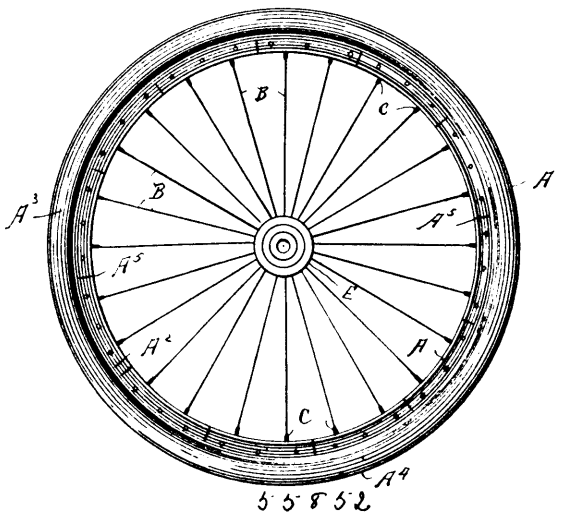
Roderick McLeod and Alexander Mathers McLeod, both of Edinburg, Midlothian, North Britain, 7th May, 1897; 6 years. (Filed 1st April, 1897.)

Claim.—1st. In cycles, carriages, motor cars, and other vehicles having the tire of one continuous air-tube, but so constructed as to form separate sections or compartments communicating with each other by means of passages, necks or bridges being formed where these sections or compartments communicate with each other, substantially as and for the purposes hereinbefore described and illustrated on the accompanying sheet of drawing. 2nd. In cycles, carriages, motor cars, and other vehicles having the tire of one continuous air-tube, but so constructed as to form separate sections or compartments communicating with each other by means of passages, necks or bridges being formed where these sections or compartments communicate with each other, and round which narrow strips, bands, or rings of aluminum, steel or other metal or material are placed, substantially as and for the purpose hereinbefore described and illustrated on the accompanying sheet of drawing. 3rd. In cycles, carriages, motor cars, and other vehicles having the tire of one continuous air-tube, but so constructed as to form separate chambers or sections communicating with each other by means of passages, necks or bridges being formed where these sections or compartments communicate with each other and with a tube of any suitable material or combination of materials and of small circumference passing through the sectional air-tube, and through the necks or bridges, the outer edges of the small tube when inflated pressing hard up against the said necks or bridges and so acting as valves, thereby completely closing the passages leading from one section or compartment to the other and so making each one self-contained and independent of the other, substantially

as and for the purposes hereinbefore described and illustrated on the accompanying sheet of drawing. 4th. In cycles, carriages, motor cars, and other vehicles, a tire constructed substantially in the manner and for the purposes hereinbefore described and illustrated on the accompanying sheet of drawing.

No. 55,852. Combined Wheel Tire and Rim.

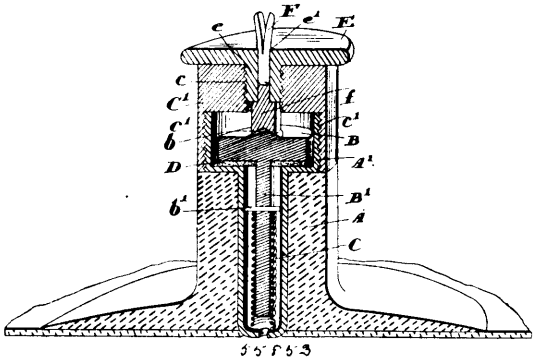
(*Bandage et jante de roue combinés.*)



William Hamilton, South Bend, Indiana, U.S.A., 7th May, 1897; 6 years. (Filed 1st April, 1897.)

Claim.—A combined wheel tire and rim formed of an end-welded sheet of steel drawn together and secured at its sides to form a hollow wheel-tube with its edges turned apart to provide inner spoke-flanges at each side and with its tread or outer peripheral surface roughened, ribbed, or corrugated transversely to prevent slipping, substantially as described.

No. 55,853. Air Valve. (*Soupape atmosphérique.*)

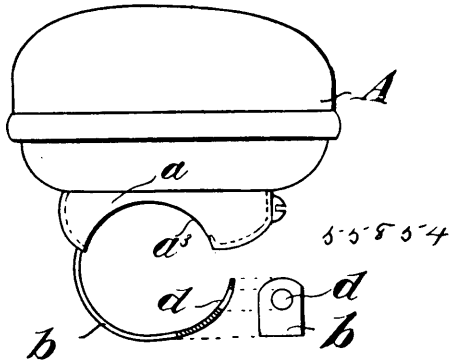


William De Lany, jr., Cobourg, Ontario, 7th May, 1897; 6 years. (Filed 1st April, 1897.)

Claim.—1st. An air valve comprising the lower cylindrical portion provided with an enlarged upper cylindrical end, the plug, the downwardly extending stem, a spring encircling the stem and designed to normally exert an upward pressure upon the plug, the cap with downwardly extending stem designed to be screwed into the upper portion of the valve and exert a clamping pressure upon the plug, so as to hold it on its seat, as and for the purpose specified. 2nd. An air valve comprising the lower cylindrical portion provided with an enlarged upper cylindrical end the plug having a conical upwardly extending projection, the downwardly extending stem, a spring encircling the stem and designed to normally exert an upward pressure upon the plug, the cap with downwardly extending stem provided with conical recesses designed to be screwed into the upper portion of the valve and exert a clamping pressure upon the plug, so as to pold it on its seat, as and for the purpose specified. 3rd. An air valve comprising the lower cylindrical portion provided with an enlarged upper cylindrical end, the plug, the leather washer situated beneath the plug, the downwardly extending stem, a spring encircling the stem and designed to normally exert an upward pressure upon the plug, the cap with downwardly extending stem designed to be screwed into the upper portion of the valve and exert a clamping pressure upon the plug, so as to hold it on its seat, as and for the purpose specified. 4th. In an air valve, in combination the lower cylindrical portion having the enlarged upper end forming a central chamber, the plug located in the chamber of less diameter than the same and having a downwardly extending stem, the pin extending through the stem of the plug, the spiral spring encircling the stem and extending between the pin and the bottom of the lower cylindrical portion, the side grooves in the lower cylindrical portion into which the pin extends, the upper portion of the plug closing the top of the central chamber and means for normally holding the plug pressed down upon its seat, as and for the purpose specified. 5th. In combination the lower cylindrical portion having the enlarged upper end forming a central chamber, the plug located in the chamber and of less diameter than the same, a spring beneath the plug for exerting a normal upward pressure upon it, the exterior thread, formed on the outer wall of the central chamber, the upper portion of the valve having a downwardly extending flange, which is screwed on to the wall of the central chamber, the central aperture in the upper portion of the valve internally-threaded, the cap provided with a downward projection externally-threaded to fit the aperture and a projecting stem attached to or forming part of the projection and designed to be brought to press against the plug, so as to hold it on its seat, as and for the purpose specified. 6th. In combination, the lower cylindrical portion having the enlarged upper end forming a central chamber, the plug located in the chamber and of less diameter than the same, a spring beneath the plug for exerting a normal upward pressure upon it, the exterior thread formed on the outer wall of the central chamber, the upper portion of the valve having a downwardly extending flange, which is screwed on to the wall of the central chamber, the central aperture in the upper portion of the valve internally-threaded, the cap provided with a downward projection externally-threaded to fit the aperture and a split stem provided with an enlarged lower portion, which is designed to be pressed against the top of the plug, as and for the purpose specified. 7th. An air valve comprising the lower cylindrical portion provided with an enlarged upper cylindrical end, the plug, the downwardly extending stem, a spring encircling the stem and designed to normally exert an upward pressure upon the plug, a cap closing the upper portion of the valve and means within the cap for normally holding the plug passed down upon its seat, as and for the purpose specified.

No. 55,854. Clamp for Bicycles, Bells, etc.

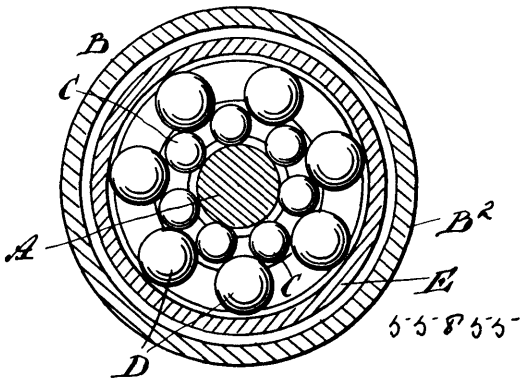
(*Agrafe pour cloches de bicycles.*)



Alvin True Morrill, Boston, Mass., U.S.A., 7th May, 1897; 6 years. (Filed 30th April, 1897.)

Claim.—1st. A clamp for bicycle bells and other articles, consisting of a bell-supporting bracket having an engaging projection, a spring-acting strip or band, means for adjustably connecting one end of said spring-acting strip or band with said bracket, and an engaging portion formed on the other end of said spring-acting strip or band which may be brought into engagement with said projection by contraction of said strip or band, and thereby locked, substantially as described. 2nd. A clamp for bicycle bells, consisting of a bell-supporting bracket having an engaging projection, a substantially circular spring-acting strip or band, means for adjustably connecting one end of said strip or band with said bracket, and an engaging portion formed on the other end of said strip or band which may be brought into engagement with said projection by contracting said circular strip or band and which will expand when disengaged therefrom, substantially as described. 3rd. A clamp for bicycle bells and other articles, consisting of a bell-supporting bracket having an engaging projection, a flexible metallic strip or band, means for adjustably connecting one end of said strip or band with said bracket, and a hole formed at the other end of said strip or band, whereby it may be detachably connected with said projection, substantially as described. 4th. A clamp for bicycle bells and other articles, consisting of a bell-supporting bracket having an engaging projection at one end and a bridge or cross-piece at the opposite end, and a seat between said engaging projection and bridge, a flexible metallic strip or band extending lengthwise said bracket and passing over said bridge or cross-piece, means for adjustably connecting one end of said strip or band with said bracket, and an engaging portion formed upon the other end of said strip or band, whereby it may be detachably connected with said engaging projection, substantially as described.

No. 55,855. Ball Bearing. (*Coussinet à roulettes.*)

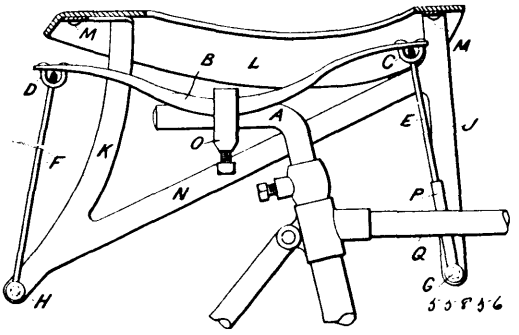


Benjamin Witmer, Slattsville, Ontario, Canada, 7th May, 1897; 6 years. (Filed 5th April, 1897.)

Claim.—1st. A ball bearing, provided with two rows of balls arranged in close proximity one to the other, and a third row of balls in engagement with the two rows of balls to hold the same apart, substantially as shown and described. 2nd. A ball bearing, provided with two rows of balls arranged in close proximity one to the other, a third row of balls in engagement with the two rows of balls to hold the same apart, and a ring for inclosing the third row of balls to prevent the same from spreading, substantially as shown and described. 3rd. A ball bearing, comprising a shaft, a boxing through which passes the shaft, two rows of balls in engagement with the said shaft, and the boxing and a third row of balls in engagement with the two first-named rows of balls and inclosed by a ring, substantially as shown and described. 4th. A ball bearing, comprising a shaft, a boxing made in parts adjustable one on the other and through which passes the shaft, two rows of balls on the said shaft and in engagement with raceways in the said box parts, a third row of balls in engagement with the said first-named two rows of balls, and a ring held loosely in the boxing and inclosing the third row of balls, substantially as shown and described. 5th. A ball bearing comprising a shaft, a boxing made in parts adjustable one on the other and through which passes the shaft, two rows of balls on the said shaft and in engagement with raceways in the said box parts, a third row of balls in engagement with the said first-named two rows of balls, a ring held loosely in the boxing and inclosing the third row of balls, and a collar on the said shaft between the two rows of balls, substantially as shown and described.

No. 55,856. Saddle or Seat for Bicycles, etc.

(*Selle ou siège de bicycles, etc,*)

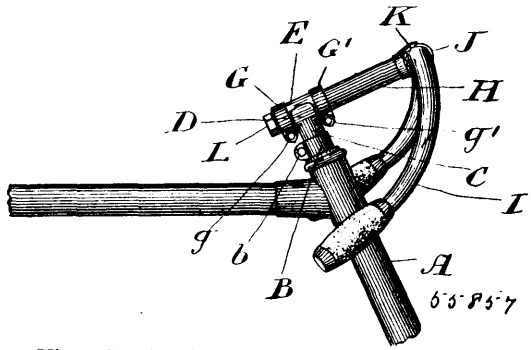


Charles Sinclair Drummond, Eastcheap, London, England, 8th May, 1897; 6 years. (Filed 7th April, 1897.)

Claim.—1st. In combination with saddles or seats for bicycles and other vehicles, the means for obtaining a lateral rocking motion, as well as free longitudinal motion, substantially as set forth. 2nd. In combination with saddles or seats for bicycles and other vehicles, the hanging links capable of lateral rocking motion, as well as free longitudinal motion, substantially as set forth. 3rd. The combination, substantially as set forth, of an L pin (or other equivalent part), hanging links capable of longitudinal motion and also of lateral rocking motion standing links articulated to the said hanging links, and a saddle attached to the said standing links, in any convenient manner. 4th. The combination, substantially as set forth, of an L pin (or other equivalent part), a strap B (or other equivalent device), hanging links capable of longitudinal motion and also of lateral rocking motion, standing links articulated to the said hanging links and a saddle attached to the said standing links in any convenient manner. 5th. The arrangement and combination of parts, substantially as set forth.

No. 55,857. Bicycle Handle Bar.

(*Poignée de barre de bicycles.*)

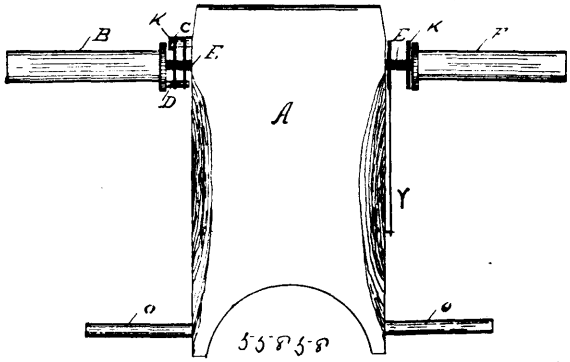


George Hiram Copping, Toronto, Ontario, Canada, 8th May, 1897; 6 years. (Filed 8th April, 1897.)

Claim.—1st. In a device of the class specified, means whereby the handle-bar is adjustable both vertically and to the front and rear, as well as capable of being turned and clamped within its socket, substantially as described and for the purpose specified. 2nd. In a device of the class specified, the combination with an auxiliary stem sleeved and adjustably secured within the fork stem, of a handle-bar stem suitably secured to the upper end of the auxiliary stem in a position substantially at right angles thereto, a handle-bar suitably secured to its stem so as to be capable of being turned and clamped within its socket, as well as of being adjusted to and from the auxiliary stem, substantially as specified. 3rd. In a device of the class specified, the combination with an auxiliary stem sleeved and adjustably secured within the fork stem, of a clamp suitably secured to the upper end of the auxiliary stem, a handle-bar stem adapted to be adjusted within the said clamp in a position substantially at right angles to the auxiliary stem, and a handle-bar clamped to the forward end of the handle-bar stem, substantially as described and specified. 4th. A device of the class specified, consisting of the auxiliary stem C, adapted to be sleeved and adjustably secured within the fork stem and provided with a connection on its upper end, the clamp E, secured to the said connection so that it may adjustably hold the handle-bar stem in a position substantially at right angles to the auxiliary stem C, substantially as specified. 5th. In a device of the class specified, the combination with the auxiliary stem C, sleeved within the fork stem and provided with a connection at its upper end, of clamp B, on the end of the fork stem, clamp E, suitably secured on the said connection, the handle-bar stem H, and the handle-bar I, capable of being turned and secured within its socket J, substantially as specified.

No. 55,858. Bicycle Brake and Lock.

(*Frein et serrure de bicycles.*)



Joseph A. G. Trudeau, Ottawa, Ontario, Canada, 8th May, 1897; 6 years. (Filed 8th April, 1897.)

Claim.—1st. The combination of the brake A, with the foot-rests B and F, substantially as and for the purposes hereinbefore set forth. 2nd. The combination with the brake A, and the foot-rests B and F of the lock comprised of locking pin C, pin D, clamp K, and spring S, substantially as and for the purposes hereinbefore set forth.

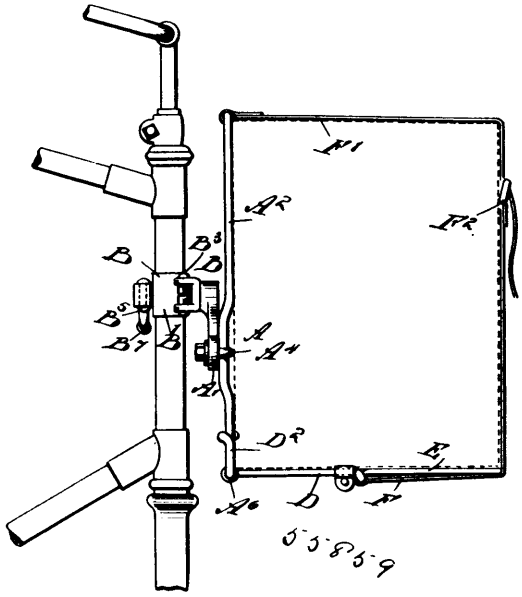
No. 55,859. Detachable Carrier for Bicycles.

(*Hotte pour bicycles.*)

William Montgomery Tegart, Moosomin, North-west Territories, Canada, 8th May, 1897; 6 years. (Filed 9th April, 1897.)

Claim.—1st. A carrier, comprising a frame back adapted to be clamped to the steering head of a bicycle, a supporting bracket or bottom hinged to the lower end of the said back and adapted to

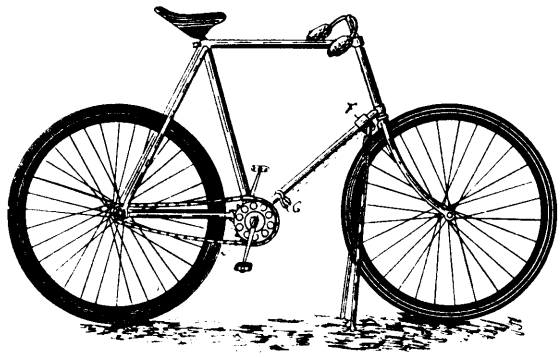
extend approximately at right angles to the back, and arranged to fold upon the same, and an extension held to slide on the said



bottom to vary the capacity of the carrier and adapted to swing upwardly, substantially as shown and described. 2nd. A carrier for bicycles, provided with a clamp comprising two hinged halves, a loop pivoted on the free end of one-half, a lug engaged by the loop and held on the free end of the other half, and a screw for fastening the said loop to the lug, substantially as shown and described. 3rd. A carrier, comprising a clamp, and a cross-bar supporting the said clamp and forming part of a frame back, the said cross-bar being held vertically adjustable on the sides of the frame back, substantially as shown and described. 4th. A carrier, provided with a frame back having sides provided with rearwardly offset portions, eyes surrounding the said portions, and a cross-bar carrying the said eyes, substantially as shown and described. 5th. The carrier, provided with the cross-bar carrying a clip at its centre and bent downward at its ends, the ends being connected to the frame or carrier proper, substantially as shown and described. 6th The carrier provided with the cross-bar carrying a clip at its centre, and having the frame or carrier proper capable of sliding for vertical adjustment on the ends of the cross-bar, substantially as described. 7th. The carrier having a back with a clip or other attaching device, a bottom secured to the back, and the extension mounted to slide outwardly on the bottom to increase the capacity of the carrier, substantially as described.

No. 55,860. Bicycle Prop or Support.

(*Support de bicycles.*)

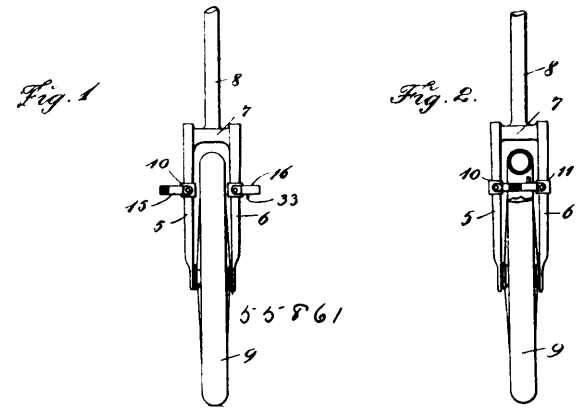


William Henry Morgan, Peabody, Kansas, U.S.A., 8th May, 1897; 6 years. (Filed 9th April, 1897.)

Claim. 1st. The combination with a bicycle, of a prop or support hinged to a clamp over the pilot wheel, and consisting of two legs or standards, one on each side of the pilot wheel, the upper portion of the legs being sufficiently close to each other to clasp the pilot-wheel firmly, substantially as described. 2nd. The combination with a bicycle, of a portable prop or support hinged to a clamp over the pilot-wheel, and consisting of two legs or standards, one on each side of the pilot wheel, the upper portion of the legs being sufficiently close to each other to clasp the pilot-wheel firmly and when not in use the two legs to be sprung together and carried under the cross-bar of the bicycle frame, with their lower ends resting in a hook on the clamp G, substantially as described.

No. 55,861. Combined Bicycle Lock and Foot Rest.

(*Serrure et appui-pieds combinés pour bicycles.*)



John Perotte, Brooklyn, New York, U.S.A., 8th May, 1897; 6 years. (Filed 9th April, 1897.)

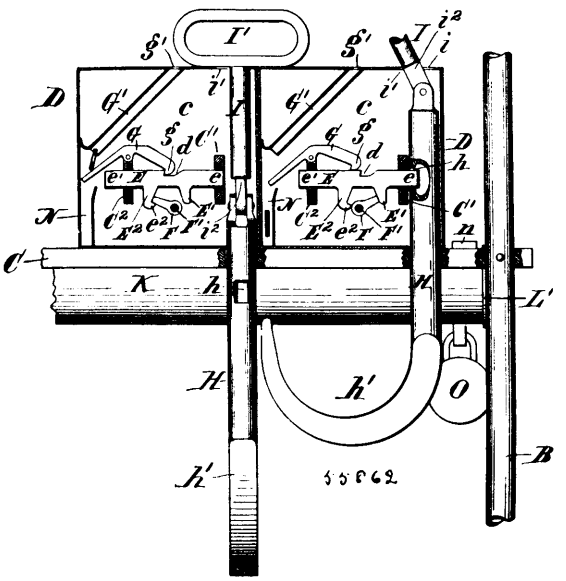
Claim.—1st. A lock for bicycles and similar vehicles, consisting of two separate clamps which are adapted to be connected with the sides of one of the forks of the vehicle in which one of the wheels is mounted, said clamps being each provided at one end with a cylinder which is pivotally connected therewith, and adapted to be turned inwardly or outwardly, said cylinders being adapted to be locked together when turned inwardly, substantially as shown and described. 2nd. A lock for bicycles and similar vehicles, consisting of two clamps which are adapted to be connected with the sides of one of the forks of the vehicle, said clamps being each provided at one end with a cylinder which is pivotally connected therewith, said cylinders being adapted to be turned inwardly or outwardly, and to be supported in a horizontal position, and said clamps being adapted to be locked together when turned inwardly, substantially as shown and described. 3rd. A lock for bicycles and similar vehicles, consisting of two clamps which are adapted to be connected with the sides of one of the forks of the vehicles, said clamps being each provided at one end with a cylinder which is pivotally connected therewith, said cylinders being adapted to be turned inwardly or outwardly, and to be supported in a horizontal position, and said cylinders being adapted to be locked together when turned inwardly, one of said cylinders being provided with a central tubular casing on which is mounted a plurality of rings having inwardly-directed flanges in which are formed notches or recesses, and said rings being provided with letters or numbers on their perimeters, and said tubular casing being provided with a slot which projects through the cylinder in which it is mounted, and the other cylinder being provided with a central longitudinally movable plug or key, which is provided with an extension which projects through the slot in the side of the cylinder, said plug or key being also provided at one side with lugs or projections which correspond in number with said rings, substantially as shown and described. 4th. A combination lock and feet support for the forward fork of a bicycle, which consists of clamps which are adapted to be connected with the opposite sides of said fork, said clamps being each also provided with a cylinder which is pivotally connected therewith, said cylinders being adapted to be turned inwardly and outwardly and to be held horizontally in either position, and said cylinders being provided with a combination lock by which they are connected when turned inwardly, substantially as shown and described.

No. 55,862. Bicycle Support. (*Support de bicycles.*)

William Henry Wallingford, Newport, Kentucky, U.S.A., 8th May, 1897; 6 years. (Filed 12th April, 1897.)

Claim.—1st. In a lock-supporting stand for bicycles, the combination of an upright open frame having a suitable base, a coin-freed lock-mechanism supported by the vertical side-bars of said frame, a vertical rotary bar having an outer arm which engages one of the wheels of the bicycle for retaining the latter in said frame, and also having a slot near its upper end within the lock-casing for the fastening-engagement of the key-operated lock-bolt, and a coin-receptacle beneath the lock-devices, substantially as herein set forth. 2nd. In a lock-supporting stand for bicycles, the combination with a grooved base having a pair of upright side-bars and a top cross-bar which together constitute a suitable open frame, of an inner cross-bar supported by said side-bars near their upper ends, one or more coin-freed lock-devices inclosed in casings and supported by said inner cross-bar, a vertical, rotary-bar having an outer, lateral arm which inter-locks with the fore-wheel of the bicycle, and also having a slot near its upper end which lies within the lock-casing and said slot is engaged by the bolt-head of the key-operated lock-bar for securely fastening the rotary-bar against turning and consequently dis-engagement from the bicycle-wheel, a coin-receptacle having a longitudinal slot cut along its upper side and detachably supported beneath the bottom of the lock-casings by

means of a dove-tail rib or formation constructed on said bottom of the lock-casings and which engages the said longitudinal slot, and

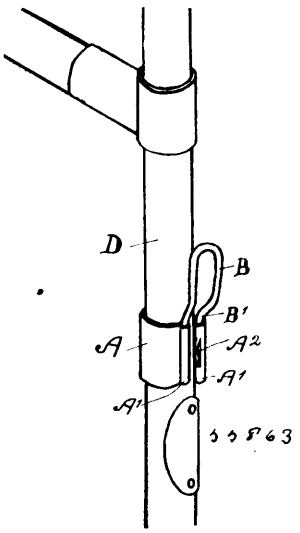


a suitable locking-head or lock-entrance to said coin-receptacle, substantially as herein set forth. 3rd. In a lock-supporting stand or rack for bicycles and other purposes, a coin-freed lock-device composed of an inclosing box or casing having a pair of internal horizontal posts, of a bolt or lock-bar having head and tail ends which engage rear openings made in said posts for the reciprocating or sliding movement thereof, and also having a pair of pendent lugs, between and against which the bit of a suitable key operates for throwing and retracting it, a gravitating lever or tumbler pivotally mounted on one of said posts and having a dog or detent-lug at one end which normally engages a notch in the upper edge of the lock-bar when the lock is unlocked, an inclined race-way or chute leading from a coin entrance-slot in the top of the casing to the free end of the dog-tumbler, to guide the coin for actuating it, a suitable coin-receptacle, and a slotted, upright bar whose upper end is passed upward through an opening in the lower corner of the casing opposite to that of the coin down-chute, and is engaged by the head of said lock-bar, substantially in the manner and for the purpose herein set forth. 4th. In a lock-supporting stand or rack for bicycles, the combination of a suitable open frame, a vertical rotary bar having a lateral arm or hook at its lower end which has locking-engagement with the fore-wheel of the bicycle, a coin-freed locking-device supported by said frame above the wheel, and having an opening in the bottom of its inclosing-casing for the upward passage or accommodation of the upper end of said rotary bar, which latter has a socket or slot therein for the reception of the lock-bolt head when thrown, a pull-bar hinged at one end to the upper end of said rotary wheel-lock bar and having a manipulating, bar-supporting handle at its outer end, the inner end of said pull-bar being shouldered and contracted for engagement with the narrow portion of a key-slot-shaped opening in the top of said casing in a vertical line with said rotary-bar, and a suitable coin-receptacle, substantially as herein set forth. 5th. In a lock-supporting stand or rack for bicycles, the combination with a suitable frame and coin-freed lock-device supported thereby, of a longitudinally-slotted coin-receptacle or trough detachably supported beneath the lock-device casing by means of a dove-tail connection therewith, and having a cross-slot which registers with a transverse slot or opening in the bottom of the said casing for the downward passage and final lodging of the dog releasing or actuating coin, a cap rigidly secured at one end of said coin-receptacle, a detachable plug fitting the other end of said receptacle, and a suitable locking-device for said plug, substantially as herein set forth. 6th. In a lock-supporting stand or rack for bicycles and other purposes, a coin-freed locking-device comprising a lock-bar, which latter has a pair of pendent lugs constructed on its lower edge and one of said lugs has an extension-hook or projection thereon, a guard-plate mounted on a pair of posts in the lock-casing and covering the face of the opening or space between said pendent lugs at all times, whereby a safety-device is provided which prevents the surreptitious withdrawal of the lock bar actuating key, and suitable coin-freeing mechanism to permit the operation of said key for the locking-movement, substantially as herein set forth.

No. 55,863. Lamp Bracket. (*Support de lampes*)

Joseph Miller Brown, Nanaimo, British Columbia, Canada, 8th May, 1897; 6 years. (Filed 12th April, 1897.)

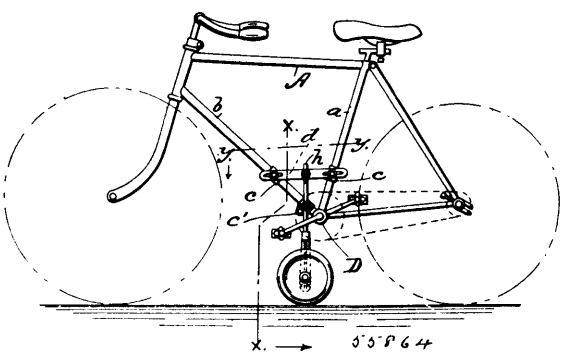
Claim.—1st. A bicycle lamp bracket, comprising the band arranged to encircle the tubing and having its ends formed with eyes and the U-shaped spring bracket to which the lamp is attached and having legs shaped corresponding to said eyes in which they are received,



the tension of said legs securing the band upon the tubing, for the purpose set forth. 2nd. A bicycle lamp bracket, comprising the band arranged to encircle the tubing of the frame and having its ends formed with eyes polygonal in cross-section and the U-shaped spring bracket to which the lamp is attached and having legs shaped corresponding to said eyes in which they are received, the tension of said legs securing said band upon the tubing, as set forth. 3rd. A lamp bracket, comprising a band arranged to encircle the article upon which the lamp is to be held and formed at its ends with vertically disposed eyes, polygonal in cross-section and having spring tongues located therein, and the U-shaped spring bracket arranged to receive the lamp thereon, and having its legs polygonal in cross-section, and formed with notches, said legs being received in said eyes having their notches engaged by said tongues, and securing said band upon the article by spring tension, as and for the purpose set forth.

No. 55,864. Bicycle Support.

(*Support de bicycles pour novices.*)



Isaac N. Lincoln, Providence, Rhode Island, U.S.A., 8th May, 1897; 6 years. (Filed 12th April, 1897.)

Claim—The combination of the frame A, with a vertical standard B having steel rods *h* secured thereon, and adapted to embrace the lower portion of said frame, with the adjustable clamps *c c* having side bosses formed thereon, connecting bars *d d* provided with elongated slots *f f* and set screw *e e* for securing the bars to the bosses of the clamps, said connecting bars having vertical bearings *g g* centrally formed thereon, with adjusting bolts *i i*, the clamp *c*¹ having side vertical bearings *g g* with adjusting bolts *i i*, said bearings of the connecting bars and clamp adjusted in alignment with each other, respectively, to receive the rods *h h* of the standard and giving adjustment to the same, with means for adjusting the wheels *c* to the standard, substantially as shown and described.

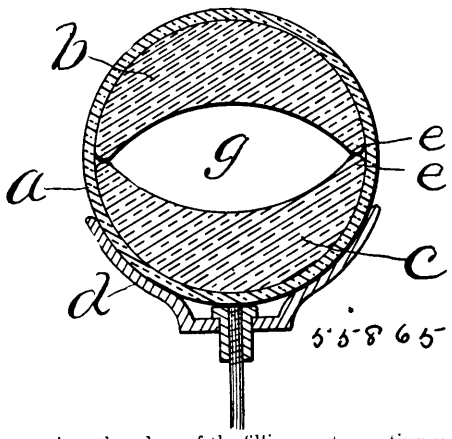
No. 55,865. Printing and Photographing.

(*Imprimerie et photographie.*)

William Friese-Greene, London, England, 10th May, 1897; 6 years. (Filed 5th April, 1897.)

Claim.—A tire for vehicles comprising in its construction a suitable tube having a filling of suitable material supporting the tread,

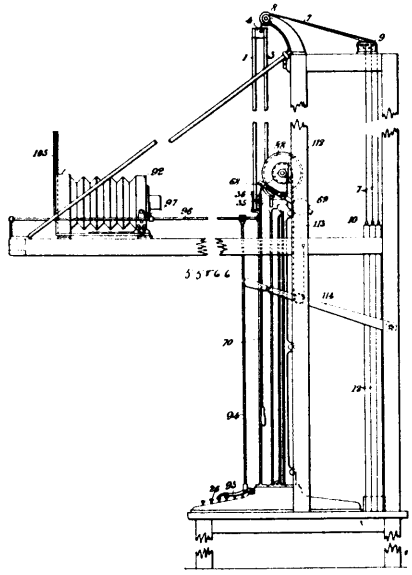
and of crescent or segmental form in cross-section, and a second filling of suitable material also of crescent or segmental form fitting



the rim portion, the edges of the filling parts meeting and leaving a substantial air-tight opening of substantially oval form between the two filling portions.

No. 55,866. Printing and Photography.

(*Imprimerie et photographie.*)



William Friese-Greene, London, England, 10th May, 1897; 6 years. (Filed 24th February, 1896.)

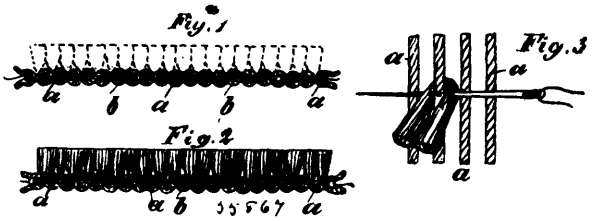
Claim.—1st. The mode or process hereinbefore described of producing a photographic negative or transparency of a number of composed lines of letters, numerals or other characters, which mode or process consists in first setting up or composing a line by means of a number of movable strips arranged side by side and each bearing an example of every character required in type composition, then photographing the line thus composed, then setting up another line in like manner by means of the same strips and similarly photographing this line, and so on for any desired number of lines, the photographic plate or film having only a portion exposed at a time, and being moved one step after each line has been photographed, all substantially as set forth. 2nd. A device for use in the composition of letters or characters into words or the like, said device consisting of a strip bearing in a straight line and in a manner capable of being reproduced photographically one example of every character required in type composition, substantially as and for the purpose set forth. 3rd. A device for use in the composition of letters or characters into words or the like, said device consisting of a strip bearing in a straight line and in a manner capable of being reproduced photographically one example every character required in type composition and said strip having parts of different, widths corresponding with the different widths of the various characters, substantially as and for the purpose set forth. 4th. In a machine for the composition of letters or characters into words or the like, the combination of a number of movable strips arranged side by side and each bearing one example of every character required in type composition, a number of keys corresponding respectively with the characters and means connecting said keys with said strips whereby the manipulation of the keys according to the successive characters required to compose a line causes the successive strips to move into the respective positions required, substantially as and for the purpose set forth. 5th. In a machine for the composition of letters or characters into words or the like, the combination with a number of movable strips arranged side by side and each bearing one example of every character required in type composition of a corresponding number of weighted plungers connected respectively by cords to said strips and working in dash pots whereby said strips when allowed to descend are prevented from descending too rapidly, substantially as and for the purpose set forth. 6th. In a machine for the composition of letters or characters into words or the like, the combination with a number of movable strips arranged side by side and each bearing one example of every character required in type composition, of stops normally holding up the strips, other stops for arresting the descent of said strips at the proper height when released from said holding up stops and means for working said holding up stops and said arresting stops, substantially as and for the purpose set forth. 7th. In a machine for the composition of letters or characters into words or the like, the combination with a number of movable strips arranged side by side and each bearing one example of every character required in type composition, of a horizontal row of stops 6 normally holding up said strips, vertical rows of stops 14 arresting the descent of the strips when released, a traversing engaging piece 34 withdrawing said holding up stops in succession, a traversing vertical row of pushers 17 behind the arresting stops 14 and equal in number to that of these stops in one vertical row and respectively at the same heights as these stops, a number of horizontal push bars 18 on the same lever respectively as the pushers 17, and means whereby the engaging piece 34 is actuated so as to withdraw said holding up stops and said push bars are made to push the pushers 17 against the requisite arresting stops 14 and thereby cause these to protrude, substantially as and for the purpose set forth. 8th. In a machine for the composition of letters or characters into words or the like, and having a number of movable character-bearing strips released successively from holding up said stops and arrested at the required heights by arresting stops as set forth, the combination with an engaging piece 34 for withdrawing said holding up stops successively of keys 26 representing the different characters, key bars 23 operated by said keys, horizontal bar 27 with which the said key bars are in contact and connections between said horizontal bar and the engaging piece 34 whereby whenever any one of said keys 26 is operated the corresponding key bar 23 depresses the horizontal bar 27, and the engaging piece 34 is pulled and withdraws the stops 6 with which it is for the time being engaged, substantially as and for the purpose set forth. 9th. In a machine for the composition of letters or characters into words or the like and having a number of movable character-bearing strips released successively from holding up stops and arrested at the required heights by arresting stops as set forth, the combination with the arresting stops 14 and their pushers 17 and push bars 18 of keys 26 representing the different characters, key bars 23 operated by said keys, and separate connections between every key bar 23 and the corresponding push bar 18 whereby which ever key 26 is operated an arresting stop 14 corresponding with that key is moved into the arresting position, substantially as and for the purpose set forth. 10th. In a machine for the composition of letters or characters into words or the like and having a number of movable character-bearing strips released successively from holding up stops and arrested at the required heights by arresting stops as set forth, the combination with the arresting stops and a fixed frame carrying said stops of a traversing carriage moved intermittently from one vertical row to the next following vertical row of said arresting stops, a vertical row of pushers carried by said transversing carriage, a set of horizontal push bars behind said pushers, connections between said push bars and a corresponding set of key bars, the said key bars and corresponding keys for operating same whereby the operating of any particular key operates the corresponding push bar which in turn pushes the corresponding pusher and thereby moves the corresponding arresting stops into the arresting position, substantially as and for the purpose set forth. 11th. In a machine for the composition of letters or characters into words or the like and having a number of movable character-bearing strips released successively from holding up stops and arrested at the required heights by arresting stops, and having a traversing carriage carrying an engaging piece for withdrawing said holding up stops, and a vertical row of pushers for pushing out the said arresting stops, the combination with said carriage of a horizontal rack integral therewith, a spring barrel and cord connected to said carriage and tending to pull same across the machine, a spring catch normally engaging with the teeth of said rack, a shaft on which said spring catch is pivoted, another catch rigidly connected with said shaft and normally in front of said spring catch, a horizontal bar, connections between this bar and said shoft, key bars resting on said bar and keys operating said key bars, whereby when any one of said key bars is depressed by the corresponding key the said horizontal bar is depressed and the said shaft is, by the intermediate connections, caused to turn on its axis, and the said spring catch moves clear of and the other catch engages with the rack, and the spring catch then springs back the distance of one tooth, and when the key is no longer depressed and the corresponding key bar, the horizontal bar and shaft return to their normal position the spring catch engages with the next tooth of the rack while the other catch moves clear of the rack, substantially as and for the purpose set forth. 12th. In a machine for the compo-

sition of letters or characters into words or the like, and having a number of movable character-bearing strips released from holding up stops and arrested at the required heights by arresting stops, and having a set of keys and key-bars by means of which said holding up stops and arresting stops are operated, and having also a traversing carriage which moves from one vertical row of arresting stops to the next row of said stops at every manipulation of any of said keys, substantially as set forth, the combination with said keys, key bars, holding up stops, arresting stops and traversing carriage, of a space key and corresponding key bar, the depression of which effects the feed of said traversing carriage, but does not act upon any holding up stop or any arresting stop, whereby one of the movable strips remains in its normal position, substantially as and for the purpose set forth. 13th. In a machine for the composition of letters or characters into words or the like, and having a number of movable character-bearing strips released from holding up stops and arrested at the required heights by arresting stops, and having a set of keys and key bars by means of which said holding up stops and arresting stops are operated, and having also a transverse carriage which moves from one vertical row of arresting stops to the next row of said stops at every manipulation of any of said keys, and having also a space key and corresponding key bar, the manipulation of which effects the feed of said carriage but does not act upon any holding up stop or any arresting stop, substantially as set forth, the combination with the movable character-bearing strips, of means for simultaneously withdrawing all the holding up stops that have not been withdrawn, and simultaneously lowering the corresponding strips to any required extent whereby spaces are introduced between the words and the line is justified, substantially as and for the purpose set forth. 14th. In a machine for the composition of letters or characters into words of the like and having a number of movable character-bearing strips which are caused to descend the necessary respective distances to bring into alignment the characters on same that go to make up the words required, substantially as set forth, the combination with said strips of means for locking up the same when a line of characters has been completed, substantially as set forth. 15th. In a machine for the composition of letters or characters into words or the like, and having a number of movable character-bearing strips which are normally held up by stops, and during the composition of a line descend owing to the withdrawal of said stops, and are arrested in their descent by arresting stops pushed out for the purpose, substantially as set forth, the combination with said strips, holding up stops and arresting stops, of a transverse bar, projections on said bar, and means of raising said bar, whereby when said bar is raised it lifts all the lowered strips simultaneously to their normal position, and the projections in rising with said bar push in all the protruding arresting stops, substantially as and for the purpose set forth. 16th. In a machine for the composition of letters or characters into words or the like, by means of a number of character-bearing strips which are moved into the respective positions to bring into alignment the characters required to make up a line, substantially as set forth, the combination with said strips and with the means of bringing same into the requisite positions, of a plate in front of the machine and a horizontal slot in said plate at the same height as that in which the line of characters is composed, substantially as and for the purpose set forth. 17th. The combination with a machine for composing a line of letters or characters by means of a number of character-bearing strips which are moved into the respective positions to bring into alignment the characters required to make up a line, substantially as set forth, of a camera facing said machine and having its object glass at the same height as that in which the line of characters is composed in said machine, and a front plate to said machine having a horizontal slot also at the said height, substantially as and for the purpose set forth. 18th. The combination with a machine for composing a line of letters or characters by means of a number of character-bearing strips which are moved into the respective positions to bring into alignment the characters required to make up a line, substantially as set forth, of a camera facing said machine and having its object glass at the same height as that in which the line of characters is composed in said machine, a hand operated device on said machine and connections between said device and said camera whereby when said device is operated the shutter of the camera is moved and causes an exposure, and the photographic plate or film is then moved and its next section thereby brought into line with the said slot, substantially as and for the purpose hereinbefore described.

No. 55,867. Manufacture of Imitation Smyrna Rugs and Carpets. (*Fabrication d'imitation de tapis etc.*)

Gottfried Hornig, Snadenfrei, Selesia, Germany, 10th May, 1897; 6 years. (Filed 31st March, 1896.)

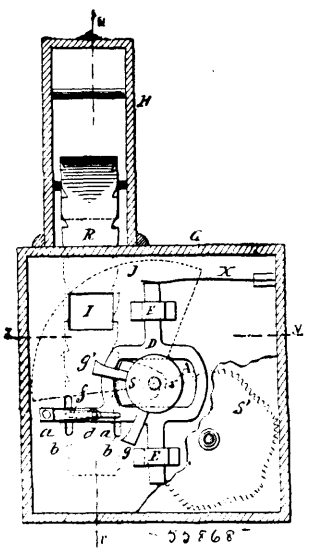
Claim.—1st. The herein described method of making imitation Smyrna rugs and carpets, which consists in attaching the short-cut wool-threads of the pile, round between or on the warp or weft threads of the web by means of sewing thread stitching, wrapping or in like manner by hand or mechanically simultaneously with the production of the web or foundation so that the loose ends standing upright side by side form the pile or surface of the carpet, substantially as set forth. 2nd. The herein described method of making imitation Smyrna rugs and carpets, which consists in attaching the short-cut wool-threads of the pile to a ready made web or foundation



of open or reticulated material by stitching or wrapping with sewing thread, substantially in the manner set forth.

No. 55,868. Photographic Apparatus.

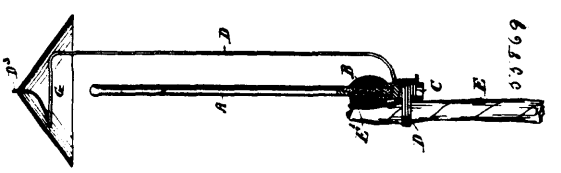
(*Appareil photographique.*)



Auguste Lumière and Louis Lumière, both of Lyons, France, 10th May, 1897; 6 years. (Filed 8th June, 1896.)

Claim.—1st. A mechanism consisting of a fork to which a vertical oscillating motion is imparted by means of a cam and a horizontal oscillating motion by means of inclined plane so as to operate intermittently upon a perforated or notched ribbon which receives or shows the successive images. 2nd. A mechanism increasing the length of the period of rest of the perforated or notched ribbon by means of excentered wheels transmitting a motion varying periodically, to the cam which operates the fork. 3rd. A mechanism destined for the winding up of the said ribbon after it has received or shown the images, consisting of a cylinder suspended upon an axle upon which it can oscillate, and put in motion by the friction of said axle which at its turn is actuated by the main shaft.

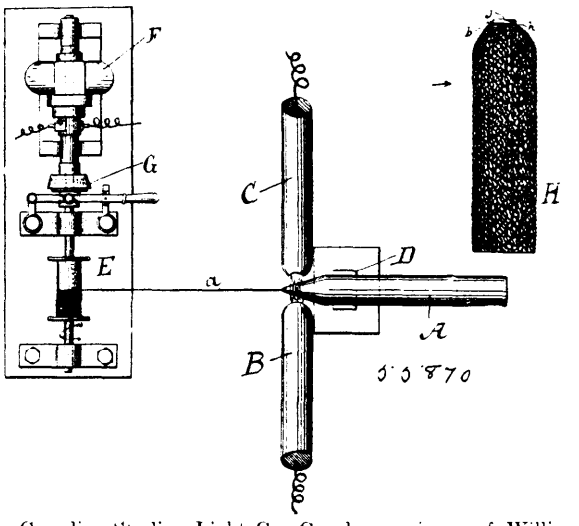
No. 55,869. Fuse Lighter. (*Allumeur de fusée.*)



John Fraser, Malna Street, Brighton, Victoria, Australia, 10th May, 1897; 6 years. (Filed 7th July, 1896.)

Claim.—1st. In fuse lighters, in combination a stem as A, bulb o enlarged portion as B, fuse as E, and means for securing same together, substantially as and for the purposes set forth. 2nd. In fuse lighters, in combination a stem as A, bulb or enlarged portion as B, shank as C, bent wire or binder as D, and fuse as E, substantially as and for the purposes set forth. 3rd. In fuse lighters, in combination a stem as A, bulb or enlarged portion as B, fuse as E, and a hood or cover as G or H, with means for supporting the same substantially as and for the purposes set forth. 4th. In fuse lighters, in combination a stem as A, bulb or enlarged portion as B, fuse as E, and a plate or disc as J, substantially as and for the purposes set forth.

No. 55,870. Filament for Incandescing Mantles and Process for Making the Same. (*Procédé pour la fabrication de charbon de lampes à incandescence.*)



The Canadian Sterling Light Co., Camden, assignee of William Lawrence Voelker, Elizabeth, both in New Jersey, U.S.A., 10th May, 1897; 6 years. (Filed 13th June, 1896.)

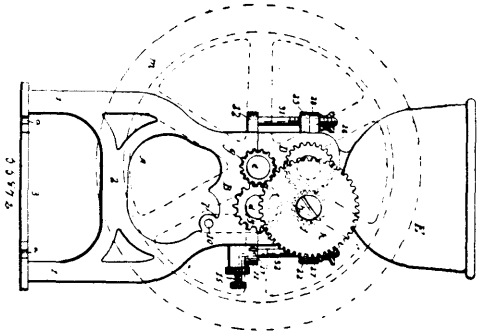
Claim.—1st. The process of forming filaments for incandescing gas lights hereinbefore described, consisting in subjecting a mass of incandescible material to heat to near the point of fusion, and then drawing out the softened mass into a filament. 2nd. The process of forming filaments for incandescing gas lights hereinbefore described, consisting in subjecting a mass of incandescible material to heat to near the point of fusion, then drawing out the softened mass to threads of extreme fineness, and then spinning several of such threads together into the filament. 3rd. A material for mantles of incandescing gas lights consisting of a filament drawn out of the softened end of a mass of incandescible material and hardened, substantially as described.

No. 55,871. Process of Manufacturing Hoods or Mantles for Incandescent Gas Lights. (*Procédé pour la fabrication de capuchon ou manteau pour lumières à gaz à incandescence.*)

The Canadian Sterling Light Company, Camden, assignee of William Lawrence Voelker, Elizabeth, both in New Jersey, U.S.A., 10th May, 1897; 6 years. (Filed 20th July, 1896.)

Claim.—The process hereinbefore described of manufacturing hoods or mantles for incandescent gas lights, consisting in partially drying the hood or mantle, and then introducing it into a furnace and there exposing it at once to a temperature higher than to which the hood or mantle will be exposed when in use over a gas flame, whereby the hot air of the furnace acts as a die on the hood or mantle, and the same bakes before it can distort.

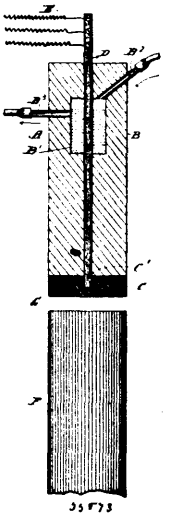
No. 55,872. Roller Grinding Mill. (*Moulin à rouleaux.*)



Lorenzo D. Beary and William Hudnall, both of Helena, Montana, U.S.A., 10th May, 1897; 6 years. (Filed 30th April, 1895.)

Claim.—1st. The combination of the stand with roller-bearings in its upper edge, one set of said bearings being elongated, an adjusting-bracket fulcrumed in the top of said stand, having end pieces to bear against a roller in the elongated bearings, said end pieces being connected by an inclined cross-piece 9, a screw to adjust the said bracket, the middle casing formed with cap-bearings in the under edge, inclined inner sides and a central cross-bar, and bearings in its upper edge, and the hopper having a bottom piece constituting a cover for the middle casing having cap-bearings, all as and for the purpose specified. 2nd. The combination with the stand and the upper cover sustaining the hopper, of the middle casing D, formed with bearings in its lower and upper ends, downward and inward inclined side pieces and a central cross-bar, substantially as and for the purpose specified. 3rd. The coffee-grinder herein described, comprising a suitable stand having bearing-boxes formed in its upper edge, one of which is elongated, and exterior vertical recesses *b* at the corners, grinding-rollers mounted in said bearings, an adjusting bracket fulcrumed in the vertical recesses in the side of the casing, having end pieces to bear against the necks of the roller in the elongated bearings, and connected by an inclined cross-piece, a screw to adjust the bracket, a middle casing having inward inclined sides, the lower edges of which set over the lower set of rollers and bearings in the upper edge of the casing, a central cross-bar 25, an upper set of grinding-rollers in such bearings, a cover carrying a hopper and formed with bearing-caps to set over the neck of the rollers, fastening-bolts to hold the parts together, and gears on the rollers to rotate them, as specified.

No. 55,873. Electrode. (*Electrode.*)



James A. Deuther, Boston, Mass., U.S.A., 10th May, 1897; 6 years. (Filed 21st September, 1896.)

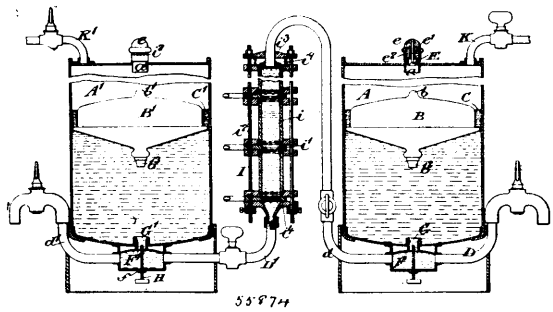
Claim.—1st. An electrode composed of sections, and an electrical conductor passing through one of said sections and having its ends in contact with another section which is imperforate and through which the electric current passes to form the electric arc. 2nd. An electrode composed of sections, and an electrical conductor passing through one of said sections and having its end extending into and inclosed in another section through which the electric current passes to form the arc. 3rd. An electrode composed of sections, and an electrical conductor passing through one of said sections and having its end extending into and inclosed in a section of carbon, through which the electric current passes to form the arc. 4th. An electrode composed of three sections, and an electrical conductor passing through one of said sections and having its end extending into and inclosed in the middle section, to which the third section where the arc is formed is connected and adapted with the middle section to act as conductors of the electric current. 5th. An electrode composed of sections, and a metallic electrical conductor passing through one of said sections and having its end in contact with another section through which the electric current passes to form the arc, and a water chamber located within said electrode and surrounding said metallic conductor to cool the same. 6th. An electrode provided with metallic connections for connecting it with the electrical system, and a water chamber located within said electrode and surrounding said metallic connections to cool the same.

No. 55,874. Apparatus for Clarifying Liquid. (*Appareil pour clarifier les liquides.*)

William Miles Fowler, Stamford, Connecticut, U.S.A., 10th May, 1897; 6 years. (Filed 22nd October, 1896.)

Claim.—1st. Apparatus for clarifying liquids, comprising a plurality of tanks, each provided with a movable liquid septum and a filter connected with the said tanks at points below the liquid tight septums, substantially as set forth. 2nd. Apparatus for clarifying liquids comprising a plurality of tanks each provided with a movable liquid tight septum, a filter connected with the tanks at points below the liquid tight septums, an inlet connected with one of the tanks at a point below its septum and an outlet connected with another of the tanks below its septum and means for applying pressure upon the septum in one or more of the tanks to force the liquid

therefrom, substantially as set forth. 3rd. The combination with a t ubular filter section, of a plate arranged to move laterally of the



55874

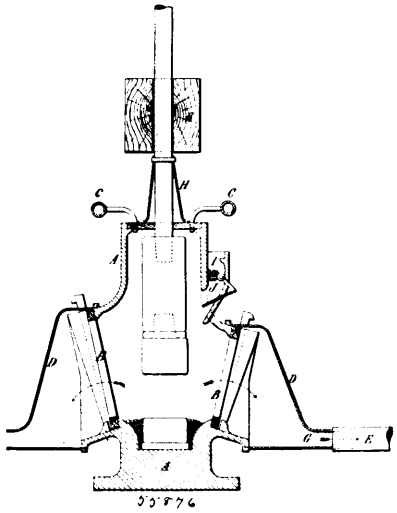
tubular section and provided with an opening for the reception of the filtering material, the movement of the said plate being sufficient to carry the opening therein to and from an exposed position, from and to a position in alignment with the interior of the filter section, while maintaining a liquid tight joint with the wall of said section, substantially as set forth. 4th. A filter comprising superposed sections, certain of the sections being removable and the walls of the sections serving, when assembled, to form a liquid tight conduit interrupted by one or more layers of filtering material, substantially as set forth.

No. 55,875. Process for the Treatment of Auriferous and Argentiferous Ores. (*Procédé pour le traitement des minerais aurifères et argentifères.*)

Joseph Henry Haycraft, Adelaide, South Australia, 10th May, 1897 ; 6 years. (Filed 3rd October, 1896.)

Claim.—The herein described process for the treatment of finely divided auriferous and argentiferous ores, consisting in the combination at one and the same time, and in one and the same vessel, and at a temperature of about the boiling point of water of an electrolytic chlorination and electro-amalgamation, substantially as herein described.

No. 55,876. Stamp Battery. (*Machine à broyer le minerai.*)

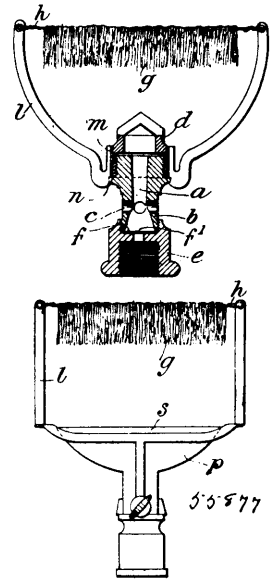


55876

Newton John Suckling, Pretoria, South African Republic, 10th May, 1897 ; 6 years. (Filed 10th June, 1895.)

Claim.—1st. In a stamp battery, the combination of a closed mortar box, a closed delivery pipe and a jet nozzle arranged opposite to and directed toward the outlet for crushed material, so as to avoid the formation of eddies in the mortar box, substantially as described. 2nd. In a stamp battery, the combination of a closed mortar box, a screen fixed to the mortar box, a hood partly surrounding the screen and a closed delivery pipe attached to the hood, substantially as described. 3rd. In a stamp battery, the combination of a mortar box, a hood partly surrounding the outlet, a vertical or nearly vertical delivery pipe, jet nozzles for discharging the crushed material into the hood and a nozzle arranged in the said hood and adapted to inject gaseous fluid up the delivery pipe, substantially as and for the purposes described. 4th. In a stamp battery, the combination with a closed mortar box, of an extensible sleeve surrounding the stamp stem where it enters the mortar box and connected thereto, substantially as described and for the purpose specified. 5th. In a stamp battery, the combination with a closed mortar box, of a hopper or feed opening provided with two pivoted shelves or ledges arranged one above the other and controlled by springs or weights, and so arranged that the upper one may be closed before the lower one is opened, and strips of flexible material arranged to prevent the escape of gaseous matter or dust at the said feed opening, substantially as described. 6th. The combination with the receptacle for the crushed ore, of a screen of horse hair cloth or other porous fabric which allows the escape of the gaseous fluid but retains the dust, substantially as described. 7th. The combination with the receptacle for the crushed ore, of a screen of horse hair cloth or other porous fabric and a liquid seal arranged as described to allow the escape of the gaseous fluid while retaining the dust, substantially as described.

No. 55,877. Gas Apparatus for Obtaining Light and Heat. (*Appareil à gaz pour chauffer et éclairer.*)



55877

The de Mare Incandescent Gas Light System, London, England, assignee of Frederic de Mare, Paris, France, 10th May, 1897; 6 years. (Filed 4th November, 1895.)

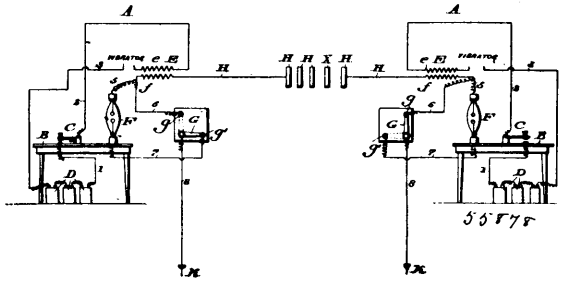
Claim.—1st. An atmospheric or Bunsen burner, consisting of a gas inlet having the desired sized and shaped nozzle, a conical expanding chamber to surround the gas issuing from the nozzle, and air inlets admitting air to the bottom of the expanding chamber, and outlet opening of the desired shape at the top of the expanding chamber, substantially as described. 2nd. An atmospheric or Bunsen burner consisting of a central gas inlet, a surrounding diminishing cone provided with air inlet at or near its upper end, an expanding cone above the surrounding cone, and an outlet of the desired shape at the top of the expanding cone, substantially as described. 3rd. The combination with an atmospheric or Bunsen burner adapted to produce a flat flame, substantially as described, of a radiant feather or tissue supported by a wire arranged directly above the burner, parallel with its opening, substantially as described. 4th. A tissue or feather adapted to be rendered incandescent by an atmospheric burner consisting of a platinum wire or wires or other suitable incombustible support carrying a series of independent threads of cotton, linen, or other similar suitable material saturated with the salts of suitable refractory compounds, so that upon the tissue being ignited a number of refractory filaments separately secured to the incombustible support are obtained, so that the destruction of some filaments will not interfere with the remainder of the tissue. 5th. A radiant tissue of the form shown in figures 1 and 2 supported on a wire carried by means of branches such as *l*, fixed to a collar or attachment such as *m*, so as to be capable of being supported upon or over a fishtail or batswing burner and rendered incandescent thereby.

No. 55,878. Telegraphic Communication.
(*Communication télégraphique.*)

Isidor Kitsee, Philadelphia, Pennsylvania, U.S.A., 10th May, 1897 ; 6 years. (Filed 27th December, 1895.)

Claim.—1st. In a system of telegraphic communications, two or more stations, each being provided with a source of rapidly recurring or alternating currents of electricity, a sending key and a vacuum tube or similar device as receiver. 2nd. A system of telegraphic communications, consisting of sending and receiving stations, the sending station being connected with a source of rapidly recurring or alternating currents of electricity, the receiving station being connected with a vacuum or Geisler tube, as and for the purpose specified. 3rd. The method of telegraphic communications according to the alphabetical code, which consists in sending for each one character of each letter or sign, a multitude of electrical impulses and receiving the same as a seeming continuous glow-light at the

receiving station with the aid of a vacuum tube or device similar in its action. 4th. In electric communications without a continuous



metallic circuit, a vehicle moving along the road of travel, a metallic conductor placed along said road of travel, said vehicle being provided with a source of rapidly recurring or alternating impulses, and a sending key, and also with a vacuum tube or similar device as a receiver, the stationary station connected with said metallic conductor being provided with similar sending and receiving devices as said moving car. 5th. In electric communications without a continuous metallic circuit, two or more vessels, each being provided with a source of rapidly recurring or alternating currents of electricity, a sending key and a vacuum tube or similar device as receiver. 6th. The method of electric communications which consists in sending at pre-arranged intervals through a localized primary converter, rapidly recurring or alternating impulses, converting in and sending the same through a secondary connected to the line-wire or cable to the receiving station, converting the transmitted impulses with the aid of a localized tertiary into higher potential and translating the same into glow-light with the aid of a vacuum-device. 7th. A system of electric communications, consisting of a line-wire or cable provided as to each of its terminals with the usual sending or receiving instruments or both, and also with a source of localized rapidly recurring or alternating electric impulses, a converting coil inserted into the line-wire or cable, and a vacuum tube connected to a third localized coil, in proximity to the second coil. 8th. A system of electric communications, consisting of a metallic line connecting one or more sending and one or more receiving stations, the sending stations being provided with a source of rapidly recurring or alternating impulses, and a sending key, and the receiving station being provided with a vacuum device as receiver. 9th. In telegraphy, a sending instrument consisting of the primary and secondary coil of a converter, the primary coil being localized and the secondary coil connected to the line-wire, and a receiving instrument consisting of the secondary and tertiary coil of a converter, the secondary coil being connected to the line-wire and the tertiary coil being locally connected to a vacuum tube or a device similar in its action. 10th. In a system of electric communications, two or more stations connected together by line-wire or cable, both being provided with the usual sending and receiving instruments, and also with a source of rapidly recurring or alternating impulses for sending and a vacuum tube or similar instrument for receiving.

No. 55,879. Process for Hardening Copper.

(*Procédé pour durcir le cuivre.*)

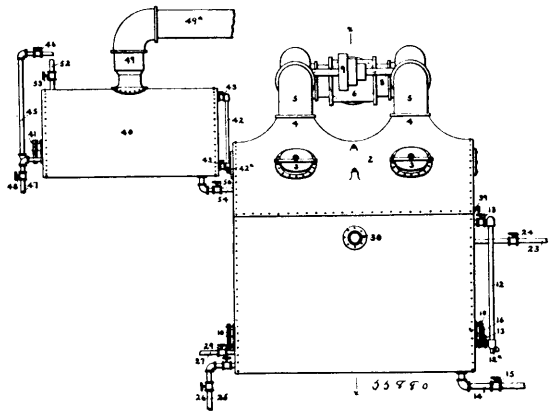
John Miller and Jacob Rutledge Bates, both of Stuart, Iowa, U.S.A., 10th May, 1897; 6 years. (Filed 23rd July, 1896.)

Claim.—1st. The herein described composition of elements for the purposes stated, to wit: tin, carbon, horn and blood, in about the proportions stated. 2nd. The hereinbefore described method or process of hardening copper which consist in first melting copper and adding carbon, next adding horn and blood of animals next adding tin, then pouring the molten metallurgical composition into moulds and cooling it and finally compacting it by pressure.

No. 55,880. Process of and Apparatus for Separating Naphtha from Oil. (*Procédé et appareil pour séparer le napthe de l'huile.*)

Gottlieb Frederick Metzger, Cleveland, Ohio, U.S.A., 10th May, 1897; 6 years. (Filed 23rd July, 1896.)

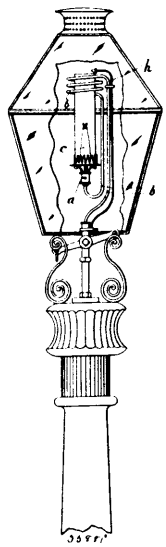
Claim.—1st. The process herein described of eliminating a volatile solvent from oil, which consists in independently heating the mixture and a separate body of water to the desired temperature by indirect radiation, in introducing said mixture in an extended and separated condition into the presence of the vapour arising from said water and subjecting the same to the surrounding heat, and rapidly exhausting the resulting solvent vapour, substantially as and for the purpose set forth. 2nd. The process herein described of eliminating a volatile solvent from oil, which consists in independently heating the mixture and a separate body of water to the desired temperature by indirect radiation, in introducing said mixture in an extended and separated condition into the presence of the vapour arising from said water, subjecting the same to the surrounding heat and precipitating it into said water, in introducing air directly into the mixture and water, and in rapidly exhausting the resulting solvent vapour, substantially as and for the purpose set forth. 3rd. The process herein described of treating oil intermixed with a volatile solvent, which consists in independently heating the



mixture and a body of water by indirect application of heat to a temperature high enough to throw off vapour from said water and mixture, agitating and commingling said water and oil by direct application of air to further vaporize said solvent, wash and moisten said oil, and exhausting the resulting solvent vapour before condensation, substantially as and for the purpose set forth. 4th. The combination in an apparatus for separating naphtha from oil, of a receiver, one or more inclined shallow imperforate troughs supported in the upper part of said receiver by brackets and hangers, and one or more perforated troughs of the same holding capacity as said imperforate troughs supported below the latter by brackets and a hanger or hangers, said imperforate and perforated troughs being in open connection with each other through pipes, substantially as and for the purpose set forth. 5th. The combination in an apparatus for separating naphtha from oil, of a receiver, one or more inclined shallow imperforate troughs supported in the upper part of said receiver by brackets and hangers, one or more perforated troughs of the same holding capacity as said imperforate troughs supported below the latter by brackets and a hanger or hangers, pipes connecting said imperforate and perforated troughs inside of said receiver, and a valve in one of said pipes operated from the outside, substantially as and for the purpose set forth. 6th. The combination in an apparatus for separating naphtha from oil, of a receiver having an oval top surmounted by one or more domes, chambered vapour exit-pipes leading from said domes, the rotary fans 7 in the exit-pipe chambers, one or more inclined shallow imperforate troughs supported in the upper part of said receiver by brackets and hangers, and one or more perforated troughs of the same holding capacity as said imperforate troughs supported below the latter by brackets and a hanger or hangers, said imperforate and perforated troughs being in open connection with each other through pipes, and a steam-coil on the bottom of said receiver, substantially as and for the purpose set forth. 7th. The combination in an apparatus for separating naphtha from oil, of a receiver, one or more inclined shallow imperforate troughs supported in the upper part of said receiver by brackets and hangers, one or more perforated troughs of the same holding capacity as said imperforate troughs supported below the latter by brackets and a hanger or hangers, said imperforate and perforated troughs being in open connection with each other through pipes, a steam coil on the bottom of said receiver, substantially as and for the purpose set forth. 8th. The combination in an apparatus for separating naphtha from oil, of a receiver, one or more inclined shallow imperforate troughs supported in the upper part of said receiver by brackets and hangers, one or more perforated troughs of the same holding capacity as said imperforate troughs supported below the latter by brackets and a hanger or hangers, said imperforate and perforated troughs being in open connection with each other through pipes, a steam coil and the air pipes 22 in the lower part of said receiver, the latter perforated in their undersides, and the air conduit or pipe 30 connected to said pipes 22, substantially as and for the purpose set forth. 9th. The combination in an apparatus for separating naphtha from oil, of a receiver having an oval top surmounting by one or more domes, chambered vapour exit-pipes leading from said domes, the rotary fans 7 in the exit-pipe chambers, one or more inclined shallow imperforate troughs supported in the upper part of said receiver by brackets and hangers, one or more perforated troughs of the same holding capacity as said imperforate troughs supported below the latter by brackets and a hanger or hangers, said imperforate and perforated troughs being in open connection with each other through pipes, a steam coil and the air pipes 22 in the lower part of said receiver, the latter perforated in their undersides, and the air conduit or pipe 30 connected to said pipes 22, substantially as and for the purpose set forth. 10th. In an apparatus for separating naphtha from oil, a receiver provided with one or more imperforate troughs, and a steam coil, in combination with a tank having a steam coil therein, connected by pipes with said troughs, substantially as and for the purpose set forth. 11th. The combination in an apparatus for separating naphtha from oil, of a receiver having an oval top surmounted by one or more domes,

vapour exit-pipes leading from said domes, said pipes having chambers therein, rotary fans in said chambers, one or more imperforate troughs and a steam coil in said receiver, and a tank having a steam coil therein, connected by pipes with said troughs, substantially as and for the purpose set forth. 12th. In an apparatus for separating naphtha from oil, a receiver provided with one or more upper imperforate troughs, one or more lower perforated troughs connected to said imperforate troughs by pipes, and a steam coil, in combination with a tank having a steam coil therein, connected by pipes with said imperforate troughs, substantially as and for the purpose set forth. 13th. The combination in an apparatus for separating naphtha from oil, of a receiver having an oval top surmounted by one or more domes, vapour exit-pipes leading from said domes, said pipes having chambers therein, rotary fans in said chambers, one or more upper imperforate troughs and one or more lower perforated troughs connected to said imperforate troughs by pipes, and a steam coil in said receiver, and a tank having a steam coil therein, connected by pipes with said imperforate troughs, substantially as and for the purpose set forth. 14th. In an apparatus for separating naphtha from oil, a receiver provided with one or more imperforate troughs, a steam coil, and a perforated air pipe, in combination with a tank having a steam coil therein, connected by pipes with said troughs, substantially as and for the purpose set forth. 15th. In an apparatus for separating naphtha from oil, a receiver provided with one or more upper imperforate troughs, one or more lower perforated troughs connected by pipes with said imperforate troughs, a steam coil, and a perforated air pipe or pipes, in combination with a tank having a steam coil therein, connected with said imperforate troughs, substantially as and for the purpose set forth. 16th. The combination in an apparatus for separating naphtha from oil, of a receiver having an oval top surmounted by one or more domes, vapour exit-pipes leading from said domes, said pipes having chambers therein, rotary fans in said chambers, one or more imperforate troughs, a steam coil and a perforated air pipe or pipes in said receiver, and a tank having a steam coil therein, connected by pipes with said troughs, substantially as and for the purpose set forth. 17th. The combination in an apparatus for separating naphtha from oil, of a receiver having an oval top surmounted by one or more domes, vapour exit-pipes leading from said domes, said pipes having chambers therein, rotary fans in said chambers, one or more upper imperforate troughs, one or more lower perforated troughs connected to said imperforate troughs by pipes, a steam coil, and a perforated air pipe or pipes in said receiver, and a tank having a steam coil therein, connected by pipes with said imperforate troughs, substantially as and for the purpose set forth.

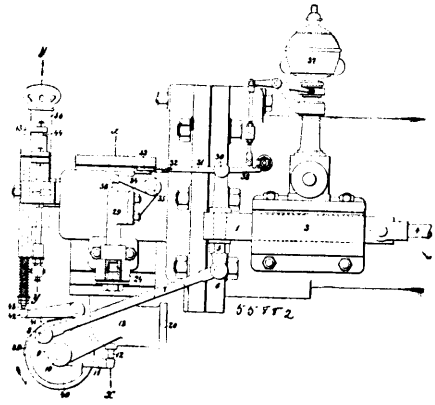
No. 55,881. Burners for Use in Incandescent Gas Lighting. (*Bec à gaz pour lumières à incandescence.*)



William Richard Clay, Slater Street, Farnworth, Lancaster, England, 10th May, 1897; 6 years. (Filed 24th July, 1896.)

Claim – 1st. The combination with the parts forming a burner for incandescent gas lighting of a coiled or resilient supply pipe for conducting gas to said burner, substantially as herein specified. 2nd. The combination with the parts forming an incandescent-gas-burner of a spiral, coiled or resilient supply pipe for supporting the other parts forming said burner, said supply pipe being coiled around or arranged near the flame of the said burner, substantially as and for the purposes specified. 3rd. The combination with two or more incandescent-gas-burners of a coiled or spiral supply pipe for conducting gas to said burners, substantially as herein set forth and described. 4th. The combination with an incandescent gas burner of a coiled or resilient supply pipe and a bye-pass pipe, substantially as herein specified. 5th. In an incandescent gas burner, the combination of a coiled or resilient supply pipe, other parts forming said burner, an incandescent article and a shield for protecting the lower edges of said article, substantially as herein specified. 6th. The combination with an incandescent gas burner of a shield for protecting the incandescent article used in said burner, substantially as specified. 7th. The combination with an incandescent gas burner of a supporting piece having a series of hooks for holding the incandescent article or part of said burner, substantially as herein specified.

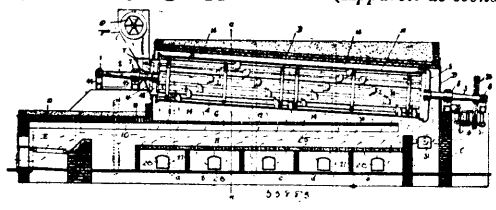
No. 55,882. Distributing Valve Gear for Gas Engines. (*Mécanisme communiquant le mouvement au tiroir pour machines à gaz.*)



Fried Krupp Grusonwerk, assignee of Hermann Ebbs, Magdeburg, Germany, 10th May, 1897; 6 years. (Filed 27th July, 1896.)

Claim.—1st. The combination, with the rod 4, slide 1, and pillar 5, of the arm 31, pivoted to said pillar and controlling the gas inlet valve 29, by lever 34, impinging said arm and depressing the valve rod 36, to open said valve, as set forth. 2nd. In a valve or distributing gear for gas or petroleum engines, the combination with the inlet air valve 19, gas inlet valve 29, mixing chamber valve 16, and valve rod 44 of the igniting chamber of the connecting rod 7, eccentric or crank 9, and distributing spindle or shaft 10, operating said valves and valve rod in common by rod 4, and slide 1, as set forth.

No. 55,883. Drying Apparatus. (*Appareil de séchage.*)



Franklin David Cummer, Cleveland, Ohio, U.S.A., 10th May, 1897; 6 years. (Filed 27th August, 1896.)

Claim.—1st. In an apparatus as described, the drying cylinder open at both ends for the passage of the material and the products of combustion in opposite directions, inlet openings at intervals through the side of said cylinder, and guards over said openings on the inside of the cylinder, substantially as described. 2nd. The drying cylinder having an inlet for the material at one end and an outlet for the material at the other end an inlet openings through its side, and hoods over said openings on the inside of the said cylinder, having their direction of dischyrge substantially parallel with the axis of the cylinder, substantially as described. 3rd. The drying cylinder described, having a series of inlet openings through its side, elbow-shaped hoods over said openings on the inside of the cylinder, and lifting blades constructed to toss the material over the hoods, substantially as described. 4th. The cylinder described, having inlet openings at intervals about its side and hoods over said openings of substantially elbow-shape, and open work shields or diaphragms in said hoods to prevent escape of material through them, substantially as described. 5th. The cylinder described, having a series of openings through its side, and elbow shaped hoods over said openings on the inside of the cylinder and having flaring discharges, substantially as set forth. 6th. The cylinder described, having longitudinally arranged lifting blades on its inside, and a series of inlet openings over its surface between said blades, and hoods over said openings having necks to raise the discharge above the floor of the cylinder and curved at their top to discharge in the direction of the end of the cylinder, substantially as set forth. 7th. The drying cylinder open at both ends for the passage of the material and the products of combustion in opposite directions, and having covered inlet openings through the side of the cylinder, substantially as set forth. 8th. The combined furnace and walled chamber for the drying cylinder, and the

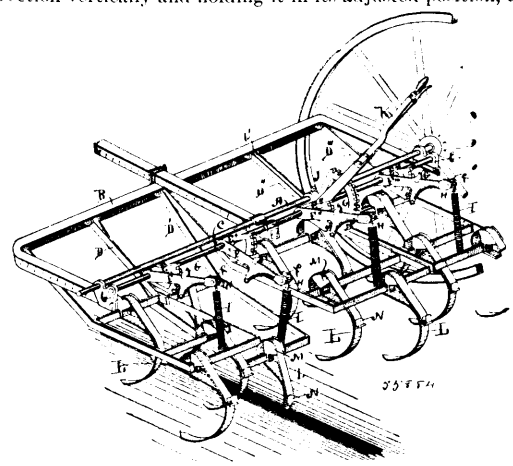
drying cylinder therein open at both ends and arranged in the line of draft, and having covered inlet openings between its ends, and a device at the front of the said cylinder to stimulate or augment the natural draft through said cylinder, substantially as described. 9th. The apparatus described, comprising a furnace and a drying cylinder set into the line of draft from the furnace and open at its ends, and a perforated arch between the said cylinder and the line of draft from the furnace to the rear of the cylinder, substantially as set forth. 10t. The furnace and the perforated arch forming a continuation of the furnace arch, and a revolving drying cylinder above said perforated arch and open at its ends to allow draft through the same, substantially as set forth. 11th. The furnace and the perforated arch beyond the furnace over the line of draft, and a drying cylinder set into the line of draft above said perforated arch, and provided with covered openings to admit heat into the cylinder about its side, substantially as set forth. 12th. The furnace and the drying cylinder set into the line of draft therein, and provided with a series of covered inlet openings between its ends, and a perforated arch extending substantially parallel to said cylinder beneath the same and separating the cylinder from the direct draft from the furnace, substantially as set forth. 13th. The furnace, and the perforated arch forming an extension substantially of the arch of the furnace, in combination with the open ended revolving drying cylinder set into the line of draft and having its side provided with a series of inlet openings, and elbow shaped hoods over said openings, substantially as set forth. 14th. The furnace and the perforated arch extending beyond the same toward the rear and forming the covering of the line of draft and a perforated air inlet arch beneath said line of draft, substantially as set forth. 15th. The furnace constructed for a drying apparatus, the drying cylinder therein and an air inlet wall beneath said cylinder perforated at intervals for the passage of air, whereby the temperature of the products of combustion is reduced as air is admitted, substantially as set forth. 16th. The construction described, consisting of the furnace proper, the parallel perforated arches forming the draft passage from the furnace between them, and the revolving drying cylinder set into the line of draft above said arches, substantially as set forth. 17th. The furnace and the two perforated arches, one above the other, and having the draft passage between them, and mechanism to regulate the flow of air through the lower arch, substantially as set forth. 18th. The furnace described, the parallel perforated arches and air inlets to the lower of said arches in combination with the open ended drier cylinder above said arches in the line of draft and having hooded inlet openings about its side, substantially as set forth. 19th. The furnace and the two perforated arches, the drying cylinder set into the line of draft above said arches and having openings about its side, and hoods over said openings having their discharge directed toward the front of the cylinder, substantially as described. 20th. The furnace proper, and the draft passage from said furnace having perforated arches above and below the same, a cylinder in the line of draft above said arches and open throughout its length, hooded inlet openings in said cylinder and a device to produce artificial draft through said cylinder, substantially as set forth. 21st. The furnace and the revolving drying cylinder set into the line of draft therefrom, and having inlet openings about its side and covers over said openings, means at one end of said cylinder through which the material to be dried is fed thereto, and means to produce an artificial draft through the cylinder and said openings, substantially as set forth. 22nd. The apparatus described, comprising the furnace and the expansion chamber the draying cylinder in said chamber and having its front end exposed outside said chamber and hooded openings in the portion of the cylinder within said chamber, substantially as set forth. 23rd. The construction described, consisting of the furnace and the expansion chamber and a perforated arch beneath said chamber, and a cylinder having its front end projecting outside of said chamber and means to feed the material to be dried to said cylinder, substantially as set forth. 24th. In a cylinder of the kind described, a tubular spindle or trunnion and tubular arms radiating from said spindle, and an open passage through spindle and arms to admit air, substantially as set forth. 25th. The cylinder in combination with the combined tubular spindle and arms and the band integral with said arms, said parts connected substantially as set forth. 26th. The furnace and the arch over the passage-way therefrom provided with openings, and means to control said openings, substantially as set forth. 27th. The furnace and the perforated arch to the rear thereof over the passage-way, and a sliding part of non-combustible material to control the said perforations, substantially as described. 28th. The furnace having a perforated arch at its rear and a chamber over said arch having air inlets at its side, substantially as set forth.

No. 55,884. Spring Tooth Cultivator.

(*Herse à dents à ressorts.*)

Richard Sylvester, Lindsay, Ontario, Canada, 10th May, 1897; 6 years. (Filed 6th November, 1896.)

Claim.—1st. In a cultivator, a drag bar frame comprised of a series of independent sections, each pivotally connected to the main frame, a means for independently adjusting each section vertically, and applying an equal pressure to each section in its adjusted position, substantially as specified. 2nd. In a cultivator, a drag bar frame comprised of a series of independent sections, each pivotally connected to the main frame, a means for independently adjusting each section vertically and holding it in its adjusted position, and a



means for applying an equal pressure to each section, substantially as specified. 3rd. In a cultivator, the combination of the main frame, a series of independent drag bar sections, each pivotally connected to the main frame, a rock shaft, a toothed segment mounted on the rock shaft for each drag bar section, a lever for each segment loosely mounted on the rock shaft, having a dog to engage therewith, and a connecting rod connected to each lever and to its respective drag bar section, substantially as specified. 4th. In a cultivator, the combination of the main frame a series of independent drag bar sections each pivotally connected to the main frame, a rock shaft, a lever loosely mounted on the rock shaft, means for temporarily fastening the lever to the rock shaft, and a rod connected to the lever and to its respective drag bar section, substantially as specified. 5th. In a spring tooth cultivator, the combination of the main frame, a series of independent drag bar sections, each pivotally connected to the main frame, a rock shaft, a toothed segment mounted on the rock shaft for each drag bar section, a lever for each segment loosely mounted on the rock shaft, having a dog to engage therewith, a connecting rod connected to each drag bar section passing through the said lever, a spring coiled on the connecting rod between the drag bar section and the lever, and means for turning the rock shaft to cause the lever to place a pressure on the said springs and drag bar sections, substantially as specified. 6th. In a spring tooth cultivator, the combination of the main frame, a series of independent drag bar sections, each pivotally connected to the main frame, a rock shaft, a toothed segment mounted on the rock shaft for each drag bar section, a lever for each segment, loosely mounted on the rock shaft, a thumb-latch connected to each lever, adapted to enter the teeth of the said segment, and hold the lever in any adjusted position, to cause it to turn with the rock shaft, a rod passing loosely through the said lever, having one end connected to its respective drag bar section, a spring coiled on each of the said rods, a lever loosely mounted on the axle of the cultivator, and rigidly connected to the rock shaft, a toothed segment rigidly connected to the axle, and a spring dog connected to the said lever, adapted to enter the said segment, and hold the lever and rock shaft in any turned position, substantially as specified.

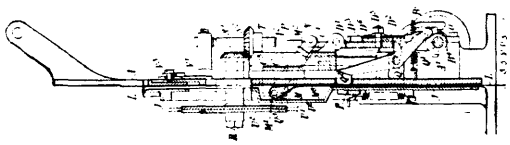
No. 55,885. Film Exposing Apparatus.

(*Appareil à exposer les pellicules.*)

Horatis John Heinze, Road City, London, England, 10th May, 1897; 6 years. (Filed 2nd December, 1896.)

Claim.—1st. In a film-exposing apparatus, the combination with a support A, of a main shaft, a reciprocating film-feeding device, a yielding rod operatively connecting the main shaft with the feeding device, adjustable stops in the path of the feeding device, a film guide, film grippers supported on the feeding device and adapted to intermittently grip the film between them and that device, elastic extensions of the grippers, an arm in operative connection with the film grippers, a pivoted bar whereon the bar slides, a cam in operative connection with the pivoted slide bar, a brake in the film guide, operatively connected with the main shaft by mechanism adapted to operate intermittently, a perforated rotatable shutter, gearing connecting the shutter and main shaft, and an adjustable shutter V^1, substantially as set forth. 2nd. In a film-exposing apparatus, the combination with a support A, of a main shaft, a reciprocating film-feeding device, a yielding rod operatively connecting the main shaft with the feeding device, adjustable stops in the path of the feeding device, a film-guide, film grippers supported on the feeding device and adapted to intermittently grip the film between them and that device, an arm in operative connection with the film grippers, a pivoted bar whereon the arm slides, a cam in operative connection with the pivoted side bar, a brake in the film-guide operatively connected with the main shaft by mechanism adapted to operate intermittently, a perforated rotatable shutter and gearing connecting the shutter and main shaft, substantially as

set forth. 3rd. In a film-exposing apparatus, the combination with a support A, of a main shaft, a reciprocating film-feeding device, a



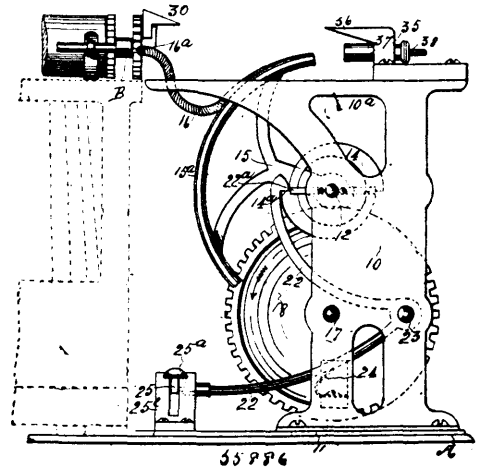
yielding rod operatively connecting the main shaft with the feeding device, and adjustable stops in the path of the feeding device, substantially as set forth. 4th. In a film-exposing apparatus, the combination with the support A, of a main shaft, a reciprocating, film-feeding device, a yielding rod operatively connecting the main shaft with the feeding device, adjustable stops in the path of the feeding device, a film-guide, grippers on the feeding device, adapted to intermittently grip the film between them and that device, and cam-controlled gear operatively connecting the grippers and the main shaft, substantially as set forth. 5th. In a film-exposing apparatus, the combination with the support A, of a main shaft, a reciprocating film-feeding device, a yielding rod operatively connecting the main shaft with the feeding device, adjustable stops in the path of the feeding device, a film device, film grippers supported on the feeding device and adapted to intermittently grip the film between them and that device, a brake in the film guide and cam-controlled gear operatively connecting the grippers and brake with the main shaft, substantially as set forth. 6th. In a film-exposing apparatus, the combination with a reciprocating film-feeding device, of film grippers supported on that device and adapted to intermittently press the film against said device, an arm in operative connection with the film-grippers, a cam in operative connection with the arm, and a main shaft whereon that cam is fixed, substantially as set forth. 7th. In a film-exposing apparatus, the combination with a reciprocating film-feeding device, of film-grippers supported on that device and adapted to intermittently press the film against said device, elastic extensions on the grippers, an arm in operative connection with the film grippers, a cam in operative connection with the arm and a main shaft whereon that cam is fixed, substantially as set forth. 8th. In a film-exposing apparatus, the combination with a reciprocating, film-feeding device of film grippers supported on that device and adapted to intermittently press the film against said device, an arm in operative connection with the film grippers, a pivoted bar whereon the arm slides, a cam in operative connection with the pivoted bar and the main shaft whereon the cam is fixed, substantially as set forth. 9th. In a film-exposing device, a yielding, connecting rod comprising two parts, D^1, D^2, adapted to slide one upon the other, a block D^3 extending from one part through a slot in the other, a nut D^5, and spring D^6, substantially as set forth. 10th. In a film-exposing apparatus, the combination with a reciprocating, film-feeding device E, of pivoted stops E^1, E^2, and adjusting cam G to adjust the two stops simultaneously, substantially as set forth. 11th. In a film-exposing apparatus, the combination with a main shaft, of a shutter shaft R, and a shutter U, comprising layers N^1, U^2, of perforated material adjustable relatively to each other in the shutter, substantially as set forth. 12th. In a film-exposing apparatus, the combination with a reciprocating film-feeding device C, and grippers M^1, of electro-magnetic apparatus W, M^4, N^4, N^5, for controlling the grippers, substantially as set forth. 13th. In a film-exposing apparatus, the combination of three plano convex lenses, *a*, *b*, *c*, the lense *a* being close to the film with its plain side presented thereto, the lense *c* being farthest from the film with its plain side presented thereto, and the lense *b* being intermediate between lenses *a* and *c*, with its plane surface presented towards the latter, substantially as set forth. 14th. In a film-exposing apparatus, the combination with a support A, having an exposure opening of a lever V^3, spring V^5, and frame V^1, substantially as set forth. 15th. In a film-exposing apparatus, the combination with a support A, of friction feeding rollers *l*, l^1, a retarding device *m*, and a rotating frame *n*, carrying a roller *p*, to its distance from the axis of rotation is adjustable by cam operated mechanism, substantially as set forth. 16th. In a film-exposing apparatus, a supply box with a spring controlled portion g^1, substantially as set forth.

No. 55,886. Return for Typewriter Carriages.

(*Retour pour châssis de clavigraphes.*)

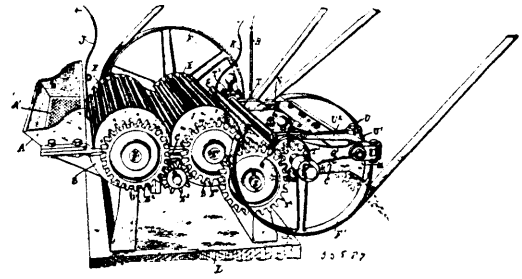
Walter Wesley Baer, Vancouver, British Columbia, Canada, 11th May, 1897; 6 years. (Filed 17th February, 1897.)

Claim.—1st. In an automatic return for typewriter carriages, the combination of an upright frame composed of vertical sides suitably connected at the top and bottom, of a shaft 17 suitably mounted in the said frame carrying a large gear-wheel arranged to turn but one way and a stout coil-spring secured to the said shaft 17 and its opposite end secured to the lower horizontal portion of the frame 11, substantially as specified. 2nd. In an automatic return for a typewriter carriage, the combination of a vertical frame 10, a shaft 17 mounted in the said frame carrying a large gear-wheel 18, of a second shaft 12 carrying a rigidly fixed pinion wheel 13 which meshes with the first mentioned wheel, of a wheel 14 rigidly fixed to the said shaft 12 which has its opposite peripheries eccentrically fixed, and having resilient palls designed to engage a loosely mounted arm 15 lying in close proximity thereto, and means for locking and releasing the said loosely mounted arm 15 and the wheel



14, substantially as and for the purpose hereinbefore set forth. 3rd. In an automatic return for a typewriter carriage, the combination of a shaft 17 mounted in a suitable frame, a gear-wheel mounted thereon and made to turn but one way, a pinion rigidly secured to a shaft 12 and made to engage the first mentioned wheel, of a wheel having shoulders on its opposite peripheries secured to said shaft 12, a lever 22 engaging said shoulders and arresting the motion thereof, and of a resilient lever 25 arranged to engage a spring latch in the end of the said lever 22, whereby the wheel 14 may be arrested and released, substantially as specified. 4th. In a return for typewriter carriages, the combination of a shaft carrying a loosely mounted wheel 16 suitably arranged in a frame, of a pinion 13 engaging the wheel 18 and rigidly fixed to a shaft 12, of a rigidly fixed wheel 14 on the said shaft 12 having shoulders 14^3 and lying in close proximity to the upright frame 10, of resilient palls projecting laterally from the said wheel 14, of an arm 15 loosely fixed on the shaft 12 in the path of the palls on the wheel 14 and a cable 16 connecting the arc 15^a with the carriage of a typewriter, and means for throwing the said arc 15^a from left to right, whereby the said carriage will be returned, substantially as specified. 5th. In the automatic return for a typewriter carriage, of means for setting the platen, a lever 28 pivotally fixed in a standard, of a pall depending from the said lever connecting with teeth on a rack-wheel connected with the platen, and means for depressing and lifting the same, substantially as and for the purposes set forth. 6th. In an automatic return for typewriter carriages, the combination of a shaft 17 journalled in a suitable frame, of a stout spring 17^a secured to the said shaft and to the horizontal platform supporting the frame, and of a returning rack-wheel and pall mechanism, whereby the said spring 17^a may be wound up, substantially as set forth.

No. 55,887. Amalgamating Apparatus for Extracting Gold and Silver from other Ores. (*Appareil à amalgamer pour extraire l'or et l'argent.*)



John William Clarke, 222 Mansion House Chambers, in the City and County of London, England, 11th May, 1897; 6 years. (Filed 11th December, 1896.)

Claim.—Amalgamating apparatus for extracting gold and silver from their ores, comprising a dished bed-plate to contain the mercury, two or more fluted rollers partially immersed in the mercury and geared so as to rotate together at different speeds and pass the ore under the mercury to the rea, a splash-guard to catch mercury splashes from the last roller, a jet or spray of water for carrying the tailings to the rake, a transversely moving rake for opening the tailings and means for operating the rollers and the rall, all combined and operating substantially in the manner hereinbefore described and shown in the drawings and for the purposes stated.

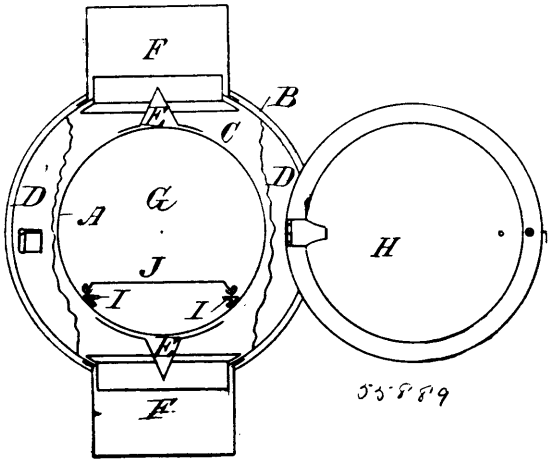
No. 55,888. Process for Purifying Crude Acetic Acid.

(*Procédé pour purifier l'acide acétique cru.*)

Adolph Schmidt, Cassel, Germany, 11th May, 1897; 6 years. (Filed 17th December, 1896.)

Claim.—1st. The process of purification of vegetable acetic acid from its empyreumatic constitutents, consisting in pumping in the acetic acid from above, in a fine jet, into a closed filter filled with charcoal or coke, while, at the same time, a weak stream of pure oxygen under pressure is directed into the apparatus for the purpose of intimately mixing with the acetic acid, and for oxidising the tarry constituents into insoluble resinous matter which remains clinging to the filtering material, substantially as set forth. 2nd. The application of the above claimed process to acetic acid obtained by treating acetate of lime with sulphuric acid, and the subsequent distillation of the same over pure acetate of sodium for removing the sulphuric acid resulting from the oxydation of the sulphurous acid in the filter, substantially as described.

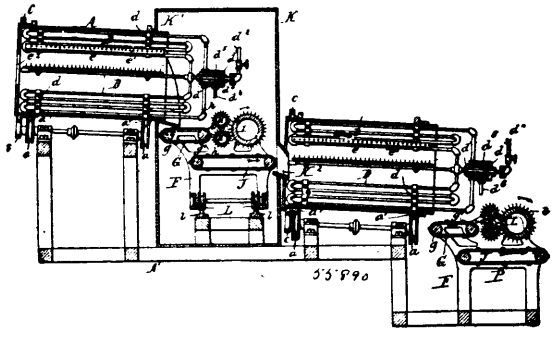
No. 55,889. Oven and Heater. (*Fourneau et chauffeur.*)



Arthur Orphiel-Brunette, Cornwall, Ontario, Canada, 11th May, 1897; 6 years. (Filed 13th January, 1897.)

Claim.—1st. A combined oven and heater consisting of a horizontal cylinder, having one end permanently closed, a door to temporarily close the other end, a jacket surrounding the cylinder, forming a flue for the products of combustion, and an inlet and outlet into the said flue, substantially as specified. 2nd. A combined heater and oven consisting of a horizontal cylinder having one end permanently closed, the other end fitted with a door, slides formed in the cylinder, a griddle mounted on the slides, a jacket surrounding the cylinder and forming a flue for the passage of the products of combustion, an inlet and an outlet for the flue, baffle plates connected to the cylinder, and opposed to the said inlet and outlets substantially as specified.

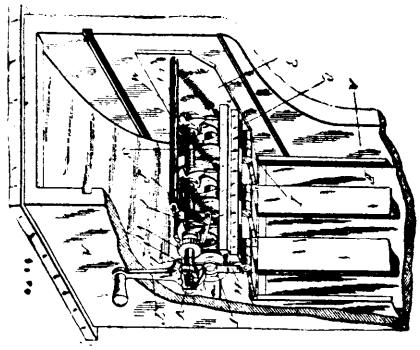
No. 55,890. Method of and Apparatus for Disentengling Cut Tobacco. (*Méthode et appareil pour démêler le tabac découpé.*)



Oscar William Allison and Caroline Allison, both of Rochester, New York, U.S.A., 11th May, 1897; 6 years. (Filed 23rd January, 1897.)

Claim.—1st. The herein described method of loosening the fibres of cut tobacco which consists in heating the fibres and carding, combing or disentangling the fibres while in a heated condition, substantially as set forth. 2nd. The combination with a heating drum having an inlet and a discharge for the cut tobacco, of a combing machine which receives the heated tobacco from said drum, substantially as set forth. 3rd. The combination with a heating drum having an inlet and a discharge for the cut tobacco, of a combing machine which receives the heated tobacco from said drum, and a housing which incloses the delivery end of said drum and said combing machine, substantially as set forth. 4th. The combination with a heating drum having an inlet and a discharge for the cut tobacco, of a combing machine which receives the heated tobacco from said drum and a secondary heating drum which receives the tobacco from said combing machine, substantially as set forth. 5th. The combination with a heating drum having an inlet and a discharge for the cut tobacco, of a combing machine which receives the heated tobacco from said drum, a secondary heating drum which receives the tobacco from said combing machine and a housing connecting said drums and inclosing said combing machine, substantially as set forth.

No. 55,891. Vending Machine. (*Machine de vente.*)



Joseph M. Mackin, Toronto, Ontario, Canada, 11th May, 1897; 6 years. (Filed 22nd February, 1897.)

Claim.—1st. In an automatic vending machine, the delivery mechanism consisting of a pivoted frame, a delivery plate carried by the pivoted frame, adapted to engage the goods within the magazine, a revolvable shaft, a cam mounted on the revolvable shaft coin chute between the cam and the pivoted frame, substantially as specified. 2nd. In an automatic vending machine, a delivery mechanism, consisting of a pivoted frame fitted to receive the operating coin, a delivery plate carried by the pivoted frame, a revolvable shaft, and a cam carried by the revolvable shaft, substantially as specified. 3rd. In an automatic vending machine, a delivery mechanism, consisting of a pivoted frame adapted to receive the operating coin, a delivery plate carried by the pivoted frame, and a cam to operate the pivoted frame after the insertion of the operating coin, substantially as specified. 4th. In an automatic vending machine, a delivery mechanism, consisting of a pivoted frame fitted to receive the operating coin, a delivery plate carried by the pivoted frame, a cam to operate the pivoted frame after the insertion of the operating coin, and a spring to return the pivoted frame to its normal position after being acutated, substantially as specified. 5th. In an automatic vending machine, a delivery mechanism consisting of a pivoted frame, an idler journalled in the pivoted frame, fitted to temporarily hold the operating coin, a delivery plate carried by the pivoted frame, and a cam adapted to actuate the pivoted frame, substantially as specified. 6th. In an automatic vending machine, a delivery mechanism consisting of a pivoted frame, an idler journalled in the pivoted frame, fitted to temporarily hold the operating coin, a delivery plate carried by the pivoted frame, a cam adapted to actuate the pivoted frame, and a spring to return the pivoted frame to its normal position after being actuated, substantially as specified. 7th. In an automatic vending machine, a delivery mechanism consisting of a pivoted frame, an idler journalled in the pivoted frame having two lateral flanges, one at each end of the hub, and a concentric rabbet formed on the inner side face of each of the flanges to temporarily hold the operating coin, a revolvable shaft, a cam mounted on the revolvable shaft opposed to the middle of the idler, a delivery plate carried by the pivoted frame, and a spring to return the pivoted frame to its normal position after being actuated, substantially as specified. 8th. In an automatic vending machine, a delivery mechanism consisting of a pivoted frame, an idler journalled in the pivoted frame having two lateral flanges, one at each end of the hub, and a concentric rabbet formed on the inner side face of each of the flanges to temporarily hold the operating coin, a revolvable shaft, a cam mounted on the revolvable shaft opposed to the middle of the idler, a delivery plate carried by the pivoted frame, a spring to return the pivoted frame to its normal position after being actuated, a ratchet wheel mounted on the revolvable shaft, and a spring actuated dog to engage the ratchet wheel, substantially as specified.

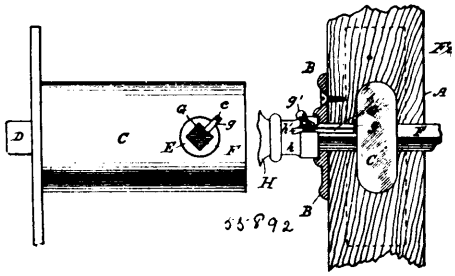
No. 55,892. Door Knob Fastening.

(*Attache pour boutons de porte.*)

Herbert Flanders, Manchester, New Hampshire, U.S.A., 11th May, 1897; 6 years. (Filed 3rd April, 1897.)

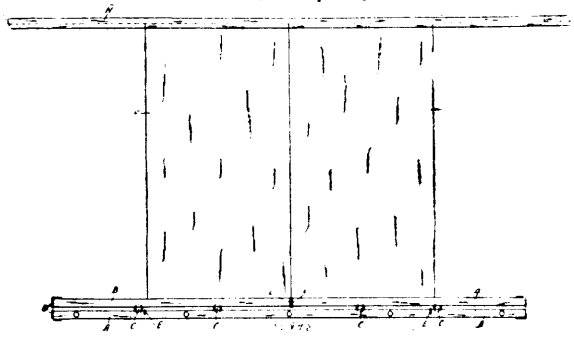
Claim.—In a snap-lock, a knot having a slot in its shank extending transversely through and communicating directly with the shank-spindle opening, a spindle provided with a recess registering

with the said shank-slot, a cam and casing each having a slot registering with the spindle-recess and a key sliding in the recess and



adapted to pass through the opening of an escutcheon of usual form and to lock the spindle to the casing, substantially as described.

No. 55,893. Carrier. (*Transport.*)



Mitchell T. Buchanan, Ingersoll, Ontario, Canada, 11th May, 1897; 6 years. (Filed 2nd April, 1897.)

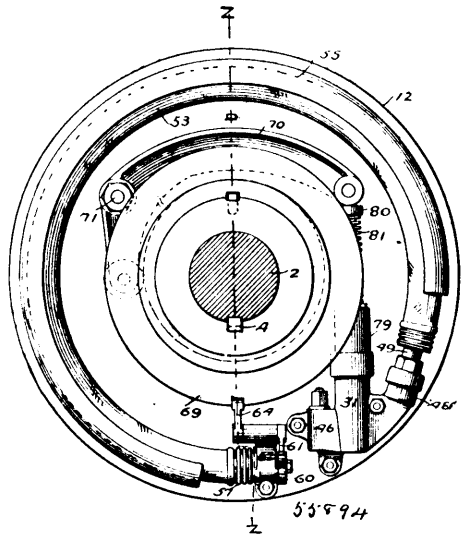
Claim.—1st. The improvements in carriers, substantially as herein shown and described. 2nd. The improvements in automatically closing and locking devices for car doors, substantially as herein shown and described. 3rd. A track A, carriage B, shoulders S, and loose anti-friction devices C, in combination with a reciprocating device F, substantially as and for the purpose set forth. 4th. A track A, shoulders S, loose anti-friction devices C, and butting device N, in combination with a reciprocating device F, substantially as and for the purpose set forth. 5th. A track A, carriage B, shoulders S, loose anti-friction devices C, and reciprocating device F, in combination with the butting roller or bearing N, substantially as and for the purpose set forth. 6th. A track A, carriage B, shoulders S, stops E, and loose anti-friction devices C, in combination with a reciprocating device F, substantially as and for the purpose set forth. 7th. A track A, carriage B, shoulders S, stops E, loose anti-friction devices C, and butting roller or bearing N, in combination with a reciprocating device F, substantially as and for the purpose set forth. 8th. A track A, carriage B, shoulders S, stops E, loose anti-friction devices C, and the reciprocating device F, in combination with the jointed bar G, substantially as and for the purpose set forth. 9th. A track A, carriage B, shoulders S, stops E, loose anti-friction devices C, and butting roller or bearing N, in combination with a reciprocating device F, hangers D, jointed bar G, and rest I, substantially as and for the purpose set forth. 10th. A jointed locking bar G, formed in two parts and hinged together, to one of which parts the hasp K and to the other the lug L is fixed, substantially as and for the purpose set forth. 11th. A jointed locking bar set formed in two parts and hinged together, hasp K and lug L, in combination with the reciprocating device F, track A, shoulders S, loose anti-friction devices C, and butting device N, substantially as and for the purpose set forth. 12th. A jointed locking bar J formed in two parts and hinged together, hasp K and lug L, in combination with a reciprocating device F, track A, carriage B, shoulders S, and loose anti-friction devices C, substantially as and for the purpose set forth. 13th. A jointed locking bar J formed in two parts and hinged together, hasp K and lug L, in combination with a reciprocating device F, track A, carriage B, shoulders S, stops E, and loose anti-friction devices C, substantially as and for the purpose set forth. 14th. A jointed locking bar J formed in two parts and hinged together, hasp K and lug L, in combination with a reciprocating device F, track A, carriage B, shoulders S, stops E, loose anti-friction devices C, and butting roller or bearing N, substantially as and for the purpose set forth.

No. 55,894. Fluid Pressure Friction Clutch.

(*Pression hydraulique pour embrayages à friction.*)

George Mark Richards and Charles Heyslrick, Erie, Pennsylvania, U.S.A., 11th May, 1897; 6 years. (Filed 14th September, 1896.)

Claim.—1st. In a device of the class described, the combination with the driving and driven elements, of the interposed friction device, and automatic mechanism for operating said friction device mounted upon one element and engaged by the other element,

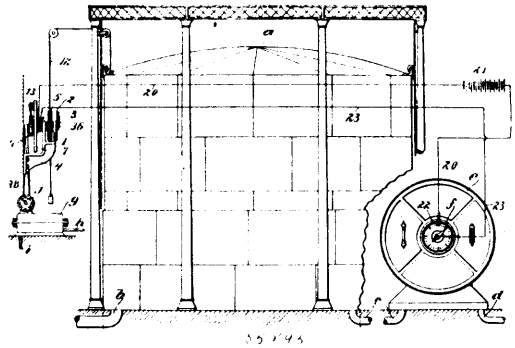


whereby said mechanism is actuated whenever and so long as there is relative movement between said elements. 2nd. In a friction clutch, the combination with the driving and driven elements, of the friction device, its automatic operating mechanism carried by one element and normally engaging the other element, so as to be in action whenever and so long as there is relative movement between said elements, and means for throwing the said mechanism out of such engagement, and consequently out of action. 3rd. In a fluid pressure clutch, the combination with the two elements or members thereof, of the interposed friction device and automatic means for actuating said device while there is relative movement in either direction between said elements. 4th. The combination with the fluid pressure clutch, having a fluid chamber interposed between its members, of the flexible diaphragm closing said chamber, the friction plate actuated by the diaphragm, the supply pump, and automatic means for actuating the pump only when there is relative movement of the clutch members. 5th. In a clutch of the class described, in combination the driving and driven elements, the fluid pressure chamber, the collapsible fluid reservoir, the pump for forcing the contents of said reservoir into the chamber, the relief valve for permitting the return of the contents of the chamber into the reservoir, automatic means for actuating said pump while and so long as there is relative movement between said elements, and means for throwing said pump out of action and opening said relief valve. 6th. In a friction clutch, the combination with the driving and driven elements thereof, of a pressure creating mechanism carried by one of said elements, and automatically operated by the relative movement between said elements, and the pressure releasing mechanism acting in opposition to said pressure creating mechanism. 7th. In a clutch of the class described, the combination with the friction parts, of the fluid circulating system carried by one clutch element or member, made up of an expansible pressure chamber, a connected collapsible reservoir, suitable valve connections, a pump for forcing the fluid of the system into said chamber, means carried by the other element for automatically actuating said pump during relative movement of said elements, and means for mechanically stopping said pump and releasing the contents of said chamber. 8th. In a clutch of the class described, in combination, the shaft, the circular flange carried thereby having openings through its web, the friction blocks arranged in said openings, the pulley journalled on said shaft, the web or flange carried thereby adapted to bear upon one face of said friction blocks, the expansible chamber in the other, the movable friction plate upon the wall of said chamber adapted by its expansion to be brought into frictional engagement with the other face of said blocks, means for automatically expanding said chamber so long as there is relative movement between said shaft and pulley, and means for collapsing said chamber and separating the fractionally bearing surfaces. 9th. In a clutch of the class described, the combination with the fluid circulating system, of the pump connected therewith, the eccentric for actuating its piston in one direction, and the spring for actuating it in the reverse direction, said pump being made up of the cylinder, the cylindrical piston fitted thereto, the sleeve fitted upon said piston and serving as a seat for said spring, and the packing interposed between the cylinder and piston, and receiving the thrust of said sleeve. 10th. In a fluid pressure clutch, the combination with the expansible fluid pressure chamber, of the collapsible hose connected therewith, and serving as a fluid reservoir. 11th. In a clutch of the class described, the combination with the driving and driven elements, of the fluid circulating system made up of the expansible fluid pressure chamber and the collapsible fluid reservoir, the interposed pump for forcing

the contents of the reservoir into the chamber, and the relief valve for permitting the reflow of the contents of the chamber into the reservoir, the shipping sleeve for throwing the pump into action, the segmental pinion carried by the relief valve, the segmental gear operatively engaging said piston, and the flange upon said shipping sleeve for engaging said segmental gear so as to open and close its connected valve when slipped to throw said pump into or out of action.

No. 55,895. Indicator for Gas Apparatus.

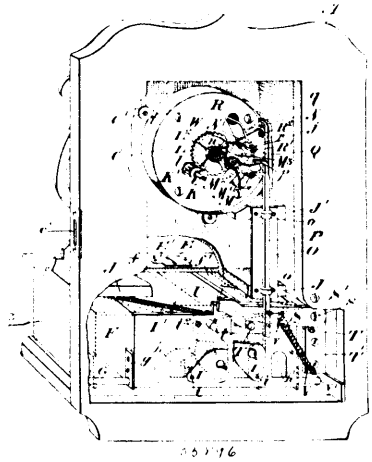
(*Indicateur pour appareil à gaz.*)



Rollin Norris, Philadelphia, Pennsylvania, U.S.A., 11th May, 1897; 6 years. (Filed 3rd December, 1896.)

Claim.—1st. In combination, an indicator, a relief holder, connections between the relief holder and indicator for turning it forward and backward according as the relief holder rises and falls, a gas meter, and connections between the gas meter and indicator for turning it forward, for the purposes set forth. 2nd. In combination, an indicator, a pulley adapted to respond to the rise and fall of a relief holder and operating to turn the indicator through the intervention of a toothed wheel, and a pawl adapted to respond to the advance of a gas meter and operating to turn said toothed wheel, substantially as described. 3rd. In combination, a gas hand, a relief holder, a gas meter, and mechanism substantially as described interposed between said holder and meter and gas hand for causing the latter to indicate the volume of gas delivered, an oil meter, an oil hand, and connections between the oil meter and oil hand, for the purposes set forth. 4th. In combination, a gas hand provided with an arm carrying toothed wheels, a ratchet wheel provided with teeth meshing with said toothed wheels, a pulley provided with a toothed wheel 30, meshing with said toothed wheels, and a pawl for said ratchet wheel, substantially as described. 5th. In combination, a gas hand provided with a toothed wheel, a pulley, mechanism for imparting motion from the pulley to the toothed wheel, and means for turning the toothed wheel independent of the pulley, substantially as described.

No. 55,896. Time Keeper. (*Registre horaire.*)



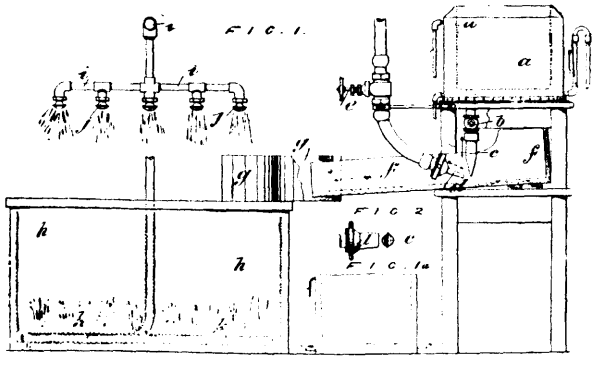
The Capital Cash Register Company, Ltd., assignee of John Sparke, all of Ottawa, Ontario, Canada, 11th May, 1897; 6 years. (Filed 6th December, 1896.)

Claim.—1st. In an automatic time keeper, comprising a suitable case, an inner receptacle or drawer divided into compartments, a tag receiving slot on the top of the case above the receptacle or drawer, a time operated mechanism and means between such mechanism and the drawer, whereby at a predetermined period for which the mechanism is set, such time operating mechanism operates and shifts the receptacle so as to bring the obstruction plate H, beneath the receiving slot, as and for the purpose specified. 2nd. An automatic time keeper comprising a back central portion, side wings therefor designed to hold the tags, hinges connecting the centre portion to one side wing and a lock connecting the other side of the centre portion to the opposite side wing, a clock suitably supported in the central portion, a case situated beneath the clock, a sliding drawer divided into compartments, a tag receiving slot on the top of the case, and means between the mechanism of the clock and the drawer whereby when the alarm goes off, the drawer is released and slid so as to bring a different compartment beneath the receiving slot, as and for the purpose specified. 3rd. In an automatic time keeper, in combination, the clock suitably supported and open at the back, the supporting central portion and designed to be supported against a wall or suitable back, the casing supported on the central portion below the clock, the tag receiving slot, the drawer divided into compartments and capable of being slid lengthwise of the case, and means between the mechanism of the clock and the drawer, whereby, when the alarm mechanism goes off, the motion is communicated to the drawer to shift it lengthwise, as and for the purpose specified. 4th. In an automatic time keeper, in combination, the clock suitably supported and open at the back, the supporting central portion and designed to be supported against a wall or suitable back, the casing supported on the central portion below the clock, the tag receiving slot, the drawer divided into compartments and capable of being slid lengthwise of the case, and means between the mechanism of the clock and the drawer, whereby the alarm mechanism goes off, the motion is communicated to the drawer to shift it lengthwise and openings in the back of each drawer provided with suitable covers, as and for the purpose specified. 5th. In an automatic time keeper, in combination, the clock suitably supported and open at the back, the supporting central portion and designed to be supported against a wall or suitable back, the casing supported on the central portion below the clock, the tag receiving slot, the drawer divided into compartment and capable of being slid lengthwise of the case and means between the mechanism of the clock and the drawer, whereby when the alarm mechanism goes off motion is communicated to the drawer to shift it lengthwise and rods supported in suitable bearings at the bottom of the drawer and adapted to form a guide for the drawer to slide upon lengthwise, as and for the purpose specified. 6th. In combination, the back portion, the case, the drawer divided into two compartments, the receiving slot, mechanism for sliding the drawer operated from the clock mechanism and a top plate for closing one of the compartments, as and for the purpose specified. 7th. In combination, the back portion, the clock, the case, the drawer divided into two compartments, the receiving slot, the spiral spring attached at one end to the drawer and at the other end to the frame, the spring-held arm pivoted on the frame and having an angular extension or catch, the pin on the drawer designed to normally rest in the catch of the arm, and means connected to the mechanism of the clock, whereby, upon the alarm going off, the catch of the arm is released so that the different compartments of the drawer are slid beneath the receiving slot, as and for the purpose specified. 8th. In combination, the back portion, the clock, the case, the drawer divided into two compartments, the receiving slot, the spiral spring attached at one end to the drawer and at the other end to the frame, the spring-held arm pivoted on the frame and having an angular extension or catch, the pin on the drawer designed to normally rest in the catch of the arm, a vertical rod pivotally connected to the arm pivoted on the frame and having a hooked upper end, supports form such rod, the alarm arbor, the cam on the same and mechanism connecting the alarm arbor with the hand arbor and clock spring arbor, whereby the cam is rotated, so as to raise the hooked end of the rod and release the catch of the arm from the pin on the drawer, as and for the purpose specified. 9th. In combination, the back portion, the clock, the case, the drawer divided into two compartments, the receiving slot, the spiral spring attached at one end to the drawer and at the other end to the frame, the spring-held arm pivoted on the frame and having an angular extension or catch, the pin on the drawer designed to normally rest in the catch of the arm, the vertical rod pivotally connected to the arm pivoted on the frame and having a hooked upper end, supports for such rod, the alarm arbor M, the cams M^2 and M^3, the arm N^1 pivoted at n, the pins R, R^1, and R^2, the hammer wire N having a U-shaped lower end j, the hand arbor L^2, wheel L, cam l, clock, spring arbor K and pinion K^1, all arranged as and for the purpose specified. 10th. In combination, the back portion, the clock, the case, the drawer divided into two compartments, the receiving slot, the spiral spring attached at one end to the drawer and at the other end to the frame, the spring-held arm pivoted on the frame and having an angular extension or catch, the pin on the drawer designed to normally rest in the catch of the arm, a vertical rod pivotally connected to the arm pivoted on the frame and having a hooked upper end, supports for such rod, the alarm arbor M, the cams M^2 and M^3, the arm N^1 pivoted at n, the pins R, R^1 and R^2, the hammer wire N having a U-shaped lower end j, the hand arbor L^2, wheel L, cam l, clock, spring arbor K and pinion K^1, and the supplemental hooked end Q formed to the upper end of the supplemental rod secured to the rod P, all arranged as and for the purpose specified. 11th. The combination, with the hand arbor, cams l, and l^1, the hammer and hammer wire N, the intermediate operating mechanism between the cams and the hammer wire, the hammer wire shaft L^5, the arm l^5, the spring L^4, having bent portion contacting with arm l, the longitudinally adjustable alarm shaft L^6, spring l^2, collar i^4, and

wheel 4, of the collar 3, provided with edge cams 5 and 5^1, the button 7, having a projection 8, as shown and for the purpose specified. 12th. The combination, with the hand arbor, cams l and l^1, the hammer and hammer wire N, the intermediate operating mechanism between the cams and hammer wire, the hammer wire shaft L^5 the arm l^5, the spring L^4, having bent portion contacting with arm l^5, the longitudinally adjustable alarm shaft L^3, spring l^2, collar i^4, and wheel 4, of the collar 3, provided with edge cams 5 and 5^1, the button 7, having a projection 8, the index plate 9, designed to form a guide for the proper setting of the cams l, and l^1, as and for the purpose specified. 13th. The combination, with the hand arbor, cams l and l^1, the hammer and hammer wire N, the intermediate operating mechanism between the cams and hammer wire, the hammer wire shaft L^5, the arm l^5, the spring L^4, having bent portion contacting with arm l^5, the longitudinally adjustable alarm shaft L^3, spring l^2, collar i^4, wheel 4, collar 3, provided with edge cams 5 and 5^1, the button 7, having a projection 8, of the index pointer 17, on the end of the alarm shaft, designed to adjust the button 7, as for the purpose specified. 14th. The combination, with the hand arbor, cams l and l^1, the hammer and hammer wire, the intermediate operating mechanism between the cams and hammer wire, the hammer wire shaft L^5, the arm l^5, the spring L^4, having bent portion contacting with arm l^5, the longitudinally adjustable alarm shaft L^3, spring l^2, collar i^4, wheel 4, the collar 3, provided with edge cams 5 and 5^1, the button 7, having a projection 8, of the arm 10, journalled on the end of the alarm shaft, and provided with a projection 11, and slot 14, as and for the purpose specified. 15th. The combination, with the hand arbor, cams l and l^1, the hammer and hammer wire, the intermediate operating mechanism between the cams and hammer wire, the hammer wire shaft L^5, the arm l^5, the spring L^4, having bent portion contacting with arm l^5, the longitudinally adjustable alarm shaft L^3, spring l^2, collar i^4, wheel 4, the collar 3, provided with edge cams 5 and 5^1, the button 7, having a projection 8, the arm 10, journalled on the end of the alarm shaft and provided with a projection 11, the slot 14, of the arm 15, suitably secured to the clock, the pin 13 having movement in the slot 14, of the index pointer 16, at the end of such arm, as and for the purpose specified. 16th. The combination, with the hand arbor, cams l and l^1, the hammer and hammer wire, the intermediate operating mechanism between the cams and hammer wire, the hammer wire shaft L^5, the arm l^5, the spring L^4, having bent portion contacting with arm l^5, the longitudinally adjustable alarm shaft L^3, spring l^2, collar i^4, wheel 4, collar 3, provided with edge cams 5 and 5^1, the button 7, having a projection 8, the arm 10, journalled on the end of the alarm shaft and provided with a projection 11, a slot 14, the arm 15, suitably secured to the clock, and provided with a pin 13, which has movement in the slot 14, of the index pointer 16, at the end of such arm, and the index plate 18, as set forth and for the purpose specified. 17th. The combination, with the hand arbor, cams l and l^1, the hammer and hammer wire, the intermediate operating mechanism between the cams and hammer wire, the hammer wire shaft L^5, the arm l^5, the spring L^4, having bent portion contacting with arm l^5, longitudinally adjustable alarm shaft L^3, spring l^2, collar i^4, wheel 4, a pointer on the end of the shaft L, index plate and mechanism between the pointers and the end of the shaft for controlling the operation of the alarm by the setting of the index pointers as specified. 18th. The combination, with the hand arbor, cams l and l^1, the hammer and hammer wire, the intermediate operating mechanism between the cams and hammer wire, the hammer wire, the hammer wire shaft L^5, the arm l^5, the spring L^4, having bent portion contacting with arm l^5, the longitudinally adjustable alarm shaft L^3, spring l^2, collar i^4, wheel 4, slotted arm 10, arm 15, provided with pin 13, and a pointer end 16, pointer on the end of the shaft L^3, and mechanism between the wheel 4, and arm 10, for controlling the operation of the alarm by the setting of the index pointers, as and for the purpose specified.

No. 55,897. Process of Purifying Butter.

(*Procédé pour le traitement du beurre, etc.*)

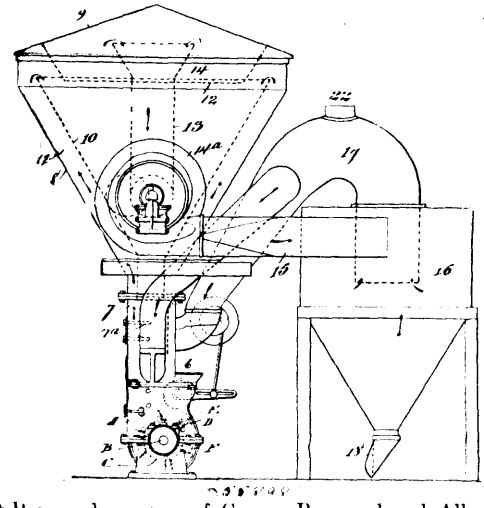


Joseph George Hargrave and Alfred Hargrave, both of Heaton, Lancaster, England, 11th May, 1897; 6 years. (Filed 9th December, 1896.)

Claim.—1st. In the treatment of butter or other solid fats and oils for the purpose of purifying and deodorizing the same, first melting the material, then pouring same so as to be acted upon by cold water to granulate it, and thereafter subjecting the disintegrated material while floating in water to the action of water sprays, currents or agitators so as to effect intimate and repeated contact between the said particles and the water, substantially as hereinbefore set forth. 2nd. As means for furthering or effecting the purifying treatment of butter and other solid fats and oils, splitting up or granulating the said materials by melting and afterwards subjecting the same to contact with cold water, substantially as hereinbefore described. 3rd. Purifying, cleansing and deodorizing butter and other solid fats and oils by subjecting the same in a granulated and disintegrated condition to the action of water sprays, showers, currents, or to agitation in water, substantially as hereinbefore set forth.

No. 55,898. Pneumatic Separator.

(*Séparateur pneumatique.*)



Albert Raymond, assignee of George Raymond and Albert Raymond, all of Chicago, Illinois, U.S.A., 11th May, 1897; 6 years. (Filed 2nd January, 1897.)

Claim.—1st. A pneumatic separator consisting of a conical shell having a closed head and an opening in the lower contracted portion into which the material to be separated is delivered, and an air supply opening below said delivery point, a gradually expanding annular passage within said shell, a chamber in the upper portion of said shell, communicating with said passage and having an area in excess of the latter, a discharge outlet from said chamber, and a suction pipe connected to the latter, whereby a partial vacuum is maintained in said chamber, substantially as and for the purposes set forth. 2nd. In a pneumatic separator the combination of two conical shells concentrically arranged to provide an annular separating chamber of increasing area, the outer shell having a closed head, the inner shell being open at its top and terminating below said head, a deflector depending from the closed head, and a suction pipe communicating with the interior of the separator at its large end whereby a lateral or transverse plane of rarefied air is formed beneath said deflecting plate, and the particles contained therein are allowed to fall by gravity, substantially as and for the purposes set forth. 3rd. A pneumatic separator consisting of two conical shells concentrically arranged and providing a gradually expanding separating chamber into the contracted portion of which the material to be separated is delivered, the outer shell having a closed head and the inner shell being open at its top and terminating below said head, a suction pipe communicating with the interior of the separator at its large end and at or near the axis of the separator, and an exhaust fan connected to said pipe for inducing the current of air through the separator, substantially as described. 4th. A pneumatic separator consisting of two conical shells concentrically arranged and providing a gradually expanding annular separating chamber, into the contracted portion of which the material to be separated is delivered, the outer shell having a closed head and the inner shell being open at its top and terminating below said head, a suction pipe communicating with the interior of the separator at its large end and at or near the axis of the separator, an exhaust fan connected to said pipe for inducing a current of air through the separator, and a centrifugal separator or dust collector into which the suction fan discharges, substantially as described. 5th. A pneumatic separator consisting of two conical shells concentrically arranged and providing a gradually expanding annular separating chamber, into the contracted portion of which the material to be separated is delivered, the outer shell having a closed head and the inner shell being open at its top and terminating below said head, a suction pipe communicating with the interior of the separator at its large end and at or near the axis of the separator, an exhaust fan connected to said pipe for inducing a current of air

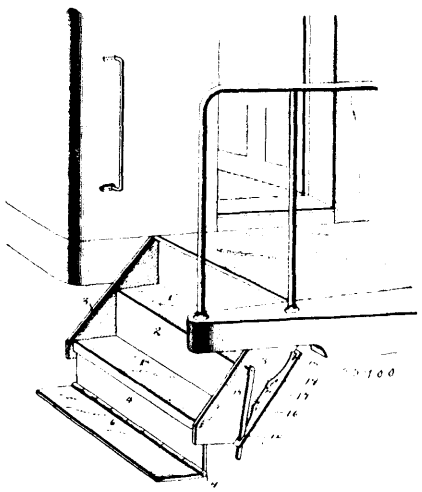
through the separator, a centrifugal separator or dust collector into which the suction fan discharges and a return pipe for returning the air current from the dust collector back to the lower end of the separator below the point where the material is discharged into the separator, substantially as described. 6th. A pneumatic separator consisting of two conical shells concentrically arranged and providing a gradually expanding annular separating chamber, into the contracted portion of which the material to be separated is delivered, the outer shell having a closed head and the inner shell being open at its top and terminating below said closed head, and adapted to return the material deposited therein to the original supply a suction discharge pipe hoving its suction mouth in the axis of the separating chamber and at the large end thereof a deflector depending from the closed head and having its lower edge preferably projecting below the plane of the upper end of the shell and the mouth of the discharge pipe, an exhaust fan connected to saie discharge pipe for inducing the current of air through the separator and a centrifugal separator or dust collector into which the fan discharges, substantially as described. 6th. The combination with a pulverizer having an upward opening from the pulverizing chamber, a pneumatic separator mounted upon the pulverizer add communicating with the pulverizing chamber, said separator consisting of two conical shells concentrically arranged and providing a gradually expanding annular separating space, into the contracted portion of which the material to be separated is delivered, the outer shell having a closed head and the inner shell being open at its top and terminating below said closed head, a suction discharge pipe piercing the outer shell and having its suction mouth terminating below the cap thereof near the top of the chamber, a deflector depending from said head and having its lower edge projecting below the plane of the upper end of the inner shell and the mouth of the discharge pipe, an exhaust fan connected to said discharge pipe for inducing a current of air through the separator, a centrifugal separator or dust collector into which the fan discharges, a pipe for returning the purified air from the centrifugal dust collector back to the pulverizing chamber and a discharge pipe or passage from the inner cone back into the pulverizing chamber, substantially as described. 8th. The combination with a pulverizing head or disc, of beater arms secured thereon, said arms having their outer ends offset from the plane of the attached ends and plates secured to said outer ends and having a bearing on the edge of the disc or head and on the offset or shoulder of the arms, substantially as described.

No. 55,899. Bricks, etc. (*Briques, etc.*)

Edward New, Hamilton, Ontario, Canada, 11th May, 1897 ; 6 years. (Filed 9th January, 1897.)

Claim.—A compound composed of freestone ground to a proper fineness and Portland cement, both mixed together, and diluted with water as requisite to form the proper consistency for the moulding and hardening process, substantially in the proportions and for the purposes set forth.

No. 55,900. Car Step. (*Marche de chars.*)

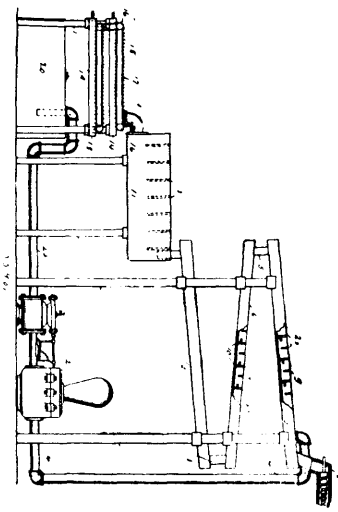


Charles McLennon, Spring Gulch, Colorado, U.S.A., 11th May, 1897 ; 6 years. (Filed 15th January, 1897.)

Claim.—1st. The combination with car steps, of a supplemental step having its riser hinged beneath the edge of the lowermost tread of said step, the supplemental tread being hinged to the lower edge of the supplemental riser, a slotted tongue secured to the under side of said tread, a rock shaft journalled beneath the steps at a point above the pivot of the supplemental riser, a rock lever carried by said shaft, a pin carried by the free end thereof and working in the slot of said tongue, and a lever connected with and adapted to operate the rock shaft, substantially as described. 2nd. The combination with car steps, of a supplemental step having ts riser hinged beneath the edge of the lowermost tread of said step, the supplemental tread being hinged to the lower edge of the supplemental riser, a slotted tongue secured to the under side of said tread, a rock shaft journalled beneath the steps at a point above the pivot of the supplemental riser, a rock lever carried by said shaft, a pin carried by the free end thereof and working in the slot of said tongue, and a lever connected with and adapted to operate the rock shaft, a plate attached to said steps and having a longitudinal slot through which the lever works and lateral recesses at the ends of said slot, substantially as described. 3rd. The combination with car steps, of a supplemental step having its riser hinged beneath the edge of the lowermost tread of said step, the supplemental tread being hinged to the lower edge of the supplemental riser, a slotted tongue secured to the under side of said tread, a rock shaft journalled beneath the steps at a point above the pivot of the supplemental riser, a rock lever carried by said shaft, a pin carried by the free end thereof and working in the slot of said tongue, and a lever connected with and adapted to operate the rock shaft, a plate attached to said steps and having a longitudinal slot through which the lever works and lateral recesses at the end of said slot, and a spring secured to the outer face of the steps and acting upon said lever to normally urge it in the direction of said recesses, substantially as described.

No. 55,901. Rubber Separator.

(*Séparateur de caoutchouc.*)



William Furlong Asham, Shelton, Connecticut, U.S.A., 11th May, 1897 ; 6 years. (Filed 18th January, 1897.)

Claim.—1st. In a rubber separating apparatus, the combination of a trough through which rubber is conveyed, dams arranged crosswise of said troughs, diaphragms arranged between said dams and crosswise of said trough in a manner to form a passage under said diaphragms and over the dams, substantially as described. 2nd. In a rubber separating apparatus, the combination of a trough, means for feeding ground rubber therein, means for conveying water into said trough, dams arranged crosswise of said trough and provided with angular extensions, diaphragms arranged between said dams and crosswise of said trough and having an opening thereunder, means for varying the sizes of said opening, substantially as described. 3rd. In a rubber generating apparatus, the combination of a trough through which rubber is conveyed, means for delivering rubber and water into said trough, dams arranged crosswise of said trough and provided with angular extensions, diaphragms arranged between said dams to detain the flow of water, a tank 11 adjacent to end connected with said trough, diaphragms in said tank extending below the water line thereof, substantially as described. 4th. In a rubber separating apparatus, the combination of one or more troughs suitably arranged, means for delivering rubber and water into said troughs, dams and diaphragms alternately arranged in said troughs, a receiving tank connected with said troughs and provided with diaphragms depending from the top and having passages thereunder, means to receive and separate the water and rubber, substantially as described.

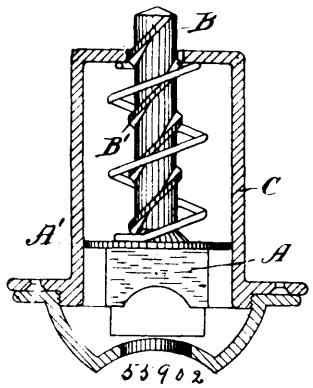
No. 55,902. Billiard Cue Chalker.

(*Craie pour queues de billard.*)

Colin Salmond, San Francisco, California, U.S.A., 11th May, 1897 ; 6 years. (Filed 27th January, 1897.)

Claim.—1st. In a billiard cue chalker, the combination of a chalk holder, A, mounted loosely in a casing, C, with a spring D, to maintain the chalk holder in its normal position, a threaded rod, B, attached to the said chalk holder and extended through a perforation in a partition of the said casing, which is adapted to produce a rotary movement of the said rod in being depressed or raised

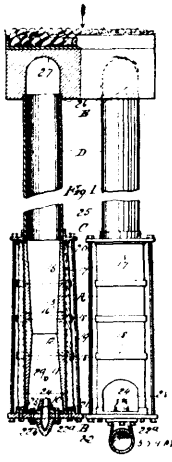
through the same, substantially as described. 2nd. In a billiard cue chalker, the combination of a chalk holder, A, mounted loosely



in a casing, C, with a spring, D, to maintain the chalk holder in its normal position, a threaded rod, B, attached to the said chalk holder and extended through a perforation in a partition of the said casing, which is adapted to produce a rotary movement of the said rod in being depressed or raised through the same, and a cap, E, provided with a central opening, E, 1, to admit the cue tip, substantially as described.

No. 55,903. Hydraulic Duplex Gravel Elevator.

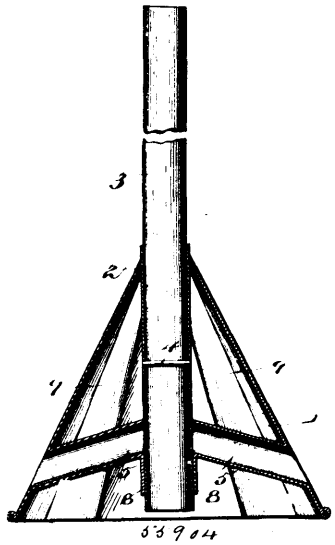
(*Elévateur de gravier hydraulique.*)



Remembrance Hughes Campbell, Horsefly, British Columbia, Canada, 11th May 1897; 6 years. (Filed 11th January, 1897.)

Claim.—1st. In a duplex gravel-elevator, the built-up portion A, in combination with the upward-casts having hoods E, for breaking down the stream, substantially as specified. 2nd. In a duplex gravel-elevator for placer mining, the combination in an upcast, of a built-up portion having internal sections arranged one upon the other, of a rubber packing surrounding these sections, and of a casing of wood or other material covering all, substantially as specified. 3rd. In a duplex gravel-elevator for placer mining, in a portion of the upcasts, the combination of sections loosely arranged one on the other, the bottom support being rigidly fixed to the foundation, of an outer wall of wood or other semi-flexible material, and a rubber section intervening between the loosely arranged sections and the said outer wall, of bands 18 surrounding the wood portion and placed opposite the joints of the interior sections, of a foundation platform B, and a flanged ring C, engaging either end of the wood section, and rigidly fixed or secured by the rods 19, substantially as set forth. 4th. In a duplex gravel-elevator for placer mining, having a built-up section, the combination of sections loosely arranged one on the other, a section of rubber or other elastic material and a section of wood, of a lower rigidly fixed section 10 having a disced annular recess 21 receiving the lower end of the said wood section, and of a flanged ring with an inverted recess 20 lying on top of the wood section, and of means for rigidly securing the wood section and its end bearings together, substantially as specified. 5th. In a duplex gravel-elevator, the combination of two cylinders having upcasts parallel to each other, of means for supplying water force to one or both, and also gravel and water from the feed sluice F simultaneously, as specified. 6th. In a duplex gravel-elevator, the combination of two parallel cylinders having upcasts, and of hoods E, for breaking down the stream and controlling it in the discharge sluice G, substantially as specified. 7th. In a duplex gravel-elevator for placer mining, the combination of built-cylinders which are securely fixed to platforms B, of a nozzle composed of sections 23 and 24 secured to the upper side of the platform and in the interior of the built-up cylinder, by bolts passing through the surrounding flange, of the said section 23, the said platform and a flange 22^a on the pipe 22, as set forth. 8th. In a duplex elevator for raising water and gravel, a built-up cylinder having a passage to its interior, by a siphon-pipe 29, the lower end of which depends for some distance below the bottom of the said cylinder, substantially as and for the purposes hereinbefore set forth.

No. 55,904. Clothes-Pounder. (*Pilon à linge.*)

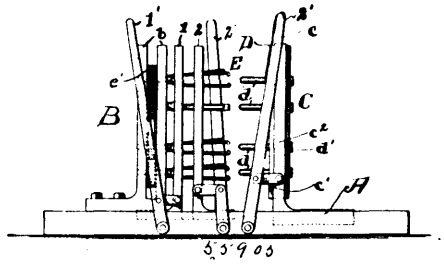


George A. Crooker and Edwin R. Crooker, both of Crowley, Louisiana, U.S.A., 11th May, 1897; 6 years. (Filed 11th February, 1897.)

Claim.—A clothes-pounder, comprising an approximately conical-shaped body having a centrally disposed tube constructed to receive a handle at its upper end, the lower end of the same tube terminating in about the plane of the base of the body, ventilating tubes communicating at their inner ends with the lower end portion of the central tube and inclining downwardly in opposite directions, and attached at their outer ends to the body at diametrically opposite points and opening therethrough, a cross-brace disposed at right angles to the ventilating tubes, and composed of similar members which have their end portions secured together, and which have the middle portions oppositely curving to form a socket to receive the lower end of said central tube, the extremities of the said members passing through slits in the sides of the body, and bent in opposite directions and attached to said body, and air passages disposed about the inner sides of the body and extending from the base thereof to within a short distance of the top, substantially in the manner set forth for the purpose described.

No. 55,905. Machine for Cutting Gelatine Capsules.

(*Machine pour couper les capsules de gélatine.*)



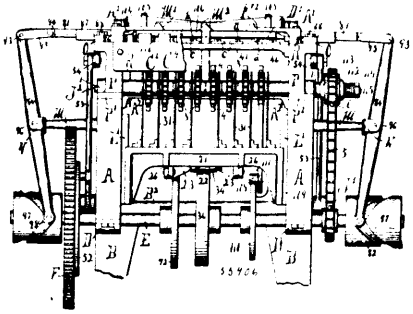
Sidney A. Richard, Saratoga Springs, New York, U.S.A., 11th May, 1897; 6 years. (Filed 15th February, 1897.)

Claim.—1st. In a capsule machine, the combination with a plate, having a series of holes provided with moulds of vitreous material, of a series of rotatable knives adapted to cut the gelatine on said moulds. 2nd. In a capsule machine, the combination with the movable mould plate, of a standard having a series of rotatable spindles each having a forked stripper and a knife, and means for contracting the knives and the strippers against the moulds. 3rd. In a capsule machine, the combination with the standard B, of the spindle c mounted therein and geared together, the forks c^2, having claws c^4, and knives c^6, the frame C movable toward and from the standard, and the plate D, having a series of glass moulds d, substantially as described. 4th. A capsule machine, comprising in its

construction a mould and a rotatable cutter and stripper therefor, said cutter and stripper consisting of a spring fork having claws and a spring strip having a knife at one end and secured by its other end to one of the arms of the fork. 5th. A capsule machine, comprising in its construction a standard carrying a series of cutters and strippers, each consisting of a rotary spring fork having claws and a spring strip carried by one of the arms of said fork and having a knife at its end, a movable plate carrying a series of moulds, and two plates movable in the space between the standard and mould plate and having openings through which the cutters and strippers extend, substantially as and for the purpose set forth.

No. 55,906. Machine for Boxing Matches.

(*Machine pour mettre les allumettes en boîtes.*)



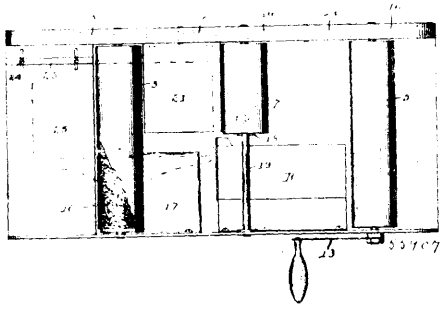
Edward Mead Lockwood, Oswego, New York, and William Marcus Patterson, Stroudsburg, Pennsylvania, both in the U.S.A., 12th May, 1897; 6 years. (Filed 20th February, 1897.)

Claim.—1st. In an automatically-operating match boxing machine, the combination of a suitable supporting frame, a suitable conveyor for carrying in the empty boxes and their covers, a cam-operated slide for elevating said boxes and covers to a position to receive the matches expelled from a match-making machine, a horizontal slide carrying hooks adapted to engage the boxes and retract the same when filled, a weight raised by cam-action and dropping by gravity for compressing the matches in the box and holding said box and its cover in place, and cam-operated slides for closing the box, said slides operating at right angles. 2nd. In a match boxing machine, mechanism for supporting and carrying in the empty boxes and their covers, said mechanism consisting of solid shafts, sprocket wheels keyed thereon, endless chains running over said sprocket wheels, and means for rotating said shafts in combination with a vertically reciprocating slide carrying lifting-blades adapted to move between the sprocket wheels on the front shaft and to elevate the boxes and covers to the filling position, substantially as specified. 3rd. In a match boxing machine, the combination, with the box cover, of supporting and carrying in mechanism consisting of shafts carrying a series of sprocket wheels, endless chains or belts running over said sprocket wheels and means for rotating said shafts and discs, of a vertically reciprocating slide carrying lifting-blades adapted to move between the discs on the shaft and elevate the boxes and covers to the filling position, and a horizontal slide provided with hooks adapted to engage and retract said boxes and covers, substantially as specified. 4th. In a match boxing machine, the combination with a series of endless chains or belts rotatably supported, of a vertically reciprocating slide carrying lifting-blades adapted to move between the belts and elevate the boxes and covers, a horizontal slide provided with hooks adapted to engage the boxes and retract the same, and mechanism for leveling the matches, substantially as specified. 5th. In a match boxing machine, the combination, with a series of endless chains or belts rotatably supported, of a vertically reciprocating slide carrying lifting-blades adapted to move between said chains or belts and to elevate the boxes and covers, a horizontal slide provided with hooks adapted to engage the boxes and retract the same, a mechanism for levelling the matches, and mechanism for closing the boxes, substantially as specified. 6th. In a match boxing machine, the combination, with a series of rotatable chains or belts for carrying in the boxes and their covers, a vertically reciprocating slide carrying lifting-blades, a cam-operative lever for operating said slide to elevate said boxes and covers, of a horizontally reciprocating slide carrying retracting-hooks, a cam-operated lever for operating said slide, a cam-operated gravity weight for leveling the matches, and means for closing the boxes, substantially as specified. 7th. In a machine for performing automatically the operations necessary for filling boxes with matches, the combination of the frame supporting the operative parts, a conveyor for carrying in the empty boxes and covers, a slide for elevating the boxes adjacent to guides down which matches expelled from match-making machine drop into boxes, a cam-operated slide carrying retracting hooks for withdrawing the filled boxes, said boxes resting by their own weight on said conveyor, an elevating slide and a retracting slide. 8th. In a machine for performing automatically the operations necessary for filling boxes with matches, the combination of the main frame, endless chains or belts for carrying in empty boxes and covers, cam operated slides and carrying blades for elevating the same, inclined planes for guiding matches expelled from the match-making machine into the boxes, cam-operated mechanism for retracting the boxes, gravity weight for leveling the matches and holding the boxes in position, and cam operated mechanism for simultaneously closing the boxes, substantially as described and shown. 9th. In a machine for performing automatically the operations for filling boxes with matches, the combination of the main frame, endless chains or belts for carrying in the empty boxes and covers, cam-operated slides for elevating the same, cam-operated slides carrying retracting hooks for retracting the filled boxes, mechanism for levelling the matches and holding the boxes in position, and simultaneously acting cam-operated slides for closing the boxes, substantially as described and shown. 10th. In an automatic machine for filling boxes with matches, endless chains or belts for carrying in the empty boxes and covers, cam-operated vertically reciprocating slides for elevating the same, cam-operated longitudinally and horizontally-reciprocating slides for retracting the boxes, cam-operated gravity weight for leveling the matches in the boxes and holding the boxes in position, and cam-operated transversely-horizontally reciprocating slides for closing the boxes, substantially as described and shown. 11th. In an automatic machine for filling boxes with matches, endless chains or belts for carrying in the boxes and covers, cam-operated vertically reciprocating slides carrying vertical blades for elevating the same, cam-operated longitudinally horizontally reciprocating slides carrying a double set of retracting hooks arranged in pairs for retracting the boxes, cam-operated gravity weight for leveling the matches in the boxes and holding the boxes in position, and cam-operated transversely horizontally reciprocating slides for closing the boxes, substantially as described and shown. 12th. In an automatic machine for filling boxes with matches, endless chains or belts for carrying in the empty boxes and covers, cam-operated vertically reciprocating slides carrying vertical blades for elevating the same, cam-operated longitudinally horizontally reciprocating slides carrying a double set of retracting hooks arranged in pairs for retracting the boxes, cam-operated gravity weight for leveling the matches in the boxes and holding the boxes in position, cam-operated transversely horizontally reciprocating slides for closing the boxes, and endless belt transversely operating for carrying away the filled and closed boxes, substantially as described and shown. 13th. In a machine for performing automatically the operations necessary for filling boxes with matches, the combination of the frame supporting the operative parts, a conveyor for carrying in the empty boxes and covers, a slide for elevating the boxes adjacent to guides down which matches expelled from match-making machine drop into boxes, a cam-operated slide carrying retracting hooks for withdrawing the filled boxes, said boxes resting by their own weight on said conveyor, an elevating slide, a retracting slide, a cam-elevated weight timed to be elevated to permit the boxes to take position under it, and dropping by its own weight to compress the matches and to hold box and cover in place, while a transverse cam-operated slide is forcing cover on filled box. 14th. In an automatic match boxing machine, the combination with a suitable conveyor for carrying in the empty boxes and their covers, a vertically operating slide for elevating the boxes and covers, of a horizontally reciprocating slide carrying one or more sets of pivoted hooks arranged to pass under a filled box, and engage its forward edge when the slide is moved forward and to draw the box back when said slide is retracted, and a cam-operated lever for operating the slide. 15th. In a machine for automatically filling boxes with matches, the combination of an elevating slide supporting vertical lifting-blades and provided with slides guides for guiding it in its reciprocating motion on the main frame, and a cam operated lever for elevating said slide, in combination with retracting hooks adapted to pass between the lifting blades. 16th. In a machine for automatically filling boxes with matches, means for elevating the boxes, consisting of a vertically reciprocating slide formed to fit main frame and slide thereon, vertical lifting-blades arranged on said slide, a cam-operated lever bearing against the under side of said slide at one end, and supported on a shaft at its opposite end, and a cam keyed to main shaft for forcing said lever upwardly at each rotation, in combination with retracting hooks adapted to pass between the lifting blades. 17th. In a machine for automatically filling boxes with matches, means for elevating the boxes, consisting of a slide formed with guideways at each end fitted to the main supporting frame, and carrying vertical lifting-blades on its upper side and provided with a widened bearing face or faces below, a cam-operated lever having an anti-friction roller or rollers at one end bearing against said widened bearing face and supported at its opposite end freely on an axle, another anti-friction roller arranged between two arms of said lever, and a cam carried on a cam-wheel keyed to main shaft for bearing against said second anti-friction roller and forcing said lever up at each rotation, in combination with a slide carrying retracting hooks arranged to pass between the lifting-blades, substantially as described and shown. 18th. In a machine for automatically filling boxes with matches, means for retracting the filled boxes, consisting of a suitable support, a horizontally reciprocating slide supported thereon and arranged on the upper face of said slide, two sets of retracting hooks arranged in pairs, said pairs composed one of each set, and a cam-operated lever for reciprocating said slide, substantially as described and shown. 19th. In a machine for automatically filling boxes with matches, means for retracting the filled boxes, consisting of a suitable support, a horizontally reciprocating slide supported thereon and arranged on the upper face of said

slide, two sets of retracting hooks arranged in pairs, said pairs composed one of each set, and a cam-operated lever for reciprocating said slide, and a lever having two arms, a connecting bar connecting upper arm of said lever to said slide, and anti-friction roller arranged at end of lever arm, said anti-friction roller taking in a cam slot on face of wheel keyed to main shaft. 20th. In a machine for automatically filling boxes with matches, a retracting slide fitted to slide on its supporting frame and arranged on its upper side, sets of forward and rearward retracting hooks, said hooks, one of each set being arranged in pairs, each pair being pivoted between the two arms of a hook support, one of said arms being provided with forwardly extending portion, substantially as described and shown. 21st. In a machine for automatically filling boxes with matches, a retracting slide fitted to slide on its supporting frame, and arranged on its upper side sets of forward and rearward retracting hooks, said hooks, one of each set, being arranged in pairs, each pair being pivoted between the two arms of a hook support, one of said arms being provided with forwardly extending portion, next to which the rearward hook is arranged, substantially as described and shown. 22nd. In a machine for automatically filling boxes with matches, retracting slides 41 carrying hook supports *c*, *c*, provided with upwardly extending arms *d* and *e*, and pivoted between said arms hook *b*, having rearward face *p*, and hook *a*, having forwardly extending hooked end *m* and rearwardly extending portion, substantially as described and shown. 23rd. In a machine for automatically filling boxes with matches, means for retracting the filled boxes, consisting of a cam-operated slide suitably supported, one or more sets of hooks carried thereon, said hooks having forward hooked ends and rearward extensions, and being freely sustained on pivots near their centre points, so that the hooked ends are normally elevated and easily depressed. 24th. In a match boxing machine, the box and cover carrying in mechanism, consisting of front and rear shafts, sprocket wheels keyed thereon, endless chains or belts running on said sprocket wheels, and means for locking said chains or belts, consisting of a lever normally engaging with one of said sprocket wheels, and a cam-wheel for temporarily disengaging said lever from said sprocket-wheel and permitting the chains to advance a certain distance, substantially as described and shown.

No. 55,907. Envelope Moisteners and Sealers.

(*Appareil à humecter et sceller les enveloppes.*)



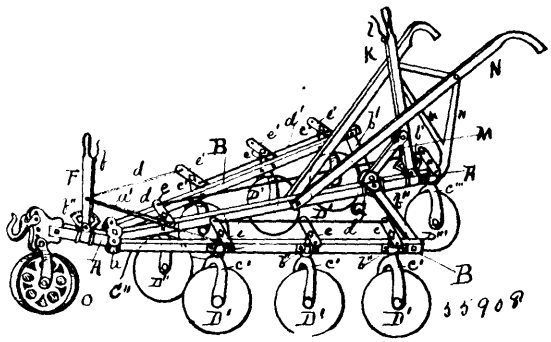
Elmer Grant Leech, Aberdeen, South Dakota, and Charles Ambrose Crowl, Minneapolis, Minnesota, both in the U.S.A., 12th May, 1897; 6 years. (Filed 22nd February, 1897.)

Claim.—1st. In an apparatus of the class described, in combination the pair of feed rolls, the means for moistening the flap of an envelope as delivered by said feed rolls, the means for folding the flap upon the body of the envelope, and the sealing rolls. 2nd. In an apparatus of the class described, in combination the feed rolls, the moistening roll, the folder, and the sealing rolls arranged and operating, substantially as described, whereby the envelope with the flap extended may be inserted between the feed rolls and automatically moistened and sealed by its passage through the apparatus. 3rd. In a machine for sealing envelopes, the combination with the pair of feed rolls, of the wetting roll for moistening the envelope flap, the guide and delivery rolls, and the folder for closing said flap upon the body of the envelope. 4th. In a machine for sealing envelopes, the combination with the pair of feed rolls, the adjacent wetting roll for moistening an envelope flap, and the guide and delivery rolls, of the folder for closing the flap while the envelope is in transit, and a laterally adjustable guide for adapting the machine for different sizes of envelopes.

No. 55,908. Corn Cultivator. (*Cultivateur à blé d'inde.*)

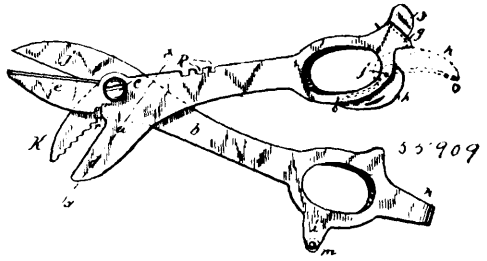
Norman McKenzie and Angus McKenzie, both of Dover, Ontario, Canada, 12th May, 1897; 6 years. (Filed 24th February, 1897.)

Claim.—1st. In combination with the frame A, and side bars B, and B¹, the disc arms C, C¹, and C¹¹, engaging with the discs D, D¹, and D¹¹, substantially as set forth. 2nd. In combination with the frame A, side bars B, and B¹, disc arms C, C¹, and C¹¹, the head pieces *c*, and *c*¹, with the rods *d*, and *d*¹, substantially as specified. 3rd. In combination with the frame A, the side bars B, and B¹, the disc arms, the head pieces, *c*, and *c*¹, and the rods *d*, and *d*¹, being connected to the lever F, with its pawl and ratchets, substantially as set forth. 4th. In combination with the frame A, the sliding sleeve G, the arms *b*, and *b*¹, the rods *n*, and the lever N,



with its pawl and ratchets, substantially as specified and set forth. 5th. The combination of the frame, the side bars, the disc arms, the discs, the head pieces, the rods and levers, as modes of changing the angles, the depth of cuts and to gather in or out of said discs and the arms, sliding sleeve, rod lever, as modes of changing the width of cut of said discs, substantially as specified and set forth.

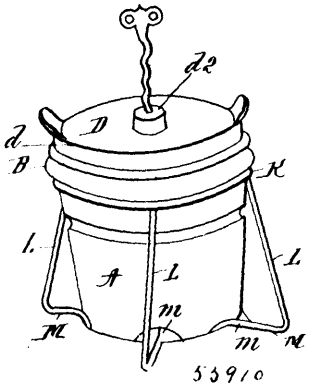
No. 55,909. Combination Tool. (*Outil à combinaison.*)



Nathan M. Stebbins, Stafford, Connecticut, U.S.A., 12th May, 1897; 6 years. (Filed 26th February, 1897.)

Claim.—A combination tool, comprising a shank *b*, formed with a cutting jaw *j*, and a wrench-jaw *k*, projected from the shank as shown, and a shank *a*, pivotally connected to the shank *b*, and formed with a cutting-jaw *c*, disposed coincident with the cutting-jaw *j*, of the other shank, and a wrench-jaw *d*, projected from the shank *a*, and disposed in coincident alinement with the wrench-jaw, substantially as specified and for the purpose stated.

No. 55,910. Mucilage Bottle. (*Bouteille de mucilage.*)

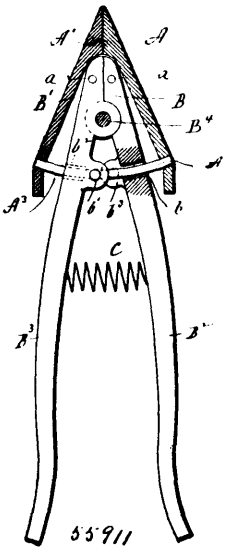


Chauncey Seymour Kellogg, McComb, Mississippi, U.S.A., 12th May, 1897; 6 years. (Filed 1st March, 1897.)

Claim.—1st. A mucilage bottle, or receptacle provided with a removable cap, or cover, through which is formed a spiral passage, and a brush provided with a spiral handle which is adapted to be passed through said spiral passage, whereby the position of the brush within the bottle or receptacle may be adjusted, said spiral handle being provided at its upper end with a head by which it is operated, and said bottle or receptacle being provided with a base or support, substantially as shown and described. 2nd. A mucilage bottle, or receptacle provided with a removable cap or cover, through which is formed a spiral passage, and a brush provided with a spiral handle which is adapted to be passed through said spiral passage whereby the position of the brush within the bottle or receptacle may be adjusted, said spiral handle being provided at its upper end with a head by which it is operated, and said bottle or receptacle being provided with a base or support, consisting of a wire frame, substantially as shown and described.

No. 55,911. Tool for Expanding Lead Pipes.

(*Outil pour élargir les tuyaux de plomb.*)

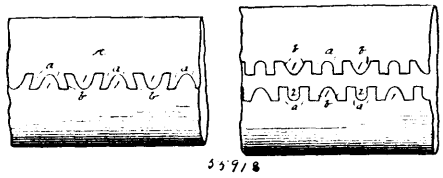


John Anderson and Charles Henry Bell, both of Portland, Connecticut, U.S.A., 12th May, 1897; 6 years. (Filed 1st March, 1897.)

Claim.—1st. In a tool for expanding lead pipes, the combination with two corresponding semi-conical dies, of two levers to which the said dies are respectively pivoted, and means connecting the rear ends of the dies with the opposite levers respectively. 2nd. In a tool for expanding lead pipes, the combination with two corresponding semi-conical dies, of two levers to the short outer ends of which the said dies are respectively pivoted, and two operating rods respectfully projecting inward from the inner ends of the dies, and connected with the handle ends of the opposite levers so that each die is connected with the short end of one lever, and the handle end of the other lever at points opposite the fulcrum levers. 3rd. In a tool for expanding lead pipes, the combination with two corresponding semi-conical dies, of two levers to the short ends of which the said dies are respectively pivoted, and two operating rods respectively extending inward from the inner ends of the dies, and passing through the handle-ends of the adjacent levers, and connected with the said ends of the opposite levers.

No. 55,912. Sheet Metal Edge.

(*Méthode d'unir les bouts de feuilles en métal.*)

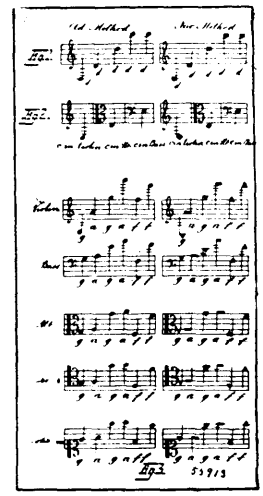


Frank A. Wilmot, Bridgeport, Connecticut, U.S.A., 12th May, 1897; 6 years. (Filed 29th February, 1897.)

Claim.—1st. The method of uniting two edges of sheet metal which consists in forming said edges with interlocking projections and recesses, some of the projections having sides which are inclined in opposite directions, and then forcing the projections and recesses together edgewise and thereby displacing portions of the metal laterally and in opposite directions to alter the shape of the said projections and recesses, whereby the parts will be firmly clinched together. 2nd. The method of making sheet metal tubing which consists in first forming the edges of the blank with interlocking projections and recesses, some of the projections of one edge differing in outline from the opposite recesses of the other edge, and then forcing the projections and recesses together edgewise and thereby laterally displacing portions of the metal to alter the shape of said projections and recesses, whereby the parts will be firmly clinched together. 3rd. A tube formed from a blank sheet of metal having upon its edges a continuous series of interlocking projections and recesses portions of which having oppositely inclined sides to form cam surfaces so that, when a circumferential compression is given to the blank, metal is displaced in opposite directions and locks the said edges against separation. 4th. A tube formed from a blank sheet of metal having its edges provided with interlocking projections and recesses, the ends of some of said projections or recesses differing in outline from the ends of the corresponding parts so that, when the blank is compressed circumferently, metal is displaced sidewise and clinches the edges firmly together. 5th. A tube formed from a blank of sheet metal having upon its edges interlocking alternate projections *a* and recesses *b* sub-divided by notches 2 in the projections *a* and the cam shaped lugs 1 in the recesses *b*, the said lugs 1 being wider than notches 2, whereby, when the blank is compressed circumferentially, the portions of the metal each side of the notches 2 are displaced sideways and interlocked.

No. 55,913. Musical Note Writing.

(*Méthode de copier la musique.*)

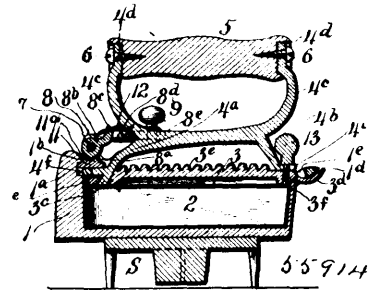


Stephen Von Heinrich, Vienna, Austria, 12th May, 1897; 6 years. (Filed 1st March, 1897.)

Claim.—An improved note-writing, in which differently named tones are represented by correspondingly differently formed note heads, whereby the sharps are provided with a border line provided over the top of the note head, and the flats with a border line under the under part of the note head.

No. 55,914. Combined Sad Iron and Friller.

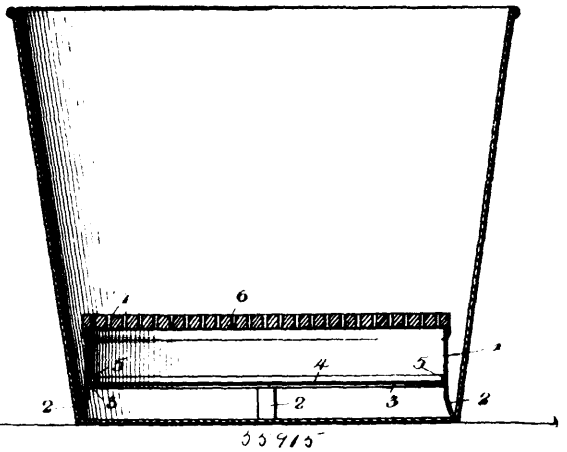
(*Frilleur et fer à repasser combinés.*)



Robert Alexander Boyd, Belleville, Ontario, Canada, 12th May, 1897; 6 years. (Filed 4th March, 1897.)

Claim.—1st. A sad-iron comprising a body having a nose-piece formed with a horizontal recess, an inner projection, and a rearwardly-extending loop, a plate having a recess fitting the projection, a slot, a rear lug engaging the loop, and a screw-hole, the handle-frame having a front lower arm inserted in the slot of the plate, a ledge having a recess fitting the projection, the cheek-plates having pivot-bearings, and a rear lower arm having a perforation registering with the screw-hole of the plate, a latch-block having lugs and located on the ledge between the cheek-plates, a lever mounted in the pivot-bearings, having a short arm engaging the lugs of the latch-block, and a longer arm having an extension for operating the lever, a spring for holding the lever and latch-block in normal position, and a screw for securing the rear lower arm to the plate, substantially as described. 2nd. A sad-iron comprising a body having an angular nose piece formed with a horizontal recess, an inner angular projection, and rearwardly extending loop, a plate having an angular recess fitting the angular projection, an inclined slot, a curved rear lug engaging the loop, and a screw-hole, the handle-frame having a front lower arm inserted in the inclined slot of the plate, a ledge having an angular recess fitting the angular projection, and cheek-plates having pivot-bearings, and a rear lower arm having a perforation registering with the screw-hole of the plate, a latch-block having lugs and located on the ledge between the cheek-plates, a bell-crank lever mounted in the pivot-bearings, having a short arm engaging the lugs of the latch-block, and a longer arm having an extension for operating the bell-crank lever, a spring for holding the bell-crank lever and latch-block in normal position, and a screw for securing the rear lower arm to the plate substantially as described.

No. 55,915. Culinary Utensils. (*Ustensile de cuisine.*)



Kibbie Rosine Ackermann, Rochester, Minnesota, U.S.A., 12th May, 1897; 6 years. (Filed 9th March, 1897.)

Claim.—As a new article of manufacture, a kettle protector comprising the vessel 1, having an open top and bottom, the integral legs 2, and the integral annular flange 3, in combination with the removable wire gauze bottom 4, the retaining spring ring 5, and the perforated removable cover 6, substantially as shown and described.

No. 55,916. Manipulating Device for Incandescent Lamps. (*Appareil à manier les lampes à incandescence.*)

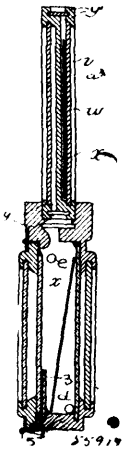
Joseph James Dunn, Hyde Park, Mass, U.S.A., 12th May, 1897; 6 years. (Filed 10th March, 1897.)

Claim.—1st. The herein described incandescent lamp manipulating device, consisting of a pair of pivoted expansion jaws, pivoted to a case or shell, a flexible shaft or spring attached to said shell, a spring pressed expander rod arranged within the latter and links connecting said rod to the jaws, and means substantially as described for closing and adjusting the position of said jaws, as and for the purpose set forth. 2nd. The herein described incandescent lamp manipulating device, consisting of a pair of pivotal expansion jaws, a spring pressed expander rod, and links pivoted to said rod and jaws, a tubular rod or stem and a flexible connection between said stem and jaws, a take up ratchet wheel located at the lower end of said rod and a cord or suitable flexible connection between said expander and ratchet wheel substantially as and for the purpose set forth. 3rd. The herein described incandescent lamp manipulating device, consisting of a pair of pivotal expansion jaws, a tubular handle and intermediate flexible connections, a link O, pivotally connected to the jaw holder and guided on the flexible connection, a link Q, pivoted to the link O and pivotally connected to a ring R adjustable on the handle substantially as and for the purpose set forth. 4th. In a manipulating device for incandescent lamps in combination, a pair of expansion jaws mounted upon a flexible shaft, a rod or handle attached to the latter and means for closing said jaws against the lamp, and holding them in proper position relative to the lamp as herein set forth and described.

No. 55,917. Apparatus for Developing Photographic Plates. (*Appareil pour développer des plaques photographiques.*)

Bruno Helmert, Dresden, Saxony, Germany, 12th May, 1897; 6 years. (Filed 16th March, 1897.)

Claim.—1st. A photo-plate developing case, comprising a casing having an aperture and recess communicating with one side of the bath chamber, a slide interposed between said aperture and recess, an aperture for introducing and withdrawing the liquid from said chamber, a coloured transparent field or glass, and an opaque slide to cover said field, substantially as described. 2nd. A photo-plate developing case, comprising a bath chamber section having a reinforced recessed slotted end to receive the auxiliary plate holding case, a cover section secured thereto, a coloured glass field plate cemented to the inner face of the cover frame and a non-actinic plate fitted upon the outer face of said cover frame, substantially as described. 3rd. A photo-plate developing case, comprising a bath chamber section, a glass strip secured to one side thereof to provide a trough, a recess and slide at the opposite side of said chamber, and a cover adapted to fit the said bath chamber section and provided with a coloured field glass plate, substantially as described. 4th. An auxiliary plate holder for a photo-plate developing case, comprising a plate holding frame provided with a cover slide and a side piece adapted to fit the recess of the developing case and having an aperture communicating with the plate holding chamber and



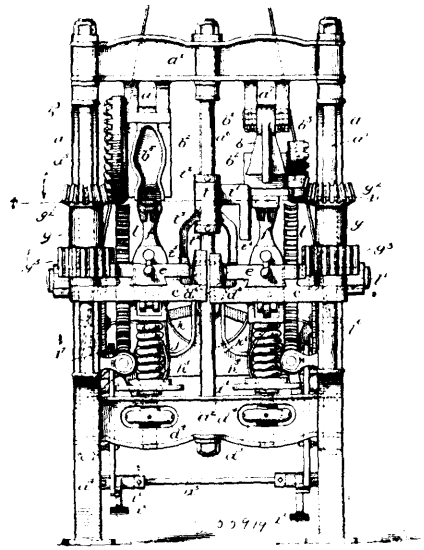
a side slide to cover said aperture, substantially as described. 5th. The combination with a photo-plate developing case having a dark chamber to hold the plate while under development, a side aperture and slide to receive the plate, a recess adjacent thereto and an auxiliary plate holding case having a side to fit the said recess of the developing case, a plate aperture and slide, substantially as described. 6th. A transfer case for photographic plate holders, comprising a two part box, each part provided with an open and an intermediate frame ledge, upon which the uppermost plate holder may rest, the said open ends being adapted to receive the said plate holders and also the slide thereon, substantially as described.

No. 55,918. Method of Treating Flour.
(*Méthode de traiter la fleur.*)

John Lowther Fletcher, Sunbury, Middlesex, England, 12th May, 1897; 6 years. (Filed 17th March, 1897.)

Claim.—1st. As a new article of manufacture, a block of flour reduced in bulk by compression, whereby it is endowed with better keeping qualities and occupies less space than ordinary loose flour. 2nd. The manufacture of solid blocks of flour by compressing loose flour, substantially as herein described. 3rd. The method of treating flour by compression in a mould, whereby it is rendered less liable to injury from insects, animals, external atmospheric influence or disease and at the same time it is caused to occupy less cubic space than an equal weight of loose flour, substantially as herein described.

No. 55,919. Sole Levelling Machine.
(*Machine à égaliser les semelles.*)



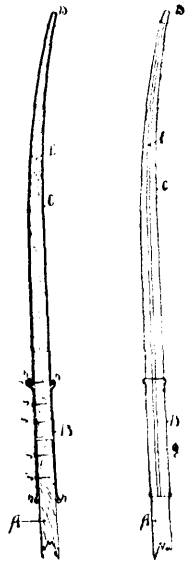
John James Heys and Maurice Vincent Bresnahan, both of Lynn, Mass., U.S.A., 12th May, 1897; 6 years. (Filed 22nd March, 1897.)

Claim.—1st. In combination, an oscillatory mould carrier, a co-acting last carrier, and means for causing their actuation to level a sole, said last carrier being mounted to yield only in parallel lines at right angles to the tangential plane of the arc of movemen

the mould carrier, whereby the sole on the last is properly positioned against the mould, irrespective of its thickness, substantially as described. 2nd. In a sole levelling or beating out machine, in combination, a mould carrier, a co-acting last carrier, one of said carriers oscillating through the arc of a circle and the other reciprocating tangentially to said circle, and means for operating them, substantially as described. 3rd. In a sole levelling or beating out machine, in combination, a pivoted mould carrier, and a rectilinearly reciprocating co-acting last carrier, and means for operating the said carriers simultaneously, substantially as described. 4th. In a sole levelling or beating out machine, in combination, a mould carrier pivoted to oscillate about a centre, a rectilinearly reciprocating co-acting last carrier, a yielding table upon which said last carrier is mounted, and means for simultaneously operating the said carriers, substantially as described. 5th. In a sole levelling or beating out machine, in combination, a mould carrier pivoted to oscillate about a centre, a rectilinearly reciprocating co-acting last carrier, a yielding table upon which said last carrier is mounted, means for simultaneously operating the said carriers, and means for adjusting said table vertically, substantially as described. 6th. In a sole levelling or beating out machine, in combination, a pivoted mould carrier, and a rectilinearly reciprocating co-acting last carrier, said last carrier being yieldingly supported, and means for operating the said carrier, substantially as described. 7th. In a sole levelling or beating out machine, in combination, a mould carrier, consisting of a pivoted oscillatory arm having provisions for the reception of a mould, a co-acting rectilinearly reciprocating last carrier having provisions to receive a last, each of said carriers having a toothed rack, gearing intermeshing with said racks for causing said carriers to move in unison, and means for imparting power to said carriers to actuate them, substantially as described. 8th. In a sole levelling or beating out machine, in combination, an oscillating mould carrier having provisions to receive a mould, a co-acting rectilinearly reciprocatory sliding carrier having provisions to receive a last, means for causing said carriers to move in unison, a table on which said sliding carrier is adapted to reciprocate, and means for imparting power to said carriers to actuate them, substantially as described. 9th. In a sole levelling or beating out machine, in combination, an oscillatory mould carrier having provisions to receive a mould, a co-acting rectilinearly reciprocatory sliding carrier having provisions to receive a last, means for causing said carriers to move in unison, a table on which said sliding carrier is adapted to reciprocate, means for yieldingly supporting said table, and means for actuating said carriers, substantially as described. 10th. In a sole levelling or beating out machine, in combination, an oscillatory mould carrier having provisions to receive a mould, a co-acting rectilinearly reciprocating sliding carrier having provisions to receive a last, means for causing said carriers to move in unison, a table on which said sliding carrier is adapted to reciprocate, means for yieldingly supporting said table, devices for adjusting the last said means, and means for actuating the carriers, substantially as described. 11th. In a sole levelling or beating out machine, in combination, a mould carrier having provisions for the reception of a mould, a co-acting last carrier having provisions for the reception of a last, means for causing said carriers to operate in unison, means for horizontally reciprocating said carriers, and means for causing the carriers to cease operating when they have been reciprocated a predetermined number of times, substantially as described. 12th. In a sole levelling or beating out machine, in combination, a mould carrier having provisions for the reception of a mould, a co-acting last carrier having provisions for the reception of a last, and means for reciprocating said carriers horizontally a predetermined number of times and then bringing them to a state of rest, substantially as described. 13th. In a sole levelling or beating out machine, in combination, a mould carrier having provisions for the reception of a last, means for causing said carriers to operate in unison, means for horizontally reciprocating said carriers a predetermined number of times, and bringing said carriers to a state of rest at a position of clearance, substantially as described. 14th. In a sole levelling or beating out machine, in combination, an oscillatory mould carrier having provisions for the reception of a mould, a co-acting rectilinearly reciprocatory last carrier having provisions for the reception of a last, means for connecting said carriers whereby they operate in unison, and means for reciprocating said last carrier and with it the mould carrier a predetermined number of times, substantially as described. 15th. In a sole levelling or beating out machine, in combination, an oscillatory mould carrier having provisions for the reception of a mould, a co-acting rectilinearly reciprocatory last carrier having provisions for the reception of a last, means for connecting said carriers whereby they operate in unison, means for reciprocating said last carrier, and means for bringing said carrier to a state of rest after a predetermined number of reciprocations, substantially as described. 16th. In a sole levelling or beating out machine, in combination, an oscillatory mould carrier having provisions to receive a mould, and also provided with a segmental rack, a co-acting rectilinearly reciprocatory last carrier having provisions to receive a last, and also having a straight rack, gearing consisting of a sleeve with teeth intermeshing with the segmental rack and teeth intermeshing with the straight rack for causing the carriers to operate in unison, and means for operating said carriers comprising a wheel having a pitman, and a pitman rod connected to one of the carriers, substantially as described. 17th. In a sole levelling or beating out machine, in combination, a mould carrier having provisions to receive a mould, a co-acting last carrier having provisions for receiving a last, continuously moving power devices, means adapted to be actuated thereby for reciprocating the said carrier longitudinally of the sole of the boot or shoe operated upon, and means for disconnecting the last said means for the power devices to bring the carriers to a state of rest after said carriers have reciprocated a predetermined number of times, substantially as described. 18th. In a sole levelling or beating out machine, in combination, a mould carrier having provisions to receive a mould, a co-acting last carrier having provisions for receiving a last, a power shaft connected with said carriers for causing their reciprocation in lines transverse thereof, a continuously rotating wheel loose relatively to said shaft for intermittently rotating it, clutches interposed between said wheel and said shaft, a lever for operating the clutches, and means for automatically causing said lever to shift the clutches, whereby the shaft and wheel are disconnected after said shaft has made a predetermined number of rotations, substantially as described. 19th. In a sole levelling or beating out machine, in combination, a mould carrier having provision to receive a mould, a co-acting last carrier having provisions for receiving a last, a power shaft connected with said carriers for causing their reciprocation in lines transverse thereof, a continuously rotating wheel loose relatively to the said shaft for imparting motion thereto, a clutch between said wheel and said shaft, and means interposed between the shaft and the clutch for disconnecting them after the carriers have made a predetermined number of reciprocations, substantially as described. 20th. In a sole levelling or beating out machine, in combination, a mould carrier having provision to receive a mould, a co-acting last carrier having provisions for receiving a last, a wheel connected to said carriers for causing their reciprocation in lines transverse thereof, a clutch for imparting power from a continuously operating power device to the said wheel, means for shifting the said clutch to disconnect said wheel from the power device, a trip for operating the said clutch, shifting means and mechanism actuated by said wheel for operating the trip after the said carriers have been reciprocated a predetermined number of times, substantially as described. 21st. In a sole levelling or beating out machine, in combination, a mould carrier having provision to receive a mould, a co-acting last carrier having provisions for receiving a last, a wheel connected to said carriers for causing their reciprocation in lines transverse thereof, a clutch for imparting power from a continuously operating power device to the said wheel, a foot lever for shifting said clutch, a trip for holding said lever in position to cause the clutch to connect the said wheel with the power device, and mechanism for actuating the trip after the said carriers have completed a predetermined number of reciprocations, substantially as described. 22nd. In a sole levelling or beating out machine, in combination, two sets of mould and last carriers, movable in planes transverse thereof, each set consisting of a mould carrier having provisions to receive a mould, and a co-acting last carrier having provisions to receive a last, and means for actuating each set of carriers a predetermined number of times, whereby an operator may place the work upon one last while the other set of carriers is operating, substantially as described. 23rd. In a sole levelling or beating out machine, in combination, two sets of mould and last carriers, movable in planes transverse thereof, each set consisting of a mould carrier having provisions to receive a mould, and a co-acting last carrier having provisions to receive a last, means for actuating each set of carriers a predetermined number of times, whereby an operator may place the work upon one last while the other set of carriers is operating, and means under the control of the operator for starting said carriers from a state of rest, substantially as described. 24th. In a sole levelling or beating out machine, in combination, two sets of independently actuated mould and last carriers, movable in planes transverse thereof, each set consisting of a mould carrier having provisions to receive a mould, and oscillating in the arc of a circle, and a co-acting last carrier having provisions to receive a last, and movable in the plane tangential to the arc of a circle, and means under the control of the operator for automatically reciprocating each set of said carriers a predetermined number of times, substantially as described. 25th. In a sole levelling or beating out machine, in combination, a mould carrier having provisions to receive a mould, a last carrier having provisions to receive a last, means for reciprocating said carriers through a predetermined space for a predetermined number of times, and then reciprocating said carrier through a greater space to a position of clearance, and means for automatically bringing said carrier to a state of rest, substantially as described. 26th. In a sole levelling or beating out machine, in combination, two sets of independently actuated mould and last carriers, movable in planes transverse thereof, each set consisting of a mould carrier having provisions to receive a mould and a co-acting last carrier having provisions to receive a last, means under the control of the operator for actuating said sets alternately, and a guard moved automatically adjacent the operating set of carriers, substantially as described. 27th. In a sole levelling or beating out machine, in combination, two sets of independently actuated mould and last carriers, movable in planes transverse thereof, each set consisting of a mould carrier having provisions to receive a last and a co-acting last carrier having provisions to receive a last, means under the control of the operator for actuating said sets alternately, and a guard operated automatically by each set of carriers alternately for moving it adjacent the operating set, substantially as described.

No. 55,920. Splices for Wagon or Buggy Shafts.

(*Epissure pour limonières de voitures.*)



55920

James Whiteman, Ammbree, Ontario, Canada, 12th May, 1897; 6 years. (Filed 1st April, 1897.)

Claim.—1st. The combination of the splice end E and the steel splice tube B, substantially as and for the purpose hereinbefore set forth. 2nd. The combination with the splice end E, of the metal sheath C, substantially as and for the purpose hereinbefore set forth.

No. 55,921. Carbon Plate for Use in Batteries.

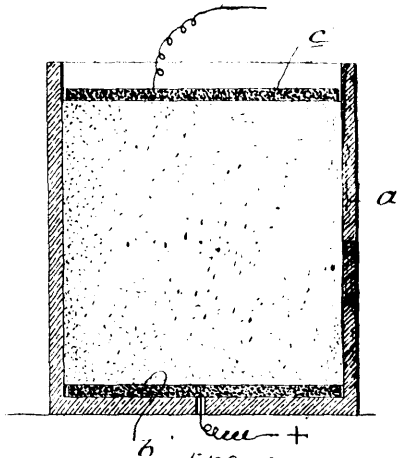
(*Plaque de carbone pour piles électriques.*)

The Automatic Electric Pump Company, Boston, assignee of Frank Curtis, Everett, both in Mass., U.S.A., 13th May, 1897; 6 years. (Filed 3rd April, 1897.)

Claim,—1st. A carbon plate for use in electro-galvanic batteries formed of coke powder and plumbago combined in a homogenious mass and hardened, substantially as specified. 2nd. The composition described for forming carbon plates, comprising coke powder, plumbago, molasses, and water, in the proportions, substantially as specified.

No. 55,922. Porous Cups for Use in Batteries.

(*Godets poreux pour piles électriques.*)

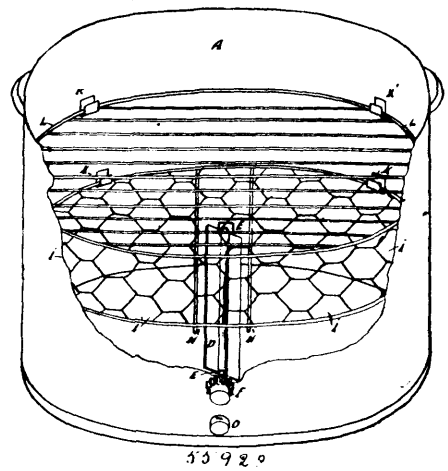


55922

The Automatic Electric Pump Company, Boston, Mass., U.S.A., 13th May, 1897; 6 years. (Filed 3rd April, 1897.)

Claim.—1st. The process described for preparing clay prior to forming it into porous cups for use in electro-galvanic batteries, consisting in washing the clay in a solution of water and hydrate of potassium and afterwards passing an electrical current through the washed clay, substantially as specified. 2nd. The process described of making porous earthenware cups, consisting in washing clay in a solution of water and hydrate of potassium, then passing an electrical current through the washed clay and finally moulding the clay into cups and baking the same, substantially as specified.

No. 55,923. Machine for Washing and Cleansing Crockery, Glass and Plated Ware. (*Machine pour nettoyer et laver la vaisselle.*)

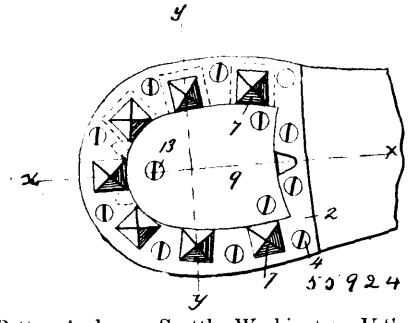


55920

Versel Eben Chamberlin, Magog, and William Henry Chamberlain, Bolton, both in Quebec, Canada, 13th May, 1897; 6 years. (Filed 3rd April, 1897.)

Claim.—In a machine for washing crockery, glass and plated ware, the combination with an eliptical shaped, or elongated receptacle in which is fitted a rotary paddle or dasher operated by gear and spur-wheels, of the supporting horizontal netted wire tray or platform I, supported by hooks K K, and iron wire rods N N, and the tray or platform L, composed of parallel iron wire rods supported by the hooks K^1 K^1, substantially as and for the purpose hereinbefore set forth.

No. 55,924. Heel Plate. (*Plaques pour talons.*)



55924

Hans Petter Andersen, Seattle, Washington, U.S.A., 13th May, 1897; 6 years. (Filed 7th April, 1897.)

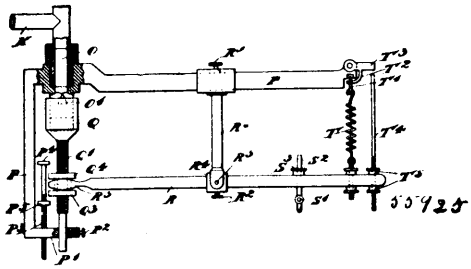
Claim.—1st. The heel plate described, comprising the body having the central recess in its under side and also having the offset recesses of dovetail form in cross-section closed at their outer ends and communicating at their inner ends with the central recess, calks having bases shaped in conformity to and arranged in the offset recesses of the body, and the calk-retaining plate arranged in the central recess of the body and connected to said body, substantially as and for the purpose set forth. 2nd. The heel plate described comprising the body having the central recess in its under side, and also having the offset recesses of dovetail form in cross-section closed at their outer ends, and communicating at their inner ends with the central recess, and further having the undercut recesses 11, also communicating with the central recess, calks having bases shaped in conformity to and arranged in the offset recesses of the body, and the calk-retaining plate arranged in the central recess of the body and connected to said body and having lugs arranged in the recesses 11, of the body, substantially as and for the purpose set forth.

No. 55,925. Governor. (*Gouverneur.*)

Edward Thunderbolt, Glasgow, Scotland, 13th May, 1897; 6 years. (Filed 6th April, 1897.)

Claim.—1st. In connection with engines for the dynamical production of electricity, a governing device consisting of an air pump worked at a speed dependent upon that of the engine to be governed, a controlling cylinder connected with the said air pump, a piston in the said cylinder connected with the throttle or other valve controlling the supply of motive fluid to the engine, a valve controlling an outlet from the said controlling cylinder, and an electro-magnet operating the said outlet valve, all combined and operating in the manner described both by changes in the speed of the engine and by changes in the electric current produced. 2nd. In connection with marine engines, a governing device consisting of an air pump

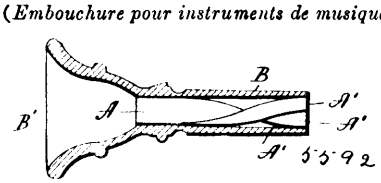
worked at a speed dependent upon that of the engine to be governed, a controlling cylinder connected with the said air pump, a



piston in the said cylinder connected with the throttle or other valve controlling the supply of motive fluid to the engine, a valve controlling an outlet from the said controlling cylinder, and a pendulum operating the said outlet valve, all combined and operating in the manner described, both by changes in the speed of the engine and by changes in the fore and aft inclination of the vessel. 3rd. In a governing device of the kind herein described, the combination, with the controlling cylinder of such device, of a pipe or passage O, having a port O^1, a slide valve Q, a lever R, connected with such valve and having a sliding fulcrum, and a controlling electro-magnet or solenoid S^4, substantially as and for the purpose described. 4th. In a governing device of the kind herein described, the combination, with the controlling cylinder of such device, of a pipe or passage O, a slide valve Q, a lever R, a spring T, a slotted frame T^1, a pivoted arm T^3, carrying a hook T^2, an adjustable rod T^4, and an electro-magnet or solenoid S^4, substantially as and for the purpose described. 5th. In a governing device of the kind herein described, the combination with the controlling cylinder of such device of a pipe or passage O, cylinder U, a slide valve U^1, provided with a pipe U^2, having a port U^6, spiral spring U^4, and an adjustable plug U^7, substantially as and for the purpose described. 6th. In a governing device of the kind herein described, the combination, with the controlling cylinder of such device, of a pipe or passage O, a port O^1, a slide valve Q, a lever R, having a sliding standard R^1, a pendulum W, and a fixed beam P, substantially as described. 7th. In a governing device of the kind herein described, the combination with the controlling cylinder of such device of a pipe or passage O, a port O^1, a slide valve Q, a rod Q^1, a frame P, and a locking pin p^3, with adjustable nut p^5, substantially as and for the purpose described. 8th. A clutch mechanism for connecting and disconnecting a pulley or wheel for driving the governing devices herein described, or other machinery to and from the shaft of the engine or other driving shaft, which consists of a lever X^6, pivoted on a driving or driven pulley or wheel X^4, or other part of machinery mounted loosely on the shaft, the said lever having connected to it a bolt X^{10}, adapted to slide through an opening in the said pulley, wheel, or other part and to engage with arms or stops X^1, secured on the shaft, a spring latch X^{16}, to hold the said lever and bolt in position, and an operating ring X^{12}, pivoted to the said pulley, wheel, or other part X^4, and connected to the said lever X^6, substantially as described. 9th. The improved clutch gear for connecting and disconnecting one shaft to and from another in line therewith, which consists of a lever X^6, pivoted directly or indirectly to one of the shafts, and having connected to it a bolt X^{10}, adapted to slide through an opening in a disc or other suitable guide piece X^4, fixed to the same shaft, the said bolt being adapted to engage with arms or stops X^1, fixed on the other shaft, an operating ring X^{12}, pivoted directly or indirectly to the first named shaft, and connected to the said lever, and a spring latch X^{16}, to hold the lever and bolt in position, substantially as described. 10th. In clutch gear for connecting and disconnecting machinery to and from its driving or driven shaft, the use of an operating ring X^{12}, pivoted to a part rotating loosely on the shaft, or directly or indirectly to the shaft itself, and connected to the lever by which the connecting and disconnecting bolt is operated, substantially as described and for the purpose set forth.

No. 55,926. Mouth Piece for Musical Instruments.

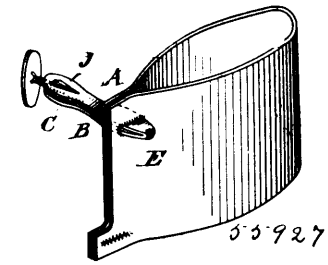
(*Embouchure pour instruments de musique.*)



Henry Francis Keyes, Marion Smith and Francis Timothy Smith, all of New Haven, Connecticut, U.S.A., 13th May, 1897; 6 years. (Filed 1st March, 1897.)

Claim.—1st. A mouth-piece for wind-instruments of the trumpet-type, constructed with one or spirally arranged ribs or webs for imparting spiral rotary movement to the column of air forced into the mouth-piece by the user. 2nd. The combination with a mouth-piece for a wind instrument of the trumpet-type, of an independently formed stem adapted to be introduced into the said mouth-piece, and having one or more spirally arranged ribs or webs for imparting spiral rotary movement to the column of air forced into the mouth-piece by the user.

No. 55,927. Cuff Buttoner. (*Bouton de poignets.*)

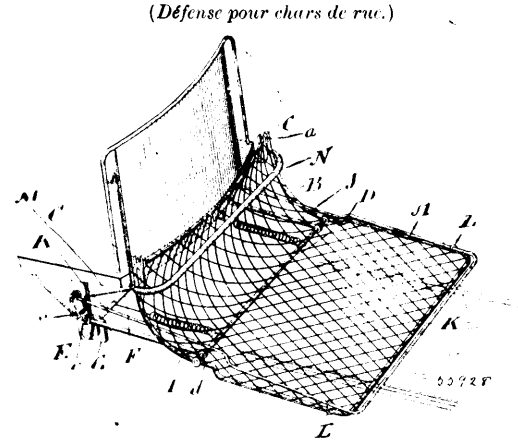


Waldron H. Rand and William B. Rand, both of Boston, Mass, assignees of Lewis Forbes Earl, Philadelphia, Pennsylvania, U.S.A., 13th May, 1897; 6 years. (Filed 9th April, 1897.)

Claim.—As an article of manufacture, a cuff-buttoner composed of a pair of spring-fingers A, B, having thin flat rounded edges and united at the rear by the flattened rounded yoke E, adapted to be passed through the buttonholes of the cuff, one of the said fingers having a flat plain surface adapted to receive the face of one disc or head of a link cuff-button, and the other having a stamped-up portion forming a recess for the eye or shank of the said disc or head.

No. 55,928. Fender for Street Cars.

(*Défense pour chars de rue.*)

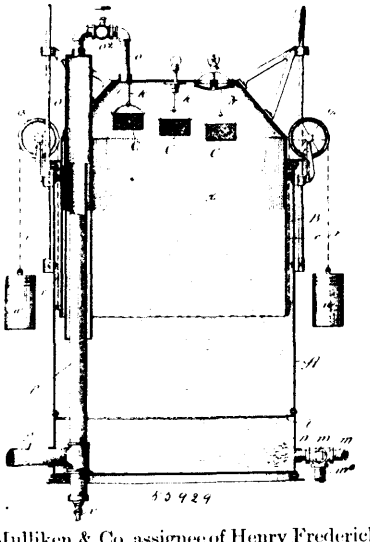


George Sleeman, assignee of James Steele, both of Guelph, Ontario, Canada, 13th May, 1897; 6 years. (Filed 10th April, 1897.)

Claim.—1st. In a device of the class described, a fender pivoted at its rear end to the front of a car, in combination with a lever pivoted below the end of the car, a link pivoted at one end to the said lever and at the other to the fender below its pivot point upon the car, and a stop as connected as to engage with the link when the pivot point of the latter on the said lever is below the line joining its pivot point on the fender with the pivot point of the lever, and thus retain the fender in its normal raised position, substantially as and for the purpose specified. 2nd. In a device of the class described, a fender having its rear end extended upwardly and pivotally connected to the front of the car, in combination with a toggle joint connection adapted to normally retain the fender in a raised position, and automatic means operated by contact with an obstacle for tripping the toggle joint connection to permit the fender to drop to its operative position, substantially as and for the purpose specified. 3rd. In a device of the class described, a fender pivoted at its rear end to the front of a car, in combination with a lever pivoted below the end of the car, a link pivoted at one end to the said lever and at the other to the fender below its pivot point upon the car, a stop so connected as to engage with the link when the pivot point of the latter on the said lever is below the line joining its pivot point on the fender with the pivot point of the lever, and thus retain the fender in its normal raised position, and a trigger frame slidingly supported by the fender with its front end projecting beyond the front of the same, and its rear end pivoted to the said lever above the pivot point of the link, substantially as and for the purpose specified. 4th. In a device of the class described, a fender pivoted at its rear end to the front of a car, in combination with a lever pivoted below the end of the car, a link pivoted at one end to the said lever and at the other to the fender below its pivot point upon the car, a stop so connected as to engage with the link when the pivot point of the latter on the said lever is below the line joining its pivot point on the fender with

the pivot point of the lever, and thus retain the fender in its normal raised position, a trigger frame slidingly supported by the fender with its front end projecting beyond the front of the same, and its rear end pivoted to the said lever above the pivot point of the link, and a spring connected directly or indirectly with the car and to the fender so as to tend to draw the latter down to its operative position. 5th. In a device of the class described, a fender pivoted at its rear end to the front of a car, in combination with a lever pivoted below the end of the car, a link pivoted at one end of the said lever and at the other to the fender below its pivot point upon the car, a stop so connected as to engage with the link when the pivot point of the latter on the said lever is below the line joining its pivot point on the fender with the pivot point of the lever, and thus retain the fender in its normal position, and a spring connected directly or indirectly with the car and to the fender, so as to tend to draw the latter down to its operative position, substantially as and for the purpose specified. 6th. In a device of the class described, the fender A, having its rear end turned upwardly and pivotally connected to the front end of a car, in combination with the bent levers E, connected by the bar F, journalled in the brackets G, the links I, pivoted a *c*, to the fender A, and at *d*, to the bent levers E, the pin or stop *c*, and the trigger frame K, slidingly-supported on the fender and pivoted at its rear end to the bent levers E, substantially as and for the purpose specified. 7th. In a device of the class described, the fender A, having its rear end turned upwardly and pivotally connected to the front end of a car, in combination with the bent levers E, connected by the bar F, journalled in the brackets G, the links I, pivoted at *c*, to the fender A, and at *d*, to the bent levers E, the pin or stop *c*, the trigger frame K, slidingly supported on the fender and pivoted at its rear end to the bent levers E, and the cord M, connected to the trigger frame K, at such a point as to serve both to trip and set the fender, substantially as and for the purpose specified. 8th. In a device of the class described, the fender A, having its rear end turned upwardly and pivotally and removably connected to the front end of a car, in combination with the bent levers E, connected by the bar F, removably journalled in the brackets G, the links I, pivoted at *c*, to the fender A, and at *d* to the bent levers E, the pin or stop *c*, and the trigger frame K, slidingly supported on the fender and pivoted at its rear end to the bent levers E, substantially as and for the purpose specified. 9th. In a device of the class described, the fender A, having its rear end turned upwardly and pivotally and removably connected to the front end of a car, in combination with the bent levers E, connected by the bar F, removably journalled in the brackets G, the links I, pivoted at *c*, to the fender A, and at *d*, to the bent levers E, the pin or stop *c*, the trigger frame K, slidingly supported on the fender and pivoted at its rear end to the bent levers E, and a rubber covered guard extending from side to side of the fender in front of the car end, substantially as and for the purpose specified. 10th. In a device of the class described, the fender A, having its rear end turned upwardly and pivotally connected to the front end of a car, in combination with the bent levers E, connected by the bar F, journalled in the brackets G, the links I, pivoted at *c*, to the fender A, and a *d*, to the bent levers E, the pin or stop *c*, the trigger frame K, slidingly supported on the fender and pivoted at its rear end to the bent levers E, and a tension spring or springs connecting the bar F, with the fender, substantially as and for the purpose specified.

No. 55,629. Gas Generator. (*Générateur à gaz.*)

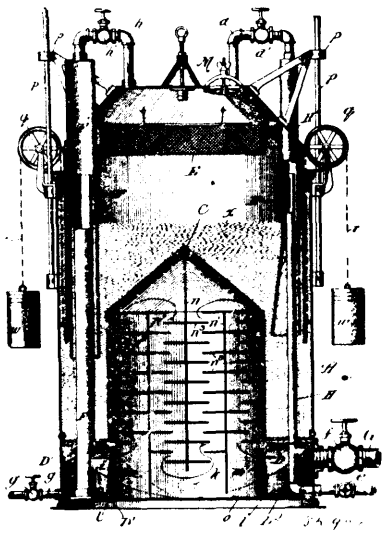


Pettibone, Mulliken & Co, assignee of Henry Frederick Fuller, both of Chicago, Illinois, U.S.A., 13th May, 1897; 6 years. (Filed 22nd January, 1897.)

Claim.—1st. In a gas-generator of the character described, the combination with the outer tank and the inner movable tank provided with a closed top, a plurality of hanger-rods of unequal lengths separately secured to the under side of said top, and depending inside the inner tank, a plurality of open work holders for the solid material, said holders being removably suspended from the lower ends of said holder rods, whereby they are caused to assume different heights with relation to the liquid-level in the generator, and a manhole in said top adjacent to the said holders to permit access thereto, provided with a closure, substantially as and for the purpose set forth. 2nd. In a gas-generator of the character described, the combination with the outer tank and the inner tank movable vertically therein, of a series of separate and independent holders for the solid material, each of which is suspended in the generator in fixed relation to the other and to the points of suspension at a different altitude from that of any other of the series, whereby the separate bodies of material are successively presented to the attacking liquid, substantially as described.

No. 55,930. Apparatus for Generating Acetylene Gas.

(*Générateur à gaz acetylène.*)



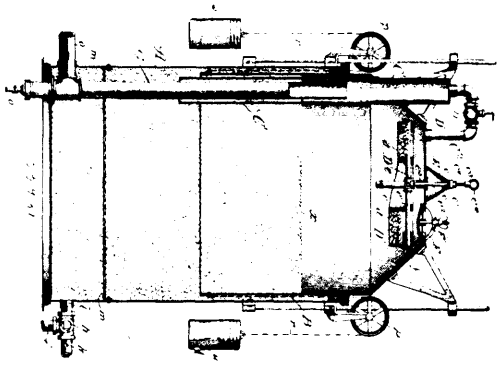
Pettibone, Mulliken & Co., assignees of Henry Frederick Fuller, all of Chicago, Illinois, U.S.A., 13th May, 1897; 6 years. (Filed 22nd January, 1897.)

Claim.—1st. The method of continuing the generation of acetylene gas from calcium carbide and water after an initial generation, which consists in conveying the generated gas through a conduit immersed in a body of water, thereby vaporizing the water by the heat of generation in the gas, and bringing the vapour thus obtained into contact with calcium carbide, substantially as described. 2nd. herein described method of producing acetylene gas which consists in bringing water into contact with calcium carbide, and thereafter conveying the generated gas through a conduit immersed in a body of water, thereby vaporizing the water by the heat of generation in the gas, and bringing the vapour thus obtained into contact with calcium carbide, substantially as described. 3rd. The method of continuing the generation of acetylene gas from calcium carbide and water, after an initial generation, which consists in scrubbing the gas and thereby abstracting its heat of generation, conducting the abstracted heat into water, thereby vaporizing the same, and bringing the vapour thus obtained into contact with calcium carbide, substantially as described. 4th. In a gas generator of the character described, the combination with the outer tank for containing water, and an inner movable tank, of a holder for the solid material supported in the upper part of the inner tank, an outlet for the generated gas, a telescoping stand-pipe communicating with the upper portion of the inner tank and communicating by a tortuous passage within the water and below the normal level thereof, with said outlet, substantially as described. 5th. In an apparatus for generating acetylene-gas from water and calcium carbide, the combination of the outer tank and the inner tank, a scrubber having a conical top and immersed in the body of water contained in the apparatus, an outlet for the generated gas, and a telescoping stand-pipe communicating with the upper portion of the inner tank and with said outlet through the scrubber, substantially as described. 6th. In an apparatus for generating acetylene-gas from water and calcium carbide, the combination of the outer tank and the inner tank, a holder for solid material in the upper part of the inner tank, an outlet for the generated gas, a telescoping stand-pipe communicating with the upper portion of the inner tank and communicating by a tortuous passage within the water and below the normal level thereof with said outlet, and extending through said tanks, and a telescoping combined air-vent and safety pipe communicating with the upper end of the inner tank and leading through said tanks out of the apparatus, substantially as described. 7th. In a gas generator of the character described, the combination with the outer tank for containing water, and the inner movable tank, of a holder for the

solid material supported in the upper part of the inner tank, a conduit communicating with the upper part of the inner tank, a gas-holding tank secured within the lower tank, forming with the wall thereof a water space, and into which said conduit leads, and an outlet for the generated gas leading from said gas-holding tank, substantially as described. 8th. In a gas generator of the character described, the combination with the outer tank for containing water and an inner movable tank, of a holder for the solid material supported in the upper part of the inner tank, a conduit communicating with the upper portion of the inner tank, a scrubber C provided with deflecting plates, secured within the lower tank and extending below the normal water-level and into which said conduit leads, and an outlet for the generated gas leading from said scrubber, substantially as described. 9th. A gas-generator comprising, in combination, the water-tank A having the hopper-shaped bottom D, provided with a discharge-outlet, the gas-outlet G and the condensation outlet g, the scrubber C rising from the base of the water-tank, stand-pipe F communicating from near its lower end with the gas-outlet through said scrubber, the inner movable tank carrying the pipe F^1 telescoping with said stand-pipe and having a valve-controlled pipe-connection h with said inner tank through its top, a valve-controlled pipe H extending upward in the generator from near its base, and a pipe H^1 carried by the inner tank and telescoping with said pipe H and having a valve-controlled pipe-connection d with said inner tank through its top, the whole being constructed and arranged to operate, substantially as described.

No. 55,931. Gas Generator for Acetylene.

(*Générateur à gaz acelylène.*)



Pettibone, Mulliken & Co, assignees of Henry Frederick Fuller, all of Chicago, Illinois, U.S.A., 13th May, 1897; 6 years. (Filed 22nd January, 1897.)

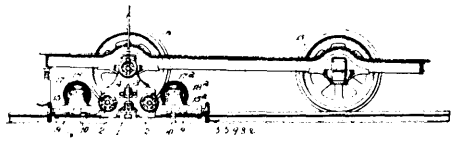
Claim.—1st. In a gas-generator of the class described, a holder for the solid material, comprising a shelf having partitions at intervals on its upper side forming compartments, said shelf inclining downward within the generator with relation to the liquid-level therein, substantially as and for the purpose set forth. 2nd. In a gas generator of the character described, a holder for the solid material, comprising a shelf rotatably supported in the generator with relation to the manhole thereof and inclining downward with relation to the liquid-level in the generator, substantially as and for the purpose set forth. 3rd. In a gas-generator of the character described, a holder for the solid material, comprising a shelf having a helically inclined open-work base, substantially as and for the purpose set forth. 4th. In a gas-generator of the character described, a holder for the solid material, comprising a shelf having a helically inclined open-work base and partitions provided at entervals to form compartments, substantially as and for the purpose set forth, 5th. In a gas-generator of the character described, a holder for the solid material, comprising a shelf having a helically inclined open-work base and rotatably supported in the generator with relation to the manhole thereof, substantially as and for the purpose set forth. 6th. In a gas-generator of the character described, a holder D for the solid material, comprising an open-work base d extending helically about a centre g, the outer and inner circumferential flanges f and f^1 and the radial partitions f^2, a frame connected with said holder, a stem e^2 extending from the centre of the frame through the top of the generator, and a bearing E on the top of the generator in which said stem is supported, substantially as and for the purpose set forth.

No. 55,932. Mechanism for Grinding Car Wheels.

(*Mécanisme pour le polissage des roues de chars.*)

John Murphy, Pittsburg, Pennsylvania, U.S.A., 13th May, 1897; 6 years. (Filed 18th February, 1897.)

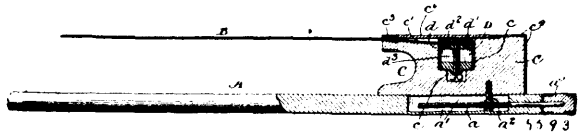
Claim.—1st. A mechanism for grinding car and locomotive wheels, having in combination two movable centreing devices adapted to engage and hold the axle of the wheels as against lateral movements, means for moving the centreing devices towards and from each other, and a grinding wheel and means for shifting the position of the grinding wheel with relation to the centreing devices, substantially as set forth. 2nd. A mechanism for grinding car and locomotive wheels, having in combination two head-blocks, means for moving the head-blocks toward and from each other, axle



centreing devices mounted on the head-blocks, a grinding wheel mounted on each of the head-blocks, and means for shifting the grinding wheels, substantially as set forth. 3rd. A mechanism for grinding car and locomotive wheels, having in combination two head-blocks, means for moving the head-blocks toward and from each other, axle centreing devices mounted on the head blocks, two grinding wheels mounted on each of the head-blocks on opposite sides of the centreing device, and means for shifting the grinding wheels, substantially as set forth. 4th. A mechanism for grinding car and locomotive wheels, having in combination two head-blocks, means for simultaneously moving the head-blocks toward and from each other, axle centreing devices mounted on the head-blocks, a grinding wheel mounted on each of the head-blocks, and means for shifting the grinding wheels, substantially as set forth.

No. 55,933. Bow for Stringed Instruments.

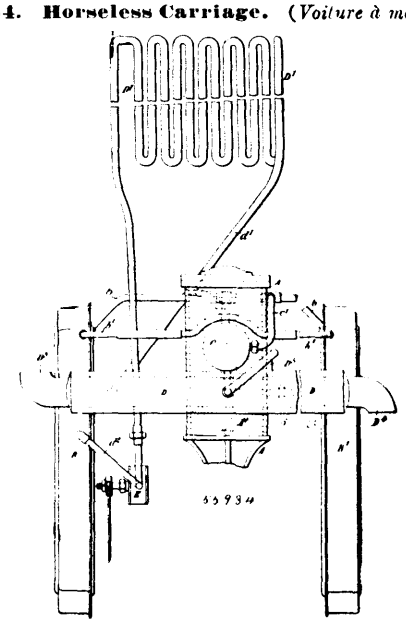
(*Archets pour instruments à cordes.*)



Julie Kretschmar, Administratrix of the Estate of Albert G. Kretschmar, Duluth, Minnesota, U.S.A., 13th May, 1897; 6 years. (Filed 24th February, 1897.)

Claim.—1st. A hair-clamp for a bow for stringed instruments, provided with a cap above the hairs, a passage for the hairs below the cap, and a clamping-plunger made adjustable toward the hairs by means of a screw adapted to be fitted in a frog, and which is adjustable longitudinally, substantially as described. 2nd. In a violin-bow, the combination with a movable frog of a hair-clamp mounted therein, and comprising a clamping box having horizontal slots cut in its walls for the insertion of the ends of the hair, a plunger in said box, and a sorow for moving said plunger toward the top of the box whereby the hair is clamped between it and the top of the box, substantially as described.

No. 55,934. Horseless Carriage. (*Voiture à moteur.*)



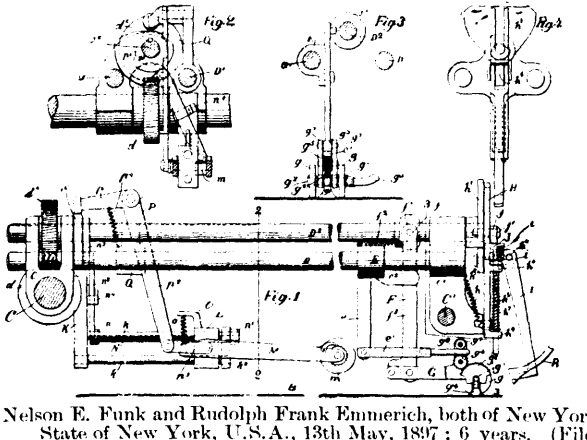
The Anglo-French Motor Carriage Co, Digbeth, Birmingham, assignee of Edmund Gascoine, Jr., College Road, Maidstone, Kent, both in England, and Charles Daniel Courtois, Leon, France, 13th May, 1897; 6 years. (Filed 25th February, 1897.)

Claim.—1st. The combination for cooling the water of circulation and condensing steam, of a spiral water jacket surrounding the working cylinder of the engine, a tubular water cooler composed of sinuous pipes which are externally freely exposed to the atmosphere, a condenser provided with an internal air pipe through which a

current of cool air is caused to pass by the movement of the car as it travels along, and a circulating pipe for causing the water to circulate through the system of cooling pipes and chambers. 2nd. The combination for enabling the driver to readily back the car, of two pulleys of unequal size on the driving shaft of the motor separated by a loose pulley, a stepped pulley on the intermediate or driven shaft with a loose pulley on each side of said stepped pulley, crossed belts for gearing the stepped pulley on the driven shaft with the unequal sized pulleys on the driving shaft, an open belt gearing the loose pulley on the driving shaft with the stepped pulley on the driven shaft and a belt shifter operated by a hand lever and suitable cords or chains passing around pulleys, whereby the driver is enacted by merely operating the aforesaid handle, to instantly shift the aforesaid open belt from its loose pulley on to the adjacent pulley on the driving shaft when the car is to be driven backwards or to return the said belt to its position on the loose pulley. 3rd. The combination for changing the speed of the car from fast to slow or vice versa, by the operation of a single handle, of a disc provided with two series of teeth, a pair of belt shifters each having rack teeth and adapted to respectively gear with the aforesaid rack teeth but normally remaining out of gear therewith, and gearing transmitting the movement of the handle to said toothed disc, so that as the handle is moved in one direction, one belt shifter will be operated and as the handle is moved in the opposite direction the other belt shifter will be operated. the said handle when in its mid position being temporarily retained in such position by a notch and both straps being then kept out of action. 4th. A rocking shaft operated by a treadle to actuate the brake and provided with arms connected by cords or the like to the belt shifters, so that whichever belt occupies its active position, will be thrown out of action simultaneously with the application of the brake.

No. 55,935. Paper Feeding Machine.

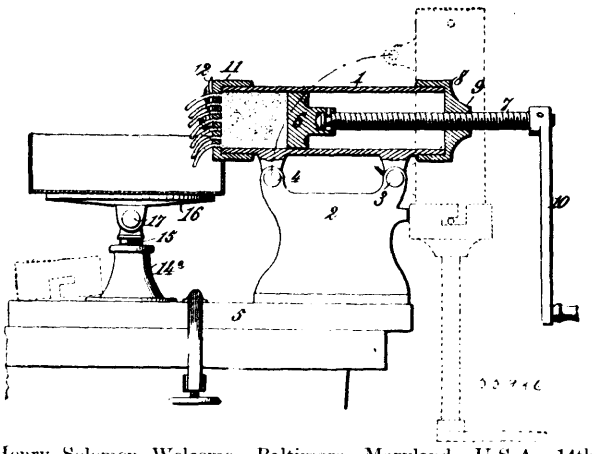
(*Machine pour l'alimentation de papier.*)



Nelson E. Funk and Rudolph Frank Emmerich, both of New York, State of New York, U.S.A., 13th May, 1897; 6 years. (Filed 18th February, 1897.)

Claim.—1st. In a paper feeding machine, a device for lifting the edge of the top sheet of a stack from the next succeeding sheet, comprising a carriage having rollers adapted to roll along the top sheet, a suction device on the carriage adapted to engage the said top sheet and means for positatively rotating the rolls as the carriage is moved back along the sheet to positively roll the edge of the top sheet upwardly, substantially as set forth. 2nd. In combination, a suitable supporting bracket, a vertically sliding plate secured thereto, a vertically sliding rod mounted in the plate, a presser foot carried by said rod, means for yieldingly holding the presser foot at the limit of its downward movement relative to the plate, means for yieldingly holding the plate at the limit of it upward movement relative to the bracket and an operating shaft having an eccentric thereon adapted to engage the plate for depressing it for causing the presser foot to engage the stack of the paper, substantially as set forth. 3rd. In combination, the supporting bracket, a vertically sliding plate secured thereto, a vertically sliding rod mounted in said plate, a swinging presser foot carried by said rod, means for yieldingly holding the presser foot at the limit of its downward movement relative to the plate, means for yieldingly holding the lower end of the presser foot at the limit of its inwardly swinging movement, means for yieldingly holding the plate at the limit of its upward movement, and a shaft having eccentrics thereon, the one adapted to release the presser foot and allow it to swing inwardly, and the other adapted to depress the plate and the presser foot to cause the presser foot to engage the stack of paper, substantially as set forth. 4th. A paper advancing mechanism, comprising a sliding block, a support therefor, a rocking lever pivoted on the block and carrying a paper gripper on one arm and a guide roller on the other arm, a guide bar engaging the guide roller, means for raising and lowering the guide bar to raise and lower the gripper, and means for sliding the block along its support for advancing the top sheet of paper and bringing the gripper back into position to engage the next succeeding sheet of paper, substantially as set forth.

No. 55,936. Compressor, Mixer and former for Suppositories, etc. (*Compresseur, mélangeur et mandrin pour suppositoires, etc.*

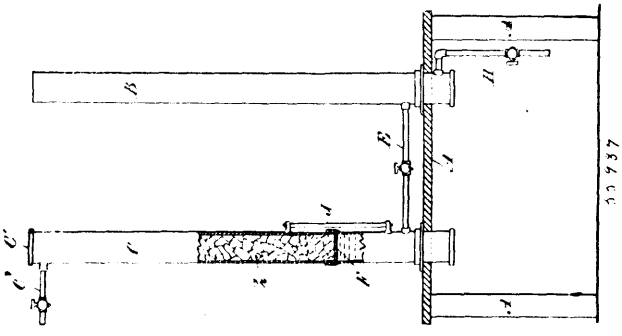


Henry Solomon Welcome, Baltimore, Maryland, U.S.A., 14th May, 1897; 6 years. (Filed 25th February, 1897.)

Claim.—1st. In an apparatus for manufacturing suppositories and other medicinal compounds, the combination of a cylinder externally smooth at its front end, and a nozzle internally smooth and detachably secured on the cylinder by external fastenings to avoid screw threads and prevent accumulation of drugs in internal crevices or pockets, substantially as described. 2nd. In an apparatus for manufacturing suppositories and other medicinal compounds, the combination of a cylinder. a plunger-head, means for moving the plunger-head, a rose-head detachably secured to the cylinder, and a cutter for subdividing the compound as it issues from the rose-head, substantially as described. 3rd. In an apparatus for manufacturing suppositories and medicinal compounds, the combination of a cylinder externally smooth at its front end, and the interchangeable rose-head and nozzle-head, constructed to be detachably secured to the front end of the cylinder and having smooth internal surfaces to avoid screw threads and prevent accumulation of drugs in internal crevices or pockets, substantially as described. 4th. In an apparatus for manufacturing suppositories and other medicical compounds, the combination of a cylinder externally smooth at its front end, the interchangeable rose-head and nozzle-head, the plunger-head in the cylinder, and the screw-shaft having a swivel connection with the plunger-head for positively moving the same in both directions, substantially as described. 5th. In an apparatus for manufacturing suppositories and other medicinal compounds, the combination of a cylinder, a plunger, a screw-shaft for driving the plunger, a rose-head detachably secured to the cylinder, and a cutter mounted on the rose-head for subdividing the compound as it issues in filaments from the rose head, substantially as described.

No. 55,937. Acetylene Gas Generator.

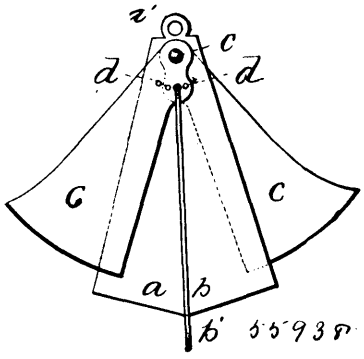
(*Générateur à gaz acetylène.*)



Robert E. Harkin, Hull, Quebec, Canada, 14th May, 1897; 6 years. (Filed 27th February, 1897.)

Claim.—1st. An acetylene gas generator, comprising two connected vertical cylinders B, C, the cylinder B, containing a column of calcium carbide or other gas-producing solid matter, and the other cylinder a fluid, said cylinder B, closed at the top and adapted to connect with the service pipes, whereby over-production of gas is diminished by the pressure forcing the fluid around the column to a lower level, as set forth. 2nd. An acetylene gas generator, comprising two vertical cylinders or pipes B, C, closed at the bottom and connected by a tube E, the cylinder C, closed at the top and provided with a connecting outlet C^2, and having an internal perforated diaphragm or floor F, and a supporting stand or base A, substantially as set forth, and operating as described.

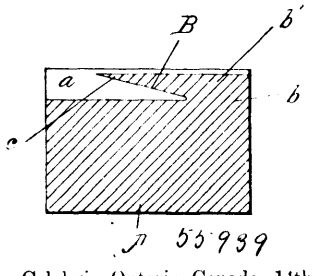
No. 55,938. Fishing Tackle. (*Attirail de pêche.*)



Darwin Van Rensselaer Miller, Weedsport, New York, U.S.A., 14th May, 1897; 6 years. (Filed 2nd March, 1897.)

Claim.—1st. A device for preventing the rotation of a trolling line, comprising a thin body secured to the line in advance of the hook. 2nd. The herein described improvement in fishing tackle, comprising a thin body increased in size approaching the rear end. 3rd. The herein described improvement in fishing tackle, comprising a thin body having an eye at one end, and a spring hook at the other, forming a loop as set forth. 4th. The herein described improvement in fishing tackle, comprising a thin body increasing in size approaching its rear end, an eye in the forward end, a spring hook at the rear end, the free end of said hook extending the plane of the body, and the extreme end bent to engage with the eye in the forward end of the body. 5th. The herein described improvement in fishing tackle, comprising a body with lateral wings pivoted thereto, and means for securing them in an extended position.

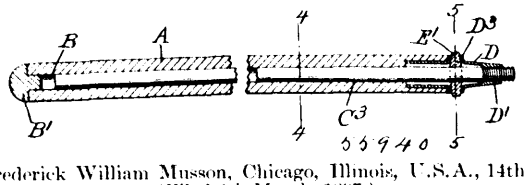
No. 55,939. Envelope Opener.
(*Appareil à ouvrir les enveloppes.*)



William Fairbairn, Calalgic, Ontario, Canada, 14th May, 1897; 6 years. (Filed 4th March, 1897.)

Claim.—1st. An envelope opener, comprising a grooved block and a knife blade projecting upwardly within the said groove in the block, substantially as set forth. 2nd. An envelope opener, comprising a block provided with a longitudinal groove having inclined and diverging portions at its rear end, an angular projection between the said portions of the groove, and an inclined knife blade projecting from the said projection and arranged centrally of the said groove, substantially as set forth.

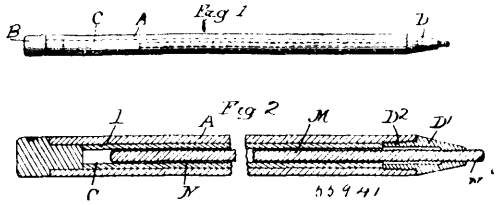
No. 55,940. Lead Pencil. (*Crayon.*)



Frederick William Musson, Chicago, Illinois, U.S.A., 14th May, 1897; 6 years. (Filed 4th March, 1897.)

Claim.—1st. In an automatic lead pencil, the combination of a body having a longitudinal aperture with a cross-section other than circular, with a lead having a cross-section to fit the aperture and thus prevent its rotation, a tip through which the lead passes, an annular chamber in the tip, and a thumb nut in the annular chamber through which the lead passes, and whereby it is reciprocated. 2nd. In an automatic lead pencil, the combination of a body having a longitudinal aperture with a cross-section other than circular, with a lead having a cross-section to fit the aperture and thus prevent its rotation, a tip through which the lead passes, a thumb nut back of the point of the tip and surrounding the lead, and free to rotate but not to move longitudinally with the lead. 3rd. In an automatic lead pencil, consisting of a body having a longitudinal aperture, a lead screw-threaded throughout its length, and of such size as to snugly fit and make a holding frictional engagement with the walls of the aperture, and a device engaging the threads of the lead and rotatably mounted on the body so as when rotated to reciprocate the lead along the body. 4th. In an automatic lead pencil the combination of a body with a central longitudinal aperture, a lead therein shaped so as to have a cross-section other than circular, a threaded device which engages the surface of the lead and reciprocates it when the lead is rotated, and a thumb-controlled device associated with the body and adapted to rotate the lead. 5th. In an automatic lead pencil, the combination of a body having a central aperture, with a lead which is free to reciprocate and rotate therein, a screw-thread on the inside of the body to engage the lead, and a thumb-controlled washer through which the lead passes and whereby it is turned. 6th. In an automatic lead pencil, the combination of a body with a central longitudinal aperture, a lead having a cross-section other than circular, and free to rotate and reciprocate in the aperture, a screw-threaded part in the aperture adapted to engage the lead, and a thumb-controlled washer having an aperture which fits the lead and which when turned rotates the lead.

No. 55,941. Lead Pencil. (*Crayon.*)



Frederick William Musson, Chicago, Illinois, U.S.A., 14th May, 1897; 6 years. (Filed 4th March, 1897.)

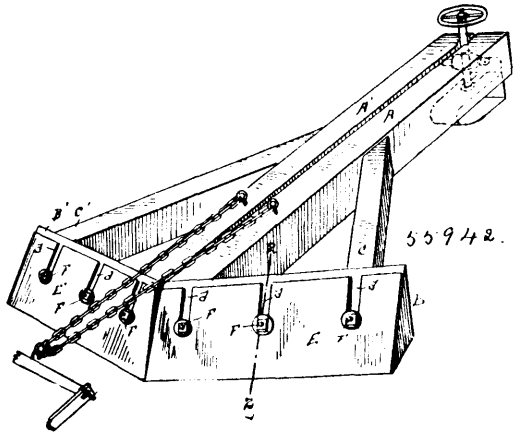
Claim.—1st. In a movable lead pencil, the combination of a cylindrical body with a tip portion consisting of an internally screw-threaded tip and parts received into slots in the body so as to hold the tip in position in fixed relation to the body, means for removably attaching the tip to the end of the case, and a screw-threaded free lead to be received in the screw-threads on the tip. 2nd. As a new article of manufacture, a lead pencil with a removable lead, consisting of a case having a longitudinal aperture, a removable and outwardly projecting but normally fixed tip on the case having an internally screw-threaded aperture, and a free lead screw-threaded throughout its length and received in the tip, so that the lead can be reciprocated by being rotated by hand, and lead and tip can be removed from the case together. 3rd. As a new article of manufacture, a lead pencil consisting of a case composed of a substance capable of being cut with a knife, and having an enlarged aperture, an internally threaded relatively long tip portion, a free lead threaded and adapted to engage the internal thread of the case, so that the lead can be reciprocated by being rotated by the hand, and when broken off at the point the case can be cut down to uncover the lead. 4th. A lead pencil comprising a continuous case having a cylindrical body with a tip shaped in the usual manner, a relatively long internally screw-threaded aperture at such tip of the pencil to receive the lead, the aperture of the cylindrical body being of such cross section as to permit free motion of the lead, and the length of the tip being such as to permit the same to be cut down to sharpen the pencil and uncover the lead when occasion may require, substantially as described. 5th. A lead pencil comprising a case with an internal aperture, an internally threaded tip, a lead adapted to be rotated in the tip and thus to have a groove cut thereon to be reciprocated therethrough. 6th. A lead pencil comprising an outer portion with a central longitudinal aperture, an internally threaded tip removably attached to the outer portion, and a free lead adapted to be received into the tip and when turned to reciprocate therethrough, the thread being formed on it by the thread of the tip. 7th. In a lead pencil, the combination of an outer portion with a longitudinal aperture, a series of lead holding apertures in the outer portion, a tip internally screw-threaded and associated with the outer portion, and a free lead adapted to be rotated in the tip and thus to be reciprocated by means of the thread thereof. 8th. In a lead pencil, the combination of an outer portion with a longitudinal aperture, a series of lead holding apertures in the outer portion, a tip internally screw-threaded and associated with the outer portion, and a free lead adapted to be rotated in the tip and thus to be reciprocated by means of the thread thereof, said tip being removably associated with the outer portion. 9th. A lead pencil comprising an outer portion with a longitudinal aperture, a tip removably attached to the outer portion, consisting of two interlocking parts, and a free lead adapted to be passed through the tip. 10th. A lead pencil comprising an outer case, an inner free lead, and a cushion surrounding the free lead.

No. 55,942. Ice Planer. (*Appareil à trancher la glace.*)

Joseph Pepin, Springfield, Massachusetts, U.S.A., 14th May, 1897; 6 years. (Filed 5th March, 1897.)

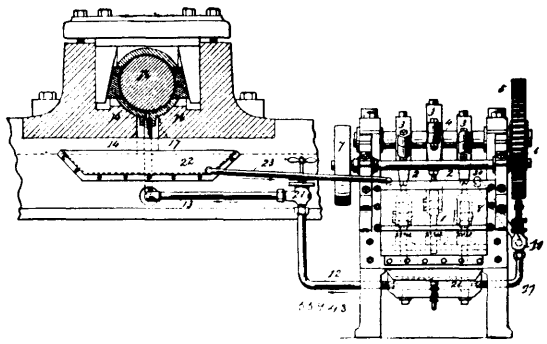
Claim.—1st. An ice-frame, consisting of a pair of frames hinged together, a planer-knife adjustably secured to the forward end of

each of said frames, and an adjustable support for the rear ends thereof, consisting of a screw having vertical movement there-



through and engaging a nut fixed between said frames, and a runner secured to the lower extremity of said screw, substantially as set forth. 2nd. An ice-planer, consisting of a pair of knife-frames hinged together, a planer-knife secured to the forward end of each frame, and an adjustable support for the rear ends of said frame, combined and operating substantially as set forth.

No. 55,943. Apparatus for Lubricating Heavy Bearings or Journals. (*Appareil à lubrifier les coussinets.*)



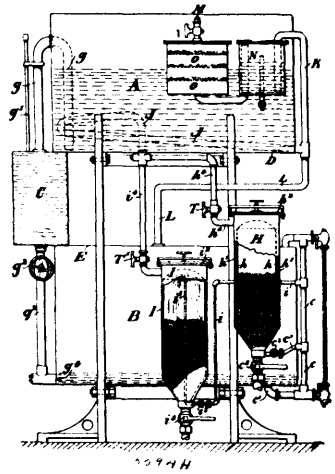
James Lumb, York, England, 14th May, 1897 ; 6 years. (Filed 17th March, 1897.)

Claim.—1st. The employment of a series of pumps or equivalents for forcing lubricant or liquid to shafts or rolling or bearing surfaces of machinery, with sufficient power as to separate the rolling or moving surfaces from their bearings for the better distribution of lubricant or liquid and thereby maintain a continuous lubrication of the parts, all arranged and operating in the manner described. 2nd. The employment of a series of pumps or equivalents in combination with an accumulator for forcing the lubricant or liquid with sufficient power as to separate the rolling or moving surfaces from their bearings for the better distribution of lubricant or liquid and thereby maintain a continuous lubrication of the parts, all arranged and operating in the manner described. 3rd. For lubricating the bearings of heavy machinery, the formation of wells or recesses 17 in the footstep, as shown in Figure 2, so as to enlarge or increase the power or pressure of lubricant when used in combination with pumps, as herein described and illustrated. 4th. The general arrangement, combination and construction of parts, consisting of force pumps or equivalent means, oil or liquid tanks, inlet pipes, together with return and relief valves, with or without accumulators, all employed for lubricating the surfaces of machinery, arranged substantially as herein described and illustrated in the drawings.

No. 55,944. Apparatus for Generating Acetylene Gas. (*Générateur à gaz acetylène*)

Frederick Henry Haviland, St. Peter's Chambers, Bournemouth, Hants, and William Henry Murch, Cradley Heath, Stafford, both in England, 14th May, 1897 ; 6 years. (Filed 19th March, 1897.

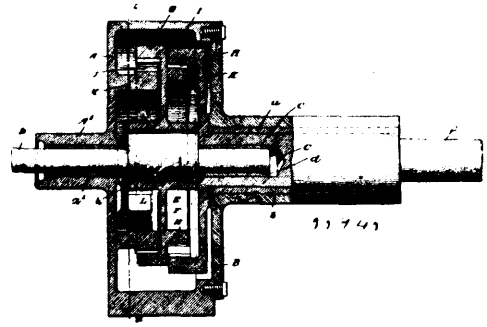
Claim.—1st. An improved apparatus for generating acetylene gas, consisting essentially of a water cistern, a gas holder, a generator having a wick through which the water reaches its interior, and pipes connecting the same, all constructed and operating substantially as shown and described. 2nd. An improved apparatus for generating acetylene gas, consisting essentially of a water cistern, a gas holder, a generator having a drip pipe through which the water reaches its interior, and pipes connecting the same, all constructed and operating substantially as shown and described. 3rd.



In an apparatus for generating acetylene gas, the combination of the water vessel A, the pipe g, the pressure cylinder C, the pipe g^2, the gas holder B, the pipe c, the generator H, having an inner vessel or liner h, with a wick h^1 interposed between the two, the pipe h^4, the coil J and the pipes K and L, the whole constructed and operating, substantially as shown and described. 4th. In an apparatus for generating acetylene gas, the combination of the water vessel A, the pipe g, the pressure cylinder C, the pipe g^2, the gas holder B, the pipe c, the generator I having a drip pipe i^1, the pipe i^4, the coil J and the pipes K and L, the whole constructed and operating substantially as shown and described. 5th. In an apparatus for generating acetylene gas, the combination of the water vessel A, the pipe g, the pressure cylinder C, the pipe g^2, the gas holder B, the pipe c, the pipe c^x and i, two or more generators at different levels, the pipes h^4 and i^4, the coil J, the pipes K and L and the pipe M, the whole constructed and operating substantially as shown and described. 6th. In an apparatus for generating acetylene gas, the combination of the water vessel A, the pipe g, the pressure cylinder C, the pipe g^2, the gas holder B, the pipe c, the pipes c^x and i, two or more generators at different levels, the pipes h^4 and i^4, the coil J, the pipes K and L, the purifying chamber N, the drying chamber O, and the pipe M, the whole constructed and operating substantially in the manner shown and described.

No. 55,945. Power Transmitter.

(*Appareil de transmission de la force.*)

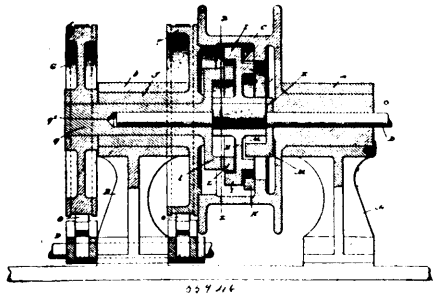


Annie Frances Regan, Brooklyn, New York, U.S.A., administratrix of the Estate of Daniel S. Regan, 14th May, 1897 ; 6 years. (Filed 3rd April, 1897.)

Claim.—1st. In a power-transmitter, the combination of a stationary oil-tight casing and standard having shaft-bearings on the opposite sides thereof, a driving-shaft supported in one of said bearings, an eccentric fixed on said shaft and revolving therewith, a combined external and internal gear-wheel revolving upon and driven by the eccentric, a driven shaft supported in the other shaft-bearing and having a recess in one end receiving the driving-shaft, a gear-wheel on said driven shaft engaging one of the gears of the combined gear-wheel, and a stationary gear-wheel on the interior of the stationary casing engaging the other one of the gears of the combined gear-wheels, substantially as described. 2nd. In a power-transmitter, the combination of the stationary oil-tight casing and standard having shaft-bearings on the opposite sides thereof, a driving shaft supported in one of said bearings, an eccentric fixed on said shaft and revolving therewith, a combined external and internal gear-wheel revolving upon and driven by the eccentric, a driven shaft supported in the other shaft-bearing and receiving the driving-shaft in one end thereof, a gear-wheel on said driven shaft

engaging the external gear of the combined gear-wheel, and a stationary external gear-wheel on the interior of the casing engaging the internal gear of the combined gear-wheel, substantially as described.

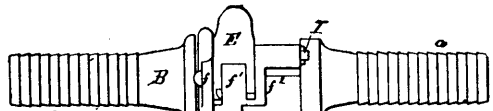
No. 55,946. Hoisting Mechanism. (*Ascenseur.*)



Annie Frances Regan, Brooklyn, New York, U.S.A., administratrix of the Estate of Daniel S. Regan, 14th May, 1897; 6 years. (Filed 13th April, 1897.)

Claim—1st. In a hoisting mechanism, the combination of a hoisting drum having on one side a central horizontal journal, a brake-wheel on said drum, said drum also having a horizontal sleeve-like journal located oppositely to the first-mentioned journal, the bearings supporting the said journals, the same being in horizontal alignment with each other, a second brake-wheel, a shaft which is supported within the sleeve-like journal, and to which said second brake-wheel is attached, a gear-wheel on said shaft within the drum, a drive shaft which revolves within the aforesaid shaft and also within the drum journal, an eccentric on said drive shaft, and a gearing connection between said eccentric and the drum and the aforementioned gear-wheel, substantially as described. 2nd. In a hoisting mechanism, the combination of a hoisting drum having on one side a central horizontal journal, a brake-wheel on the drum, said drum also having a horizontal sleeve-like journal, bearings for the two journals located in horizontal alignment with each other, a second brake-wheel, a shaft located within the sleeve-like journal of the first brake-wheel, to which shaft the second brake-wheel is attached, an external gear-wheel on said shaft within the drum, a drive shaft supported in the drum journal and also in a recess in the aforesaid gear-carrying shaft, an internal gear-wheel on the inside of the drum, an eccentric on the drive shaft, a combined-external-and-internal-gear-wheel revolving loosely upon and driven by the eccentric, and respectfully engaging the external gear attached to the gear-carrying shaft, and the internal gear carried on the interior of the drum, and suitable brake mechanism operating in connection with the two brake-wheels, substantially as described. 3rd. In a hoisting mechanism, the combination of a drum having a central horizontal journal, a brake attached to the drum, which drum has also a sleeve-like horizontal journal, bearings supporting the said journals in alignment with each other, a second brake-wheel, a shaft that revolves within the sleeve-like journal and carries said second brake-wheel, an external gear wheel on said shaft and within the drum, said shaft having a recess extending through or partially through it, a drive shaft supported within the drum journal and the gear-carrying shaft, an eccentric on said drive shaft within the drum, a combined external and internal gear-wheel revolving upon said eccentric and engaging the gear on the gear-carrying shaft, and an internal gear on the drum engaging the said combined gear-wheel, brake mechanism operating independently for either of the brake-wheels, all arranged so that the rate of rotation of the drum may be reduced below that of a high-speed drive shaft, substantially as described. 4th. In a hoisting mechanism, the combination of a revolving drum having hollow journals on each side, bearings supporting said journals, a shaft supported and revolving within the hollow journals of the drum, an eccentric on said shaft, a combined-external-and-internal-gear-wheel revolving upon and driven by the eccentric, and the external and internal gear-wheels engaging the combined gear-wheel, one of which gear-wheels is on the drum, and the other of which is on a shaft supported in one of the drum journals.

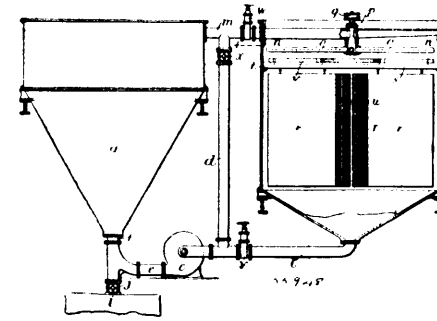
No. 55,947. Hose Coupling. (*Joint de boyaux.*)



Irvin Parker Doolittle, Redlands, California, U.S.A., 14th May, 1897; 6 years. (Filed 13th April, 1897.)

Claim.—1. In a coupling, a female section having an internal shoulder forming a seat for a packing washer or gasket and provided in front of said shoulder with an annular groove or recess which receives said washer, the front wall of said groove extending inwardly beyond the edge of the washer, to form an auxiliary shoulder whereby the washer is confined in the groove, substantially as set forth. 2nd. A coupling consisting of a female section, provided with a socket having an enlarged front portion and a reduced rear portion of larger diameter than the remaining bore of the section, forming an internal annular shoulder, and provided in front of said shoulder with an annular groove or recess the rear wall of which is formed by said shoulder, a washer or gasket arranged in said groove, the front wall of the groove extending inwardly beyond the edge of the washer for confining the latter, a locking lever carried by said female section and having a jaw passing through a slot or recess in the wall of the section, and a male section having a reduced portion fitting into the small bore of the socket of the female section and an enlarged portion fitting into the small bore of said socket and provided with a groove or recess which receives the jaw of the locking lever, substantially as set forth. 3rd. In a coupling, the combination with a male section having an annular groove, of a female section receiving the male section and carrying a cam lever which extends through the wall thereof and bears against the front side of the groove of the male section, substantially as set forth. 4th. A coupling consisting of a male section having a shoulder, a female section receiving the male section, a coupling lever pivoted to the female section and interlocking with the shoulder of the male section, and a locking device for retaining said lever in its normal position, substantially as set forth. 5th. A coupling consisting of a male section having a shoulder, a female section receiving the male section, a cam lever carried by the female section and interlocking with the shoulder of the male section, and a spring catch interlocking with said cam lever, substantially as set forth. 6th. A coupling, consisting of a male section having a shoulder, a female section receiving the male section and carrying a transverse cam lever which interlocks with the shoulder of the male section and which is provided in its side with a locking recess, and a spring bolt guided on the female section and engaging in the locking recess of the cam lever, substantially as set forth. 7th. In a coupling, the female member thereof having a segmental opening in its edge and provided with an ear and a lower shoulder, the edge of said member being inclined or bevelled back across the front of said shoulder, combined with a locking lever pivoted to said ear and having a cam or wedge adapted to enter said segmental opening, substantially as set forth. 8th. In a hose coupling, the combination of a male section having a head and an annular shoulder, a female section having on its edge a shoulder or lip, the edge of said female section being inclined or bevelled back across the front of said shoulder, said female section also having an edge opening opposite said shoulder or lip, and a lever, provided with a cam or wedge, pivoted to the female section in its edge opening and adapted to engage the annular shoulder of the male section, substantially as set forth. 9th. In a hose-coupling the combination of a male section having a head and an annular shoulder, a female section having on its edge a shoulder or lip, the edge of said female section being inclined or bevelled back across the front of said shoulder said female section having also an edge opening opposite said shoulder or lip, a lever provided with a cam or wedge, pivoted to the female section in its edge opening and adapted to engage the annular shoulder of the male section, and a washer placed between said coupling sections the construction being such that in uniting the two sections the said inclined or bevelled edge shall allow the shoulder of the male section to be hooked over the shoulder or lip of the female section and afterward brought with its face parallel to the face of the female section ready to be drawn into tight engagement therewith by the wedge like action of the locking lever, substantially as set forth.

No. 55,948. Ore Separator. (*Séparateur de minerai.*)

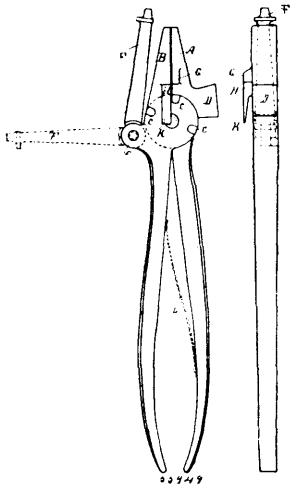


Beda Becker, Hufergasse, 13 Euper, Germany, 14th May, 1897; 6 years. (Filed 13th April, 1897.)

Claim.—1st. In apparatus for extracting precious metals from minerals containing them the combination of a dissolving vat with a circulating pump or its equivalent, with suction and discharge pipes and a valved discharge substantially as and for the purpose set forth. 2nd. In combination with the dissolving vat above referred to, amalgamating pleats attached to its sloping sides, substantially as described. 3rd. In combination with a dissolving vat such as is above referred to, a nozzle to the discharge pipe having helical passages

substantially as and for the purpose set forth. 4th. In combination with the dissolving vat above referred to an electrolytic vat with connecting pipes and valves and with electrodes arranged therein, substantially as described. 5th. The herein described method of treating minerals containing precious metals for extraction of the metals therefrom by causing the crushed mineral mixed with solvent solution to circulate or pass through a dissolving vat or several of these which may contain amalgamating plates and also through an electrolytic vat.

No. 55,949. Combination Tool. (*Outil à combinaison.*)

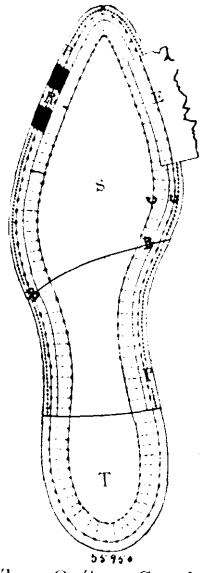


James Ingells and Miles Birkett, both of Brantford, Ontario, Canada, 14th May, 1897; 6 years. (Filed 12th January, 1897.

Claim.—In a tool, the combination of pincer arm A, hammer-shaped enlargement D, wire cutters C, and side projection G, pincer arm B, hinged lever F, wire cutters C, side projection H and hook K, substantially as and for the purposes hereinbefore set forth.

No. 55,950. Turned Sole for Slippers.

(*Soulier retourné à semelle à rivet avec piqure apparente.*)



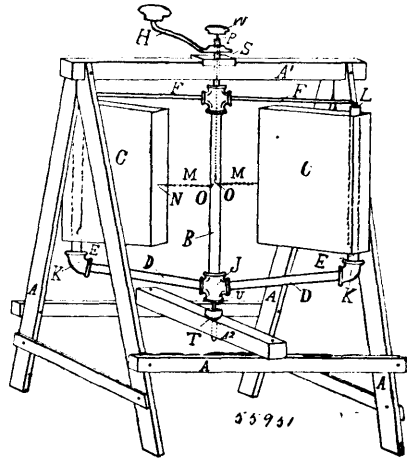
Eugène Blouin, Québec, Québec, Canada, 15 mai 1897; 6 ans. (Déposé le 31 mars 1897.)

Résumé.—1° Le rivet R ajouté à la semelle S, soit posé sur la semelle même, soit placé dans une entaille et substituée partiellement ou entièrement à l'entaille enlevée à la semelle, tel que décrit ci-dessus. 2° La piqure P qui sert à lier le rivet R et la semelle S, tel que plus haut spécifié.

No. 55,951. Machine for Extracting Honey from the Comb. (*Machine pour extraire le miel des rayons.*)

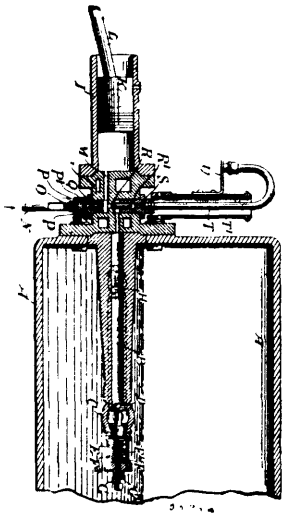
William John Hinchey, Marlbank, Ontario, Canada, 15th May, 1897; 6 years. (Filed 15th April, 1897.)

Claim.—1st. In a honey extractor, the combination with the rotary vertical shaft B, of the drain-dipes D, D, and arms F, F, supporting the comb and honey receptacles C, C, containing wire-cloth comb-supporting cages, substantially as and for the purpose



hereinbefore set forth. 2nd. In a honey extractor, the combination with comb and honey receptacles mounted upon a rotary vertical shaft, of pipes for automatically draining the extracted honey therefrom, substantially as described. 3rd. In a honey extractor, the combination with the stand or frame A, A, A, A, suitably constructed, of a rotary vertical shaft B, mounted thereon, bearing the comb and honey receptacles C, C, the drain-pipes connected therewith, and means for rotating the said shaft, substantially as set forth. 4th. In a honey extractor, the combination with the hollow vertical shaft B, of the arms F, F, and drain-pipes D, D, rigidly attached thereto, and supporting the reversible comb and honey receptacles C, C, and means for reversing the said receptacles, substantially as and for the purpose hereinbefore set forth. 5th. In a honey extractor, the combination with the reversible comb-holding receptacles C, C, of chains or cords M, M, for reversing the said receptacles, suitably connected to a rod or plunger T, working within the hollow rotary vertical shaft B, substantially as and for the purpose hereinbefore set forth.

No. 55,952. Steam Generator. (*Générateur de vapeur.*)

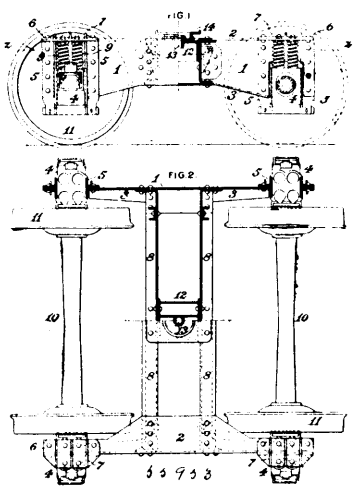


Charles William Siddle, Chapel Hill, and Robert Field, Byram Arcade, both in Huddersfield, Yorkshire, England, 15th May, 1897; 6 years. (Filed 13th April, 1897.)

Claim.—1st. The generation of steam or the heating of liquids or fluids by the products of combustion, resulting from the explosion or firing of an explosive mixture or substance from an explosion chamber direct into the boiler or vessel, substantially as herein set forth. 2nd. For generating steam or heating liquids or fluids by the explosion or firing of an explosive mixture or substance direct into the vessel or boiler containing same, the employment in combination with said steam boiler or vessel of an explosion chamber situated in the water space and having a non return valve or valves at the outlet end, and the method of and means for supplying charges of explosive mixtures or substances thereto, and of firing or exploding same, substantially as herein shown and described. 3rd. In the generation of steam or heating of liquids or fluids by the explosion or firing of an explosive mixture or substance direct into the boiler

or vessel containing same, the general arrangement, construction and operation of parts comprising our improvements, as herein shown and described.

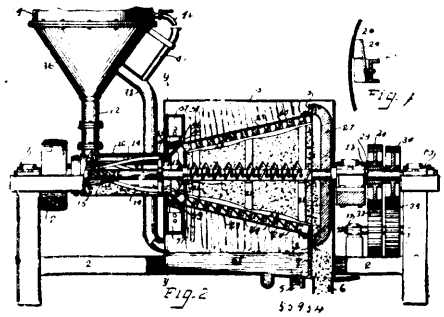
No. 55,953. Car Truck. (*Chassis de chars.*)



John Wills Cloud, Chicago, Illinois, U.S.A., 15th May, 1897; 6 years. (Filed 13th April, 1897.)

Claim.—1st. In a car truck, the combination, substantially as set forth, of a plate metal side frame member, having lower journal box recesses near its ends, journal boxes filling in said recesses with vertical clearance sufficient to admit of the movement of the side frame member due to spring resilience, and springs located on each side of the side frame member, between the tops of the journal boxes and abutments fixed on the side frame member. 2nd. In a car truck, the combination, substantially as set forth, of a plate metal side frame member, having lower journal box recesses near its ends, pedestals secured to the web of the side frame member on each side of the journal box recesses, journal boxes fitting in said recesses and pedestals with vertical clearance sufficient to admit of the movement of the side frame member due to spring resilience, and springs located on each side of the side frame member, between the tops of the journal boxes and abutments fixed on the side frame member. 3rd. In a car truck, the combination, substantially as set forth, of a plate metal side frame member, having lower journal box recesses near its ends, and inwardly extending flanges turned on its upper and lower sides forming a channel section, the upper flange extending throughout its length, and pedestals secured to the web of the side frame member on each side of the journal box recesses, and to the top flange of the side frame. 4th. In a car truck, the combination, substantially as set forth, of a plate metal side frame member, having lower journal box recesses near its ends, and upper and lower flanges, the upper flange extending throughout its length, and pedestals extending through said journal box recesses and having inwardly and outwardly extending upper flanges, the vertical portions of said pedestals being secured to the web of the side frame member, and their inwardly extending upper flanges being secured to the upper flange of the side frame member. 5th. In a car truck, the combination, substantially as set forth, of a plate metal side frame member, having lower journal box recesses near its ends, and upper and lower flanges, the upper flange extending throughout its length, pedestals secured to the web of the side frame member, at the sides of the journal box recesses, said pedestals having outwardly extending upper flanges and inwardly extending upper flanges secured to the upper flange of the side frame member, journal boxes fitting in said pedestals, and one or more springs located above the journal boxes on each side of the side frame member, the outer springs bearing at top against the outer flanges of the pedestals, and the inner springs bearing at top against the upper flange of the side frame member. 6th. In a car truck, the combination, substantially as set forth, of side frame members, transoms connecting said side frame members, a bearing piece secured centrally to said transoms, a centre plate fitting in said bearing piece with a limited degree of movement transversely to the truck, cylindrical rollers interposed between the centre plate and bearing piece, and oppositely curved or inclined bearing faces or seats to receive said rollers and provide for the automatic return of the centre plate to normal central position. 7th. In a car truck, the combination, substantially as set forth, of side frame members, transoms connecting said side frame members, a bearing piece secured centrally to said transoms, a centre plate fitting in said bearing piece with a limited degree of movement transversely to the truck, cylindrical rollers interposed between the centre plate and bearing piece, oppositely curved or inclined bearing faces or seats to receive said rollers and provide for the automatic return of the centre plate to normal central position, and end stops limiting the transverse movement of the centre plate on the bearing piece.

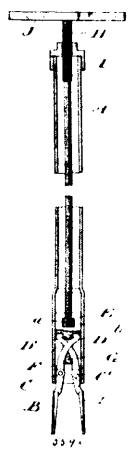
No. 55,954. Wheat Washing Machine.
(*Machine à laver le grain.*)



James McDaniel, Minneapolis, Minnesota, U.S.A., 15th May, 1897; 6 years. (Filed 13th April, 1897.)

Claim.—1st. A grain washing machine, comprising a washing cylinder, provided with a series of stationary ribs of baffles upon its inner surface, a shaft passing through said cylinder and provided with a series of spirally arranged beaters, and means for rotating said shaft. 2nd. A grain washing machine, comprising a stationary washing cylinder, provided with a series of ribs or baffles, a rotating shaft passing through said cylinder, and provided with a series of spirally arranged beaters, a conical straining drum into which the grain passes from said washing cylinder, and a series of spirally arranged flights or conveyors arranged within said straining drum. 3rd. The combination, with the wheat washing cylinder and the spirally arranged beaters arranged therein, of the straining drum into which the grain and water pass from said washing cylinder, means for rotating said drum, rotating flights or conveyors arranged within said drum, and means for rotating said flights or conveyors at a higher speed than that of said drum. 4th. The combination, with the enclosing casing, and the washing cylinder, of the straining drum, and the fan arranged to create a current of air through and around said drum, for the purpose set forth. 5th. The combination, with the straining drum, of the wipers 25 arranged within said drum. 6th. The combination, with the washing cylinder, of the preliminary water separator provided with the overflow pipe having an open end arranged within said separator. 7th. The combination, with the vessel 36, of the hopper provided with the spout extending into said vessel, a tank surrounding the upper part of said vessel, an opening in the spout of said hopper within said tank, and and overflow pipe having its upper end arranged within the upper part of the vessel.

No 55,955. Drill Extractor. (*Extracteur de forets.*)

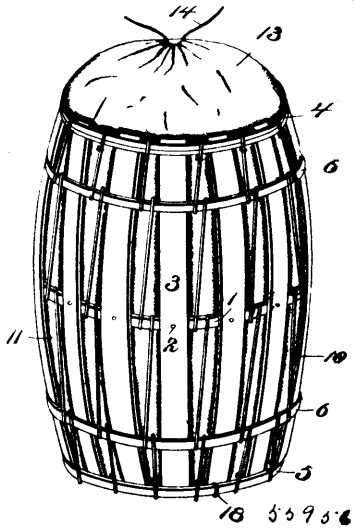


Charles Able Ingraham, Waubigoon Siding, C. P. R., Algoma, Ontario, Canada, 15th May, 1897; 6 years. (Filed 14th April, 1897.)

Claim.—1st. As a drill extractor, a tube, in combination with jaws pivoted within its lower end, crossed upward extensions connected with the said jaws, a stirrup provided with cross-bars above and below the crossing point of the said extensions, and means for adjusting the position of the said stirrup from the upper end of the tool, substantially as and for the purpose specified. 2nd. As a drill extractor, a tube, in combination with jaws pivoted within its lower end, crossed upward extensions connected with the said jaws, a stirrup provided with cross-bars above and below the crossing point of the said extension, an adjusting screw having a head journalled within the stirrup, and a cap or block through which the said screw is threaded, substantially as and for the purpose specified. 3rd. As a drill extractor, the tube A, in combination with the jaws B, B¹, connected to the hubs C, C¹, journalled within the

lower end of the tube with their backs in contact therewith, the crossed curved extensions D, D¹, connected to the said hubs, the stirrup E, provided with the cross-bars F, and G, above and below the point of crossing of the extensions D, D¹, the screw H, provided with the head *a*, journalled in the recess *b*, in the stirrup, the cap I, through which the screw H, is threaded, and the handle J, substantially as and for the purpose specified. 4th. As a drill extractor, the tube A, flattened at its lower end, in combination with the jaws B, B¹, connected to the hub C, C¹, journalled within the flattened lower end of the tube, the crossed curved extensions, D, D¹, connected with said hubs, the flat sided stirrup E, provided with the cross-bars F, and G, above and below the point of crossing of the extensions D, D¹, the screw H, provided with the head *a*, journalled in the recess *b*, in the stirrup, the cap I, through which the screw H, is threaded, and the handle J, substantially as and for the purpose specified.

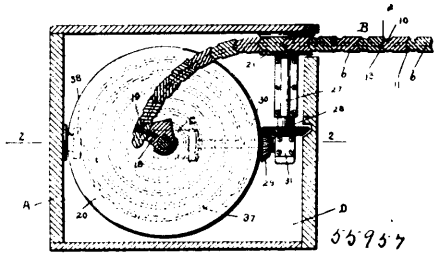
No. 55,956. Knock-Down Barrel. (*Baril pliant.*)



Jefferson Zachray Taylor, Baltimore, Maryland, U.S.A., 15th May, 1897; 6 years. (Filed 14th April, 1897.)

Claim.—1st. A receptacle for the purpose named, having a flexible cover projecting beyond the upper edge of the receptacle body and provided with a contracting device as a draw-string, whereby it may be closed to retain the contents of the receptacle, substantially as specified. 2nd. A receptacle for the purpose named, having an exterior skeleton frame, and an interior sack or lining arranged in contact with the slatted portions of the frame and provided at its top with means whereby the upper edge may be contracted to retain the contents of the receptacle, substantially as specified. 3rd. A shipping sack provided with means for closing the mouth thereof, and an attached skeleton enclosing frame, substantially as specified. 4th. A shipping sack in combination with an attached skeleton enclosing frame having an open upper end, and a stretching or extending device arranged within the sack contiguous to its mouth and adapted to fit within the upper end of said frame, the sack being provided with means for contracting its mouth, substantially as specified. 5th. A skeleton shipping receptacle having a middle interior hoop provided with exterior studs, spaced staves provided with central openings fitted upon said studs, terminal and intermediate exterior hoops surrounding the staves upon opposite sides of the plane of the middle hoop, detachable means for closing the upper and lower ends of the receptacle, and retaining wires or tires terminally attached to the terminal hoops and engaging the intermediate and middle hoops at their points of intersection therewith, to maintain said terminal and intermediate hoops in operative positions and thereby prevent displacement of the staves, substantially as specified. 6th. A shipping receptacle having middle interior and terminal and intermediate exterior hoops, and staves engaged by said hoops, means for preventing lateral displacement of the staves with relation to the middle hoop, a closure for the upper end of the receptacle, a bottom having peripheral pliable tongues for engaging the contiguous hoop, and means for connecting the terminal and intermediate hoops to the middle hoop, substantially as specified. 7th. A shipping receptacle having middle interior and terminal and intermediate exterior hoops, and staves engaged by said hoops, means for preventing lateral displacement of the staves with relation to the middle hoop, a closure for the upper end of the receptacle, a bottom having peripheral pliable tongues for engaging the contiguous hoop, transverse intersecting braces connecting opposite points of the lowermost terminal hoop and arranged below the plane of said bottom, and means for connecting the terminal and intermediate hoops to the middle hoop, substantially as specified. 8th. A shipping receptacle having a middle interior hoop of sectional construction, the sections of said hoop being overlapped and engaged by pins and extended beyond the exterior surface of the hoop to form projecting studs, additional exterior studs carried by the sections of said middle hoop, upper and lower intermediate and terminal hoops, staves arranged exteriorly with relation to the middle hoop and engaged by the said studs, and arranged interiorly with relation to said intermediate and terminal hoops, means for holding the intermediate and terminal hoops at the desired intervals from the plane of the middle hoop, and closures for the extremities of the receptacle, substantially as specified. 9th. A shipping receptacle of skeleton construction having middle, terminal and intermediate hoops, staves arranged exteriorly with relation to the middle hoop and interiorly with relation to the intermediate and terminal hoops, means for preventing lateral displacement of the staves contiguous to the middle hoop, a bottom attached to and supported by the lower terminal hoop, and a lid provided with peripheral studs engaging perforations in the upper ends of the staves, the staves being held in operative relation with said lid by the contractive force of the upper, intermediate and terminal hoops, substantially as specified.

No. 55,957. Flexible Door. (*Porte flexible.*)

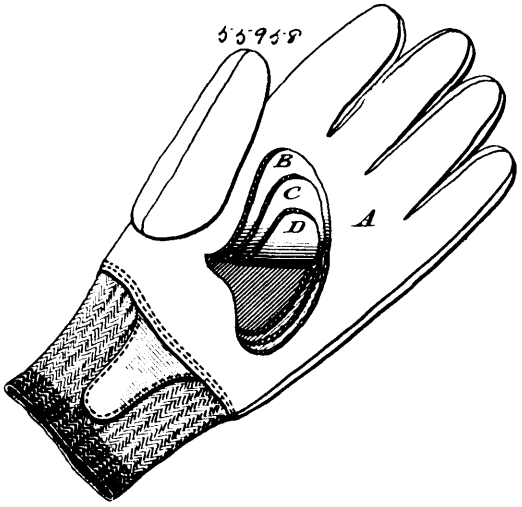


Algenon Seadon Spaulding, Bloomsburg, Pennsylvania, U.S.A., 15th May, 1897; 6 years. (Filed 14th April, 1897.)

Claim.—1st. A flexible door comprising a series of parallel strips or leaves, having convex beads and corresponding sockets, said beads and sockets being provided with engaging abutments for forming a tight joint near the centre of the door, substantially as described. 2nd. A flexible door comprising a series of parallel strips or leaves having convex beads and corresponding sockets, said beads and said sockets being provided with engaging abutments for forming a tight joint near the centre of the door, and with engaging surfaces at each side of said joint, substantially as described. 3rd. In a flexible door, the combination of a series of parellel strips or leaves having convex beads and corresponding sockets, said beads and sockets being provided with engaging abutments for forming a tight joint near the centre of the door, and a series of engaging hinge-bolts arranged near the centre of said door, each of said hinge-bolts having a socket at one end, and a pintle near the opposite end, the end of the bolt carrying the pintle being formed so that it may be inserted from one side of a strip or leaf, and will project from the opposite side of said strip in position to engage the succeeding hinge-bolt, substantially as described. 4th. In a flexible door, the combination of a series of strips or leaves having convex beads and corresponding sockets, and a series of engaging hinge-bolts arranged in a straight line substantially in the centre of the door, each of said hinge-bolts having a pintle near one end, and a socket near the opposite end, the end of the bolt carrying the pintle being of substantially the same size as the shank of the bolt, whereby it may be inserted from one side of a strip or leaf, and will project from the opposite side thereof, in position to engage the succeeding hingbolt, substantially as described. 5th. The combination of a vertical shaft, a flexible door mounted to wind or coil around said shaft, a disc fastened to the shaft, a driving roller or wheel engaging said disc, and gearing controlled by the lateral movement of the door, for turning said driving roller or wheel, substantially as described. 6th. The combination of a vertical shaft, a flexible door mounted to coil around said shaft, a disc fastened to the shaft, a driving roller or wheel engaging said disc, gearing controlled by the lateral movement of the door for turning the driving-roller, and means for shifting said driving-roller whereby the vertical shaft may be turned at variable speeds, substantially as described. 7th. The combination of a vertical shaft, a disc fastened to said shaft, a flexible door mounted to coil around said shaft and to rest upon said disc, a driving roller or wheel engaging said disc, gearing controlled by the lateral movement of the door for turning said driving-roller, and a spiral gaideway or groove for shifting said driving-roller, whereby the vertical shaft may be turned at variable speeds, substantially as described. 8th. The combination of a vertical shaft, a disc mounted on ball-bearings, a disc fast upon the vertical shaft, rollers interposed between said discs, a flexible door mounted to coil around said vertical shaft, and gearing controlled by the lateral movement of the door for turning said shaft, substantially as described. 9th. The combination of a vertical shaft, a disc carried by said shaft, a flexible door mounted to coil around said shaft, a driving-shaft, a driving roller or wheel mounted on said driving-shaft and engaging said disc, means controlled by the lateral movement of the door, for actuating said driving-shaft, and means for swinging the inner end of said driving-shaft to vary the relative position of the driving-roller, and the disc, substantially as described. 10th. The combina-

tion of a vertical shaft, a disc carried by said shaft, a flexible door mounted to coil around the vertical shaft, a driving-shaft and roller for turning said disc, gearing for actuating said driving-shaft, a nut threaded onto said vertical shaft, and a pin-and-cam groove for swinging the inner end of said driving-shaft, substantially as described. 11th. The combination of a vertical shaft, an actuating-wheel having gear-teeth, a flexible door resting on said actuating-wheel, and arranged to coil around said vertical shaft, said flexible door being slotted on its lower edge, and having gear-teeth meshing with the gear-teeth of the actuating-wheel for turning the vertical shaft at variable speeds, substantially as described.

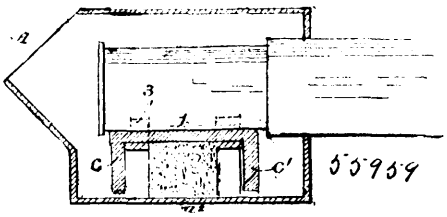
No. 55,958. Glove. (*Gant.*)



David Lawrence Engel, Washington, Columbia, and Leonard G. Myers, Philadelphia, Pennsylvania, both in the U.S.A., 17th May, 1897; 6 years. (Filed 21st April, 1897.)

Claim.—1st. A glove consisting of an outer covering, an inner lining and an integument or oiled material, the three thicknesses connected together only at the same and having spaces amidst them, as set foath.

No. 55,959. Car Axle Lubricator. (*Boîte à graisse.*)



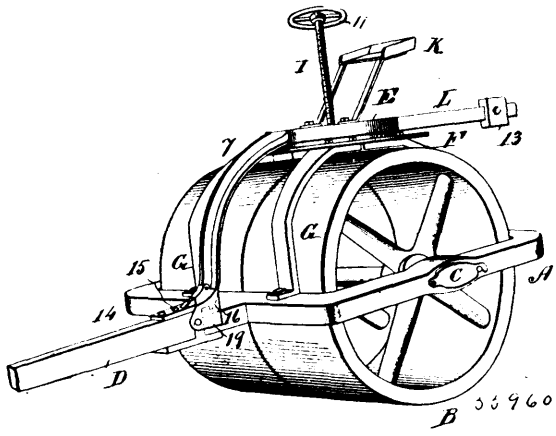
Stewart Austen, Walkerville, Ontario, Canada, 17th May, 1897; 6 years. (Filed 15th April, 1897.)

Claim.—1st. In a lubricator for car axle journals, in combination with a spring-supporting frame, a pad having down-turned side flaps, and the adjacent down-turned middle flaps, and a padded surface extending entirely across the box under the journal as described. 2nd. In a car axle journal, in combination with a supporting spring frame, a pad provided with down-turned side flaps, the down-turned middle flaps and the down-turned end flaps, substantially as described. 3rd. In a car axle lubricator, in combination with a spring supporting frame, a pad adapted to engage under the journal, and to extend across the box from side to side thereof, provided with down-turned side and middle flaps, substantially as described.

No. 55,960. Road Roller. (*Rouleau pour routes.*)

Frederick C. Austin, Chicago, Illinois, U.S.A., 17th May, 1897; 6 years. (Filed 20th April, 1897.)

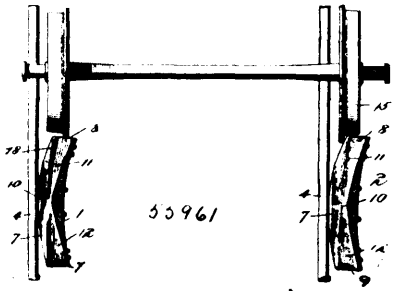
Claim.—1st. A road roller comprising a roll, a body-frame within which the roll is arranged, a pole having a rear extension which extends above the roll, an annular turn-table arranged over the roll and comprising a couple of circles whereof one interrupts the rear extension of the pole while the other is supported from the body-frame, a driver's seat supported upon the upper circle of the turn-table so as to turn therewith when the pole and rear extension thereof are swung around, and a brake device comprising a shoe arranged upon a spring-arm which is secured to the lower circle of the annular turn-table, and a threaded rod which engages the shoe and extends upwardly through the space within the annular turn-table so as to be in front of the driver's seat regardless of the direction in which such seat may face as a result of swinging around the pole and rear extension, substantially as described. 2nd. A road-roller comprising a roll, a body-frame, a reversible pole having a rear extension which at a point over the roll is interrupted by the



upper circle of an annular turn-table, a circle supported over the roll and forming the lower member of the annular turn-table, antifriction-rolls arranged between the two circles, a driver's seat supported upon the upper circle, and a brake device arranged for engaging the upper portion of the roll, and positioned within the annular turn-table so as to be in front of the seat regardless of the direction in which the seat may face as a result of reversing the pole, substantially as described. 3rd. The combination and arrangement in a road-roller, of the roll, the body-frame, a reversible pole joined between its forward portion and rear portion, and provided with means for temporarily locking said portions together, the pole provided with a rear extension which extends above the roll, an annular turn-table comprising an annular track or circle supported from the body-frame, an upper circle interrupting the rear extension of the pole, said circles being constructed to provide between them an annular way for a set of antifriction-rolls, a couple of concentric rings 10 arranged within said annular way and a set of antifriction-rolls journalled in said concentric rings, substantially as described. 4th. In a road-roller, having a reversible pole, the body-frame provided with upturned portions forming a shoulder at each end, and the reversible pole provided with an offset or shoulder for alternately engaging one and the other of said shoulders on the body part, substantially as described. 5th. In a road-roller having a reversible pole whose forward portion is pivotally connected with its rear extension, the body-frame provided with upturned portions forming a shoulder at each end, and the reversible pole provided with an offset shoulder for alternately engaging one and the other of said shoulders on the body-frame, substantially as described. 6th. A road-roller comprising a roll, and a reversible pole having its forward portion pivotally connected with its rear extension, and provided with a catch adapted to engage the projecting end portions of the frame and temporarily lock the two portions of said pole in alignment, and also at different horizontal angles so as to change the draft, substantially as described.

No. 55,961. Car Replacer.

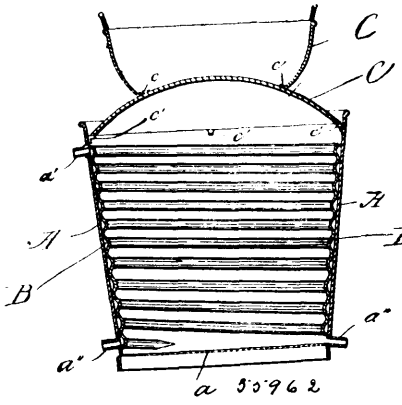
(*Appareil à remettre les chars sur la voie.*)



Robert E. Alexander, Forest, Pennsylvania, U.S.A., 17th May, 1897; 6 years. (Filed 15th April, 1897.)

Claim.—1st. In a car-replacer, a bow-shaped replacing member having an elevated central portion 10, and provided with grooves extending longitudinally upward and crossing each other at the top of said elevated portion, and thence extending downward, and a lip 14 located opposite the intersection of the grooves, as and for the purpose specified. 2nd. In a car-replacer, a member having a curved side adapted to lie next the rail, a wheel-guiding surface sloping from base to apex thereof and provided with a longitudinal concavity or groove, in combination with a lip such a 14, located opposite the apex, whereby the wheel is prevented from slipping off laterally, substantially as described.

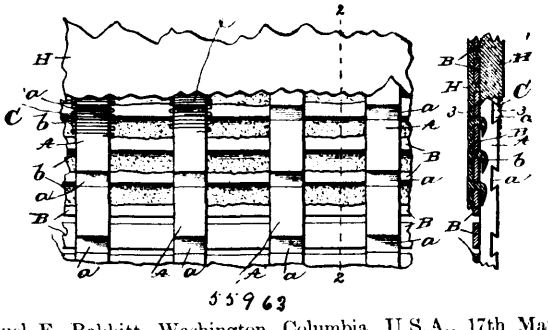
No. 55,962. Apparatus for Aerating and Cooling Milk. (*Appareil pour aérer et refroidir le Lait.*)



Charles Migrault, Joly, Manitoba, Canada, 17 may 1897; 6 ans. (Deposé le 15 avril 1897.)

Résumé.—1° Un appareil pour refroidir le lait constitué par un vase A à l'intérieur duquel se trouve une paroi ondulée B disposée de manière à former un serpentin dans lequel peut circuler un refrigérant quelconque, et des ouvertures convenables pour l'admission et la sortie du refrigérant de même que pour vider l'appareil, tel que décrit et pour les fins indiquées. 2° Un appareil pour refroidir le lait, comprenant deux parois formant serpentin et des ouvertures pour l'admission du refrigérant entre les dites parois et pour la sortie du même refrigérant après qu'il a circulé dans le dit serpentin, tel que décrit et pour les fins indiquées. 3° La combinaison d'un appareil pour refroidir le lait, constitué par un vase A, une paroi B disposée à l'intérieur du vase A, et les ouvertures a^1, a^2, avec un convert C ayant préférablement la forme d'une calotte sphérique et sur lequel est disposé un vase C^1, troué à sa base pour faire évaporer le lait, avant qu'il ne tombe dans le refrigérateur proprement dit, le tout tel que décrit et pour les fins indiquées.

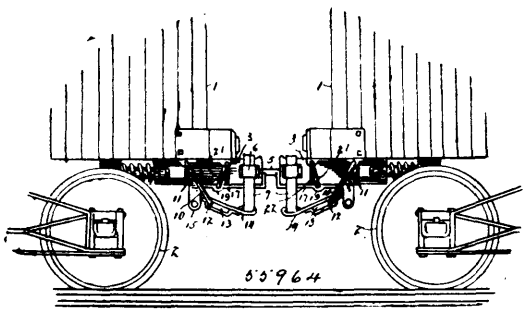
No. 55,963. Fire Proof Partition for Buildings.
(*Cloison à l'épreuve du feu pour bâtisses.*)



Samuel E. Rabbitt, Washington, Columbia, U.S.A., 17th May, 1897; 6 years. (Filed 15th April, 1897.)

Claim.—1st. A partition composed of studs having transverse grooves on one side and laths or strips secured to the opposite sides of the studs, in combination with plastic material filling the spaces between the studs and between the laths, embedding and covering the studs and the laths. 2nd. A partition consisting of vertical studs, provided on one side with vertical strips of metal or wire cloth and horizontal laths or strips secured to the opposite side of the studs, in combination with plastic material filling the space between the studs and between the laths and embedding the studs, metal and the laths, 3rd. A partition consisting of vertical studs, provided on one side with vertical strips of metal or wire cloth extending beyond the edges of the studs and horizontal laths or strips on the opposite sides, in combination with plastic material embedding the studs, coverings, and the laths. 4th. A partition consisting of vertical studs, provided with means on one side for securing plastic material thereto, laths or strips secured to the opposite sides of the studs and suitable metallic supports between studs, in combination with plastic material filling the spaces between the studs and between the laths and embedding the studs, braces and laths. 5th. A partition consisting of vertical studs, a transverse girder supported on the upper ends of the vertical studs, metallic braces secured to the transverse girder and metallic supports between vertical studs, means on one side of the vertical studs for securing plastic material thereto and laths or strips on the opposite sides of the studs, in combination with plastic material filling the spaces between the studs and between the laths and embedding the studs, girder, laths, braces and supports.

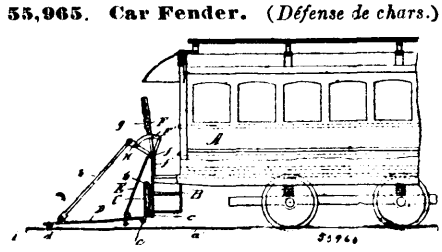
No. 55,964. Car Coupler. (*Attelage de chars.*)



Jackson F. Swint, Willis N. Jordon, Joseph Smith, all of Stroud, Alabama, U.S.A., 17th May, 1897; 6 years. (Filed 17th April, 1897.)

Claim.—The combination with a car, of the draw-head thereof, having a recess in its forward end for receiving the coupling-link, a stirrup slidingly mounted on the side of said draw-head, a coupling-pin secured to said stirrup and projecting through an opening in said draw-head, a rock-shaft mounted in a suitable bearing on the under side of the car and having operating-handles thereon which project outwardly from the side of the car and a lever fulcrumed upon the under side of the car, loosely connected at its free end to said stirrup and provided with a slot or guide through which a crank-arm on said rock-shaft passes, whereby, upon the turning of said rock-shaft, said stirrup may be raised and lowered, coupled or uncoupled, substantially as described.

No. 55,965. Car Fender. (*Défense de chars.*)



Edward Manley, Coteau du Lac, Quebec, Canada, 17th May, 1897; 6 years. (Filed 17th April, 1897.)

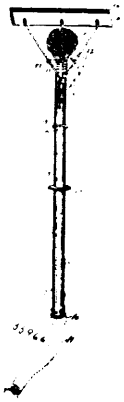
Claim.—1st. In a car fender, the combination, with arms secured to the end portions of a car, of levers pivoted to the upper end portions of the said arms, a frame pivoted to the lower end portions of the said levers, springs interposed between the said arms and levers, and means for supporting the front end portion of the said frame, substantially as set forth. 2nd. In a car fender, the combination, with a frame having its rear end portion pivotally supported by the car frame, of a shaft journalled in bearings secured to the car frame, a notched quadrant, a lever secured on the said shaft and provided with a trigger engaging the said quadrant, arms secured to the end portions of the said shaft, and rods pivoted to the free end portions of the said arms and to the front portion of the said frame, substantially as set forth. 3rd. In a car fender, the combination, with a frame having its rear end portion pivotally supported from the car frame, of means for supporting the front end portion of the said frame, and a second frame hinged to the rear portion of the aforesaid frame and resting against the end portion of the car in an inclined position, substantially as set forth.

No. 55,966. Buggy Washer.
(*Appareil à laver les voitures.*)

Charles C. Bridwell, Portsmouth, Ohio, U.S.A., 17th May, 1897; 6 years (Filed 17th April, 1897.)

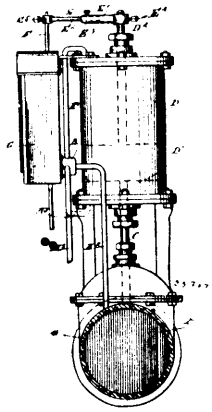
Claim.—1st. A washing device, comprising a rigid tube capable of having water passed through it, and of discharging the same at one end, an eye fixed to the tube near its discharge end, a spring-rod bent at its middle to form a ring slidably embracing the tube, and having its ends divergent from each other so that they will be forced together as they pass into the eye, and a sponge held by the ends of the spring-rod, substantially as described. 2nd. A washing device, comprising a rigid tube capable of having a stream of water passed through it, and of discharging the stream at one end, two longitudinally-alined eyes secured to the tube near its dischage end, a U-shaped clip-plate, a rubbing-strip secured in said clip-plate, a wire bent at its middle to form two parallel portions projected through the eyes of the tube, the extremities of the wire being secured to the U-shaped plate near its ends, and a second wire secured approximately midway the U-shaped plate, and projecting between the parallel portions of the first wire, the said second wire having a bend therein which locks with one of the eyes on the tube, and holds the plate and its rubber strip in place, substantially as described. 3rd. In a washing device, a tube, a sponge yieldingly

held to the discharge end of said tube, a window-rubbing device also held to the discharge end of the tube, and having sustaining



devices engaging the sponge and supporting the same against lateral movement, substantially as described. 4th. In a washing device, a tube, rubbing devices held to said tube, and a cap embracing the discharge end of the tube, and having an opening and having also at its inner side an inwardly-flaring cone, the apex of which surrounds and communicates with the opening in the cup, substantially as described.

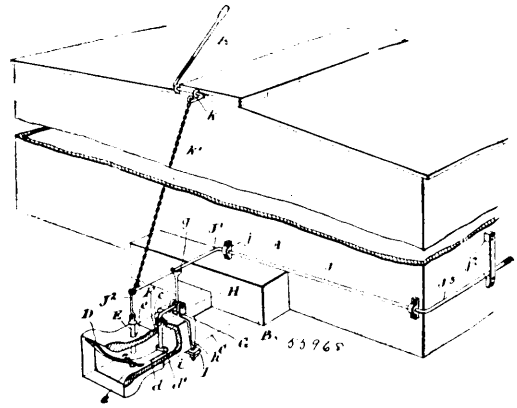
No. 55,967. Valve Gear. (*Mécanisme de soupape.*)



William Engberg, Saint Joseph, Michigan, U.S.A., 17th May, 1897; 6 years. (Filed 15th April, 1897.)

Claim.—1st. A valve gear, comprising a cylinder and piston for opening and closing the valve in a supply pipe, a valve connected with a liquid supply and also connected with the ends of the said cylinder, to move the piston thereon up or down by the pressure of the liquid passing from the valve to the cylinder, and a device electrically controlled and connected with the said valve to open the same to either end of the cylinder, the said device comprising an electric circuit containing two relays, a magnet for each relay, and provided with an armature lever, slidable bars adapted to be engaged and locked by the respective armatures, the said bars controlling the position of the valve, and means controlled by the said piston, for making ground connection with either relay and adapted to engage and move the said bars back to a normal position, substantially as shown and described. 2nd. A valve gear, provided with a controlling device for the valve, and comprising an electric circuit containing two relays, an electric magnet for each relay, and provided with an armature lever, two slidable bars adapted to be engaged and locked by the corresponding armature levers, the said bars controlling the position of the valve, and means for making alternate ground connections for the said relays, substantially as shown and described. 3rd. A valve gear, provided with a controlling device for the valve, and comprising an electric circuit containing two relays, an electro magnet for each relay, and provided with an armature lever, a switch in the said circuit, two slidable bars adapted to be engaged and locked by the corresponding armature levers, the said bars controlling the position of the valve, and means for making alternate ground connections for the said relays, and arranged for connection with the said bars, to return the same to their normal locked position, substantially as shown and described. 4th. A valve gear, provided with a controlling device for the valve, and comprising an electric circuit containing two relays, an electro magnet for each relay, and provided with an armature lever, a switch in the said circuit, two slidable bars adapted to be engaged and locked by the corresponding armature levers, the said bars controlling the position of the valve, means for making alternate ground connections for the said relays, and arranged for connection with the said bars, to return the same to their normal locked position, and a second circuit controlling an alarm and adapted to be opened and closed by the said means, substantially as shown and described. 5th. A valve gear, provided with a controlling device for the valve, and comprising an electric circuit containing two relays, an electro magnet for each relay, and provided with an armature lever, a switch for opening and closing the said circuit, movable bars adapted to be locked in position by the corresponding armature levers, and controlling the position of the valve, and a movable rod having contact plates adapted to alternately engage the contact plates for the said relays, to connect the same alternately with the ground, the said rod being also provided with arms for engagement with the said bars, to return the same to a locking position, substantially as shown and described. 6th. A valve gear, provided with a controlling device for the valve, and comprising an electric circuit containing two relays, an electro magnet for each relay, and provided with an armature lever, a switch for opening and closing the said circuit, movable bars adapted to be locked in position by the corresponding levers and controlling the position of the valve, a movable rod having contact plates adapted to alternately engage the contact plates for the said relays, to connect the same alternately with the ground, the said rod being also provided with arms for engagement with the said bars, to return the same to a locking position, and a second circuit having an alarm and provided with a contact plate adapted to be engaged by a contact plate of the same rod, substantially as shown and described.

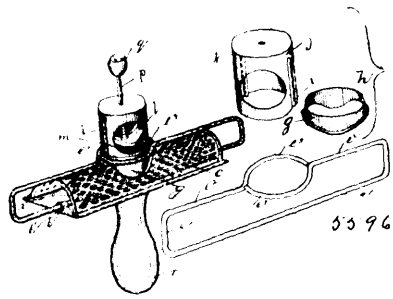
No. 55,968. Car Coupler. (*Attelage de chars.*)



Rankin Stewart, Nobleton, Ontario, Canada, 17th May, 1897; 6 years. (Filed 17th April, 1897.)

Claim.—1st. In a car coupler, in combination the draw-head, the coupling pin, the rod supported on the front of the car provided with suitable side handle, the arm extending forwardly over the draw-head and pivotally connected to the pin, the inwardly extending plate in the draw-head having the outer upwardly curved forked end secured to the top inner edge of the draw-head, the bar hinged to the rear end of the plate extending through a hole in the upper portion of the draw-head, and means connected to the upper end of such bar for supporting the forwardly extending arm and the pin connected thereto in their raised position, as and for the purpose specified. 2nd. In a car-coupler, in combination the draw-head, the coupling pin, the rod supported on the front of the car provided with suitable side handle, the arm extending forwardly over the draw-head and pivotally connected to the pin, the inwardly extending plate in the draw-head having the outer upwardly curved forked end secured to the top inner edge of the draw-head, the bar hinged to the rear end of the plate extending through a hole in the upper portion of the draw-head, the bell-crank pivotally connected to the upper end of the bar and journalled in lugs on the metal strap secured on the draw-head and having an upper crotch upon which the forwardly extending arm is designed to rest to hold the pin in the raised position, as and for the purpose specified. 3rd. In a car coupler, in combination the draw-head, the coupling pin, the rod supported on the front of the car, the arm extending forwardly over the draw-head and pivotally connected to the pin, the inwardly extending plate in the draw-head having the outer upwardly curved forked end secured to the top inner edge of the draw-head, the bar hinged to the rear end of the plate extending through a hole in the upper portion of the draw-head, means connected to the upper end of such bar for supporting the forwardly extending arm and the pin connected thereto in their raised position, and a lever in the top of the car and a chain connecting such lever with the outer end of the pin-supporting arm, as and for the purpose specified. 4th. In a car coupler, in combination the draw-head, the coupling pin, means for supporting said pin, the inwardly extending plate in the draw-head having the outer curved end and opening through which the pin passes, and means connected to the rear end of the plate whereby the supporting means for the pin may be thrown down and the pin dropped through the plate when the link is inserted, as and for the purpose specified.

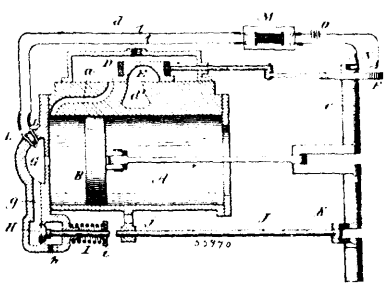
No. 55,969. Nutmeg-Grater. (*Râpe à muscade.*)



The Edgar Manufacturing Co., assignee of Charles Edgar Damon, both of Reading, Mass, U.S.A., 17th May, 1897 ; 6 years. (Filed 17th April, 1897.)

Claim.—1st. A nutmeg-grater comprising a semi-circular grater-plate having guides or bearings with which its grating surface is substantially concentric, a wire frame or carrier composed of the straight central portion to move longitudinally and rock or oscillate in said bearings, the arms bent outwardly from the ends of said central portion and backwardly over the exterior of the grater-plate, said arms terminating in the curved portions which collectively form a clip or collar at the centre of the frame, and a nutmeg-holder embraced by said clip and held thereby in position to co-operate with the grater plate, as set forth. 2nd. A nutmeg-grater comprising a semi-circular grater-plate having guides or bearings with which its grating surface is substantially concentric, a wire frame or carrier formed to move longitudinally and rock or oscillate in said bearings and having a central clip or collar located over the grater-plate, a sheet-metal socket embraced by and secured to said collar and having its lower edge formed to fit the curvature of the grater-plate, and a nutmeg-holder inserted in said socket and secured thereto. 3rd. A nutmeg-grater comprising a semi-circular grater-plate having guides or bearings with which its grating surface is substantially concentric, a wire frame or carrier formed to move longitudinally and rock or oscillate in said bearings and having a central clip or collar located over the grater-plate, a sheet-metal socket embraced by and secured to said collar and having its lower edge formed to fit the curvature of the grater-plate, and a socket having an inwardly projecting ear, a nutmeg-holder inserted in said socket and provided with a vertical indentation which forms a groove in the exterior of the holder to engage said ear and a rib on the interior of the holder, and a spring-pressed follower movable in the holder, and provided with a groove to receive said rib.

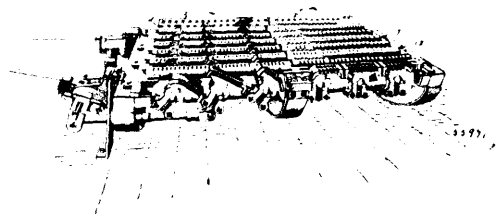
No. 55,970. Compressed Air Engine.
(*Machine à air comprimé.*)



Lucius Tuckerman Gibbs, New York, State of New of New York, U.S. A., 17th May, 1897 ; 6 years. (Filed 17th April, 1897.)

Claim.—1st. A motor, wherein the working fluid is composed of air and an inflammable gas, and wherein the gas is first introduced into the working cylinder at a low pressure, and subsequently the air at a relatively high pressure, and where the air is cut off and allowed to do work expansively, and the mixture of air and gas ignited. 2nd. An air pressure engine constructed and operating to perform the following cycle:—1, gas is admitted into the working cylinder when the pressure therein is substantially that of the atmosphere; 2, the working air under pressure enters behind the piston and drives it directly for a part of the stroke, and is cut off and expands over the rest of the stroke; 3, at or about the time of cut off the gas in the cylinder is ignited, thus increasing the temperature and pressure of the working fluid. 3rd. The combination in a compressed air engine of a cylinder provided with an inlet and an exhaust port for the admission and exit of the working fluid, a valve controlling said ports, a piston in said cylinder, a gas chamber opening into one end of said cylinder, and communicating with a source of gas supply, a valve controlling the admission of gas to said chamber, and an igniter for the gas in said chamber, the said parts operating to admit air under pressure to actuate the piston over a part of the working stroke, then to cut off said air to cause said air to work expansively, then to admit gas into said chamber when the pressure in said chamber shall have fallen substantially to that of the atmosphere, and subsequently to ignite said gas, substantially as described.

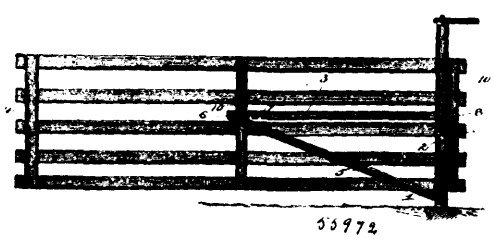
No. 55,971. Grate for Marine Boilers.
(*Grille pour chaudières marines.*)



James Reagan, Philadelphia, Pennsylvania, U.S.A., 17th May, 1897 ; 6 years. (Filed 17th April, 1897.)

Claim.—1st. A chopper or shaker 1, having depending lugs 2, diamond or lozenge-shaped aperture 4, recesses 8, and openings 3, in combination with the angular shaft or bar 5, having end journals and intermediate cylindrical portion 10, substantially as specified. 2nd. A chopper or shaker, having a transverse opening 3, and aperture 4, composed of the sides 6 and 7, forming a diamond or rhombus, in combination with the angular portion of the shaft or bar 5, substantially as specified. 3rd. A chopper or shaker 11, having depending lugs 12, opening 3, and diamond-shaped aperture 4, in combination with the shaft 5, plate 13, bolt 17, and pull-bar 16, substantially as described. 4th. A hollow grate or fire bar 18, with staggered arrangement of internal-teeth 25, forming air spaces 24, and bridges 21, substantially as set forth. 5th. A hollow grate or fire bar 18, consisting of the side wings 19, bridges 21, closed ends 22, lugs 28, and staggered arrangement of teeth 25, on the inner sides of the wings, between the bridges and ends of the bar, substantially as described.

No. 55,972. Sliding and Swinging Gate.
(*Barrière à coulisse.*)



Andrew J. Russell, North Baltimore, Ohio, U.S.A., 17th May, 1897 ; 6 years. (Filed 17th April, 1895.)

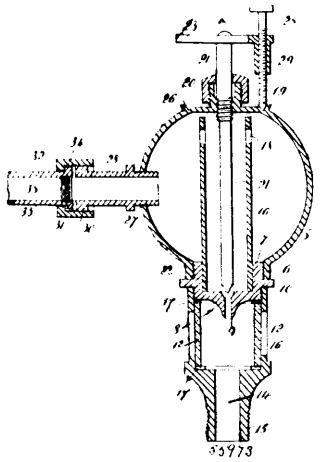
Claim.—1st. The combination with a gate, of a hanger comprising a pivot-post, a horizontal track-bar receiving the gate and having its inner end detachably secured to the pivot-post and capable of vertical adjustment thereon to raise and lower the gate, and an inclined brace pivoted at its lower end to the post and adapted to swing inward and outward longitudinally of the horizontal track-bar and adapted to support the latter at different points along the same, substantially as and for the purpose described. 2nd. The combination with a gate provided with a roller, of a hanger comprising a vertical pivot-post provided with a vertically-adjustable fastening device, an inclined brace pivoted at its lower end to the pivot-post at the bottom thereof and provided at its upper end with a fastening device, and a horizontal track-bar receiving the roller of the gate and provided at its inner end with a notch to engage the fastening device of the pivot-post, and having at its outer end a series of notches for the reception of a fastening device of the brace, substantially as and for the purpose described.

No. 55,973. Oil Cup. (*Godet à huile.*)

Peter Anderson and William Larson, both of Brooklyn, New York, U.S.A., 18th May, 1897 ; 6 years. (Filed 17th April, 1897.)

Claim.—1st. An oil cup for engines and other machinery, consisting of a receptacle 5, the bottom of which is provided with a tubular extension which is closed by a sleeve, the lower end of which is provided with a discharge nozzle, said sleeve being also provided with a tube which projects upwardly through said receptacle, and in which the oil is adapted to flow, and a valve shaft which passes through the top of said receptacle, and through said tube, and which is adapted to close the passage through said nozzle, substantially as shown and described. 2nd. An oil cup for engines and other machinery, consisting of a receptacle 5, the bottom of which is provided with a tubular extension which is closed by a sleeve, the lower end of which is provided with a discharge nozzle, said sleeve being also provided with a tube which projects upwardly through said receptacle, and in which the oil is adapted to flow, and a valve shaft which passes through the top of said receptacle, and through said

tube, and which is adapted to close the passage through said nozzle, said valve shaft being provided with a disc or plate at its upper end

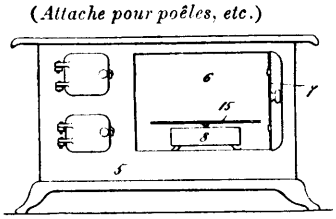


55973

through which passes a screw, the lower end of which is provided with a bearing in the upper side of said receptacle, substantially as shown and described. 3rd. An oil cup for engines or other machinery, consisting of a receptacle 5, the bottom of which is provided with a tubular extension which is closed by a sleeve, the lower end of which is provided with a discharge nozzle, said sleeve being also provided with a tube which projects upwardly through said receptacle, and in which the oil is adapted to flow, and a valve shaft which passes through the top of said receptacle, and through said tube, and which is adapted to close the passage through said nozzle, said valve shaft being provided with a disc or plate at its upper end through which passes a screw, the lower end of which is provided with a bearing in the upper side of said receptacle and said sleeve being provided at its lower end with a tube which is secured thereto, in the sides of which are formed openings, and a glass tube which is placed therein, said tube being provided at its lower end with a screw-threaded extension, substantially as shown and described. 4th. An oil cup for engines and other machinery, consisting of a receptacle 5, the bottom of which is provided with a tubular extension which is closed by a sleeve, the lower end of which is provided with a discharge nozzle, said sleeve being also provided with a tube which projects upwardly through said receptacle, and in which the oil is adapted to flow, and a valve shaft which passes through the top of said receptacle, and through said tube, and which is adapted to close the passage through said nozzle, said valve shaft being provided with a disc or plate at its upper end through which passes a screw, the lower end of which is provided with a bearing in the upper side of said receptacle and said sleeve being provided at its lower end with a tube which is secured thereto, in the sides of which are formed openings, and a glass tube which is placed therein, said tube being provided at its lower end with a screw-threaded extension, and said receptacle being provided with means for securing a supply-pipe thereto, substantially as shown and described.

No. 55,974. Attachment for Stoves and Ranges.

(*Attache pour poêles, etc.*)



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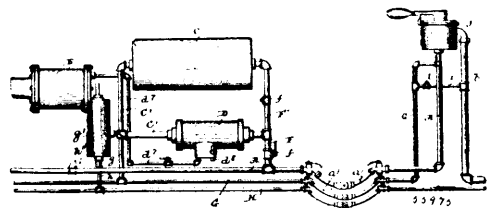
Henry Richard Barnard, New York, State of New York, U.S.A., 18th May, 1897; 6 years. (Filed 17th April, 1897.)

Claim.—1st. A stove or range provided with an attachment which consists of a casing, in which is mounted a shaft, one end of which is provided with a disc or plate which is adapted to receive the articles placed in the oven, said casing being provided with means for revolving said shaft, substantially as shown and described. 2nd. A stove or range provided with an attachment which consists of a casing, in which is mounted a shaft, one end of which is provided with a disc or plate which is adapted to receive the articles placed in the oven, said casing being provided with means for revolving said shaft, consisting of a spring drum, the shaft of which is in operative connection therewith, substantially as shown and described. 3rd. A stove or range provided with an attachment which consists of a casing in which is mounted a shaft one end of which is provided with a disc or plate which is adapted to receive the articles placed in the oven, said casing being provided with means for revolving said shaft, consisting of a spring drum, the shaft of which is in operative connection therewith, substantially as shown and described. 4th. The herein described attachment for stoves or ranges, consisting of a casing which is adapted to be placed in the oven thereof, said casing being provided centrally with a vertical shaft which passes through the top thereof, and which is provided with a disc or plate, and devices within said casing for revolving said shaft, consisting of a spring drum which is geared in connection therewith, substantially as shown and described.

No. 55,975. Air Brake for Trains.

(*Frein à air pour convois.*)



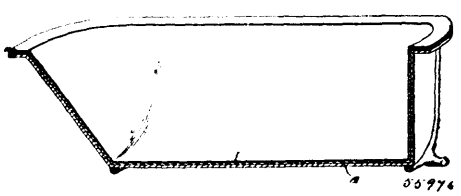
55975

Albert M. Willets, Camden, New Jersey, U.S.A., 18th May, 1897; 6 years. (Filed 20th April, 1897.)

Claim.—1st. In an air brake system, in combination, a source of pressure supply, a train pipe, an auxiliary reservoir, and brake cylinder carried by the car, connection between said train pipe and auxiliary reservoir, a valve carried by the car, connection between one side of said valve and the train pipe, and between the auxiliary reservoir and the other side of said valve, said valve controlling connection between the auxiliary reservoir and the brake cylinder, and adapted when the train pipe pressure is reduced to move to open said connection, a second pipe, connection between said last mentioned pipe and the brake cylinder independent of the car valve, an engineer's valve adapted when operated to connect the train pipe and the main pressure reservoir and train pipe and said second pipe. 2nd. In an air brake system, in combination, a source of pressure supply, a train pipe, an auxiliary reservoir and brake cylinder carried by the car, connection between said train pipe and auxiliary reservoir, a valve carried by the car, connection between one side of said valve and the train pipe, and between the auxiliary reservoir and the other side of said valve, said valve controlling connection between the auxiliary reservoir and the brake cylinder, and adapted when the tratn pipe pressure is reduced to move to open said connection, a second pipe, a normally open connection between said last mentioned pipe and the brake cylinder independent of the car valve, an engineer's valve adapted when operated to connect the train pipe and main pressure reservoir, and said second pipe and the atmosphere, and means to reduce the pressure in the train pipe. 3rd. In an air brake system, in combination, a source of pressure supply, a train pipe, an auxiliary reservoir, and brake cylinder carried by the car, connection between said train pipe and auxiliary reservoir, a valve carried by the car, connection between one side of the valve and the train pipe, and between the auxiliary reservoir and the other side of said valve, said valve controlling connection between the auxiliary reservoir and the brake cylinder, and adapted when the train pipe pressure is reduced to move to open said connection, a second pipe, connection between the last mentioned pipe and the brake cylinder, independent of the car valve, an engineer's valve adapted when operated to connect the trrin pipe and main pressure reservoir and train pipe and said second pipe, and means to connect the second pipe directly with the pressure supply. 4th. In an air brake system, in combination, a source of pressure supply, a train pipe, an auxiliary reservoir, and brake cylinder carried by the car, connection between said train pipe and auxiliary reservoir, a valve carried by the car, connection between one side of said valve and the train pipe, and between the auxiliary reservoir and the other side of said valve, said valve controlling connection between the auxiliary reservoir and the brake cylinder, and adapted when the train pipe pressure is reduced to move to open said connection, a second pipe, connection between said last mentioned pipe and the brake cylider independent of the car valve, an engineer's valve adapted when operated to connect the train pipe and main pressure reservoir and train pipe and said second pipe and connect the second pipe with the atmosphere. 5th. In an air brake system, in combination, a source of pressure supply, a train pipe, an auxiliary reservoir, brake cylinder, and valve carried by the car, connection between one side of said valve and the train pipe, connection between the other side of said valve and the auxiliary reservoir, said valve controlling the connection between the auxiliary reservoir and the brake cylinder, and adapted when the train pipe pressure is reduced in open connection between the auxiliary reservoir and brake cylinder, a spring on the piston of said valve adapted to be compressed against the end of said valve chamber, the arrangement being such that when the pressure on opposite sides of the valve is equal and the spring in compression, the spring will force the valve to close, connection between the auxiliary reservoir and brake cylinder, connection between said train pipe and the auxiliary reservoir, means to connect the train pipe with the source of pressure supply, and means to reduce the

pressure in the train pipe. 6th. In an air brake system, in combination, a source of pressure supply, a train pipe, an auxiliary reservoir, brake cylinder, and valve carried by the car, connection between one side of said valve and the train pipe, connection between the other side of said valve and the auxiliary reservoir, said valve controlling a connection between the auxiliary reservoir and the brake cylinder, and between the brake cylinder and the atmosphere, the valve being adapted, when the pressure in the train pipe side exceeds the pressure on the auxiliary reservoir side of the valve, to open connection between the brake cylinder and the atmosphere, and when vice versa to open connection between the auxiliary reservoir and the brake cylinder, a spring on the piston of said valve adapted to be compressed against the end of said valve chamber, the arrangement being such that when the pressure on opposite sides of the valve is equal and the spring in compression, the spring will force the valve to close connection between the auxiliary reservoir and brake cylinder and between the brake cylinder and atmosphere, connection between said train pipe and the auxiliary reservoir, means to connect the train pipe with the source of pressure supply, and means to reduce the pressure in the train pipe. 7th. In an air brake system, in combination, a source of pressure supply, a train pipe, an auxiliary reservoir and brake cylinder carried by the car, connection between said train pipe and auxiliary reservoir, a valve carried by the car, connection between one side of said valve and the train pipe and between the auxiliary reservoir and the other side of said valve, said valve controlling connection between the auxiliary reservoir and the brake cylinder, and adapted when the train pipe pressure is reduced to move to open said connection, a second pipe, connection between said last mentioned pipe and the brake cylinder independent of the car valve, a valve on said last mentioned connection controlling said connection, and connection between said valve and the source of pressure supply, the pressure holding said valve open, said valve being adapted to close said connection when said pressure is cut off, an engineer's valve adapted when operated to connect the train pipe and main pressure reservoir and the train pipe and said second pipe. 8th. In an air brake system, in combination, a source of pressure supply, a train pipe, an auxiliary reservoir and brake cylinder carried by the car, connection between said train pipe and auxiliary reservoir, a valve carried by the car, connection between one side of said valve and the train pipe and between the auxiliary reservoir and the other side of said valve, said valve controlling connection between the auxiliary reservoir and the brake cylinder, and adapted when the train pipe pressure is reduced to move to open said connection, a second pipe, connection between said last mentioned pipe and the brake cylinder independent of the car valve, a valve on said last mentioned connection controlling said connection, connection between the piston of said valve and the source of pressure supply, the pressure holding said valve open, said valve being adapted to close said connection when said pressure is cut off, the piston opening a connection between said pressure supply connection and the atmosphere when the valve is in the closed position, an engineer's valve adapted when operated to connect the train pipe and main pressure reservoir and train pipe and said second pipe. 9th. In an air brake system, in combination, a source of pressure supply, a train pipe, an auxiliary reservoir and brake cylinder carried by the car, connection between said train pipe and auxiliary reservoir, a valve carried by the car, connection between one side of said valve and the train pipe and between the auxiliary reservoir and the other side of said valve, said valve controlling connection between the auxiliary reservoir and the brake cylinder, and adapted when the train pipe pressure is reduced to move to open said connection, a second pipe, connection between said last mentioned pipe and the brake cylinder independent of the car valve, a valve on said last mentioned connection controlling said connection, and connection between said valve and the source of pressure supply, the pressure holding said valve open, said valve being adapted to close said connection when said pressure is cut off, a passage around said last mentioned valve, a supplemental valve in said passage, said valve being held from opening by the second pipe brake cylinder connection valve when said valve is open, and when said supplemental valve is open is moved to close when said second pipe brake cylinder connection valve is moved to open. 10th. In an engineer's valve for air brake system, in combination, a source of pressure supply and train service pipe, a valve adapted to admit pressure from the source of pressure supply to the train service pipe, a pressure valve controlling a port open to the air, and connection between the train service pipe and one side of said valve independent of the first mentioned valve. 11th. In an engineer's valve for air brake system, in combination, a source of pressure supply, a train service pipe, a valve controlling two inlets from the source of supply to to the train service pipe, a pressure valve controlling one of said last mentioned inlets, a pressure valve controlling a port open to the atmosphere, and connection between one side only of the last mentioned valve mechanisms and the train service pipe, independent of the first mentioned valve. 12th. In an engineer's valve for air brake system, in combination, a source of pressure supply, a train service pipe, a valve controlling two inlets, one direct to the train service pipe, the other to a supplemental chamber, a supplemental valve controlling said last mentioned inlet, a piston in said chamber controlling said last mentioned valve, connection between said chamber and the train service pipe, independent of the first mentioned valve, a pressure valve controlling a port open to the atmosphere, and connection between one side only of said valve and the train service pipe. 13th. In an engineer's valve for air brake system, in combination, a source of pressure supply, a train service pipe, a valve controlling two inlets, one direct to the train service pipe, the other to a supplemental chamber, a supplemental valve controlling said last mentioned inlet, a piston in said chamber controlling said last mentioned valve, connection between said chamber and the train service pipe, independent of the first mentioned valve, a pressure valve controlling a port open to the atmosphere, and connection between one side only of said valve and the last mentioned chamber. 14th. In an engineer's valve for an air brake system, in combination, a train service pipe, a valve and valve seat the valve seat having a full port and a tapering port connecting with the train service pipe, the tapering port terminating in the full port, and an exhaust port service pipe, the valve being provided with a passage adapted to register with both of said ports simultaneously. 15th. In an engineer's valve for an air brake system, in combination, a source of pressure supply, a train service pipe, a rotary valve and seat, the seat being provided with two ports, one of which is provided with a tapered portion, connection from both ports to the train service pipe, and an exhaust port, the valve being provided with a port connecting with pressure supply and adapted to register with either of the first mentioned ports, and a passage adapted to connect the tapered port with the exhaust port. 16th. In an engineer's valve for an air brake system, in combination, a source of pressure supply, a train service pipe, a rotary valve and seat, the seat being provided with two ports, one of which is provided with a tapered portion, connection from both ports to the train service pipe, and an exhaust port, the valve being provided with a port connecting with pressure supply and adapted to register with either of the first mentioned ports, and a passage adapted to connect the tapered port with the exhaust port, the arrangement being such that before the passage in the valve is moved to the tapered port in the valve seat, the port in the valve is moved beyond both ports in the valve seat. 17th. In an engineer's valve for an air brake system, in combination, a train service pipe, a source of pressure supply, a valve having a port connecting with air pressure supply, two ports in the valve seat adapted to register with the valve port, one of said ports connecting directly with the train service pipe, the other connecting with a supplemental chamber, a pressure valve controlling the opening from said last mentioned port to the supplemental chamber, valve mechanism in said chamber, and connection between said chamber and train service pipe, a pressure valve controlling a port opening into the atmosphere, and connection between one side only of said last mentioned valve and the train service pipe. 18th. In an engineer's valve for an air brake system, in combination, a train service pipe, a source of pressure supply, a valve having a port connecting with air pressure supply, two ports in the valve seat adapted to register with the valve port, one of said ports connecting directly with the train service pipe, the other connecting with a supplemental chamber, a pressure valve controlling the opening from said last mentioned port to the supplemental chamber, valve mechanism in said chamber, the connection between said chamber and train service pipe, a pressure valve controlling a port opening into the atmosphere, and connection between one side only of said last mentioned valve and the supplemental chamber.

No. 55,976. Bath Tub (*Baignoire.*)



Walter Ernest Booth, Detroit, Michigan, U.S.A., 18th May, 1897; 6 years. (Filed 20th April, 1897.)

Claim.—As an improved article of manufacture, a bath tub composed of a smooth sheet of metal casing having a lining of copper, aluminium or other suitable metal electrically deposited upon the smooth inner surface of the sheet metal casing in such a manner as to be caused to adhere or be united to the interior of the casing and form part of the mass as and for the purpose specified.

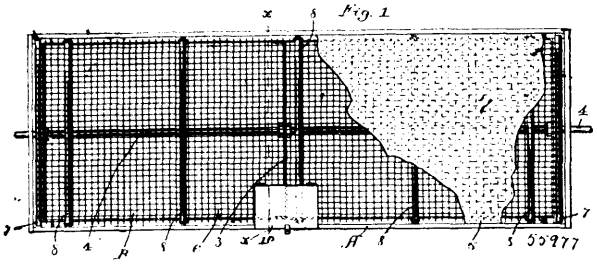
No. 55,977. Apparatus for Heating and Moistening Soil. (*Appareil pour chauffer et arroser les serres chaudes*)

Anthony Mathias Stoltz, St Paul, Minnesota, U.S.A., 18th May, 1897; 6 years. (Filed 20th April, 1897.)

Claim.—1st. The herein described improved method of heating and moistening the soil of plant beds, which consists of subjecting the same to a supply of heated moisture. 2nd. The herein described improved means for heating and moistening the soil of plant beds, which consists of a supply of water underneath the same, and means for vaporizing the water, whereby the soil of the bed is subjected to the heated moisture. 3rd. In combination with the plant bed,

the water receptacle underneath the same, and the means for vaporizing the water for the purpose described. 4th. In combination, the plant bed, the open-work support thereof, the water receptacle arranged beneath the same, and the means for heating the water, whereby the soil is subjected to the influence of the heated moisture. 5th. In combination, the plant bed, the supporting meshing therefor, the water receptacle beneath the same, and the contained conducting pipes connected with a steam or hot water plant, by means of which the water in the receptacle is heated and the soil subjected to the heated moisture therefrom.

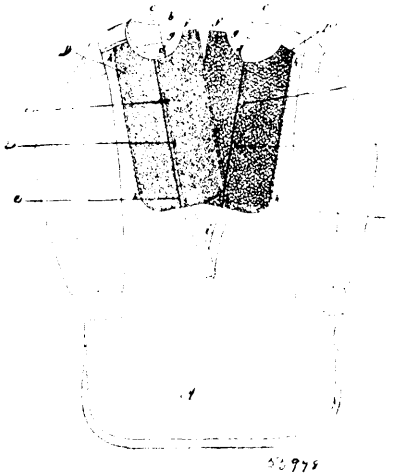
Fig. 1



55977

No. 55,978. Manufacture of Shirts.

(*Fabrication de chemises.*)

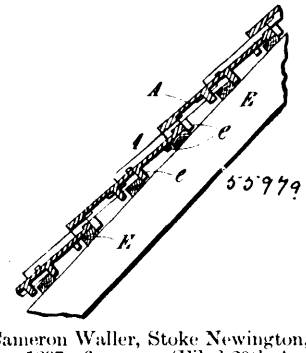


55978

Eli Van Allen, Hamilton, Ontario, Canada, 18th May, 1897; 6 years. (Filed 21st April, 1897.)

Claim.—1st. A shirt formed and constructed with two fronts or bosoms, each attached at opposite sides to the shirt, respectively, so as to be capable of being reversed or changed from outside to inside vice versa, substantially as and for the purpose specified. 2nd. A shirt of any material constructed with a double front or bosom forming an inner and outer front or bosom as D, D, so as each can be changeable to the outside as desired by the wearer, substantially as and for the purpose specified.

No. 55,979. Roofing Tile. (*Tuile de couvertures.*)



55979

William Arthur Cameron Waller, Stoke Newington, London, England, 18th May, 1897; 6 years. (Filed 20th April, 1897.)

Claim.—1st. In an improved locking tile constructed with projections or ledges on each side, drip grooves formed in said ledges and parallel to the sides of the tile, substantially as and for the purposes specified. 2nd. The improved locking tile constructed with projections and ribs on each side, and drip grooves in the said ledges, substantially as described and for the purpose specified. 3rd. The improved locking tile provided with drip grooves, substantially as described and for the purpose specified.

No. 55,980. Process of Manufacturing Rivets, etc.

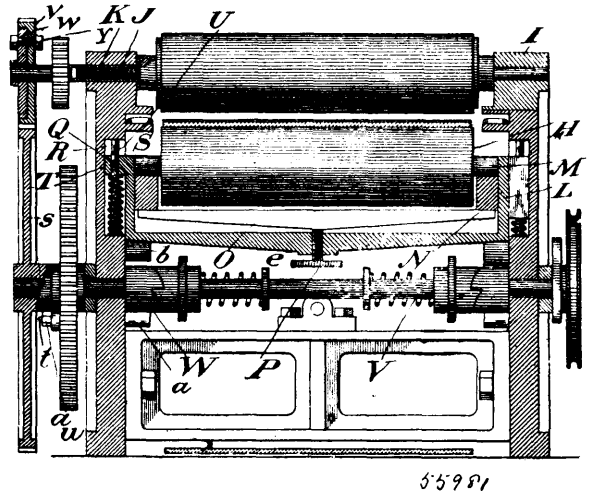
(*Procédé pour la fabrication de rivets, etc.*)

55980

The Goold Bicycle Company, assignee of William Sanfield Wilson and David S. Henderson, all of Brantford, Ontario, Canada, 18th May, 1897; 6 years. (Filed 21st January, 1897.)

Claim.—1st. The herein described process for providing metal with surfaces of hardened and soft metal respectively which consists of charging the surface of the metal with a sufficient quantity of carbon, then cutting the carburetted skin from that portion required to be soft, then heating the metal to the required temperature and then submerging the metal in a hardening fluid, substantially as and for the purpose specified. 2nd. A joint pin or rivet with case hardened body of cylindrical form and soft ends of less diameter for rivet heads, made by charging the surface of the metal with a sufficient quantity of carbon, then cutting the carbonized skin from that portion required to be soft, then heating the metal to the required temperature and then submerging the metal in a hardening fluid, substantially as specified.

No. 55,981. Apparatus for Producing Lithographs, Chromolithographs, Zincographs and Steel and Copper Engravings. (*Appareil pour la production de lithographies.*)



55981

William George Rochester, George Arthur Johnston, Stuart Henderson, Stuart E. Dela Ronde, all of Ottawa, Ontario, Richard Alexis Helmer and Harry Hooper Wootton, Montreal, Quebec, all in Canada, 18th May, 1897; 6 years. (Filed 16th April, 1897.)

Claim.—1st. In a press, a series of cylindrical lithographic stones or rollers, in combination with a corresponding number of pressure rollers, means for damping and inking each lithographic roller, means for automatically bringing the pressure rollers up against the lithographic rollers at regular intervals, an endless belt passing between the lithographic and pressure rollers and carried by suitable drums, and means for rotating the said drums and the lithographic rollers, substantially as and for the purpose specified. 2nd. In a press, a cylindrical lithographic stone or roller, in combination with a pressure roll supported on a spring carried by a frame sliding in the grooves on the main frame of the machine, a pressure roller shaft, cams on the said shaft adapted to raise the sliding frame and means for rotating the said shaft and lithographic roller, substantially as and for the purpose specified. 3rd. In a press, one or more pressure rollers each supported on a spring carried by a frame sliding in guideways on the main frame of the machine, in combination with one or more pressure roller shafts journalled in the main frame, means for revolving said shaft, sleeves loose on each shaft, each forming one-half of a clutch and having cams thereon adapted to raise the sliding frame when the sleeves are rotated, sleeves sliding on feathers on the shaft and each forming the corresponding half of a clutch, springs adapted to hold the sleeves in clutch, a pair of bars having jaws engaging with grooves in the sliding sleeves, a rock shaft journalled on the main frame, crank arms rigidly connected to the rock shaft, rods connecting the aforesaid bars and the ends of the crank arms, and means for operating the said rock shaft, substantially as and for the purpose specified. 4th. In a press, one or more pressure rollers each supported on a spring carried by a frame sliding in guideways on the main frame of the machine, in combination with one or more pressure roller shafts journalled in the main

frame, means for revolving said shafts, sleeves loose on each shaft, each forming one-half of a clutch and having cams thereon adapted to raise the sliding frame when the sleeves are rotated, sleeves sliding on feathers on the shaft and each forming the corresponding half of a clutch, springs adapted to hold the sleeves in clutch, a pair of bars having jaws engaging with grooves in the sliding sleeves, a rock shaft journalled on the main frame, crank arms rigidly connected to the rock shaft, rods connecting the aforesaid bars and the ends of the crank arms, a crank arm rigidly connected to the said rock shaft, a bell crank lever fulcrumed on the main frame, a connecting rod pivoted to the bell crank lever and the said crank arm, a slide suitably supported, a connecting rod pivoted to the bell crank lever and the slide, a cam adapted to operate the slide, and means for operating the cam, substantially as and for the purpose specified. 5th. In a press, the combination of the following elements:—the shaft B, the pinion z, the pinion A^1, the cam B^1, the slide D^1, the friction roller C^1, the connecting rod E^1, the bell crank lever F^1, the connecting rod G^1, the crank arm H^1, the rock shaft I^1, the crank arms J^1, the connecting rods K^1, the bars L^1, jaws M^1, engaging with the grooves on the sleeves c, sliding on feathers on the shafts V, means for revolving the shafts V, sleeves W, having a clutch connection with sleeves c, springs d, and collars e, and cams a, adapted to raise the sliding frames L, when the sleeves W, are revolved, substantially as and and for the purpose specified. 6th. In a press, the combination of the following elements:—the shaft B, the pinion z, the pinion A^1, the cam B^1, the slide D^1, the friction roller C^1, the lever N^1, the connecting rod O^1, the hand-lever P^1, the connecting rod E^1, the bell crank lever F^1, the connecting rod G^1, the crank arm H^1, the rock shaft I^1, the crank arms J^1, the connecting rods K^1, the bars L^1, jaws M^1, engaging with grooves on the sleeves c, sliding on feathers on the shafts V, means for revolving the shafts V, sleeves W, having a clutch connection with the sleeves c, springs d, and collars e, and cams a, adapted to raise the sliding frame L when the sleeves W, are revolved, substantially as and for the purpose specified. 7th. In a press, the pressure roller H, bearing-blocks N, spring O, sliding frame L, adjusting screw P, projections Q, grooves R, and cam projections b, in combination with the shaft V, sleeves W, cam projections a, movable clutch connections between the shaft V and the sleeves W, and means for revolving the shafts V, substantially as and for the purpose specified. 8th. In a press, the pressure roller H, bearing blocks N, spring O, sliding frame L, adjusting screw P, recessed projections Q, grooves R, springs S, guiding rods U, bearing portions T, of the projections Q, and cam projections b, in combination with the shaft V, sleeves W, cam projections a, movable clutch connections between the shaft V and the sleeves W, and means for revolving the shafts V, substantially as and for the purpose specified. 9th. In a press, the combination of a series of lithographic rollers, a series of pressure rollers and a series of pressure roller shafts geared together and adapted to raise the pressure rollers at regular intervals against the lithographic rollers, each of which is geared to the pressure roller shaft of its correspondding pressure roller, two drums located at each end of the machine, a gear wheel fast on the shaft of one of the drums, gearing connecting the said gear-wheel with the gear train of the pressure roller shafts, means for conveying motion from the above-mentioned drum to the drum at the other end of the machine and a carrying belt passing round the said drums and between the pressure and lithographing rollers, substantially as and for the purpose specified. 10th. In a press, the combination of pressure and lithographing rollers suitably journalled a pressure roller shaft and a pinion connected to the spindle of the said lithographing roller, a gear-wheel loose on the said pressure roller shaft, and projection formed on the hub of the said gear-wheel and a projection connected with the said shaft and engaging with the projection on the loose gear-wheel so that the latter will be revolved by the rotation of the pressure roller shaft, but is free to move forward independently of the latter, substantially as and for the purpose specified. 11th. In a press, the combination of pressure and lithographing rollers, a pinion r connected to the spindle of the lithographing roller, a gear-wheel s loose on the shaft V, a set screw t screwed through a projection on the hub of the gear-wheel s, a gear-wheel j, on the shaft V, and the pin u, carried by a projection on the hub of the gear-wheel j, or on the shaft V, substantially as and for the purpose specified. 12th. In a press, two levers $b,^1$ pivoted at their centres on the main frame at opposite sides thereof, two levers c^1 also pivoted on the main frame and each having a spring connection with one end of one of the levers b^1, two heads n^1, having spindles l^1, on which the ends of the levers c^1 are pivoted two or more inking rollers p^1 having spindles o^1 lying in slots m^1 in the heads n^1, in combination with a lithographing roller, a cylindrical ink-slab and two sliding bars Q^1 slotted to engage with pins e^1 on the ends of the levers b^1, substantially as and for the purpose specified. 13th. In a press, the lithographing roller G, and the cylindrical ink-slab q, in combination with the spindles l^1, heads n^1, slotted at m^1 inking rollers p^1, spindles o^1, pressure and distributing rollers r^1, spindles s^1, heads t^1, journalled on sliding bars v^1, slotted to slide on the spindle w^1, of the ink-slab q^1, the arm B^{111}, and means for moving the heads n^1, so as to reciprocate the inking rollers between the lithographic roller and the ink-slab, substantially as and for the purpose specified. 14th. In a press, the lithographing roller G, and the cylindrical ink-slab q^1, in combination with the splindles l^1, heads n^1 slotted at m, inking rollers p^1, spindles o^1, pressure and distributing rollers r^1, spindles s^1, heads t^1, rod u^1 journalled on the sliding bars v^1, slotted to slide on the spindle w^1 of the ink-slab q^1, the collars x^1, the arms B^{11}, and means for moving the heads n^1 so as to reciprocate the inking rollers between the lithographic roller and the ink-slab, substantially as and for the purpose specified. 15th. In a press, the lithographing roller G, and the cylindrical ink-slab q^1, in combination with the spindles l^1, heads n^1, slotted at m, inking rollers p^1, spindles o^1, pressure and distributing rollers r^1, spindles s^1, heads t^1, rod u^1 journalled on the sliding bars v^1, slotted to slide on the spindle w^1 of the ink-slab q^1, the collars x^1, set-screws A^{11}, the arms B^{11}, and means for moving the heads n^1 so as to reciprocate the inking rollers between the lithographic roller and the ink-slab, substantially as and for the purpose specified. 16th. In a press, the lithographing roller G, and the ink-slab c^1, in combination with the heads n^1, carrying the inking rollers p^1, the spindles l^1, the levers c^1 pivoted on the spindle l or its equivalent and widened and slotted at f^1, the levers b^1 pivoted at the same points as the levers c^1 and made double at their upper portions to embrace the levers c^1, the rods q^1, pins h^1 passing through the rods q^1 and through slots i^1 in the levers b^1, the coil-springs j^1, the nuts k^1, the pins e^1 on the lower ends of the levers b^1, and the sliding bars Q^1 slotted at d^1 to receive the pins e^1, substantially as and for the purpose specified. 17th. In a press provided with inking rollers and an ink-slab, bars arranged to slide one on each side of the machine, each sliding bar being provided with a pin or friction-roller, a cam on each end of one of the revolving shafts of the machine adapted to engage with the pins or friction rollers so as to slide the bars and springs adapted to return the sliding bars to their normal position when released by the cams, in combination with a series of levers pivoted on each side of the machine, one arm of each lever being provided with a pin which engages with a slot in one of the sliding bars, and the other end connected with the said inking rollers so as to reciprocate them when the bars are operated, substantially as and for the purpose specified. 18th. In a press provided with inking rollers and an ink-slab, bars arranged to slide one on each side of the machine, a shaft journalled in the frame of the machine, a hand-lever for rocking said shaft, a slotted crank-arm connected to said shaft, and a pin provided on each of said sliding bars and arranged to engage with said slotted crank arm, in combination with a series of levers pivoted on each side of the machine, one arm of each lever being provided with a pin which eagages with a slot in one of said sliding bars, and the other end connected with the said inking rollers so as to reciprocate them when the bars are operated, substantially as described. 19th. In a press provided with inking rollers and an ink-slab, the combination of the bars Q^1 arranged to slide one on each side of the machine, the pins or friction rollers T^1, the cams S^1 on the shaft B, the springs W^1, rod U^1 and pins V^1, located in slots in the bars Q^1, the shaft d^{111}, crank arms c^{111}, pins f^{111} entering slots in the crank arms c^{111}, levers b^1, pins c^1 entering slots d^1 in the bars Q^1, the levers b^1 being connected with said inking rollers so as to reciprocate them when the bars are operated, substantially as and for the purpose specified. 20th. In a press, a cylindrical ink-slab having its spindle journalled in a bracket on the main frame, in combination with an ink-fount attached to the same bracket, a fount roller journalled at the front edge of the fount, a feeding roller similarly journalled and interposed between and in contact with both the fount roller and the ink-slab, and means for rotating the ink-slab and intermittently rotating the fount-roller, substantially as and for the purpose specified. 21st. In a press, the lithographing roller G, having a pinion a^{11} connected to its spindle, in combination with the ink-slab q^1 suitably journalled, pinion y^{11} rigidly connected the spindle w^1, pinion z^{11} rigidly connected to the arm b^{111} loose on the shaft w^1, and the arm c^{114} integral with the arm b^{111} and securely bolted to the main frame or a bracket extending therefrom, substantially as and for the purpose specified. 22nd. In a press, two levers, each pivoted at one end to the frame of the machine and at the other to one of two heads in which are journalled one or more inking rollers, a cylindrical ink slab, a lithographing roller, a damping roller or table moistened by suitable means from a damping fount, damping rollers carried by crank arms extending from a spindle journalled in the main frame, a crank arm connected to the said spindle, a rod connecting the crank arm to a bell-crank lever pivoted on the same pivot as the levers operating the inking rollers, and means for rocking the said levers, substantially as and for the purpose specified. 23rd. In a press, a lithographing roller and a damping roller or table moistened by suitable means from a damping fount, in combination with one or more damping rollers journalled in heads pivoted on crank arms loosely connected to a spindle journalled in the main frame, a damping roller having each end of its spindle extending through a slot in one of the said heads into a slot in one of a second pair of crank arms, also connected to the said spindle, and means for rocking the said spindle, substantially as and for the purpose specified. 24th. In a press, the combination of a damping table or roller, means for moistening the same, the spindle H^{11}, crank arms K^{11}, T-heads L^{11} pivoted on the crank arms K^{11}, two damping rollers N^{11} journalled in the T-heads L^{11}, crank arms P^{11}, damping roller N^{111}, having the ends of its spindle passing through slots O^{11} in the legs of the T-heads L^{11}, into slots Q^{11}, in the crank arms P^{11}, and means for rocking the said spindle H^{11}, substantially as and for the purpose specified. 25th. In a press, the combination of a damping table or roller, means for moistening the same, the

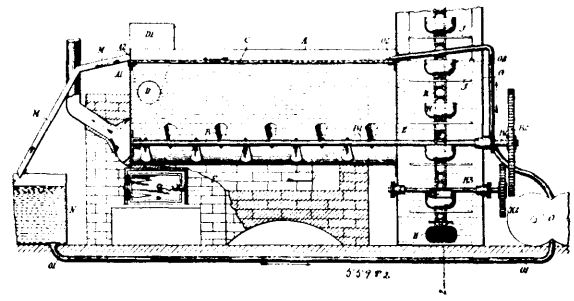
spindle H^{11}, crank arms K^{11}, T-heads L^{11} pivoted on the crank arms K^{11}, two damping rollers N^{11} journalled in the T-heads L^{11}, crank arms P^{11}, damping roller N^{111}, having the ends of its spindle passing through slots O^{11} in the legs of the T-heads L^{11}, into slots Q^{11}, in the crank arms P^{11}, crank arms G^{11}, rods F^{11}, springs I^{11}, adjusting nuts J^{11}, bell-crank levers E^{11}, pins D^{11}, cam C^{11}, on a second shaft V, and means for rotating the shafts V, substantially as and for the purpose specified. 26th. In a press, the ink-slab feeding and distributing mechanism comprising the following elements: the ink-slab q^1, having its spindle w^1, journalled in brackets connected to the main frame of the machine, the heads U^{111}, connected to the same brackets, the ink-slab distributing rollers a^{111}, spindles x^{11} lying in slots z^{11} in the heads U^{111}, curved metal bars b^{11}, springs d^{11}, ink-fount e^{11}, ink-fount roller f^{11} feeding roller g^{11}, and means for revolving the ink-slab and the ink-fount roller, substantially as and for the purpose specified. 27th. In a press, a paper feeding and tension device comprising a guiding roller p^{11}, and tension roller q^{11} journalled in the heads r^{11} pivoted on lugs s^{11} at each side of the machine, lugs t^{11}, set screws u^{11} bearing against the upper side of guides E or other convenient part, and the guard v^{11} extending from side to side of the machine, substantially as and for the purpose specified. 28th. In a press, a paper feeding and tension device comprising a guiding roller p^{11}, adjustable guiding collars w^{11}, tension roller q^{11} journalled in the heads r^{11} pivoted on lugs s^{11} at each side of the machine, lugs t^{11}, set screws u^{11} bearing against the upper side of the guides E, or other convenient part, and the guard v^{11} extending from side to side of the machine, substantially as and for the purpose specified. 29th. In a press, the lithographing roller G, having a spindle J, one end of which is tapered, in combination with the hollow spindle K, tapered to receive the tapered end of the spindle J, and the bearing I sliding in a dovetail on the main frame of the machine, the other end of the spindle J being journalled in the said bearing I, substantially as and for the purpose specified. 30th. In a press, the lithographing roller G, spindle J, bearing block I sliding in a dovetail in the main frame of the machine, hollow spindle K tapered to receive the tapered end of the spindle J, projection l^{111} on the hub of the hollow spindle K fitting into a recess in the hub of the lithographing roller G, substantially as and for the purpose specified. 31st. In a press, a damping fount and a damping fount roller adapted to revolve therein, in combination with a semi-cylindrical damping table adapted to revolve about the damping fount, a damping table roller normally in contact with the damping fount roller and so carried as to be vertically movable, and a cam or cams formed on or connected to the damping-table so arranged that they will raise the damping-table roller into a position to come into contact with the revolving damping-table, substantially as and for the purpose specified. 32nd. In a press, the damping-fount roller R^{11} having a spindle T^{11} and the damping-fount S^{11} swung from the said spindle, in combination with the damping-table k^{111} rigidly connected to the sleeve l^{111}, through which the spindle T^{11} passes, slotted bearings o^{111}, roller m^{111} having a spindle n^{111} adapted to slide in the slots in the bearings o^{111}, cams p^{111}, and means for rotating the sleeve l^{111}, and the spindle T^{11}, substantially as and for the purpose specified. 33rd. In a press, the damping-fount roller R^{11} having a spindle T^{11}, and the damping-fount S^{11} swung from the said spindle, in combination with the damping-table k^{111} rigidly connected to the sleeve l^{111} through which the spindle T^{11} passes, slotted bearings o^{111}, roller m^{111}, having a spindle n^{111} adapted to slide in the slots in the bearings o^{111}, cams p^{111}, shaft V, pulley h^{111}, on the shaft V, pulley U^{11} on the sleeve l^{111}, pinion q^{111} on the spindle T^{11}, slotted arm t^{111}, sliding on the pin u^{111}, adjustable on the disk v^{111}, on the shaft V, substantially as and for the purpose specified. 14th. In a press, the ink-slab feeding and distributing mechanism comprising the following elements: the ink slab q^1 having its spindle w^1 journalled in brackets connected to the main frame of the machine, the heads U^{111} connected to the same brackets, the ink-slab distributing-rollers a^{11}, spindles W^{11} lying in slots V^{11} in the heads U^{111}, curved metal bars b^{11}, springs d^{11}, cam *l* on the ink-slab spindle W^1 having a cam-ring 2 engaging with collars 3, on one or more of the spindles W^{11}, ink-fount e^{11}, ink-fount roller f^{11}, feeding roller g^{11}, and means for revolving the ink slab and the ink-font roller, substantially as and for the purpose specified. 35th. In a press, the combination of the carrying-belt F, drums A, one or more lithographic rollers G, one or more pressure rollers H, the tympan 4, flexible strips 5, a spring roller adapted to wind up the said strips, means for revolving the lithographic roller and belt, and means for raising and lowering the presser roller, substantially as and for the purpose specified.

No. 55,982. Treatment of Fish, etc.

(*Traitment du poisson, etc.*)

The Fish Utilization Syndicate, assignee of John Charles William Stanley, both of London, England, 18th May, 1897; 6 years. (Filed 15th July, 1896.)

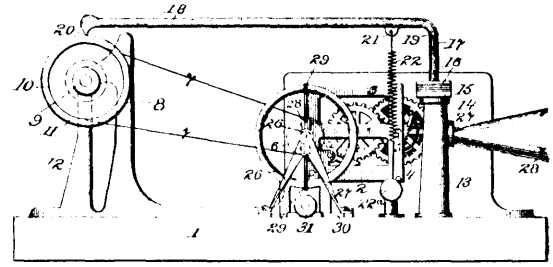
Claim.—1st. For the treatment of fish and other animal matter or similar refuse, a cooking vessel containing a perforated barrier C, substantially as described. 2nd. For the treatn ent of fish and other animal matter or similar refuse, a cooking vessel A containing a barrier C and below the barrier a conveyor, substantially as described. 3rd. In the treatment of fish and other animal matter or similar refuse, the combination with a cooking-vessel such as A, and its appurtenances B, and barrier C, of an elevator working in an extension such as G of the vessel A. 4th. In the treatment of fish



and other animal matter or similar refuse for the purposes specified, the combination with a cooking-vessel of a submerged grating C, and means substantially as described for introducing or permitting the introduction below the barrier of the material to be treated, and for churning and reducing the same, and for simultaneously removing the residual solids, all without interruption of the continuity of the process. 5th. In the treatment of fish and other animal matter or similar refuse, the combination with a cooking-vessel which has a submerged grating C, and is arranged to permit the flow of liquid from above the barrier into a settling-tank, of apparatus for producing a circulation of the liquid through the cooking-vessel and the tank and other parts of the apparatus, for the purpose described. 6th. In the treatment of fish and other animal matter or similar refuse apparatus comprising a cooking-vessel, means for heating the same, a conveyor B, and grating C, the vessel A, being provided with openings D and E below the grating for the admission and exit of the solid particles of the material under treatment, and with an opening or weir A^2 above the grating for the outflow of the oil, substantially as described. 7th. In the treatment of fish and other animal matter or similar refuse, the combination with the tank A of an oil receptacle N with devices for drawing the water from the lower part thereof and returning it into the tank A at or near the surface of the oil or other liquid therein. 8th. In the treatment of fish and other animal matter or similar refuse, an elevator or conveyor with each of its buckets provided with one or more openings for escape of liquid these openings being so disposed that the liquid passing through them will not fall on to the buckets beneath. 9th. In the treatment of fish and other animal matter or similar refuse an elevator or conveyor each bucket of which is provided with a perforated or equivalent false bottom and with one or more openings beneath the false bottom in the bucket wall, substantially as and for the purpose described 10th. In the treatment of fish and other animal matter or similar refuse for the purpose specified, the combination with elevator buckets provided with liquid outlets as described of one or more pipes J, substantially as and for the purpose described. 11th. An apparatus in which fish or other animal matter or similar refuse is cooked and broken up in a liquid which is kept in circulation and employed to convey away through a barrier which keeps back the solids the oil rising to the surface of said liquid, whilst the residual solids are removed by conveyors or the like.

No. 55,983. Apparatus for Reproducing Sound.

(*Appareil pour la reproduction des sons.*)



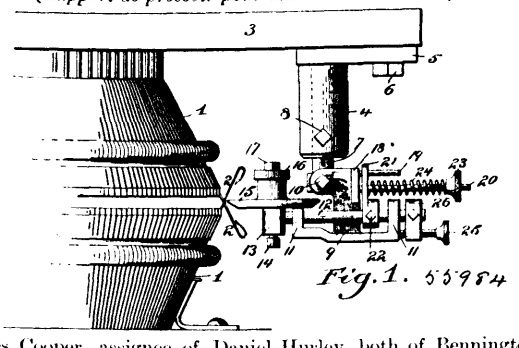
Leroy W. Baldwin, assignee of William G. Spiegel, both of New York, State of New York, U.S.A., 18th May, 1897; 6 years. (Filed 19th November, 1896.)

Claim.—1st. In a sounding reproducing apparatus, the combination of the sound transmitting board, the revolving record, the clockwork which drives said record, the governor which regulates the speed of rotation, and the rod which has a stylus point on one end, and which said stylus point rests on the record, while the other end of the rod rests loosely on the sound transmitting board, substantially as described. 2nd. A mechanical governor consisting of the following parts in the combination, the rotating shaft, the fan pivoted to said shaft on a pivotal axis, at right angles to said shaft, and means for adjusting the angle of such fan to said shaft, substantially as described. 3rd. A mechanical governor which consists of the following parts in combination, the rotating shaft; the fan

pivoted to said shaft on the axis substantially at right angles thereto, and the adjustable ring which controls the inclination of said fan to said shaft, substantially as described. 4th. A mechanical governor which consists of the following parts in combination, the rotating shaft, two or more fans pivoted to said shaft, and the adjustable ring which controls the inclination of said fans to said shaft, substantially as described. 5th. A mechanical governor which consists of the following parts in combination, the rotating shaft, the fans pivoted to said shaft, a ring which controls the inclination of said fans to the shaft, the standard which carries said ring, and the sliding base on which it is adjusted in the line of the length of the shaft, substantially as described. 6th. A mechanical governor which consists of the following parts in combination, the rotating shaft, the fans pivoted to said shaft, the notched ring which slides lengthwise upon said fans, but rotates with them, the standard in which said ring rotates and the sliding base on which said standard is adjusted in the line of the rotating shaft, substantially as described. 7th. In a sound reproducing apparatus, the combination of the main frame, the revolving record, the sound transmitting board, the detached stylus, the point of which rests upon the revolving record while the other end rests loosely on the sound transmitting board, and means for holding said stylus in engagement with the record, substantially as described. 8th. In a sound reproducing apparatus, the combination of the main frame, the revolving record, the sound transmitting board, the detached glass tube having a stylus point formed on one end, which point rests upon the revolving record, while the other end of the tube rests loosely on the sound transmitting board, and a spring for holding said stylus in engagement with the record, substantially as described. 9th. In a sound rrproducing apparatus, the combination of the main frame, the revolving record, the sound transmitting board, the detached stylus, the point of which rests upon the revolving record, while the other end rests loosely on the sound transmitting board, and a spring mounted in the main frame, at a point nearly under the sound transmitting board, and connected to the stylus near that end thereof which rests on the sound transmitting board, substantially as described. 10th. In a sound reproducing apparatus, the combination of the main frame, the revolving record, the sound transmitting board, the detached glass tube, having a stylus point formed on one end, which point rests upon the revolving record, while the other end of the tube rests loosely in a socket on said sound transmitting board, the projection near that end of the glass tube resting in said socket and the spring mounted on main frame at a point nearly under the sound transmitting board and connected to said projection, substantially as described. 11th. In a sound reproducing apparatus, the combination of the rotating sound record, the loose stylus tube, one end of which rests on said revolving record, and the vibration amplifier, on which the other end of the stylus tube rests, substantially as described. 12th. In a sound reproducing apparatus, the combination of the revoluble cylindrical sound record, the means for rotating the same, the stylus tube one end of which rests upon the sound record, and the stationary drum on which the other end of the stylus loosely rests, substantially as described. 13th. In a sound reproducing apparatas, the combination of the rotating sound record, the stationary drum, the upwardly projecting pin attached to said drum head, the stylus tube having one end drawn down to a point and resting on the rotating sound record, while the other end is bent at right angles to the main body of the tube and rests over the upwardly projecting pin substantially as described.

No. 55,984. Presser Stand for Knitting Machines.

(*Support de pressoir pour machines à tricoter.*)

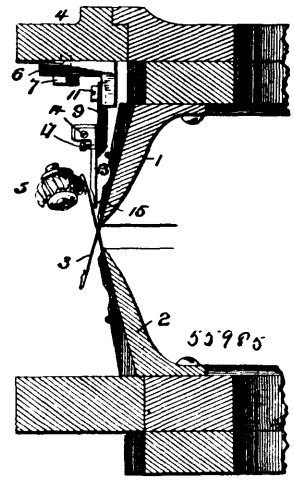


Charles Cooper, assignee of Daniel Hurley, both of Bennington Vermont, U.S.A., 18th May, 1897; 6 years. (Filed 6th February, 1897.)

Claim.—1st. The combinatiou in a knitting machine, of a support attached thereto and provided with bearings, a sliding rod supported in said bearings, with means for regulating and restricting its movements, a presser disc carried by the sliding rod, a fixed rod extending from the support, an arm connected to the sliding rod and fitting loosely over the fixed rod, an adjustable stop on the end of the fixed rod, and a spring between the said stop and arm, substantially as and for the purpose set forth. 2nd. The combination in a knitting machine, of a presser disc and a support therefor consisting of a tube screwed to the frame of the machine, a rod adjustably secured in the tube, a casting pivotally connected to the said rod and provided with bearings, a sliding rod supported in said bearings, a post carrying the presser disc adjustably on the sliding rod, a fixed rod extending from the casting, a stop on the end of the fixed rod, an arm connected to the sliding rod and fitting loosely over the fixed rod, and a spring between the said stop and arm, substantially as and for the purpose set forth. 3rd. The combination in a knitting machine, of a presser disc and a support therefor consisting of a tube secured to the frame of the machine, a rod adjustably secured in the tube, a casting pivotally connected to the said rod and provided with bearings, a sliding rod supported in said bearings, a fixed rod extending from the casting, a stop on the end of said rod, an arm connected to the sliding rod and fitting loosely over the fixed rod, a spring between the said stop and arm, a device to adjust and limit the movemet of the sliding rod in its bearings, and a post carrying the presser disc adjustably pivoted on the sliding rod, substantially as and for the purpose set forth.

No. 55,985. Stitch Former for Knitting Machines.

(*Machine à former les mailles pour machine à tricoter.*)



Charles Cooper, assignee of William Thomas Barratt, both of Bennington, Vermont, U.S.A., 18th May, 1897; 6 years. (Filed 6th February, 1897.)

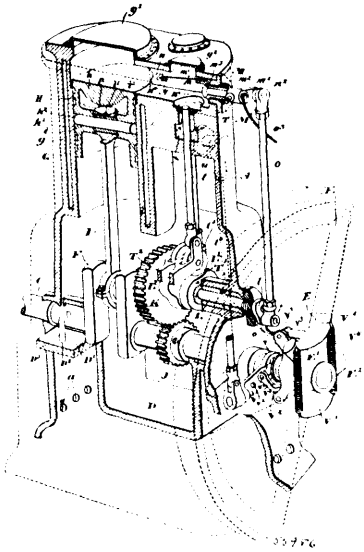
Claim.—1st. In a knitting machine having revoluble needle cylinders, the combination with the stitch wheel and the needles of one of the cylinders, of a cam supported in the path of the travel of said needles to force them successively between the blades of the stitch wheel, substantially as and for the purpose set forth. 2nd. In a knitting machine having revoluble needle cylinders, the combination with the stitch wheel and the needles of one of the cylinders, of a cam supported in the path of the travel of said needles to force them successively between the blades of the stitch wheel, and devices to adjust the cam vertically and laterally relative to said needles, substantially as and for the purpose set forth.

No. 55,986. Gas Engine. (*Machine à gaz.*)

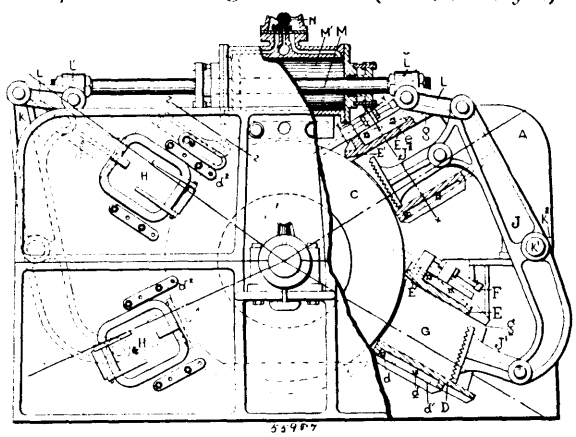
Ernest Stephen Cooper and Charles Robert Cooper, both of Toronto, Ontario, Canada, assignees of William Beck, Racine, Wisconsin, U.S.A., 19th May, 1897; 6 years. (Filed 27th February, 1897.)

Claim.—1st. In combination the crank shaft, cylinder, connecting rod, hollow piston provided with a convex downwardly depending head portion, pin extending through the piston on which the connecting rod is journalled, saucer-shaped cup for the connecting rod and holes in the centre of the same, and leading through the bushing to the pin, as and for the purpose specified. 2nd. In an engine of the class described, a cylinder, an explosion chamber situated to one side of the cylinder, a stem insulated from the frame extending into the explosion chamber and provided with a bent end having a contact pin, a blade secured in the frame, and electric connections from the ends of the blade and end of the stem to a battery and means operated from the main shaft whereby upon the piston in the cylinder reaching its upward stroke the stem and blade make and break contract, as and for the purpose specified. 3rd. In an engine of the class described, an explosion chamber situated to one one side of the cylinder, a stem insulated from the frame extending into the explosion chamber and provided with a bent end having a contact pin, a blade secured in the frame, and electrical connections from the ends of the blade and end of the stem to a battery, an arm on the outer end of the stem, rod connected to such arm and insulated from it, a counter shaft driven from the main shaft and crank on the counter shaft and means for throwing the connection to the battery into circuit when the stem and pin are thrown from under

the blade, and for breaking the connection to the battery when the pin on the end of the stem is thrown back past the blade after having been caused to move over it, as and for the purpose specified. 4th. In an engine of the class described, an explosion chamber situated to one side of the cylinder, a stem insulated from the frame extending into the explosion chamber and provided with a bent end having a contact pin, a blade secured in the frame, and electrical connections from the ends of the blade and end of the stem to a battery, an arm on the outer end of the stem, rod connected to such arm and insulated from it, a counter shaft driven from the main shaft and crank on the counter shaft, and a spring finger insulated from the casing and forming a terminal for one of the wire connections to the battery and designed to come into contact with the crank on the end of the counter shaft as it is caused to rotate, as and for the purpose specified. 5th. In a machine of the class described, a cylinder, an explosion chamber situated to one side of the cylinder, a stem provided with a bent contact end, a screw sleeve fitting into a corresponding hole in the outer end of the explosion chamber, an internal sleeve fitting within such screw sleeve, and in which the stem is journalled, an insulating ring surrounding the internal sleeve, a blade journalled in the outer sleeve and wire connections, between the end of the stem and the end of the outer sleeve in which the blade is affixed, leading to a battery, as and for the purpose specified. 6th. In a machine of the class described, a vaporizer provided with a cylindrical casing with a suitable upper internal head and open at the bottom, an oil pipe leading into the casing above the head, a ring of perforations above the head in the periphery, and a spiral groove extending from top to bottom of the cylindrical casing, perforations in the same, and an outer casing therefor situated below the vapour supply valve, as and for the purpose specified. 7th. In a machine of the class described, a vaporizer provided with a cylindrical casing with suitable upper internal head and open at the bottom, an oil pipe leading into the casing above the head, a ring of perforations above the head in the periphery, a spiral groove extending from top to bottom of the cylindrical casing, perforations in the same, an outer casing therefor situated below the vapour supply valve, and a wrapping of wicking surrounding the cylindrical casing, as and for the purpose specified. 8th. In a machine of the class described, a vaporizer provided with a cylindrical casing with suitable upper internal head and open at the bottom, an oil pipe leading into the casing above the head, a ring of perforations above the head in the periphery, a spiral groove extending from top to bottom of the cylindrical casing, perforations in the same, and a trough formed around the exterior of the cylinder at the bottom, and a waste pipe leading therefrom, and an outer casing therefor situated below the vapour supply valve, as and for the purpose specified. 9th. In combination the open ended vaporizer, the perforations at the bottom of the casing to admit the air, the oil supply pipe for the vaporizer, the cylindrical valve with longitudinal bottom ports, internal cylinder with corresponding ports, the ports in the outer supply valve cylinder and inner cylinder leading into the supply chamber, and a valve connecting the supply chamber with the explosion chamber, as and for the purpose specified. 10th. In combination the gas pipe and port leading therefrom to a port in the supply cylinder and port in the inner cylinder and the ports in the inner and outer supply cylinder connected to the supply chamber, and the valve leading from the supply chamber to the explosion chamber, as and for the purpose specified. 11th. In combination the explosion chamber, the supply valve and chamber and vaporizer, the valve T closing the valve opening S, the valve rod t, the arm T^1 pivotally connected to the bottom of the valve rod and suitably swung, the roller in the arm, the cam L^1 on the shaft L, and the gear-wheel K on the shaft L, and the gear-wheel J on the main shaft, as and for the purpose specified. 12th. In combination the explosion chamber, having an upper lateral extension, the valve U, valve rod u, exhaust pipe u^2, and means connected with the main shaft for operating such valve, as and for the purpose specified. 13th. In combination the explosion chamber, having an upper lateral extension, the valve U, valve rod u, exhaust pipe u^1, and the arm T^1, pivotally connected at the bottom end of the valve rod U, the roller t^1 pivoted in the arm, the cam L^1 secured on the counter shaft L, the gear wheel K on the same shaft and the gear-wheel J on the main shaft, as and for the purpose specified. 14th. The combination with supply valve and internal cylinder thereof with suitable ports as specified, of the stem R^3, rod H^4, governor on the main shaft and means between the governor and the rod controlling the length of the upward movement of such rod, as and for the purpose specified. 15th. The combination with the supply valve and internal cylinder thereof with suitable ports as specified, of the stem R^3, rod H^4 governor on the main shaft comprising the levers V^2, pivoted on the brackets V^3, secured to the hub of the fly-wheel and having weights V^4 at one end and bent arms at the other provided with pins V^1, the arms V pivotally connected to the rod R^4, and provided with a sleeve-shaped end swung on the main shaft, an annular groove in the sleeve-shaped end into which the pins V^1 extend, an obliquely set pin V^2, secured in the arm V designed to co-act with the oblique hole V^3 made in the casing, as and for the purpose specified.



No. 55,987. Grinding Machine. (*Machine à broyer.*)

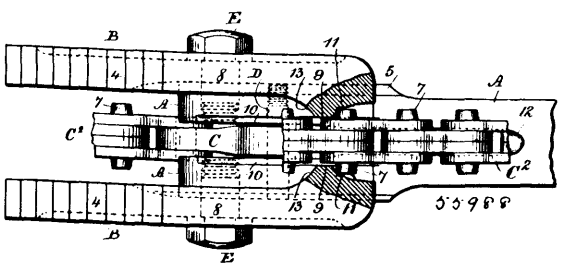


Bernerd Eilers and William A. Murphy, both of Rochester, New York, U.S.A., 19th May, 1897; 6 years. (Filed 2nd March, 1897.)

Claim.—1st. In a grinding machine, the combination with the grinding cylinder, of a plurality of pockets arranged around the cylinder with the central longitudinal axis of each on the draw side of radial lines from the axis of the cylinder, pressers or followers operating in the pockets, connections between the followers on diametrically opposite sides of the cylinder for causing their simultaneous operation toward and from the surface of the cylinder, and a motor device for actuating said pressers, substantially as described. 2nd. In a grinding machine, the combination with the grinding cylinder, of four pockets arranged around the cylinder with their central axes located on the draw side of radial lines from the cylinder axis, followers operating in the pockets, and connections between the followers whereby those on approximately diametrically opposite sides of the axis of the cylinder will be simultaneously moved toward and from the operating surface of the cylinder and the followers thus paired will be actuated in opposite directions alternately, and motor devices for operating said followers, substantially as described. 3rd. In a grinding machine, the combination with the grinding cylinder, of four pockets arranged around the cylinder with their central axes located on the draw side of radial lines from the cylinder axis, the two pivoted levers connected at one end for simultaneous operation on their pivots, and the pressers or followers, one for each pocket, pivoted to the opposite ends of said levers and operating in the pockets, substantially as described. 4th. In a grinding machine, the combination with the grinding cylinder, and four pockets arranged symmetrically around the cylinder, of the two pivoted levers, connections between the levers for causing their proximate ends to move simultaneously in opposite directions relative to the cylinder surface, the pressers or followers in the pockets pivotally connected to the ends of the levers, and a motor device for actuating the levers on their pivots, substantially as described. 5th. In a grinding machine, the combination with the cylinder, and the pockets arranged around the cylinder, of the pivoted levers J and K, the followers J^1, J^2, J^3 J^4, pivoted to the ends of the levers, the rod M, the links connecting it to the ends of the levers, and the motor for actuating the rod in opposite directions, substantially as described. 6th. In a grinding machine, the combination with the grinding cylinder and a wood pocket, of a follower or presser operating in said pocket and having the corrugated or roughened face, and a lever pivoted on an axis

parallel with that of the cylinder for actuating the follower and pivoted to the follower on an axis also parallel with that of the cylinder, substantially as described. 7th. In a grinding machine, the combination with the frame embodying the two side plates, the grinding cylinder operating between them, and the top and bottom pocket plates adjustably secured to the side plates, and movable toward the cylinder, of the filling plates G forming one side of the pockets, the feed doors having the filling plates G¹ thereon forming the other side of the pockets, and the pressers or followers operating in the pockets to press the wood against the cylinder, substantially as described. 8th. In a grinding machine, the combination with the side plates or frames, and a grinding cylinder operating between them, of the independent pocket plates D and E, securing devices for attaching them to the side plates and forming the top and bottom of the pocket, the adjusting screws F connecting the plate E with the side plates, and the presser or follower operating in the pockets, substantially as described. 9th. In a grinding machine, the combination with the grinding cylinder, of the wood pockets having the corrugations on the draw side gradually tapering toward the cylinder, and a presser or follower operating in the pocket, substantially as described. 10th. In a grinding machine, the combination with the side frames or plates, and the grinding cylinder operating between them, of the plate extending between the side plates, the guides thereon, the carriage on the guides and the screw for moving it, the slide on the carriage, the cylinder dressing roller on the slide, the set screw engaging the slide, and the pinion and rack for adjusting the slide on the carriage, substantially as described. 11th. In a grinding machine, the combination with the side plates or frames, and the grinding cylinder, of the pocket plates E extending between the side frames, the bolts for securing it to the latter, the adjusting screws and set nuts, the pocket plates D also adjustably secured to the side frames, and a follower operating in the pocket, substantially as described. 12th. In a grinder, the combination with the grinding cylinder, a plurality of wood pockets arranged around its periphery, plungers or pressers, one in each of the pockets, guided to move approximately radially of the cylinder, and with their faces in the same position relative to the cylinder surface, connections between diametrically opposite pressers for causing their simultaneous movement in pairs toward and from the portions of the surface of the cylinder with which they co-operate, and connections between the several pairs of pressers for causing their simultaneous operation in opposite directions relative to the portions of the cylinder surface with which they co-operate, substantially as described. 13th. In a grinder, the combination with the grinding cylinder, a plurality of wood pockets arranged around its periphery, plungers or pressers, one in each of the pockets, guided to move approximately radially of the cylinder and with their faces maintained in the same position relative to the cylinder surface, and connections between the diametrically opposite pressers for causing their simultaneous operation toward and from the portions of the cylinder surface with which they co-operate, substantially as described. 14th. In a grinder, the combination with a cylinder and a series of wood pockets arranged around the periphery thereof, of a series of pressers or plungers, one operating in each pocket, guided to move approximately radially of the cylinder with their faces maintained in the same position relative to the cylinder surface, and connections between all of the pressers for causing the simultaneous movement of adjacent ones in opposite directions toward and from the surface of the cylinder with which they co-operate, and motor devices for operating the pressers, substantially as described.

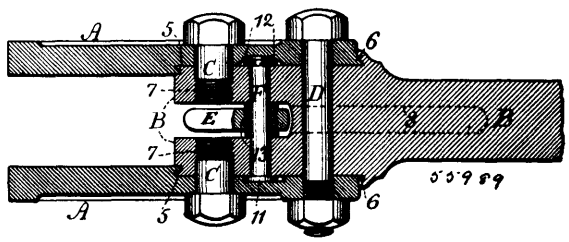
No. 55,988. Chain Wrench. (*Clé à écrou pour chaînes.*)



J. H. Williams & Co., assignee of William Joseph Grinders and George Aurborn, all of Brooklyn, New York, U.S.A., 19th May, 1897; 6 years. (Filed 4th March, 1897.)

Claim.—1st. The combination in a chain wrench, of a handle forked at the front end and having dove-tailed edges, jaws grooved upon their inner faces to fit the dove-tailed edges and driven endwise upon the same, and a chain having an end link within the fork of the handle and a cross-pin for connecting the same, substantially as set forth. 2nd. The combination in a chain wrench, of a handle forked at its front end and having tapering dove-tailed edges, jaws grooved upon their inner faces to fit the dove-tailed edges and driven endwise upon the same, and a chain having an end link within the fork of the handle and a cross-pin for connecting the same substantially as set forth. 3rd. The combination in a chain wrench, of a handle forked at its front end and having dove-tailed edges, jaws grooved upon their inner faces to fit the dove-tailed edges and driven endwise upon the same, and a chain having an end link within the fork of the handle and a cross-pin for connecting the same, and separate bolts passing through the jaws and into the fork of the handle, substantially as set forth. 4th. The combination in a chain wrench, of a handle having a fork at its front end, jaws having serrated front edges and grooved in their inner faces to set tightly upon the outer sides of the handle fork, and two separate bolts passing through the jaws into the fork, substantially as set forth. 5th. The combination in a chain wrench, of jaws having serrated edges at each side, a handle having a forked end, separate bolts passing through the jaws and into the fork for connecting such jaws to the fork, a chain and a pin crossing the axial centre of the handle and nearer to the bottom of the fork than the separate bolts for connecting the end link of the chain to the fork and preventing the wrench becoming wedged upon the pipe, substantially as set forth. 6th. The combination in a chain wrench, adapted for use with either an open cable or flat link chain, of two jaws having serrated edges, a handle forked at the end, a chain and cross-pin for connecting the end link of the chain in the fork, the jaws being provided with flaring recesses adapted to receive and interlock with a cable chain having open elliptical links and with recesses 11 within the flaring recesses for receiving the ends of the cross connecting pins or rivets in a flat link chain, substantially as set forth. 7th. The combination with the jaws having serrated edges at each side, of a forked handle received between the jaws and permanently connected to them, and the jaws being extended to the rear and formed with recesses to receive the projecting ends of the chain pivots or the curved ends of the cable chain links, and the edges of the handle fork being grooved to receive the edges of the plate links of the chain, substantially as set forth. 8th. The combination with the forked handle, of jaws grooved upon their inner surfaces and setting against the outer surfaces of the forked handle, separate bolts passing through the jaws and terminating at the inner surface of the fork of the handle, and a chain and a removable pin passing through the fork and through the end link of the chain, substantially as set forth.

No. 55,989. Chain Wrench. (*Clé à écrou pour chaînes.*)



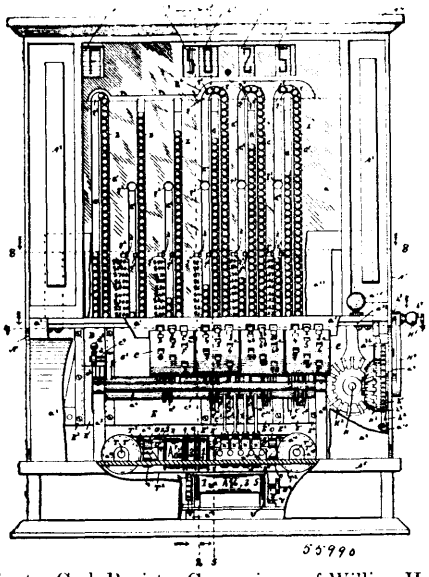
J. W. Williams & Company, assignee of William Joseph Grinder and George Aurborn, all of Brooklyn, New York, U.S.A., 19th May, 1897; 6 years. (Filed 4th March, 1897.)

Claim.—1st. The combination in a chain wrench, of a handle-bar having a forked end, jaws having serrated edges at both sides and recessed on their inner surfaces to receive the outer edges of the handle-bar fork, the end of such handle-bar fork having under-cut or dovetailed projections, and the ends of the recesses in the jaws being correspondingly shaped, substantially as set forth. 2nd. The combination in a chain wrench, of a handle-bar having a forked end, jaws having serrated edges at both sides and recessed on their inner surfaces to receive the outer edges of the handle-bar fork, the end of such handle-bar fork having under-cut or dovetailed projections, and the ends in the recesses in the jaws being correspondingly shaped, there being shoulders upon the handle-bar fork undercut or dovetailed to receive the correspondingly shaped back ends of the jaws, substantially as set forth. 3rd. The combination with the jaws and handle-bar forked at the end, of a chain with the end link passing into the slot of the handle-bar fork, a cross-pin passing through the end link of the chain and through the handle-bar fork, such pin having a head at one end and a nut and divided washer at the other end, the jaw being recessed to receive the dividing washer, substantially as set forth. 4th. The combination with the handle-bar forked at one end, of jaws having serrated edges at both sides, two bolts each passing through one jaw and into the fork of the handle-bar and terminating at the inner surfaces of the fork, the screw threaded portions of the bolts being only near the inner ends of such bolts so that the plain cylindrical portions of the bolts pass through the jaws and enter the handle-bar fork, substantially as set forth. 5th. The combination with the handle-bar forked at one end, of jaws having serrated edges at both sides, two bolts each passing through one jaw and into the fork of the handle-bar and terminating at the inner surfaces of the fork, the screw threaded portions of the bolts being only near the inner ends of such bolts so that the plain cylindrical portions of the bolts pass through the jaws and enter the handle fork, a cable chain having open elliptical links and a separate cross-pin passing through the end link of the chain, substantially as set forth. 6th. The combination with a handle-bar forked at the end, of jaws having serrated edges at both sides, two separate bolts for connecting the jaws to the handle-bar fork near its ends and terminating at the inner surfaces of the fork, and a

second bolt to the rear passing across through the jaws and handle-bar, and a chain having its end link pivoted within the handle-bar, fork, substantially as set forth. 7th. The combination in a chain wrench, of a handle-bar having a fork and dovetailed projections at its end, jaws having serrated edges at both sides and dovetailed recesses in the middle corresponding to the projections on the handle-bar fork for connecting the handle to the jaws, a chain and a connection for one end of the chain in the handle-bar fork, there being projections on the jaws for engaging the links of the chain, substantially as set forth. 8rh. The combination with the handle-bar forked at the end, of jaws having serrated edges at both sides, two separate bolts passing through the jaws and into the handle bar fork, a bolt passing across through the jaws and handle-bar, and a chain having one end connected within the handle-bar fork, substantially as set forth.

No. 55,990. Register and Indicator.

(*Registre et indicateur.*)



The Rochester Cash Register Co., assignee of William Henry Clark, all of Rochester, New York, U.S.A., 19th May, 1897; 6 years. (Filed 5th March, 1897.)

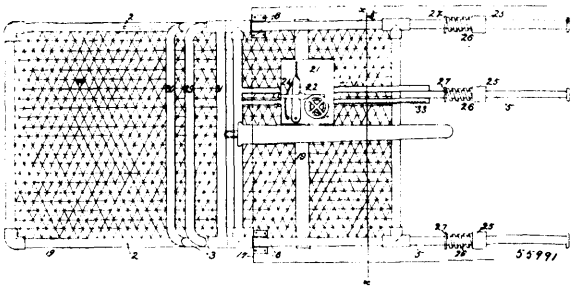
Claim. 1st. In a cash register and indicator, the combination with the registering mechanism, of an operating finger plate having a graduated movement and the characters indicating the registration effected by each movement graduated across the plate successively in successive rows and having finger stops adjacent to said characters for the purposes set forth. 2nd. In a cash register and indicator, the combination with a guideway, and a series of tally pieces carried by said guideway, of a separating mechanism that separates different numbers of tally pieces in said series as actuated, and an operating finger plate having a graduated movement for actuating said separating mechanism and having characters thereon indicating the number of tally pieces separated by each movement. 3rd. In a cash register and indicator, the combination with a guideway, and a series of tally pieces carried by said guideway, of spring actuated mechanism for sustaining said tally pieces in position in said ways and means for actuating said sustaining mechanism for separating tally pieces in said series. 4th. In a cash register ane indicator, the combination with a guideway, and a series of tally pieces carried by said guideway of a spring actuated mechanism for sustaining said tally pieces in position in said way, and an actuatmg means for separating in said series a number of tally pieces that is operated against the resistance of said spring. 5th. In a cash register and indicator, the combination with a guideway, and a series of tally pieces carried by said guideway, of mechanism for sustaining said tally pieces in said way, a spring operatively connected with said sustaining mechanism and of sufficient strength to actuate said tally pieces toward the normal, an actuating means for separating it in said series a number of tally pieces that is operated against the resistance of said spring, and a pawl and rack mechanism for accurately stopping the return movement effected by said spring at a line of separation in said series of tally pieces. 6th. In a cash register and indicator, the combination with a guideway, and a series of tally pieces carried by said guideway, of mechanism for sustaining said tally pieces, a spring operatively connected with said sustaining mechanism and of sufficient strength to actuate said tally pieces toward the normal, an operating finger plate having a graduated movement against the resistance of said spring for actuating said sustaining mechanism to effect a separation in said series of tally pieces, a stop bar for stopping the movement of said plate at the graduation desired, and a pawl and rack mechanism that co-acts with said spring to accurately position said sustaining mechanism for each movement of the operating finger plate at a line of separation in said series of tally pieces. 7th. In a cash register and indicator, with a guideway, a series of tally pieces carried by said guideway, and the frame sustaining the operative parts, of slides for sustaining said tally pieces in said way, an operating finger plate having a graduated rock movement, and connected by a rock arm with said sustaining slide, a coiled spring as c^5, coiled about the axis about which the finger plate rocks, so attached and tensioned as to effect a movement toward the normal, a stop bar for stopping the movement of said plate at the graduations desired, and a pawl and rack mechanism that co-acts with said spring to accurately position said sustaining slide for each movement of the operating finger plate at a line of separation in said series of tally pieces. 8th. In a cash register and indicator, of the class named, having the means for actuating tally pieces comprising the storage and elevating way, transfer slide and separating way therein, the combination of the sustaining slide in the separating way, a spring pawl carried with said slide, the mechanism for actuating the sustaining slide to separate the tally pieces desired and for actuating the transfer slide, of the rack D^2, having the oppositely inverted teeth D^7 and d^8, and the grooves d^9 for the purposes set forth. 9th. In a cash regisier and indicator of the class shown, the combination with tally pieces that register by their accumulation and are discharged when the number of tally pieces accumulated equals a unit of the next higher denomination, and a registering way for containing said tally pieces as accumulated, of a slide sustaining said tally pieces in said way, a catch that holds said slide normally in position, a carrying mechanism that transfers a register indication from said way to a register indication of a higher denomination when there is accumulated in said way tally pieces the equivalent of a unit of a higher denomination, and means that releases the catch and slide to allow the discharge of said tally pieces when said carrying mechanism is operated. 10th. In a cash register and indicator, the combination with a series of tally pieces, a guideway for said tally pieces comprising the registering way and storage way, and a transfer slide having a transfer way therein that is moved from the registering to the storage way, of a carrying mechanism for effecting transfer of a registration in said registering to a register of a higher denomination, a slide in said transfer way, a catch for holding said slide normally in position to sustain the tally pieces in the registering way, and means of releasing said catch when said carrying mechanism is operated for the purposes set forth. 11th. In a cash register and indicator, the combination with a series of tally pieces, the guideway for said tally pieces comprising the registering way and storage way, a transfer slide having a transfer way therein that is moved from the registering way to the storage way, of a carrying mechanism for effecting a transfer of a registration in said registering way to a register of higher denomination, a slide in said transfer way, a spring catch f^4 carried by said slide having the extension f^5 that contacts a moving part of the carrying mechanism for the purposes set forth. 12th. In a cash register or indicator, the combination with the operating crank thereof, of the spring actuated press plug h^8 on the case and carrying a stop normally in the line of movement of said crank, and a press pin carried by said crank and adapted to carry with its movement the press plug h^8, and its stop out of the line of movement of said crank. 13th. In a cash register and indicator, the combination with the operating crank thereof, of the spring actuated press plug h^8 on the case and carrying a stop normally in the line of movement of said crank, and a spring actuated press pin h^4 carried by the handle of said crank and adapted to carry with its movement the press plug h^8, and its stop out of line of movement of said crank. 14th. In a cash register and indicator, the combination with the operating and guiding mechanism, of tally pieces that register by their accumulation, mechanism for actuating said tally pieces to register any of several amounts, as desired, and a display indicator in which is brought to view with each operation a character indicating the number of tally pieces accumulated by the same operation. 15th. In a cash register and indicator, the combination with the operating and guiding mechanism, of tally pieces that register by their accumulation, mechanism for actuating said tally pieces to register any of several amounts, as desired, and a display indicator wheel having arranged thereon characters to indicate the accumulation of tally pieces, and means of rotating said wheel to bring to view at each operation the character indicating the accumulation of tally pieces by the same operation. 16th. In a cash register and indicator, the combination with the operating mechanism, of guideways, tally pieces of different denominations that register by their accumulation therein, and a display indicator that indicates at each operation a like denominative succession at both front and rear the number of tally pieces accumulated in each way by the operation. 17th. In a cash register and indicator, the combination with the operating mechanism, of guideways, tally pieces of different denominations that register by their accumulation therein, mechanism for actuating the tally pieces to register in each way any of several amounts, as desired, and a display indicator m which is brought to view with each operation characters indicating at both front and rear in like denominative succession the number of tally pieces accumulated in each way by the operation. 18th. In a cash register and indicator, the combination with the operating and guiding mechanism, of tally pieces that are moved to effect a registration, mechanism that effects a movement of different numbers of tally pieces to register any of several amounts, and a display indicator that is actuated by the movement of said tally pieces that indicates

the amount registered at each operation. 19th. In a cash register and indicator, the combination with the operating and guiding mechanism, of tally pieces that are moved to effect a registration, mechanism that effects a movement of different numbers of tally pieces to register any of several amounts, a display indicator wheel having the indicating characters thereon, and means actuated by the movement of said tally pieces that actuate said wheel to display the character indicating the registering for each operation. 20th. In a cash register and indicator, the combination with the operating and guiding mechanism, of tally pieces that are moved to effect a registration, mechanism that effects a movement of different numbers of tally pieces to effect a registration of any of several amounts, a toothed wheel that engages said tally pieces and is moved therewith, and a display indicator that is actuated by said toothed wheel, that indicates at each operation the registration effected by the tally pieces. 21st. In a cash register and indicator, the combination with the operating and guiding mechanism, of tally pieces, mechanism for moving different numbers of tally pieces to effect a registration of any of several amounts, a display indicator that is actuated by the movement of said tally pieces, and means of releasing said indicator from the control of said tally pieces and returning it to normal at the beginning of an operation. 22nd. In a cash register and indicator, the combination with the operating mechanism, of a guide way for tally pieces, mechanism for moving different numbers of tally pieces to effect a registration of any of several amounts, a display indicator that is actuated by said tally pieces in their movement, means connected with said tally pieces for retaining said indicator in place to indicate a registration until a succeeding operation is begun, and means of releasing said indicator from the control of said tally pieces, and returning said indicator to normal at the beginning of an operation. 23rd. In a cash register and indicator, the combination with the operating and guiding mechanism, of tally pieces that are moved to effect a registration, a toothed wheel that is normally in engagement with said tally pieces and is moved thereby, a display indicator that is actuated by said toothed wheel, means for moving said toothed wheel out of engagement with said tally pieces at the beginning of an operation, means of returning the indicator to normal while said wheel is out of engagement, and means of returning said toothed wheel to normal before the movement of the tally pieces begins. 24th. In a cash register and indicator, the combination with the operating and guiding mechanism, of tally pieces that are moved to effect a registration, a toothed wheel as L^{11}, a shaft as L^{10} on which said toothed wheel is journalled, rock levers as L^{9} carrying said shaft, means actuated by the operating mechanism for actuating said rock lever to move said toothed wheels out of engagement at the beginning of an operation, an indicator wheel as L, a band as L^{7} for communicating movement from the toothed wheel to said indicator wheel, a spring for returning the indicator wheel to normal while said toothed wheel is out of engagement, and a spring that actuates the rock levers to return the toothed-wheel to engagement before the movement of the tally pieces begins. 25th. In a cash register and indicator, the combination with the operating and guiding mechanism, of tally pieces that are moved to effect a registration, a setting mechanism for actuating the number of tally pieces moved, a setting mechanism provided with an identifying character, a guideway for tally pieces that are actuated by said setting mechanism, and an indicator actuated by said tally pieces that indicates the number and character of the setting mechanism actuated. 26th. In a cash register and indicator, the combination with a guideway, a series of tally pieces carried by said guideway, and mechanism for actuating different numbers of said tally pieces to register any of several amounts, of a printing mechanism actuated with said registering mechanism that makes an impression indicating the registration effected by said tally pieces. 27th. In a cash register and indicator, the combination of a series of guideways, tally pieces carried by said guides, the tally pieces of each guideway representing a separate denomination, and mechanism for actuating said tally pieces to effect a registration of any of several amounts in any of said ways, of a printing mechanism actuated with said registering mechanism that makes an impression indicating in each denomination the registration effected by the tally pieces. 28th. In a cash register and indicator, the combination with a guideway, tally pieces carried by said guideway and mechanism for separating different numbers of tally pieces as desired in said way, said separating mechanism having a movement corresponding to the number of tally pieces separated, of a guide, and a sliding frame mounted on said guide that is actuated by said separating mechanism to move correspondingly therewith and having mounted thereon a type for each movement to print a character indicating the registration effected by said movement so positioned with reference to a printing line as to be brought to said line with the corresponding movement of the separating mechanism. 29th. In a cash register and indicator, the combination with a guideway, tally pieces carried by said guideway, a rotatively rocked setting mechanism, and a separating mechanism actuated by said setting mechanism to separate different numbers of tally pieces in said way as desired, of an arm as C^{3} carried by and rocked with said setting mechanism, a guide, and a sliding frame mounted on said guide that is reciprocated by said arm as C^{3}, and having type mounted thereon and arranged as described, designed to print a character for each registration indicating said registration. 30th. In a cash register and indicator, the combination with a guideway, tally pieces carried by said guideway, and mechanism for separating different numbers of tally pieces, as desired, in said way, said mechanism having a setting movement and a return movement at a later stage of the operation, of a printing mechanism set by the setting movement and returned with the return movement of said mechanism, and mechanism actuating the printing mechanism to make an impression between the setting and return movements of said separating mechanism. 31st. In a cash register and indicator, the combination with a guideway, tally pieces carried by said guideway, and mechanism for separating different numbers of tally pieces, as desired, in said way, said mechanism having a setting movement corresponding to the number of tally pieces separated, and a return movement at a later stage of the operation, of a guide, a sliding frame mounted on said guide, and carried with said separating mechanism in its setting and return movement and having type mounted thereon in the described order, and means of effecting the impression for printing between the setting and return movement. 32nd. In a cash register and indicator, the combination with the registering mechanism having a moving part therein graduated to move in ratio to the registration effected with each movement, of a guide, a sliding frame mounted on said guide and carried with said moving part of the registering mechanism and having mounted thereon two series of type containing the same characters arranged in the same order and to correspond to the graduation of the registering mechanism, and mechanism to make an impression of one type of each series, to print on different surfaces the characters indicating the registration incident to each movement. 33rd. In a cash register and indicator, the combination with the operating mechanism, of a reciprocating type frame having a central portion n, and end pieces n^{1}, a flexible type plate attached to said ends and spanning the central space, and a platen bar to make an impression. 34th. In a cash register and indicator, the combination with the operating mechanism, of a guide, a frame as N having the connecting portion n, and end pieces as n^{1}, a flexible plate as N^{1} attached to said ends and spanning the central space, and a platen bar as O^{1} disposed between the connecting bar and the flexible plate at the printing line. 35th. In a cash register and indicator, the combination with the actuating and supporting means, of a flexible type support adapted to be moved to a printing line, a plate O^{1} for flexing said support to make an impression, pivoted levers as O carrying said platen, and cams as O^{2} moved by a moving part of the actuating means, said cams contacting and actuating said levers by their movement. 36th. In a cash register and indicator, the combination with the actuating and supporting means, of two flexible plates having type mounted thereon in like series, but oppositely faced, and means of flexing said plates in opposite directions, for the purposes set forth. 37th. In a cash register and indicator, the combination with the actuating and supporting means, of the frame comprising a connecting portion as n, and end pieces n^{1}, two flexible type plates oppositely placed, attached at the ends and spanning the central space, and platen bars as O^{1} that flex said plates in opposite directions for the purposes set forth. 38th. In a cash register and indicator, the combination with the actuating and supporting means, of two flexible type supports each having a series of type thereon faced oppositely to the type of the other, platen as O^{1} for flexing said type supports in opposite directions to make separate impressions, pivoted levers as O crossed at the rear ends and provided with cam surfaces O^{1}, and the cams O^{2} moved by said actuating means and operating upon the cam surface o^{1} to actuate the levers O. 39th. In a cash register and indicator, the combination with the operating mechanism, of a guide, a sliding frame mounted on said guide, a plate mounted on said frame, a flexible type band, rotative supports therefor so positioned as to bring one span of the band in a plane with the plane of said flexible type plate, and means of flexing said plate and band to make an impression. 40th. In a cash register and indicator, the combination with the operating mechanism, of a guide, a sliding frame on said guide, flexible type plates oppositely mounted on said frames, a flexible type band, rotative supports for said band so positioned to carry one span of the band in a plane with one of the plates and the opposite span with the opposite plate, and means of flexing said spans of the band plates in pairs in opposite directions. 41st. In a cash register and indicator, the combination with a printing mechanism, and means of actuating said printing mechanism, of a cash receptacle, mechanism for forcing said receptacle open with each operation, and means carried by said receptacle for holding a record material, a paper in position to receive the impression of said printing mechanism, and in such position that the printing line is out of view when said receptacle is closed and exposed to view when said receptacle is open. 42nd. In a cash register and indicator, the combination with the registering mechanism, of a flexible type band, rotative supports for said band, two series of type mounted upon said band, each series containing the same characters so positioned with reference to a printing line and each other that as each character in one series is brought to the printing line on one span of the band the like character in the other series is brought to the printing line on the opposite span, and means of flexing said bands in opposite directions to make an impression. 43rd. In a cash register and indicator, the combination with the registering mechanism, of a frame having mounted thereon two series of oppositely faced type, a flexible type band having two series of type thereon arranged to be carried on the opposite spans, a rotative support for said band that

carries the spans of said band in a plane with type on said frame, an ink ribbon in the form of an endless band, rotative supports for said ribbon that carry said ribbon across the faces of the opposed series of type on said type frame and type band. 44th In a cash register and indicator, the combination with a printing mechanism, and means of actuating said printing mechanism, of a cash receptacle, and means carried by said receptacle for holding a record material as paper, in position to receive the impression of said printing mechanism and in such position that the printing line is out of view when said receptacle is closed, and exposed to view when said receptacle is open. 45th. In a cash register and indicator, the combination with a printing mechanism, and means of actuating said printing mechanism, of a money receptacle, means of forcing said receptacle open with each operation, means of stopping a succeeding operation until the receptacle is closed, means in said receptacle for carrying a record roll in position to receive the impression from said printing mechanism, and means actuated with each opening and closing of said receptacle for moving a new surface of said roll into position to be printed. 46th. A cash register and indicator constructed substantially as described and shown in the drawings.

No. 55,991. Safety Buffer Car Fender.

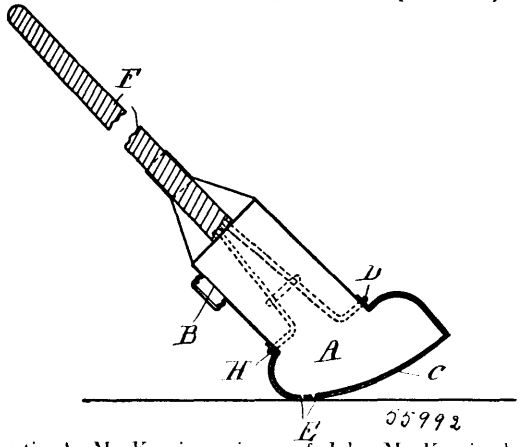
(*Défense de tampon de sûreté pour chars.*)



John Edward Jones and Howard S. Folger, both of Kingston, Ontario, Canada, 19th May, 1897; 6 years. (Filed 23rd March, 1897.)

Claim.—1st. The combination in a fender of the curved buffer 3, and bars 29 and 30, and the screws 9 and 36, substantially as and for the purpose hereinbefore set forth. 2nd. The combination of the guide bars 5, 5, 5, and loops 6, 6, and the ratchet 33, with the cogged wheel 32, and ratchet wheel 14, and catch 15, and the handle 13, together with the three springs 26, 26, 26, substantially as and for the purposes hereinbefore set forth. 3rd. The combination of the bar 10, and the catch 22, and connecting wire 28, substantially as and for the purpose hereinbefore set forth.

No. 55,992. Floor Oiler. (*Graisseur de planchers.*)



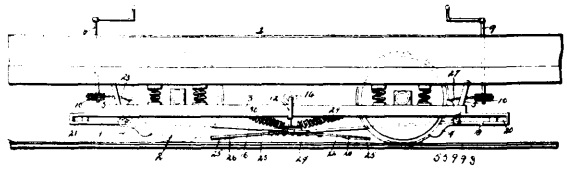
Lucretia A. MacKenzie, assignee of John MacKenzie, both of Watervliet, New York, U.S.A., 19th May, 1897; 6 years. (Filed 31st March, 1897.)

Claim.—In an oiler, a receptacle provided at one end with a shoe shaped portion, perforations near the heel of said receptacle, and a port for charging said receptacle, a handle secured to said receptacle, a fabric covering for the shoe shaped portion of said receptacle, and wire clamps adapted to hold said fabric in position, substantially as described and for the purpose set forth.

No. 55,993. Brake. (*Frein.*)

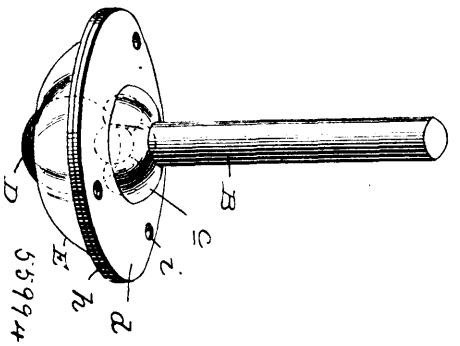
Charles Lee Harryman and William Thomas Pyne, both of Louisville, Kentucky, U.S.A., 19th May, 1897; 6 years. (Filed 17th April, 1897.)

Claim.—1st. In a car brake, the combination with a movable brake beam, of friction shoes carried by said beam and adapted for insertion between the wheels and rails, a spring adapted for moving the brake beam so as to throw the shoes into engagement with the wheels and



rails, and means for keeping said shoes normally out of engagement with the wheels and rails. 2nd. In a car brake, the combination with a movable brake beam, of arms carried by said beam, friction shoes connected to the arms and adapted for insertion between the wheels and rails, winding mechanism, a chain or cable connected to the winding mechanism, and a coil spring connected to the brake beam and the chain, said parts being so disposed and related that the winding mechanism keeps the shoes out of engagement with the wheels and rails, but upon said mechanism being released, the coil spring throws them into engagement with said wheels and rails. 3rd. In a car brake, the combination with a brake beam, of arms connected to said beam, rollers journalled on the arms and adapted to ride on the car truck, friction brake shoes connected to the beam and adapted for insertion between the wheels and rails, and means for moving the brake beam to throw said friction shoes into engagement with the wheels and rails. 4th. In a car brake, the combination with a movable brake beam, of arms connected thereto, friction brake shoes consisting of plates provided with flanges which are connected to the arms, said shoes being adapted for insertion between the wheel tread and flange and the rail, and means for moving the brake beam to put the shoes in use. 5th. In a car brake, the combination with a movable brake beam, of friction shoes carried thereby which are adapted for insertion between the wheels and rails, mechanism for holding the brake shoes out of engagement with the wheels and rails, means for automatically throwing said shoes into engagement with the wheels and rails, additional brake shoes, and a connection between the brake beam and the latter shoes whereby they are applied simultaneously with the friction brake shoe. 6th. In a car brake, the combination with an auxiliary movable brake beam, of friction shoes connected to said brake beam and adapted for insertion between the wheels and rails at opposite ends of the car, means for moving the brake from either end of the car, so as to apply the shoes to either set of wheels, additional brake shoes, and connectionss between said brake shoes and the auxiliary beam whereby when the friction brake shoes are applied to one set of wheels the other brake shoes are applied to another set of wheels. 7th. In a car brake, the combination with a movable auxiliary brake beam, of friction shoes carried by said brake beam and extending in opposite directions, being adapted for insertion between the wheels and rails at opposite ends of the car, additional brake shoes, links connecting said shoes to the car truck, said shoes being located at opposite ends of the car, and brake rods connected to the auxiliary brake beam and provided with open links adapted for engagement with the extra brake shoes, whereby when the friction shoes are applied to the wheels at one end of the car, the extra shoes are applied to the wheels at the other end of the car. 8th. In a car brake, the combination with a movable auxiliary brake beam, of friction shoes connected to said beam and adapted for insertion between rails and the wheels at opposite ends of the car, winding mechanisms located at opposite ends of the car, chains connected to said winding mechanisms, springs connecting said chains to the auxiliary brake beam, additional brake shoes at opposite ends of the car, and connections between said brake shoes and the auxiliary brake beem whereby when the friction brake shoes are applied at one end of the car, the additional brake shoes are applied to the wheels at the opposite end of the car.

No. 55,994. Caster. (*Roulette de meuble.*)



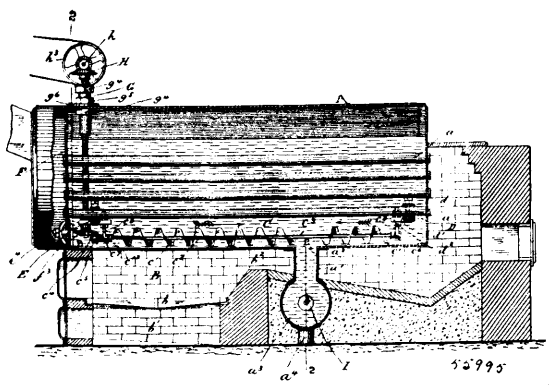
Karl August Klose and William K. Seward, both of Butte, Montana, U.S.A., 19th May, 1897; 6 years. (Filed 17th April, 1897.)

Claim.—1st. A caster, comprising the shank portion having the cup *c*, and also having the ledge *e* extending inwardly from the edge of the cup, and the annular flange *f* depending from the said ledge,

the plurality of balls C arranged within the cup *e* and bearing against the interior of the same and the ledge *e* and also bearing against each other, said balls C being free to race or move around upon the ledge *e*, and the large ball D arranged within the flange *f*, of the shank portion and bearing against the balls C, substantially as and for the purpose specified. 2nd. The herein described caster, comprising the shank portion B formed in one piece and having the cup *e*, the outwardly extending flange *d* at the lower edge of the cup, the inwardly extending ledge *e* and the lower edge of the cup, and the annular flange *f* depending from the ledge *e*, the plurality of balls C arranged within the cup *e* and bearing against the interior of the same and the ledge *e*, said balls C being free to race or move around upon the ledge *e*, the large ball D arranged within the flange *f* of the shank portion and bearing against the balls C, the concavo-convex cap E, having the central aperture *g* receiving the ball D, and also having the flange *h* resting against the flange *d* of the shank portion, and means for connecting the flanges of cap and shank portion, substantially as and for the purpose specified.

No. 55,995. Method of Cleaning Steam Boilers.

(*Méthode de nettoyer les chaudières à vapeur*)



John Cochran Burneson and Oliver Goldsmith Richey, both of St. Louis, Missouri, U.S.A., 19th May, 1897; 6 years. (Filed 20th April, 1897.)

Claim.—1st. An improvement in the art of cleaning boilers and preventing the formation of scale, consisting in mechanically causing a current of water to flow substantially continuously, during the active generation and supply of steam, and the deposit of sediment adapted to form scale, over and away from a highly heated portion of the water heating surface, and along the bottom of that portion of the boiler to which such surface belongs, and carry away from such highly heated surface sediment which would otherwise be deposed and remain thereon. 2nd. An improvement in the art of cleaning boilers, and preventing the formation of scale, consisting in mechanically causing a current of water to flow substantially continuously during the active generation and supply of steam, and the deposit of sediment adapted to form scale, over and away from a highly heated portion of the water heating surface of the boiler and along the bottom of that portion of the boiler to which such surface belongs and carry sediment from said heated surface to a cooler point and there deposit it. 3rd. An improvement in the art of cleaning boilers, having means for blowing off sediment and preventing the formation of scale in such boilers, consisting in mechanically causing a current of water to flow substantially continuously during the active generation and supply of steam, and the deposit of sediment adapted to form scale from a highly heated portion of the water heating surface to another point and carry sediment from the former to the latter point and there deposit it, and blowing off the sediment so deposited from time to time as it accumulates. 4th. An improvement in the art of cleaning steam boilers, having mud legs extending downwards from their shells, bonsisting in mechanically causing a current of water to flow substantially continuously during the active generation and supply of steam and the deposit of sediment adapted to form scale, over and from a highly heated portion of water heating surface, and carry sediment therefrom to the mouth of said mud leg and deposit it in said leg. 5th. An improvement in the art of cleaning steam boilers, having mud legs extending down therefrom, consisting in mechanically causing a continuous current of water to flow from the hottest portion of the boiler to the mouth of said leg and there arresting its course by an opposing current moving from an opposite direction, and in that way causing it to deposit sediment carried thereby in said leg. 6th. The combination of a flue boiler, a screw conveyor in said boiler, a pair of frames for suspending said conveyor from flues of the boiler, one for each end of the conveyor, and each frame having a slot therein parallel with the conveyor, means securing said frames to flues, a pair of bearings for the conveyor, a rod extending up from each bearing, and passing through the slot in the adjoining supporting frame, and means for securing each rod in its slot and adjusting it therein longitudinally. 7th. The combination of a boiler and mechanism for creating two opposite currents of water in said boiler and causing them to flow along the bottom of the part of the boiler containing them and meet between its ends. 8th. The combination of a boiler having a cylindrical part, and an outlet for sediment through the bottom of said part, and mechanism for creating in said cylindrical part two opposite currents of water, and causing them to flow along the bottom of the cylinder and meet above said outlet. 9th. The combination of a flue boiler, a screw conveyor in said boiler, a pair of frames for suspending said conveyor from flues of the boiler, one frame for each end of the conveyor, and each frame having a slot therein parallel with the axis of the conveyor, a pair of bearings, one for each end of the conveyor, a screw-threaded rod attached to each bearing and extending up through the slot in an adjoining supporting frame, and nuts on each rod for clamping it to its frame and enabling the bearing attached to it to be adjusted both longitudinally and vertically, without moving either of said frames, substantially as described. 10th. The combination of a flue boiler, and a frame for supporting the end of a conveyor in said boiler, consisting of an upper and a lower cross-piece and means for clamping them upon flues, and the top of the lower cross-piece being transversely corrugated at points where it comes in contact with flues, substantially as described. 11th. The combination of the frame D consisting of the cross-piece *d*, the lower cross d^1 corrugated transversely at points on top thereof, and having the arm d^2 with the slot d^3 through it, means for securing said cross-pieces together and clamping them upon boiler flues, a conveyor bearing, a rod extending up from said bearing, and means for adjustably securing said rod in said slot, substantially as and for the purposes described. 12th. The combination of a flue boiler, a driving shaft extending down into said boiler, a screw conveyor, bearings for said screw conveyor, a plate having a vertical bearing through which said vertical shaft passes, means rigidly attaching the adjoining conveyor bearing to said plate, means rigidly securing said plate to flues of said boiler, a bevel gear on said vertical shaft and a bevel gear on said conveyor interlocking with and holding each other in place, and means limiting the movement of the conveyor in the direction of the end of the boiler next said plate, substantially as described. 13th. The combination of the frame E consisting of a transverse plate *e*, a cross E^1 having two long arms with ends corrugated transversely on top, a rearwardly projecting arm e^2 pierced by vertical slot parallel therewith, a forwardly projecting arm e^3 containing a bearing for a vertical shaft, means for securing said cross and plate together and clamping them upon boiler flues, a conveyor bearing at right angles to said vertical shaft bearing a screw-threaded rod projecting up from said conveyor bearing and passing through said slot, and nuts clamping said rod to said arm e^2, substantially as described.

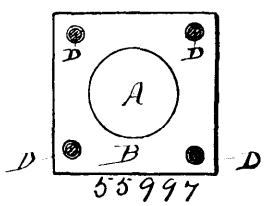
No. 55,996. Plaster. (*Plâtre élastique.*)

Pierre Thibus Cantara, Sorel, Québec, Canada, 20 mai 1897; 6 ans. (Déposé le 9 janvier, 1897.)

Résumé.—Une composition formée de plâtre de paris, de blanc de céruse, d'huile de lin et de colle forte employée par les menuisiers pour coller le bois et d'alun dissous sous le nom de "Plâtre élastique" dans les proportions et pour les fins ci-dessus décrites.

No. 55,997. Manufacture of Electrical Resistance s.

(*Fabrication de résistances électriques.*)



Augustus John Marquand, Bute, and David Lowdon, Barry Graving Dock, both in Docks, Wales, 20th May, 1897; 6 years. (Filed 2nd July, 1896.)

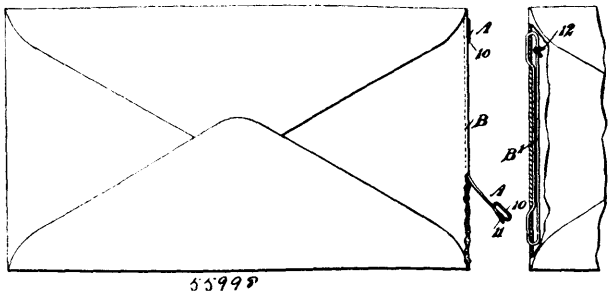
Claim.—1st. In an electrical resistance composed of asbestos cloth having deposited in its texture carbon resulting from the decomposition of carbonaceous material in contact with the asbestos cloth. 2nd. An electrical resistance which can be varied at will and which consists of a press by which a gradual pressure is applied to a pile forming part of an electric circuit, such pile being composed of asbestos cloth having in its texture deposited carbon resulting from the decomposition of carbonaceous matter in contact with the asbestos cloth.

No. 55,998. Opening Devices for Envelopes, Wrappers, etc. (*Appareil pour ouvrir les enveloppes, etc.*)

Frank Eugene Munn, New York, State of New York, U.S.A., 20th May, 1897; 6 years. (Filed 26th May, 1896.)

Claim.—1st. In a wrapper, an opener consisting of a wire located partially interiorly and partially exteriorly in and upon the said wrapper, a portion of said wire being anchored within the said wrapper, substantially as described. 2nd. In a wrapper, an opener con-

sisting of a wire located partially within and partially without the wrapper the terminal of the said wire being anchored within the



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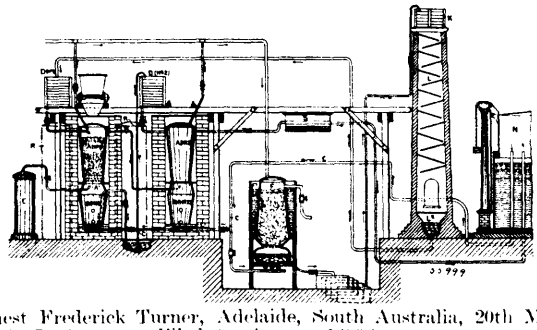
wrapper, substantially as described. 3rd. In a wrapper, an opener consisting of a wire located partially within and partially without the wrapper, one end of the said wire being located within the wrapper, and provided with a head of greater diameter than that of the opening of the wrapper through which the said end is passed, substantially as described. 4th. In a wrapper, an opener consisting of a wire located partially within and partially without the wrapper, and having an end bent upon itself within the wrapper, forming an anchoring enlargement, as and for the purpose specified. 5th. In a wrapper, an opening consisting of a wire located partially within and partially without the wrapper, having an end bent upon itself to cross the opening in the wrapper, through which the wire is passed, whereby an anchor is formed in the wire within the said wrapper, against which tension may be exerted when the said wire is drawn outward for the purpose of cutting the material of which the wrapper is constructed, as set forth. 6th. The combination, with a wrapper, of an opener consisting of a fine wire, the main portion of which lies on the inside of the wrapper, each end of the wire being passed outside of the wrapper, then bent backward and passed inside of the same, and then again bent so as to run parallel with the main portion of the wire, whereby closed loops, consisting of three substantially parallel strands are formed, the strands inclosing and lying close to the stock of the wrapper, substantially as described. 7th. A wrapper, and an opening device consisting of a strip of metal or other material, having its body portion contained in or beneath the wrapper, loops being formed in the length of the strip, which extend over the outer face of the wrapper, the said loops being so placed that they will not be disturbed by frictional contact with adjacent objects, yet being so defined that they may be readily picked up, as set forth.

No. 55,999. Ore Treating System.

(*Système pour traiter le minerai.*)



Ernest Frederick Turner, Adelaide, South Australia, 20th May, 1897; 6 years. (Filed 8th August, 1896.)

Claim.—1st. In the treatment of argentiferous sulphide ores, the within described process consisting of their disintegration by the combined action of aqueous and gaseous hydrochloric acid (H C L) at the same time causing the aqueous hydrochloric acid (H C L) to circulate through fresh supplies of raw ore until it has become a saturated solution of lead and zinc metallic chlorides, subsequently returning such solution to the wholly or partially disintegrated ore and fusing by heat the whole of the chlorides in the disintegrated mass. 2nd. In the treatment of argentiferous sulphide ores in which the ore has been wholly or partially disintegrated by the combined action of aqueous and gaseous hydrochloric acid (H C L), the separation of the undecomposed ore for further treatment by fusing the whole of the chlorides produced in such disintegration, such fusion resulting in the admixture of the gangue with the fused mass and the settling of the undecomposed ore in the bottom of the crucible. 3rd. In the treatment of argentiferous sulphide ore in which the chlorides formed by the disintegration of the ore by the action of hydrochloric acid (H C L) have been fused as set forth in claim No. 1, the subsequent process for the recovery of the metallic contents of the fused mass, consisting in the application of aqueous vapour and sulphur dioxide (SO^2), whereby the metallic contents are obtained as an aqueous chloride solution, subsequently boiling the same in water acidulated with hydrochloric acid (H C L), and finally precipitating the metals therefrom by any known process in suitable precipitating tanks. 4th. In the treatment of argentiferous sulphide ores, the within described process consisting of the production of sulphuretted hydrogen (H^2S) by the action of gaseous hydrochloric acid (H C L) upon the sulphides of the ore under treatment, the subsequent utilization of the aqueous vapour accompanying the sulphur dioxide (SO^2) resulting from the combustion of the sulphuretted hydrogen (H^2S) for the purposes of dissolving in a suitable drying chamber the fused chlorides obtained in the manner as set forth in claim No. 1. 5th. In the treatment of argentiferous sulphide ores, the within described process consisting of the production of sulphuretted hydrogen (H^2S) by the action of the gaseous hydrochloric acid (H C L) upon the sulphides of the ore under treatment, the use of the sulphuretted hydrogen (H^2S) so obtained as fuel and the subsequent utilization of the sulphur dioxide (SO^2) resulting from the combustion of the same for the treatment of sodium chloride in the production of fresh supplies of gaseous hydrochloric acid (H C L) for use in the disintegration of ore. 6th. In the treatment of argentiferous sulphide ores, the within described process consisting of the obtaining of sulphur dioxide (SO^2) by the combustion of sulphuretted hydrogen (H^2S) resulting from the action of gaseous hydrochloric acid (H C L) upon the sulphides of the ore under treatment, the subsequent treatment of sodium chloride by the sulphur dioxide (SO^2) so obtained for the production of gaseous hydrochloric acid (H C L) subsequently treating with the gaseous hydrochloric acid (H C L) so obtained salt brine taken from the last of the series of lixiviating tanks whereby aqueous hydrochloric acid (H C L) is obtained and sodium chloride recovered for renewed use during the process. 7th. In the treatment of galena and argentiferous galena, the within described process consisting of pouring the raw ore in a finely divided state either alone but preferably mixed with lead sulphate and lead oxide into a bath of fused zinc chloride, whereby the lead is thrown down as metallic lead and the silver chloride with the gangue becomes admixed with the fused chloride of zinc, the fused mass being subsequently removed for the recovery of the silver and zinc in the manner as hereinbefore described.

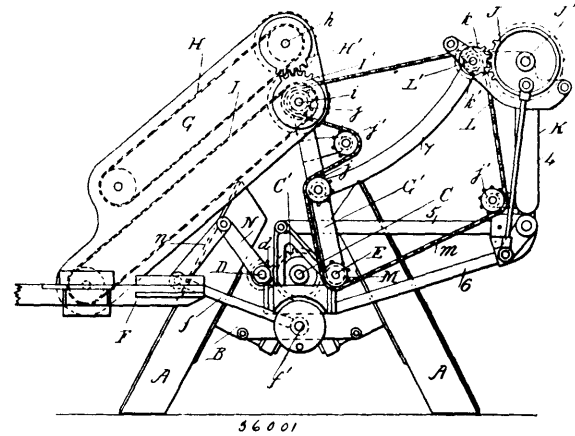
No. 56,000. Manufacture of Zinc Oxide.

(*Manufacture d'oxyde de zinc.*

Wilhelm Hampe and Carl Schanabel, both of Clausthal, Honover, Germany, 20th May, 1897; 18 years. (Filed 23rd July, 1896.)

Claim.—1st. The process for preparing zinc oxide consisting of subjecting an intimate mixture of finely divided zinc sulphate and finely divided carbon, the carbon in the proportion of about 7·5 per cent of the weight of the sulphate, to an even and correctly gauged temperature, substantially as described. 2nd. The process for preparing zinc oxide consisting in subjecting an intimate mixture of finely divided and dried zinc sulphate and finely divided carbon to an even and correctly gauged temperature, substantially as described.

No. 56,001. Harvester. (*Moissonneuse*)

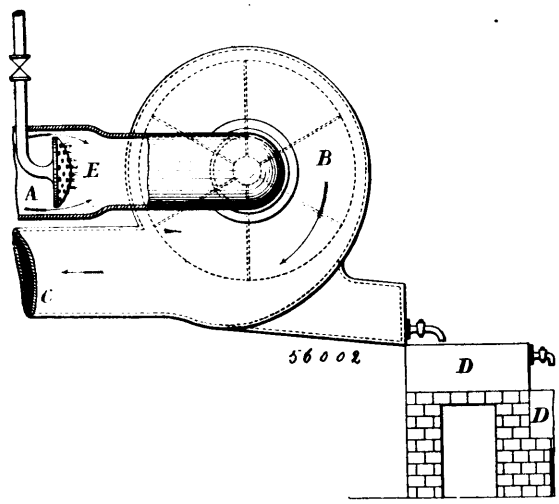


Amédée Tétrault, Montreal, Quebec, Canada, 20th May, 1897; 6 years. (Filed 9th September, 1895.)

Claim.—1st. In a havesting machine, the combination, with a main frame, and a framework for supporting the cutting mechanism and the elevators, said framework being pivotally supported from the said main frame, of a pivoted plate carrying a portion of the mechanism for driving the binder mechanism, a chain wheel carried by the main frame and operated from the ground wheels, an endless drive chain connecting the elevator and binder driving mechanisms with the said chain wheel, and a diagonal bar arranged between a portion of the said framework and the said plate, whereby the said plate is rocked so as to take up the slack of the drive chain when the said framework is raised, substantially as set forth. 3rd. In a harvesting machine, the combination, with a main frame, and a framework for supporting the cutting mechanism and the elevator

said framework being pivotally supported from the said main frame, of a shaft driven from the ground wheels, arms secured on the said shaft, and links connecting the free ends of the said arms with the said framework, whereby the said framework may be raised when not required in use, substantially as set forth.

No. 56,002. Ore Extracting Process.
(*Procédé pour extraire l'or.*)



James Woolford, London, England, 20th May, 1897; 6 years. (Filed 11th August, 1896.)

Claim.—1st. The herein described process for extracting precious metals from refractory ores by fusing the crushed ore intimately mixed with antimony oxide and pulverized fuel, thus producing an alloy of antimony with the precious metals, treating the alloy in a suitable furnace, thereby oxidizing the antimony and driving the oxide off as fumes, leaving the precious metals on the furnace bed. 2nd. The herein described method of recovering the antimony by causing the combustion gases and fumes to pass from the oxidizing furnace through cooling passages and depositing chambers by means of a fan, wherein the gases and residuary fumes are mixed with water, and whence the gases pass away while the oxide suspended in water is drawn off to depositing chambers.

No. 56,003. Manufacture of Electrodes for Voltaic Batteries. (*Fabrication d'électrode pour piles voltaïques.*]

Ludwig Epstein, Roseban, Middlesex, England, 20th May, 1897; 6 years. (Filed 10th September, 1896.)

Claim.—1st. The herein described manufacture of electrodes for voltaic batteries by rendering the surface of lead plates or pieces porous serving them with lead oxide and caustic alkali, drying, and finally converting into negative and positive in the manner described. 2nd The manufacture of electrodes for voltaic batteries by rendering the surface of lead plates porous, serving them with a lead oxide and caustic alkali, drying and finally converting into negative and positive, while immersed in an electrolyte, by connection with opposite poles of a source of electricity, as described.

No. 56,004. Recovery of Gold and Silver from Their Solutions. (*Procédé pour soutirer l'or et l'argent de leurs solutions.*)

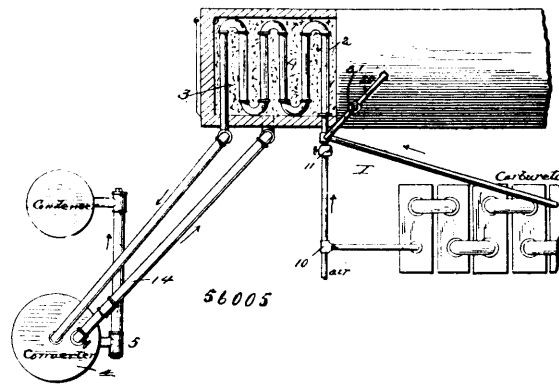
Carl Wilhelm Heinrich Gopner, Canalstrasse, and Heinrich Ludwig Diehl, Grassbrook Vogelreth, both in Hamburg, Germany, 20th May, 1897; 6 years. (Filed 6th September, 1896.)

Claim.—1st. The herein described process for precipitating gold and silver from their cyanide solutions, by adding to these cuprous cyanide and then an acid. 2nd. The repetition of the process on the precipitate with fresh quantities of solution, so as to accumulate gold in the precipitate. 3rd. The regeneration of the leaching solution by adding caustic alkali to the solution separated from the precipitate. 4th. In applying the process to solutions containing silver as well as gold, the use of a silver salt for effecting the precipitation.

No. 56,005. Apparatus for Manufacturing Gas.
(*Appareil pour la fabrication du gaz.*)

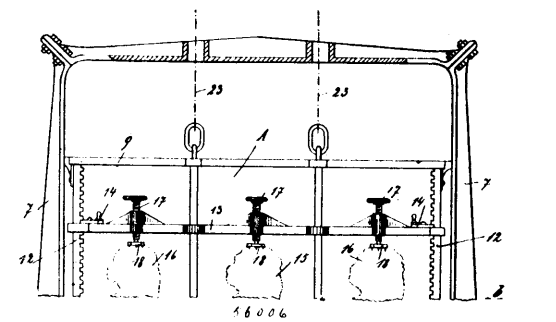
Thomas Haig Paul, Frostburg, Maryland, U.S.A., 20th May, 1897; 6 years. (Filed 24th October, 1896.)

Claim.—1st. In combination in a gas manufacturing apparatus, a carburetor, a convertor containing material to be heated to incandescence, an outlet blast pipe for the converter, a pipe between the converter and carburetor arranged independent of the said blast outlet, a condenser and a pipe connecting the converter and condenser independent of the blast outlet, substantially as described. 2nd. In combination in a gas manufacturing apparatus, a carburetor,



a convertor, the supply pipe extending between them, the mixer interposed in the said connection, the furnace for superheating the carbureted air and acting upon the said mixer, the said converter coniaining incandescent material, the connections for firing the said material to maintain the same independently of the furnace, and the smoke-pipe extending from the converter back to the furnace, substantially as described. 3rd. In a gas manufacturing apparatus, the supply pipe for the carbureted air, the superheater or mixer, the furnace for heating the same, the converter adapted to contain incandescent material and connected with the supply pipe, and the smoke-pipe extending from the converter back to the furnace, substantially as described. 4th. In combination in a gas manufacturing apparatus, the carburetor, the converter, containing incandescent material, the supply pipe between them, the superheater or mixer interposed in said connection, the furnace for heating the mixer, the air blast pipe connected with the mixer to be heated by the furnace and thence passed to the converter, the condenser and the connection from the condenser to the converter to receive the gas after passing through the bed of incandescent material, substantially as described. 5th. In combination, the carburetor, the converter, the pipe connecting them, the mixing coil interposed in said pipe, the furnace heating the mixer, the air blast connecting with the mixer, the said converter containing incandescent material, the smoke pipe leading from the converter back to the mixer furnace, whereby an air blast may be sent through the mixer to fire up the material in the converter, and the products of combustion be led back to the furnace, the boiler arranged to be heated by the furnace and the steam jet from the boiler to the mixer, substantially as described.

No. 56,006. Apparatus for making Sculptured Images or Works of Art. (*Appareil pour sculpter des images, etc.*)



Augusto Pontempé, Florence, Italy, 20th May, 1897; 6 years. (Filed 28th October, 1896.)

Claim.—1. An apparatus for making sculptured images or works of art, characterized by frames 7 and A for holding the model and images being arranged so as to be vertically and horizontally adjustable by the operation of a support B from one place by means of two cranks 37 and 39 and by the whole frame system being adapted to be moved together with the guide supports into a suitable position, by the operation of a screwed spindle 5 by means of pedals 45, whereby only one person is necessary for operating the whole apparatus, substantially as hereinbefore described. 2nd. In an apparatus such as described, the system of frames 7 and A adjustable in one another and arranged in horizontally adjustable guide supports or standards 2, one frame A being provided with supports 19 for the reception of the model and images and with a worm shaft 22 for adjustment of the latter supports and having a slide guide 24 in which is mounted a guide nut 25 connected with the frame-supporting device B whereby the points of operation for all movements of the frame are concentrated at one place, substantially as described. 3rd. In an apparatus such as described having a system of frames,

a form of construction of the frame A, consisting in arranging the same in such a way as to oscillate in a second frame 52 adjustable in the frame 7, with the object of permitting the model and images to be inclined to an acute angle to the axis of the working tool for the purpose of working out inner hollows or recesses, substantially as described. 4th. In an apparatus such as described, the arrangement of a support B, adapted to be vertically adjusted on a fixed screwed spindle 29 by means of a crank 37 and bevel wheel gearing 35 and 36 and carrying a screwed spindle 31 revolubly mounted therein and engaging a guide nut 25 mounted in a slide guide 24 and adapted to be operated by a crank 39 whereby a vertical adjustment of the frame A and a horizontal adjustment of the same together with the frame 7 may be effected from one place, substantially as described. 5th. In an apparatus such as described, the connection of the two guide supports or standards 2 by means of a screwed spindle 5 provided with a chain wheel 4, said screwed spindle being connected with a chain wheel mounted in a support 28 and adapted to be operated by an an arrangement of pedals 45 whereby a horizontal adjustment of the entire system from one and the same central point may be effected, substantially as described. 6th. In an apparatus such as described, the arrangement of a support for the working tool or steel, consisting of a framework 47 composed of two parallel frames, one longitudinal side of which is fixed, whilst all the other parts are movable, and one longitudinal side of which carries a borer or tool 48 so that by shutting up or compressing the parallelogram an adjustment of the borer but only in its axial direction can be effected, substantially as described.

No. 56,007. Process for Extracting Metal.

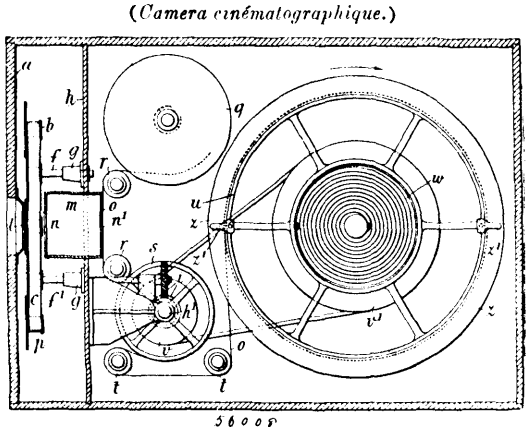
(*Procédé pour extraire le métal.*)

Alf. Sinding-Larsen, Hindtfeldts, Gade, 49, Christiana, Norway, 20th May, 1897; 6 years. (Filed 23rd November, 1896.)

Claim.—1st. A process for extracting metals from their compounds, more particularly from ores containing sulphur, characterized by a gaseous halogen (for instance chlorine) being supplied to the heated raw materials with the object of forming electrolysable salts (one or more) and by a subsequent electrolysing of these salts in order thereby to again recover the halogen gas, anodes being employed which are not attacked by the gas, substantially as hereinbefore set forth. 2nd. In a process such as described, the use of pulverized ore for the purpose of increasing the reaction heat, and whereby it is possible by varying the degree of pulverization to obtain different temperatures, substantially as described. 3rd. In a process such as described, the conducting through a series of receptacles heated to various determined temperatures of the volatile halogen compounds formed in order to bring about a separate condensation of the various compounds according to their respective temperatures of condensation, substantially as desbribed. 4th. In a process such as described, the recovery of the halogen gas from non-metallic halogen compounds by conducting the same into water or other suitable absorbent and subsequent electrolysis of the soluble halogen compounds thereby obtained, substantially as described. 5th. In a process such as described, and where the farther treatment is to take place by the wet process, and it is a question of treating copper pyrites, the separation by precipitating with metallic iron of the iron from the copper in the salt solution obtained, by which means metallic copper is obtained, and also an iron halogen salt which is again electrolysed for recovering the halogen gas and iron which are further utilized, substantially as described. 6th. In a process such as described, the recovery of sulphur as a by-product from the solution remaining after the treatment described by treating the precipitate of the solution with water, substantially as described.

No. 56,008. Cinematographic Camera.

(*Camera cinématographique.*)

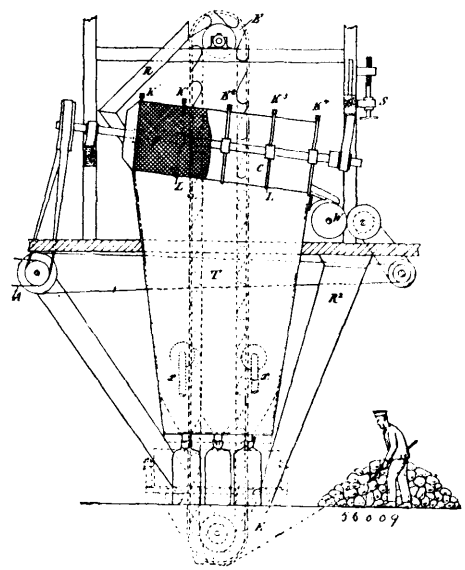


56008

Johan Wilhelm Holst, Amsterdam, Holland, 21st May, 1897; 6 years. (Filed 19th December, 1896.)

Claim.—1st. In a cinematographic camera, the combination of a continuously moving sensitized film band and a series of lenses adapted to travel in the same direction and at the same speed as the film band, substantially as and for the purpose described. 2nd. In a cinematographic camera, the combination of a series of lenses mounted in an endless carrier, and adapted to be moved successively into local position opposite an opening in the casing of the apparatus, and of sensitized film band adapted to be continuously moved at the same speed as that at which lenses are caused to travel, substantially as and for the purpose described.

No. 56,009. Apparatus for Drying and Disintegrating Bi-Phosphate. (*Appareil pour sécher et désagréger le bi-phosphate.*)



56009

Oscar Heymann and August Nitsch, both of Michaelis Str 21 Breslau, Germany, 21st May, 1897; 6 years. (Filed 21st December, 1896.)

Claim.—1st. A process for drying and disintegration of superphosphates, in which the superphosphate which has been dried or become warm by the heat of reaction is fed through oblique sieve drums, which are provided advantageously with heating arrangements and rollers, and in which if desired, a current of hot air is fed against the descending finely divided superphosphate, constructed and arranged substantially as hereinbefore described. 2nd. Devices for the drying and disintegration of superphosphates, consisting of an elevator E feeding the superphosphate to oblique rotary sieving cylinders C and C^1, provided with beaters K and K^4, from which it falls either into a shaft, provided with hot air pipes for immediate removal or passes over rollers W, where it is taken up again by the elevator for a repetition of the sieving process constructed and arranged substantially as hereinbefore set forth.

No. 56,010. Treating or Flashing Filaments for Electric Incandescent Lamps. (*Procédé pour traiter les filaments de lampes électriques incandescentes.*)

John Hadden Douglas Willen, 16 St Helens Place, London, and Frank Eustace Welkins Bowden, Selwood Ealing, Middlesex, both in England, 21st May, 1897; 6 years. (Filed 4th January, 1897.)

Claim.—1st. The process of treating filaments consisting in rendering them incandescent in the presence of an organic compound containing boron and oxygen. 2nd. The process of treating filaments consisting in rendering them incandescent in the presence of the borate of alcohol.

No. 56,011. Shoe Polish. (*Cirage à chaussures*)

Felix St. Denis, Montréal, Québec, Canada, 21 mai 1897; 6 ans. (Déposé 16 novembre 1896.)

Résumé.—Un cirage consistant dans un mélange de cire d'abeille, d'huile de banane, et d'huile de lin, combinées ensemble dans les proportions et pour les fins décrites.

No. 56,012. Method for producing a grease for rendering leather impermeable to water.

(*Composition pour rendre le cuir à l'épreuve de l'eau.*)

Gustav Willibald Hansen, 4 Hedwigstr, Halle, Prussia, 21st May, 1897; 6 years. (Filed 7th January, 1897.)

Claim.—1st. A process for the manufacture of a preserving, waterproof grease or dubbing for leather and leather goods, consisting in melting tallow with wax and adding, before cooling, train oil, cod

liver oil, and if desired a suitable quantity of pigment, substantially as hereinbefore described. 2nd. The composition of a grease or dubbing consisting of two parts by weight of tallow, half part of wax, four parts of train oil and two parts of cod liver oil, with or without pigment, substantially as hereinbefore described.

No. 56,013. Gold Extracting Process.

(*Procédé pour extraire l'or.*)

John Albert Hall and Frederick Moore, both of Victoria, British Columbia, Canada, 21st May, 1897; 6 years. (Filed 14th January, 1897.)

Claim.—The process of extracting gold from ore or other auriferous material, by the use substantially as described, of a mixture of nitrosyl chloride and chlorine, obtained as mentioned in specifications, by the use of a chloride such as salt and a mixture of sulphuric acid and nitric acid, in the proportions of 180 parts salt, 150 parts of sulphuric acid, 66° B, and 63 parts of nitric acid, or by the use of a mixture of chloride and nitrate, such as salt and nitre, and sulphuric acid in the proportions of 180 parts salt, 200 parts of sulphuric acid and 85 parts nitre.

No. 56,014. Method of Applying Wood Cellulose.

(*Méthode d'appliquer le bois celluleux.*)

Wm. Angus, Montreal, Quebec, Canada, 21st May, 1897; 10 years. (Filed 16th February, 1897.)

Claim.—1st. As an improved article of manufacture, for sheathing, felting or roofing purposes, pure sheet cellulose or half-stuff from chemical wood pulp, substantially as described. 2nd. As an improved article of manufacture, for roofing, felting or sheathing purposes, pure sheet cellulose or half-stuff from chemical wood pulp with a water-proof compound, substantially as described. 3rd. As an improved article of manufacture, for roofing, felting or sheathing purposes, pure sheet cellulose or half-stuff from chemical wood pulp with an antiseptic compound, substantially as described.

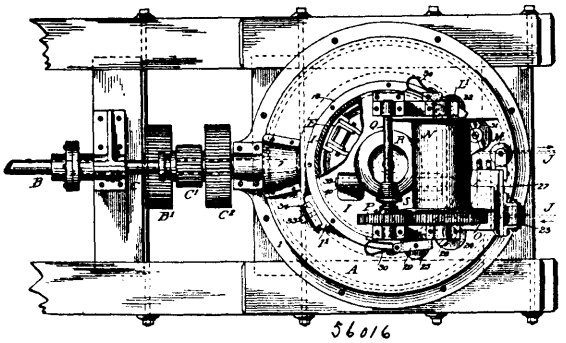
No. 56,015. Manufacture and Surfacing of Rollers and Spindles. (*Fabrication et moyen de couvrir les rouleaux.*)

The Publishing, Advertising and Trading Syndicate, assignee of Frederick Weaver Oliver, all of Cheapside, London, England, 22nd May, 1897; 6 years. (Filed 6th October, 1896.)

Claim—Rollers or spindles made or covered with woven cloths, felt, paper, wood, pulp, asbestos, or other absorbent material, and impregnated with liquid celluloid.

No. 56,016. Cable Traction Apparatus.

(*Appareil de câble à traction.*)



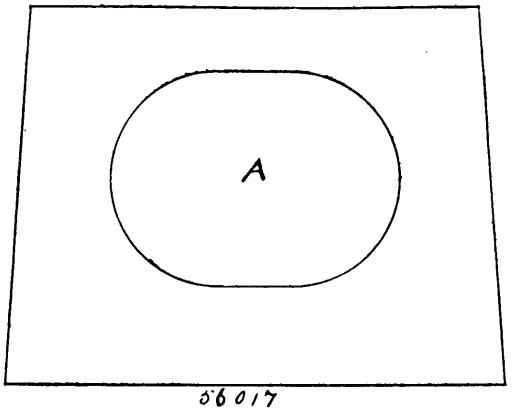
56016

George Shoume Touts, San Francisco, California, U.S.A., 22nd May, 1897; 6 years. (Filed 13th July, 1896.)

Claim.—1st. In a cable traction apparatus, the combination with a pulley having opposite movable gripping sections for clamping and releasing the cable, of a cam at one side of the pulley, and connections with both gripping sections operated by said cam for moving both sections simultaneously, substantially as described. 2nd. In a cable traction apparatus, the combination with a pulley carrying opposite gripping sections, of a cam at one side of said pulley, a lever engaged by said cam, and connections between said lever and the opposite gripping sections, substantially as described. 3rd. In a cable traction apparatus, a grip-pulley having a rope groove formed with a continuous unbroken base, and provided at intervals with guides for the clamping sections, and means for operating said clamp sections, substantially as described. 4th. In an apparatus for traction by cable, a pulley having grips for holding and releasing the cable, in combination with mechanism operated by the cable for increasing the pressure of the grips. 5th. In an apparatus for traction by cable, a pulley having grips for holding and releasing the cable, in combination with a movable governor operated by the cable, and connections between said governor and the grips for the purpose substantially set forth. 6th. In an apparatus for traction by cable, a pulley having grips for holding and releasing the cable, in combination with a cam for setting and releasing said grips, a movable governor forming a guide for the cable, and connections between said governor and cam for moving the cam and tightening the grips independently of their normal pressure produced by the cam. 7th. In an apparatus for traction by cable, a pulley secured upon a rotary shaft and carrying gripping devices, a cam loose on said shaft and having connections to said gripping devices whereby they are alternately clamped and released as they revolve around said cam, and means operated by the cable for moving the cam longitudinally on said shaft and thereby transmitting increased gripping force to said gripping devices, substantially as described. 8th. In an apparatus for traction by cable, a pulley secured upon a rotary shaft and having a series of pairs of oppositely movable gripping sections, a cam loose on said shaft, connections from said cam for operating said gripping sections of each pair simultaneously, and means for shifting the cam upon said shaft so as to operate said connections independently of their normal operation, for the purpose substantially as set forth. 9th. In an apparatus for traction by cable, and in combination a driven shaft, a pulley thereon provided with cable gripping sections, a cam loose on said shaft and connected to said sections, a shifting slide having a guide for the cable entering the machine, and a series of connections extending from said slide to said cam, whereby the shifting of the slide produced by the entering cable produces a longitudinal movement of said cam, which is transmitted to said grips, substantially as described. 10th. In an apparatus for traction by cable, a bed frame, a pulley journalled therein and provided with grips, a casing adjustable upon said bed to different cable-leads and having an opening to admit the cable, a cam for operating said grips, and a connection between said casing and cam whereby the adjustment of the casing to any cable-lead adjusts the cam to operate the grips on that lead, substantially as described. 11th. In an apparatus for traction by cable, a fixed bed, an adjustable casing mounted thereon, a pulley journalled in the bed and having a series of grips for the cable, a cam loose on the shaft of said pulley, but connected to and movable with said casing, and having connections for operating the grips, and an opening in said casing for the entry and exit of the cables, having a definite relation to said cam, all constructed and arranged so that a change in the lead of the cable will swing the casing and cam automatically into their proper positions relatively to the new lead, substantially as described. 12th. In a cable traction apparatus, the combination with the grip-pulley of an adjustable casing having a cable inlet and exit and opening, and guide pulleys mounted upon and movable with said casing for guiding the cable to and from the grip-pulley, substantially as described. 13th. In a cable traction apparatus, a grip-pulley, an adjustable casing inclosing the same and having an opening for the entry and exit of the cable, a cam for operating the grips of the pulley and secured to said movable casing in a certain relation to said opening, and a brake for locking the casing when adjusted to any lead of the cable, substantially as described. 14th. In a cable traction apparatus, a driven shaft carrying a grip-pulley, an adjustable casing inclosing the same and having an opening for the entry and exit of the cable, a cam having a longitudinal adjustment on said shaft and connected to the grips of the pulley and a socket and pin connection between the cam and the casing, whereby the cam is adjusted circularly with the casing, and can be shifted independently on said shaft, substantially as described. 15th. In a cable apparatus, a bed frame, a shaft journalled therein and carrying a grip pulley, a casing adjustable by a circular motion on the bed frame, a sleeve secured to said casing and forming a bearing for said shaft, and a cam on said sleeve connected to the grips of said pulley, substantially as described. 16th. In a cable traction apparatus, and in combination, a grip-pulley, a movable casing inclosing the same, a shaft 39 journalled in said casing, a driven shaft D carrying a loose cam for operating the grips of the pulley, connections between said cam and said shaft 39, and means carried by said casing and operated by the cable for oscillating said shaft 39 and shifting the cam 39 longitudinally on the shaft D, substantially as and for the purpose set forth. 17th. In a cable traction apparatus, and in combination with the grip-pulley, its operating cam, and a surrounding casing 1 having a cable inlet and exit opening, a shifting slide on said casing adjacent to said opening, a shaft 39 journalled in the casing and connected to said cam, and connections between said slide and said shaft for transforming the motion of the slide into an oscillating motion of the shaft, substantially as and for the purposes described 18th. In a cable traction apparatus, and in combination with the grip-pulley, and with the adjustable cam for operating said grips, an oscillating shaft 39 connected to said cam, a quadrant 38 on said shaft, a gear 37 engaging therewith, a crank 35 on the shaft of said gear, a slide 27 and an adjustable link 34 between said slide and said gear, substantially as described. 19th. In combination with the grip-pulley its operating cam, and an adjustable casing having a slot for the entry and exit of the cable, a shifting slide mounted on said casing, and having a governor pulley K'a remarkable auxiliary governor pulley M adapted to be attached to said slide, and connections between said slide and the operating cam, whereby the entering cable operates with said slide by contact with one of the governors in either normal or reverse rotation of the grip-pulley, substantially as described. 20th. In a cable traction apparatus, adapted for endless or non-endless cables, and in combination, a rotating grip-pulley, means for automatically operating the grips to cause them to hold

and release the cable, an adjustable casing having an opening for the entry and exit of the cable, a drum geared to the shaft of the grip-pulley and mounted upon said casing, substantially as described. 21st. In a cable traction apparatus, a grip-pulley, an adjustable casing surrounding the pulley, and having a cable slot for opening, a drum journalled upon said casing, in position to receive the cable from the grip-pulley, and gearing, partly frictional between the grip-pulley shaft and the shaft of said drum, substantially as follows. 22nd. In a cable traction apparatus, a grip-pulley, casing surrounding the pulley and having a cable slot or opening, a drum journalled upon said casing in position to receive the cable from the grip-pulley, gearing partly frictional between the pulley shaft and the drum shaft, and means for disengaging said frictional gearing and applying a brake to said drum, substantially as described. 23rd. In combination with a flanged drum N, a friction disc R, a shaft Q, a friction wheel S adjustable on said shaft, and a sliding collar 45 secured to said wheel, adjacent to the flange of the drum, whereby the collar disengages the friction gearing and at the same time sets itself as a brake against the flange of the drum, substantially as described.

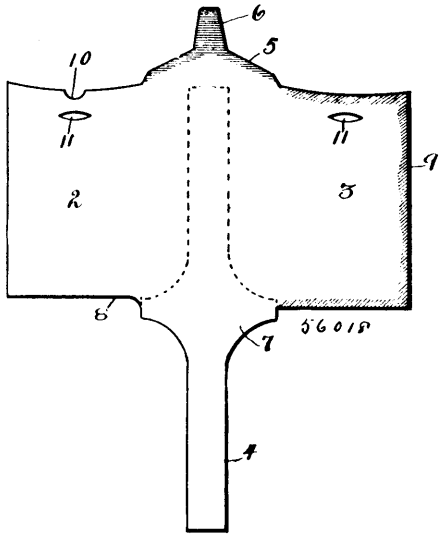
No. 56,017. Hot Air Register. (*Registre à air chaud.*)



Amos J. Hollingshead, Newmarket, Ontario, Canada, 22nd May, 1897; 6 years. (Filed 9th February, 1897.)

Claim.—What I claim for this invention is a box to set over hot air registers on the floor of any room, which said box changes the current of air from a perpendicular to an horizontal, substantially as and for the purpose hereinbefore set forth.

No. 56,018. Safety Envelope. (*Enveloppe de sûreté*)

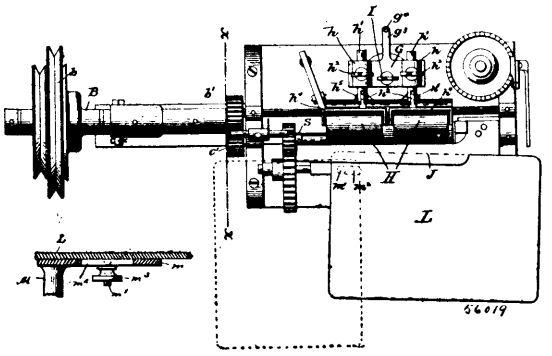


Ivan A. Centervall, Masseur, Boston, Mass., U.S.A., 25th May, 1897; 6 years. (Filed 8th March, 1897.)

Claim.—1st. A safety envelope, comprising a body portion, a narrow longitudinal end flap, opposing side flaps adapted to be folded thereon and sealed and also provided with registering apertures, and a cross flap having a longitudinally extending tab which is gummed and adapted to be inserted through the apertures and side flaps and to adhere to the narrow longitudinal flap near its extremity, substantially as described. 2nd. A safety envelope, comprising a rectangular body portion, a narrow longitudinally extending end flap, an inner side flap notched at one end as described, an outer side flap having its edges gummed and adapted to adhere to the inner side flap and to the extremity of said narrow flap at its end, said side flaps being provided with registering apertures, and a terminal or closing flap having a gummed tab adapted to be inserted through the apertures and to adhere to said narrow flap, substantially as described. 3rd. A safety envelope, comprising a rectangular body portion, a longitudinally extending end flap folded thereon, an inner side flap cut away at its opposite ends to expose portions of said longitudinal end flap, an outer side flap gummed at its edges and adapted to adhere to the inner side flap and to the exposed portions of the longitudinal flap, and a terminal portion or sealing flap provided with a gummed tab or extension adapted to be inserted through registering apertures in said side flaps and to adhere to said longitudinal end flap, substantially as described.

No. 56,019. Cigar Rolling Machine.

(*Machine à rouler les cigares.*)



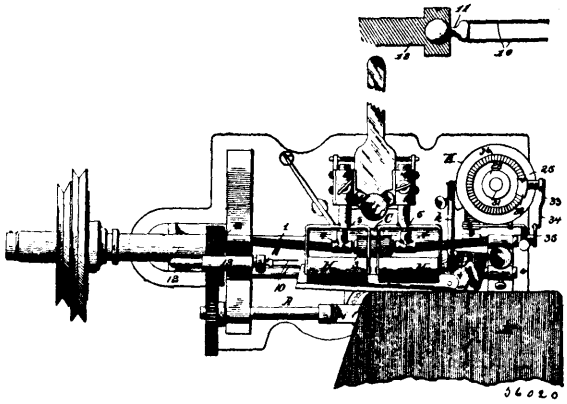
John Bunn, Binghampton, New York, U.S.A., 25th May, 1897; 6 years. (Filed 9th March, 1897.)

Claim.—1st. The combination with cigar bunch supporting and rotating rollers, or a series of adjustable presser rollers supported end to end, substantially as and for the purpose set forth. 2nd. The combination with cigar bunch supporting and rotating rollers, of a series of presser rollers supported end to end and separately adjustable to conform to the shape of the cigar bunch, substantially as and for the purpose set forth. 3rd. The combination with cigar bunch supporting and rotating rollers, of a series of spring-actuated presser rollers supported end to end and separately adjustable to conform to the shape of the cigar bunch, and means to lift the presser rollers out of engagement with the cigar, substantially as and for the purpose set forth. 4th. The combination with cigar bunch supporting and rotating rollers, of a series of presser rollers supported end to end and separately adjustable to conform to the shape of the cigar bunch, and also conjointly adjustable longitudinally relative to the supporting and rotating rollers, substantially as and for the purpose set forth. 5th. The combination with cigar bunch supporting and rotating rollers, of a series of presser rollers supported end to end and separately adjustable to conform to the shape of the cigar bunch, and also separately adjustable laterally relative to the supporting and rotating rollers, substantially as and for the purpose set forth. 6th. The combination with cigar bunch supporting and rotating rollers, of a series of presser rollers supported end to end and separately adjustable to conform to the shape of the cigar bunch, and also both separately and conjointably adjustable vertically relative to the supporting and rotating rollers, substantially as and for the purpose set forth. 7th. The combination with cigar bunch supporting and rotating rollers, of a post adjustable vertically and laterally of the said rollers, a plate carried by the post, a second plate hinged to the first plate, a spring normally tending to force the plates together, a series of presser rollers carried by the said second plate, and means to separate said plates against the force of the spring, substantially as and for the purpose set forth. 8th. The combination with bunch supporting and rotating rollers, of a plate supported on the frame of the machine, a second plate having a hinge connection with the first plate, boxes on said second plate, rods journalled in said boxes and capable of having longitudinal and rotary movement therein, means to lock the said rods in the boxes in the desired position, and presser rolls carried by said rods, substantially as and for the purpose set forth. 9th. In a cigar machine, the combination with bunch supporting and rotating rollers, of a plate supported on the frame of the machine, a second plate having a spring hinge connection to the first plate, rods supported in said second plate and capable of having rotary and longitudinal movement therein, presser rollers carried by said rods, and a device to adjust the two plates relative to each other against the force of the spring hinge, substantially as and for the purpose set forth. 10th. In a cigar machine, the combination with cigar-bunch supporting and rotating rollers, of presser rollers, a wrapper stretcher, a pivoted wrapper-supporting table, and mechanism to move the table on its pivot towards and away from the said stretcher, substantially as and for the purpose set forth. 11th. In a cigar machine, the combination with cigar-bunch supporting and rotating rollers, of presser rollers, a wrapper stretcher,

a wrapper-supporting table, a post to which said table is adjustably secured, bearings in which said post rotates, a sleeve on the post connected therewith to have independent vertical movement and uniform rotary movement, upper and lower bevel gears on said sleeve, a positively driven bevel gear supported adjacent to the sleeve, and suitable devices to bring the bevel gears on the sleeve into engagement with the positively driven bevel gear, substantially as and for the purpose set forth. 12th. In a cigar machine, the combination with cigar-bunch supporting and rotary rollers, of presser rollers, a wrapper stretcher, a pivoted wrapper-supporting table, and means to adjust said table vertically and horizontally relative to the supporting and rotating rollers, substantially as and for the purpose set forth.

No. 56,020. Cigar Rolling Machine.

(*Machine à rouler les cigares.*)



John Bunn, Binghampton, New York, U.S.A., 25th May, 1897; 6 years. (Filed 9th March, 1897.)

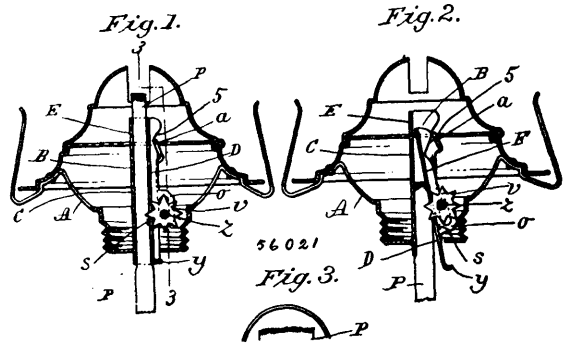
Claim.—1st. In a cigar machine, the combination with cigar bunch supporting and rotating rollers, of a series of adjustable forming and presser rollers supported end to end, and a friction roller carried by a positively driven flexible shaft and engaging the forming and presser rollers, substantially as and for the purpose set forth. 2nd. The combination with a cigar bunch supporting and rotating rollers, and a series of presser and forming rollers supported end to end and separately adjustable to conform to the shape of the cigar bunch, of a flexible shaft supported in bearings and positively driven, a friction roller carried by said shaft, additional bearings for the flexible shaft near the ends of the rollers, and means as described to adjust the latter bearings vertically, and latterally to keep the friction roller in engagement with the presser and forming roller in their several adjustments, substantially as and for the purpose set forth. 3rd. In a cigar machine, the combination with the bunch supporting and rotating rollers, and the pivoted wrapper supporting table, of a double needle, a sliding rod in which the double needle is rotably supported, and mechanism to reciprocate the sliding arm too and fro as the wrapper supporting table is swung back and forth, substantially as and for the purpose set forth. 4th. In a cigar machine, the combination with a bunch supporting and rotating rollers, the wrapper supporting table, the sleeve keyed on the shaft and the mechanism to turn the sleeve and shaft alternately in opposite directions, of a shaft loosely journalled in the frame of the machine, an arm extending from the shaft, a bent arm extending from the sleeve, a link connecting said arms, a sliding rod carrying a double needle, a pivoted lever connecting at its upper end to the sliding rod, a bell crank pivoted to a fixed support on the machine, an arm on the shaft, a link connecting said arm to one arm of the bell crank, and a rod leading from the other arm of the bell crank and having a slotted connection with the lower end of said lever, substantially as and for the purpose set forth. 5th. In a cigar machine, the combination with a double needle adapted to hold the butt end of the wrapper against the cigar bunch, of a sliding rod in which the needle is rotably supported, a lever pivoted to a fixed support on the machine and connected at its upper end to the sliding rod, a rod having a slotted connection at the lower end of the lever, and mechanism, substantially as described to reciprocate the last named rod, as and for the purpose set forth.

No. 56,021. Wick Tube for Lamps.

(*Tube pour mèches de lampes.*)

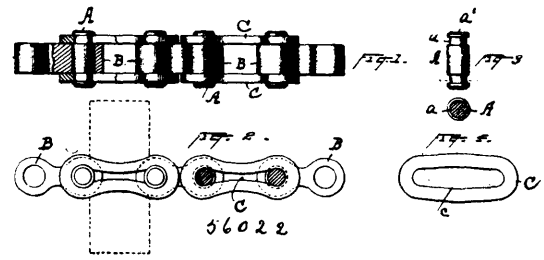
Nathan Dwight Ingram, Holyoke, Mass., U.S.A., 25th May, 1897; 6 years. (Filed 13th February, 1897.)

Claim.—1st. A wick-tube element for lamps, consisting of a side, and of parallel borders on opposite edges of said side, standing at right angles to the plane thereof, means on said borders for supporting revoluble wick-operating devices thereon, combined with a second tube-element having a like side and borders, and supported operatively between the borders of said first-named element for endwise and oscillatory movements therein, a revoluble shaft, and a toothed wick-engaging wheel or wheels thereon, supported on said first-named wick-tube element, said toothed wheel or wheels ex-



tending through slots in said second tube-element for engagement with a wick held between said two tube elements, substantially as set forth. 2nd. A wick-tube for lamps consisting of the element C, containing a side E, two upstanding borders on said side, each having a lip *a*, and a shaft-bearing ear *f*, thereon, combined with a second element D, containing a side F, one or more longitudinal slots *s*, and two upstanding borders thereon, each having a recess *n*, for engagement with said lips, and the ear *o*, having a slot-shaped perforation therethrough, a wick-operating shaft *z*, rotating in said bearings and extending terough said ears *o*, *o*, and toothed wick-engaging wheels carried on said shaft and extending through said slots *s*, substantially as set forth. 3rd. A combined wick-tube and extinguisher consisting of a wick-tube open on one side at its top, and an endwise moving slotted plate placed in the open side of the wick-tube, and which is moved by frictional contact with the wick alone, combined with the wick-operating shaft provided with wheels for engaging with the wick, substantially as shown. 4th. In a combined wick-tube and extinguisher, the wick-tube open at its upper end at one side, and the wick-operating shaft, provided with wheels for moving the wick up and down, and which is journalled upon the tube, combined with a flanged and slotted plate, which is placed in the open end of the tube in direct contact with the wick and moved endwise by frictional contact therewith, the upward movement of said slotted plate being regulated by the wick-operating shaft and its downward movement by the wheels on said shaft, substantially as described.

No. 56,022. Chain. (*Chaine.*)



George Frederick Ballon, New York, U.S.A., 25th May, 1897; 6 years. (Filed 17th February, 1897.)

Claim.—1st. As an article of manufacture, a chain comprising blocks having holes, pins passing through the holes, and links having apertures for receiving the ends of the pins, and which links are caused by pressure to clinch the pins, substantially as set forth. 2nd. As an article of manufacture, a chain comprising blocks or links having holes, pins passing through such holes, and double connecting links having apertures for receiving the ends of the pins, said pins being clinched by subjecting one or both parts of each double link to pressure upon the outer edge to hold the pins against displacement, substantially as set forth. 3rd. As an article of manufacture, a chain comprising blocks or links having holes, pins passing through such holes, and double connecting links having apertures for receiving the ends of the pins, one part of each double link being hardened and the other being subjected to pressure to clinch the pins and hold them against displacement, substantially as set forth. 4th. As an article of manufacture, a chain comprising blocks having holes, pins passing through the holes and provided with a groove at each end so as to form heads on the pins and links having apertures of a width at some point sufficient to admit the heads and permit the links to enter the grooves of the pins, and which links are subjected to pressure to force the inner edges of the links closely within the grooves to clinch the pin making a tight joint and holding the parts against displacement, substantially as set forth. 5th. As an article of manufacture, a chain comprising blocks having holes, pins passing through the holes and provided with a groove at each end so as to form heads on the pins, and slotted links whose slots at some point are of such width as to receive the heads of the pins and the ends of which slots are curved

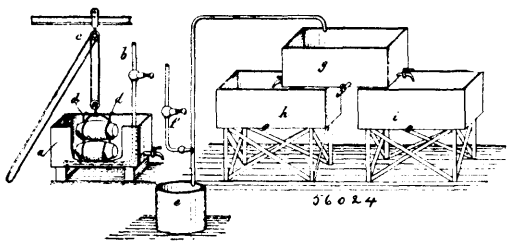
and of such diameter as to snugly fit the grooves of the pins, and which links are caused by pressure to clinch the pins, substantially as set forth. 6th. As an article of manufacture, a chain comprising blocks or links having holes, pins passing through such holes, said pins having grooves or recesses c, c^1 at each end, and double connecting links having slots b for receiving the ends of the pins, the slots at the ends being so shaped that the inner edges of the links will enter the grooves c, c^1 and closely fit the pin, and said pins being held in position at the ends of the slots by subjecting the outer edges of one or both parts of each double link to pressure to bend the same inward, substantially as shown and described. 7th. A bicycle chain comprising blocks, longitudinally slotted links, and connecting pins, said links being adapted to have their longitudinal sides compressed to shorten the link, substantially as set forth. 8th. The combination with a chain, of a bolt for connecting the two ends, said bolt being provided with means for preventing its turning in the link at one end of the chain, the retaining nut for said bolt being adjacent to said link, substantially as and for the purpose set forth. 9th. A connecting bolt for chains having one or more flat sides adapted to engage with a link to prevent the bolt turning in the link, a head on said bolt, and a retaining nut, substantially as set forth.

No. 56,023. Tanning Process. (*Procédé pour tanner.*)

Charles Burkhalter, Hosersack, Pennsylvania, U.S.A., 25th May, 1897; 6 years. (Filed 19th February, 1897.)

Claim.—In the process of tanning, subjecting the hide or skin, after being depilated, to a bath of clean water at 120 degrees temperature for a period of ten minutes or thereabouts and agitating the hide while in the bath, subsequently removing the hide from the bath and scouring or scrubbing it, and finally treating the hide to a tanning bath of hemlock, substantially as set forth.

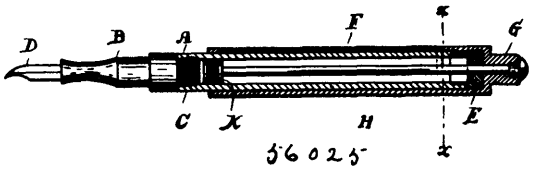
No. 56,024. Soda. (*Soude.*)



Franz Josef Seyfried, Mulheim-on-the-Rhine, Germany, 25th May, 1897; 6 years. (Filed 22nd February, 1897.)

Claim.—1st. The process for obtaining pure transparent caustic soda solution from soda residues characterized by the clarification of the dirty red solution obtained by the lixiviating of the latter by means of hydrated oxide of lead. 2nd. The modification of the process consisting essentially in treating the solution of soda residues with a lead solution (preferably a solution of nitrate of lead) and milk of lime.

No. 56,025. Fountain Pen. (*Plume-fontaine.*)



William C. Sherman, Orlando, Florida, U.S.A., 25th May, 1897; 6 years. (Filed 22nd February, 1897.)

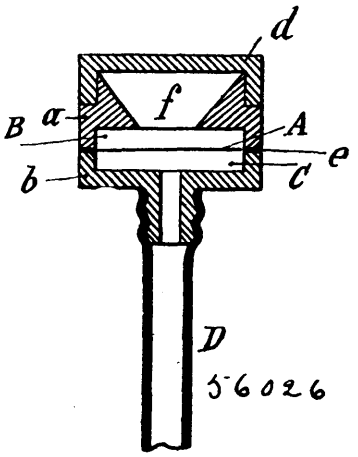
Claim. A fountain pen, substantially as herein shown and described, consisting of a tubular reservoir A, in one end of which is removably mounted a tubular penholder B adapted to receive a pen D, the outer end of said reservoir A being provided with a screw-threaded cap E to close said end, and also having a pin a projecting from one side thereof adjacent to the cap E, and a sliding cover F provided with a longitudinal slot extending to near the ends thereof, and one end of which communicates with a segmental slot a^2, said slot being adapted to receive the pin a on the casing A to regulate the movement of the casing F, said casing being provided with a restricted portion G, from which extends a rod H which passes through a central opening in the cap E, said rod carrying a plunger K adapted to operate in the enlarged bore of the reservoir A, all designed, constructed and arranged as and for the purpose specified.

No. 56,026. Instrument for the Relief of Deafness.

(*Instrument pour soulager la surdité.*)

George Réné Marie Marage, Paris, France, 25th May, 1897; 6 years. (Filed 24th February, 1897.)

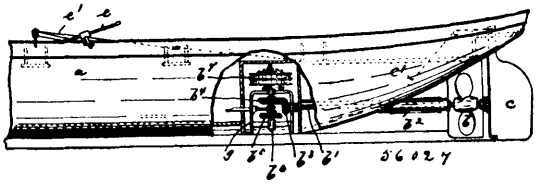
Claim.—The herein described ear trumpet or instrument for the relief of deafness, consisting of a mouth-piece f two cylindrical air chambers a b separated by a membrane A and a single or bifrucated tube D of thick India rubber connecting the air chamber b with the



ear or ears of the auditor, the mouth-piece being adapted to receive a trumpet-mouth G if required, substantially as specified.

No. 56,027. Propelling Means for Boats.

(*Moyen de propulsion pour vaisseaux.*)

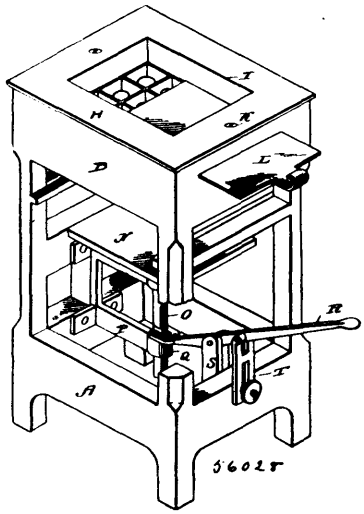


Caroline S. Fryer, as such administratrix, New York, State of New York, U.S.A., 25th May, 1897; 6 years. (Filed 26th February, 1897.)

Claim.—1st. The combination with a boat, and the propeller shaft, of a vertically arranged shaft, means for transmitting the motion from said vertical shaft to the propellor shaft, a spring controlled drum loosely arranged on said vertical shaft, a ratchet wheel slidingly mounted on said shaft, a series of spring controlled pawls arranged on said drum and adapted to engage said ratchet wheel, a rope coiled around said drum and secured thereto with one end, on oar or lever swiveled on said boat, and connected with its outer end to the other end of said rope, and a luff tackle intermediately arranged between the end of said lever or oar and the drum and having the rope or cable passing through and over the same, all said parts being arranged, substantially as and for the purposes described. 2nd. The combination with a boat and the propeller shaft, of a bevelled pinion on the inner end of said propeller shaft, a vertically arranged shaft, a bevelled gear wheel on said shaft and meshing with the bevelled pinion, a spring controlled drum loosely arranged on said vertical shaft, a ratchet wheel slidingly mounted on said shaft, a series of spring controlled pawls arranged on said drum and adapted to engage said ratchet wheel, a rope coiled around said drum and secured thereto with one end, an oar or lever swiveled on said boat, and connected with its outer end to the other end of said rope, and a luff tackle intermediately arranged between the end of said lever or oar and the drum and having the rope or cable passing through and over the same, all said parts being arranged, substantially as and for the purposes described. 3rd. The combination with a boat and the propeller shaft, of a spring controlled drum, means for transmitting the motion from said spring controlled drum to the propeller shaft, a rope coiled around said drum and secured thereto with one end, and an intermediate lug tackle having the rope or cable passing over the same, and an oar or lever swiveled on the boat and having the other end of said rope secured to its outer end, all of said parts being arranged, substantially as and for the purposes described. 4th. The combination with a boat and the propeller shaft, of a vertically arranged shaft, means for transmitting the motion from the vertical shaft to the propeller shaft, a spring controlled drum loosely mounted on said vertical shaft, a series of pulleys arranged on the side of the boat, an oar or lever swiveled on said boat, a pulley carried by the outer end of said oar, two pulleys loosely mounted on an axle supported by the boat, and a rope coiled around the drum and secured thereto with one end, and passing over the series of pulleys and secured with its other end to the outer end of the oar or lever, all said parts being arranged, substantially as and for the purposes described. 5th. The combination with a boat and the propeller shaft, of a vertically arranged shaft, means for transmitting the motion from the vertical shaft to the propeller shaft, a spring controlled drum loosely mounted on said vertical shaft, a series of pulleys arranged on the side of the

boat, an oar or lever swiveled on the said boat, a pulley carried by the outer end of said oar, two pulleys loosely mounted on an axle supported by the boat, a rope coiled around the drum and secured thereto with one end and passing over the series of pulleys and secured with its other end to the outer end of the oar or lever, and means for reversing the motion of the propeller shaft, all said parts being arranged, substantially as and for the purposes described.

No. 56,028. Capsule Machine. (*Machine à capsule.*)



Frank Burgett Grove, Mansfield, Ohio, U.S.A., 25th May, 1897; 6 years. (Filed 27th February, 1897.)

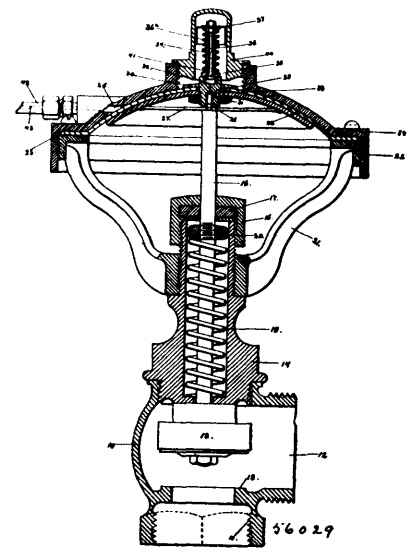
Claim.—1st, A capsule machine, consisting of a framework, a plunger carried thereby, having the capsule carrier, and a cell case for receiving sections of the capsules and directing the material into said sections of the capsules. 2nd. A capsule machine, consisting of a framework, a plunger mounted therein, mechanism for operating the plunger, a mould mounted on the plunger and carrying the lower sections of capsules, a mould resting in the framework and carrying the upper sections of the capsules, whereby the plunger may be operated to bring the two sections together and make the complete capsule. 3rd. A capsule machine, consisting of the framework, a cell case mounted in the framework, a plate arranged above the same, a guide cell case above said plate, a plunger carrying the lower sections of the capsules, mechanism for operating the plunger to force the lower sections of the capsules into the cell case to receive the material, and a mould carrying the top sections of the capsules supported or arranged in such relation to the plunger as to receive the lower sections and form perfect capsules. 4th. A capsule machine, consisting of the casing, a plunger mounted therein and carrying the lower sections of capsules, mechanism for operating the plunger and for adjusting or regulating the movement thereof, means for filling the lower sections of the capsules and means for holding upper sections of the capsules to force them upon the lower sections by the action of the plunger.

No. 56,029. Temperature Controlling Apparatus.

(*Appareil pour contrôler la température.*)

William P. Powers and Fred W. Powers, both of Chicago, Illinois, U.S.A., 25th May, 1897; 6 years. (Filed 2nd March, 1897.)

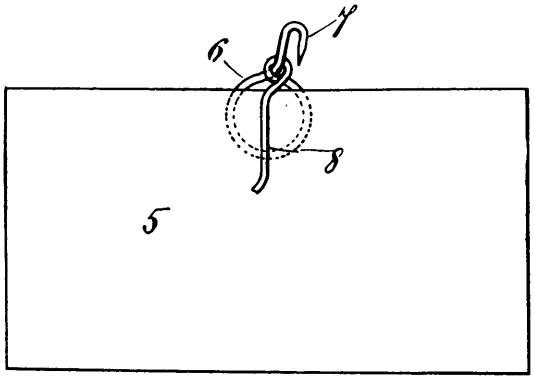
Claim.—1st. In a heat-regulating apparatus, the combination with a valve controlling the flow of the heating medium, of a fluid pressure motor operatively connected with said valve, a means controlling the supply of motor fluid, an escape-opening from the motor-fluid chamber, and a valve controlling the escape-opening, and operated by the initial movement of the motor, whereby to automatically control said escape-opening, substantially as described. 2nd. In a heat-regulating apparatus, the combination with the valve controlling the flow of the heating medium, of a fluid-pressure motor operatively connected with said valve, a thermostat controlling the supply of motor-fluid, an escape opening from the motor-fluid chamber, and a valve controlling the escape-opening and operated by the initial movement of the motor, whereby to automatically control said escape-opening, substantially as described. 3rd. In a heat-regulating apparatus, the combination with a valve controlling the flow of the heating medium, of a fluid-pressure motor operatively connected with said valve, a thermostat controlling the supply of motor-fluid, an escape opening from the motor-fluid chamber, a valve controlling the escape-opening and operated by the movement of the motor, and a spring resisting the action of the fluid-pressure motor, substantially as described. 4th. In a heat-regulating apparatus, the combination with a main valve controlling the flow of the heating medium, of a fluid-pressure motor adapted to operate said valve, means governing the supply of motor-fluid and escape valve controlling the discharge of the fluid from the motor chamber and controlled by the motor, and a movable anchorage for the escape-valve, substantially as



described. 5th. In a heat-regulating apparatus, the combination with a main valve for controlling the supply of a heating agent, a fluid-pressure motor operatively connected to and adapted to close said valve, a thermostat for controlling the motor fluid supply, an escape-opening from the motor-fluid chamber, a valve for controlling said escape-opening a drag connected to one part of said valve and adapted to maintain said part against movement during the initial movement of the motor-piston, substantially as described. 6th. The combination with a main valve of a fluid pressure motor for operating said valve, a movable anchorage, means for controlling the discharge of fluid from the fluid-chamber of said motor, said means including a valve and valve-seat, one of which is movable relatively to the other, and is connected with the movable anchorage. 7th. In a heat-regulating apparatus, the combination with a main valve for controlling the heating agent, a hollow plug connected to the main-valve casing and through which the valve-stem passes, a stuffing-box applied to the end of the hollow plug around the valve-stem, a spring arranged within the hollow of the plug between the stuffing-box and the valve and having a bearing at one end upon the plug and at the other upon the valve stem and a fluid pressure-motor adapted to move the valve in one direction and against the spring action, substantially as described. 8th. In a heat-regulating apparatus, the combination with a main valve for controlling the supply of a heating agent, a valve-stem, a plate-spring bearing upon said valve-stem, a pressure-fluid motor, having a piston-plate bearing upon the margins of said spring and normally supported out of contact with said spring at its middle, substantially as and for the purpose described. 9th. In a heat-regulating apparatus, the combination with a main valve for controlling the supply of a heating agent, of a pressure fluid motor for operating said valve, a pressure-thermostat for controlling the supply of the motor fluid, an escape-opening from the motor-chamber to the atmosphere, a valve for controlling said escape-opening, a drag for restraining said escape-valve and a spring normally tending to close the same, substantially as and for the purpose described. 10th. In a heat-regulating apparatus, the combination with the main valve for controlling the supply of a heating agent, of a pressure-fluid motor for operating said valve, a thermostat for controlling the supply of a pressure fluid, an escape opening from the pressure-motor chamber to the atmosphere, a valve for controlling the escape-opening, a drag connected with said valve and tending to restrain the motion thereof, a casing upon which the drag operates, said casing being movable with relation to the motor-piston and whereby the latter may be manually operated to close the main valve, substantially as described. 11. In a heat-regulating apparatus, the combination with a main valve and a pressure-fluid motor for operating said valve, an escape-opening from the pressure-motor chamber to the atmosphere, a valve for controlling said escape-opening, a drag connected with said valve, a casing upon the walls of which the drag operates, said casing having an enlargement at its end opposite the valve and a spring operating to close the escape-valve, substantially as described. 12th. In a heat-regulating apparatus, the combination with a main valve, a pressure-fluid motor, a thermostat for controlling the supply of the pressure-fluid, said thermostat having a movable wall or diaphragm, an arm pivotally connected to the frame of the thermostat, means for moving said arm upon its pivot, a lever pivotally connected with said arm and carrying the valve for controlling the motor-fluid supply and adapted to be actuated by the movement of the movable wall or diaphragm in one direction, substantially as described. 13th. The combination with a thermostat having a movable wall or diaphragm-plate, an arm pivotally connected to the frame of the thermostat, a lever pivotally

connected to the end of said arm, a cam for varying the angular position of the arm and a spring for holding said arm down upon the cam, substantially as described. 14th. The combination with a fluid pressure thermostat having a movable wall, a piston plate, a spring bearing upon said piston-plate and means for varying the tension of said spring, a pivoted arm arranged in proximity to the movable wall and adapted to be engaged thereby, and the pivotal support of said arm being movable to and from the movable wall or diaphragm, substantially as described. 15th. The combination with a fluid-pressure thermostat having a movable diaphragm or wall, a pivoted lever adapted to be rocked upon its pivot by the movement of the wall in one direction, a motor fluid-valve chamber having inlet and outlet openings, a valve adapted to control one of said openings, said lever having an extension carrying said valve and an elastic or yielding casing connecting the valve-chamber with said arm, substantially as and for the purpose described. 16th. The combination with a thermostat having a movable wall or diaphragm, an operating-lever mounted in proximity to said wall, a pivoted arm on which said lever is fulcrumed, means for shifting the fulcrum of said lever and an adjusting screw carried by said lever for adjusting the same, substantially as and for the purpose described.

No. 56,030. Price Ticket-holder. (*Porte-étiquette.*)

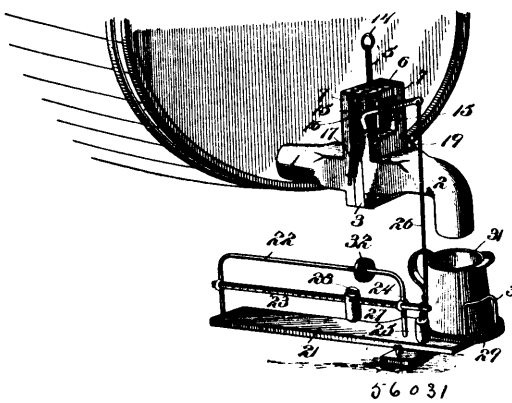


56030

Peter McDonald Matheson, New York, State of New York, U.S.A., 25th May, 1897 ; 6 years. (Filed 5th March, 1897.)

Claim.—1st. A price card-holder, comprising a ring or head, which is provided at one side with means for securing it to any desired article, said ring or head being also provided with a transverse spring arm, substantially as shown and described. 2nd. A price card-holder, comprising a ring or head, at one side of which is formed a hook, said ring or head being also provided with a transverse spring arm, substantially as shown and described. 3rd. A price card-holder, which is composed of spring wire bent to form a ring or head at one side of which is formed a hook, said ring or head being also provided with a spring arm which projects thereover, substantially as shown and described.

No. 56,031. Faucet. (*Robinet.*).

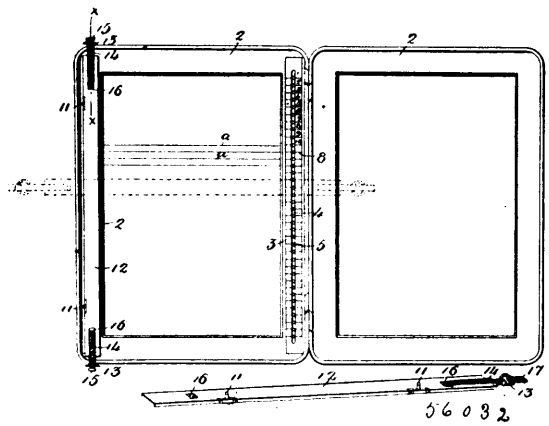


56031

William W. Newcombe and John J. Cozett, both of Bradfordsville, Kentucky, U.S.A., 25th May, 1897 ; 6 years. (Filed 8th March, 1897.)

Claim.—1st. In a faucet, the combination of a self-closing gate or cut-off having a stem, a cross bar secured to and movable with the said stem and adapted to be turned, having the stem as an axis, stops to engage with the end portions of the cross bar upon opposite sides of the stem and hold the gate open, and a trigger to engage with the cross bar and release it from the said stops, substantially as and for the purpose set forth. 2nd. In a faucet, the combination of a self-closing gate or cut-off having a stem, slotted side pieces forming guides and having notches, a cross bar mounted upon and movable with the stem of the gate and operating in the said guides, and adapted to be turned having the stem as an axis to enter the said notches, and a trigger for releasing the cross bar from the notches, substantially as and for the purpose set forth. 3rd. In combination, a faucet composed of two parts flanged at their opposing ends, said flanges being bolted together, a gate or cut-off operating in a space formed between the said flanges, a washer located to one side of the gate, and springs disposed to exert a pressure against the opposite side of the gate to force it against the washer, substantially as set forth for the purpose described. 4th. In a faucet, the combination of a gate or cut-off, a washer disposed upon one side of the gate, springs placed upon the opposite side of the gate, and set screws for varying the tension of the said springs to cause the latter to press with greater or less force against the gate, substantially as and for the purpose set forth. 5th. In a faucet, the combination of a self-closing gate or cut-off, a cross bar secured to and having connection with the stem of the gate and having a projecting portion, stops to engage with the end portions of and support the cross bar when the gate is open, a trigger to release the cross bar from the stops, and an audible signal having a hammer extending across the path of the projecting portion of the cross bar to be struck thereby, substantially in the manner set forrth for the purpose described. 6th. In combination, a faucet having a self-closing gate or cut-off, means for holding the gate open when drawing off the contents of a cask, barrel, etc., through the faucet, a trigger for releasing the gate, a scale beam operatively connected with the trigger for actuating the latter when a predetermined amount of liquid has been drawn, and a weight 27 slightly mounted upon the scale beam and constructed to shift towards the fulcrum of the scale beam the instant the later tilts, substantially as and for the purpose set forth.

No. 56,032. Slate Ruler. (*Règle pour ardoises.*)



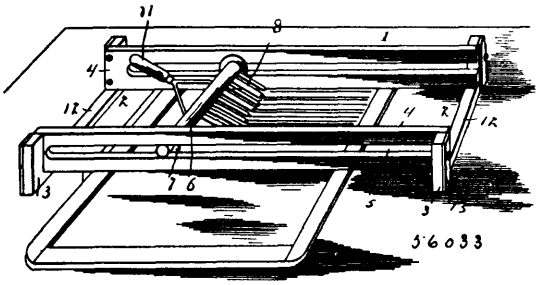
56032

Otto Schaller, Okawville, Illinois, U.S.A., 25th May, 1897 ; 6 years. (Filed 27th February, 1897.)

Claim.—1st. In a combined ruler and slate, a ruler having pegs disposed along one of the longitudinal edges of the same, openings formed along one side of the slate frame for receiving said pegs and partially securing the ruler to the frame, and suitable devices for additionally securing the opposite ends of the ruler to the slate frame, substantially as set forth. 2nd. In a combined ruler and slate, a slate, a frame for the same, parallel guide grooves formed along two opposite members of the frame, a series of depressions or openings formed at the base of each groove and correspondingly spaced on each side of the frame, transeverse guide lines drawn across the path of the openings, a ruler, and suitable pegs carried along one of the longitudinal edges of the same and separated by a distance equal to the distance from one depression on one side of the frame to its corresponding depression on the other side, the parts operating substantially as and for the purpose set forth. 3rd. In a combined ruler and slate, a ruler, pegs projecting from and disposed along one of the longitudinal edges of the same, depressions formed in the frame for the reception of the pegs to temporarily and partially secure the ruler to the frame, buttons carried by the opposite edges of the frame in line with one of the lateral members of the frame, elastic bands carried by the ends of the ruler, and eyes secured to the ends of the bands, the parts operating substantially as and for the purpose set forth. 4th. In a combined ruler and slate, a slate, a frame for the same, plates imbedded in two opposite members of the frame and flush with the surface of said members, parallel guide grooves formed in said plates, openings formed at the bottom of the guide grooves, depressions formed in the frame members communicating with the openings of the plates, guide lines transversely disposed along each plate and passing through or in the path of the openings, the parts operating substantially as and for the purpose set forth. 5th. In a combined ruler and slate, a slate, a ruler therefor, pegs 11 carried along one of the edges of the ruler, the slate having suitable openings for the reception of said pegs, substantially as set forth.

No. 56,033. Ruling Mechanism for Slates.

(*Machine à règler pour ardoises.*)

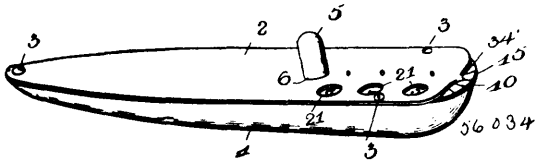


E. F. Herman Westenfeld, Toledo, Ohio, U.S.A., 25th May, 1897; 6 years. (Filed 8th March, 1897.)

Claim.—1st. In a ruling mechanism for slates, a table, a frame having longitudinal ways or guides, a ruling mechanism movably secured therein, and means for adjusting the table vertically above the table. 2nd. In a ruling mechanism for slates, a table, a frame having longitudinal guides or ways, plates adjustably secured to the frame having depending rods screw-threaded upon the lower end to receive nuts to attach the plates to the table.

No. 56,034. Linear Measuring Instrument.

(*Mesure linéaire.*)

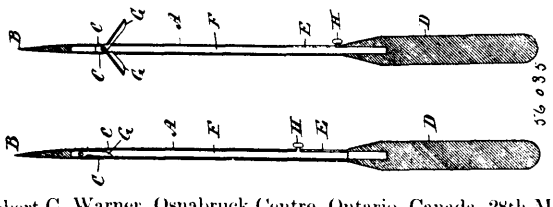


Charles Robert Steadman, Norwalk, Ohio, U.S.A., 28th May, 1897; 6 years. (Filed 9th March, 1897.)

Claim.—1st. The combination with the units wheel 10 having a pin 17 adapted to engage the teeth on the tens wheel 13, of means substantially as described for releasing the teeth on the tens wheel from the pin on the units wheel and simultaneously restoring both wheels to unison, substantially as and for the purpose set forth. 2nd. The combination with the units wheel 10 having the radial pin 33, and the pin 17, the tens wheel 13 provided with circumferential teeth 18, a pin 17, and a radial pin 33, and the hundreds wheel 14 provided with a series of teeth and a radial pin 17, of means substantially as described for restoring said wheels to unison, substantially as and for the purpose set forth. 3rd. The combination with the units and tens wheel provided with the radial pins 33, of the unison plate 22 provided with the cylindrical flanges 31 having inclined faces 32, subscantially as and for the purpose set forth. 4th. The case 1 and covers 2, in which is mounted a series of registering wheels substantially as described, the shafts of which are provided with unison pins 33, in combination with the unison plate 22, its spring 25 and push button 5, and provided with guide orifices 28, 29 and 30, having cylindrical flanges 31, the inclined faces 32 of which are adapted to engage the unison pins 33 when operated by the push button 5, as and for the purpose set forth. 5th. The case 1, cover 2 provided with the pointer 34, a series of registering wheels located in said case, the milled rim of one of said registering wheels projecting beyond said case and adapted to be propelled over the surface to oe measured, and means substantially as described for restoring said registering wheels to unison, as and for the purpose set forth.

No. 36,035. Stricture Cutter.

(*Lancettes pour trayons de vaches.*)

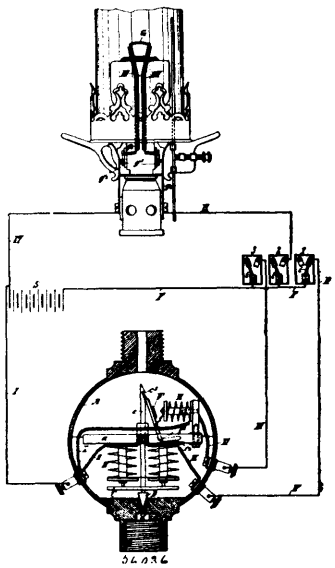


Robert C, Warner, Osnabruck Centre, Ontario, Canada, 28th May, 1897; 6 years. (Filed 11th March, 1897.)

Claims,—1st. A stricture cutter, comprising a tubular probe A, having a point B, and slots C, C, a pull and push rod F, within the tube of the probe, and wing knives or cutters G, G, pivoted to said rod and projecting through the slots and closing together within the tube, as set forth. 2nd. A stricture cutter, comprising a tubular probe A, provided with a handle D, and having longitudinal slots C, C, E, a pull and push rod F, within the probe tube, and provided with a thumb piece H projecting through said slot E, and wing cutters G, G, pivoted to said rod and extensible through the slots C, C, and closing into the tube, as set forth.

No. 56,036. Gas Supplying Device.

(*Appareil pour l'approvisionnement du gaz.*)



Boguslaw Jolles, Vienna, Austria, 28th May, 1897; 6 years. (Filed 11th March, 1897.)

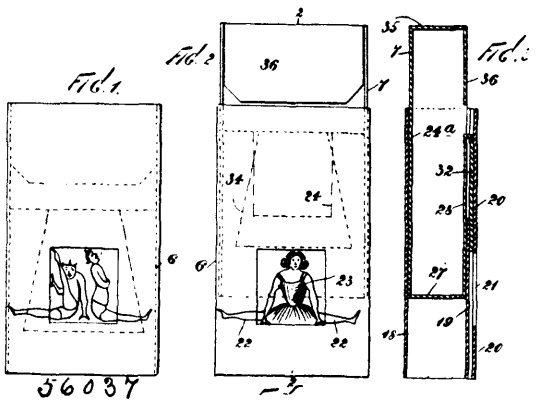
Claim.—1st. A device for operating the supply valve, lighting and extinguishing the gas of gas burners, characterized by a burner and casing containing a valve and stem to which is secured the armature of an electric magnet connected to a battery and switch key for operating said valve, a pivoted pawl adapted to engage a catch or recess in the end of said valve stem to retain the valve in its open position, an electric igniting device upon said burner operated by a second switch or movement of the switch key and an electro-magnet also connected to the battery and a switch whereby the armature attached to the pawl may be attracted and so release the valve stem and cut-off the gas supply, substantially as described. 2nd. In a device for operating the supply valve, lighting and extinguishing the gas of gas burners, a casing containing a gas inlet and outlet, inlet valve and stem carrying an armature of an electro-magnet for operating said valve, a pivoted pawl for engaging with a catch or recess on the valve stem to retain it in its open position, and a second electro-magnet, and armature forming part of or attached to the pawl, for effecting the release of the valve stem and closing of the gas supply, substantially as described. 3rd. An electric device for lighting the gas of gas burners consisting of a battery, switch and conductors, spring arms g^2, contact plates g^1, insulated conductors VII and VIII, and an igniting coil of platinum wire or the like G, substantially as described. 4th. In a device for operating the supply valve, lighting and extinguishing the gas of gas burners, a switch device in electrical connection with the gas supply valve, igniting device and valve releasing device, consisting of a casing M, carrying a spring controlled stem K, having an enlargement or projection *k* adapated to engage with a spring contact L, thereby completing the circuit for effecting the opening of the valve and afterwards coming into contact with a pin or contact *m* to complete the circuit for effecting the ignition of the gas at the burner, substantially as described. 5th. A device for operating the supply valve, lighting and extinguishing the gas of gas burners, consisting of a casing A, containing a gas inlet and outlet valve D, valve stem *c* carrying an armature C, of an electro-magnet B, on support *a*, pivoted armature and pawl F, *f*, electro-magnet A, and electric conductors I, II, III, IV, V, X, XI, XII, switches 1 and 3, battery S, electric igniting device g^2, g^1, G, and conductors V, VI, VII, VIII, IX, and switch 2, substantially as described.

No. 56,037. Box for Cigarettes. (*Boîte à cigares.*)

Clarence Irving Ward and Charles Ward, both of Baltimore, Maryland, U.S.A., 28th May, 1897; 6 years. (Filed 12th March, 1897.)

Claim.—1st. The herein described transformation box, which consists of a casing which is open at both ends and provided with a false top, the true top being provided with an opening adjacent to which is formed part of a picture and the false top being provided back of said opening with the remainder of said picture, said casing being also provided with a slide, the top of which is provided with a tongue, which is folded backwardly and adapted to move in an opening formed in the false top of the casing and to cover the part of the picture formed thereon, said tongue being also provided with

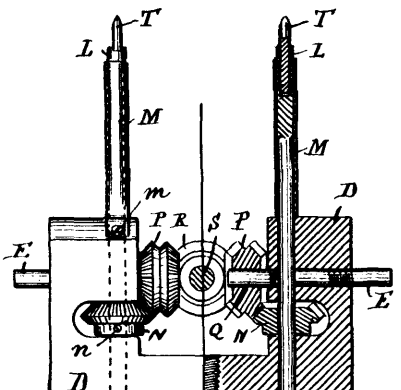
a part of a picture which is adapted to correspond with that formed on the top of the casing and to comple the same, substantially as



shown and described. 2nd. The herein described transformation box, which consists of a casing which is open at both ends and provided with a false top, the true top being provided with an opening adjacent to which is formed part of a picture, and the false top being provided back of said opening with the remainder of said picture, said casing being also provided with a slide, the top of which is provided with a tongue, which is folded backwardly and adapted to move in an opening formed in the false top of the casing and to cover the part of the picture formed thereon, said tongue being also provided with a part of the picture which is adapted to correspond with that formed on the top of the casing and to complete the same, said slide being also provided with a folding end piece and flap, substantially as shown and described. 3rd. A transformation box, composed of a casing and a slide, said casing being composed of a blank constructed as described and being provided with a false top, and with an opening in the true top, and the false top being also provided with a slot in one end thereof, and the slide being composed of a blank folded as described, and the top thereof being provided with a tongue which is adapted to move in said slot and to overlap the false top of the casing, and the slide being also provided at one end with a folding end and flap, substantially as shown and described.

No. 56,038. Wood Mortising Machine.

(*Machine à mortoiser le bois.*)

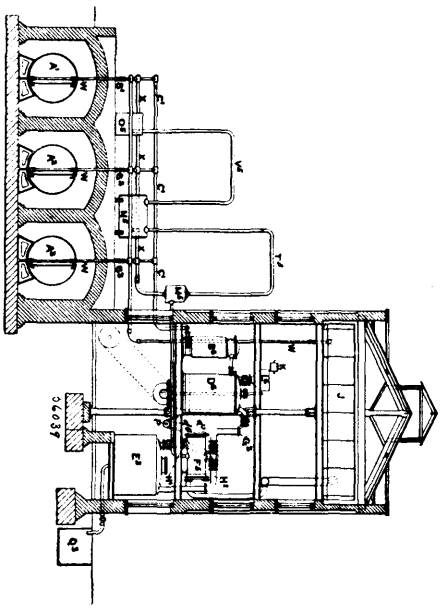


Samuel F. Tibbetts, Biddeford, Maine, U.S.A., 28th May, 1897; 6 years. (Filed 12th March, 1897.)

Claim.—1st. In a woodworking-machine a tool-holder free to oscillate upon pintless secured in adjustable blocks mounted upon the rails of the machine said tool-holder carrying spindles each adjustably supported in a bevel-wheel, in gear with one face of a double-faced bevel-wheel, the other face of which is in gear with a bevel-wheel mounted upon a shaft to which a rotary motion is imparted substantially as set forth. 2nd. In a woodworking-machine an o-cillating tool-holder carrying two rotating spindles and having two tapering steadying-pieces for each of said spindles the width of the steadying-pieces being about the diameter of the spindles whereby each spindle is held on its two sides in a conical holder, a conical metallic case for holding each pair of said tapering steadying-pieces close to the spindle, and also preventing said steadying-pieces from spreading, substantially as set forth. 3rd. In a woodworking-machine a central driving-shaft S, a bevel-wheel R mounted thereon in combination with an oscillating tool-holder D, recessed to its central portion, two double faced bevel-wheels P mounted upon studs and working in said recess bevel-wheels N, cutter-spindles carried by said wheels N, and two steadying-pieces *d*, *d* for each cutter-spindle, and a metallic case around said steadying-pieces and spindle, substantially as and for the purposes set forth.

No. 56,039. Oil Extracting Apparatus.

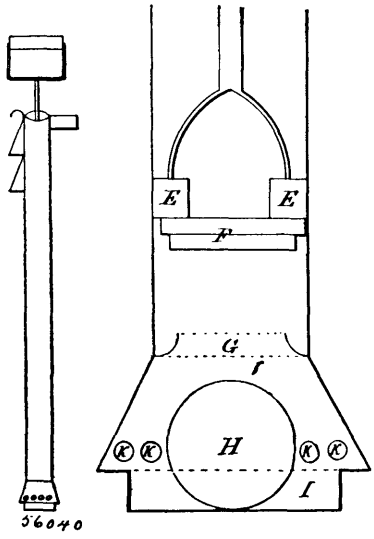
(*Appareil à extraire l'huile.*)



William Robert Harrison and Edwin Stephenson, both of Hull, York, England, 28th May, 1897; 6 years. (Filed 22nd December, 1896.)

Claim.—1st. An apparatus or plant for extracting oil from seeds or other suitable oleaginous substances by means of solvents and for recovering and redistilling the solvent concurrently with the extraction of the oil and also for converting the residum into meal, the employment of gas generators, oil extracting kettles, (with internal stirrers and sweepers) condensers, air extractors and air receivers, oil separators, store tanks, bubble tanks, and water pressure, tanks, together with connecting pipes, receivers, cocks and valves, worm and band, or other conveyors, and hoppers, the whole apparatus driven by any suitable gearing in the manner and for the purposes substantially as shown and described. 2nd. In an oil extracting plant for extracting oil from seeds or other suitable oleaginous substances by means of solvents. The employment of solvent vaporizers or gas generators between the store tanks and the extracting kettles for heating the solvent up to a high temperature and partially converting it into vapour substantially as shown and described. 3rd. In an apparatus or plant for extracting oil from seeds or other suitable oleaginous substances by means of solvents, the construction of a solvent vaporizer or gas generator with a dished bottom and having an inlet pipe for such solvent above the said bottom in the manner and for the purposes, substantially as shown and described. 4th. In machinery for extracting oil from seeds or any other oleaginous substances by means of solvents, the employment of stirrers or beater bars within the extracting kettles for the purpose of beating up the residium, substantially as shown and described. 5th. In oil extracting kettles, the employment of sweepers fixed on to the lower part of the vertical shaft which carries the stirers or beater bars in the manner and for the purposes substantially as shown and described. 6th. In machinery for extracting oil from seeds or other oleaginous substances by means of solvents, the combination of the stirers or beater bars and sweepers, substantially as and for the purposes shown and described. 7th. The introduction into an apparatus or plant for extracting oil from seeds or other suitable oleaginous substances of an air extractor or air extractors between the condensers and the ground store tanks for the purpose of removing the air out of the returning solvent, and so entirely preventing it from getting into such store tanks, substantially as shown and described. 8th. In plant for extracting oil from seeds or other oleaginous substances by means of solvents, the employment of one or more cylindrical oil separators provided with alternate services of moist and dry steam coils in conjunction with alternate services of vapour piping for vaporizing and carrying off the solvent in the said separator and for washing the extracted oil in the manner and for the purposes substantially as shown and described.

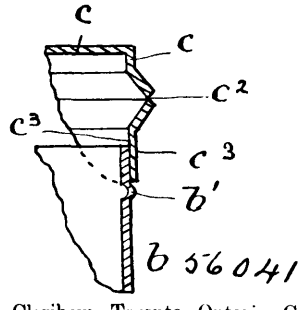
No. 56,040. Art or Process of Cooling Milk.
(*Art et procédé rafraichissant pour le lait.*)



Albert Lacey Oatman and Elmer Hicks, both of South Norwick, Ontario, Canada, 28th May, 1897; 6 years. (Filed 2nd April, 1897.)

Claim.—A device for aerifying and cooling milk comprising a cylinder D, having at its lower end a valve or socket G, flaring bottom having holes K, and cap I, and at its upper end, handle C, and with or without hangers L or M, handle A, rod B, rod head E, and valve F, all formed, combined and operated as and for the purposes hereinbefore set forth.

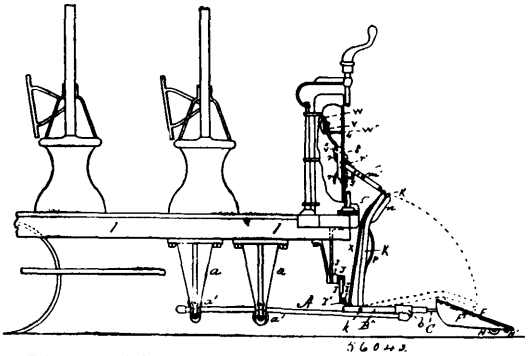
No. 56,041. Can. (*Bidon.*)



George William Clerihew, Toronto, Ontario, Canada, 28th May, 1897; 6 years. (Filed April 6th, 1897.)

Claim.—In combination with a can body, and a removable cover therefor, a strip detachably connecting said cover and body together, said strip being of uniform strength throughout, a tongue section formed in one with the lower edge of said strip and the portion of said strip adjacent to its point of connection to said cover or body being outwardly inclined, for the purpose set forth.

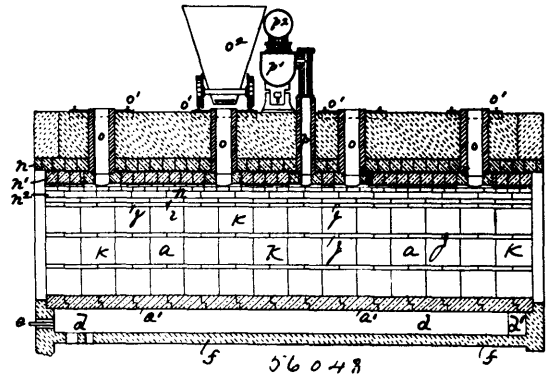
No. 56,042. Car Fender. (*Défense de chars.*)



George Hipwood, John William, John Barrett, as administrator of the estate of Horatio Charles Barrett, all of Boston, Mass., U.S.A., 28th May, 1897; 6 years. (Filed 13th April, 1897.

Claim.—1st. In a fender, the dash-board and bunter-guard, comprising the frame K K' extending up from the fender, the forwardly extending spring guard N and a series of springs P extending from said spring guard to said frame, substantially as described. 2nd. In a fender, a horizontal sliding fender-frame and a vertically swinging bunter-guard extending up from said fender-frame and adapted to be swung upon the fender frame, said fender-frame and bunter-guard being adapted when the latter is swung down to be slid horizontally under the car together, substantially as set forth. 3rd. In a fender, the frame K K' provided with the cross bars K'' K''', the spring frame N, and the springs P, each having one end secured to the upper cross bar K'', extending over the spring frame, and down to the lower bar K' '' to which its opposite end is secured, substantially as set forth. 4th. In a fender, the combination of the tilting frame B B' B'', the vertical guard K K' pivotally connected with said frame, and the rods of bars X extending from the upper bar of the frame K down between the two bars B' constituting the rear bar of the tilting frame, said rod having its lower end curved as shown, substantially as described. 5th. In a fender, the combination of the vertical dash-board or bunter-guard, the hook Y on the dash-board adjustable stirrup M', and a grapple extending through the dash-board and engaging said stirrup, substantially as set forth. 6th. The actuating lever consisting of the two parallel parts V, the bolt W' embraced by said parts, and the knee-pad W into which the bolt is screwed, whereby said pad is renderd adjustable as to height, substantially as described.

No. 56,043. Coke Oven and Coke Oven Tile.
(*Four à coke et tuile.*)

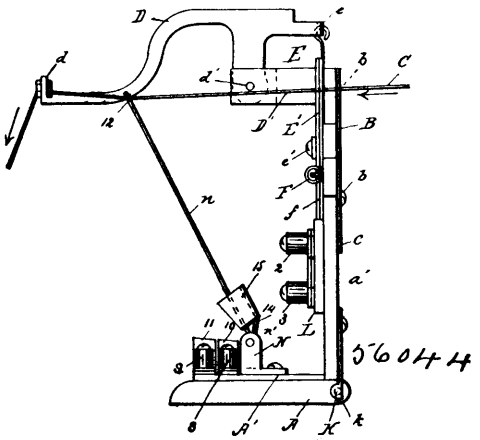


Frank L. Slocum, Pittsburg, Pennsylvania, U.S.A., 28th May, 1897; 18 years. (Filed 13th April, 1897.)

Claim.—1st. A longitudinally extending coke oven having heating flues in the side walls thereof and having the side walls between the coking chambers and flues formed of vertical slabs with horizontally and inwardly extending flanges above and below the flues, and horizontal tiles forming tile plates between the vertical slabs extending into the central wall beyond the slabs, substantially as set forth. 2nd. In coke ovens, a separating wall between two longitudinally extending coking chambers containing heating flues and formed of a central pier wall having heating flues on each side thereof, and vertical slabs forming the walls of the coking chambers and having horizontally and inwardly extending flanges above and below the heating flues, substantially as set forth. 3rd. In coke ovens, a separating wall between two longitudinally extending coking chambers formed of a central pier wall having heating flues on each side thereof and having tile plates extending out therefrom, and vertical slabs with horizontally and inwardly extending flanges fitting between the tile plate and forming the walls of the coking chamber, substantially as set forth. 4th. In coke ovens, a separating wall between two longitudinally extending coking chambers formed of a central pier provided with flanges extending out therefrom and forming part of the upper and lower flue walls, and vertical slabs forming the walls of the coking chambers and having horizontally and inwardly extending flanges forming the remainder of the upper and lower flue walls, substantially as set forth. 5th. A longitudinally extending coke oven having heating flues in the side walls thereof and having side walls between the coking chamber and flues formed of vertical slabs with horizontally and inwardly extending flanges extending above the heating flues, and a central pier wall having flanges extending out therefrom, the flanges of the central pier wall and the flanges of the vertical slabs having rabbeted joints between them, substantially as set forth. 6th. A longitudinally extending coke oven having heating flues in the side walls thereof and having the side walls between the coking chamber and flues formed of vertical slabs with horizontally and inwardly extending flanges extending above and below the heating flues, a central pier wall and horizontal tile plates fitting between the blocks of the central pier wall and between said outer vertical slabs, substantially as set forth. 7th. In coke ovens, a separating wall between longitudinally extending coking chambers formed of a central pier wall having heating flues on each side, and formed of blocks having flanges extending out therefrom above and below the heating flues, separate tile plates extending out from the pier wall, and vertical

slabs resting on the tile plates and forming the walls of the coking chamber and the outer walls of the heating flues, substantially as set forth. 8th. A bank of coke ovens having longitudinally extending coking chambers, and separate walls between the chambers formed of a central pier wall having horizontal return heating flues on each side thereof, and vertical slabs forming the walls of the coking chambers and outer walls of the heating flues, tile-work above the top horizontal flues connecting the central pier walls and the outer walls, main supporting arches over the coking chambers sustained by said central pier walls, and inner fire arches within the main arches sustained by the tile-work above the horizontal flues, substantially as set forth. 9th. The combination of the blocks g, the base blocks a^1 resting thereon, and forming the base of the coking chamber, the blocks h and the vertical slabs k, substantially as and for the purposes set forth. 10th. A tile for separating the coke oven from the heating flue, having an inwardly projecting flange along an edge thereof and open at its ends, and having vertical ribs formed on its inner face, substantially as set forth. 11th. A tile for separating the coke oven from the heating flue, having inwardly extending flanges projecting at the top and bottom thereof and open at its ends, and having vertical ribs formed on its inner face, substantially as set forth.

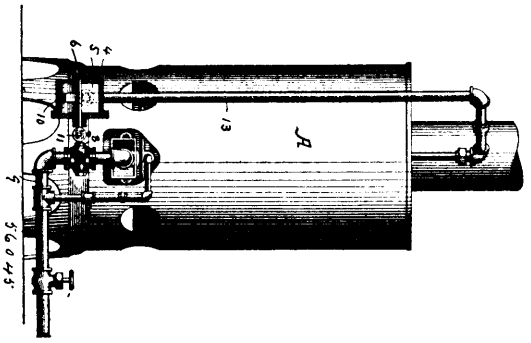
No. 56,044. Advertising Sign. (*Enseigne.*)



Charles Frederick Johnson, Boston, Mass., U.S.A., 28th May, 1897; 6 years. (Filed 10th March, 1897.)

Claim.—1st. A sign comprising a plate provided with multiplicity of perforations and pins or similar implements detachably inserted in said perforations in such manners that their heads form letters or symbols. 2nd. A sign comprising a perforated metallic sheet provided with a backing of puncturable material and a series of pins inserted in a predetermined order in said perforations. 3rd. An advertising sign comprising a series of pins or similar implements inserted in a holder having a determined arrangement of openings for receiving said pins, whereby the pins heads may be made to present letters or symbols to the view. 4th. The herein described sign comprising a frame, the perforated metallic sheet, the backing for said sheet, the casing, and the trusses of cork between said backing and casing all being arranged to operate substantially as specified.

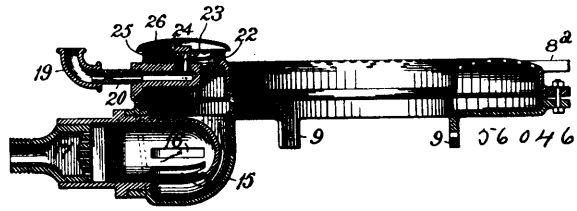
No. 56,045. Water Heater. (*Chauffeur à eau.*)



John Charles Beckfield, Pittsburg, Pennsylvania, U.S.A., 28th May, 1897; 6 years. (Filed 17th April, 1897.)

Claim.—1st. In a regulator for water heaters, the combination of a conduit connected to the heater, a rotatable shaft, a vane or abutment fitting loosely in the conduit and connected to the shaft, and a controller for the heat generator also connected to the shaft, substantially as set forth. 2nd. In a regulator for water heaters, the combination of a conduit connected to the heater, a rotatable shaft, a vane or abutment connected to the shaft, means for resisting the movement of the vane or abutment, and a controller for the heat generator also connected to the shaft, substantially as set forth. 3rd. In a regulator for water heaters, the combination of a conduit connected to the heater, a rotatable shaft, a vane or abutment connected to the shaft, adjustable for resisting the movement of the vane or abutment, and a controller for the heat generator also connected to the shaft, substantially as set forth. 4th. In a regulator for water heaters, the combination of a conduit connected to the heater, a rotatable shaft arranged transversely of the conduit, a vane or abutment secured to the shaft within the conduit and a controller for the heat generator connected to the shaft, substantially as set forth.

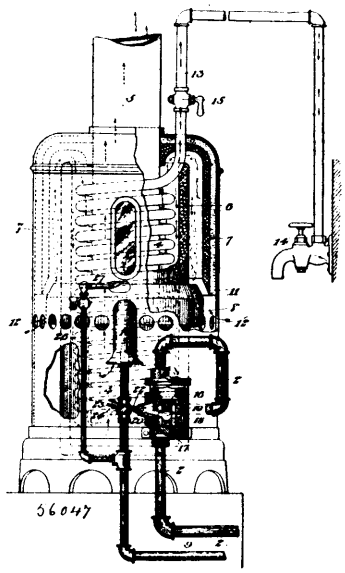
No. 56,046. Water Heater. (*Chauffeur à eau.*)



John Charles Beckfield, Pittsburg, Pennsylvania, U.S.A., 28th May, 1897; 6 years. (Filed 17th April, 1897.)

Claim.—1st. A heater for water consisting of a pipe arranged in two or more vertical series of coils, forming a continuous passage for water, the series of coils being separated from each other, and the adjacent coils of each series in or approximately in contact, thereby forming one or more annular flues or passages for the products of combustion, substantially as set forth. 2nd. In a heater for water, the combination of an annular combustion chamber, a length of pipe arranged in said chamber in two more vertical series of coils, so as to form a continuous passage and forming one or more annular flues for the products of combustion, and a burner located in the combustion chamber, substantially as set forth. 3rd. A heater for water consisting of a pipe arranged in two or more vertical coils, separated from each other and having the coils of one series connected to the corresponding coils of adjacent series, and the adjacent coils of each series being in or approximately in contact, thereby forming one or more annular flues or passages for the products of combustion, substantially as set forth. 4th. In a water heater, the combination of a base having a central post or standard forming the inner wall of the combustion chamber, an annular burner supported by the post or standard, a shell supported by the burner and forming the outer wall of the combustion chamber, and a coil of pipe arranged in the combustion chamber, substantially as set forth. 5th. In a heater for water, the combination of a main burner, a valve controlling the flow of gas to the main burner, and a burner for the pilot light having a limited, independent supply pipe and communicating with the main burner, substantially as set forth.

No. 56,047. Water Heater. (*Chauffeur à eau.*)

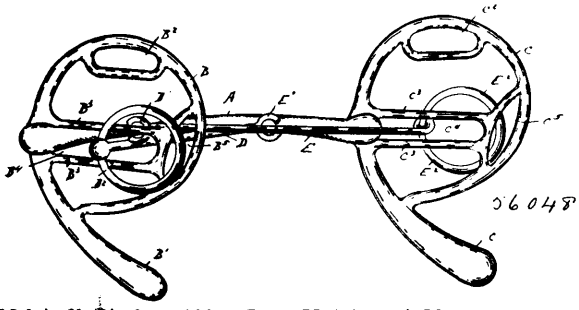


John Charles Beckfield, Pittsburg, Pennsylvania, U.S.A., 28th May, 1897; 6 years. (Filed 17th April, 1897.)

Claim.—1st. The combination of a fluid receptacle having a supply and one or more outlet pipes, a heat generator and means controlled by the flow of fluid through the receptacle for regulating the heat generator proportionally to such flow, substantially as set forth. 2nd. The combination of a fluid receptacle having a supply and one or more outlet pipes provided with faucets, a heater and a movable

abutment or piston in the supply pipe for regulating the heat generator constructed to be shifted in proportion to the flow of water through the receptacle, substantially as set forth. 3rd. The combination of a fluid receptacle having a supply and one or more outlet pipes, a heater, a case or shell in the supply pipe provided with a taper passage or port, a valve or piston controlling the flow of fluid through said passage and means controlled by the valve or piston for regulating the heat generator, whereby the heat generated will be proportional to the flow of water through the receptacle, substantially as set forth. 4th. The combination of a fluid receptacle having a supply and one or more outlet pipes a gas burner for heating the receptacle having a valve supply pipe, a movable abutment or piston in the supply pipe of the receptacle constructed to be shifted in proportion to the flow of fluid through the receptacle and connected to the valve in the gas supply pipe, substantially as set forth.

No. 56,048. Bridle Bit. (*Mors de bride.*)



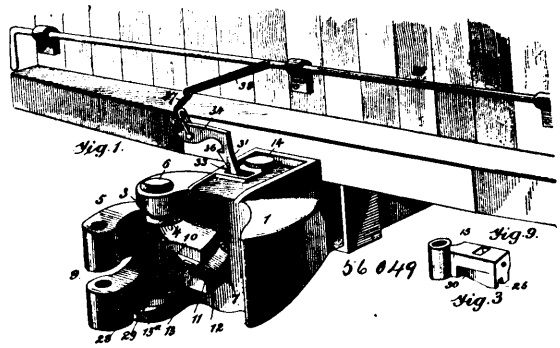
Melvin F. Bigelow, Alden, Iowa, U.S.A., 28th May, 1897; 6 years. (Filed 17th April, 1897.)

Claim.—1st. In a bridle-bit, the combination with a mouthpiece, of levers pivoted thereto and crossing each other, being adapted to work in the mouth of the horses, substantially as described. 2nd. In a bridle-bit, the combination with a mouthpiece a cheekpieces connected to the ends of the mouthpiece and adapted for connection with the driving reins and levers pivoted to the mouthpiece and crossing each other, said levers having their free outer ends provided with rings for the attachment of the driving reins, the free ends of said levers working in the cheekpieces, substantially as described.

No. 56,049. Car Coupler. (*Attelage de chars.*)

Aaron H. Carroll, Jacksonville, Illinois, U.S.A., 28th May, 1897; 6 years. (Filed 17th April, 1897.)

Claim.—1st. In a car coupler of the class described, the combination with the drawhead having a bifurcated end and a pivot pin, a coupling member having a vertical movement on such pin and having its lower end made flat and of a length to always be in a plane below the top of the lower bifurcated portion of the pivot end of the drawhead, said lower bifurcated end having a forwardly extending member provided with an incline 29 rising gradually and uninterruptedly inward to a plane in line with the top of the said lower bifurcated end, all being arranged substantially in the manner shown, whereby the bottom of the lower end of the coupling member cannot rise above the upper end of the incline 29, as set forth. 2nd. In a car coupler as described, the combination with the drawhead having an incline, and the knuckle member having a vertical movement on its pivot and provided with an extension, said extension having a rest portion, and the drawhead having a straight wall portion and a seat or depression above it, of the vertically and laterally movable lock block adapted to automatically drop between the knuckle extension and the straight wall portion, and to



seat on the rest portion and the wall seat when raised and automatically moved on to the seat when the knuckle swings outward as specified. 3rd. In a car coupler as described., the combination with the drawhead, said drawhead having a vertical lock face 23 terminating at the upper end in an inclined seat 26 and the knuckle automatically moved to its uncoupled position, said knuckle having a rest member of the vertically and laterally movable lock block, means for it swingtng laterally towards the knuckle member as it is raised, said block having a bevelled portion 24 adapted to rest on the seat when such block is at its upper or unlocking position, as specified. 4th. The combination in a coupler of the kind described with the drawhead and the automatically outward swinging knuckle, said knuckle having an extension having a main rest portion and a supplemental rest portion, of the pivoted vertically movable lock block, means for lifting the same whereby to swing the same out on to the supplemental extension, substantially as shown and described. 5th. The combination with the drawhead having a straight lock face 23, a seat portion 27, and an incline 29, arranged substantially as shown, of the vertically movable swinging knuckle having an extension adapted to ride on the incline 29, and provided with a rest portion 11 and a lock bearing face 16, the pivoted block 21 having its pivot in line with its front or bearing face, a lift device adapted to swing such block inward as it is raised, said block having its lock portion adapted to rest on the portion 11 of the knuckle member when such member is at its unlocked position, and to automatically drop down between the drawhead portion 23 and the face 16 of the said knuckle member when such member is swung to its coupled position, as specified. 6th. In a car coupler of the kind described, the combination with the knuckle and the gravity lock block, of means for holding such block from moving accidently upward, substantially as shown and described. 7th. In a car coupling of the kind described, the combination with the knuckle and the lock block, of a detent for holding the lock block down, and means for operating such detent secured on the car for releasing such detent and for pulling it upward, substantially as shown and described. 8th. In a car coupler of the kind described, the combination with the drawhead and the knuckle, of the lock block adapted to assume a lock position by gravity, said block having a supplemental locking recess to engage and lock the knuckle when the drawheads engage on curve, substantially as set forth. 9th. The combination with the drawhead, the knuckle, and the vertical movable lock block, said drawhead having a slot in its top with a lock tooth 33, of the bar 31 having a locking member 36 and extended portion 34, the lever devices held on the car body and a flexible connection holding such lever, substantially as shown.

TRADE-MARKS

Registered during the month of May, 1897, at the Department of Agriculture—Copyright and Trade-Mark Branch.

6032. L. CHAPUT, FILS & COMPAGNIE, Montreal, Que. General Trade Mark, 5th May, 1897.

6033. SEABURY AND JOHNSON, New York, N.Y., U.S.A. Medicinal Plasters, 5th May, 1897.

6034. EDMUND JAMES MILLS, Glasgow, Scotland. Chemical Substances used in Manufactures or Philosophical research, and Anti-corrosives, 5th May, 1897.

6035. LEOPOLD MILLER AND SONS, New York, N.Y., U.S.A. Cigars, Cigarettes and Tobaccos, 7th May, 1897.

6036. VALENTINE'S MEAT-JUICE COMPANY, Richmond, Virginia, U.S.A. Extracts of Meat-Juice and Compounds thereof, 10th May, 1897.

6037. CHARLES CAMMELL AND COMPANY, LIMITED, Cyclops Works, Sheffield, England. Iron and Steel, separately or combined and articles manufactured therefrom, such as Springs, Buffers, Tires, Axles, Wheels, etc., 12th May, 1897.

6038. THE SINCLAIR CANNING COMPANY, LIMITED, New Westminster, B.C. Canned Salmon, 12th May, 1897.

6039. ICHTHYOL GESELLSCHAFT CORDES HERMANNI AND COMPANY, Hamburg, German Empire. General Trade Mark, 15th May, 1897.

6040. THE VEEDER MANUFACTURING COMPANY, Hartford, Connecticut, U.S.A. Cyclometers, 15th May, 1897.

6041. EDWARD AND JOHN BURKE, LIMITED, Dublin, Ireland. Dublin Stout, 15th May, 1897.

6042. } JAMES B. CAMPBELL, Chicago, Illinois, U.S.A. Veterinary Medicines,
6043. } 15th May, 1897.

6044. } THE RATHBUN COMPANY, Deseronto, Ont. Cement, 17th May, 1897.
6045. }

6046. HAMBURGER AND COMPANY, New York, N.Y., U.S.A. Tooth Brushes, 17th May, 1897.

6047. GEORGE W. DAWSON, GEORGE I. WILSON AND ALFRED J. BUTTIMER, Vancouver, B.C. Canned Fish of all kinds, 17th May, 1897.

6048. FRÉDÉRIC BOUCHONNET, Montréal, Qué. Onguent pour guérison d'hémorrhoïdes, 18 mai 1897.

6049. H. J. HEINZ COMPANY, Pittsburg, Pennsylvania, U.S.A. General pickled and preserved condiments, 19th May, 1897.

6050. JAMES F. ROBERTSON AND JOSEPH ALLISON, St. John N.B., trading as MANCHESTER, ROBERTSON AND ALLISON. General Trade Mark, 19th May, 1897.

6051. JAMES SMALL, Hamilton, Ont., on behalf of all LOCAL UNIONS OF JOURNEYMEN HORSESHOERS, affiliated with the International Union of Journeymen Horseshoers of the United States of America and Canada. Horseshoes, 19th May, 1897.

6052. ROBERT MARTIN LARTER, Toronto, Ont. Common Sense Vermin Exterminator, 20th May, 1897.

6053. VEUVE CHARLES MOREL, 42 Chemin de St. Just, Marseilles, France. Soap, 28th May, 1897.

6054. E. W. VILLENEUVE, Montreal, Que. Cigars, 28th May, 1897.

6055. ONTARIO CHEMISTS MANUFACTURING COMPANY, LIMITED Hamilton, Ont. Red Fly Poison Paper, 28th May, 1897.

6056. SAMUEL CASTNER, Junior, AND HENRY B. CURRAN Philadelphia Pennsylvania, U.S.A. Coal, 28th May, 1897.

6057. } CLEMENT, GLADIATOR AND HUMBER (FRANCE), LIMITED, 31
6058. } rue du 4 Septembre, Paris, France, and 14 Regent Street, London, England. Bicycles and other velocipedes, 28th May, 1897.

6059. E. W. VILLENEUVE, Montreal, Que. Cigars, Cigarettes and Tobaccos, 29th May, 1897.

6060. C. B. McALLISTER, Peterborough, Ont, Flour, 31st May, 1897.

6061. BISSELL CARPET SWEEPER COMPANY, Grand Rapids, Michigan, U.S.A. Carpet Sweepers, 31st May, 1897.

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9199. ART SUPPLEMENT OF THE DAILY MAIL AND EMPIRE, TORONTO, SATURDAY, 1st MAY, 1897. The Mail Printing Co., Toronto, Ont., 1st May, 1897.

9200. LIVRE DE LECTURE COURANTE. (Cours Moyen.) Les Frères du Sacré-Cœur, Arthabaskaville, Qué., 3 mai 1897.

9201. HISTORICAL SKETCH OF THE COUNTY OF WENTWORTH AND THE HEAD OF THE LAKE. By J. H. Smith, Hamilton, Ont., 3rd May, 1897.

9202. CANADIAN HISTORY, 1492-1897. (Scaife's Comparative and Synoptical System of History applied to all Countries. Students Edition.) The Comparative Synoptical Chart Co. (Ltd.), Victoria, B.C., 3rd May, 1897.

9203. CANADIAN HISTORY NOTES. By Geo. E. Henderson and Chas. G. Fraser, Toronto, Ont., 4th May, 1897.

9204. PRELUDE AND FUGUE. (For Piano.) By W. O. Forsyth. The Anglo-Canadian Music Publishers' Association (Ltd.), London, England, 6th May, 1897.

9205. INSURANCE PLANS OF AYTON, CHATSWORTH, CREDITON, DASHWOOD, ELMWOOD, FORDWICH, GRAND VALLEY, GUELPH, HANOVER, HENSALL, NEUSTADT, WINDSOR AND ZURICH IN ONTARIO. Chas. E. Goad, Montreal, Que., 6th May, 1897.

9206. PRECIOUS STONES FOR ZION'S WALLS. (A Record of Personal Experience in Things Connected with the Kingdom of God on Earth.) By Eliza Bentley, Toronto, Ont., 6th May, 1897.

9207. THE HALIFAX CARNIVAL MARCH. By A. V. Barwood. Whaley, Royce & Co., Toronto, Ont., 7th May, 1897.

9208. MAP SHOWING MINERAL LOCATIONS ON TEXADA ISLAND, NANAIMO MINING DISTRICT. By A. S. Going, C.E., P.L.S., Victoria, B.C., 7th May, 1897.

9209. CHART OF THE ASSESSMENT LIFE ASSOCIATIONS AND FRIENDLY SOCIETIES TRANSACTING BUSINESS IN CANADA. The Bulletin Publishing Company of Toronto (Ltd.), 7th May, 1897.

9210. ART SUPPLEMENT OF THE DAILY MAIL AND EMPIRE, TORONTO, SATURDAY, 8TH MAY, 1897. The Mail Printing Co., Toronto, Ont., 8th May, 1897.

9211. THE MUTUAL SYSTEM INDEX BOOK. Oliver H. Maybee, Toronto, Ont., 8th May, 1897.

9212. THE WESTMINSTER. (A Paper for the Home. Vol. II. No. 5. May, 1897.) The Westminster Co., Toronto, Ont., 8th May, 1897.

9213. BUCK AND BOUILLON'S MINING MAP OF BOUNDARY CREEK AND KETTLE RIVER, YALE DISTRICT, B.C., AND PORTION OF THE COLVILLE INDIAN RESERVATION, WASHINGTON, U.S.A. John Philip Martin, Rossland, B.C., 10th May, 1897.

9214. HUGHES'S SAVINGS BANK INTEREST. (3½ per cent.) Chas. M. C. Hughes, Montreal, Que., 10th May, 1897.

9215. THE OLD TESTAMENT VINDICATED AS CHRISTIANITY'S FOUNDATION STONE. By George Coulson Workman, M.A., Ph. D. Wm. Briggs (Book-Steward of the Methodist Book and Publishing House), Toronto, Ont., 11th May, 1897.

9216. CATALOGUE AND PRICE LIST ISLAND CITY VARNISH, PAINT AND COLOUR WORKS. P. D. Dods & Co., Montreal, Que., 11th May, 1897.

9217. VICTORIA THE ROSE OF ENGLAND. (Song and Chorus.) Words and Music by Roberta Geddes-Harvey, Guelph, Ont., 11th May, 1897.

9218. THE DE BRISAY ANALYTICAL FRENCH METHOD. (Part III.) Charles T. De Brisay, Toronto, Ont., 12th May, 1897.

9219. WE'LL FIGHT FOR THE GRAND OLD FLAG. (Song.) Music by Major F. E. Dixon, Toronto, Ont., 12th May, 1897.

9220. MAP OF PART OF SLOCAN MINING CAMP, WEST KOOTENAY, B.C. Compiled by W. S. Drewry, P.L.S., Victoria, B.C., 13th May, 1897.

9221. SWEETBRIAR. (Song.) Words by Jean Blewett. Music by Mary O'Hara, Toronto, Ont., 13th May, 1897.

9222. THE DELINEATOR. (A Journal of Fashion, Culture and Fine Arts. June, 1897.) The Butterick Publishing Co. (Ltd.), New York, N.Y., U.S.A., 13th May, 1897.

9223. THE GLASS OF FASHION UP TO DATE. (June, 1897.) The Butterick Publishing Co. (Ltd.), New York, N.Y., U.S.A., 13th May, 1897.

9224. CATÉCHISME D'HYGIÈNE PRIVÉE ET PUBLIQUE. Par le Docteur J. I. Desroches, Montréal, Qué., 14 mai 1897.

9225. A JUBILEE OFFERING. (A Booklet of Verse.) By Rozelle V. Myers-Funnell, M.D., Ottawa, Ont., 14th May, 1897.

9226. MAP OF EAGLE LAKE AND SURROUNDING COUNTRY. Compiled by L. C. Charlesworth, O.L.S., Rat Portage, Ont., 14th May 1897.

9227. ART SUPPLEMENT OF THE DAILY MAIL AND EMPIRE, TORONTO, SATURDAY, 15TH MAY, 1897. The Mail Printing Co., Toronto, Ont., 15th May, 1897.

9228. OLD VIRGINIA. (Two-Step March.) By J. Stanton Gladwin. The Anglo-Canadian Music Publishers' Association (Ltd.), London, England, 15th May, 1897.

9229. OVERRULED. By "Pansy." (Mrs. G. R. Alden.) Wm. Briggs (Book-Steward of the Methodist Book and Publishing House), Toronto, Ont., 15th May, 1897.

9230. WHILE BABY IS ASLEEP. (Lullaby.) Words by "Caris Brooke." Music by Maude Fairbairn. A. & S. Nordheimer, Toronto, Ont., 15th May, 1897.

9231. THE QUEEN'S DIAMOND JUBILEE GALOP. By Max. Bachmann, Montreal, Que., 15th May, 1897.

9232. REST IN PARADISE. (Sacred Song.) Words by Emily C. Orr. Music by Mary O'Hara, Toronto, Ont., 18th May, 1897.

9233. THE LOVERS' QUARREL. (Song.) Words by Jean Blewett. Music by Mary O'Hara, Toronto, Ont., 18th May, 1897.

9234. UN SANCTUAIRE CANADIEN. (Manuel du Pélerin au Sanctuaire du Cap de la Madeleine.) Par l'Abbé J. E. Panneton, Sault-au-Récollet, Qué., 18 mai 1897.

9235. NURSING THE SICK. (Book.) The Davies & Lawrence Co. (Ltd.), Montreal, Que., 18th May, 1897.

9236. FAIREST OF THE FAIR. (Valse.) By Paul Kruger. Willimott H. Billing, Toronto, Ont., 19th May, 1897.

9237. PATTERSON'S CUT, PRINT AND DESIGN FOR LETTERS AND CIRCULAR HEADINGS, CARDS AND OTHER STATIONERY. W. S. Patterson, Toronto, Ont., 19th May, 1897.

9238. FOR QUEEN, FLAG AND COUNTRY. (Canadian Patriotic Song.) Words and Music by J. C. Morgan, Barrie, Ont., 20th May, 1897.

9239. A SHORT HISTORY OF THE UNION JACK. By William Henry Holmes, B.C.L., Truro, N.S., 20th May, 1897.

9240. VALSE FRONTENAC. Par Mme. A. O. Larin, Montréal, Qué., 20th May, 1897.

9241. PAPERS READ BEFORE THE ENGINEERING SOCIETY OF THE SCHOOL OF PRACTICAL SCIENCE, TORONTO, 1896-7. The Engineering Society of the School of Practical Science, Toronto, Ont., 21st May, 1897.

9242. I LOVE YOU IN THE SAME OLD WAY. Words by Walter H. Ford. Music by John W. Bratton. Whaley, Royce & Co., Toronto, Ont., 21st May, 1897.

9243. ZENDA WALTZES. Composed by Frank M. Witmark. Whaley, Royce & Co., Toronto, Ont., 21st May, 1897.

9244. THE DIAMOND JUBILEE MARCH. (Two-Step.) By Jules Norman, Montreal, Que., 21st May, 1897.

9245. THE QUEEN'S DIAMOND JUBILEE MARCH. By Will. J. Hastings, Watford, Ont., 22nd May, 1897.

9246. CANADA'S JUBILEE GREETING TO HER GRACIOUS MAJESTY QUEEN VICTORIA. Words and Music by J. Doan Graham, Toronto, Ont., 22nd May, 1897.

9247. ART SUPPLEMENT OF THE DAILY MAIL AND EMPIRE, TORONTO, SATURDAY, 22ND MAY, 1897. The Mail Printing Co., Toronto, Ont., 22nd May, 1897.

9248. POLSON'S PROBATION: A STORY OF MANITOBA. By James Morton. Wm. Briggs (Book-Steward of the Methodist Book and Publishing House), Toronto, Ont., 25th May, 1897.

9249. ENGRAVINGS *RE* MINING. The Province Publishing Company (Ltd.), Vancouver, B.C., 25th May, 1897.

9250. DANCE OF THE MANDARINS. (For Piano.) By A. W. Hughes. The Anglo-Canadian Music Publishers' Association (Ltd.), London, England, 25th May, 1897.

9251. CABOT WALTZES. By Frederick Burry. The Anglo-Canadian Music Publishers' Association (Ltd.), London, England, 26th May, 1897.

9252. MARQUETTE. (March and Two-Step.) By Basilio Glionna. The Anglo-Canadian Music Publishers' Association (Ltd.), London, England, 26th May, 1897.

9253. THE STARS AND STRIPES FOREVER. (March.) By John Philip Sousa. The John Church Co., Cincinnati, Ohio, U.S.A., 26th May, 1897.

9254. PHOTOGRAPH OF HIS EXCELLENCY MGR. MERRY DEL VAL. (A.) Frederick Lyonde, Toronto, Ont., 28th May, 1897.

9255. PHOTOGRAPH OF HIS EXCELLENCY MGR. MERRY DEL VAL. (B.) Frederick Lyonde, Toronto, Ont., 28th May, 1897.

9256. PHOTOGRAPH OF HIS EXCELLENCY MGR. MERRY DEL VAL. (C.) Frederick Lyonde, Toronto, Ont., 28th May, 1897.

9257. PHOTOGRAPH OF HIS EXCELLENCY MGR. MERRY DEL VAL. (D.) Frederick Lyonde, Toronto, Ont., 28th May, 1897.

9258. PHOTOGRAPH OF HIS EXCELLENCY MGR. MERRY DEL VAL AND HIS GRACE ARCHBISHOP WALSH, TORONTO. (E.) Frederick Lyonde, Toronto, Ont., 28th May, 1897.

9259. PHOTOGRAPH OF HIS EXCELLENCY MGR. MERRY DEL VAL AND HIS GRACE ARCHBISHOP WALSH, TORONTO. (F.) Frederick Lyonde, Toronto, Ont., 28th May, 1897.

9260. THE CANADIAN MAGAZINE. (March, 1897.) The Ontario Publishing Co., Toronto, Ont., 28th May, 1897.

9261. THE CANADIAN MAGAZINE. (April, 1897.) The Ontario Publishing Co., Toronto, Ont., 28th May, 1897.

9262. THE CANADIAN MAGAZINE. (May, 1897.) The Ontario Publishing Co., Toronto, Ont., 28th May, 1897.

9263. MANITOBA MEMORIES: LEAVES FROM MY LIFE IN THE PRAIRIE PROVINCE, 1868-1884. By Rev. George Young, D.D. Wm. Briggs (Book-Steward of the Methodist Book and Publishing House), Toronto, Ont., 29th May, 1897.

9264. MASSEY'S MAGAZINE. (May, 1897.) The Massey Press, Toronto, Ont., 29th May, 1897.

9265. ART SUPPLEMENT OF THE DAILY MAIL AND EMPIRE, TORONTO, SATURDAY, 29TH MAY, 1897. The Mail Printing Co., Toronto, Ont., 29th May, 1897.

9266. INTERIOR OF THE HOUSE OF COMMONS, SESSION 1897. (Photo. A.) W. J. Topley, Ottawa, Ont., 29th May, 1897.

9267. INTERIOR OF THE HOUSE OF COMMONS, SESSION 1897. (Photo. B.) W. J. Topley, Ottawa, Ont., 29th May, 1897.

9268. INTERIOR OF THE HOUSE OF COMMONS, SESSION 1897. (Photo. C.) W. J. Topley, Ottawa, Ont., 29th May, 1897.

9269. MAP OF WHITEFISH BAY, LAKE OF THE WOODS. Compiled by L. C. Charlesworth and John Chalmers, O.L.S., Rat Portage, Ont., 31st May, 1897.