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### INVENTIONS PATENTED.

NOTE—Patents are granted for 15 years. The term of years for which the fees have been paid, is given after the date of the patent.

#### No. 21,198. Waggon or Vehicle Spring.

(*Ressort de Wagon ou de Voiture.*)

Edgar P. Carter, East Smithport, Pa., U. S., 4th March, 1885; 5 years.

*Claim.*—1st. A side spring composed of the foundation leaf *a*, reaching from one end support to the other, one or more long leaves *b* and the short leaves *c*, *c'*, the clips *d*, *d'*, one of which is attached to one leaf or more, and the other to one or more different leaves of the spring, the long leaves being united in the centre, so that the long leaves have independent action through the clips to lengthen or shorten, all substantially as specified. 2nd. In buggies or waggons, the combination of cross springs on which the buggy body is fastened, and side metal springs *A*, *A'*, and fastened together by the same clip, substantially as heretofore explained. 3rd. The cross spring *C*, having its ends bent over into a *C*, leaving the tops flat, forming the attaching part to the side springs substantially as specified. 4th. The end springs *D*, having the two lugs or ears *m*, *m* constructed on, or forming part of the foundation leaf, to receive the ends of the side springs, substantially as specified. 5th. The cross spring *C*, constructed of the two separate end pieces *n*, *n'*, attached to the piece *p* by bolts or clips, as and for the purpose specified. 6th. The bevelled top saddle clip *B*, constructed as described, and in combination with the side springs *A*, *A'*, or side springs and cross springs, substantially as and for the purpose set forth.

#### No. 21,199. Combined Car Brake and Coupler.

(*Frein et Accouplage de Chars Combinés.*)

Edward B. Meatyard, Lake Geneva, Wis., U. S., 4th March, 1885; 5 years.

*Claim.*—1st. A draw-bar, in combination with a brake-bar, a system of levers connecting the draw-bar to the brake-bar, and springs arranged in the usual gap at the rear end of the draw bar, adapted and adjusted to maintain the said draw-bar in a normal position intermediate between the extremes of its range, and, at the same time, in this position, to keep the brakes set up, and also adapted and adjusted to yield nearly the whole of their elastic range under a pull or thrust of traction due to the resistance of a single moving car, to thereby take off the brakes, substantially as described. 2nd. The buffer, provided with laterally projecting rings, in combination with traction springs, to keep slack between said rings and the end of the car, and auxiliary springs filling part of the slack, to meet excessive buffing shock as the traction springs are compressed, and mechanism connecting the rear of the draw-bar with the brake. 3rd. The toggle *K*, arranged substantially as described, the hanger *u* suspended above the knee of the toggle, so as to admit of oscillation lengthwise of the car, the bar *N* vertically pivoted at the lower end of the hanger, extending a little way below the pivot, and having the part above the pivot equal in length to the hanger, and bent slightly toward the inner end of the truck, the chain *O* connecting the upper end of the draw-bar to the hand wheel, means for communicating the motion of the draw-bar to the lower end of the hanger, and means for communicating to the knee of the toggle the upward and downward motion of the lower end of the bar, all in combination substantially as and for the purpose described. 4th. The brake bar *L*, in combination with two stiff connecting bars *K*, to which the brake-bar is readily fastened, and which converge near the centre of the truck, and are there attached to an independent and substantially level support, whereby

the brake-bar is held from rocking and the brake-shoes prevented from rubbing the wheels, substantially as and for the purposes set forth. 5th. The two toggle hangers *P*, the toggle *K* and the connecting bars *K*, all constructed and arranged substantially as and for the purpose described. 6th. In a traction car-brake, the bifurcated toggle arms *K* and *K'*, connected with, and arranged to operate two or more brake-bars, in combination with readily-yielding draw-bars, and mechanism for connecting the knuckle of the toggle arms with the draw-bars, substantially as and for the purpose described.

#### No. 21,200. Railway Car. (*Char le Chemin de Fer.*)

Edward B. Meatyard, Lake Geneva, Wis., U. S., 4th March, 1885; 5 years.

*Claim.*—1st. In a railway car, the longitudinal girder *A*, in combination with the transverse floor joists *B* and the truss-bars *B'*, the floor joists *B* having their ends sprung down to a deflection within a safe limit of elasticity, before being fastened to the ends of the truss-bar *B'*, to prevent vibration of the joists, while the car is moving empty and when the car is loaded, so as to take a portion of each joist load directly to the top flange of the girder *A*, by means of the stiffness of the joist, and the other portion of each joists laid down the truss bar to the bottom flange of the girder *A*, substantially as described and shown. 2nd. In a railway car, the V-shaped bolster *C*, rigidly secured to the main floor beams at its ends, and pivotally suspended from the cross-beams in the middle, and composed of two parallel pairs of downwardly-convergent bars, rigidly connected at their convergent ends, the bars of each pair being also connected by cross-braces, substantially as and for the purpose described. 3rd. The two part channel or angle-arch bar *E*, in combination with the two part angle truss bar *E'*, and vertical braces *E''*, provided with heads at each end, firmly clamped between the component parts of both the arch-bars and truss-bars, substantially as and for the purposes set forth. 4th. In a railway-car, the arch-bar *E*, truss-bar *E'*, the connecting bar *G*, longitudinal girder *A*, V-shaped bolster *C* and pivotal suspension hanger *D*, in combination with I-beam transoms *G*, of the minimum depth, to permit the car floor to be as low as possible, substantially as described. 5th. In a railway car, the arch bars *E* and truss bars *E'*, constituting the truss spanning the distance between the two axle boxes on each side of the truck, in combination with the transoms *G*, the brace bars *E''* and the lateral brace bars *E'''*, fastened to the transoms *G* at one end, and at the other to the brace bars *E''*, near the outer quarter of the bars *E* and *E'*, substantially as and for the purposes set forth. 6th. The combination of the arch bars *E*, the truss bars *E'* and the horn plates *F*, all constructed and arranged substantially as and for the purpose described. 7th. The vibration springs *H*, in combination with the car body and the truck cross beams, whereby the car body is tied down to the ends of the truck cross beams, substantially as and for the purpose set forth. 8th. The transverse floor joists, in combination with the longitudinal floor plank, and the channel beams *O* fastened to the end of the joists, and also the edges of the floor plank, substantially as and for the purposes set forth. 9th. The axle box, in combination with the rods *L*, the triangular bell-crank *M*, and the arms *K*, arranged and operating substantially as and for the purpose set forth. 10th. In a railway car, an angle bar *P*, in combination with a sheet metal strip or strips, bent or flanged at the edges, to meet the sides of the angle-bar, and a U-shaped strip *R*, inclosing and clamping together the angle bar and edges of the sheet. 11th. A car axle, in combination with an independent tubular bearing of oval shape, and hardened metal shrunk on the axle, substantially as and for the purposes set forth. 12th. In combination with the running board, the casting *Q*, bent at the ends, to enclose the board, and having one of the bent ends prolonged to form a support *Q'* for a hand rail.

#### No. 21,201. Hay Stacker. (*Meulonneuse.*)

Albert Cooley, Osceola, Iowa, U. S., 4th March, 1885; 5 years.

*Claim.*—In a hay stacker, the combination, with the frames *A*, *B*, connected together, and one having hooks or recess *S* at its upper end, and a bottom board *C* of the rake *H*, *I*, *J*, *K*, having rearwardly projecting teeth, and the ropes *O*, *O*, connected to the cross bar *J* of the rake, in the rear of the cross bar *I* thereof, the lower outer ends of the teeth of the rake resting upon the board *C*, and the ropes acting upon the under side of the rake head, as shown and described and for the purpose set forth.

**No. 21,202. Gravity Friction Ratchet.***(Embrayage à Friction.)*

Anson D. Simpson, Niverville, N.Y., U.S., 4th March, 1885; 5 years.

*Claim.*—1st. The loose slotted disk B, having eccentric inner projection B<sub>2</sub>, the recessed disk C and segments E, E<sub>1</sub>, and the adjustable ring D having inner projections D<sub>1</sub>, arranged to operate substantially as specified for the purpose set forth. 2nd. In a gravity friction ratchet, the combination, with the disk, having a double tangent hub forming a double eccentric, of the two segments, having their inner edges straight, in order to engage the hub at a point where the tangent meets the arc, and having their outer edges curved on a regular semicircular line, and of the circular cap fitting over the pieces substantially as described.

**No. 21,203. Moccasin. (Moccasin.)**

Joseph A. Verret, Lorette, Que., 4th March, 1885; 5 years.

*Claim.*—1st. A moccasin having an enclosed front, consisting of the gores F, F<sub>1</sub>, sewn to the tongue G and to the inside of tops B, of the moccasin, as set forth, to prevent ingress of snow to the foot. 2nd. As an improved article of manufacture, a moccasin composed of the sole A having attached loops I, vamp c having tongue D, gores F, F<sub>1</sub>, and tops B, lacing studs E, as set forth.

**No. 21,204. Axle Box and Skein.***(Boîte à Graisse et Douille d'Essieu.)*

Lawrence Bimel and William Bimel, St. Marys, Ohio, U.S., 4th March, 1885; 5 years.

*Claim.*—1st. The combination, with the axle arm A, having the flanges C and d, of the ring J, loosely fitted upon the arm between the said flanges, substantially as described, whereby the ring may be retained in place and hold the wheel in place. 2nd. The combination, with the arm A, provided with the apertured flange C, of the flaring shield E, having ears f, adapted to engage the apertures in the flange C, as and for the purpose specified. 3rd. The combination, with the arm A, having the flanges d and C and the hub H thereon, of the ring J, loosely fitted upon the arm between the said flanges, and secured to the hub by bolts e, and the flaring shield E, having ears adapted to engage the flange C, as shown and described. 4th. The combination, with the arm A, having the flanges C and d, and the ring J, loosely fitting the arm between the flanges, of the axle box G, having the internal enlargements and the convex end b provided with an oil hole and screw plug a therefor, substantially as described, whereby an oil chamber is formed in the said convex enclosure and around the arm, as set forth.

**No. 21,205. Shovel. (Pelle.)**

Henry J. Welch, Carthage, N.Y., U.S., 4th March, 1885; 5 years.

*Claim.*—1st. In a snow shovel, the combination of the reversible blade and the head block, with the handle, the securing bolt E, and strap F, substantially as described. 2nd. In a snow shovel, the blade A, having double edges G, G, and central perforation, and adapted to be reversed, substantially as described.

**No. 21,206. Snow Plough. (Charrue à Neige.)**

Peter B. Brazel, Cheboygan, Mich., U.S., 4th March, 1885; 5 years.

*Claim.*—1st. The combination, with the plough frame or main frame, and the supporting runners, of the adjustable plough G, G, the adjustable pivoted or hinged wings E, E, and pivoted or hinged bars F, F, substantially as and for the purpose hereinbefore set forth. 2nd. The combination, with the side beams A, A, of the metallic guide-ways h, h, connected thereto, the plates H, H, provided with the plough G, G, the cross bar K and the screw-rods and nuts k, k<sub>1</sub>, substantially as and for the purpose hereinbefore set forth.

**No. 21,207. Metallic Fence. (Clôture Métallique.)**

George Q. Adams, Quincy, Ill., U.S., 4th March, 1885; 5 years.

*Claim.*—1st. An iron fence post, constructed in the form of a half circle, with inward flanges a, and having an open space between said flanges, substantially as and for the purpose set forth. 2nd. A metallic base or foot board, consisting of the body D of any form, with the ledge b, and off-set e, substantially as and for the purpose set forth. 3rd. In a woven or wire board fence, the post A and base board D, in combination with the pickets B and twisted wires C, constructed of metal as shown, substantially as and for the purpose set forth.

**No. 21,208. Grain Grinding Machine.***(Machine à Moudre les Grains.)*

Samuel Vessot, Quebec, Que., 4th March, 1885; 5 years.

*Réclame.*—10. La combinaison d'un aplatisseur, avec un appareil à moudre, les deux montés sur la même charpente. 20. La combinaison de la roue j sur son arbre ot reposant dans les coussinets l, l, avec la roue f et ses rainures f<sub>2</sub>, sur l'arbre pt des meules. 30. La combinaison du contre-centre ou vis r, avec le ressort s, et les entremises at, at, pressant sur les coussinets l, l. 40. La combinaison des contre-centres p, p et leurs supports e<sub>2</sub>, e<sub>2</sub>, avec les coussinets l, l, et les entremises at, at, et le ressort et les coussinets o, o. 50. La combinaison des grattoirs s, s, avec les roues j, f, de l'aplatisseur. 60. La combinaison de l'entonnoir carré e avec son support x. 70. La combinaison de la tremie c, avec ses accrochoirs b<sub>1</sub> et b<sub>2</sub>, et le cerle b. 80. La combinaison du tourne-broche pt, avec les accrochoirs b<sub>1</sub> et b<sub>2</sub>, la roue z, la charpente g et sa petite poulie motrice k<sub>1</sub>. 90. La combinaison de la courroie k, ses pattes r, r, avec les piliers en tube q, q et le cerle b. 100. La combinaison de l'entonnoir a, avec sa tirette d et ses agrafes at, av, c le cerle b appuyé sur ses piliers q, q. 110. La combinaison de la vis de pression h, avec la plaque d'acier m et l'arbre pt, ses coussinets ot, ot, la poulie motrice k<sub>1</sub> et le ressort z.

120. La combinaison de la poulie motrice h<sub>1</sub>, son arbre pt, avec la roue d'air i, la roue f, la poulie k et la caboche u des meules. 130. La combinaison de l'entonnoir f, avec la rondelle en cuivre ut, son ressort h, ses agrafes at et la u. 140. La combinaison de la caboche u, avec la charpente k et la rondelle en plomb vt. 150. La combinaison du porte-moulange s<sub>1</sub> et ses ailes ventilateurs courbés a<sub>2</sub>, avec l'arbre pt. 160. La combinaison du porte-moulange s<sub>1</sub>, fait et posé, tel que décrit, avec la vis t et l'arbre pt. 170. La combinaison des meules et la caboche u, et son trou de ventilation wt, avec le porte-moulange s<sub>1</sub> et la vis t. 180. La combinaison de deux meules à moudre, dont un côté à des rayons presque droits z<sub>1</sub>, et en dehors de ces rayons plus long de dents renversées r<sub>1</sub> que l'autre face q<sub>1</sub> qui a aussi des rayons inclinés r<sub>2</sub>, lesquels rayons se croisent avec les rayons z<sub>1</sub>, et ce pour les fins tel que décrit. 190. La combinaison de meules à moudre ayant des dents creusées en gorge. 200. La combinaison de petites dents en travers w, avec les rayons z<sub>2</sub> et z<sub>2</sub>, et les dents renversées r<sub>2</sub> et q<sub>2</sub>, et ce pour les fins tel que décrit. 210. La combinaison des deux meules avec le porte-moulange s<sub>1</sub>, et le porte-moulange e<sub>2</sub>. 220. La combinaison du sas t et ses supports d<sub>1</sub> et e<sub>1</sub>, et son tourne-broche y, avec les roues m et n. 230. La combinaison de l'arbre ot, avec son collet fixe e<sub>2</sub> et son collet mobile q<sub>2</sub>. 240. La combinaison de la roue d'engrenage j<sub>2</sub> et l'arbre ot, avec la roue d'engrenage j<sub>2</sub> et l'arbre pt. 250. La combinaison, avec la charpente k, du bras ajustable h<sub>2</sub>, et ce pour les fins tel que décrit.

**No. 21,209. Differential Pulley.***(Poulie Différentielle.)*

George Smith, jr., New York, N.Y., U.S., 5th March, 1885; 5 years.

*Claim.*—1st. In a differential pulley, of the character herein set forth, the upper and lower sheaves grooved for the reception of the rope, each sheave being composed of two sections movable together, the sections in the two sheaves bearing the same relative proportions to each other, substantially as shown and described. 2nd. In a differential pulley, the combination, with the two grooved sheaves, proportioned as explained, and the fall of the operating rope wound over and under the larger sections of the two sheaves, from outside to outside, under the fall and over and under the smaller sections of the two sheaves, from outside to outside, and spliced, substantially as shown and described. 3rd. In a differential pulley, having the two grooved sheaves, proportioned as explained, the rope wound thereon as explained, and the fall, the spring actuated rollers mounted upon the frame of the pulley block and serving to guide the hand portions of the rope, substantially as set forth. 4th. In a differential pulley, the upper and lower sheaves grooved for the reception of the rope, the axes of the two sheaves being inclined with respect to each other, substantially as shown and described.

**No. 21,210. Capillary Filter.***(Filtre Capillaire.)*

John A. Tupper, Salt Lake City, U.T., U.S., 5th March, 1885; 5 year.

*Claim.*—1st. A filter consisting of the combination of a filtering vessel, provided with a series of wick tubes projecting into it upward and through its bottom, a series of wicks in said tubes, their upper ends hanging over the tops of the tubes, and their lower ends extending down within the tubes sufficiently far to cause the wicks to act, as capillary siphons, and a receiving vessel for the filtered liquid arranged beneath the bottom of the said vessel, and receiving the drip from said wicks, substantially as and for the purposes set forth. 2nd. The combination, to form a capillary filter, of two or more filtering vessels constructed to fit one above another, and each provided with wick tubes, enclosed within it, extending upward from its bottom, with a closed receiving vessel for the filtered liquid, arranged beneath, and fitting the lowermost filtering vessel, substantially as set forth, whereby the liquid in the upper vessel is subjected to successive capillary filtrations, and the wicks are concealed and protected.

**No. 21,211. Reversible Self-heating Smoothing Iron. (Fer à Repasser Reversible à Chauffage Continu.)**

George T. Kearns and John H. Noble, London, Ont., 5th March, 1885; 5 years.

*Claim.*—1st. The body A of a reversible self-heating smoothing iron constructed in two sections a<sub>1</sub>, and a<sub>2</sub>, substantially as shown and described and for the purpose specified. 2nd. The body A, of a reversible self-heating smoothing iron constructed in two sections a<sub>1</sub>, and a<sub>2</sub>, and providing with ventilating apertures T, T, substantially as shown and described and for the purpose set forth. 3rd. The body A, of self-heating smoothing iron provided with an opening at the rear end, and a sleeve C at the front end, with the uprights b<sub>5</sub>, and b<sub>6</sub>, lever E, pin D, spring clip J, handle B, provided with flanges b<sub>8</sub>, annular ring b<sub>3</sub>, and annular flange b<sub>4</sub>, substantially as shown and described and for the purpose specified. 4th. In combination with a smoothing iron, the lamp reservoir H, non-conductor L, plate G, annular flange b<sub>7</sub>, clamps J<sub>1</sub>, and wick tube a<sub>3</sub>, substantially as shown and described and for the purposes specified. 5th. The non-conductor L, placed between the lamp reservoir H, and body of the iron A, substantially as shown and described and for the purpose specified. 6th. The annular ring b<sub>3</sub>, provided with apertures d<sub>1</sub>, d<sub>1</sub>, and the annular flange b<sub>7</sub>, provided with apertures d<sub>2</sub>, d<sub>2</sub>, substantially as shown and described and for the purpose set forth.

**No. 21,212. Light Vehicle. (Voiture Légère.)**

Samuel Toomey, Canal Dover, Ohio, U.S., 5th March, 1885; 5 years.

*Claim.*—1st. A trussed vehicle pole, formed of two outwardly bowed strips and a middle strip, for the purpose herein specified. 2nd. A trussed vehicle-pole, formed of two outward strips and a middle strip, made wide at the middle and narrow at the ends, for the purposes specified. 3rd. In combination with a vehicle-pole, hounds trussed in the part forward of the cross-brace, substantially as and for the purpose herein specified. 4th. An arched axle trussed with two arches of

different degrees of curvature, substantially as set forth. 5th. The T-shaped brace *n*, in combination with the cross-bar *F*, and seat *T*, for the purpose specified. 6th. The combination of the brace *n*, braces *o*, *o*, cross-bar *F* and seat *T*, substantially as and for the purposes herein specified. 7th. The combination of the braces *n*, *p*, *v*, *s*, cross-bar *F*, axle *D*, cross-bar *H*, and seat *I*, substantially as and for the purpose herein specified.

**No. 21,213. Truss.** (*Bandage Herniaire.*)

Elbridge Howe, Peterborough, N.H., U.S., 5th March, 1885; 5 years.

*Claim.*—In a truss, the combination of a plate secured upon the pad and forming a concavo-convex cup upon its outer end, provided with corrugations upon its convex side, and having a large central aperture, a plate secured upon the end of the spring and forming a concavo-convex cup upon its outer end, provided with corrugations upon its concave side, and having a small central aperture, a set-screw fitting in the smaller aperture and playing in the larger aperture of the cup.

**No. 21,214. Spring Shade Roller.**

(*Bâton de Rideau à Ressort.*)

Stewart Hartshorn, Milburn, N.J., U.S., 5th March, 1885; 5 years.

*Claim.*—1st. In spring shade rollers, the combination of the shaft or spindle and spring around the same, with the roller and the cavity therein, substantially as described, so that any support for the inner end of the spindle and any connection of the inner end of the spring with the roller is dispensed with. 2nd. In spring shade-rollers, the combination, with the roller, of the spindle *R* attached thereto only at its outer end, the end-plate *P*, and spring *S*, secured at its inner end to the spindle, and at its outer end to the plate, substantially as described and for the purposes set forth. 3rd. In spring shade-rollers, the combination of the spindle *R*, the end-plate *P*, and the spring *S*, attached to the spindle at its inner end and to the end-plate *P*, by its outer end, substantially as and for the purposes set forth. 4th. In spring shade-rollers, the combination of the spindle spring and end plate, substantially as shown and described, the spindle connected by its outer end to the end plate, the spring attached by its outer end to the spindle, and the end-plate end spindle provided with a pawl and ratchet, as and for the purposes set forth. 5th. In spring shade-rollers, constructing the flattened or bracket-end of the spindle with a shoulder and screw tap, substantially as described, for attaching said spindle, the end-plate of the roller and the spring-carrying shaft together, as and for the purposes set forth. 6th. In spring shade-rollers, constructing the shaft or spindle, on which the spring is mounted, with an open slot or groove in its inner end, substantially as and for the purposes set forth. 7th. In spring shade-rollers, the combination, with the roller of a slotted spindle and spring, the latter connected at one end to the spindle by the slot therein, and at the other end to the roller, substantially as and for the purposes set forth. 8th. In spring shade-rollers, the combination, with the spindle having a grooved cut in its inner end, of the end-plate and the spring attached by one end to the spindle by means of the groove therein, and by the other end to the end-plate, substantially as and for the purposes set forth. 9th. In spring shade-rollers, the combination of the spindle *R*, having a groove cut in its inner end, the plate *P*, having the collar *c*, and the spring *S*, attached to the spindle by means of the groove, and to the collar *c*, substantially as described and for the purposes set forth.

**No. 21,215. Automatic Liquid Measure.**

(*Meure-Liquide Automatique*)

Pierre Sagasin, Montreal, Que., 5th March, 1885; 5 years.

*Réclame.*—1o. Dans un mesureur automatique pour liquides, le robinet *K*, en combinaison avec le robinet *M*, la mesure *D* et le tube *J*, *L*, et *I*, tel que ci-dessus décrit et pour les fins sus-mentionnées. 2o. Dans un mesureur automatique pour liquides, le robinet *H*, en combinaison avec le robinet *K*, la mesure *D*, les tubes *J*, *K*, et *I*, tel que ci-dessus décrit et pour les fins sus-mentionnées. 3o. Dans un mesureur automatique pour liquides, le double fond *C*, en combinaison avec le réservoir *A*, *B*, *E*, et le système mesureur *D*, *J*, *K*, *L*, *M*, tel que ci-dessus décrit et pour les fins sus-mentionnées. 4o. Dans un mesureur automatique pour liquides, la porte *N*, en combinaison avec la cloison *H*, le compartiment *G*, et le réservoir *A*, *B*, *C*, *E*, le tout tel que ci-dessus décrit et pour les fins sus-mentionnées.

**No. 21,216. Bench Vice.** (*Etau d'Etabli*)

Henry A. Hyle, Redwood, N.Y., U.S., 9th March, 1885; 5 years.

*Claim.*—1st. The jaws *A*, recessed as shown at *a*, in such manner as to remove a portion of the faces of the jaws, in combination with the cylinders *C*, placed in the said recesses, the cylinders being formed with cavities of various shapes and adapted to be turned in the jaws, substantially as and for the purposes described. 2nd. The combination, with the recessed jaws *A*, of the cylinder *C*, formed with the longitudinal and transverse recesses or cavities for holding objects in horizontal and vertical positions, substantially as described. 3rd. The cylinder *C*, formed with cavities or recesses and with the flat portions *c*, substantially as and for the purposes described. 4th. The cylinders *C*, placed in recesses made in the jaws, and formed with the narrow slots for holding flat or edges objects, as set forth. 5th. The cylinders *C*, placed in recesses made in the jaws, and formed with shallow and short recesses *s*, *j*, for holding pointed objects, as set forth. 6th. The combination, with recessed jaws *A*, and cylinder *C*, placed in the jaws, of the plates *D*, for holding the cylinders in place and for preventing the entrance of dust, etc., substantially as described. 7th. The cylinders *C*, formed with cavities and placed in recesses *a*, and provided with handles *b*, for revolving the cylinders, substantially as described. 8th. The combination, with the cylinder *C*, placed in the recesses *a*, of the key-pins *m*, arranged for holding the cylinders, substantially as set forth. 9th. The jaws *A*, holding recesses *a*, formed in them for receiving the cylinders *C*, in combination with the removable staples *E*, for strengthening the jaws and for preventing them from spreading, substantially as described. 10th.

The cylinders *C*, adapted to be placed and revolved in the recesses *a*, of the jaws *A*, and formed with angular cavities or recesses for holding angular objects, as set forth. 11th. The cylinders *C*, adapted to be placed and revolved in the recesses *a*, made in the jaws *A*, and formed with the concave recesses for holding round objects, substantially as set forth.

**No. 21,217. Pen-Holder.** (*Porte Plume.*)

Frederic M. Libby, Portland, Me., U.S., 9th March, 1885; 5 years.

*Claim.*—1st. The combination, with a hollow pen-stock having a solid portion to receive the screw *a*, of the screw *a*, and head *b*, the said head being shaped as herein set forth. 2nd. The tube *a*, having wings or spring *b*, *b*, when inserted in the hollow of a pen-stock, as herein set forth, and secured as described, for the purposes specified.

**No. 21,218. Improvements on Carburetting Machines.** (*Perfectionnements aux Carbureteurs.*)

Oakes Tirrill, New York, N.Y., and James P. Wilson, Newark, N.J., U.S., 9th March, 1885; 5 years.

*Claim.*—1st. In a gas machine, the combination of a generator, a pump for inducing a current through the generator, and a regulator having a movement under control of the pump, substantially as specified. 2nd. In a gas machine, the combination of a generator, a pump connected with the generator, so as to draw gas therefrom, a pipe or conduit, through which the pump draws air from the atmosphere, and a regulator having a movement controlled by the pump and serving to govern the quantity of air which passes through the pipe or conduit, substantially as specified. 3rd. In a gas machine, the combination of a generator, a pump connected with the generator, so that it will draw gas from the generator, a pipe or conduit, through which the pump will draw air from the atmosphere, a regulator, serving to govern the quantity of air passing through the air pipe or conduit and means connecting a pump and regulator and made capable of adjustment, so that the operation of the regulator may be varied relatively to that of the pump, substantially as specified. 4th. In a gas machine, the combination of a generator, a pump connected with the generator, so that it will draw gas from the generator, a pipe or conduit through which the pump will draw air from the atmosphere, a regulator serving to govern the quantity of air passing through the pipe or conduit, a rotary disk deriving motion from the pump, and means for transmitting motion from the disk to the regulator, substantially as specified. 5th. In a gas machine, the combination of a generator, a pump connected with the generator so that it will draw gas from the generator, a pipe or conduit through which the pump will draw air from the atmosphere, a regulator serving to govern the quantity of air passing through the air pump or conduit and having a reciprocating part, or parts, and also having valves, devices connecting the pump with the valves of the regulator, and means whereby the stroke of the reciprocating part, or parts, of the regulator will be controlled, substantially as specified. 6th. In a gas machine, the combination of a generator, a pump connected with the generator so that it will draw gas from the generator, a pipe or conduit through which the pump will draw air from the atmosphere a regulator serving to govern the quantity of air passing through the air pipe or conduit and having a reciprocating part, or parts and also having valves devices connecting the pump with the valves of the regulator, and means whereby the stroke of the reciprocating part, or parts of the regulator will be varied in length, substantially as specified. 7th. In a gas machine, the combination of a generator, a meter wheel-pump *A*, connected with the generator so that it will draw gas from the generator, a pipe or conduit through which the pump will draw air from the atmosphere, a regulator *R S N P*, provided with valves and serving to govern the quantity of air passing through the pipe or conduit, the cam disk *I*, the arm *L*, the rod *K*, the rock shaft *n*, for operating the valves of the regulator, the arm *p* on the rock shaft *n*, and the lever *J*, substantially as specified.

**No. 21,219. Bit-Holder.** (*Vilbrequin.*)

Arthur H. Armstrong, Plainville, Ct., U.S., 9th March, 1885; 5 years.

*Claim.*—1st. A tool-holder having holding jaws, a sleeve or thimble, and connecting screw-threads, for gripping said jaws to a certain extent, in combination with a cam or equivalent additional mechanism, for operating in connection therewith, for gripping said jaws to a further extent, substantially as described and for the purposes specified. 2nd. The combination of the head *B*, the holding jaws, the screw thimble for gripping said jaws to a certain extent, the sliding block and the cam, for operating said block and gripping said jaws to a further extent, substantially as described and for the purpose specified.

**No. 21,220. Method of Extracting Oil from Oil Wells and Oil Bearing Rock and Tube Thereof.** (*Méthode pour Extraire l'Huile des Puits et des Roc Contenant de l'Huile et Tube pour cet objet.*)

William Richards, Balltown, Penn., U.S., 9th March, 1885; 5 years.

*Claim.*—1st. The improvement in the art of extracting oil from oil bearing rock and land, herein described, consisting in supplying to the oil therein, by means of compressed air, gas or fluids injected thereto, an upward propelling power equal to that of the wasted natural gas, and in supplying said air, gas or fluids under a pressure sufficient to force the oil within the rock out of the crevices thereof, and to the surrounding wells. 2nd. The herein-described improvement in the art of extracting oil from oil-bearing rock or earth, and forcing the same to and up a series of wells simultaneously, by means of a single forcing apparatus, consisting, first, in anchoring a tube within the central well of a series or lease, and packing the space between the lower end of said tube and the sides of the well, then, connecting the upper portion of said tube with a force pump, and, finally, forcing air, gas, or fluids in a highly compressed state down said

tube, continuing such high pressure supply until the oil, in the bottom of the well and rock surrounding the same, is forced outward to and up the wells, surrounding that in which the tube is, substantially as and for the purpose set forth. 3rd. The herein-described method of extracting oil from oil-bearing rock or land, and forcing the same into wells in position for being withdrawn therefrom, consisting in injecting compressed air, gas or oil through a suitable tube to said oil bearing rock, and forcing the fluid therein outward to the surrounding wells. 4th. The apparatus, herein described, for supplying compressed air, gas or fluids to oil-bearing rock or earth, consisting of a tube provided with an ordinary packer and anchored in position within a well, and an upwardly moving valve or valves hinged to said tube, for the purpose of holding the same in position within the well against the upward pressure of compressed air, substantially as and for the purpose set forth. 5th. The tube for oil wells, herein described, consisting of a tube A having a ring or band F rigidly secured thereto, and a valve or valves hinged to said ring, substantially as and for the purpose set forth.

### No. 21,221. Steam Generator.

(Appareil Vaporifère.)

Clarence E. Safford, Lancaster, N.Y., U.S., 9th March, 1885; 5 years.

*Claim.*—1st. In a steam generator, a section B composed of an overhanging body B<sub>1</sub>, a downwardly-extending leg B<sub>2</sub> and upright enlargement f, f<sub>2</sub> and g, with passage f<sup>1</sup> above the enlargements f<sub>2</sub>, and passages g<sup>1</sup> below the enlargements g, and intermediate flame passages f<sup>1</sup>, h extending through the sections, substantially as set forth. 2nd. In a steam generator, a section B composed of an overhanging body B<sub>1</sub>, downwardly-extending leg B<sub>2</sub>, upright enlargement f, f<sub>2</sub>, g, and intermediate flame passages f<sup>1</sup>, h, substantially as set forth. 3rd. The combination, with the intermediate sections B, provided with upright enlargements f<sub>2</sub>, g, front and rear sections C and D, constructed on their inner sides with similar enlargements f<sub>2</sub>, g, hollow lugs J formed on the several sections, and connecting pipe z and k, substantially as set forth. 4th. The combination, with the sections B, having their tops b, constructed to rest closely against each other, and having receding inner faces b<sup>1</sup> and sides b<sub>2</sub>, forming flame passages of the projecting enlargements f<sub>2</sub>, g, formed on the sides of the sections, front and rear sections C and D and enclosing case A, substantially as set forth. 5th. In a steam generator, a section B provided, along its outer edge, with an enlargement g, having a recess m near its upper ends, substantially as set forth. 6th. The combination, with the casing A and the section B having enlargements g, provided with recesses m, of the tubes n extending from said recesses outwardly through the casing, and provided with removable covers, substantially as set forth.

### No. 21,222. Card Rack. (Appareil de Publicité.)

John N. Akarman, Somerville, Mass., U.S., 9th March, 1885; 5 years.

*Claim.*—1st. An improved card rack, consisting of a set of tubes or bars, slitted longitudinally on their opposing faces, in combination with braces connecting the two and permitting a cord to be slid from the ends of the tubes centrally, between said braces, without detaching said tubes from the braces, substantially as described. 2nd. The combination of the pair of tubes or bars slitted longitudinally in their opposing faces, in combination with means for attaching said tube or bars to their support, and means permitting a card to be inserted into the ends of the slit and slid to the point desired, without removal of said tubes or bars, and means for preventing the card from becoming accidentally detached from said supports, substantially as described. 3rd. The combination of the slitted tubes or bars, provided with perforations a<sup>1</sup>, a<sup>2</sup>, of different diameters, and the cross braces c, whereby cards may be inserted in said slits at the ends of the tubes, and slid centrally to any point desired, without removal of said tubes or bars, substantially as described. 4th. In combination with the slitted bars or pipes a, a, the metal holder b<sup>1</sup> having lips b<sub>1</sub>, b<sub>2</sub>, for receiving the card b and to hold it in proper position, when the said holder and card are inserted in the said slitted bars or pipes, in a manner and for the purpose described.

### No. 21,223. Bias Tape, and Process for Making the Same. (Ruban Biass et Procédé pour le Fabriquer.)

Charles H. Farmer, Boston, Mass., U.S., 9th March, 1885; 5 years.

*Claim.*—1st. As a new article of manufacture, bias tape, put up in sticks or rolls, and formed of uniform width in continuous lengths of fabrics, with a succession of pliable oblique and parallel joints having perfectly matched out edges without projecting threads, substantially as set forth. 2nd. The improved process of making continuous bias tape, consisting of cutting the fabric at an angle of about forty-five degrees to its warp and filling, cementing together the selvages of the successive pieces to form a continuous band, winding said band upon a cote, or pasteboard, or equivalent material susceptible of being cut with the fabric into strips, and cutting the band and its core lengthwise of said band into strips of the required width, substantially as set forth.

### No. 21,224. Belt-Tightener.

(Appareil pour Tendre les Courroies.)

John T. Fertig, Denver, Col., U.S., 9th March, 1885; 5 years.

*Claim.*—The combination, in a belt-tightener, of the sliding block A, with the slot b, the pawl l, the sliding block A<sup>1</sup> with the plates a<sub>2</sub>, the eccentric rollers C, C, covered with sand paper or other suitable material, to increase the friction when in contact with the belt, the cog-wheels h, h, the pawls t, t, the guide rods B, B, the shaft J and crank m, substantially as described, herein and for the purpose set forth.

### No. 21,225. Automatic Grain Shoveller. (Appareil Automatique pour Pelleter les Grains.)

Jesse B. Pugh, Indianapolis, Ind., U.S., 9th March, 1885; 5 years.

*Claim.*—1st. The combination, in an automatic grain shoveller, of a shaft d, d, to which ratchet-teeth o and head b with rim p are attached, and a cylinder bearing screw h h on its outer surface, and to which ratchet-teeth n and spring m, are attached, and guide-nut i with its arm l through which rope k k works, all substantially as described and for the purposes specified. 2nd. The combination, in an automatic grain shoveller, of a scraper L, rope k, k, leading blocks a and b, leading rollers r, s, t, head b, bearing rim p, or its inner surface attached to shaft d, d, cylinder bearing screw h, h, on its outer surface, encircling shaft d, d, and having lateral movement thereon, springs m and o, ratchet-teeth n and o, guide-nut i on screw h, h, with arm l and guide-nut j, all substantially as described and for the purposes specified.

### No. 21,226. Clothes Hook and Dryer.

(Crochet pour Hardes et Séchoir.)

Félix Ménard, Montreal, Que., 9th March, 1885; 5 years.

*Réclame.*—1o. La combinaison de l'ouverture K, et des barres E e F, et des crochets B, et la partie C, qui traverse l'ouverture K, dont le tout forme un crochet, à pendre les hardes et sert en même temps de séchoir. 2o. La combinaison de l'ouverture I, au crochet G et la barre H, et les parties L, qui servent aussi à pendre les hardes, et dont le tout forme encore un crochet qui peut servir de crochet et de séchoir en même temps, tel que ci-dessus décrit et pour les fins indiquées.

### No. 21,227. Machinery for Spinning and Twisting Fibrous Material. (Machine à Filer et Tordre les Matières Fibreuses.)

John Ballantyne, Almonte, Ont., 9th March, 1885; 5 years.

*Claim.*—1st. The combination, with the spindles a and their driving bands, of hinged arms f and whorls e fitted to bear on the bands for taking up the slack, substantially as described. 2nd. The combination, with the driving bands of spinning and twisting machines, of weighted tighteners for taking up the slack of the bands, substantially as described.

### No. 21,228. Method and Apparatus for Bleaching Sugar. (Méthode et Appareil pour Décolorer le Sucre.)

The Boston Sugar Refining Company, Boston (Assignee of Oscar B. Stillman, Natick, and John M. Stillman, Watertown), Mass., U.S., 11th March, 1885; 5 years.

*Claim.*—1st. In an apparatus for bleaching or decolorizing sugar, a chute or passage for the sugar, combined with an apparatus for the production of sulphurous acid gas, and with a pipe to discharge the said gas into the sugar, substantially as described, to operate as and for the purpose set forth. 2nd. The chute d for the passage of the crystallized or granular sugar, combined with the pipe f<sup>2</sup> to conduct sulphurous acid gas into the said sugar, and with a pipe h to deliver steam into the pipe f<sup>2</sup>, substantially as described. 3rd. A chute or conductor for the sugar rotary cylinder, to receive the sugar from the said chute or conductor, combined with a pipe to conduct sulphurous acid gas into the said sugar, and with an apparatus for the production of the said gas, as and for the purposes set forth. 4th. In the art of manufacturing sugar, subjecting the crystallized or granular sugar, while in motion, to the action of sulphurous acid gas, as and for the purpose described.

### No. 21,229. Portable Steam Generator and Feed Cooking Apparatus. (Appareil Vaporifère et de Cuisine Portatif.)

William Tribe, Corinth, Ont. (Assignee of Judson K. Purinton, Dalas Centre, Iowa, U.S., 11th March, 1885; 5 years.

*Claim.*—The improved steam generator and feed cooking apparatus, consisting of the portable boiler-base and furnace-grate, A, B, having a series of inwardly inclined posts 1, 2, 3, the upright cylindrical boiler C having an inclined inner wall D, a smoke-flue E at its top and an opening k at its bottom, and a flexible steam eduction tube h adapted to enter a barrel, substantially as shown and described to operate in the manner set forth.

### No. 21,230. Heel Counter.

(Contrefort de Chaussure.)

Joseph Kieffer, Montreal, Que., 12th March, 1885; 5 years.

*Claim.*—As a new article of manufacture, a heel counter or stiffener having a turned up rigid rim, formed between the vertical sides and heel, and the crimped upturn, substantially as herein set forth.

### No. 21,231. Electric Cable. (Câble Electrique.)

Richard S. Waring, Pittsburgh, Penn., U.S., 12th March, 1885; 15 years.

*Claim.*—1st. An electric cable having a body of lead, having passages therethrough, at intervals around and in close proximity to its solid centre, the thickness of metal wall between wires being less than the thickness of covering surrounding such wires, substantially as set forth. 2nd. An electric cable having a body c of lead, such body inclosing three separate insulated conducting wires c, arranged at equal intervals around, and in close proximity to the solid core a<sup>2</sup> of the body, the thickness of metal walls between wires being less than the thickness of exterior metal covering, substantially as set forth. 3rd. An electric cable, having a solid body of soft ductile metal or metallic alloy, inclosing insulated conducting wires, each in its appropriate passage through the body, such wires being arranged in close proximity around the solid core of centre of the body, with a series of strengthening wires inclosed within the soft metal body, such strengthening wires being arranged in circular order around the conducting wires, substantially as set forth. 4th. An electric

cable, having a solid body of soft ductile metal, or metallic alloy, inclosing the insulated conducting wires, each in its appropriate passage through the body, such wires being arranged in close proximity at intervals around the solid core or centre of the body with a series of strengthening wires inclosed within the soft metal body, such strengthening wires being arranged at intervals around the conducting wires, substantially as set forth. 5th. An electric cable, having a body A, of soft ductile metal or alloy, inclosing three insulated conducting wires c, each in its appropriate passage through the body, such wires being placed in triangular relationship, and in close proximity around the solid metal centre a<sup>2</sup>, with a series of strengthening wires e, inclosed in the body of soft metal, such strengthening wires being double the number of conducting wires c, and arranged around the latter wires, on either side of radial lines produced through the conducting wires, substantially as and for the purposes set forth.

**No. 21,232. Electric Cable. (Câble Electrique.)**

Richard S. Waring, Pittsburgh, Penn., U.S., 12th March, 1885; 15 years.

*Claim.*—1st. An electric cable, having an integral homogenous body or covering of lead, with insulated wires, inclosed in separate passages therethrough, such wires being arranged in two rows, the adjacent wires of the two rows being in closer proximity than the adjacent wires of either row, substantially as set forth. 2nd. An electric cable, having an integral homogenous body of metal covering, with insulated wires inclosed in separate passages therethrough, such wires being arranged in two rows, the adjacent wires of the two rows being in closer proximity than the adjacent wires in either row, and the wires of one row alternating in order of position with those of the other row, substantially as set forth. 3rd. An electric cable, having a body or protective covering of soft ductile metal, or equivalent alloy, with tubular passages therethrough, inclosing insulated conducting wires, such wires being arranged in pairs of rows, the two rows composing a pair being in closer proximity than successive pairs, substantially as set forth. 4th. An electric cable, having a body of soft ductile metal or alloy, with passages therethrough, inclosing insulated conducting wires, such wires being arranged in pairs of rows, the two rows composing a pair being in closer proximity than successive pairs, and the adjacent wires taken across the two rows of a pair being in closer proximity than adjacent wires taken in the same row, substantially as set forth. 5th. An electric cable, having a body of soft ductile material or alloy, with passages therethrough, inclosing insulated conducting wires, such wires being arranged in pairs of rows, the two rows composing a pair being in closer proximity than successive pairs, and the wires in rows of each pair alternating in order of position with those of the other row of the pair, substantially as set forth. 6th. An electric cable, having, a body A, of soft ductile metal or alloy, with passages therethrough inclosing insulated conducting wires c, e, such wires being arranged in pairs of parallel rows, the two rows of a pair being in closer proximity than the adjacent rows of successive pairs, the wires c, in one row of a pair alternating in order of positions with the wires e, of the companion row of the pair, and the wires in the adjacent rows of successive pairs, having the same order of succession and occurrence, substantially as set forth. 7th. An electric cable having a body of soft ductile metal or alloy, with passages therethrough inclosing insulated conducting wires, such wires being arranged in pairs of rows, the two rows of a pair being in closer proximity than successive pairs, the individual wires in the two rows of a pair alternating in order of succession, and the adjacent wires taken in different rows of a pair being in closer proximity than adjacent wires taken in the same row, substantially as set forth.

**No. 21,233. Electric Cable. (Câble Electrique.)**

Richard S. Waring, Pittsburgh, Pa., U.S., 12th March, 1885; 15 years.

*Claim.*—1st. The method of forming electric cables, which consists in twisting together one central, and a series of surrounding insulated electric conductors, for a short distance, interchanging in position the central or core conductor, and one of the outside conductors, so as to bring the central conductor into the outer series, and repeating these steps at suitable intervals throughout the entire length of the cable, substantially as set forth. 2nd. The method of forming electric cables, which consists in twisting together one central, and a series of surrounding insulated electric conductors, for a short distance, interchanging in position the central or core conductor and one of the outside conductors, so as to bring the central conductor into the outer series, repeating these steps at suitable intervals throughout the entire length of the cable, and inclosing the prepared cable within a metallic sheath, substantially as set forth. 3rd. An electric cable having a central, and a series of surrounding insulated conductors twisted together, each surrounding conductor in turn forming the centre or core of the cable, substantially as set forth. 4th. An electric cable having a central, and a series of surrounding insulated conductors twisted together, each surrounding conductor in turn forming the centre or core of the cable, in combination with a suitable metallic covering or sheath, substantially as set forth.

**No. 21,234. Electric Cable. (Câble Electrique.)**

Richard S. Waring, Pittsburgh, Pa., U.S., 12th March, 1885; 15 years.

*Claim.*—1st. An electric cable, having a body of soft ductile metals or metallic alloy, inclosing insulated conducting wires, each in its appropriate passage through the body, such wires being arranged in distinct groups at intervals around a central group, the distance between adjacent wires of a group being less than the distance between the successive groups composing such outer circle, substantially as set forth. 2nd. An electric cable, having a body of soft ductile metal or metallic alloy, inclosing insulated conducting wires, each in its appropriate passage through the body, such wires being arranged in distinct groups in circular order around a central group, the central group being composed of wires arranged in circular order around a common center, the wires of such circle occurring in the radial lines of the surrounding groups, substantially as set forth. 3rd. An elec-

tric cable, having a body of soft ductile metal or alloy, inclosing insulated conducting wires in separate passages therethrough, such wires, being arranged in distinct groups around a central group, the outer ground being composed of three wires each, the distance between such wires being less than the distance between successive groups, substantially as set forth. 4th. An electric cable, having a body of soft ductile metal or alloy, inclosing insulated conducting wires in separate passages therethrough, such wires being arranged in distinct groups, arranged in circular order around a central group, with grooves made longitudinally in the exterior surface of the body between the groups composing the outer circle, substantially as set forth.

**No. 21,235. Repairing Defects in the Conductors of Lead Cables. (Mode de réparer les Accidents dans les Conducteurs des Câbles de Plomb.)**

Richard S. Waring, Pittsburgh, Penn., U.S., 12th March, 1885; 15 years.

*Claim.*—1st. The method herein described, which consists in uncovering one of the conductors of a lead-covered electric cable, having two or more conductors inclosed in separate passages in the lead covering, severing the conductor, electrically uniting the severed ends, covering said union with insulating material, and re-covering the union with lead, substantially as set forth. 2nd. The method, herein described, of repairing the conductors of a lead covered electric cable, having two or more conductors inclosed in separate passages in the lead covering, which consists in uncovering one of said conductors, removing the defective part of said conductor, electrically uniting the severed ends of said conductor, covering said union with insulating material, and re-covering the union and exposed parts of the conductor with lead, substantially as set forth. 3rd. The method, herein described, of repairing the conductors of a lead covered electric cable, having two or more conductors inclosed in separate passages in the lead covering, which consists in removing the lead covering from around one of said conductors, removing the defective part of the conductor, electrically uniting the severed ends by any suitable coupling, covering said coupling and exposed parts of the conductor with insulating material, re-covering the insulated coupling and conductor with a piece of lead, and sliding said piece of lead to the body of the cable, substantially as set forth. 4th. In a lead covered electric cable, having two or more conductors inclosed in separate passages in the lead covering, one of whose conductors is so severed that the severed ends will not meet the combination of the spiral coupling c, in which the severed ends of the conductor are soldered, the insulating covering d, and the flap e, securely soldered over the coupling, substantially as set forth.

**No. 21,236. Making Joint Connections in Electric Cables. (Manière de faire les Entures des Câbles Electriques.)**

Richard S. Waring, Pittsburgh, Pa., U.S., 12th March, 1885; 15 years.

*Claim.*—1st. The method, herein described, of making branch or loop connections in lead-covered electric cables, consisting in removing the metal covering of, and exposing the wire at, the side of the cable body, severing such wire and connecting its ends by metallic contact with the exposed ends of the wires of a branching cable, re-covering the exposed wire surfaces with insulating material, and, finally, inclosing the wire connection thus made in a plumber's wiped-joint of solder, making solid union thereby between the side of the main cable and the branching cable, substantially as set forth. 2nd. A cable, having a soft metal body inclosing insulated conducting wire therein, having one or more such wires severed and exposed at the side of the cable, in combination with branching cable C, the same being metal covered and having its wires connected electrically with the exposed ends of the severed wire, or wires of the main cable, insulating covering t, and a plumber's wipe B, of solder inclosing the connected wire ends, and making solid connection between the metal covering of the branching cable, and the side of the main cable, substantially as set forth. 3rd. A cable A, having a soft metal body inclosing insulated conducting wires therein, with one or more such wires, exposed and severed at the side of the cable, in combination with metal-covered cable C, having its wire ends connected with the exposed wire ends of cable A, an insulating covering t, and a metal-covering e<sup>2</sup>, for each wire connection, and a plumber's wipe B, of solder inclosing such wire connections and making a solid union between the metal covering of the branching cable and the side of the main cable, substantially as set forth.

**No. 21,237. Mandrel for Cable Presses.**

(Mandrin pour Presses de Câbles.)

Richard S. Waring, Pittsburgh, Pa., U. S., 12th March, 1885; 15 years.

*Claim.*—1st. A mandrel C for a cable press, having a tapered body with separate wire passages therethrough, and longitudinal grooves e<sup>1</sup>, extending between the lines of wire passages to the point, and having shallow cuts or channels e in the end connecting the grooves between the openings of the wire passages, substantially as set forth. 2nd. A tapering mandrel C for a cable press, having three wire passages therethrough emerging at the point in close proximity, and in positions corresponding to the angles of a triangle, with longitudinal grooves e<sup>1</sup>, extending along the exterior surface of the mandrel between wire passages to the point, and cuts or channels e, crossing the point between the passage opening, substantially as set forth.

**No. 21,238. Mandrel for Cable Presses.**

(Mandrin pour Presses de Câbles.)

Richard S. Waring, Pittsburgh, Pa., U.S., 12th March, 1885; 5 years.

*Claim.*—1st. A mandrel for a cable press, having separate passages therethrough for insulated conducting and for strengthening wires, such passages terminating at the point in tubular nipples, the nipples

for conducting wires being grouped at the centre, and the nipples for strengthening wires surrounding such central group, with grooves in the surface of the mandrel extending to the point between the nipples for strengthening wires, substantially as set forth. 2nd. The mandrel A, having wire passages therethrough, terminating at the point in separate nipples, three of such nipples *e*, being near the centre and surrounded by double the number of nipples *e*, arranged in circular order with grooves *c* in the surface of the mandrel, extending in depth between the outer nipples *e*, to the inner group of nipples *e*, substantially as and for the purposes set forth.

### No. 21,239. Mandrel for Cable Presses.

(Mandrin pour Presses de Câbles.)

Richard S. Waring, Pittsburgh, Penn., U. S., 12th March, 1885; 15 years.

*Claim.*—1st. The core A for a lead press, having three or more teats *a*<sub>2</sub>, with passages therethrough, in combination with a die having an equal number of openings, substantially as set forth. 2nd. The mandrel A, for a lead press, having three or more teats *a*<sub>2</sub>, with a passage through each teat, and having the inclined guiding surface *a*<sub>4</sub>, substantially as set forth. 3rd. The mandrel A for a lead press, having the inclined guiding surface *a*<sub>4</sub>, and provided with three or more teats *a*<sub>2</sub>, each teat having a wire passage *a*<sub>5</sub>, and an incline guiding surface *a*<sub>6</sub>, substantially as set forth. 4th. The mandrel A for a lead press, having three or more teats *a*<sub>2</sub> each teat having a wire passage therethrough, and an inclined guiding surface *a*<sub>6</sub>, in combination with a die B, having a like number of openings *b*, provided with flaring sides, substantially as set forth.

### No. 21,240. Mandrel for Cable Presses.

(Mandrin pour Presses de Câbles.)

Richard S. Waring, Pittsburgh, Pa., U. S., 12th March, 1885; 15 years.

*Claim.*—1st. A mandrel A for a cable press, having a teat or projection on its end, with separate wire-passages through both the mandrel and teat, the outside wire-passages extending beyond the central wire-passage, the teat having the longitudinal grooves *d* extending between the outside wire-passages to the point, and having the channels *e* connecting the groove with the central recess *f*, substantially as set forth. 2nd. A mandrel A for a cable press, having a tapered body and a teat or projection on its end, with five separate wire-passages through both the tapered body and teat, and arranged in position corresponding to the intersection and ends of the diagonals of a square, the teat having grooves *d* extending between the outside wire-passage to the point, the channels *e* connecting the grooves with the recess *f*, and the central recess *f* in its end, substantially as set forth.

### No. 21,241. Mandrel for Cable Presses.

(Mandrin pour Presses de Câbles.)

Richard S. Waring, Pittsburgh, Penn., U. S., 12th March, 1885; 15 years.

*Claim.*—1st. A mandrel A for a cable press, having groups of tubular nipples thereon, such groups being arranged in circular order around a central group, and having grooves *c* in its side, such grooves extending longitudinally between successive groups of nipples, substantially as set forth. 2nd. A mandrel A for a cable press, having wire passages therethrough, terminating at the point in separate groups of nipples, such groups being arranged in circular order around a central group, the outer circle of groups being divided one from another by grooves cut radially between them, such grooves being extended in depth at the point of the mandrel, to or within its central group of nipples, substantially as set forth. 3rd. A mandrel A, having wire passages therethrough, such passages terminating at the point in separate groups, arranged in circular order around some central group with grooves *c*, separating the groups of the outer circle, smaller grooves *c*<sub>1</sub> between the individual passages of each group, and channels *e*<sub>2</sub> connecting the grooves *c*<sub>1</sub> across the ends between passages, substantially as set forth. 4th. A mandrel for a cable press, having passages therethrough terminating at the point in separate tubular nipples, such nipples being arranged in groups of three around some central group, with surface grooves on the mandrel extending to its point between the outer groups of nipples, substantially as set forth. 5th. A mandrel for a cable press, having wire passages therethrough terminating at the point in separate groups of nipples, such groups being arranged in circular order around and in the radial lines of the nipples of a central group, with surface grooves on the mandrel dividing the several outer groups one from another, and extending in depth within the circle of nipples of the inner group, substantially as set forth.

### No. 21,242. Mandrel for Cable Presses.

(Mandrin pour Presses de Câbles.)

Richard S. Waring, Pittsburgh, Penn., U. S., 12th March, 1885; 15 years.

*Claim.*—1st. A mandrel A for a cable press, having at its point a series of nipples *e*, *e*<sub>1</sub>, arranged in one or more pairs of rows, the nipples in one row of such pair or pairs alternating in order of succession with the nipples in the other, or companion row of the pair, substantially as set forth. 2nd. A mandrel A having its nipples *e*, *e*<sub>1</sub> arranged in one or more pairs of rows, the successive nipples in each row being separated a greater distance than adjacent nipples in a pair taken across the rows, substantially as set forth. 3rd. A mandrel A for a cable press, having thereon tubular nipples *e*, *e*<sub>1</sub> arranged in pairs of rows, the two rows of a pair being in closer proximity than the adjacent rows of successive pairs, substantially as set forth. 4th. A mandrel for a cable press, having nipples thereon arranged in pairs of rows, the nipples in the two rows composing a pair alternating in order of succession, and the nipples in adjacent rows of successive pairs corresponding to each other in order of position, substantially as set forth. 5th. A mandrel for a cable press, having nipples *e*, *e*<sub>1</sub> thereon, such nipples being arranged in pairs of rows, with the nipples in the two rows of a pair alternating in order of succession, and

the two series of a pair being in closer proximity than the adjacent rows of successive pairs, substantially as set forth. 6th. A mandrel A for a cable press, having groups of tubular nipples thereon, with grooves or channels *c* crossing the mandrel between groups, such grooves or channels being of greater depth than the nipples, substantially as set forth. 7th. A mandrel A having nipples *e*, *e*<sub>1</sub> thereon, arranged in pairs of rows, with channels *c*, of greater depth than the nipples, formed in the mandrel body between pairs of rows, substantially as set forth. 8th. A mandrel A, having separate wire passages *a*<sub>1</sub> therethrough, such passages emerging at the point in two or more distinct groups, with grooves or channels *c* formed in the body of the mandrel across the point between groups of wire passages, substantially as set forth.

### No. 21,243. Mandrel for Cable Presses.

(Mandrin pour Presses de Câbles.)

Richard S. Waring, Pittsburgh, Penn., U. S., 12th March, 1885; 15 years.

*Claim.*—1st. In a mandrel for lead presses, the combination of the body A, having longitudinal openings therethrough, the removable nipples *e* forming the passages, and the protruding nipples for the wires, and mechanism described for holding the nipples in place, substantially as set forth. 2nd. In a mandrel for lead presses, the combination of the body A, having longitudinal openings therethrough, the removable nipples *e* provided with a flange at one end thereof, the perforated plug *f* and the core bar, substantially as set forth. 3rd. In a mandrel for lead presses, the combination of the body A having openings therethrough, the removable nipples *e* forming passages for the wires, and having interlocking flanges, as described, the perforated plug *f* and the core bar, substantially as set forth. 4th. In a mandrel for lead presses, the combination of the body A, having a series of openings therethrough, arranged as described, the removable nipples *e* having flanges at one end, the flange of the central nipple having recesses formed in its outer side at intervals around its circumference, the flanges of the outer nipples having a recess formed in their inner sides at one point of their circumference, whereby the central nipple is supported by the outer nipples, and mechanism, as described, for holding the outer nipples in place, substantially as set forth. 5th. In a mandrel for lead presses, the combination of the body A, having a series of openings arranged around and inclined toward a central opening, the removable nipples *e* having flanges *g*, the perforated plug *f* and the core bar, substantially as shown and described.

### No. 21,244. Mandrel and Die for Cable Presses.

(Mandrin et Etampe pour Presses de Câbles.)

Richard S. Waring, Pittsburgh, Pa., U. S., 12th March, 1885; 15 years.

*Claim.*—1st. A mandrel for a cable press, having separate wire passages therethrough, and a recess therein at the point into which the passages open, substantially as set forth. 2nd. A mandrel for a cable press, having wire passages therethrough, with a rim extension at the point, surrounding the ends of the passages and openings in the sides of the rim to admit lead to the rim inclosure, substantially as set forth. 3rd. The mandrel A having separate passages *a*<sub>1</sub> therethrough, opening into a recess C in the point, such recess having openings *c*<sub>2</sub> in its side walls for admitting lead supply to the recess, substantially as set forth. 4th. The mandrel A, having separate passages *a*<sub>1</sub> therethrough, opening into a recess C at the point, such passages being arranged in one or more rows, substantially as set forth. 5th. A mandrel for a cable press, having a recess at the point into which the wire passages open, in combination with a die co-operative with the walls of the recess in shaping the exterior of the cable, substantially as set forth. 6th. The mandrel A, having recess C and rim extensions *c*<sub>1</sub>, in combination with die E, having recesses *e* therein, adapted to receive the extensions *c*<sub>1</sub>, substantially as and for the purposes set forth.

### No. 21,245. Combined Coal Screen and Dust Receiver.

(Crible à Charbon et Réceptacle à Poussière Combinés.)

Harison Gridley and Thomas Johnson, Canandaigua, N. Y., U. S., 13th March, 1885; 5 years.

*Claim.*—1st. The combination, with a funnel or V-shaped dust-receiver, provided at or near its centre with wheels, of an inclined screen secured thereon, substantially as set forth. 2nd. The combination, with a funnel-shaped dust-receiver, provided at or near its centre with a pair of wheels, of a door located at the junction of the front and rear sides of the receiver, for unloading or discharging the contents. 4th. The combination, with a funnel-shaped tilting dust receiver, provided with handles, a depending end support and a pair of wheels, of a vertically adjustable screen secured thereon, substantially as set forth.

### No 21,246. Brush. (Brosse.)

Edward W. Porter, Detroit, Mich., U. S., 13th March, 1885; 5 years.

*Claim.*—1st. A pointed ended brush, wherein the straight rows of bristles are secured in grooved by a straight wire, substantially as described, and the curved rows being continuations of such straight rows are secured, in the ordinary manner, in a separate head which if afterwards secured to the main head, substantially as specified. 2nd. In a brush, wherein the straight rows of bristles are secured in a groove by a straight wire one end of which is secured in the head, a detachable pointed portion of the head, which, when in place, secures the other end of said wire, substantially as set forth.

### No 21,247. Wheel Plough. (Charrue à Roue.)

John W. Bartlett, Moline, Ill., U. S., 13th March, 1885; 5 years.

*Claim.*—1st. A plough beam, curved downward and forward at its

rear end, and pivoted to the lower end of the plough's standard, and to the land side, whereby the end of the beam and the standard will jointly resist the thrust of the plough, and allow of the point of the plough being adjusted upwardly and downwardly on entering the ground by the operation of lever K, as and for the purpose set forth.

2nd. The combination, with the plough standard *a*, rod 9, and lever K tilting the point of the plough upward and downward, of rod 8, crank lever 7, shaft 6, rrm 5, and rolling couler 4, whereby the couler is raised simultaneously with the corresponding adjustment of the point of the plough, as set forth.

3rd. The clevis *g*, having an integral arm 10, provided with a perforated segment 11, in combination with the front axle provided with bolt 12, to adjust the front wheel, whereby the plough will cut a wide or a narrow furrow, as set forth.

### No. 21,248. Churn. (*Baratt.*)

Ferdinand Hopp and Peter J. Dechan, Bay City, Mich., U. S., 13th March, 1885; 5 years.

*Claim.*—A churn having a reciprocating dash, such churn standing upon a platform A, supported above the floor by the legs B, which carry the rectangular hollow frame C, the side rails of which terminate in handles *a* and are secured together by girts E, H, I, which support standards D, J, and river R, the standard D carrying a main driving gear, the two standards D, U, carrying a shaft having attached thereto a pinion M, and crank fly-wheel N to which is pivotally secured a pitman P, which is pivotally connected with a hollow rectangular cross-head T, reciprocating in two slides S attached respectively to the inner faces of the standard J and riser R, in combination with a dash rod U adjustably secured to the lower end of the cross-head, the parts being constructed, arranged and operating, substantially as and for the purposes set forth.

### No. 21,249. Machine for Making Sheet Iron and Tin Pans. (*Machine à Faire les Casserolles en Tôle et en Ferblanc.*)

William Churchill, Yarmouth, N.S., 13th March, 1885; 5 years.

*Claim.*—1st. The slots at the corner of the matrix O, O, for forming the corners of a sheet of metal in folds, by means of pressure, in combination with the female die or matrix J, substantially as and for the purposes hereinbefore set forth.

2nd. The application and arrangement of the power press, for the purpose of pressing sheets of metal into the form of pans, in combination with the male and female dies C and J, the means of shifting them by the screws H, H, the piston rod G, the shifting pin K, the slide guides P, P, the handle F, the attachments N, the arch D, all fixed to the bed plate A, substantially as and for the purposes hereinbefore described and set forth.

### No. 21,250. Saw Swage. (*Etampe à Scie.*)

Bion H. Miller, Bay City, Mich., U. S., 13th March, 1885; 5 years.

*Claim.* 1st.—In a saw swage, the combination of the following parts: A tool stock or head block *a*, stationary bed die, a movable die provided with actuating mechanism, a tooth clamping device and a device or devices for steadying the saw swage in position, against the saw blade.

2nd. The combination, with the stock or frame of a saw swaging device, of a movable saw swaging tool, a fixed anvil against which the tooth is swaged, a lever for moving said swaging tool, and a screw clamp for holding the saw in position during the operation of a swaging a tooth.

3rd. The combination, with the stock or frame of a saw swaging device, of a saw swaging tool movable in a right line, a fixed anvil against which the tooth is swaged, a lever for reciprocating said swaging tool, and a screw clamp for holding the saw in position during the operation of swaging a tooth.

4th. In a saw swage, the device for clamping the saw tooth under operation, the same consisting of the clamping screws E, E, tapped through the opposite sides of the head block A, in combination with the lever F actuating one of the clamping screws.

5th. In a saw swage, in stationary die arranged to support the saw tooth under operation upon its outer face, and a movable die arranged to operate against the inner face of the saw tooth, substantially as described.

### No. 21,251. Shaft Press. (*Presse à Limonnières.*)

John C. Bach, Hillsdale, Mich., U. S., 13th March, 1885; 5 years.

*Claim.*—1st. In a shaft-bending press, the curved forming bed, with the upper surface in conformity with the required up and down ends of the shafts, the retaining studs and the levers for forcing the shafts to their places between the studs, substantially as shown and for the purpose specified.

2nd. In a shaft-bending press, the curved forming bed, consisting of side and middle planks *a*, with cross-bars *b* having the retaining studs *d*, and oblique resting blocks *e* at their bases, substantially as shown and for the purpose specified.

3rd. In a shaft-bending press, the lever *h* pivoted or otherwise attached to the fulcrum rod *i*, the presser block *j*, and the clamp-bar *f* having notches *g* in the lower edge, substantially as shown and for the purpose specified.

4th. In a shaft-bending press, the lever *h* pivoted or otherwise attached to the fulcrum rod, as set forth, in combination with the curved forming bed having the retaining studs and oblique rests, the presser and the clamp bar having oblique notches, substantially as shown and for the purpose specified.

4 (a). In a shaft-bending press, the curved forming bed having the retaining studs, the oblique rests and the fulcrum rods, one arranged about its middle and the others at one end thereof, in combination with the lever pivoted to middle fulcrum rod and connected to the presser, the clamp bar having oblique notches, and the lever hooked to the end fulcrum rods of the bed, substantially as shown.

5th. In a shaft press, the clamp-bar *f* having oblique notches *g*, in combination with the curved forming bed retaining studs *d*, and the oblique rests *e*, substantially as described.

6th. In a shaft press, the lever *h*, presser *j* and the fulcrum rod *i*, whereon said lever is adjustable, as described, in combination with the curved forming bed and the retaining studs *d*, substantially as specified.

### No. 21,252. Brake Shoe for Car Wheels.

(*Sabot de Frein pour Roues de Chars.*)

John J. Eppin, Toronto, Ont., 13th March, 1885; 5 years.

*Claim.*—1st. A brake shoe A, constructed with thick chilled parts and thin chilled projecting parts alternately in the face of the shoe, the thin chilled parts having one or more veins of soft metal projecting through the chill, and cast with the face down, allowing the coarse and inferior metal to rise to the top, and the fine metal to fall to the bottom and form the face of the shoe, substantially as described as a new manufacture.

2nd. A chill B, having the several chilling parts united together in one piece, and so constructed that the face of the chill will be an exact counterpart of the face of the shoe, and each chill provided with a projection *b* on each end of the chill, substantially as shown and described and for the purpose specified.

### No. 21,253. Railway Velocipede.

(*Velocipede de Chemin de Fer.*)

Charles H. Copp, Clyde, Mich., U. S., 13th March, 1885; 5 years.

*Claim.*—1st. In a wheel vehicle, a traction wheel provided with an internal annular tread, in combination with a rolling friction wheel adapted to be brought into frictional contact therewith, and means for imparting a rotating motion to said friction wheel, substantially as and for the purposes described.

2nd. In a railway velocipede, the traction wheels of which are provided with an interior annular tread or face, the axle having a free vertical movement, in combination with rolling friction wheels adapted to engage in frictional contact with said traction wheels, and located in advance of the vertical axial centre of the traction wheel and above the tread thereof, substantially as and for the purposes set forth.

3rd. A railway velocipede, wherein the weight of the frame and operator is carried upon a drive shaft, having secured to its ends friction wheels which travel upon internal treads in the traction wheels, substantially as and for the purposes specified.

4th. In a railway velocipede, the combination of the traction wheels F, provided with the internal tread G, with the rolling friction wheels J upon a counter drive shaft E, and the means for imparting a rotary motion to the parts, substantially as described.

5th. In a railway velocipede, the combination of the frame A, bearing wheels C, hangers D, drive shaft E, traction wheels F provided with internal treads G, axle H, boxes I, rolling friction wheels J and the means for imparting a rotary motion to the shaft E, when constructed, arranged and operating substantially in the manner and for the purposes described.

6th. In a railway velocipede, the combination of the frame A, bearing wheels C, hangers D, drive shaft E, traction wheels F, axle H, boxes I, friction wheels J, pinion K, gear wheel L, shaft M, crank arms U, rods O, levers P, seat Q and brake T, when constructed, arranged and operating substantially in the manner and for the purposes specified.

### No. 21,254. Metallic Fence. (*Clôture Métallique.*)

Benjamin G. Devoe and Levi T. Brookhart, Lima, Ohio, U. S., 13th March, 1885; 5 years.

*Claim.* 1st. A metallic fence, provided with a picket-holding ornament having downwardly and upwardly projecting prongs *a*, or spurs, to contact with the web of the channel-rail above and below, at a point preferably in a line with the central longitudinal line of the picket, the said prongs forming an axial bearing for the channel-rail, and allowing the same to be adjusted to different angles with relation to the picket, substantially as described.

2nd. The ornament E for metallic fences, provided with arms *h*, *h*, adapted to extend around one side of the channel rail C to hold the rail and picket D in place, the said ornament being provided with downwardly and upwardly projecting V-shaped prongs, as described, adapted to bear at their points upon the upper and lower side of the web of the channel rail, at two sides of the picket and in a line with the centre thereof, said prongs forming an axial bearing for, and allowing the channel-rail to be adjusted to different angles with relation to the picket to adapt the fence to different grades, substantially as set forth.

3rd. In a metallic fence, the fence post A, the standards of which are seated in bearings formed in the cap *c* and base piece *a*, as shown and described, the said post being provided with a headed central stay-rod extending from the top thereof its entire length, and through its base piece *a*, where it is provided with a nut to secure it in place, and having a brace *f* adapted to engage the standards *b* and be bolted tightly against the base piece *a*, to brace the standards and prevent lateral movement, substantially as specified.

4th. In a metallic fence, the combination, with the post A, of the top pieces or caps *c*, *d*, constructed substantially as described, the base piece *a*, standards *b*, central stay-rod *e*, brace *f* and ornaments *g*, all arranged as shown and for the purpose set forth.

5th. An adjustable connection for the channel-rail and post of a metallic fence, consisting of the clutch *h* having arms at one end adapted to grasp the standard of the post, and the box-sleeve *g* to engage the channel-rail, the said clutch and sleeve being adjustably connected together, and being constructed substantially as described.

6th. The combination, in a metallic fence, of the post A, adjustable connections B, channel-rails C, the pickets D and ornaments E, all constructed as described and arranged relatively to one another, substantially as set forth.

### No. 21,255. Coal Sifter. (*Crible à Charbon.*)

Patrick O'Connor, Lawrence, Mass., U. S., 13th March, 1885; 5 years.

*Claim.*—1st. In a coal sifter, the combination of the following instrumentalities, to wit: a body, a screen, a main cover, an auxiliary cover, two long and two short supporting legs, the body being provided with discharge openings for the ashes and sifted coal, and having sides which are straight along the main portion of the body, and converge near its lower end, the long legs being pivoted to the straight portions of the sides, and the short legs to the converging portions and adapted to engage said converging portions, and prevent the sifter from pitching forward and falling to the ground, substantially as described.

2nd. In a coal sifter, the main cover B, provided



with the auxiliary cover H, in combination with the screen N, and a body for receiving the coal, substantially as set forth. 3rd. In a coal sifter, the sides D, said sides being straight from X to *v*, and converging from X to *m*, in combination with the legs J pivoted to the straight portions, and legs K pivoted to the converging portions thereof, substantially as described. 4th. The improved coal sifter herein described, the same consisting of the bottom A provided with the opening P, the end C provided with the mouth M, the sides D provided with the converging portions *x, m*, the end B, screen N, partition Q, covers E, H, and legs J, K, constructed, combined and arranged to operate substantially as and for the purpose set forth.

### No. 21,256. Sad Iron. (*Fer à Repasser.*)

Mark Cohen, Hamilton, Ont., 13th March, 1885; 5 years.

*Claim.*—1st. The sad iron A, cast in one piece, with lugs C, I, provided in the rear to receive plates H, H, in combination with the bifurcated post B, substantially as and for the purpose hereinbefore set forth. 2nd. In a sad iron, the post B with bifurcated extremities, in combination with sad iron A, having lug C, I, substantially as and for the purpose hereinbefore set forth. 3rd. The spindle F 5, covered with a non-conducting envelope D, and permanently fitted at one end to the post F, and provided at the other end with a slot B<sub>2</sub>, on one side of which is a spring B<sub>3</sub>, in combination with a bifurcated post B, having a shoulder C at its upper end, substantially as and for the purpose hereinbefore set forth. 4th. The end plate H, H, with semi apertures H, I, in combination with collar G, having groove F 4, substantially as and for the purpose hereinbefore set forth. 5th. In a revolving sad iron, the reservoir L, provided with wick tube K, and vapor tube K, I, the plug I, provided with pins R, in combination with collar G, provided with slots G<sub>2</sub>, substantially as and for the purpose hereinbefore set forth. 6th. In a sad iron post F, provided with collar G, in combination with plug I, lined with asbestos, having gas or vapor tube I, substantially as and for the purpose hereinbefore set forth. 7th. In a sad iron, the grooves A, I, in combination with a polishing or fluting plate provided with inverted, matched and slightly bevelled edges S, substantially as and for the purpose hereinbefore set forth.

### No. 21,257. Product Prepared from Rice.

(*Produit Préparé avec du Riz.*)

Joseph F. Gent, Columbus, Ind., U.S., 14th March, 1885; 15 years.

*Claim.*—As a new article of manufacture, flake rice, substantially as before set forth.

### No. 21,258. Mechanism for Dumping the Bundle Carriers of Harvester Binders. (*Mécanisme pour Renverser les Porte-Gerbes des Moissonneuses-Lieuses.*)

A. Harris, Son & Co. (Assignees of John Harris and Josiah Lucas), Brantford, Ont., 14th March, 1885; 5 years.

*Claim.*—1st. A hooked arm C, pivotally connected to the bundle carrier, in combination with the crank-arm B, fixed to the knottershaft A, the whole being arranged to operate, substantially as and for the purpose specified. 2nd. The arm C pivoted at *b*, to the bracket D and supported by the spring J, a hook *d* formed on the end of the arm C, and a rope G connected respectively to the arm C and foot lever H, in combination with a crank-arm B, fixed to the knottershaft A, the whole being arranged and operated substantially as and for the purpose specified. 3rd. The arm C pivoted at *b* to the bracket D, the stop *f* on the arm C, and the stop *g* on the bracket D, in combination with the rope G and arm B, the latter being arranged to engage with the hook *d* on the arm C, substantially as and for the purpose specified. 4th. The arm K, pivoted at *h* to the bracket D, and having a hooked end *k* to fit over the knottershaft A, and a tail *j* on the back side of the pivot *h*, in combination with the projection *i* formed on the arm C, substantially as and for the purpose specified.

### No. 21,259. Hay Press. (*Presse à Foin.*)

George Young, A. de Bellefeuille and John Watson, St. Eustache, Que., 14th March, 1885; 5 years.

*Claim.*—1st. In a vertical hay press, the bale chamber placed at the bottom, with compressing head or traveller operated by means of blocks, and tackling taken to and wound upon a capstan, substantially as herein set forth. 2nd. In a vertical hay press, the port E, with ledge E<sub>1</sub>, as and for the purposes set forth. 3rd. In combination, with a vertical hay press having the bale chamber at the bottom, the gate G, constructed as shown, and held in place by the bar D<sub>2</sub> and curved levers H, H, all substantially as herein set forth.

### No. 21,260. Mechanism for Converting Motion, especially applicable to Steam Engines. (*Mécanisme de Renversement spécialement applicable aux Machines à Vapeur.*)

Jethro E. Penicill, Titusville, and Solomon C. Rhodes, Bradford, Penn., U.S., 14th March, 1885; 15 years.

*Claim.*—1st. The mechanism for converting motion, consisting of the levers *d, g*, connected by the links *i* and *e*, combined with a pitman and crank shaft, substantially in the manner shown and described. 2nd. In a mechanism for converting motion, the combination of the rock shaft *b*, the lever *d*, pitman *e*, lever *g* being connected by the link *i* to the lever *p*, substantially as described. 3rd. The combination of the two levers *d, g*, connected respectively to a pitman, and a crank shaft, and connected with the link *i*, substantially as described. 4th. The combination, with a reciprocating driver and a crank, of levers and connecting links, substantially as described, whereby the length of the crank is not limited by the stroke of the driver and dead centres are avoided, as specified.

### No. 21,261. Boiler Flue Cleaner.

(*Nettoyeur des Carneux de Chaudières.*)

Fred. L. McGahan, Indianapolis, Ind., U.S., 14th March, 1885; 5 years.

*Claim.*—1st. A flue cleaner, consisting of the following elements, namely: a nozzle, having two interior compartments, one of which compartments has an inlet opening for steam, and the other compartment has a cylindrical portion with discharge opening therein, a passage between said compartments, a valve closing said passage, and a sliding plate mounted on said cylindrical portion, and connected with said valve, so as to open it by the sliding movement of the plate. 2nd. In a flue cleaner, the combination of the discharge chamber B, having annular openings *f, f*, the valve *d* and sliding plate G. 3rd. In a flue cleaner, the combination, with the chambers A, and B, and the valve *d*, of the rod *h* and the stuffing box *i*, for the purpose specified. 4th. In a flue cleaner, the combination, with chambers A and B, valve *d* and plate C, of steam pipe J, sleeve H and handles *k* and *l*.

### No. 21,262. Veil. (*Voile.*)

John A. Schirmer, East Saginaw, Mich., U.S., 14th March, 1885; 5 years.

*Claim.*—1st. The spring A, having the means described at its ends and midway between such ends for securing the veil, substantially as specified. 2nd. The combination of the spring A, with a veil or other similar article, substantially as and for the purposes set forth.

### No. 21,263. Corset Clasp. (*Agraffe de Corset.*)

George H. Colley, Jackson, Mich., U.S., 14th March, 1885; 5 years.

*Claim.* 1st. As a portion of a corset clasp, the part C adapted to embrace and protect the usual stud which forms the other part of a corset clasp, substantially as described. 2nd. In a corset clasp, the part C composed of two pieces of sheet metal, the one *b* having a slot *d* formed therein, and the other part *c* having a recess *e* sunken therein, said parts *b* and *c* being laid one upon the other and riveted to a corset steel, substantially as and for the purposes specified. 3rd. In a corset clasp, the part C struck or formed from one piece of metal, as shown in Fig. 3, and completed by folding the part *e* upon the part *b*, and riveting said parts to a corset steel, substantially as and for the purposes set forth.

### No. 21,264. Dynamo-Electric Machine and Motor. (*Machine et Moteur Dynamo-Electriques.*)

Elihu Thomson, Lynn., Mass., U.S., 14th March, 1885; 5 years.

*Claim.*—1st. The combination, in a dynamo-electric machine or motor, of a field magnet core through which, and parallel with whose axis, the armature-axis passes, and two or more pole-pieces between which the armature rotates said pole-pieces, being mechanically connected with the opposite ends of the core, so as to be of opposite polarity. 2nd. The combination, in a dynamo-electric machine or motor, of a field magnet having a longitudinally perforated core, an armature whose axis passes through the core, and pole-extensions projected from opposite ends of the core, and respectively of north and south polarity, said pole-extensions forming the magnetic pole-pieces between which the armature rotates. 3rd. A field-magnet for a dynamo machine, the axis of whose core coincides with the armature-axis, and provided with field or force poles formed, the one by a direct extension from said core and the other by the base-plate to which or with which said core is in magnetic connection. 4th. The combination, of the frame D B, of iron core D<sub>1</sub>, formed with or secured thereto pole-pieces N, N, coils C, and an armature A, mounted on a shaft passing through the core D<sub>1</sub>. 5th. In a dynamo-electric machine or motor, an armature wound with two coils or conducting wires in different planes or positions, two of the four terminals of said coils being united together and to a commutator-segment, while the other terminals are singly connected to two other commutator-segments, substantially as set forth. 6th. In a dynamo or magnetic electric machine or motor, a system of two revolving coils wound in different planes, or positions, as described, united by a joint formed of two of the terminals at a commutator-segment, and having their other or remaining terminals connected to the two other segments of a three-segment commutator. 7th. The combination, substantially as described, of two armature-coils and a three-segment commutator, one segment of which is united to a terminal from each coil while the remaining segments are separately connected to the remaining terminals of said coils. 8th. The combination, with a set of two armature coils, or armature helices, of a three-segment commutator the overlap of whose segments is made unequal, as described. 9th. The combination, with a set of two armature-helices, of a three-segment commutator, connected, as described, to said helices, and having an overlap between its successive segments approximately twice as long at one of its points between the segments connected to single ends of the armature-helices as is the overlap at the two other points. 10th. In a magneto or dynamo electric machine, or motor, a commutator cylinder made in two sections adjustable with respect to one another as described, so as to permit the overlap between successive commutator segments, or sections, to be adjusted. 11th. A commutator for a dynamo-electric machine, or motor, consisting of two commutator-rings L, M, each divided into the proper number of segments, and means for setting the divisions of said ring at any desired circumferential angle with relation to one another.

### No. 21,265. Moccasin. (*Mocassin.*)

Francis Gros Louis, Jenne Lorette, Que., 14th March, 1885; 5 years.

*Claim.*—1st. As a new article of manufacture, a laced moccasin having its lacing edges so placed as to meet and lace at some distance away from the front centre, substantially as shown and described. 2nd. In a laced moccasin, the hook strip B, composed of one or more pieces, provided with lace hooks or eyelets for receiving the lace, and secured permanently to the top A, substantially as

shown and specified. 3rd. In a laced moccasin, arranged to be laced at the side, the lap-piece *b*, attached to one of the edges of the top, substantially as and for the purpose herein shown and described.

### No. 21,266. Clothes Boiler.

(*Chaudierie de Buanderie.*)

Alphonse Carreau, Montreal, Que., 14th March, 1885; 5 years.

*Claim*.—1st. In a clothes boiler, the removable compressor-plate *D*, provided with the hooks *c*, or equivalent device taking into loops or notched pieces secured to the boiler, substantially as and for the purpose set forth. 2nd. In a clothes boiler, the combination of the removable perforated bottom *B*, the steam pipe *C*, having its upper end extending some distance into the boiler, and the removable compressor-plate *D*, substantially as herein shown and described.

### No. 21,267. Door Stop. (*Buttoir de Porte.*)

Albert F. R. Arndt, Detroit, Mich., U.S., 14th March, 1885; 5 years.

*Claim*.—1st. A door stop, having an arm carrying at its free end a cushion, such arm being secured upon a square shaft having journals upon its ends, in combination with a spring by means of which the arm is securely held in either of three desired positions, substantially as and for the purposes described. 2nd. A door stop consisting of a concealing plate secured to a door, a square shaft journaled in said plate, and carrying an arm or lever having a cushion at its free end, and a spring, the parts being constructed and operating, substantially as and for the purposes specified.

### No. 21,268. Locomotive Ash Pan.

(*Cendrier de Locomotive.*)

William B. Moore, New Glasgow, N.S., 14th March, 1885; 5 years.

*Claim*.—In a locomotive ash pan, the combination, with the walls *A*, *A*<sub>1</sub>, of the slats or pans *B*, *B* arranged transversely and having trunnions or spindles *b*, *b*<sub>1</sub>, journaled in said walls, outside cranks *b*<sub>2</sub>, *b*<sub>2</sub>, and levers *C* and *D*, all arranged and operating substantially in the manner and for the purposes specified.

### No. 21,269. Apparatus and Process for Straightening Sheet and Plate Metal. (*Appareil et Procédé de Redressement des Feuilles et Plaques Métalliques.*)

Joseph W. Britton, Cleveland, Ohio, U.S., 14th March, 1885; 5 years.

*Claim*.—1st. In a machine for taking the kinks or buckle out of sheet and plate metal, the frame *A* having arranged thereon a retaining head *G*, provided with a pair of clamping jaws, stay rods and keys arranged in relation to, and co-operation with, a movable clamping head *I*, and clamping jaws corresponding to the clamping retaining head *G* and its respective jaws, draws rods *J*, *J*, spring and cross-head, constructed and arranged to operate, in combination with a hydrostatic pump or other suitable sufficient power, substantially as herein described. 2nd. For taking the kinks or buckle out of sheet and plate metal, a pair of clamping heads provided with clamping jaws, adapted to clamp respectively the ends of a sheet or plate of metal, and arranged on a suitable frame, so as to face each other, one being adjustable but stationary while in use and the other movable for co-operating therewith, for clamping and stretching the sheets or plates, for the purpose specified in combination with a hydrostatic pump or other suitable power, substantially as herein set forth. 3rd. In the manufacture of sheet and plate metal, the herein-described method of levelling and flattening the swells, bulges or buckles of the sheet or plate, by securing transversely the ends of one or more of said sheets or plates in clamping heads, and, while cold, subjecting the sheet or sheets to a tensile strain, by which are stretched the short places thereof, and a flattening and levelling down of the swells and bulges attended by an elongation of the entire sheet, or sheets, more or less, thereby obtaining to said sheets an evenly flat uniform surface, substantially in the manner as herein set forth.

### No. 21,270. Spade or Shovel Handle.

(*Manche de Bêche ou de Pelle.*)

Benjamin S. Boyles, Winamac, Ind., U.S., 14th March, 1885; 5 years.

*Claim*.—The handle attachment *B*, consisting of the brace rod *a*, *a*, looped as at *a*<sub>1</sub>, *a*<sub>1</sub>, and having the handle *b*, and the parts *a*<sub>1</sub><sup>1</sup>, *a*<sub>1</sub><sup>1</sup>, constructed and arranged substantially as described.

### No. 21,271. Bathing Dress. (*Vêtement de Bain.*)

George A. Barsz, Lexington, and Clifford C. Ellis, Boston, Mass., U.S., 14th March, 1885; 5 years.

*Claim*.—1st. In a bathing dress, the combination of the following instrumentalities, to wit: a life-preserver proper consisting of a sack or main section, adapted to extend from the waist of the wearer upwardly along the back or between the shoulders, the sacks or auxiliary, sections adapted to extend upwardly from the waist along or over the breast of the wearer, suitable pipes for connecting said sections, an inflating tube, a frock or waist provided with an interior pocket adapted to receive said sections and pipes, and a flap or means for closing said pocket and securing the preserver therein, substantially as described. 2nd. In a bathing dress, the frock or waist *N*, provided with the pocket *L* and flap *J* in combination with the life-preserver *A*, constructed and arranged to operate, substantially as set forth. 3rd. The life-preserver *A*, consisting of the sections *B*, *C*, *D*, tubes *E*, *H*, inflating tube *k*, and straps *d*, *l*, *f*, constructed and arranged to operate, substantially as and for the purposes specified. 4th. The improved bathing dress herein described, the same consisting of the pants *M*, frock or waist *N*, provided with the pocket *L*, flap *J*, and buttons *s*, *t*, the sections *B*, *C*, *D*, provided with the spaces or tubes *b*, stays *m*, and strips *a*, *f*, *l*, the tubes *E*, *H*, and tube *k*,

constructed, combined and arranged to operate substantially as described.

### No. 21,272. Bundle Carrier for Harvester Binders. (*Porte-Gerbe pour Moissonneuses-Lieuses.*)

A Harris, Son & Co., Brantford, (Assignees of Joseph Malott, Tilbury East,) Ont., 14th March, 1885; 5 years.

*Claim*.—1st. A bundle-carrier, pivoted on the binder, in combination with mechanism arranged to connect the bundle-carrier to the knotted shaft, so that the revolving motion of the latter may be utilized for the purpose of dumping the bundle-carrier. 2nd. A *A* arm *D*, adjustably fitted on to the knotted shaft *B*, and having a clutch formed on its face to correspond with a clutch formed on the face of the arm *C*, the pivoted lever arranged to engage with an arm *D*, as specified, in combination with the link *F*, and bar *G*, arranged to connect the arm *D*, and the bundle-carrier, substantially as and for the purpose specified.

### No. 21,273. Combined Drill and Cultivator Hoe. (*Dent de Semoir-Cultivateur.*)

Thomas D. Galloway, Oshawa, Ont., 16th March, 1885; (Re-issue of Patent No. 20,275.)

*Claim*.—1st. The combination, substantially as before set forth, of a drill tooth funnel, and a hoe attached in rear of the opening or passage thereof. 2nd. A drill tooth funnel, provided in rear of its opening or passage with means for the attachment of a hoe, substantially as before set forth. 3rd. The combination, substantially as before set forth, of a drill tooth funnel, composed of two halves, a drill tube hooked thereto at the front edge, and a clamping bolt for clamping the drill tube between the funnel halves. 4th. The combination, substantially as before set forth, of a drill tooth funnel composed of two halves, forming a recess in rear of the opening or passage, a hoe, the stock of which fits said recess, and a clamping bolt. 5th. A drill tooth funnel composed of two halves, formed with projections or buttons in front of the opening or passage, and with a recess in rear of the said opening or passage, and provided with a clamping bolt, so that either a drill tube may be applied thereto, or a hoe attached in rear of the opening or passage of said funnel.

### No. 21,274. Apparatus for Operating Railway Semaphores. (*Appareil pour manoeuvrer les Sémaphores des Chemins de Fer.*)

Henry O'Neill, Montreal, Que., 16th March, 1885; 5 years.

*Claim*.—1st. The combination, with the drum *B*, and its shaft having the spring *F*, of ratchet *D*, adapted to be thrown in and out of clutch with said drum, lever *E* having a pawl, and the weighted pawl *e*, substantially as and for the purpose specified. 2nd. The combination, with the shaft *A* having spring *F*, drum *B* having teeth *c*, and ratchet *D* having teeth *d*, of bell crank lever *G*, one arm of which connects with hub of said ratchet and the other arm terminating a treadle *g*, substantially as and for the purposes described. 3rd. The combination, with the post *K*, of shaft *l*, semaphore board *M*, segment lever *L*, and lever *L*<sub>1</sub>, carried on said shaft, of rod *N*, and its weight *O*, and line *C* affixed to said segment lever, substantially as and for the purpose specified. 4th. The combination, with the post *K*, and shaft *l*, of segment lever *L*, lamp spindle *p*, connected to said segment lever, lever *L*<sub>1</sub>, rod *N* and its counter balance *O*, and line *C*, all arranged substantially in the manner and for the purpose specified. 5th. The combination, with the post *K*, shaft *l*, semaphore board *M*, lamp spindle *p*, link *Q*, segment lever *L*, lever *L*<sub>1</sub>, rod *N*, weight *O*, and line *C*, arranged and operating substantially as and for the purposes specified.

### No. 21,275. Ingot for Gold Plated Wire.

(*Lingot pour Fil Plaqué d'Or.*)

Levi L. Burdon, Providence, R.I., U.S., 16th March, 1885; 5 years.

*Claim*.—1st. The method herein described, of making metallic compound ingots, which consists: first, in inserting the suitably prepared metallic core within the seam-ess tube, the latter extending beyond the end of said core to form a space or chamber; secondly, placing solder within said chamber, and introducing the whole into a suitably heated furnace, thereby fusing said solder, thus uniting or welding the core and tube together, and, lastly, in withdrawing the ingot from the furnace, after which it is adapted to be drawn down or reduced to the required size, substantially as and for the purpose hereinbefore set forth. 2nd. The compound metallic ingot *A*, herein-described, consisting of the seamless tube *B*, soldered to the base metal core *C*, the latter having its lower end *c* projecting beyond the said tube, as and for the purpose set forth. 3rd. The compound metallic ingot *A*<sub>1</sub>, herein-described, consisting of the seamless tube *B*, and the hollow base metal core *C*<sub>1</sub>, the latter being soldered within the said tube substantially as shown and for the purpose set forth.

### No. 21,276. Tire for Waggon Wheels.

(*Bandage pour Roues de Wagons.*)

Peter Gendron, Toledo, Ohio, U.S., 16th March, 1885; 5 years.

*Claim*.—1st. The method herein-described, of making a rubber-tired wheel, which consists in, first, securing to the spokes a thin-edged metallic tire having said thin edges extending outwardly, then, putting the rubber tire around the metal tire, and, finally, pressing the edges of the said metallic tire against the sides of the rubber tire, substantially as described. 2nd. A carriage wheel provided with a thin metal tire, and a supplemental tire formed partly of soft and partly of hard rubber, and held in place by turning the edges of the metal tire against the hard rubber, substantially as described.

**No. 21,277. Printing Surface for Reproducing Designs or Pictures taken by Photography.** (*Surface à Imprimer pour Reproduire les Dessins ou les Images Photographiques.*)

Walter B. Woodbury, London, Eng., 16th March, 1885; 5 years.

*Claim.*—1st. The method of attaching a sensitized gelatine tissue to a glass plate, by means of a solution of gelatine and chrome alum supporting collodion by which the tissue is attached, substantially as described and for the purpose specified. 2nd. The method of attaching tinfoil, pressed into the surface of a dry gelatine relief or intaglio, by means of a solution of india rubber in benzole to which gum mastic is added, substantially as described and for the purposes specified. 3rd. The method of pressing the sheet of tinfoil into the surface of a dry gelatine relief or intaglio, by passing them between rollers coated with india rubber, so that the design on the relief is transferred in every detail to the tinfoil, from the surface of which prints are then produced in the usual way, substantially as described and for the purposes specified.

**No. 21,278. Calendar.** (*Calendrier.*)

Thomas McCarthy, St. Vincent de Paul, Que., 16th March, 1885; 5 years.

*Claim.*—1st. In a calendar, the combination, with a face-plate having openings of concentric rings lettered or numbered on their faces, and adapted to be revolved, so as to exhibit one division of each at said openings, and means for holding same together, substantially as specified. 2nd. In a calendar, the combination, with the plate A, having openings *b, c* and *d*, and the back-plate E, of the concentric rings B, C and D, having projections *b<sub>1</sub>, c<sub>1</sub>* and *d<sub>1</sub>*, and the annular plates F, G, substantially as and for the purposes set forth. 3rd. The combination, with the front cover A, having slots Z, of the concentric rings having the holes or slit and the back cover E, substantially as set forth.

**No. 21,279. Self-Binding Harvester.**

(*Moissonneuse-Lieuse.*)

John C. McLachlan, London, Ont., 16th March, 1885; 5 years.

*Claim.*—1st. In a self-binding harvester, in which the cord E is automatically drawn into tension by the upward motion of the needle N, substantially as shown and described. 2nd. In a self-binding harvester, in which the cord is automatically drawn out of tension by the downward motion of the needle N, substantially as shown and described. 3rd. In a self-binding harvester, the tension bar B, and spring D, in combination with a bracket A, or its equivalent, provided with flanges C, C, substantially as shown and described and for the purpose specified. 4th. In a self-binding harvester, the bracket A, provided with an aperture J, through which the cord E passes, which aperture J conducts the cord E into or out of tension on the upward and downward motion of the needle, substantially as set forth.

**No. 21,280. Art of Manufacturing Cerealine from Indian Corn and Machine therefor.** (*Art de Fabriquer la Céréaline avec du Blé d'Inde, et Machine pour cet objet.*)

Joseph F. Gent, Columbus, Ind., U.S., 16th March, 1885; 15 years.

*Claim.*—1st. The improvement of the art of making cerealine, which consists of the following steps, substantially as before set forth, viz: first, steaming the corn just enough to soften and toughen the hulls and germs; secondly, coarsely grinding or breaking the steamed corn, and separating the hulls and fine meal from the ground or broken material; third, picking the germs from the coarse starchy particles; fourth, steaming the thus cleaned starchy particles, and, filly, pressing and drying the steamed starchy particles to reduce them to thin flakes. 2nd. The art of extracting germs from ground cereals, which consists of the following steps, substantially as before set forth, namely: first, steaming the cereal in the kernel to soften the husks and germs; second, coarsely grinding the steamed cereal and separating the husks and fine meal from the coarsely ground material, and, third, picking the germs from the coarse granular material. 3rd. A machine for extracting germs from ground cereals, which consists, in the main, of a rotating picking cylinder, thick set with fine teeth, and a feed device for feeding the ground material in a thin film, or sheet, under said picker cylinder.

**No. 21,281. Boiler Water Purifier.**

(*Epurateur de l'eau des Chaudières.*)

George M. Brauninger, Janesville, Wis., U.S., 16th March, 1885; 5 years.

*Claim.*—1st. The combination, within a boiler, of a series of pans or chambers, secured one above another to each other, and provided with openings or passages communicating with each other and the boiler, and a water duct communicating from the supply exterior to the boiler with the upper chamber, said series of chambers being adapted to secrete the sediment of the water in its passage from the inlet duct to the pans, substantially as and for the purpose set forth. 2nd. The combination, in a boiler water purifier, of a series of pans forming chambers, and a central column or shaft *c*, pierced with holes *m, m*, communicating with each chamber, all arranged to operate in the manner and for the purpose herein described. 3rd. The combination of the inclosing case *d*, the series of pans *a, a*, provided with the partition *n*, and holes *k, k*, and central tubular shaft *c*, provided with cap *e*, and the holes *m, m*, in each succeeding chamber, said partition *n*, being adapted to cause the water to flow over the entire surface of the pans while flowing from one to the other, all substantially as and for the purpose specified.

**No. 21,282. Earth Auger.** (*Sonde à Tarière.*)

Robert L. Fosburgh, St. Louis, Mo., U.S., 16th March, 1885; 15 years.

*Claim.*—1st. An earth auger blade, having a slot *o*, with its projection *x*, and lip *a*, having projection *a<sub>1</sub>*, said projection *a<sub>1</sub>* being at right angles with the edge of said lip, and at right angles with the face of the angle blade, substantially as described. 2nd. An earth auger blade, having a slot *o*, with its projection *x*, and a lip *a*, with its projection *a<sub>1</sub>*, substantially as described. 3rd. An earth auger blade having a slot *o*, with its projection *x*, and a lip *a*, with its projection *a<sub>1</sub>*, said lip *a*, being bent out of line with face of auger blade, substantially as described. 4th. In an earth auger, the combination of the blade A, having a circular opening E, and holes Z, Z, the shaft C, having shoulder *c<sub>1</sub>*, lugs *d, d*, and threaded end, and spiral feed end piece K, having shoulder K<sub>1</sub>, and screw end K<sub>2</sub>, substantially as described.

**No. 21,283. Bolt for Purifying Middlings.**

(*Butoir pour Epurer les Gruaux.*)

Oliver P. Hurford, Oakdale, Neb., U.S., 16th March, 1885; 5 years.

*Claim.*—1st. In a rotary bolt, the combination of a reel mounted upon tubular gudgeons, cross bars at the inner ends of said gudgeons, a shaft mounted securely on said cross bars, and brushes mounted pivotally upon said shafts, said brushes consisting essentially of frames weighted at their lower ends, and having vertically adjustable brushes at their upper ends, as and for the purpose set forth. 2nd. In a rotary bolt, the combination of a reel mounted upon tubular gudgeons, means for feeding the reel through the gudgeons at the upper end of the same, radial wings or scatterers upon the inside of the reel at the upper end of the same, and a suction fan arranged outside and connected with the gudgeon at the lower end of the reel, as set forth. 3rd. The combination of the bolting chest, the cylindrical ring or band upon the lower side of the lower end of the same, and the reel, the lower end of which is fitted within the said ring or band, as and for the purpose set forth. 4th. The combination of the bolting chest, the reel hung in the same upon tubular gudgeons, the openings in the lower head of the reel bevelled down to the edge of the latter, the ring or band upon the inside of the lower end of the chest surrounding the lower head of the reel, the slanting chute at the lower head of the band, and the drop-valve, as and for the purpose set forth. 5th. The combination of the bolting chest, the reel, tubular gudgeons for the same, a spider formed at the outer end of the lower gudgeon and having a spindle or journal, a box or casing secured at the lower end of the chest and having an opening into which the lower gudgeon of the reel extends, and a cross bar upon the inner side of said opening forming a bearing for the said spindle upon the lower gudgeons of the reel, as set forth. 6th. The combination of the bolting chest, the reel, tubular gudgeons for the same, means for feeding the reel through the gudgeon at the upper end, radial wings or scatterers upon the inside of the reel at the upper end, a box or casing secured upon vertical bars or brackets upon the lower end of the chest, and having an opening into which the gudgeons at the lower end of the reel projects, the fan case arranged in said box or casing, and the fan journaled transversely in the sides of the box or casing, as set forth. 7th. The combination of the chest, the vents, the transverse partitions, the deflector, the reel hung upon tubular gudgeons, the openings in the lower head of the reel, a band encircling the said lower end, a chute and a valve, as described, means for feeding the reel through the gudgeons at its upper end, and a suction fan connected with the tubular gudgeons at the lower end of the reel, as set forth. 8th. The combination of the bolting chest, the conveyor shaft arranged longitudinally in the trough at the bottom of said chest, the reel mounted in the chest upon tubular gudgeons, the lower one of which extends through the casing and is formed with a spindle, a box mounted upon vertical bars or brackets at the lower end of the chest, and having a bearing for said spindle, a band wheel on the lower end of the conveyor shaft, a belt connecting the said band wheel with the lower gudgeon and suitable operating mechanism, as set forth. 9th. The combination of a reel mounted upon tubular gudgeons, a shaft mounted longitudinally in and revolving with said reel, and extending out through the gudgeon at the upper end or head of the reel, a spiral conveyor flange arranged upon the said projecting end of the shaft, and means for feeding the wheel through the said upper gudgeon, as set forth. 10th. In a rotary bolt, the combination, with the bolting chest of the reel hung in the same tubular gudgeons, a box or casing secured upon vertical brackets upon the lower end of the chest, an opening in said casing into which the lower tubular gudgeons projects, and a suction fan located within said casing and terminating in the dust spout, as set forth.

**No. 21,284. Hot Water and Steam Heating Apparatus.** (*Calorifère à Eau et à Vapeur.*)

Edouard Bellavance, Montreal, Que., 16th March, 1885; 5 years.

*Reclame.*—1o. La chambre inférieure à eau chaude ou à vapeur D, D, entourant le bol à feu et le tiroir aux cendres. 2o. Les tubes de chauffage, prenant de la chambre inférieure D, D, et se terminant à la chambre supérieure I, qui est percée pour laisser passer la fumée ou étoilée ou radiée, et qui communiquent au pied, et à la tête du cône au charbon soit par des tubes tournés à équerre G ou en forme de la lettre S, H, au plan.

**No. 21,285. Fertilizer Sower.**

(*Distributeur d'Engrais.*)

Emmanuel M. Kissel and William C. Downey, Springfield, Ohio, U.S., 17th March, 1885; 5 years.

*Claim.*—1st. In the feed mechanism of fertilizers, horizontally set feeding bottoms made of glass, substantially as described. 2nd. In the feed mechanism of fertilizers, the combination, with the hopper, of horizontally rotating glass feed disks projecting through openings in the hopper, substantially as described. 4th. In the feed mechanism of fertilizers, the combination, with the horizontally rotating

glass, feed disks projecting through openings in the hopper, of discharge openings regulated by vertically moving gates or slides and stationary scrapers for removing and directing the flow of the fertilizer from the disks, substantially as described. 5th. In the feed mechanism of fertilizers, the combination, with the horizontally rotating feed disks, of immediately subjacent supporting and actuating gears, said disks and gears being locked together by means of lugs or dowels, substantially as and for the purpose specified. 6th. The bracket E, provided with a bearing for the gear D and with a journal for the through-shaft or axle, in combination with the rotating glass feed disk, the gear D, pinion G and through-shaft F, the parts being constructed and relatively arranged in the manner and for the purpose specified.

### No. 21,286. Darning Attachment for Sewing Machines. (*Machine à Coudre Faisant les Reprises*.)

John T. Wood (Assignee of Frederick W. Stewart), Oswego, N. Y., U.S., 17th March, 1885; 5 years.

*Claim*.—1st. In a darning attachment for sewing machines, the ring S, having notches V in its top and bottom edges, in combination with the needle and bed plate, substantially as herein shown and described. 2nd. In a darning attachment for sewing machines, the combination, with a needle, its collar and the sleeve or ring J, of the spiral spring attached to said collar and sleeve, the aggregate length of this sleeve and spring (when the latter is normally extended) being greater than the portion of the needle which they encircle, as shown and described, whereby said sleeve is held normally projected slightly below the point of the needle, as specified. 3rd. The combination, with a needle bar, of a collar held on the same, a spring surrounding the needle and secured to the collar, and of a sleeve or ring secured to the lower end of the spring and having its bottom edge toothed, substantially as herein shown and described. 4th. The combination, with a needle bar, of the roller D having a boss or projection F, the spring K secured to the collar D, and of the toothed ring or sleeve J secured to the lower end of the spring, substantially as herein shown and described.

### No. 21,287. Saw Filing Machine.

(*Machine à Limer les Scies.*)

William Tucker and Henry M. Tower, East Brookfield, Mass., U.S., 17th March, 1885; 5 years.

*Claim*.—1st. The combination, substantially as hereinbefore specified, of a vertical spindle furnished with a saw clamp devices by means of which the operator may raise and lower said spindle, and rotary files having horizontal axes and located with reference to the path of the saw-plate as carried by said spindle, so that the saw shall be moved sidewise against the edges of the files. 2nd. The combination, with the parts named in claim 1, of the within-described friction device, and counter-balance, or their mechanical equivalents, for supporting the saw, by means of the spindle, between a pair of rotary files, arranged one above the other, to provide for feeding the saw after each filing operation. 3rd. The within-described combination, with a vertical spindle and a saw-clamp for circular saws carried by said spindle, of a truing-cone, having a screw neck at its small lower end, fitted to an internal screw in the lower clamp-disc, substantially as shown in Fig. 2 b, to centre the saw, so that the circle of saw-teeth shall be absolutely concentric with the eye of the saw. 4th. The within described combination, with a vertical spindle furnished with a clamp for circular saws and with an index gear of a horizontal shaft carrying a worm and hand-wheel, the latter provided with stop notches, and a spring detent co-acting with said stop-notches, for intermittently rotating the saw to bring successive interdental notches or pairs of teeth in position, and for holding the saw during the filing operations. 5th. A latterly swinging support for said worm-shaft to provide for moving it out of the way when a saw is to be applied or removed, in combination with a screw-clamp for releasing said support and refastening it, substantially as hereinbefore specified with reference to Figs. 1, 2, 2 b, 4 and 4a. 6th. The combination, substantially as hereinbefore specified, of a horizontal pedestal top having a longitudinal slot, and a horizontal plate supported thereon, and adjustable by means of a vertical pivot, and a clamping-screw occupying said slot, as provision for shifting or adjusting the file mechanism bodily, as illustrated by arrows z, Fig. 4, to suit saws of different diameters. 7th. The combination of parts named in Claim 6, said plate having a carved slot, and a depression in its upper surface concentric with said pivot, with a sliding nut within said depression to receive said clamping-screw as means for varying the depth of cut or the length of the saw-teeth, and the angle of cut or shape of the saw-teeth, either or both, as hereinbefore set forth, with reference to Figs. 4, 4, x, and arrows z, y, Fig. 4. 8th. In combination with the parts named in Claims 6 and 7, said plate having furthermore a screw hole on its upper surface, and a guide rib and lug upon the same, a head-frame having a grooved sole fitted to said plate, and provided with a lug and slot, a vertical clamping screw and a horizontal gage screw for completing the simultaneous adjustment of the files as to depth of cut with the requisite nicety, as hereinbefore set forth, with reference to Figs. 4, 4, x and arrows z, Fig. 4. 9th. A pair of rotary files carried by horizontal arbors, and arranged one above the other, with means for adjusting one of said arbors longitudinally, to render the cutting points of the respective files in absolute line with each other in a vertical plane, as hereinbefore set forth, with reference to Figs. 2, 2a, 4 and arrows v, Fig. 4. 10th. The combination, substantially as hereinbefore specified, of a pair of rotary files having bevelled cutting peripheries and carried by parallel arbors, means for moving a circular saw sidewise into contact with the respective files alternately, and means for turning the saw in its plane of rotation between its successive contacts with the files for filing teeth of circular saw "fleming" with the flem or bevel confined to the fronts of the teeth, and formed on opposite sides of alternate teeth, as illustrated by figs. 5x, 5z. 11th. The combination of parts claimed in Claim 10, with the respective files driven in opposite directions, whereby the teeth of circular saws may be filed fleming, as aforesaid without "stubbing" as hereinbefore explained. 12th. The combina-

tion, with the parts named in Claim 10, a pair of stop-gauges which limit the vertical movements of the saw, or its contacts with the respective files for determining the transverse angles of the front of each saw-tooth, as hereinbefore set forth, with reference to Figs. 5, 5z, 5z. 13th. The within described stop gauges in the form of vertical screws, having right and left threads respectively, and angular longitudinal holes in lines with each other to receive a key-rod, by turning which they may consequently be adjusted as to distance apart simultaneously and equally, substantially as hereinbefore set forth, with reference to Figs. 5, 5a, 5b and arrows c, v, Fig. 5. 14th. In combination with said stop gauges, in the form of vertical screws, the within described holder therefore attached to the head furnace of the machine by a clamping screw passing through a horizontal slot, and united therewith further by a horizontal guide-rib occupying a matching groove to render said stop-gauges adjustable horizontally for saws of different diameters, or having teeth of greater or less length, substantially as hereinbefore described, with reference to Figs. 5, 5a, 5b and arrows u, Fig. 5. 15th. The combination of peculiarly constructed rotary files and holders for the same, an axial clamping screw, substantially as hereinbefore specified with reference to Figs. 6, 6a, 6b, to facilitate and insure so attaching each file to its arbor or shaft that the file shall run truly and steadily, and to preclude its torsional displacement, as aforesaid.

### No. 21,288. Vehicle Hub. (*Moyeu de Roue.*)

The Acme Hub Company, Dayton, Ohio (Assignee of Jared Maris, Philadelphia, Penn.), U.S., 18th March, 1885; 5 years.

*Claim*.—1st. The combination, with a wooden hub, provided with spoke-mortises, of a metal band provided with inwardly projecting ribs arranged to form bearings for the spokes, said ribs being arranged relative to the spoke-mortises, to provide a seat on the sides of each mortise for shoulders on the mortised ends of the spokes, substantially as set forth. 2nd. The combination, with a wooden hub, of a metal band having spoke-openings, and provided with longitudinal ribs on its inner surface that extend inwardly their full width within the circles described by one or both ends of the bands, substantially as set forth. 3rd. A metal band provided with spoke openings, and on its inner side with inwardly projecting ribs that form extended inner bearings for the spokes, said band being constructed to snugly fit upon the hub, and the ribs to extend radially inwardly beyond the outer surface of the hub, substantially as set forth.

### No. 21,289. Wash Boiler Fountain.

(*Puits de Chaudière de Buanderie.*)

William H. Cooper, Toronto, Ont., 18th March, 1885; 5 years.

*Claim*.—As an improved article of manufacture, a wash boiler fountain consisting of the oval sloped cone base A, tubular vertical column B rising from its apex and connecting with cross tube E, having arms F and filling C confined within the apex by plate D, as set forth.

### No. 21,290. Car Brake. (*Frein de Char.*)

George W. Coffin, Pittsburg, Penn., U.S., 18th March, 1885; 5 years.

*Claim*.—The car brake, herein described, consisting of the boxes b, c secured together and to the platform of the car by rods d, e, the worm g having the cylinder f seated in bearings in the boxing, the shaft f carrying the toothed wheel K meshing with said worm, the drum J on said shaft, having one end of the chain m attached thereto, the other end thereof connected to the rod n and lever p of the brake, and the removable crank shaft h, for winding and unwinding the chain on the drum to operate the brake, as shown and described.

### No. 21,291. Trunk or Box. (*Coffre ou Boîte*)

Frank H. Ransom Buffalo, N.Y., U.S., 18th March, 1885; 5 years.

*Claim*.—1st. A trunk, or box, provided with the bars e<sub>2</sub>, having the flange e<sub>3</sub> for supporting the tray a<sub>2</sub>, as specified, when drawn out, in combination with the inclined portions e<sub>3</sub>, e<sub>4</sub>, the parts e<sub>4</sub> having projections or pins e<sub>5</sub>, for supporting the tray when down in position within the trunk. 2nd. The combination of the tray a<sub>3</sub>, having pins or projections β<sub>3</sub>, with the angular flanges c<sub>3</sub> for supporting it when drawn out, and the angular flange e<sub>1</sub> and pin f<sub>1</sub> for supporting it in its movements back or forth or downward in place, substantially as described.

### No. 21,292. Moccasin. (*Mocassin.*)

Siméon LeBeau, Montreal, Que., 18th March, 1885; 5 years.

*Claim*.—A moccasin, having its top formed of the three pieces, viz: one long side piece and two side flaps, having tying straps secured to them, that of the outer flap passing directly to the back, and that of the inner flap across the foot and out backwards through a slit in the side piece, all substantially as and for the purposes set forth.

### No. 21,293. Feed Cutting Machine.

(*Coupe-Paille et Coupe-Racine.*)

Charles W. Sleeper, Coaticook, Que., 18th March, 1885; 5 years.

*Claim*.—1st. The combination of the cutting wheel A, and the curved cutting plate b<sub>1</sub>, substantially as and for the purpose hereinbefore set forth. 2nd. The combination, with the cutting wheel A, and curved cutting plate b<sub>1</sub>, of the feed rolls c, c<sub>1</sub> and gearing for operating the same, substantially as and for the purpose hereinbefore set forth.

### No. 21,294. Door Weather Strip.

(*Bourrelet de Porte.*)

Daniel R. Nelson, Alvinston, Ont., 19th March, 1885; 5 years.

*Claim*.—1st. In the above described weather strip for doors, the short coiled spring E placed on the arm e, which is formed on or at-

tached to the rubber strip C near one of its ends, and holding against the shoulder *d* and cap F, as shown and for the purpose set forth. 2nd. In the above described weather strip, the combination of the grooved batten B, rubber strip C, provided with the metallic back *a*, links D, coil spring E and the arm *e*, connected to said rubber strip, the shoulder *d*, cap F and washer *f*, substantially as herein shown and described.

### No. 21,295. Smoothing Iron. (*Fer à Repasser.*)

Alphonse Carreau, Montreal, Que., 18th March, 1885; 5 years.

*Claim.*—1st. In a smoothing iron having a hinged top, the holding latch D, pivoted to the nose of the iron, and provided with the shoulder *b* arranged to take over the forward end of the top A, substantially as and for the purpose set forth. 2nd. In a smoothing iron, the combination of the pivoted holding latch D, with the baffle plate E, held against the ridges *c, c*, and the ventilating openings *d*, in the walls of the chamber, substantially as shown and specified.

### No. 21,296. Gas Machine. (*Appareil à Gaz.*)

Abel Henning and Thomas Henning, Sacramento, Cal., U.S., 18th March, 1885; 5 years.

*Claim* 1st.—The combination, with the gas holder and the lever connected to the same, of the arms E, F, the weight suspended from the lever and one of said arms, and means for automatically connecting and disconnecting the said lever and arms, substantially as shown and described *d*, whereby the operation of the pump-bucket which is connected to one of said arms shall be regulated by the action of the gas-holder. 2nd. The combination, with the gas-holder and the lever connected to the same, and having an arm G, of the rigidly connected oscillatory arm E, F, the weight I, the chain H, connecting arms F, G and supporting the weight, and means for automatically connecting and disconnecting the lever and the arm E, substantially as shown and described, whereby the arms E, F shall be oscillated to operate the pump-bucket as the holder rises and falls. 3rd. The combination, with the gas-holder and the lever having the arm G, of the rigidly-connected oscillatory arms E, F, the weight I, the chain H, connecting arms F, G and supporting the weight, the catches II, K1, the pawl W, the ratchet-segment A, connected to the arm E and means for oscillating the catch I, and pawl W for connecting and disconnecting the lever A and arm E, and for holding or releasing the said arm, for the purpose specified. 4th. The combination, with the gas-holder B and lever A, having arm G, of the independent oscillatory arms E, F, rigidly connected together, the weight I, the chain H, connecting arms E, G and supporting the said weight, the catch K, secured to arm E, the catch L, pivoted to the lever A and having guide arm J, and retaining spring J, substantially as shown and described, whereby the descent of the lever A shall cause the catch I, to depress arm E, and then release the same for the purpose specified. 5th. The combination, with the gas-holder B and lever A having arm G, of the independent oscillatory arms E, F, rigidly connected together, the weight I and chain H, the ratchet segment A, attached to arm E, the shaft D, carrying pawl W and socket-piece G, rigidly secured thereto, the oscillating frame E, journaled on shaft D, and connected to lever A, and the extensible arm B, arranged between the socket-piece G, and one end of frame E, substantially as shown and described, whereby the oscillation of the lever A shall elevate or depress the pawl W to release or engage the arm E for the purpose specified. 6th. The combination, with the lever A of the frame E, journaled on a shaft D, located above and parallel with the pivotal shaft of said lever and connected to said lever by a link F, the socket-piece G rigidly secured to shaft D, the extensible arm B, having an internal spring and a protruding pin and being arranged in engagement with said piece G, and frame E, the ratchet-segment A, and the top D<sub>2</sub>, and pawl W, rigidly attached to shaft D, and set-screw D<sub>3</sub> substantially as and for the purpose set forth. 7th. The combination, with the lever A, and the pawl W, and ratchet-segment A, of the spring-actuated extensible arm, the pivoted frame connected to the lever and carrying the said arm, and the socket-piece connected rigidly to the shaft carrying the pawl and forming a joint with the said arm, substantially as shown and described. 8th. The combination, of the perforated gasoline-distributing receptacle O, the heating or generating receptacle P, the casing H<sub>2</sub> and the burners Q, arranged between receptacle P, and casing H<sub>2</sub>, substantially as shown and described. 9th. The combination, of the distributing-receptacle O, the heating-receptacle P, supporting the receptacle O in its upper end, the rod or bolt P<sub>1</sub>, having plate P<sub>2</sub>, adapted to close the lower end of receptacle P and the nut P<sub>3</sub> receiving on said rod to bind said parts removably together, substantially as shown and described.

### No. 21,297. Car Coupling. (*Accouplage de Chars.*)

John D. Kiely, Toronto, Ont., 18th March, 1885; 5 years.

*Claim*—1st. In a car-coupling, and in combination with the draw-head A, the coupling-hood D and tongue F, pivotally hung upon a retaining bolt E common to both, such hook being adapted to engage with an entering link, substantially as described. 2nd. In a car-coupling, and in combination with the draw-head, a coupling-hook having a tongue, both hook and tongue being hung upon the same bolt, such hook being adapted to engage with an entering link by its own gravity, and to disengage therefrom by the action of the tongue, substantially as set forth. 3rd. In a car-coupling, and in combination with the draw-head A, a coupling-hood D, adapted to engage with an entering link to automatically lock itself in a coupled position, substantially as specified. 4th. In a car-coupling, the combination of the draw-head A, tongue F and bar G, with the means for actuating and locking the same, substantially as set forth. 5th. In a car-coupling, the combination of the draw-head A, provided with the flanges *d*, with a coupling-hook D, provided with the flanges *c*, substantially as and for the purposes described.

### No. 21,298. Fanning Mill. (*Tarare Cribleur.*)

Reuben W. James, Bowmanville, Ont., 18th March, 1885; 5 years.

*Claim.*—1st. In a fanning-mill, a reversible adjustable board sliding in grooves in hopper H, with lower movable piece *h*, in combination with bar A1 and thumb-screw A2, constructed as described and for the purpose mentioned. 2nd. In a fanning-mill, an agitator, composed of wooden frame T, loops T and metal prongs *t*, constructed as aforesaid, and attached to the shoe *t* and main frame *t*, by means of the pivoted arm *t* working in the slot *t* in the main frame of the mill, as specified. 3rd. In a fanning-mill, the hopper H, hopper-board *h* and agitator T, as specified, in combination with the upper screen I and air spaces *j*, in the manner and for the purpose specified. 4th. In a fanning mill, the hopper, hopper-board and agitator, as constructed, in combination with the upper screen I, air spaces *j*, the conductor for screenings P, holes *p*<sub>3</sub>, pipe *p*<sub>4</sub> and box D, in the manner and for the purpose specified. 5th. In a fanning-mill, the hopper H, hopper-board *h* and agitator T, constructed as specified, upper screen I, air spaces *j*, conductor for screenings P, holes *p*<sub>3</sub>, pipe *p*<sub>4</sub> and box D, in combination with either of the screws J or K, lower conducting screen L and trough M, the mill deriving its motion by means of the gearing R R<sub>1</sub> and R<sub>2</sub>, connecting-rod *r*, bell-crank *r*<sup>1</sup> and hook and eye attachment to the shoe, as fully described and specified. 6th. In a fanning-mill, the hopper H, hopper-board *h* and agitator T, constructed as specified, upper screen I, air spaces *j*, conductor for screenings P, holes *p*<sub>3</sub>, pipe *p*<sub>4</sub> and box D, in combination with the gang of sieves J and K, movable conducting trough N, screen F, inclined table *f*, box E and inclined table *g*, the mill deriving motion by means of the gearing R R<sub>1</sub> and R<sub>2</sub>, connecting rod *r*, bell-crank *r*<sup>1</sup>, and hook and eye attachment to the shoe, as fully described and specified. 7th. In a fanning-mill, the method of placing the shoe in position by means of horizontal side springs S, with notched end S<sub>1</sub>, bracket S<sub>2</sub>, horizontal bar S<sub>3</sub> and metal hangers S<sub>4</sub>, as fully described and specified. 8th. In a fanning-mill, the movable sections O and adjusting rods *o*, nuts *o*<sub>2</sub> and braces *o*<sub>3</sub>, in combination with the screws J and K and the main frame of the shoe. 9th. In a fanning-mill, a bag-holding attachment consisting of lower plate V, in combination with clamp V<sub>1</sub>, thumb-screw V<sub>2</sub>, curved elastic rod V<sub>3</sub>, with hook on one end and eye on the other, groove V<sub>4</sub> and screw V<sub>5</sub>, constructed as described and for the purpose specified. 10th. In a fanning-mill, the mode of constructing the trough M, with pivoted bottom board *q*<sub>1</sub>, pivot *q* and pins *q*<sub>2</sub>, as fully described and specified. 11th. In a fanning-mill, the extra pinion wheel R<sub>2</sub>, in combination with the pinion wheel R<sub>1</sub> on the main axle, and wheel R giving a shaking motion to the shoe by means of the adjustable connecting rod *r*, bell-crank *r*<sup>1</sup> and hook and eye attachment to the shoe, as fully described and specified. 12th. In a fanning mill, a bag-holding attachment, constructed as specified, in combination with trough M and other operative parts of a fanning mill. 13th. In a fanning-mill, the mode of constructing the screens with the plane surface *u* on the upper end, as fully described and specified.

### No. 21,299. Crushing Rolls for Ores, etc.

(*Cylindres pour Ecraser les Minerais, etc.*)

William H. H. Bowers, Salt Lake City, U. T., U.S., 19th March, 1885; 5 years.

*Claim.*—As an improvement in crushing-rolls, the combination, substantially as and for the purpose described, of two oppositely placed or opposing rolls, one of which is convex to its peripheral or acting face, and the other of which is correspondingly concave as to its peripheral or acting face, and both of which are isodiametric as to the central portions of their acting faces and travel at the same rate of speed, and means for occasioning the reverse rotation of the said two rolls.

### No. 21,300. Mop Wringer. (*Essoreuse de Torchon.*)

Charles E. Fell, Toronto, Ont., 19th March, 1885; 5 years.

*Claim.*—The combination of the base A, having slotted sides D, D<sub>1</sub>, carrying roller F, treadle H, having arms I, I<sub>1</sub>, carrying roller J, journaled through slots E of sides D, D<sub>1</sub> and a spring or springs to separate the rollers after depression of the treadle, as and for the purpose set forth.

### No. 21,301. Safety Attachment for Elevators. (*Appareil de Sûreté pour Ascenseurs.*)

Oliver S. Nowell, Boston, Mass., U.S., 19th March, 1885; 5 years.

*Claim.*—In an elevator, the combination of the hand lever L<sub>1</sub>, links L and E, with the lever E<sub>1</sub>, rocker-shaft H, clamping jaw H<sub>1</sub> and feed-ropes K, all operating together substantially as described and for the purposes set forth.

### No. 21,302. Car Wheel. (*Roue de Char.*)

George P. King, St. Thomas, Ont., 19th March, 1885; 5 years.

*Claim.*—1st. In an improved two-part car-wheel, the combination of the hub portion, provided with an annular shoulder *a*, and with the flange A extending therefrom, the rim portion provided with a corresponding shoulder *b*, corresponding flange B<sub>2</sub>, the packing interposed between the adjoining faces of the said flanges, and the annular retaining-plate disposed against the face of the wheel, substantially as and for the purpose set forth. 2nd. The combination, in an improved two-part car-wheel, of the separate hub and rim portions, provided with the annular shoulders bevelled at their inner ends, and with the disk or flanges provided with a straight annular edge forming the joint, and with the corresponding bevel, the packing interposed between the adjoining faces of these lapped flanges, the retaining-plate secured against the face of the wheel and the transverse bolt, substantially as and for the purpose set forth. 3rd. In an improvement in two-part car-wheels, the combination of the hub-section consisting of the bearing portion, the annular shoulder *a*, bevelled at its inner portion *a*<sub>2</sub>, and the disk or flange projecting from this shoulder and formed with the straight annular edge *a*<sub>3</sub>, bevelled at its inner side *a*<sub>4</sub>, the rim portion consisting of the tread, a corresponding bevelled shoulder and disk or flange projecting therefrom, and provided with the corresponding annular bevelled edge, the packing interposed between

the bevelled inner portions of the shoulders, the annular retaining-plate disposed against the face of the wheel and over the joint of the flanges and the transverse bolts, substantially as and for the purpose set forth.

### No. 21,303. Car-Coupling. (*Accouplage de Chars.*)

Clement Leidy and Charles E. Green, Angus, Ohio, U.S., 19th March, 1885; 5 years.

*Claim.*—1st. The combination, with the draw-head A, of the sliding block B, the hinged part E, and a tripping pin pivoted in the free end of the hinged part, and connected by a link to the draw-head, substantially as herein shown and described. 2nd. The combination, with the draw-head A, of the sliding block B, the hinged part E, having a slot H in its free end, the pin J, passed through the slot H, and pivoted in the same, and the link K, connecting the lower end of the pin J, with the draw-head, substantially as herein shown and described. 3rd. The combination, with the draw-head A, having longitudinal side slots D, of the sliding block B, provided with side pins C, the hinged part E, the pin J, passed through and pivoted in the slot H, in the piece E, and of the link K, connecting the lower end of the pin J with the draw-head, substantially as herein shown and described.

### No. 21,304. Friction Brake for Horse Powers. (*Frein à Friction pour Manèges.*)

Hubert Wagner, Sr., Burlington, Wis., U.S., 19th March, 1885; 5 years.

*Claim.*—1st. The combination, in a brake for Pitt's horse-power, of a friction-yoke B, and a friction-strap C, C, with friction-wheel A, being the method by which I obtain a double friction, all substantially as set forth. 2nd. In a brake for Pitt's horse-power, the combination of a perpendicular brake-rod D, with a screw cut on its end, which enters a screw-thread cut into a friction-yoke B, the brake-rod D, having two shoulders upon it, so as to prevent its working up or down upon being revolved, and the thread cut in such a manner that upon the brake-rod D being revolved, the friction-yoke will be forced down upon or lifted from the friction-wheel A, as substantially specified.

### No. 21,305. Planing Saw. (*Scie à Raboter.*)

Hiram Alley, Clifty, Ind., U.S., 19th March, 1885; 5 years.

*Claim.*—The above described improvement in saws, consisting in the planers B, formed of the saw blade between the teeth of the saw, and bevelled to face alternately in opposite directions, as shown and set forth.

### No. 21,306. Electric Power Distribution System. (*Système de Distribution de la Force Electrique.*)

Elihu Thomson, Lynn, Mass., U.S., 19th March, 1885; 5 years.

*Claim.*—1st. A system of motive-power transmission, comprising in combination upon the same circuit two or more generators and two or more motors, all in series with one another, switch devices for opening circuiting each generator, and means for shunting each generator and each motor. 2nd. A system of motive-power transmission comprising in combination two or more driven electric generators, and two or more motors or translators, coupled in series, as described, an automatic regulator for each generator, and an automatic governor for each motor that cuts down the strength of the motor's speed, field-magnet upon an increase of the motor's speed beyond a determinate point. 3rd. The combination upon one and the same electric circuit and in series with one another, of two or more electric generators each provided with a suitable current governor and two or more electric motors each provided with means for closing a shunt around its field upon an abnormal increase of speed. 4th. The combination upon one and the same circuit of two or more electric generators, two or more electric motors, means for varying the electromotive force of the current generated in accordance with variations in the current strength upon the main circuit and motor-governors for cutting down the effective magnetism of such motor when their speed increases to an abnormal extent. 5th. The combination upon one and the same electric circuit of two or more electric generators an automatic regulator for each generator that simultaneously shifts the commutator-brushes and decreases the field-magnetism upon an increase in the current upon the general circuit, supplied by the generators and two or more motors arranged in series with one another and with said generators each provided with a suitable automatic speed governor that shunts the field magnet of the motor upon an abnormal increase in the speed.

### No. 21,307. Combined Game Counter and Register. (*Compteur et Régistre de Jeu Combinés.*)

Adam Nicken, Buffalo, N.Y., U.S., 19th March, 1885; 5 years.

*Claim.*—1st. A game counter and register, consisting of a suitable frame, substantially as specified, provided with a series of movable buttons adapted to slide upon rods secured to the frame, for indicating the number of points scored for each party in a game, a series of buttons for indicating the numbers of games played, and a series of buttons for indicating the number of games lost for each person, as described. 2nd. A game counter and register, with a series of buttons of one colour, adapted to move on rods to and from a given point to indicate the points scored in a game by each person, in combination with a series of buttons of a different colour adapted to move on the same rods for indicating the games lost by each part, as specified. 3rd. A game counter, consisting of a table or frame *e*, a series of buttons *b*, *d*, adapted to slide along the wire *f*, to or from the stop *f*, in combination with the removable rods *c*, *g*, each having a series of buttons *b*<sub>1</sub>, *d*<sub>1</sub>, adapted to slide thereon to or from the stops *b*<sub>2</sub>, *d*<sub>2</sub>, as and for the purposes described. 4th. In a game

counter and register, having a series of buttons for indicating the number of points scored in a game by each person, the number of games played and the number of games lost by each and every person who may be playing, the combination, with an alarm or call bell connected to one end of the machine so as to be conveniently reached, of a series of buttons for indicating the number of games played, a series for indicating the number of games lost, and a series of buttons adapted to be moved along the rods *f*, substantially as and for the purposes described.

### No. 21,308. Shoe Lace Fastener.

(*Agrafe de Lacet de Soulier.*)

Charles J. Johnson, Lone Pine, Cal., U.S., 19th March, 1885; years.

*Claim.*—1st. A lace-fastener, consisting of a lever pivoted on a plate, and provided with one or more slots or apertures through which the lace can be passed, substantially as herein shown and described. 2nd. In a lace fastener, the combination, with a plate adapted to be fastened on the shoe, of a lever pivoted on the plate, and provided with one or more apertures through which the lace can be passed, and a latch for holding the free end of the lever to the said plate, substantially as herein shown and described. 3rd. In a lace-fastener, the combination, with the plate A, of the levers C, pivoted on the same and provided with an aperture J, and with a hook D on the free end, and of the hub E, pivoted on the plate A, substantially as herein shown and described. 4th. In a lace-fastener, the combination, with the plate A, having the transverse rib E, of the pivoted lever C, having an aperture J, hook D, and the ribs G, and of the link E, substantially as herein shown and described.

### No. 21,309. Steam Pump. (*Pompe à Vapeur.*)

Thomas Northey, Toronto, Ont., 19th March, 1885; 5 years.

*Claim.*—1st. In a steam-moved cylindrical valve B, of a direct and double acting pumping engine, the combination, with the valve chest A, the passage K communicating with ports and passages D, D<sub>7</sub>, and J, J<sub>7</sub>, below the central line, the exhaust port E, located within said passage K<sub>1</sub>, and communicating with the exhaust passage E<sub>1</sub>, the cavity M, connected with the passage K, by a passage O, said cavity having slits *d*, *d*<sub>1</sub>, and communicating with a cavity N, in the valve chest adapted to receive the starting a id guide lever L, the ports and passages H, H<sub>1</sub>, adapted to communicate with the ports and passages F, F<sub>1</sub>, and G, G<sub>1</sub>. 2nd. The combination of the cylindrical valve chest A, having the passages and ports J, J<sub>1</sub>, cavity N, lever L, bushing S and gland T, and having its wearing surface shortened by enlarging the bore at each end, the channels *c*, *ct*, grooves *b*, *b*<sub>1</sub>, and ridges *a* and *a*<sub>1</sub>, and provided with the exhaust passage E<sub>1</sub>, ports and passages D, D<sub>1</sub>, equalizing ports and passages G, G<sub>1</sub>, and small ports F, F<sub>1</sub>. 3rd. The combination of the passages K, ports D, D<sub>1</sub> communicating therewith, the exhaust port E, communicating with the exhaust passage E<sub>1</sub>, the ports and passages H, H<sub>1</sub>, communicating with the ports and passages F, F<sub>1</sub>, and G, G<sub>1</sub>. 4th. The combination of the cylinder C, having main ports and passages D, D<sub>1</sub>, with passages G, G<sub>1</sub>, starting therefrom respectively at a right angle, and with cushioning ports and passages R, R<sub>1</sub>, at the extreme ends of the cylinder, the ports and passages F, F<sub>1</sub>, crossing said main passages D, D<sub>1</sub> respectively, all the said passages communicating with corresponding passages in the valve chest. 5th. The combination of the cylinder C, fitted with light hollow piston P, and having main steam passages D, D<sub>1</sub>, with ports a little distance from the ends, and small cushioning ports R, R<sub>1</sub>, leading therefrom to the exhaust ends. 6th. The combination of the cylinder C, ports and passages D, D<sub>1</sub>, with cushioning ports and passages R, R<sub>1</sub>, and communicating through continuations of said passages in the valve chest with the steam passage K, and the exhaust port E, and by deviating passages G, and G<sub>1</sub>, with the ports H, H<sub>1</sub>, the small passages F, F<sub>1</sub>, having ports at such a distance from the cylinder ends as to be cleared by the piston when near the end of its stroke said passages communicating with the ports H, H<sub>1</sub>. 7th. The combination of the cylinder C, fitted with hollow and light piston P, the valve chest A, upon the cylinder and the balance valve 3 therein having steam passage K, exhaust port E, ports and passages H, H<sub>1</sub>, and communicating with ports and passages D, D<sub>1</sub>, G, G<sub>1</sub> and F, F<sub>1</sub>, and steam passages J, J<sub>1</sub>, and guided and started by suitable mechanism. 8th. A pump case 2, having barrel chamber holding pump barrel 1, a suction cavity 8, between and communicating by passages 10, with two suction valve chambers 7, the delivery valve chambers 11, immediately above the suction valve chambers, tapering passages 9, 6<sub>1</sub>, from the pump barrel chambers to the suction valve chambers, tapering passages 14, to the discharge chamber 13, surmounted by an air vessel 32. 9th. A pump case 2, having barrel chamber containing pump barrel 1, tapering passages 6, 6<sub>1</sub>, at each end leading to suction valve chambers 7, 7<sub>1</sub>, past guide ridges 26, delivery valve chambers 11, above the chambers 7, and openings closed by screw plugs above the chambers 11, the tapering passages 14, from the latter to the discharge chamber 12, with discharge openings 13, a suction cavity 8, between and immediately adjoining the valve chambers and communicating with the lower chambers by suitable passages. 10th. The combination of the pump barrel 1, screw in the centre, and screwed eccentrically in a central partition 3, in the barrel chamber, and its end supported in guide stays 4, 4<sub>1</sub>, bored to receive the turned ends and secured relatively by a slide block 5, and screw 5<sub>1</sub>, passing partly through said block and through the flange of the barrel. 11th. In a pump case, a suction cavity adjacent to and between the valve chambers. 12th. In a pump case, the wide mouthed chambers and tapering and easily curved passages and approaches thereto, in combination with the suction chamber 7, and air vessel 32. 13th. In a valve, the combination of a seat 15, having concentric knife edge ridges 23, and 24, and short ridges 22, on the bars supporting a light disk held by spiral springs 17. 14th. In a direct double acting steam pump, the combination of the valve chest A, rake B, and cylinder C constructed with ports and passages, as described, and fitted with light piston P, the pump piston 20 on the same piston rod and working in a barrel 1, secured in a pump case 2, constructed with suction cavity between valve chambers tapering passages enclosed by interchangeable side plates and provided with air vessel, all substantially as described and for the purpose set forth.

**No. 21,310. Zig-zag Fence.** (*Clôture en Zig-zag.*)

Robert M. Anderson, Edwardsburgh, Ont., 19th March, 1885; 5 years.

*Claim.*—1st. In combination with the rails of a zig-zag fence, the wire A, inserted under the ground rail, and passing over the top rail, and tied to a lower rail, to relieve the tie knot of strain in stretching the wire, as set forth. 2nd. In combination with the rails of a zig-zag fence, the wire A inserted under the ground rail, then threaded in and out between alternate rails, then passing over the top rails and tied to a lower rail, to bind the corners and relieve the tie knot of strain when tightening the wire, as set forth.

**No. 21,311. Guide Setter for Sewing Machines.** (*Clé de Guide pour Machines à Coudre.*)

Cornelia T. Freeman, Elizabeth, N.J., U.S., 19th March, 1885; 5 years.

*Claim.*—1st. The guide setting plate C, formed with opening c, and having the graduations d, formed upon its upper surface, in combination with the guide plate E, having the slot e, and screw D, for securing the plates C, and E, upon the clothe plate A, of a sewing machine, substantially as described. 2nd. The combination, with the plate C, having the graduations d, of the pointer F, pivoted to the plate C, substantially and for the purposes set forth. 3rd. The plate C, formed with the stud f, and graduated at d, in combination with the guide E, and pointer F, arranged substantially as and for the purposes set forth.

**No. 21,312. Friction Railroad Car Brake.**(*Frein de Char de Chemin de Fer.*)

Samuel Hicks, Columbus, Ont., 19th March, 1885; 5 years.

*Claim.*—1st. A gear wheel C, revolving, loosely upon the shaft D, and deriving motion from the gear-wheel A fixed to the car axle B, in combination with the friction disk F, adjustably keyed to the shaft D and operated by the lever G, which is connected by the rod H to the lever I, deriving motion from the compression of the draw-head K, substantially as and for the purpose specified. 2nd. A push-bar J attached to the draw-head K, and having a shoulder b designed to come in contact with the lever I, in combination with the lever G, friction disc F, shaft D and brake chain E, arranged substantially as and for the purpose specified. 3rd. The pivoted lever O, provided with a dog P designed to be actuated by the lug f, in combination with a push-bar J, substantially as and for the purpose specified.

**No. 21,313. Safety Guard for Eccentric Rods.** (*Garde de Sureté pour Barres d'Excentriques.*)

William H. Diffenderfer, Middletown, Penn., U. S., 19th March, 1885; 5 years.

*Claim.*—1st. The combination, with the eccentric rods of a locomotive steam engine, of a safety guard, constructed substantially as described, whereby the rods are allowed free play through the slots or bifurcations thereof, without being supported thereby, but held suspended immediately on becoming disconnected from their fastenings, substantially as and for the purpose set forth. 2nd. A safety-guard for the eccentric rods of locomotive engines, constructed substantially as described, whereby it will form a support for the rods when they become disconnected from their fastenings, substantially as and for the purpose specified.

**No. 21,314. Valve for Wind Instruments, such as Cornets.** (*Valve pour Instruments à Vent, tel que Cornets.*)

Enoch Armitage and John F. Robinson, Liverpool, Eng., 19th March, 1885; 5 years.

*Claim.*—1st. In a musical instrument, such as a cornet, a slide valve with flat faces at right angles to each other, substantially as described. 2nd. In a musical instrument, such as a cornet, a slide valve sliding in a rectangular valve chamber, provided with inlet and outlet branches directly opposite each other, substantially as described. 3rd. In a musical instrument, such as a cornet, a slide valve sliding in a rectangular valve chamber, provided with tuning pipes at the side, into which the air is diverted when the key is depressed, substantially as described. 4th. In a musical instrument, such as a cornet, a slide valve with flat faces at right angles to each other, in combination with a valve chamber having inlet and outlet branches directly opposite each other, and an inlet and an outlet to a tuning tube, substantially as described. 5th. In a musical instrument, such as a cornet, provided with one or more slide valves with flat faces, a valve chest having hollow projections for the attachment of the tuning tubes, substantially as described. 6th. In a musical instrument, such as a cornet, the combination of one or more double slide valves, with faces K and L, a rectangular valve chamber, an inlet D, an outlet E and attachments F, F<sub>1</sub>, for the tuning tubes, substantially as described and illustrated.

**No. 21,315. Rubber Shoe Fastener.**(*Agrafe de Soulier de Caoutchouc.*)

John A. Kesse, Buffalo, N.Y., U.S., 23rd March, 1885; 5 years.

*Claim.*—1st. An elastic band or cord, having a metallic hook or connecting portion secured to each end, substantially as and for the purposes described. 2nd. An elastic band or cord, having a metallic hook or connecting portion at each end, in combination with a plate provided with an eye for engaging with the hook portions, and adapted to be readily attached to a rubber shoe, substantially as and for the purposes described.

**No. 21,316. Burial Vault.** (*Caveau Funéraire.*)

William Corbett, Smith's Falls, Ont., 23rd March, 1885; 5 years.

*Claim.*—1st. The burial vault herein shown and described, consisting of the wooden box A, the wooden lid B, the iron sheeting C, D, E, the self locks F, G, G, the cross bars H, H, the pin I, the hinges J, J, and the springs K, K, arranged substantially as described. 2nd. In combination, with the box A and the lid B, the iron sheeting C, D, E, the self locks F, G, G, the cross bars H, H, the pin I, the hinges J, J, and the springs K, K, all arranged to operate substantially as described.

**No. 21,317. Machine for Washing Clothes.**(*Machine à Laver le Linge.*)

William Hager, Hagersville, Ont., 23rd March, 1885; 5 years.

*Claim.*—1st. The combination of the wash tub A, and the wash bars J, substantially as and for the purpose hereinbefore set forth. 2nd. The combination with the wash tub A, and wash bars J, of the levers G, connecting rods H, pendulums C, beaters D<sub>1</sub>, with the springs S, substantially as and for the purpose hereinbefore set forth.

**No. 21,318. Machine for Forming and Stamping Loops for Harness.** (*Machine pour Façonner et Etamper les Ganses des Barres de Harnais.*)

Charles Pélassier, Concord, N.H., U.S., 23rd March, 1885; 5 years.

*Claim.*—1st. In a press, constructed substantially as described, having a vertical screw-shaft H, follower K and bed A, the chamber A<sub>1</sub>, air-vent a<sub>2</sub> and transverse slot a<sub>1</sub>, as and for the purpose specified. 2nd. In a press, constructed substantially as described, having a vertical screw-shaft H, the horizontal screw-shafts D, rotated simultaneously by means of the gears M, M, pinions P, P, and shaft Q, operating in the manner and for the purpose set forth. 3rd. In a press, having a vertical screw-shaft H, follower K and horizontal screws D, the combination of the die-plates T, U, and blocks W, with the screws D, all constructed and operating substantially as described and for the purpose set forth. 4th. In a press, having a vertical screw H, follower K and horizontal screw D, the combination of the dies T, U, end blocks V and blocks W, having spring X, all constructed and operating, substantially in the manner and for the purpose set forth.

**No. 21,319. Jib Furler.** (*Raban de Ferlage.*)

William P. Cutler and Alexander M. Cutler, Bath, Me., U. S., 23rd March, 1885; 5 years.

*Claim.*—1st. The combination, with the jib sail of a vessel, of a line connecting the upper end thereof with the vessel, thence passing through a pulley on the bowsprit through guides on the sail to a point near the upper end of the sail, and connecting such point of the sail with the bowsprit, substantially as set forth. 2nd. In a jib down-haul and furler, a toggle, consisting of two sections, each having an eye at its end, one of said sections being interiorly threaded, while the other is exteriorly to engage the same, substantially as set forth. 3rd. The combination, with the gib-sails, of toggles arranged near the middle of the same, bull's eyes arranged near the upper end of the sails and furling-ropes for lowering, furling and securing sails, substantially as set forth. 4th. The combination, with the gib-sails, of toggles arranged near the middle of the same, bull's eyes arranged near the upper ends of the sails, and a rope connected to the upper end of the flying gib, passing through a pulley secured to the bowsprit, thence through the toggles and bull's eyes of both sails, as described, and through a block or pulley, as set forth. 5th. The combination, with a sail and with the re-enforcing strips, of the toggle passing through said strips and sail and having an eye at each end, and consisting of two sections adapted to be secured together, substantially as set forth. 6th. The combination, with a sail, having guides or toggles projecting at each side, of a furling line passing over the sail, near or at its upper end and extending down each side the sail and through the guides, substantially as set forth.

**No. 21,320. Steam Gauge Cock.**(*Robinet de Manomètre.*)

John H. Lucas, William Farquharson, Salamanca, and William Boyden, Hornellsville, N.Y., U.S., 23rd March, 1885; 5 years.

*Claim.*—1st. In a gauge-cock, the combination, with a hollow screw-threaded stem, of a valve-spindle formed in two sections, adapted to be connected or disconnected from each other, one of said sections having a hemispherical formed valve, substantially as and for the purpose set forth. 2nd. In a gauge-cock, a hollow screw-threaded stem having an enlarged bore at its outer extremity, a stuffing-box and packing secured thereto, in combination with a valve-spindle carrying a hemispherical valve, said spindle being formed in two sections adapted to be connected or disconnected from each other, and the outer section having a circumferential flange cast thereon, and a loosely-fitting ring, substantially as and for the purpose specified.

**No. 21,321. Combined Air Pressure Apparatus and Refrigerator.** (*Appareil à Pression Atmosphérique et Glacière Combinés.*)

Christian Heintz, (Assignee of George M. Heintz,) Buffalo, N.Y., U. S., 23rd March, 1885; 5 years.

*Claim.*—1st. In a refrigerator, the process of lowering the temperature of the admitted air, which consists of forcing, from a water or compressing chamber, air into a refrigerant air-chamber, and returning the air thus lowered in temperature to said water-chamber, and in passing said additionally-cooled air through a pipe into the ice-chamber, substantially as described and for the purpose set forth.

2nd. The air-tank C, placed in the refrigerator A, and connected with the water-tank B, in combination with the pipe I, leading from the tank B to the refrigerator, for discharging a current of air into the refrigerator and cooling the compressed air in the tank C, substantially as set forth. 3rd. In a refrigerator, the process of lowering the temperature of the admitted air, which consists of forcing air from a water-chamber into a refrigerant air-chamber, and causing the cooled air of the refrigerant air-chamber to act in conjunction with the cooling agent of the water-chamber, to further lower the temperature of the air of said water-chamber, substantially as described and for the purpose set forth. 4th. The air-chamber C, located within the ice-chamber, provided with a pipe F, leading to the beer-chamber and having a cock c, in combination with a water chamber B, connected to the air-chamber C, within the ice-chamber, by a pipe having a stop-cock, the water-chamber being also provided with a pipe leading to the water-head and having a stop-cock, substantially as and for the purpose described. 5th. The combination of the air-chamber C, located within the refrigerator, its pipes and stop-cocks connecting it with the beer-chamber with a water-vessel B, a pipe and stop-cocks for connecting the air and water-vessels, and an automatically-acting valve operated by a float, the water-vessel being provided with inlet and outlet pipes and stop-cocks, substantially as and for the purposes described.

### No. 21,322. Churn. (*Baratte.*)

John B. Webster, Petitcodiac, N.B., 24th March, 1885; 5 years.

*Claim.*—1st. In a churn, the combination of perforated dashers D, and E, provided with the vertical wings, shown in Fig. 2, and arranged to be rotated in opposite directions around a common centre, with the bevel wheel e, and the pinions d and g, substantially as shown and described. 2nd. The combination of the adjustable churn barrel A, perforated winged dashers D, and E, attached respectively to the stems F, and G, with the base B, and the frame C, supporting the driving gear wheel e, with its shaft f, and hand crank h, substantially as herein shown and described.

### No. 21,323. Waterproofing Compound.

(*Composition Hydrofuge.*)

David Blackburn, Montreal, Que., 26th March, 1885; 5 years.

*Claim.*—A compound for rendering waterproof, canvas, cotton, linen and all other cloths and textile materials, which compound consists of glue, soap, sieze, flour, salt, alum-water and paint, in the proportions described and according to the process above set forth.

### No. 21,324. Fifth-Wheel for Vehicles.

(*Rond d'Avant-train pour Voitures.*)

Rowe Brothers, (Assignees of Elmer E. Rowe,) Ellsworth, Me., U.S., 27th March, 1885; 5 years.

*Claim.*—1st. In a fifth-wheel for vehicles, the stop or cheek C, formed integral with, or attached by screw bolts, or in any suitable manner to the underside of the upper ring A, of the fifth-wheel. 2nd. In a fifth-wheel for vehicles, the stop or cheek C, formed integral with, or attached by screw bolts, or in any suitable manner to the underside of the upper ring A of the fifth-wheel, and having the angularly-pointed ends c, c, or re-entrant angular notches c, c, shaped to fit into, or receive the re-entrant angular notches b<sub>1</sub>, b<sub>1</sub>, or angularly-pointed ends b, b, of the segments B, B. 3rd. In a fifth-wheel for vehicles, the combination of the upper ring A, segments B, B, of the lower ring formed either with or without the angularly-pointed ends b, b, or re-entrant angular notches b<sub>1</sub>, b<sub>1</sub>, and stop or cheek C, formed either with or without the re-entrant angular notches c, c, angularly-pointed ends c, c.

### No. 21,325. Boots and Shoes. (*Chaussures.*)

The Indestructible Boot Sole Company, (Assignee of Joseph Borrett,) London, Eng., 27th March, 1885; 5 years.

*Claim.*—1st. The combination, with a leather or other outer sole for boots and shoes, of a metal plate or skeleton frame of smaller size than the sole in which it is embedded, a margin or border of the sole being left all round the said metal plate or skeleton frame, as and for the purposes hereinbefore described and represented in the accompanying drawing. 2nd. A boot or shoe having a sole, such as that hereinbefore described and represented in the drawing. 3rd. The combination, with a sole, such as that described, for boots or shoes, of headed pins, as hereinbefore described and represented in figure 5 of the drawing.

### No. 21,326. Spring for Keeping Pittman off Dead Centres. (*Ressort pour Empêcher les Manivelles d'Arrêter aux Pointes Mortes.*)

The Van Allen Motor Company, Toronto, Ont., (Assignee of Charles A. Van Allen, Montreal, Que.,) 27th March, 1885; 5 years.

*Claim.*—1st. The combination, with a compound spring adapted to throw a pitman off its dead centres, substantially as described, of devices for connecting said compound spring with the pitman and some stationary part of the machine, whereby the spring can be applied to machines of various construction. 2nd. The combination, with a compound spring, adapted, substantially as described, to throw a pitman off its dead-centres, of an attaching device adapted to be secured to the pitman and constructed so that one end of the compound spring can be adjustably connected with said attaching device, whereby tension upon the upper spring coil can be regulated, for the purpose set forth. 3rd. The combination, with the herein-described compound spring adapted to throw a pitman off its dead-centres, of an attaching device, which is adapted to be secured in a position upon the pitman, and provided with a swivel to which one end of the compound spring is adjustably connected, substantially as set forth. 4th. The combination, with a compound spring adapted substantially as described, to throw a pitman off its dead-centres, of an attaching

device for the lower end of the spring adapted to be secured to some stationary part of the machine and adjusted so as to bring the spring in proper position relatively to the pitman, substantially as and for the purpose set forth. 5th. The combination, with the herein-described compound spring, adapted to throw a pitman off its dead-centres, of the attaching device consisting of a clamp G, carrying an adjustable slotted plate with which the lower end of the compound spring is connected, substantially as described. 6th. The combination, with the herein-described compound spring, connected with the pitman and some stationary part of the machine, of the link connecting the two spring arms at points near the middle coil, for the purpose set forth.

### No. 21,327. Back Stop for Sewing Machines.

(*Frein pour Machines à Coudre.*)

The Van Allen Motor Company, Toronto, Ont., (Assignee of Charles A. Van Allen, Montreal, Que.,) 27th March, 1885; 5 years.

*Claim.*—1st. A vibratory back-stop, for the hand wheel of sewing machines, having an axial adjustment independent of its pivot, and arranged so as to be adjusted at various angles, whereby it can be set for wheels of various heights or diameters, substantially as described. 2nd. A vibratory back-stop for the hand-wheels of sewing machines carried by a support which is adjustably secured upon the machine, substantially as and for the purposes described. 3rd. The vibratory back-stop lever pivoted in a hood and having at one end an elastic shoe and at its opposite end a finger which projects from the hood, whereby the lever can be operated by hand when it is desired to allow the hand-wheel to be turned back, substantially as described. 4th. The hood carrying a vibratory back-stop lever and adjustably connected with a support by means of a pawl and ratchet, and means for securing said members in their adjustment, substantially as described. 5th. The standard supporting a back-stop mechanism, and provided with a slotted base, which is adjustably secured by a set screw to a plate adapted to be secured to a machine-table, substantially as described. 6th. A back-stop mechanism for sewing machines, adjustably secured upon a standard, which is in turn adapted to be adjustably secured upon a machine-table, substantially as described.

### No. 21,328. Pantaloon Suspender. (*Bretelles.*)

Eliza A. Brown, (Assignee of Alfred Brown,) Ottawa, Ont., 27th March, 1885; years.

*Claim.*—1st. The herein-described suspenders, consisting of collar A, two front and two rear straps B, C, and cords or runners D, loosely connecting said straps, all substantially as shown and described. 2nd. In a pair of suspenders, the combination of two front and two rear suspending straps loosely connected, and a collar A secured to said strap, substantially in the manner shown. 3rd. In a pair of suspenders, the combination of collar A, straps B, C, attached to said collar and provided with eyes b, at their lower extremities, and cords or runners D, connecting said straps, provided with loops d, and passing loosely through thereof, as and for the purpose set forth. 4th. In a pair of suspenders, the short waist strap E, attached at both ends to the coils or runners D, D, by buttons or rings F, F, as shown and described for the purpose set forth.

### No. 21,329. Spring Harrow Tooth.

(*Dent de Herse Elastique.*)

Thomas G. Cook, Brockville, Ont., 27th March, 1885; 5 years.

*Claim.*—1st. The spring tooth-holder B, circularly curved at one end, and outwardly bent at the opposite end, for attachment to a harrow frame and for clamping tooth A adjustably, as set forth. 2nd. The combination of the spring tooth A, and spring tooth-holder B, having coinciding serrated curves clamped together, whereby the heel of the tooth is adjustable around the circular curvature of the holder, and the holder yields to the resistance of the tooth, as set forth, for the purpose described. 3rd. The combination of the curved spring tooth A, having an arc-curve slotted longitudinally at the heel, spring tooth-holder B, having a circular curve at one end, slotted longitudinally and bent outwardly at the opposite end, block C conforming to the inner arc of tooth holder B, curved plate D, conforming to the outer arc of the curved heel of tooth A, and bolt E, as set forth, whereby the heel of the tooth and the free end of the holder are re-inforced and clamped, as set forth.

### No. 21,330. Hay Tedder. (*Fanneuse.*)

John Skinner, Flint, Mich., U.S., 27th March, 1885; 5 years.

*Claim.*—1st. In a hay-tedder, the combination of the bars H pivoted to the frame, and a crank-shaft or shafts adapted to be rotated by the travel of the wheels and journaled in boxes upon the ends of said bars, whereby said shafts and bars have a yielding movement independent of the frame, substantially as described. 2nd. In a hay-tedder, the means for adjusting the elevation of the operating parts, consisting of the bars I, J, rods P and posts O, constructed, arranged and operating substantially as and for the purposes set forth. 3rd. In a hay-tedder, the combination of the crank-shaft F, and G, bars H, I, J, and axle A, wheels B, and gears D, E, substantially as specified. 4th. In a hay-tedder, in combination with the forks K, the arms L, and spring rods d, pivoted to the upper ends of the forks, substantially as set forth.

### No. 21,331. Scraper and Elevator.

(*Grattoir et Elevateur.*)

Titus H. Apple, Meadville, Penn., U.S., 27th March, 1885; 5 years.

*Claim.*—1st. The combination, in a combined scraper and elevator, of the right-angled lever L, with one arm connected to a clutch-face L, engaging with a clutch-face K<sub>1</sub>, of the wheel upon one end of the front axle or shaft, the other arm of said lever passing through a standard b<sub>1</sub> of the machine, and connected to a lever i<sub>3</sub>, connecting with the opposite clutch-face L<sub>2</sub>, engaging with the clutch-face K<sub>2</sub>,



of the wheel K, upon the opposite end of said axle or shaft, spring *m*<sup>1</sup>, bearing against a collar *m*<sup>2</sup>, of lever *l*, and against said standard *h*, and the hand lever *k*, pivoted upon a second standard *h* of the machine, and connected to the lever *l*, substantially as and for the purpose set forth. 2nd. In a combined scraper and elevator, the combination of the right-angled lever *l*, with one arm connected to a clutch face *L*, engaging with a clutch-face *K*<sup>1</sup>, of the wheel K, upon one end of the front axle or shaft, the other arm of the said lever passing through a standard *h* of the machine, and connected to a lever *l*, connecting with the opposite clutch-face *L*, engaging with the clutch face *K*<sup>1</sup>, of the wheel K, upon the opposite end of said shaft or axle, spring *m*<sup>1</sup>, bearing against a collar *m*<sup>2</sup> of said lever *l*, and against said standard *h*, and hand-lever *k*, connected to lever *l*, and pivoted upon a second standard *h* of the machine, said latter standard having a spring *m* to receive the lever *k*, substantially as set forth. 3rd. The combination, with a vehicle, of an elevator pivoted on the same, the arms *E*, projecting from the lower end of the elevator trough, the shaft *F*, journalled in the arms *E*, the sprocket wheels K, F, and P<sup>1</sup>, on the shaft *F*, the sprocket wheels C<sup>1</sup>, on the driving shaft, driving chains passing over the sprocket-wheels C<sup>1</sup>, and the sprocket wheels K, an elevator belt operated from the sprocket wheels F<sup>1</sup>, and a revolving brush operated from the sprocket wheel P<sup>1</sup>, substantially as herein shown and described. 4th. The combination, with a vehicle, of an elevator having an endless belt of curved blades or scrapers *I*<sup>1</sup>, a transverse trough at the upper end of the elevator, an elevator belt in the said transverse trough, said belt having a series of curved blades or scrapers *S*<sup>2</sup>, *S*<sup>2</sup>, and of a belt *R*<sup>2</sup>, on the bottom of the said trough, said belt *R*<sup>2</sup>, having a series of slats *r* engaged by the blades *S*<sup>2</sup>, to impart movement to the belt *R*<sup>2</sup>, substantially as herein shown and described. 5th. The combination, with a vehicle having spiked wheels, of a toothed plate *h*, adapted to be pressed against the wheels, for the purpose of scraping their rims, substantially as herein shown and described. 6th. The combination, with a vehicle having spiked wheels, of the toothed plate *h*, the lever *n*, and the connecting rod *j*, for pressing the toothed plate against the rims of the wheel, substantially as herein shown and described.

### No. 21,332. Washing Machine.

(*Machine à Laver.*)

Brooks Walton, Listowel, Ont., 27th March, 1885; 5 years.

*Claim.*—1st. In a washing machine, the hollow cylindrical rubber roller C, with bulbs at intervals on its outer surface, and circumference, as hereinbefore shown and described for the purpose set forth. 2nd. The combination, in a washing machine, of the bulbed rubber roller C, with the fluted revolving roller B, as hereinbefore shown and described for the purpose set forth.

### No. 21,333. Fire-Extinguishing Compound.

(*Composition pour Eleindre les Incendies.*)

John M. Giblin, Sheboygan, Wis., U.S., 28th March, 1885; 5 years.

*Claim.*—A fire-extinguisher consisting of a closed vessel of glass, or analogous fragile material, containing sulphurous oxide liquified by previous cold and pressure, substantially as set forth.

### No. 21,334. Fire Extinguishing Compound.

(*Composition pour Eleindre les Incendies.*)

John M. Giblin, Sheboygan, Wis., U.S., 28th March, 1885; 5 years.

*Claim.*—1st. A fire extinguishing compound, consisting of sulphurous oxide, dissolved in an ammoniacal liquid in a closed vessel, substantially as set forth. 2nd. A fire extinguisher, consisting of a tightly closed vessel of fragile material, containing sulphurous oxide dissolved in an alkaline liquid, substantially as set forth.

### No. 21,335. Hand Press. (*Presse à Main.*)

Henry F. Osborne, Newark, N. J., U.S., 28th March, 1885; 5 years.

*Claim.*—1st. The combination, with the receiver and pressor, of means, substantially as described, for pressing them together, substantially as and for the purpose set forth. 2nd. The combination, of a receiver having corrugations *a*, a presser having corrugations *b* and provided with handle *F*, and means, substantially as described, for pressing them together, as and for the purpose set forth. 3rd. The combination, with the frame C, provided with screw D, of the removable receiver A, provided with means to hold it from turning in the frame, and a removable presser B, provided with a handle for oscillating it, substantially as shown and described.

### No. 21,336. Hay Press. (*Presse à Foin.*)

Eugen Prengel, New Westminster, B. C. 28th March, 1885; 5 years.

*Claim.*—1st. In a hay press, an endless rectangular-shaped hollow receptacle in which the hay is compressed, and the sides of which are composed of parallel horizontal slats with spaces between, and the top and bottom of which are solid, all of which are secured in place by means of upright and horizontal pieces and bolts, substantially as and for the purpose set forth. 2nd. In a hay press an L-shaped piece of iron fastened to the upper side of the feed box and to the loose side of which is secured, by means of eyes, two rods of iron, which are fastened to a double steel spring, substantially as and for the purpose shown and set forth. 3rd. In a hay press, a feed-box provided with an L-shaped piece of iron hinged to the upper part, and two pairs of hinged catches at the sides, each pair of catches being connected with, and actuated by, a double steel spring at the outside of the feed-box, and the L-shaped piece of iron being connected with, and actuated by a double steel spring at the top of the feed-box, all substantially as shown and for the purpose set forth. 4th. In a hay press, an alarm bell fastened to the outside of the press, and actuated by means of a spring, and a projection placed in the follower, substantially as and for the purpose shown and set forth. 5th. In a hay press, a follower composed of a solid middle piece, to each side of which are fastened parallel horizontal bevelled slots with spaces be-

tween them, substantially as and for the purpose shown and set forth. 6th. In a hay press, the combination of an upright fastened near the centre of the bottom or bed-plate, and a cross piece on top, and stray rods or braces extending to either end of the machine, substantially as and for the purpose shown and set forth. 7th. In a hay press of the described class, the combination of a horse-power composed of a crank-shaft, to the end of which is secured a top plate provided with opposite upwardly projecting lugs and a collar, all securely fastened together, and a loosely fitting sweep, all held in place and secured to the bottom by means of a suitable frame work, and an endless rectangular receptacle in which the hay is composed and the bales found, provided with slotted sides and a top, which is hinged at one end and free to move up and down at the other, all being held in shape by suitable upright and horizontal pieces and bolts, and all being secured to the bottom or bed-plate of the press, and which forms the bottom of the receptacle and a feed-box, over which is a suitable hopper and provided with an L-shaped piece of iron at the top, which is connected with, and actuated by a double steel spring and two pairs of hinged catches at the sides connected with, and actuated by two double steel springs at the sides of the box, and in which works a plunger provided with a slotted head and a table on top, and connected with the crank-shaft of the horse-power by means of a pitman, and an upright secured to the bottom or bed-plate of the press and to the top of which is fastened a cross piece, and from which extends stay-rods or braces to the ends of the machine, and a bottom or bed-plate, all being secured together substantially as and for the purpose shown and set forth.

### No. 21,337. Driving Gate. (*Barrière Mécanique.*)

John O'Neill, Pakenham, Ont., 28th March, 1885; 5 years.

*Claim.*—1st. In a gate, the levers D, having slot D<sup>2</sup>, lever D<sup>1</sup>, provided with a pin, both pivoted to the cross-tree E<sup>1</sup> of post E and gate X, substantially as and for the purpose hereinbefore set forth. 2nd. The post E, having cross-tree B<sup>1</sup>, rods C and B, latch A, levers D and D<sup>1</sup> and gate X, substantially as and for the purpose hereinbefore set forth. 3rd. The latch A, rods B and C and slotted latch-keeper F, substantially as and for the purpose hereinbefore set forth. 4th. The combination, in a gate, of the levers D and D<sup>1</sup>, cross-tree E<sup>1</sup>, post E, rods B and C, latch A and latch-keeper F, substantially as and for the purpose set forth.

### No. 21,338. Gas Burner. (*Bec à Gaz*)

William M. Puller and George B. Hance, Toronto, Ont., 30th March, 1885; 5 years.

*Claim.*—A gas burner having a bridge B, arranged to separate the portions of the burner marked A and C, in combination with a tube D, arranged to connect the two portions mentioned of the burner, and be in proximity to the flame of the burner.

### No. 21,339. Fire Escape. (*Sauveteur d'Incendie.*)

Laura A. Gott, La Grange, Ohio, U.S., 30th March, 1885; 5 years.

*Claim.*—1st. In a fire-escape, a frame or cage suspended by a coiled spring secured to an axle provided with a crank, by means of which persons may lower themselves from a building, and so arranged that the device will be raised to the starting-point by the recoil of the spring, substantially as set forth. 2nd. In a fire-escape, the combination, with the frame A, the shaft B and attached sprocket drum and cranks, of the spring D provided with slots adapted to engage the said sprockets, substantially as set forth.

### No. 21,340. Composition for Fire-Proof Pottery. (*Composition à Poterie Rétractaire.*)

Edward F. Zinns, Milwaukee, Wis., U.S., 30th March, 1885; 5 years.

*Claim.*—The composition for pottery, etc., consisting of alumina; silica, magnesia, potters, clay, and graphite in about the proportions stated, when mixed and treated substantially as and for the purpose set forth.

### No. 21,341. Hand Fire Extinguisher.

(*Extincteur d'Incendie à Bras.*)

George L. Chapin, Chicago, Ill., U.S., 30th March, 1885; 5 years.

*Claim.*—1st. In hand tubes, for holding and throwing a fire extinguishing fluid onto fires, the metal tube A, combined with a frangible stopper or frangible and wood stopper at one end, to hold the fluid in the tube and liberate it by the breakage of the frangible stopper, as specified. 2nd. The tube A, combined with the tapering tube B and stopper C rimmed out at F, as specified. 3rd. The tube A combined with the wood stopper C, glass or other frangible nipple B and the hole *a* in the stopper, as specified.

### No. 21,342. Conveyer Apparatus.

(*Commissionnaire Mécanique.*)

George C. Blickensderfer and Harvey Smith, Erie, Penn., U.S., 30th March, 1885; 5 years.

*Claim.*—1st. In a conveyer apparatus, substantially as shown, the combination, with a continuous taut wire track, which passes curves or corners by angular bends of a curved track, formed of another piece of metal and adjusted with relation to the main wire, substantially as shown, so as to form a continuous, properly curved track. 2nd. In a conveyer apparatus, substantially as shown, the combination, with a continuous taut-wire track, which passes curves or corners by angular bends, and a separate curved track, of an iron, forming a connection for said curved track upon said main track, through which the said main track is deflected downward, so as to allow the curved track to lie in the plane of the main track, substantially as set forth. 3rd. In a conveyer apparatus, substantially as shown, the combination, with the curved track A<sup>1</sup> and the main track A, of the

connecting iron R or T, which connects both tracks and deflects the main track below the end of the curved track, substantially as and for the purposes mentioned. 4th. In a conveyer apparatus, substantially as shown, a car having thereon a running gear for running on the direct line of track, which is provided with means, substantially as shown, whereby the wheels thereof may be tripped or thrown out of operative position, for the purposes mentioned. 5th. In a conveyer apparatus, substantially as shown, the combination, with the main or direct track, of a switch track, the point of which lies in a substantially vertical plane with main track, and a car having two sets of wheels, arranged one set above the other, substantially as and for the purpose mentioned. 6th. In a conveyer apparatus, substantially as shown, the combination, with a main or direct track and a switch or side track, the latter of which has its point lying in a substantially vertical plane, with the said direct track, of a car having two sets of wheels, arranged one above the other, one of which sets is designed to traverse the main track, and is so adjusted as to be thrown out of position for use, and the other set is designed for use upon the switch-track, when the said main wheels have been thrown out of position for use. 7th. In a conveyer apparatus, substantially as shown, the combination, with the tracks B and C and finger *b*, of the main car-wheel *a*, cross-bar *n*, pivoted catch-bar P, spring-bolts *p*, *p*<sub>5</sub>, spring *p*<sub>2</sub> and the wheels O. 8th. In a conveyer apparatus, substantially as shown, the combination, with the tracks B and C, arranged relatively, substantially as shown, and a car, substantially as described, of the hanger *d* and guides *d*<sub>1</sub>, *d*<sub>2</sub>, arranged as shown and for the purposes mentioned. 9th. In a conveyer apparatus, substantially as shown, the combination, with the side track C, of the track C<sub>1</sub> attached to the elevator, substantially as and for the purposes shown. 10th. In a conveyer apparatus, substantially as shown, the combination, with the elevator, of a sliding platform or car holder J, and means, substantially as shown for sliding out said car holder by the upward action of the elevator. 11th. In a conveyer apparatus, substantially as shown, the combination, with the elevator of the sliding platform J adapted to hold the car, the elbow lever K and finger F, for the purposes mentioned. 12th. In a conveyer apparatus, substantially as shown, the combination, with the elevator, of the tilting platform I and the sliding car holder J, with hooks *j* and finger J<sub>1</sub>, for the purposes mentioned.

#### No. 21,343. Cultivator. (*Cultivateur*.)

Gottlieb Bettschen, Wilmot, Ont., 30th March, 1885; 5 years.

*Claim*.—1st. A cultivator frame, composed of the centre beam A, having bifurcated ends B, braced to the guide-plate H by the clips K

extending behind the plate H, to form a support for the hind teeth, in combination, with the side bars E, hinged to a bracket secured to the front end of the beam A, and having notched cross-bars D hinged to their hind end, and arranged to pass through the guide-plate H, within which they are adjusted by the spindle I, supported by the brackets J, the whole being constructed substantially as and for the purpose specified. 2nd. In connection with a cultivator-frame, constructed substantially as described, the castor wheel bar L, shaped as specified and pivoted at *a*, to the centre-beam A, in combination with a series of holes *b* made through the bar M on a radius from the pivot point *a*, and provided with an adjustable pin *d*, substantially as and for the purpose specified. 3rd. The bracket N, made to fit the side-bar E, and having a hole through which the shank of the tooth or seuffer passes, in combination with notch *e*, made on one side of the hole, and a set-screw *f*, arranged substantially as and for the purpose specified.

#### No. 21,344. Medicinal Compound for the Liver and the Glandular System, etc. (*Composition Médicinale pour le Foie et le Système Glandulaire, etc.*)

Joseph Weller, Trexlertown, Penn., U.S., 30th March, 1885; 5 years.

*Claim*.—The herein-described compound of herbs, fruits and medicines to be used for medicinal purposes, consisting of confection of senna pulverized, tinnevelly senna, cream of Tartar, sublimed sulphur, crude antimony, white agaric, saffron (*erocus orientallis*) distilled oil of white pine, tincture of *uva ursi*, nitric acid and fluoric acid, in the proportions and the doses above more fully and at large set forth.

#### No. 21,345. Hay Tedder. (*Fanneuse*.)

Robert W. Dixon and Joseph G. Jacobs, Springfield, Ohio, U.S., 30th March, 1885; 5 years.

*Claim*.—1st. In a hay tedder, the travelling wheels *a*, rotating on stud-axles *b* secured to the main frame, in combination with a central crank-shaft in line with said axles, and intermediate gearing connected to said wheels, substantially as and for the purpose specified. 2nd. In a hay tedder, the combination of the tedder teeth, the radius rods *m*, the rock-shaft *n* provided with the arms *o*, the hand-lever and a connecting link, whereby the course of said tedder-teeth may be changed, substantially as specified. 3rd. In a hay tedder, the combination of the arms *b*, tedder-teeth *t*, spring *y*, *z*, shields *x* and bolt *x*, substantially as and for the purpose specified.

*CERTIFICATES OF THE PAYMENT OF FEES FOR FURTHER TERMS HAVE BEEN ATTACHED TO  
THE FOLLOWING PATENTS*

333. J. W. GREEN, N. GREEN and A. B. WALKER (Assignees), 3rd 5 years of No. 4461, from the fifth day of March, 1885. Improvements on harvesters, 4th March, 1885.
334. J. H. GUEST, 2nd and 3rd 5 years of No. 11,024, from the 13th day of March, 1885. Improvements on electric lamps, 4th March, 1885.
335. P. K. DEDERICK, 2nd 5 years of No. 11,038, from the 3rd day of April, 1885. Improvements on railway or tread powers, 4th March, 1885.
336. P. K. DEDERICK, 2nd 5 years of No. 12,242, from the 19th day of January, 1885. Improvements in baling presses, 4th, March, 1885.
337. THE ONTARIO PUMP COMPANY (Assignee), 2nd 5 years of No. 13,138, from the 13th day of March, 1885. Improvements in pumps, 5th March, 1885.
338. A. Q. ROSS, 2nd 5 years of No. 10,997, from the 8th day of March, 1885. Improvements on process and apparatus for charging coal gas retorts, 5th March, 1885.
339. C. KENNEDY, 2nd 5 years of No. 11,021, from the 13th day of March, 1885. Improvements on gates, 7th March, 1885.
340. A. WHALEN, 2nd 5 years of No. 11,020, from the 13th day of March, 1884. Improvements on machines for making brick and tile, 7th March, 1885.
341. G. COWING, 2nd 5 years of No. 11,022, from the 13th day of March, 1885. Improvements in moulds for making steel, 13th March, 1885.
342. J. SOBOTKA, 2nd 5 years of No. 20,927, from the 20th day of January, 1880. Improvements on embroidering machines, 16th March, 1885.
343. L. B. AUSTIN, 2nd 5 years of No. 11,059, from the 22nd day of March, 1885. Improvements in milk coolers, 21st March, 1885.
344. R. WHITE (Assignee), 3rd 5 years of No. 21,121, from the 30th day of March, 1885. Improvements in dies and forms for shaping heel counters, 24th March, 1885.
345. O. WHITCOMB, L. McCaine, M. B. McCaine, and H. J. McCaine (Assignees), 2nd 5 years of No. 11,973, from the 30th day of March, 1885. Improvements in process for treating proxylene, 28th March, 1885.
346. C. H. Hersey, 2nd 5 years of No. 11,159, from the 23rd day of April, 1885. Improvements on sugar moulding machines, 28th March, 1885.

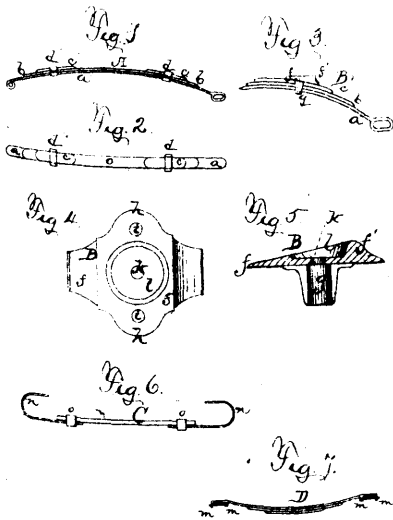
THE  
CANADIAN PATENT OFFICE RECORD.

ILLUSTRATIONS.

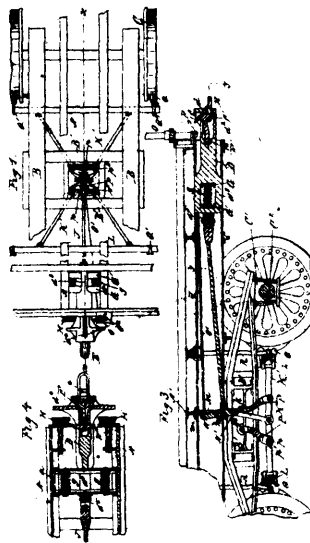
Vol. XIII.

APRIL, 1885.

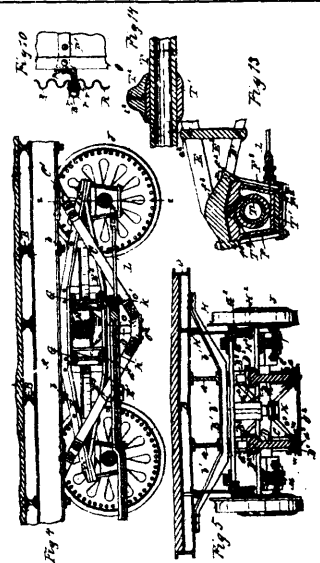
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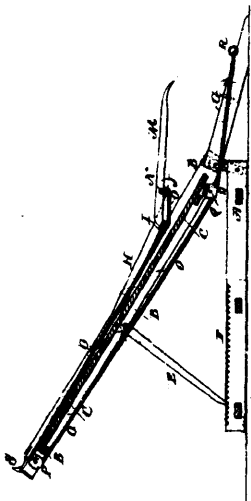
21198 Carter's Waggon or Vehicle Spring.



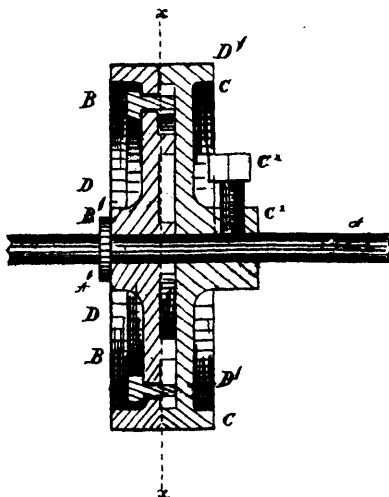
21199 Meatyard's Combined Car Brake and Coupler.



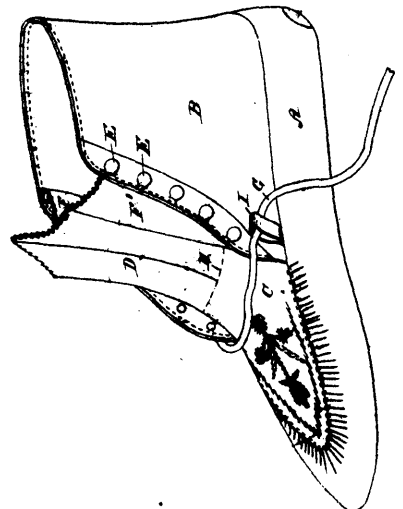
21200 Meatyard's Railway Car.



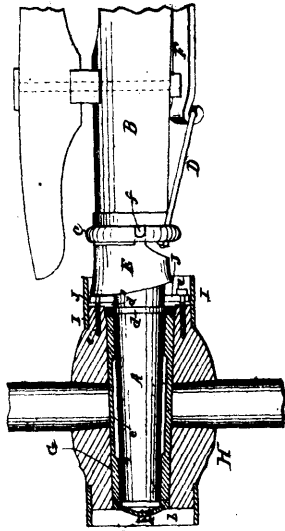
21201 Cooley's Hay Stacker.



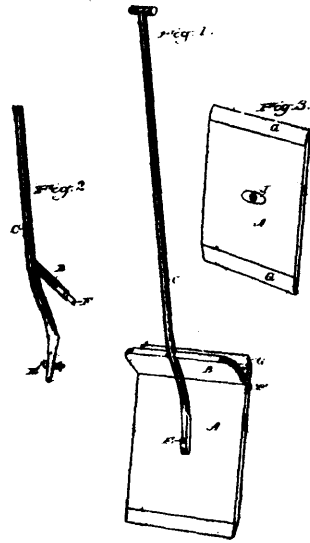
21202 Simpson's Gravity Friction Hatchet.



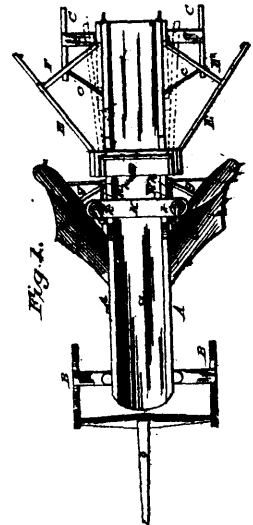
21203 Verret's Mocassin.



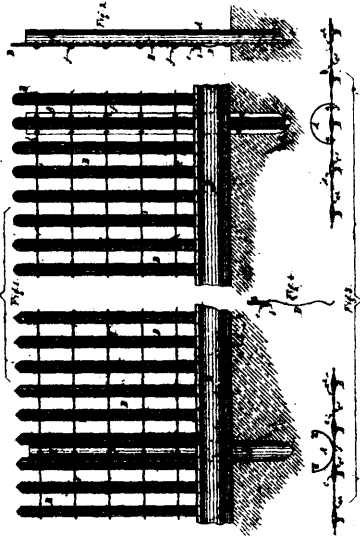
21204 Bimel's Axle Box and Skein.



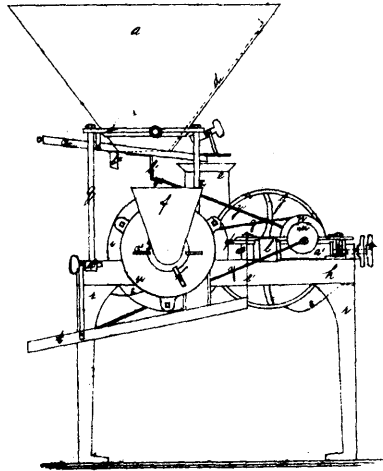
21205 Welch's Shovel.



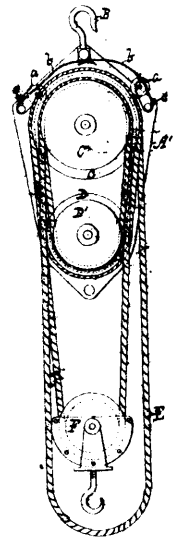
21206 Brazel's Snow Plough.



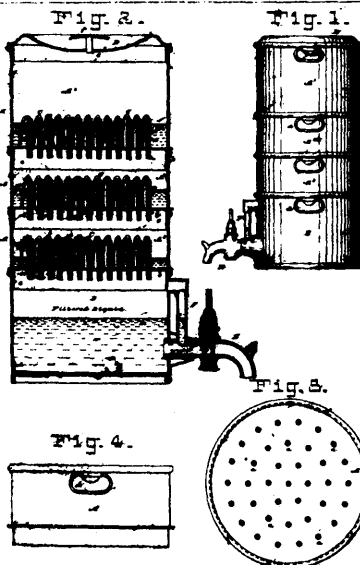
21207 Adams' Metallic Fence.



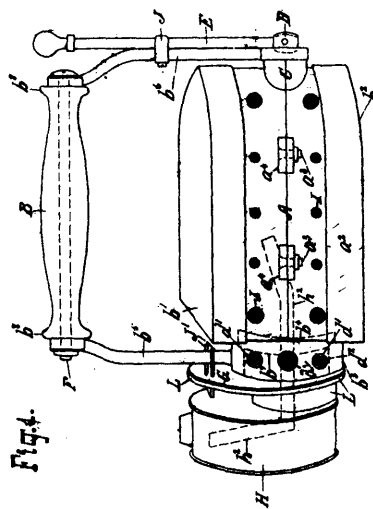
21208 Vesot's Grain Grinding Machine.



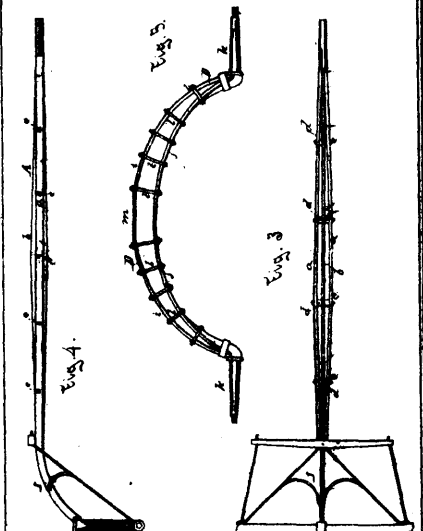
21209 Smith's Differential Pulley.



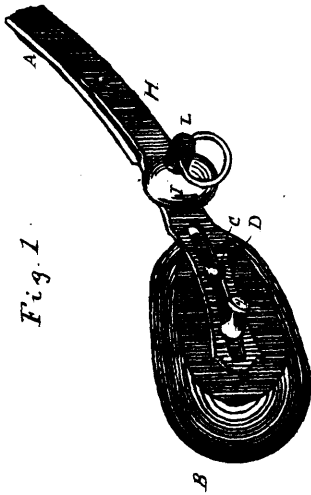
21210 Tupper's Capillary Filter.



21211 Kearns & Noble's Reversible Self-Heating Smoothing Iron.



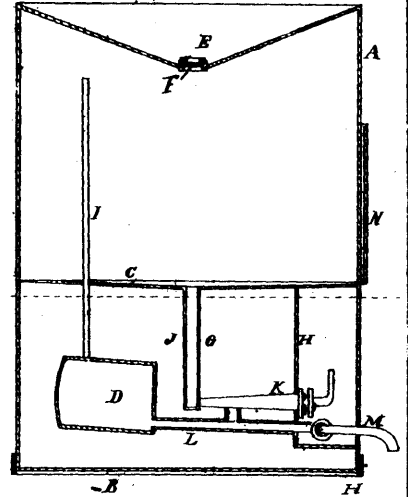
21212 Toomey's Light Vehicle.



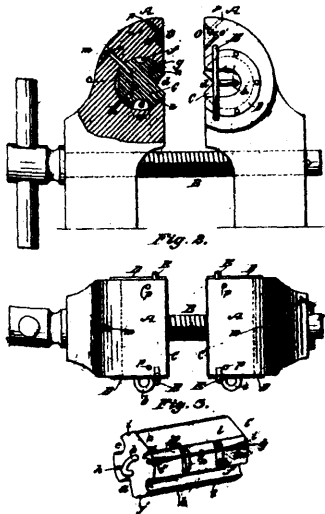
21213 Howe's Truss.



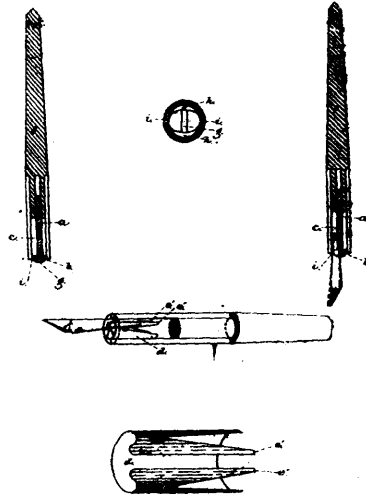
21214 Hartshorn's Spring Shade Roller.



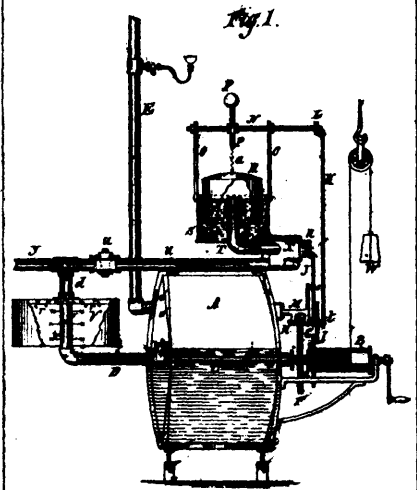
21215 Sagasin's Automatic Liquid Measure.



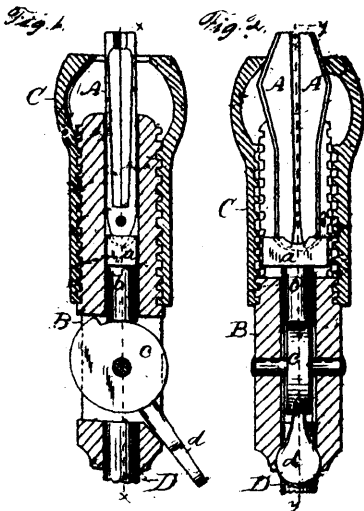
21216 Hyle's Bench Vice.



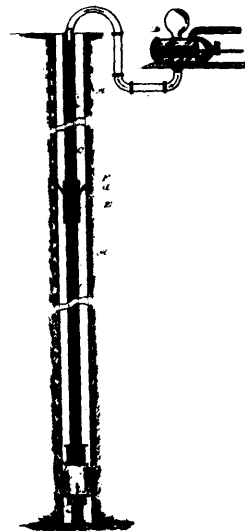
21217 Libby's Pen-Holder.



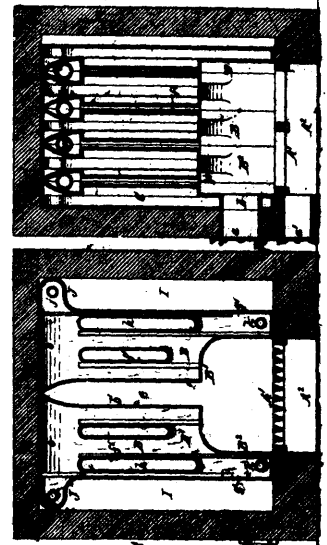
21218 Terrill & Wilson's Carburetting Machine.



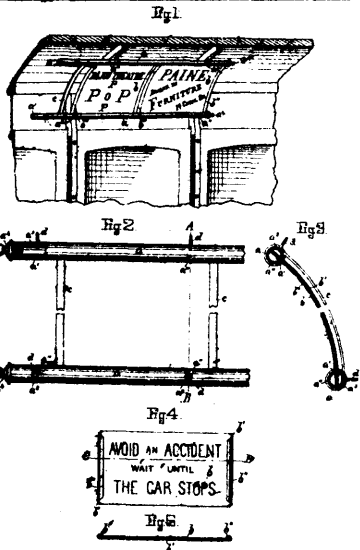
21219 Armstrong's Bit-Holder.



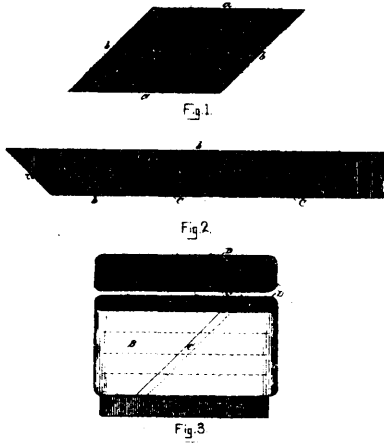
21220 Richard's Method of Extracting Oil from Oil-Wells and Oil Bearing Rock and Tube therefor.



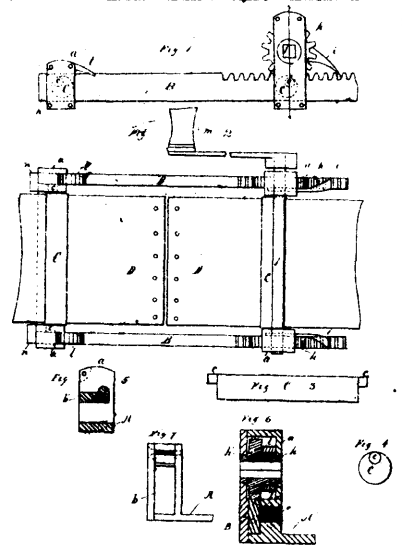
21221 Safford's Steam Generator.



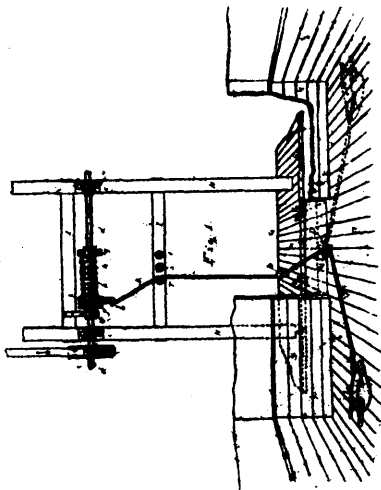
21222 Akarman's Card Rack.



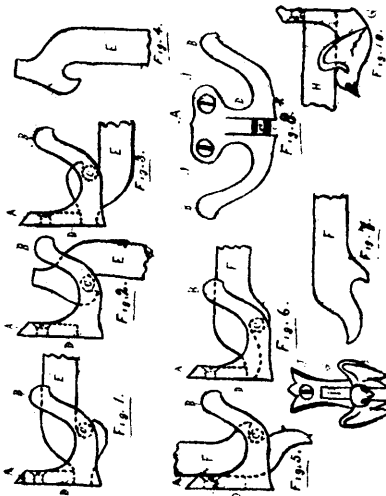
21223 Farmer's Bias Tape and Process for Making the same.



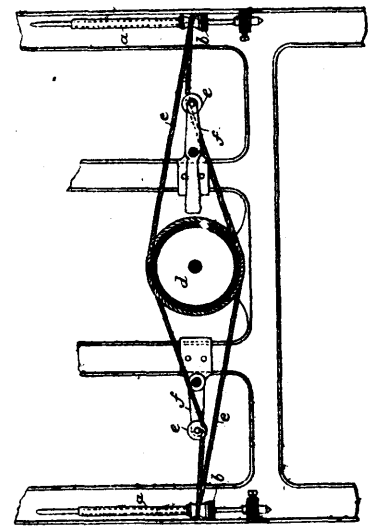
21224 Fertig's Belt-Tightener.



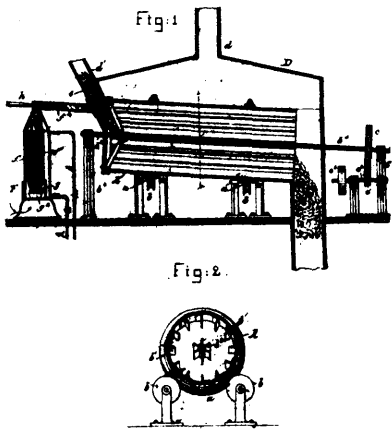
21225 Pugh's Automatic Grain Shoveler.



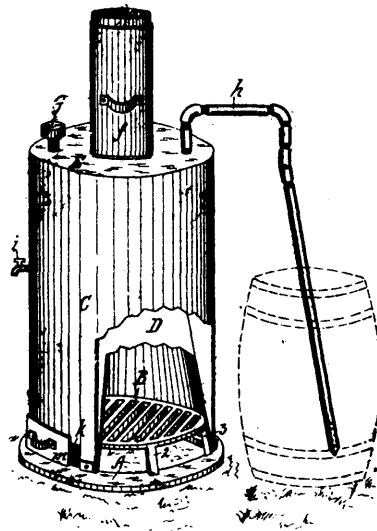
21226 Ménard's Cloak Bearer and Drier.



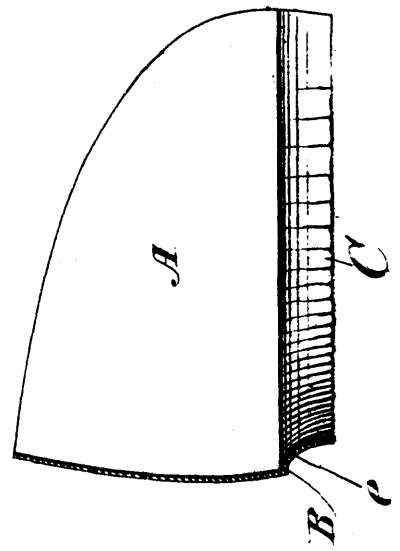
21227 Ballantyne's Machinery for Spinning and Twisting fibrous Material.



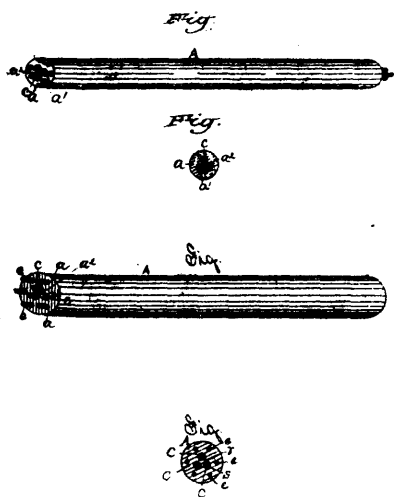
21228 Stillman's Method and Apparatus for Bleaching Sugar.



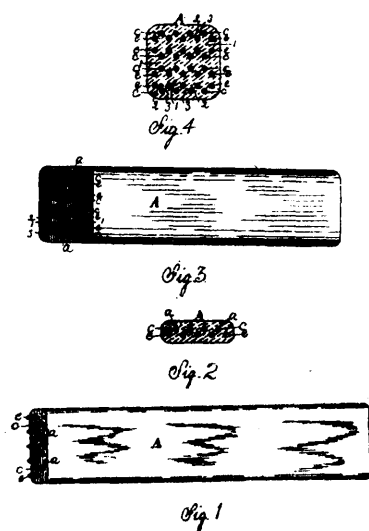
21229 Purinton's Portable Steam Generator and Feed Cooking Apparatus.



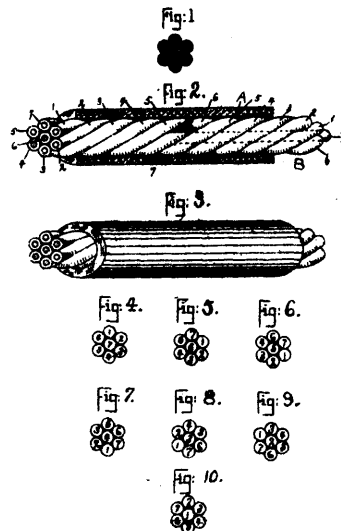
21230 Kieffer's Heel Counter or Stiffener.



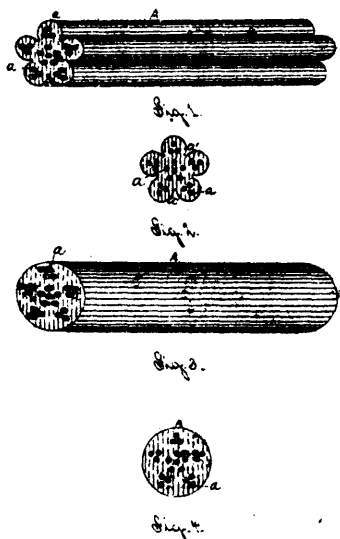
21231 Waring's Electric Cable.



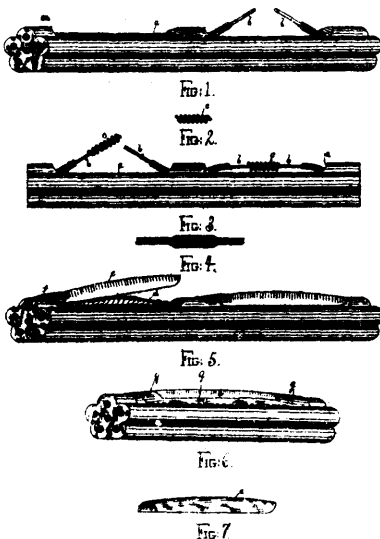
21232 Waring's Electric Cable.



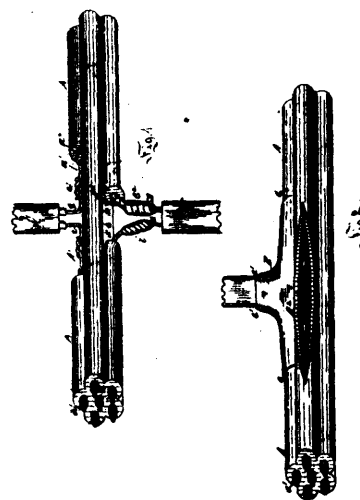
21233 Waring's Electric Cable.



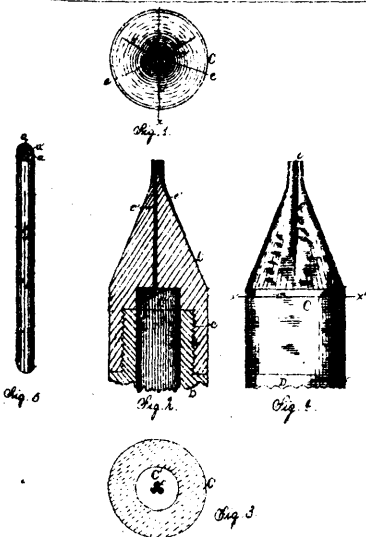
21234 Waring's Electric Cable.



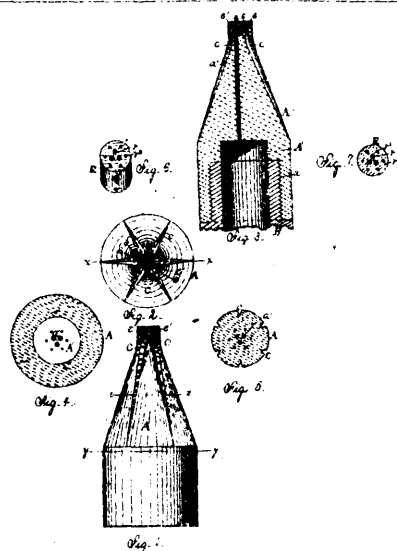
21235 Waring's Repairing Defects in the Conductors of Lead Cables.



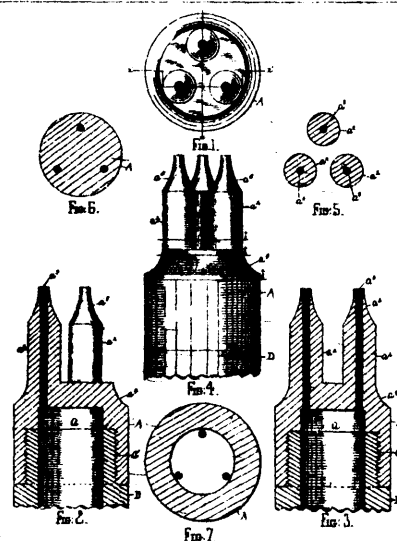
21236 Waring's Making Joint Connections in Electric Cables.



21237 Waring's Mandrel for Cable Press.



21238 Waring's Mandrel for Cable Press.



21239 Waring's Mandrel for Cable Press.

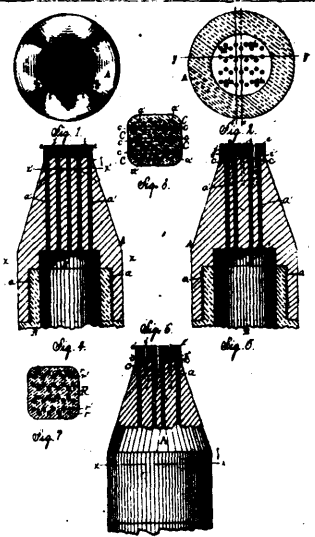




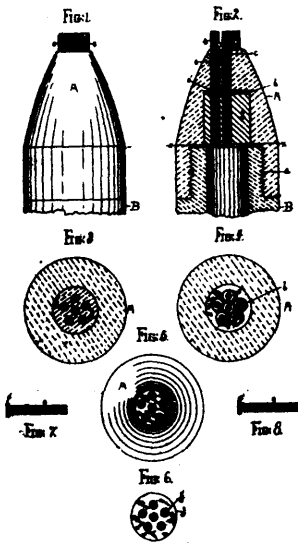
21240 Waring's Mandrel for Cable Press.



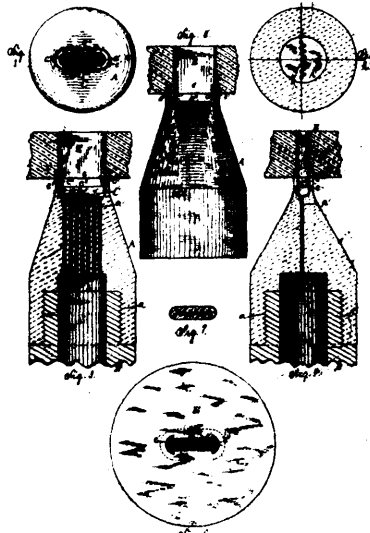
21241 Waring's Mandrel for Cable Press.



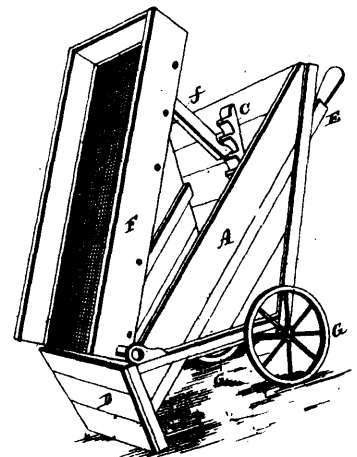
21242 Waring's Mandrel for Cable Press.



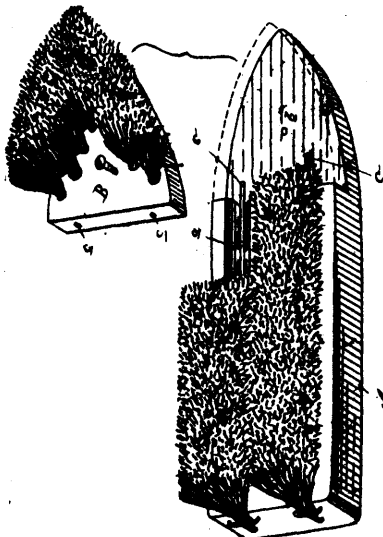
21243 Waring's Mandrel for Cable Press.



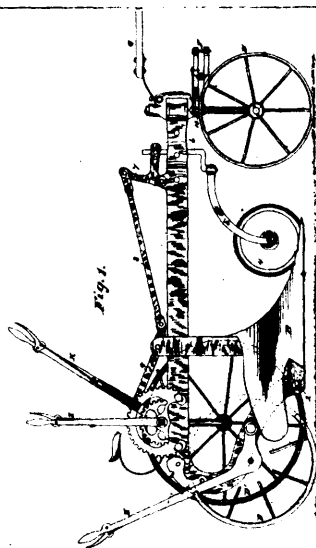
21244 Waring's Mandrel and Die for Cable Press.



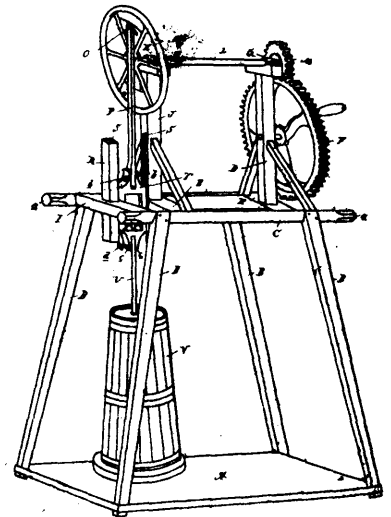
21245 Gridley & Johnson's Coal-Screen and Dust Receiver.



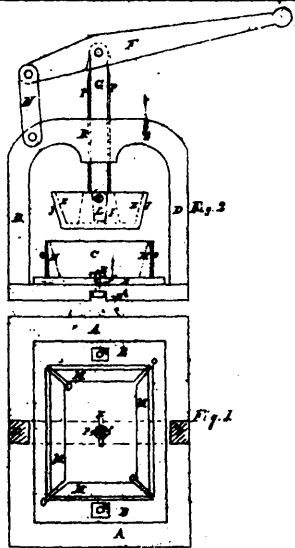
21246 Porter's Brush.



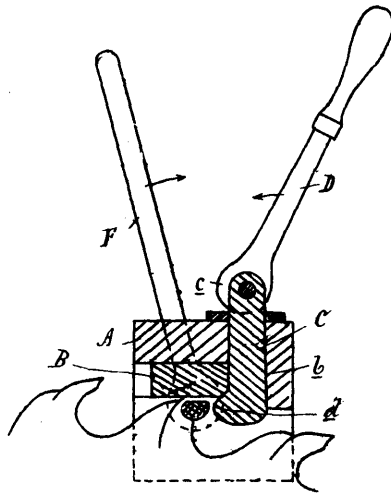
21247 Bartlett's Wheel Plough.



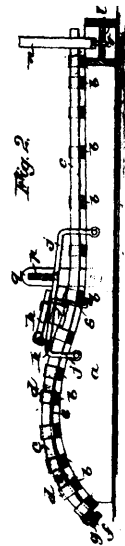
21248 Hopp & Decker's Churn.



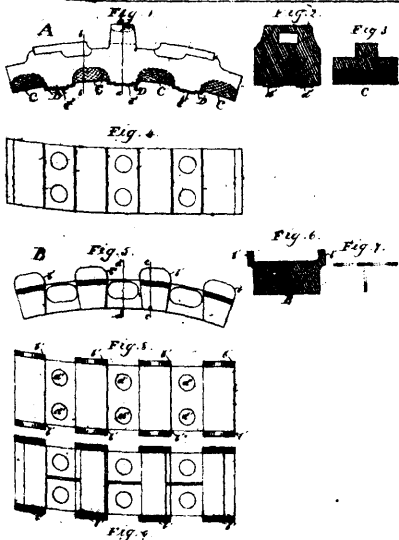
21249 Churchill's Machine for Making Sheet Iron and Tin Pans.



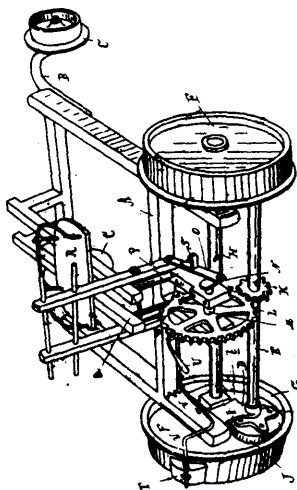
21250 Miller's Saw Swage.



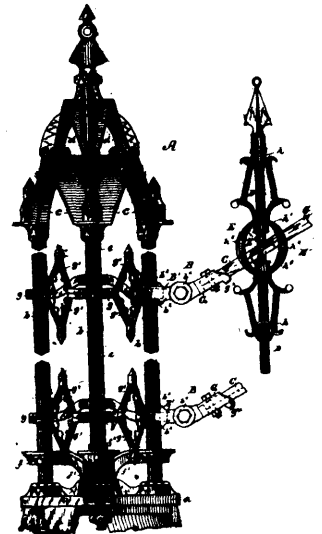
21251 Bach's Shaft Press.



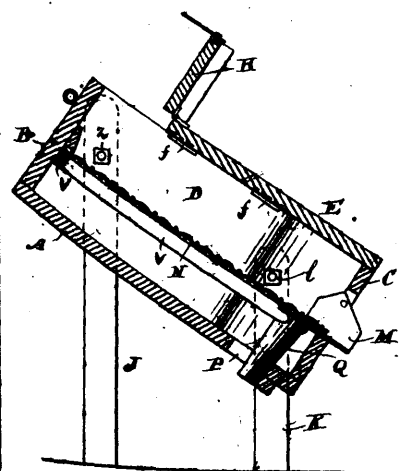
21252 Lappin's Brake Shoe for Railway Car Wheels and other Car Wheels.



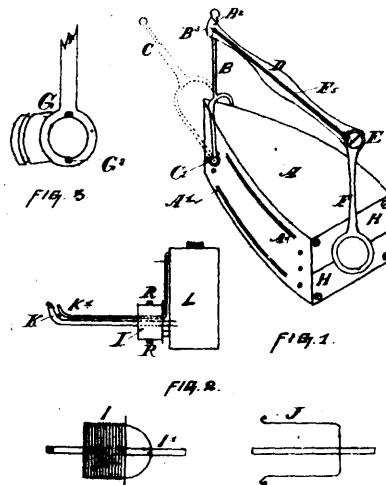
21253 Copp's Railway Velocipede.



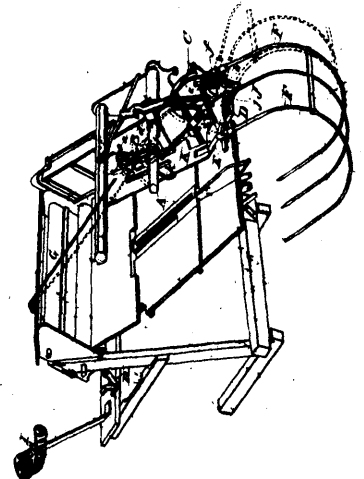
21254 Devoe & Brookhart's Metallic Fence.



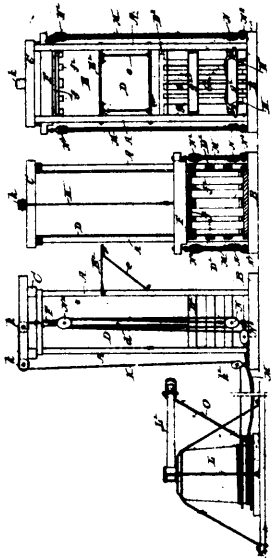
21255 O'Connor's Coal-Sifter.



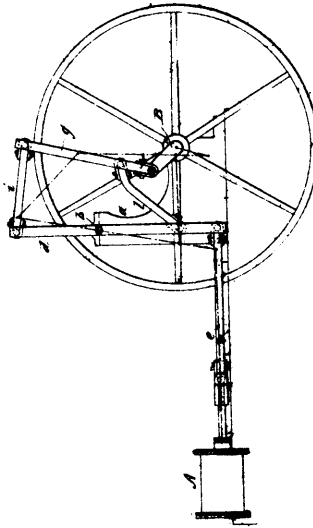
21256 Cohen's Sad Iron.



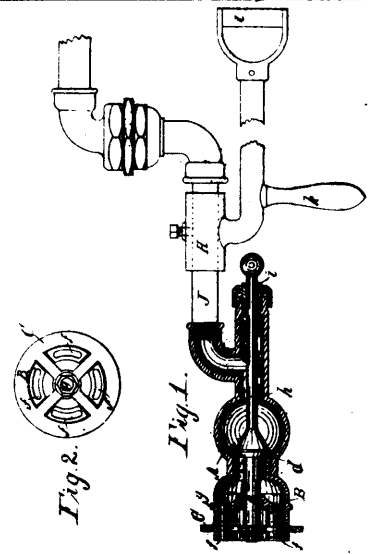
21258 Harris & Lucas' Mechanism for Dumping the Bundle Carrier of Harvester Binders.



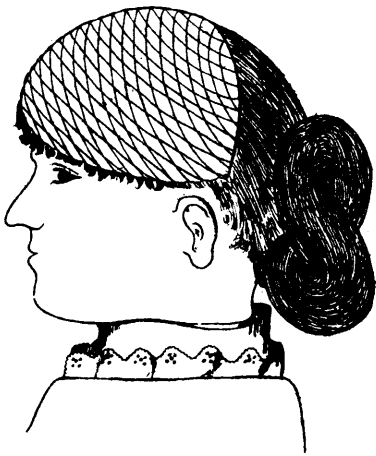
21258 Young's Hay Press.



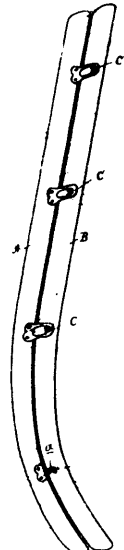
21260 Pencille's Mechanism for Converting Motion, especially applicable to Steam Engines.



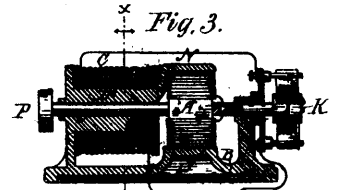
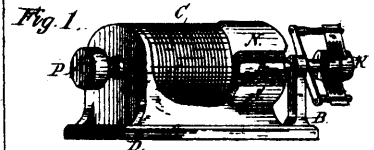
21261 McGahan's Boiler Flue Cleaner.



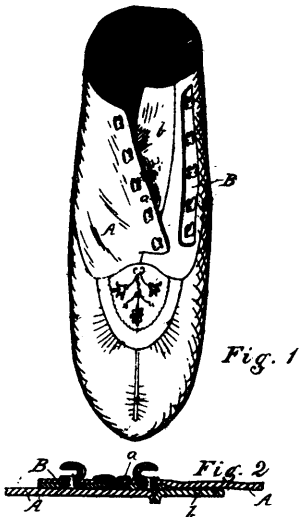
21262 Schirmer's Veil.



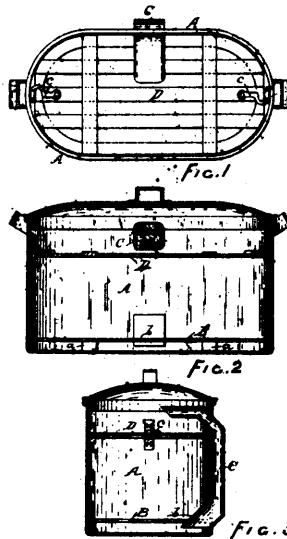
21263 Colley's Corset Clasp.



21264 Thomson's Dynamo-Electric Machine and Motor.



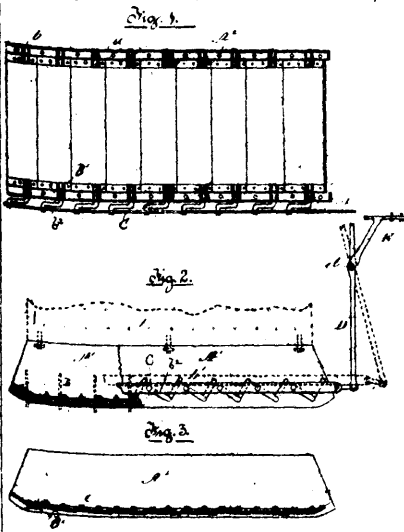
21265 Gros Louis' Moccasins.



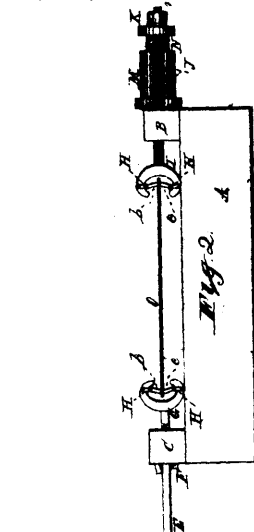
21266 Carreau's Clothes Boiler.



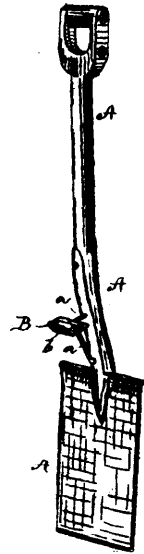
21267 Arndt's Door Stop.



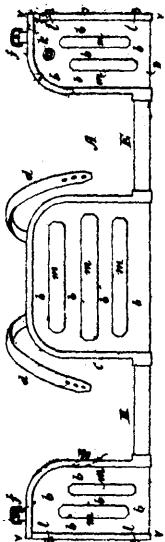
21268 Moore's Locomotive Ash Pan.



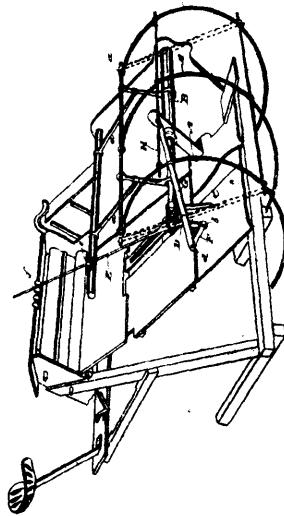
21269 Britton's Apparatus and Process for Straightening Sheet and Plate Metal.



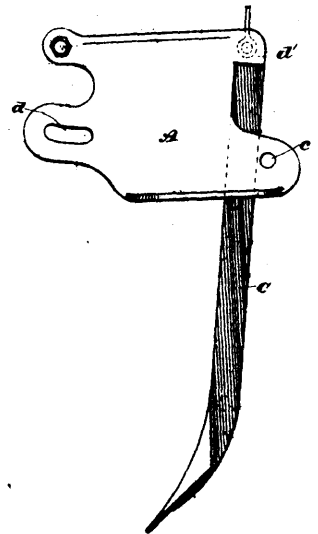
21270 Boyles' Spade or Shovel Handle.



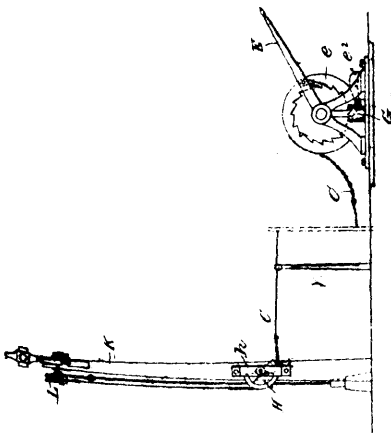
21271 Barrs & Ellis' Bathing Dress.



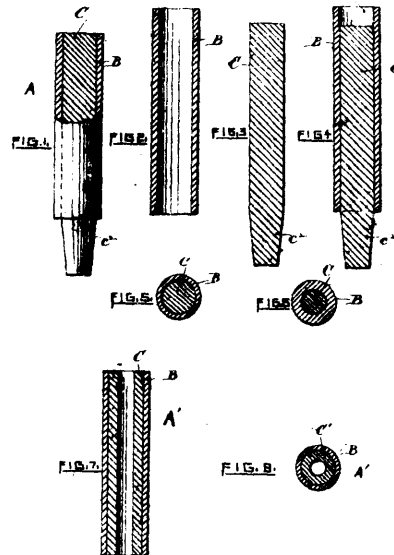
21272 Malott's Bundle Carrier for Harvester Binders.



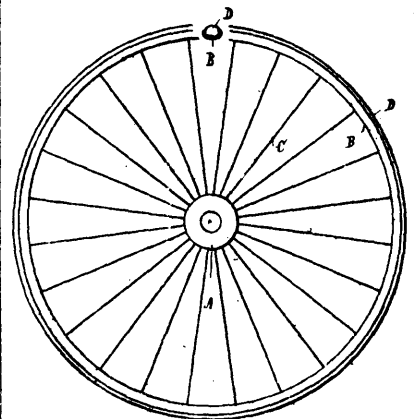
21273 Galloway's Combined Drill and Cultivator Hoe.



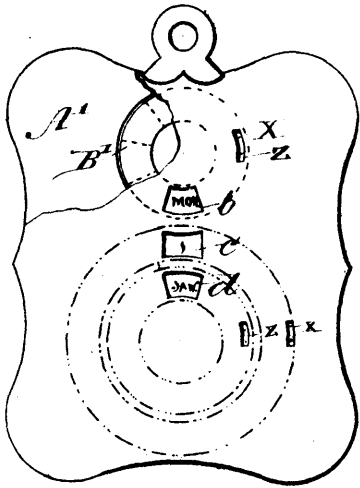
21274 O'Neill's Apparatus for Operating Railway Semaphores.



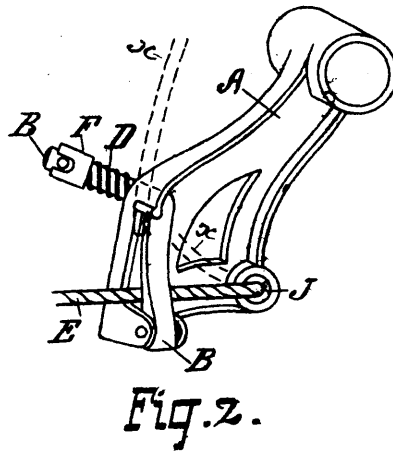
21275 Burdon's Ingot for Gold Plated Wire.



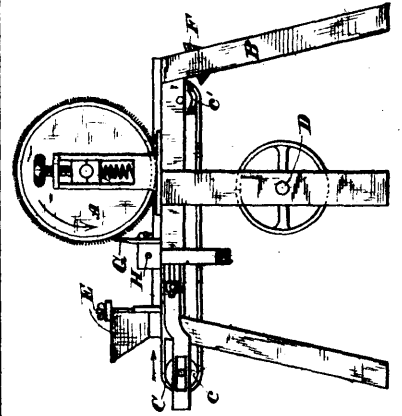
21276 Gendron's Tire for Waggon Wheels.



21278 McCarthy's Calendar.

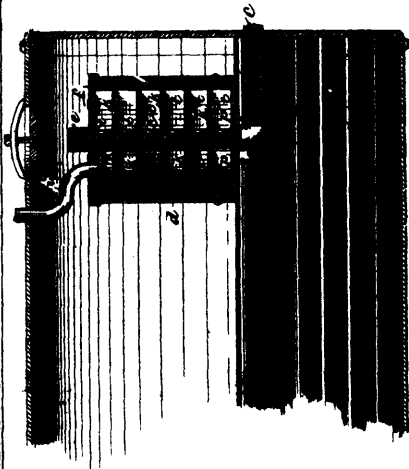


21279 McLachlan's Self-Binding Harvester.

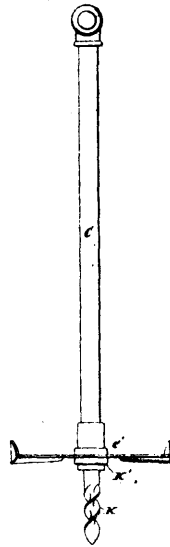


21280 Gent's Art of Manufacturing Cerealine and Machine therefor.

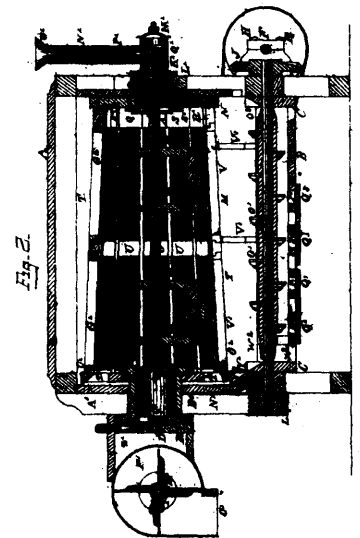
Fig. 4



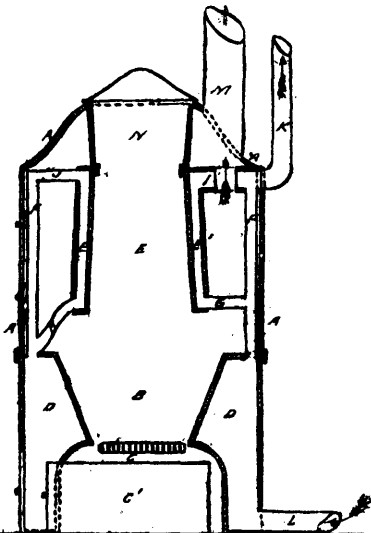
21281 Brauninger's Boiler Water Purifier.



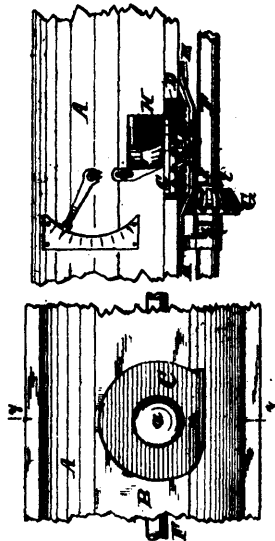
21282 Fosburgh's Earth Augers.



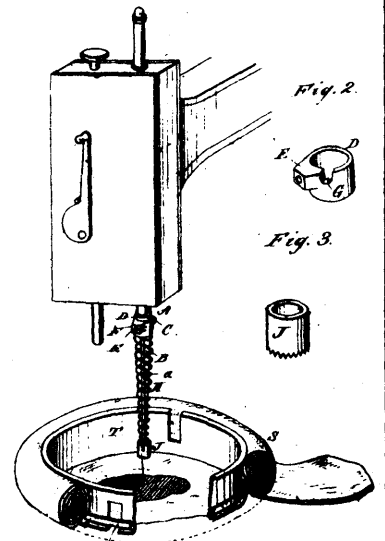
21283 Hurford's Bolt for Purifying Middlings.



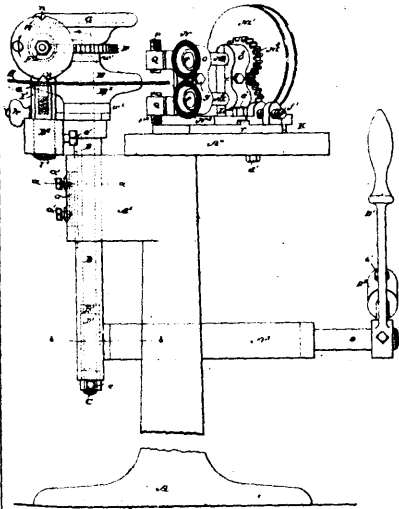
21284 Bellavance's Water and Steam Heating apparatus.



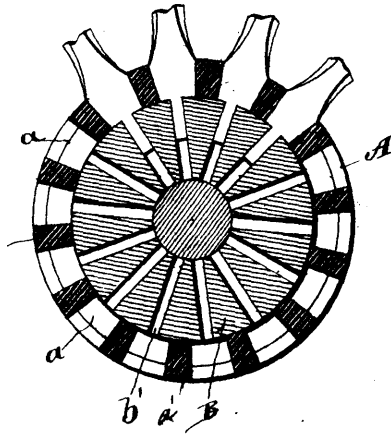
21285 Kissel's Fertilizer Sower.



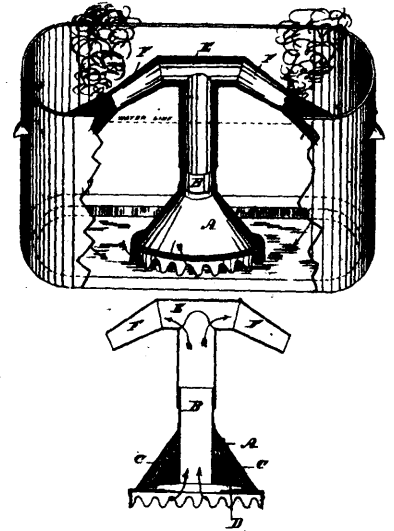
21286 Stewart's Darning Attachments for Sewing Machines.



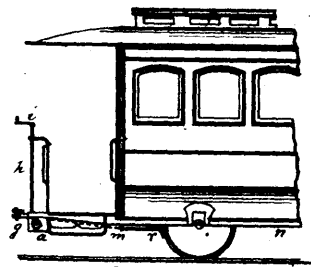
21287 Tucker Saw Filing Machine.



21288 Maris' Vehicle Hub.



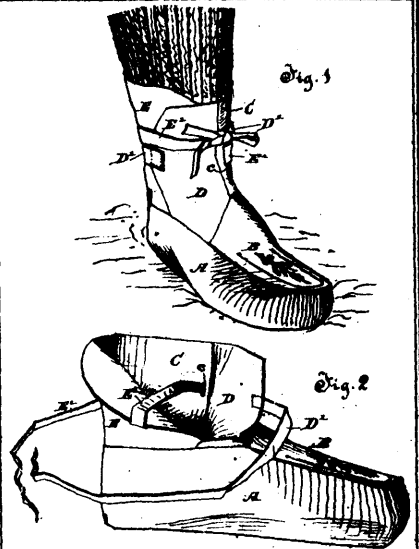
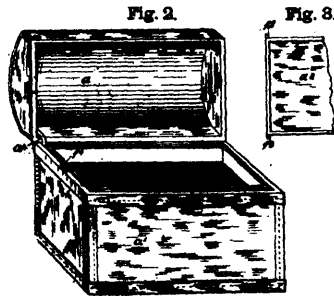
21289 Cooper's Wash Boiler Fountain.



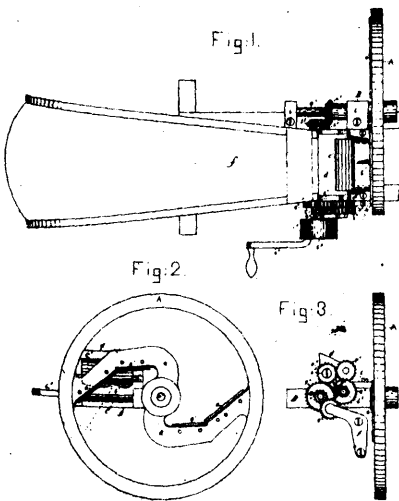
21290 Coffin's Car Brake.



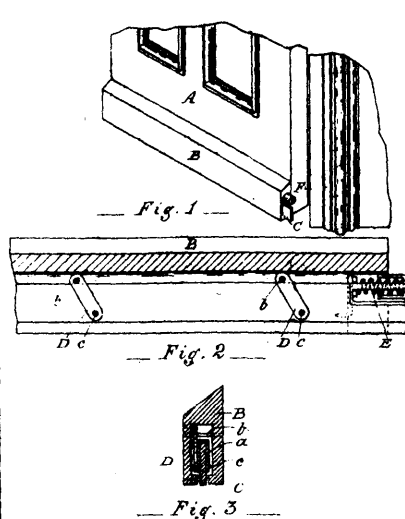
21291 Ransom's Trunk or Box.



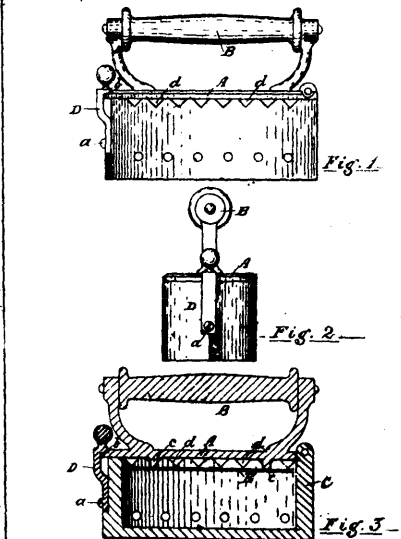
21292 Le Beau's Moccasin.



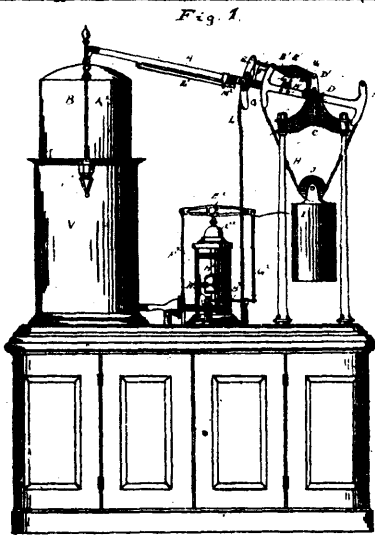
21293 Slesper's Feed-Cutting Machinery.



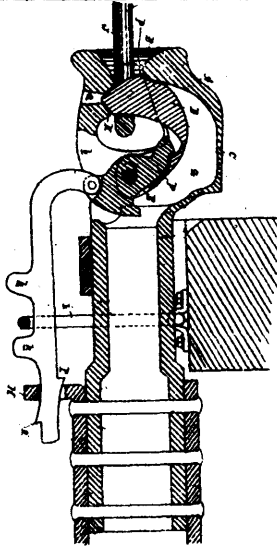
21294 Nelson's Door Weather Strip.



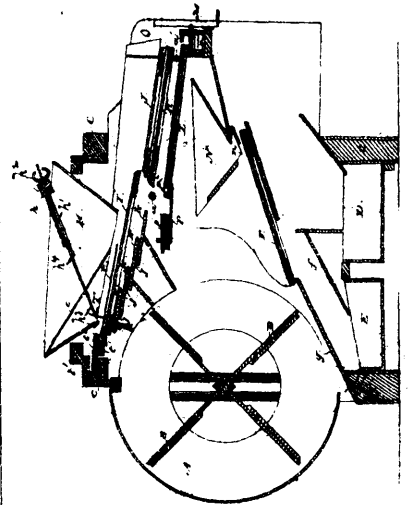
21295 Carrean's Smoothing Iron.



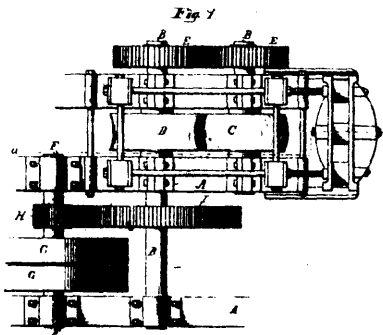
21296 Henning's Gas Machine.



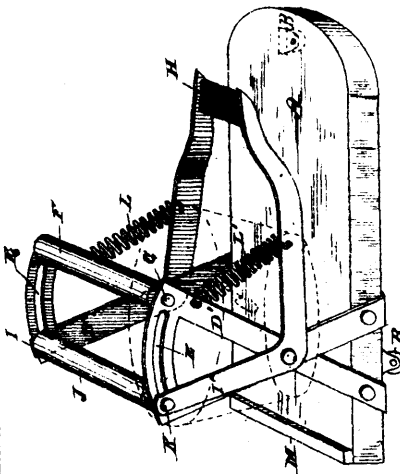
21297 Kiely's Car-Coupling.



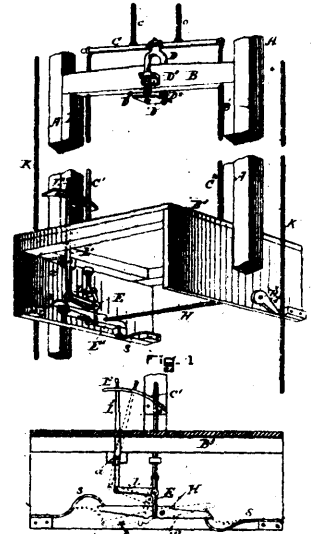
21298 James' Fanning Mill.



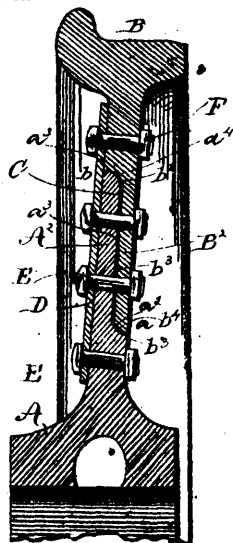
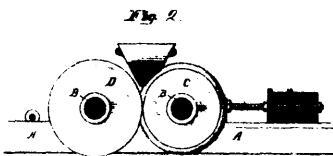
21299 Bower's Rolls for Crushing Ores, etc.



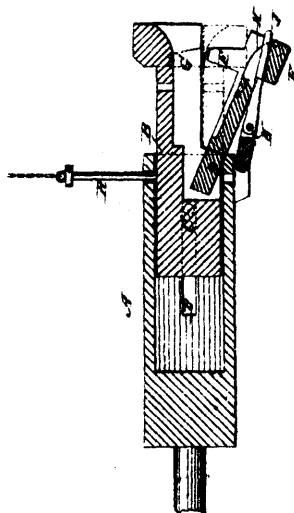
21300 Fell's Mop Wringer.



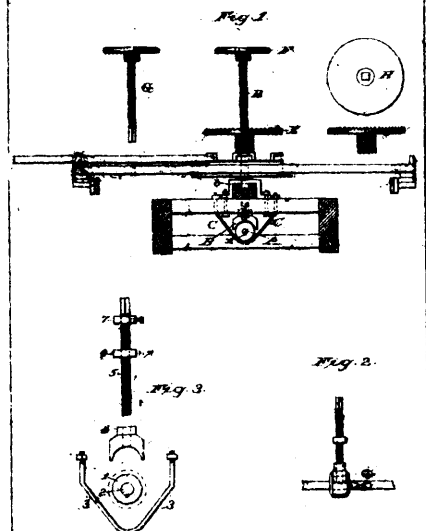
21301 Nowell's Safety Attachment for Elevators.



21302 King's Car Wheel.



21303 Leidy & Green's Car-Coupling.



21304 Wagner's Friction Brake for Horse Powers.

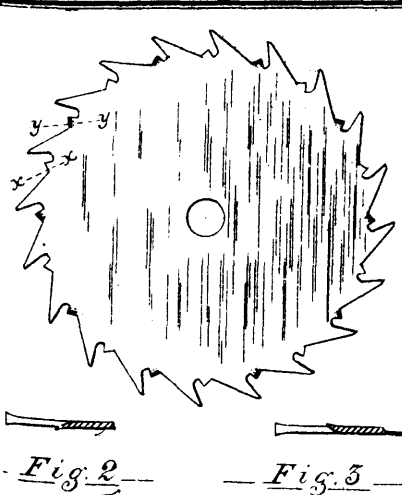
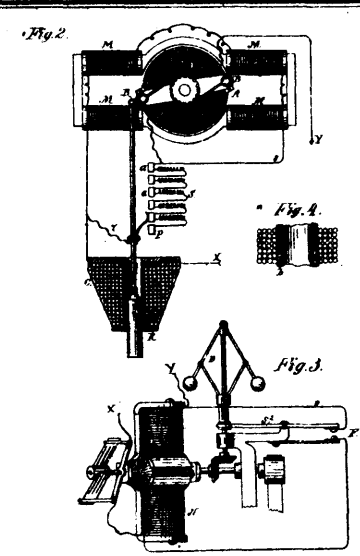
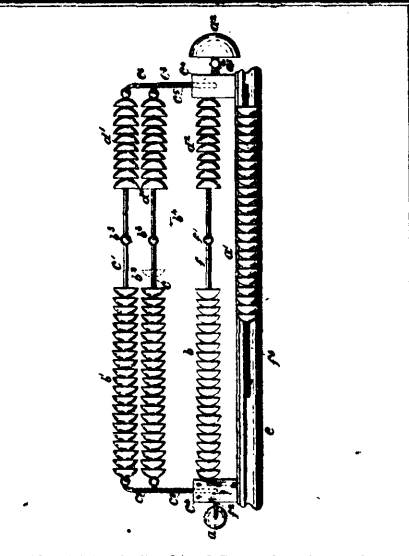


Fig. 2 Fig. 3

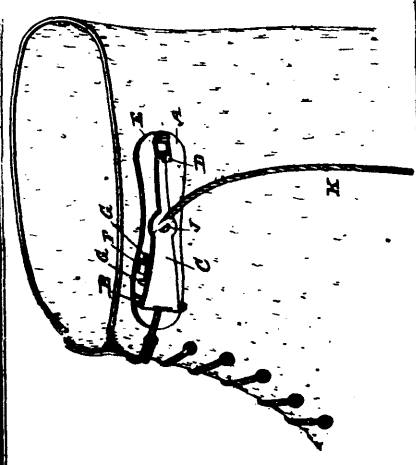
21305 Alley's Planing Saw.



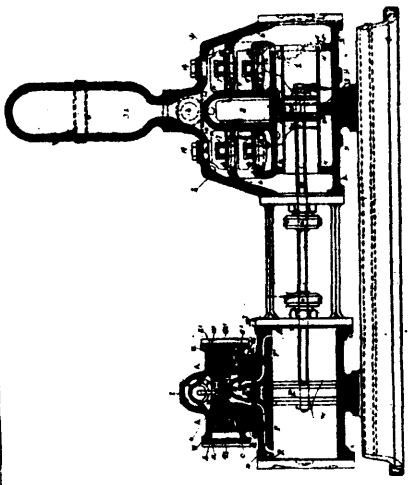
21306 Thomson's Electric Power Distribution System.



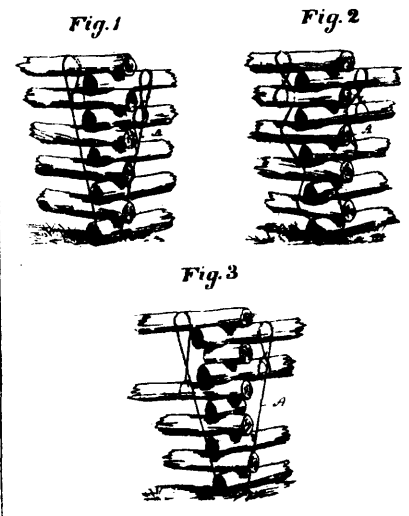
21307 Nicken's Combined Game Counter and Register.



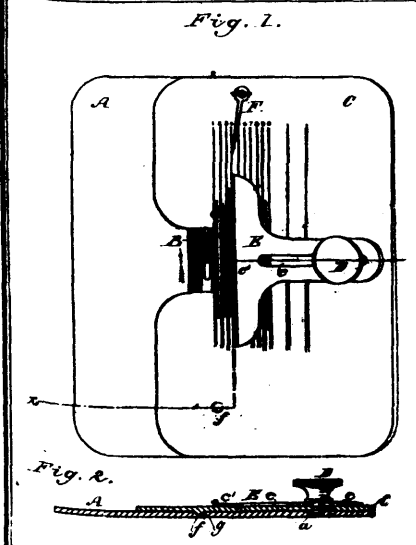
21308 Johnson's Shoe Lace Fastener.



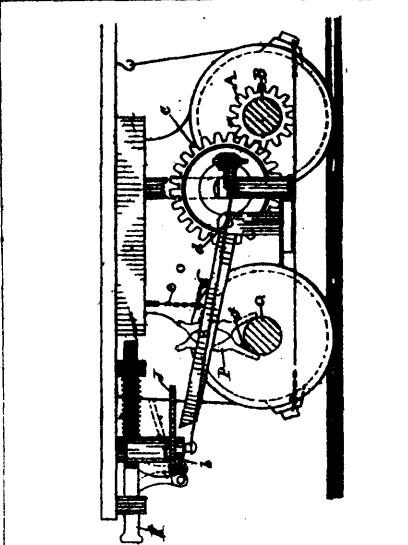
21309 Northey's Steam Pump.



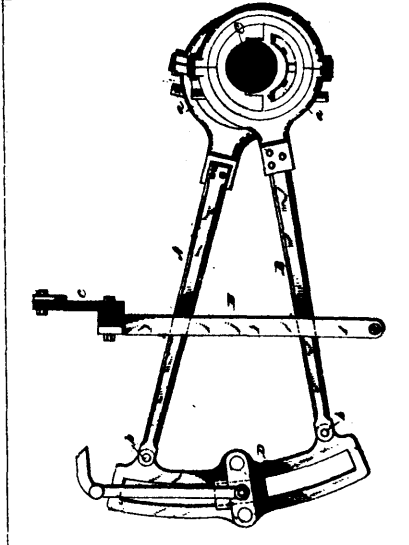
21310 Anderson's Zig-zag Fence.



21311 Freeman's Guide Setter for Sewing Machines.

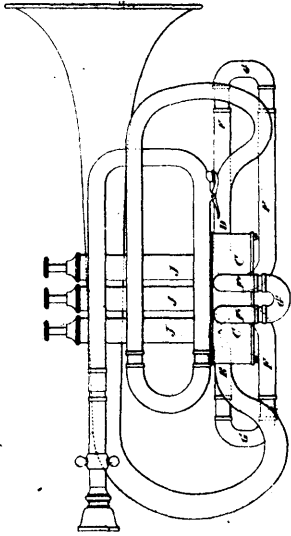


21312 Hick's Friction Railroad Car Brake.

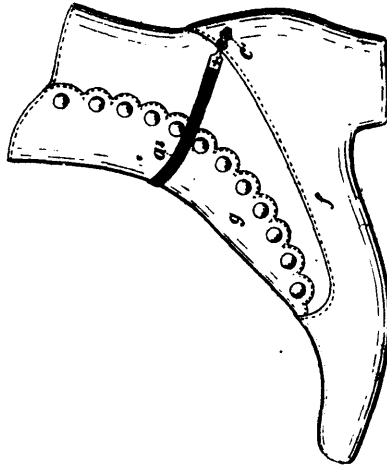


21313 Diffenderfer's Safety Guard for Eccentric Rods.

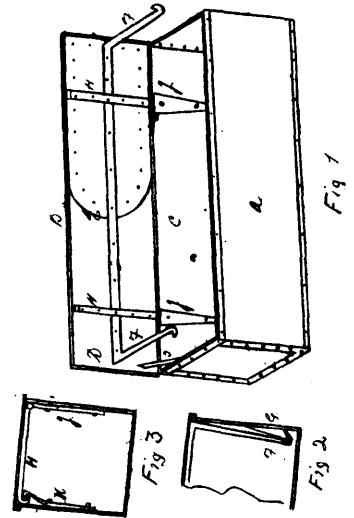




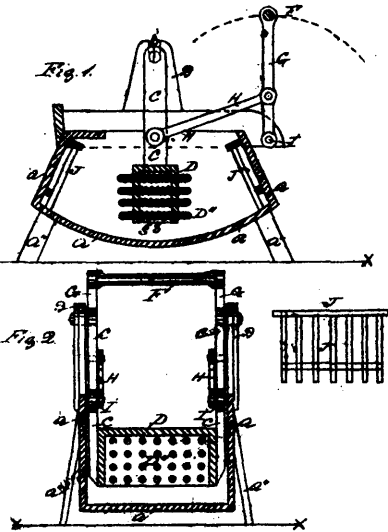
21314 Armitage's Valve for Wind Instruments.



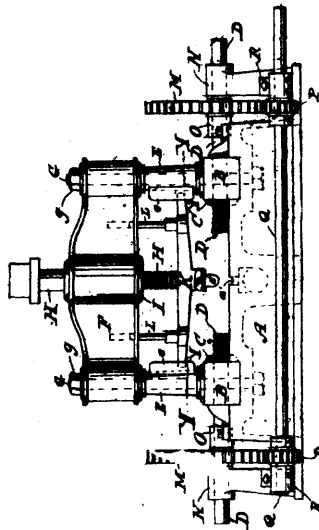
21315 Kesse's Rubber Shoe Fastener.



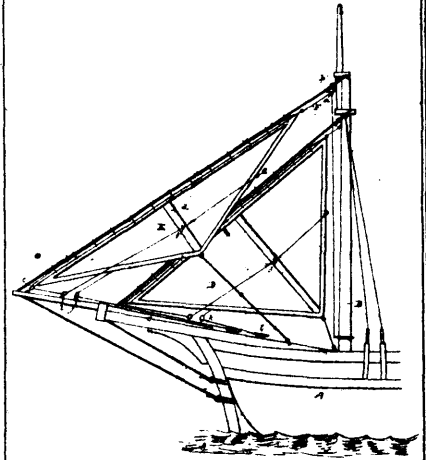
21316 Corbett's Burial Vault.



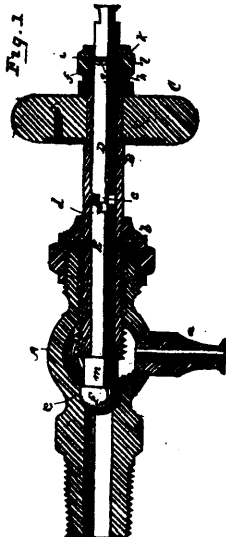
21317 Hager's Machine for Washing Clothes.



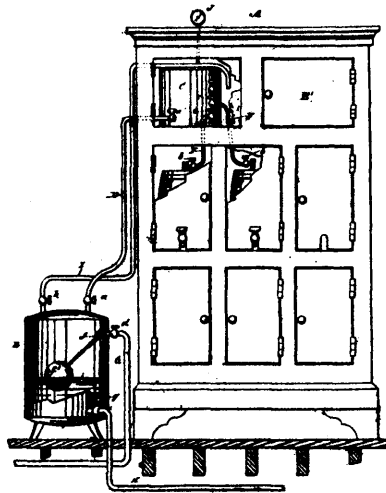
21318 Pélissier's Machine for Forming and Stamping Loops for Harness.



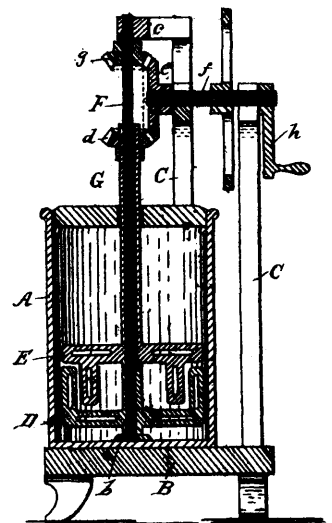
21319 Cutler's Jib Furler.



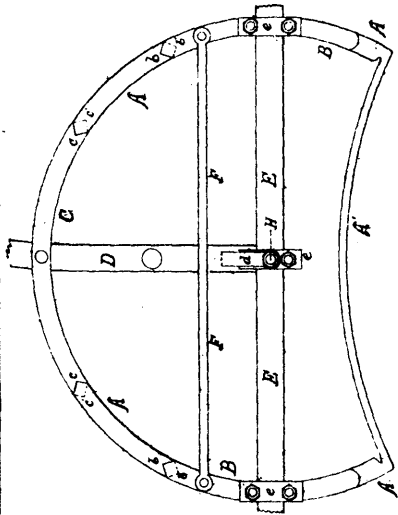
21320 Lucas' Steam Gauge Cock.



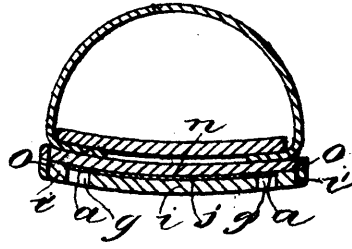
21321 Heintz & Dotterweich's Combined Air Pressure Apparatus and Refrigerator.



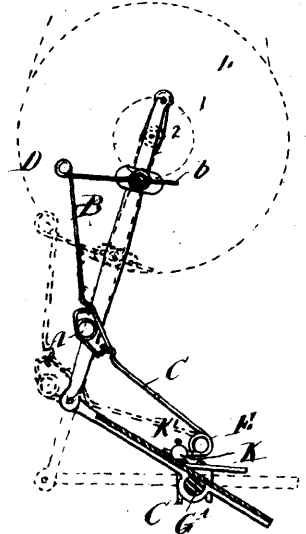
21322 Webster's Churn.



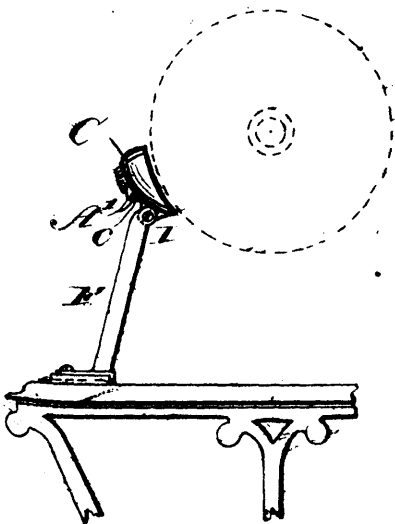
21324 Rowe's Fifth-Wheel for Vehicles.



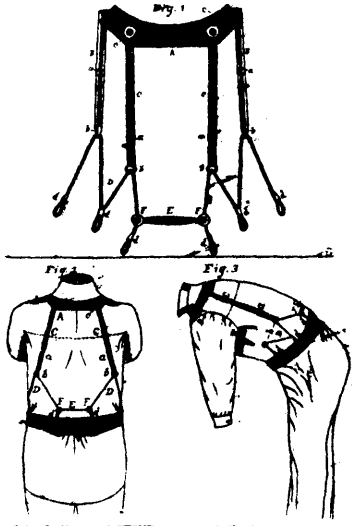
21325 Borrett's Boots and Shoes.



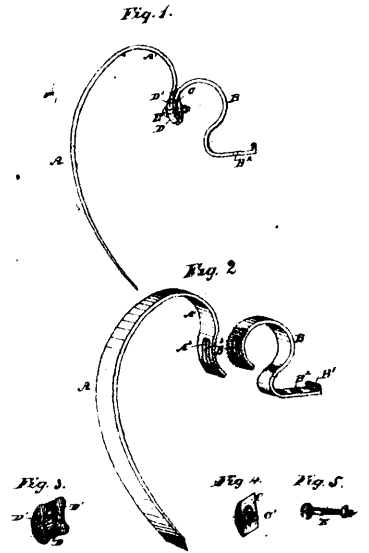
21326 Van Allen's Spring for keeping Pitman off Dead Centres.



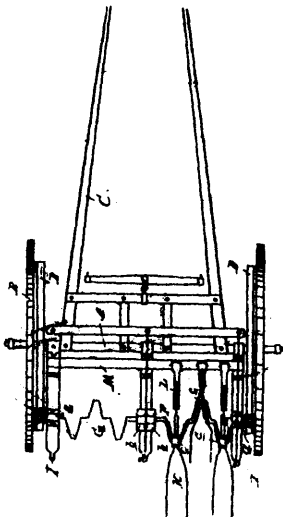
21327 Van Allen's Back Stop for Sewing Machines.



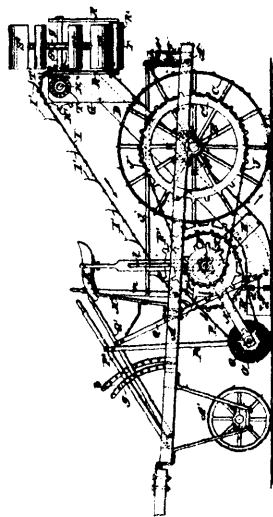
21328 Brown's Pantaloons Suspenders.



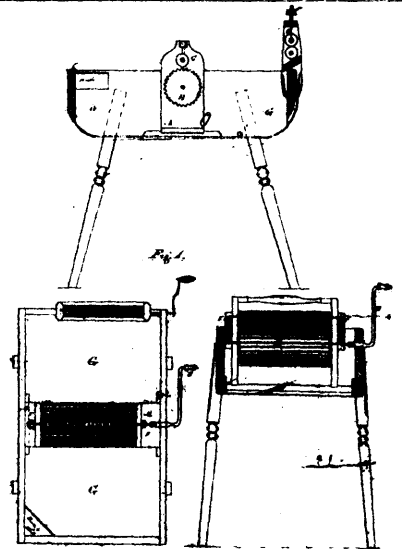
21329 Cook's Spring Harrow Tooth.



21330 Skinner's Hay Tedder.



21331 Apple's Scraper and Elevator.



21332 Walton's Washing Machine.

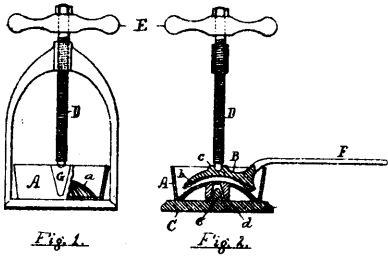


Fig. 1.

Fig. 2.

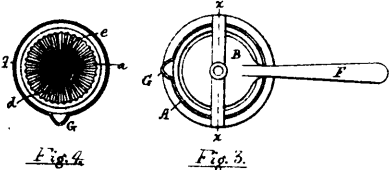
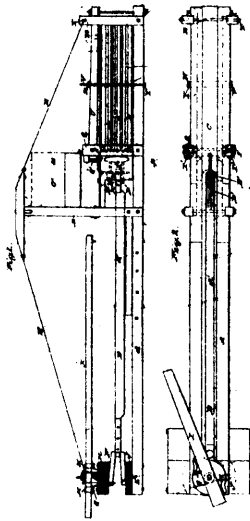


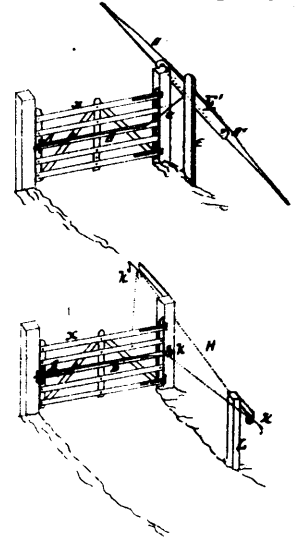
Fig. 3.

Fig. 4.

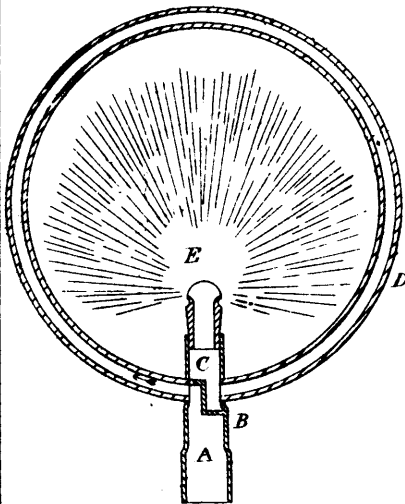
21335 Osborne's Hand Press.



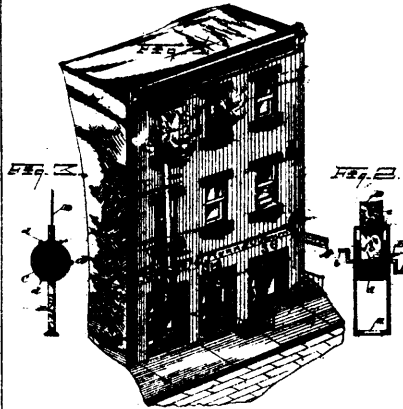
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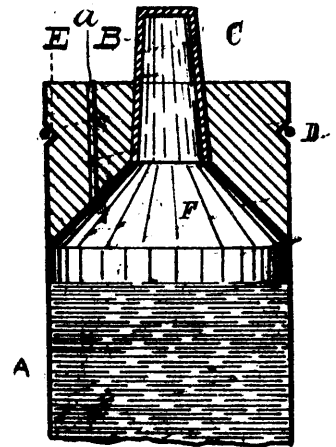
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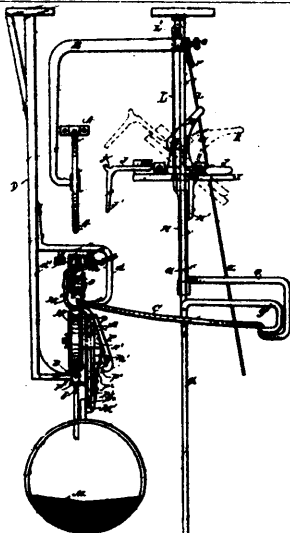
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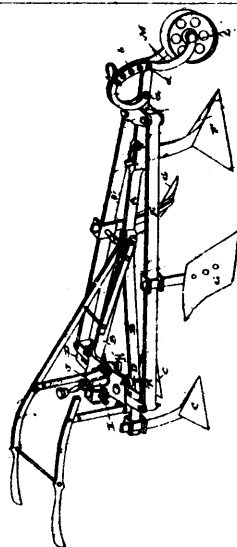
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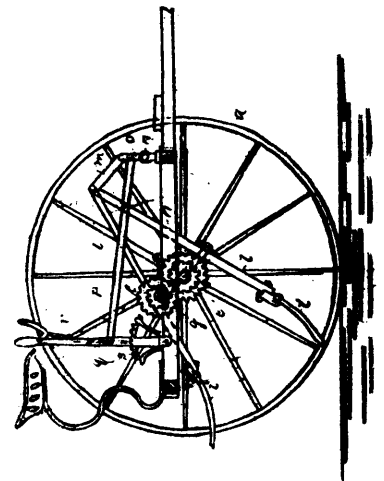
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