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INVENTIONS PATENTED.

No. 12,230. Electric Railway Signalling Apparatus. (*Appareil électrique à signaux de chemin de fer.*)

Henry B. Hayes, Woburn, and Joshua Gray, Medford, Mass., U. S., 17th January, 1881; for 5 years.

Claim.—1st. A magneto-electric railway signal, in which are combined a signal and devices whereby to generate a current of electricity by the rotation of an armature through the medium of a passing train of cars or locomotive over the track and to thereby actuate said signal. 2nd. A magneto-electric railway signal consisting of a magneto-electric machine adapted to be operated from a passing train of cars, a magnet adapted to receive a current of electricity from said machine and a signal device constructed to be set in operation by the said magnet. 3rd. In combination with the rack bar of a signal device, and the clutch gear mechanism whereby said bar is adapted to move in one direction by the rotation of the gear-ring only, and in the opposite direction by the rotation of the whole train so as to operate the signal device. 4th. The combination with a danger signal of devices whereby the same may be set by the movement of a train of cars, and electrical appliances also arranged to be operated by the train whereby the said weight may be released from a distant point to actuate the signal. 5th. The combination, in a railway signal, of a guided sliding rack-bar D, levers B C, train of wheels, detent, signalling devices, electro-magnet constructed and arranged to release the detent when excited. 6th. The combination with the magneto-electric apparatus, of the spindle carrying the armature, rack bar gear with a pinion on said spindle, lever C and lever B arranged to be operated by a projection on one of the cars of the train. 7th. The combination with the signal mechanism, rack-bar, detent, armature and magnet, of a lever and appliances for throwing the armature away from the magnet when the said bar is raised. 8th. The combination of the magnet bar D, spindle d, ratchet c, arm f, pawl i and lever e. 9th. The combination with the rack-bar D and train of wheels, of a driving gear wheel W consisting of two sections the innermost having inclined recesses containing balls or rolls L.

No. 12,231. Cooking Stove. (*Poêle de cuisine.*)

Charles Fawcett, Sackville, N.B., 17th January, 1881; (Extension of Patent No. 5,747.)

No. 12,232. Improvements on Cultivators. (*Perfectionnements aux cultivateurs.*)

Benjamin F. Eaton, Coxsack, N.Y., U. S., 19th January, 1881; for 5 years.

Claim.—1st. The combination with the curved spring tooth E, of the stiffening piece E₁ mate with a similar curve fitted and secured to the said tooth. 2nd. The combination with the spring tooth E, of the pointed digger ends a, each at an opposite end of said tooth. 3rd. The combination with the spring tooth E having pointed ends a, of the removable digging point E₂. 4th. The combination with the curved spring tooth F, of the reversed curved spring support F₁ secured to the frame of the cultivator, rearward of the tooth and being against the rear side of the same. 5th. The stiff share tooth G made with V-shaped digging ends C and gradually contracted width of intervening body C₂, whereby the greater extension of width of said digging ends will be made greater than the width of said intervening body. 6th. The stiff share tooth G made sectional and composed of the removable half portions G₁ G₂, abutting together at Z and secured to standard G. 7th. The share tooth G formed of removable sections G₁ G₂, each a duplicate of the other, and capable of reversible situations on standard G. 8th. The combination with curved spring teeth, of the stiff share teeth for operation with the soil.

No. 12,233. Improvements on Treating Oils. (*Perfectionnements dans le traitement des huiles.*)

Donald C. Cattnach, Providence, R. I., U. S., 19th January, 1881; for 5 years.

Claim.—1st. Stirring the oil in a closed tank, applying to the oil thus stirred a regulated amount of heat, and forcing into the current of oil a stream of air also at regulated temperature, whereby a portion of the oil is alternately exposed to the action of the current of air and of the heated surface. 2nd. The process of treating linseed and kindred oils by first heating the oil in contact with water at the temperature specified; second, heating it in contact with the air at the specified temperature, and, third, stirring it in a closed tank heated as described with a stream of air at regulated temperature applied to the current of oil. 3rd. A horizontal tank having a rounded bottom and an elevated top, in combination with a shaft carrying blades adapted to give the oil a rotary movement within the tank and with a blower and pipe arranged upon the side of said tank adapted to discharge a current of air into the current of oil, at the proper point across said current of oil, and also in combination with heating apparatus. 4th. In combination with the described tank having the rounded bottom and elevated top and having also a shaft placed longitudinally in said tank and carrying blades adapted to give the oil rotary movement, a blower and a slotted tube extending the entire length of the tank, having connection with an air heating device and adapted to discharge air into the current of oil. 5th. The combination with the tank having a horizontal shaft and stirring blades and heating apparatus at the bottom of said tank, of an air heating apparatus and a slotted pipe for introducing the heated air to the oil and of a hood L and pipe l.

No. 12,234. Improvements on Fence Posts. (*Perfectionnements aux pieux des clôtures.*)

William De Lany, Cobourg, Ont., 19th January, 1881; for 5 years.

Claim.—1st. A post made of a single piece or bar of iron with the upper portion A and the lower or sunken portion B bent at right angles to the horizontal portion C, and the two parts A B connected and strengthened by braces c. 2nd. The twisted horizontal part C, in combination with parts A B to prevent them from springing and vibrating. 3rd. The part B having a bend a at bottom, and spurs b near top and the part A, in combination with the looped chair E embracing the said part B above the spurs b, and the braces c connected to said part below the spurs and to the part or post A. 4th. The double angular post A B C in combination with a horizontal looped chair D at base of the vertical part A, and an upright looped chair E at or near the top of the vertical part B. 5th. The part A, having tongues g, the part B having a bottom bend a and spurs b, and the part C connecting the parts A B, all constructed of a single piece or bar of iron and forming an improvement in metal fence posts.

No. 12,235. Improvements on Screw Heads. (*Perfectionnements aux têtes des vis.*)

John Eckford, San Antonio, Texas, U. S., 19th January, 1881; for 5 years.

Claim.—1st. A counter sinking screw head having notches or cutting edges on the under side or bevel thereof, the continuous series of cutters A and deep and flat interspaces or notches B, completely filling the circle or bevel of the head, said notches opening through the top of the head and thus forming the serrated crown.

No. 12,236. Improvements on Tire Tighteners. (*Perfectionnements aux machines à refouler les bandages des roues.*)

George W. Rishel, North Mountain, and Elias Rishel, Turboxville, Pa., U. S., 19th January, 1881; for 5 years.

Claim.—1st. The combination of the jaws A A₁ provided with jacks D D, operated by levers E E and projections G H, with the hook I and link J having serrated scroll wedge K, and the cam lever L. 2nd. The hinged jaws A A₁ having projections G H, in combination with the link J, hook I wedge K and cam lever L.

No. 12,237. Improvements on Paper Files. (*Perfectionnements aux serre-papiers.*)

Laning L. Ferris, New York, U. S., 19th January, 1881; for 5 years.

Claim.—1st. The combination with the slotted plate B, of the two curved

wires *c* and the double wire *d* having perforations *e* that receive a cord, the points of said wires *c d* interlapping. 2nd. The plate *B* provided with fixed wires *c* and removable wires *d*, and base *A* provided with screw *a* and nut *b* combined for use.

No. 12,238. Improvements on Skates. (*Perfectionnements aux patins.*)

Perceival Everitt, London, Eng., 19th January, 1881; for 5 years.

Claim.—1st. In combination with the tread plate or plates of a skate, a toe strap or gaiter which extends below such tread plate or plates and is attached to a roller or rollers mounted in bearings below the tread plate and capable of being rotated so as to tighten up the toe strap or gaiter. 2nd. In combination with a toe strap or gaiter which is capable of being drawn to tension by a roller, of equivalent device mounted below the tread plate, an adjustable heel piece for gripping with the aid of a fixed jaw the heel of the skater's boot, such gripping device being actuated by a screw spindle the thread of which gears into notches cut in the upper edge of the skate iron.

No. 12,239. Improvements on Sad Iron Heaters. (*Perfectionnements aux chauffe-fers à repasser.*)

John F. Curtice, Fort Wayne, Ind., U. S., 19th January, 1881; for 5 years.

Claim.—1st. An air-tight sad iron heater having no bottom and divided into separate compartments, each of which is adapted to receive both the iron and the handle.

No. 12,240. Improvements on Metallic Boxes. (*Perfectionnements aux boîtes métalliques.*)

George F. Griffin, London, Eng., 19th January, 1881; for 5 years.

Claim.—1st. In a tin or metal box or vessel, the combination with the body or with the lid thereof, of a rib or ribs, projection or projections whereby the opening of the box or vessel may be effected. 2nd. A tin or metal box or vessel whether having a rib or ribs, projection or projections for opening the same or not, the soldering of the cover or lid to the body in such a manner that a space is left between the top edge of the body of the box or vessel, and the inside of the top of the cover or lid to permit the descent of this latter into or over the said rib or ribs, projection or projections, or simply upon the body when struck free from the solder. 3rd. A tin or metal box or vessel having a rib or ribs, projection or projections for opening the lid or cover, strengthening the body and lid so that the tin or other metal may not yield or bend in the operation of opening the box or vessel.

No. 12,241. Improvements in Thill Couplings. (*Perfectionnements aux armons des limonnières.*)

Thomas Henry, Rockport, Ohio, U. S., 19th January, 1881; for 5 years.

Claim.—1st. The spring *E* in combination with the thill iron *C* provided with the grooves *c c*. 2nd. The spring *E*, having the bends *e f*, in combination with the tie bar *B*, and thill iron *C* provided with the grooves *c c*. 3rd. The clip *G*, in combination with the spring *E* having lug *g*, and the tie bar *B* of the clip *A*. 4th. The spring *E*, having curved end *a*, the bends *e* and *f*, and the bend *b* in combination with the clip *A*, tie bar *B* and thill iron *C*, when said spring is secured by means of the nut of clip.

No. 12,242. Improvements in Baling Presses. (*Perfectionnements aux presses d'emballage.*)

Peter K. Dederick, Albany, N. Y., U. S., 19th January, 1881; for 5 years.

Claim.—1st. The combination of the traverser *I* with the slide or staff *J*. 2nd. The combination of pitman *K* with the slide or staff *J*. 3rd. The oblong gears *G H*, for operating the traverser of a baling press. 4th. The combination of the gears *G H* with the pitman and traverser, in a baling press. 5th. The top connection *L*, in combination with the crank *L* and gear *H*. 6th. The combination of the standards *E E* with rods *P P*. 7th. The combination of the rods *S S*, with the power shaft or horse lever. 8th. The combination of the staff *J*, and connecting timber *D*. 9th. The combination of the connecting timber *D*, with the press box *A*, and power frame *E*. 10th. In a traverser, the top composed of one or more leaves or springs made adjustable. 11th. In combination with the frame of a baling press the bent axles *P* secured to the same. 12th. In a baling press traverser, the spring top formed of one or more leaves secured together at their rear ends. 13th. The table *R*, in combination with the connecting timber *D*. 14th. That class of baling presses in which the hay or other loose fibrous material is pressed in sections by a reciprocating traverser with power connections under the horse lever or circuit of the horse, the press and power ends thereof connected over the sweep or horse lever, and through or by means of the horse lever or power shaft. 15th. The combination of a double and a single cam gear wheel whereby the velocity is doubled and the power increased.

No. 12,243. Improvements on Basket Machines. (*Perfectionnements aux machines à paniers.*)

John Cross, Oakville, Ont., 19th January, 1881; for 5 years.

Claim.—1st. In connection with the former *D*, employed in basket making, the plates *F*, hinged or pivoted upon the table *E*. 2nd. The plates *F*, hinged or pivoted to the table *E*, in combination with suitable mechanism for raising them from a horizontal to a vertical position. 3rd. In a machine for basket making, the side plates *F*, hinged to the table *E* and operated by suitable mechanism to cause them to assume simultaneously a vertical position, in combination with the end plates *G*, also hinged to the table *E*, and provided with the hinged support *H*. 4th. The bars *J*, hinged to the spindle *L* and set to operate the side plates *F*, in combination with the levers *J*.

No. 12,244. Improvements on Buckboards. (*Perfectionnements aux planches-voitures.*)

Edouard Joubert and James H. White, Glen's Falls, N. Y., U. S., 19th January, 1881; for 5 years.

Claim.—1st. In combination with the boards or slats *C C* and body *H*,

the central cross bar *D* above, and the cross bars *G G* below the boards, and the springs passing over the ends of the top cross bar, and their ends held in keepers *a a* on the ends of the under bars.

No. 12,245. Improvements in Washing Machines. (*Perfectionnements aux machines à laver.*)

John Kingleyside, Hamilton, Ont., 19th January, 1881; for 5 years.

Claim.—1st. The combination of the elastic rolls *B*, with closed diagonal corrugations with the longitudinally corrugated roll *A*, in combination with the bush *F* and spindle *D*, with the operating gear and spring pressure. 2nd. The frames *C* and the rods *D*, in combination with the rolls *B*, the bush *F* and spindle *D*.

No. 12,246. Mechanism for Ornamenting Buttons. (*Machine à orner les boutons.*)

Jacob Y. Shantz, Berlin, Ont., (Assignee of Robert H. Isbell, New Milford Ct., U. S.), 20th January, 1881; (Extension of Patent No. 5,630.)

No. 12,247. Improvements in Pulleys. (*Perfectionnements dans les poulies.*)

Henry Turner, Montreal, Que., 20th January, 1881; for 5 years.

Claim.—The combination of the cupped washer *A* having neck *C*, with the cupped washer *D* having opening *E* to agree with said neck *C*, the two united.

No. 12,248. Improvements in Smut-Mills. (*Perfectionnements aux cylindres-émouisseurs.*)

William Lanhoff, Detroit, Mich., U. S., 20th January, 1881; for 5 years.

Claim.—The combination with an upper horizontal stone provided with a radial slot having closed longitudinal walls, of a slide which fits in the slot, and a set screw which engages with the upper edge of the slide.

No. 12,249. Improvements on Cigarette Machines. (*Perfectionnements aux machines à cigarettes.*)

Léon J. Bejottes and Joaquin del Calvo, New York, U. S., 20th January, 1880; for 5 years.

Claim.—1st. The combination of the rolling apron and check plate with wrapper box and pasting device. 2nd. The combination of the paste box and stripping plate with the apron and reciprocating table. 3rd. The combination of the paste box, the stripping plate and wrapper box. 4th. The combination of the paste box, stripping plate and hooks *H*, with the cross head and cams on the main shaft. 5th. The combination with the slides *E*, of a folding finger or fingers *Z*.

No. 12,250. Improvements on Stove Pipe Drums. (*Perfectionnements aux poêles-sourds.*)

William H. Packham and Edmund H. Wells, Dresden, Ont., 20th January, 1881; for 5 years.

Claim.—The pipe *F* provided with damper *G*, terminating within the drum *A* having air ducts *D*, passing through the closed ends of the drum.

No. 12,251. Improvements on Paper Shovels. (*Perfectionnements aux pelles en papier.*)

William H. Murphy and Alfred A. Howlett, Syracuse, N. Y., U. S., 20th January, 1881; for 5 years.

Claim.—1st. A shovel blade manufactured of compressed paper, as a new article of manufacture. 2nd. A paper shovel blade combined with a handle and plates or straps for securing the same.

No. 12,252. Machine for Rounding and Straightening Rods. (*Machine à arrondir et redresser les tiges.*)

Francis S. Malloch, Brockville, Ont., (Assignee of Joseph S. Seaman, Pittsburg, Pa., U. S.), 20th January, 1881; (Extension of Patent No. 5,637.)

No. 12,253. Machine for Rounding and Straightening Rods. (*Machine à arrondir et redresser les tiges.*)

Francis S. Malloch, Brockville, Ont., (Assignee of Joseph S. Seaman, Pittsburg, Pa., U. S.), 21st January, 1881; (Extension of Patent No. 5,637.)

No. 12,254. Machine for Jointing and Dressing Circular Saws. (*Machine à affûter et redresser les scies rondes.*)

Andrew J. Thayer and John E. Andrus, Leyden, (Assignees of William Potter, Boonville,) N. Y., U. S., 22nd January, 1881; (Extension of Patent No. 5,671.)

No. 12,255. Improvements on Stump Extractors. (*Perfectionnements aux arrache-souches.*)

John S. Norcott, Fingal, Ont., (Assignee of Jasper A. Woodworth, Howard City, Mich., U. S.), 22nd January, 1881; for 5 years.

Claim.—1st. The wheel *A*, with racks *B* and pawl *C*, adjustable brace *D*, frame *E* and anchor chain *F*. 2nd. The combination of the above named parts with the vertical roller *G*, the pivoted lever *I* and runners *J*. 3rd. The combination with wheel *A* having shaft *B*, of rope *E*, lever *I* and chains *N N*.

No. 12,256. Improvements on Spring Waggon.

(*Perfectionnements aux wagons à ressorts.*)

Martin Halfpenny and Edgar B. Emmons, Pontiac, Mich., U. S., 22nd January, 1881; for 5 years.

Claim.—1st. The combination, with the wagon frame and circle bar, of the bracket H, having rollers H₁ journalled in its opposite ends and provided with pivoted connections H₂ and clutches H₃. 2nd. The combination, with the wagon frame and king bolt located at a distance back from the front of a frame, of a bracket located beneath the front of the frame pivoted to the frame, the said bracket having anti-friction rollers at its extremities running upon a circle bar beneath. 3rd. The combination, with the circle bar and wagon frame, of the bracket H, provided with rollers H₁ and pivotal connections H₂. 4th. The combination, with the platform and bolsters, of the plate B provided with a central opening and semi-circular ridges or bearings *b* *b*; wearing plate B₁ provided with the tongue and groove connections *b*, and projecting collar *b*; cap plate B₃ and bolt B, the latter provided with a semi-cylindrical head which is located beneath the bearings *b*. 5th. In a platform spring wagon, side springs E, each made with a long and a short arm, the long arm made to project to the rear of the axle, and the short ends projecting forward of the axle and attached thereto, the said forward ends of the short arms provided with attachments for the draft. 6th. In a platform spring wagon, the arrangement of the bounds with their narrow ends forward and diverging from front to rear, the construction being such that the rear ends of the bounds form a bearing for the rear ends of the side springs, and the forward extremities of the bounds form a bearing for a cross spring located in the front of the axle.

No. 12,257. Improvements on Drag Sawing Machines.

(*Perfectionnements aux scieries à scies traînantes.*)

John Augspurger, Trenton, Ohio, U. S., 22nd January, 1881; for 5 years.

Claim.—1st. The combination of the supporting frame, the head a pivoted thereto, the pendulous lever c having its upper end pivoted to said head to swing at right angles thereto, and the saw connected with the lower end of said lever. 2nd. In a drag saw, the combination of two struts resting on the ground and connected at their upper ends by a cross-bar provided with a head capable of lateral swinging adjustment, and a supporting brace or third strut resting upon the ground or log, with a suspended pendulous lever pivoted to the head and constructed in two parts, one of which is adjustably secured to the other and connected with the saw and provided with an operating handle. 3rd. In a drag saw, the combination, with a supporting frame, of a suspended pendulous lever pivoted at its upper end and capable of a lateral swinging adjustment for varying the plane of oscillation of the saw. 4th. In combination with the supporting frame of a sawing machine, and the pendulous lever C, the pivoted head a and set screw for adjusting the plane of oscillation of the lever. 5th. In combination with the supporting frame and the movable head, the pendulous saw lever c composed of two sections c₁ arranged to slide one upon the other, the two yokes *y*, *y*, one secured to each of the lever sections c₁ and embracing and guiding the other section, and the set screw s² passing through one of the yokes and adapted to bind parts of the saw lever together. 6th. The combination, with the pendulous saw lever c and the saw pitman D, having a pivotal connection with the lever end of said lever, of the horizontal operating handle E, adjustably connected with the pitman by a pivot arranged in front of and beneath the pivotal connection of the saw pitman and lever. 7th. In combination with the pendulous saw lever, the pitman D, provided with spaced perforations *o*, in front of and in line with its pivoted connection, and the bifurcated handle E, adapted to be adjustably connected with the pitman by a removable bolt or pin passed through said apertures. 8th. The combination, with a pendulous saw lever c and a saw pitman D, having a series of spaced transverse holes *o*, of the cleats *d* attached to the pitman and pivoted to the lower end of the saw lever and also provided with spaced holes, and the bifurcated horizontal handle E embracing the said cleats and adapted to be adjustably connected therewith by a transverse removable bolt or pin. 9th. The combination of the saw pitman D, the dog R pivoted thereto, the yoke *y*, the set screws *s*, the pin *p* and the saw F having end notches *n* *n* into which the said dog and pin are adapted to be secured. 10th. The combination, with the saw F having notches *n* *n* and the pitman provided with yoke and set screw, of the dog R pivoted to the pitman and operating in conjunction with pin *p* to retain the saw removably. 11th. The combination, with the brace D, of the slotted plate G, pivoted to lugs *e* *e*, and secured by bolts R R¹.

No. 12,258. Process of Improving the Colour and Quality of Leaf Tobacco.

(*Procédé pour améliorer la couleur et la qualité du tabac en feuille.*)

The Louisville Leaf Tobacco Company, (Assignee of Goldsborough Robinson), Louisville, Ky., U. S., 22nd January, 1881; for 5 years.

Claim.—The process of heating leaf tobacco for improving the colour and quality, which consists in immersing the tobacco in alcohol and then drying the same.

No. 12,259. Improvement on Electric Lamps.

(*Perfectionnements aux lampes électriques.*)

Charles J. Van Depoele, Detroit, Mich., U. S., 22nd January, 1881; for 5 years.

Claim.—1st. In a vibrating electric lamp, a spring supporting the lower carbon so constructed that the weight of the upper carbon will depress said spring and break contact with the contact E, and allow the electric current to flow through the carbon points and through the electric magnet D₁ holding down the spring C as long as the current is flowing, said spring being raised in contact with E by the removal of the upper carbon or by the relief to said spring of the weight of said upper carbon, and the consequent break of circuit, allowing the current to pass to the next lamp. 2nd. In a vibrating electric lamp the means of cutting out of circuit, one or more lamps without effecting the others in the circuit, and of automatically re-establishing the current through said lamp or lamps as before, such means consisting of the weight of the upper carbon, in combination with the electric-magnet D₁ and their connections. 3rd. In a vibrating electric

lamp, an electro-magnet producing the vibrations of carbons worked independently from the main or light giving current or circuit, by a separate or derived current, thereby securing an isochronic vibration in all the lamps in the circuit and rendering the same all of equal power, the vibrations being unaffected by the main circuit. 4th. A vibrating electric lamp wherein the vibrations are constant in any number of lamps placed in circuit and obtained from a separate or derived current and independent of the main circuit. 5th. A vibrating electric lamp wherein the main light giving current is passed through the carbon points, and the vibrations are maintained by means of a separate or derived current circulating through properly placed electro-magnets, or wherein the vibrations are maintained by other equivalent means. 6th. An electric lamp wherein either of the carbons is fed or advanced by the action of, or under the influence of rapid vibrations, such vibrations being produced independent of the main light giving current. 7th. An electric lamp wherein the upper carbon point is held up by magnetism and fed by vibrations. 8th. An electro-magnet, the action of which is produced without interrupting the main current through said magnet by breaking the circuit, to magnetize and demagnetize the core of such magnet by a shorter conductor, in proper contact at proper time, whereby the magnet coils remain in permanent connection with the main circuit, and whereby the current is allowed to flow through said short circuit when necessary to produce the demagnetization of the magnetic core, said short circuit being withdrawn from the current when the coils become magnetic.

No. 12,260. Improvements on Dynamo-Electric Machines.

(*Perfectionnements aux machines électro-dynamiques.*)

Charles J. Van Depoele, Detroit, Mich., U. S., 22nd January, 1881; for 5 years.

Claim.—1st. In dynamo-electric machines, and upper and lower field of small magnets A having each a separate core in combination with an armature whose iron bars do not touch at their edges. 2nd. The combination with the two diametrically arranged series of magnets A, having sections C forming top and bottom of the case, of the side B having, in their neutral line, projections carrying bearings E together with a revolving armature arranged in said bearings. 3rd. The revolving armature F consisting of the bands b attached to shaft A by hubs d, and the bars c attached to bands b, and wound with wire in sections.

No. 12,261. Improvements on Cartridge Belt Fabrics and Looms for Weaving the Same.

(*Perfectionnements aux tissus à ceintures de cartouchières et aux métiers pour les tisser.*)

Anson Mills, Washington, D. C., U. S., 22nd January, 1881; for 5 years.

Claim.—1st. A woven cartridge belt composed of a double fabric woven with timbles or pockets on one thickness of the fabric which extends only partly across the fabric, leaving at each edge a selvage composed of the full thickness of the double fabric. 2nd. A cartridge belt fabric composed of a double fabric having tubular, or tubular and corded selvages and woven with timbles on one thickness of and extending only partly across the fabric. 3rd. The combination, with the cloth and warp beams and the automatic intermittently operating cloth beam take up, of a loop or thimble take up provided with needles or retaining points extending down from above into the warp and operating at the times, the said cloth beam take up is inactive to take up the loop or thimble fabric. 4th. The vibratory or rising and falling thimble take-up arranged above the warp with needles or retaining points extending down into the same, in combination with the cloth and warp beams and the automatic intermittently operating cloth beam take up. 5th. The combination of the cloth beam and its intermittently take up, the loop or thimble take-up, the thimble warp beam and its let off and the main fabric warp beam and its positive let off, these elements being combined for joint operation.

No. 12,262. Machine for Edging Sheet Metal.

(*Machine pour ébarber les feuilles de métal.*)

James E. Tyler, Orange Court House, Va., U. S., 25th January, 1881; for 5 years.

Claim.—1st. In a metal edging machine, the combination of the spring gripping plates arranged to slide in guides, with suitable means for reciprocating them, the edge of one gripping plate being bent to overlap the edge of the other plate, and a presser bar arranged relatively to the jaws of the presser-plates to bend the plate over as it is drawn beneath it. 2nd. In a machine for bending the edges of sheet metal to form a double fold, the combination of the spring reciprocating gripping plates, a presser bar arranged above the same and a rotary cam or bending plate arranged relatively to each other so that the bending plate will encircle and pass beneath the edges of the gripping jaws, to turn the second fold in the metal plate. 3rd. In a machine for edging sheet metal, the combination of the gripping plates C E hinged together and provided with suitable means for reciprocating them, the presser spring G, the presser bar H and the cam plate I and lever K for operating it to compress the spring plates and relieve the work.

No. 12,263. Improvements on Steam Boiler Furnaces.

(*Perfectionnements aux fourneaux des chaudières à vapeur.*)

Charles F. Pike, Providence, R.I., U.S., 25th January, 1881; for 5 years.

Claim.—1st. The furnace containing the following elements, constructed and arranged as follows, to wit, outer walls, a grate, perforated, inner walls affording side grate surface, an air space between said walls communicating with pipes for the forcible induction of atmospheric oxygen, a front brick arch extending to or near the central portion of the fire-box, and a rear brick arch which overlaps the front arch to afford between their coincident surfaces a combustion flue, whereby the volume of flame, gas and air from all parts of the fire bed is concentrated centrally at the mouth of the combustion flue, the admixture of gas and air assured by reason of said central concentration above the fire bed, and combustion of the gases assured in their passage through the flue and above the arches. 2nd. A boiler furnace walled in part by the flue sheet and the crown sheet of the boiler, provided with a

grate, outer side walls, inner perforated side and end walls, an air space between said outer and inner walls, and two brick arches interposed between the crown sheet and grate which overlaps each other and afford a combustion flue between them leading upward and away from the flue sheet, whereby the brick arches are maintained at a high degree of heat for aiding in burning the mixture of gas and air, and the combustion of solid and gaseous matter practically confined to the fire-box, beneath the crown sheet and prior to entering the boiler flues. 3rd. In a boiler furnace, a pair of brick arches, affording a combustion flue and having downwardly curved surfaces on each side of the entrance to said flue, whereby the flames and unconsumed combustible matter rising from or near the ends of the furnace are deflected toward the centre of the fire-bed and exposed to favourable mixing conditions, prior to entering the combustion flue. 4th. The combination, with a closed locomotive ash-pan, of the perforated fire-box walls, the air space surrounding said walls and communicating with the ash-pan, and a funnel pipe for conveying air under pressure into the ash-pan and air space.

No. 12,264. Power Apparatus for Churns, Pumps, &c. (*Appareil moteur pour les barattes, pompes, &c.*)

Virgil H. Winchell, Olive, N.Y., U.S., 25th January, 1881; for 5 years.

Claim.—1st. The combination, in a hand power apparatus, of two levers F H I and the connecting link or bar L, when the short arm of lever F is connected to the short arm of lever H I by the link L. 2nd. The combination of main lever F, link or bar L, elbow lever H I, dash rod K and spring P. 3rd. The combination of base B, connecting devices C D, standards E G, main lever E, link or bar L, elbow lever H I and spring P.

No. 12,265. Improvements on Steam Boilers. (*Perfectionnement aux chaudières à vapeur.*)

George H. Babcock, Plainfield, N.J., and Stephen Wilcox, Brooklyn, N.Y., (Assignees of Edwin H. Bennett, Bayonne, N. J.), U. S., 25th January, 1881; for 5 years.

Claim.—A steam boiler, or analogous construction, having castings B provided with tapering holes b, in combination with tubes A having tapered ends A' combined and adapted to serve as specified.

No. 12,266. Improvements on Pipe Joints. (*Perfectionnements aux joints des tuyaux.*)

John Page, Glasgow, Scotland, 27th January, 1881; for 5 years.

Claim.—1st. The joint for cast-iron pipes formed by placing a ring of lead in a groove in the mouth of the faucet, and subsequently forcing in the spigot. 2nd. The lead ring for forming the joints of cast iron pipes, such rings being formed apart and subsequently applied to the pipes.

No. 12,267. Improvements on Surgical Splints and Braces. (*Perfectionnements aux appareils orthopédiques.*)

Charles F. Stillman, Plainfield, N.J., U. S., 27th January, 1881; for 5 years.

Claim.—1st. The combination, with the longitudinally slotted overlapping bars a b, of the slotted overlapping or loose arc f, and the adjustable clamp screws c d e. 2nd. A surgical splint formed of two adjustably jointed supporting bars with terminal plates adapted to secure the splint to the limb, formed of sheet metal punched with protrudent punctures for the better adhesion of the attracting bandages. 3rd. A surgical brace or splint for the foot or leg or both, constructed with a horizontal lever bar pivoted at or about the back of the heel to the lower end of the leg-bar, and extending forward toward the toe, in combination with a spring connected to, and tending constantly to raise said lever bar, and a connection from said lever to the patient's shoe at or about the arch of the foot, whereby an increased leverage is obtained to assist the vertical ankle motion of the foot. 4th. A surgical brace of the described kind constructed with a branch passing under the sole of the patient's shoe, and pivoted on the arch of the sole, at or about the centre of horizontal motion of the foot, in combination with a spring or means of turning the shoe or foot on said pivot in the required direction. 5th. A surgical brace of the kind described, constructed with a branch arranged to pass under the patient's shoe sole and connected therewith at or about the centre of horizontal motion of the foot, by a movable pivot or fastening by which the brace may be attached to or removed from the shoe as required. 6th. A surgical brace for the leg and foot, constructed with a vertical bar attached to the leg and extending towards the heel, in combination with a horizontal bar pivoted at the back and to the lower end of the aforesaid bar, and having a branch pivoted on the arch of the shoe sole, and a spring tending to raise said double pivoted bar, and with it the foot, whereby the vertical ankle movement of the foot is assisted, and its horizontal movement allowed. 7th. A surgical brace of the described kind adapted to be attached to the patient's shoe and formed with a branch arranged to pass under the shoe sole with a slot or opening in said branch, in combination with a turnable pivot or fastening secured to the shoe sole and formed similar to said slot so as to freely admit the overpassage of the same in a parallel position to allow the attachment or detachment of the brace to the shoe and when turned at an angle thereto, to serve to retain the brace upon the shoe. 8th. The combination with a surgical brace or splint for the leg or foot, or both, of the over sliding plates v v' attachable to the shank of the patients shoe, having marginal claws to engage the edge of the sole, and a means of fastening the plates together, with a connection between one of the plates and the lower extremity of the leg or foot bars of the brace, whereby the same becomes detachably connected. 9th. The combination, with a surgical brace or splint for the foot or leg, or both, of a plate affixed to the patients shoe, and provided with a pivoted block, with a means of connecting the same to the lower extremities of the brace-bars and a movable fastening serving to hold said block in rigid position, or allow its free pivotal movements.

No. 12,268. Improvements on Fruit Driers. (*Perfectionnement aux séchoirs à fruits.*)

Oscar F. Tiffany, Buffalo, N.Y., U.S., 27th January, 1881; for 5 years.

Claim.—1st. The combination of a furnace e having a suitable smoke stack f₁ and a vapour stack a₁, with a series of two or more drying apartments B C or D provided with the movable floors M M₁ or M₂ and the ceil-

ing N₁ N₂ or N₃ arranged below them. 2nd. In a fruit drier provided with a series of ceilings N₁ N₂ or N₃, the combination of a furnace e, a vapour stack a₁ and a series of adjustable movable floors M M₁ M₂, for the purpose of regulating the flow of heated air between the floors and ceilings. 3rd. The combination of the apartments B C D, ceiling N₁ N₂ or N₃, with two or more dampers e₁ f for the purpose of controlling the direction of the currents of heated air, or for concentrating said heated air to any point desired. 4th. A fruit drier having the several compartments B C or D provided with the slide ways a a' or a₂, upon which the fruit trays a₂ are placed, in combination with the elevators E F provided with the slide ways b b₁ and a suitable hoisting apparatus, and arranged to slide in guide ways E₁. 5th. The combination of a furnace e, a pipe f₁ and a hot box O, for the purpose of distributing the heat at the end of the drier near the hot box. 6th. A fruit drier provided with the friction rollers I I' and K, slide ways E₁ and elevator E₂, in combination with the chains G₁ H arranged on pulleys and connected together at K' so as to be adapted to be operated by a lever or crank.

No. 12,269. Improvements on Corn Planters. (*Perfectionnements aux semoirs à blé d'inde.*)

John W. Duval, Grimsby, Ont., 27th January, 1881; for 5 years.

Claim.—1st. The combination of the seed charger c₁ with the planting slide a₁ a₂. 2nd. The position and the working of the stop blocks e₁ e₂ e₃. 3rd. The distributing box k₁ k₂, wire spring i₁ i₂ and seed gauge b₁ b₂.

No. 12,270. Improvements on Sugar Evaporators. (*Perfectionnements aux évaporateurs à sucre.*)

David H. Ingalls, Durham, Que., 27th January, 1881; for 5 years.

Claim.—1st. The combination, with a sugar evaporator, of the corrugated bottom B B with its longitudinal valves C C and clearing channel G, and the self-acting regulator valve H applied to the opening D in the partition E.

No. 12,271. Improvements on Machines for Unhairing and Fleshing Hides. (*Perfectionnements aux machines à débarrasser et écharner les peaux.*)

Archibald W. Reid, Shenectady, N.Y., U.S., 27th January, 1881; for 5 years.

Claim.—1st. The combination of revolving drum or wheel A, holders D, tools C and supporting stand E. 2nd. In machines for unhairing hides wherein the hides are held against moving tools, the tools of flexible material, such as vulcanized rubber or leather, held rigidly in holders of suitable form.

No. 12,272. Improvements on Blanket-Holders. (*Perfectionnements aux attache-couvertures.*)

William H. D. Newth, Detroit, Mich., U.S., 28th January, 1881; for 5 years.

Claim.—1st. In combination with a harness, a series of spring clips secured at suitable points thereto, as a means of holding a horse blanket or fly-net in place. 2nd. In a spring clip, the combination of the roller E journaled to the lever B, with the transverse channel d in the base A.

No. 12,273. Improvements on Potato-Diggers. (*Perfectionnements aux arrache-potatoes.*)

Robert Seldon, Stafford, N.Y., U.S., 28th January, 1881; for 5 years.

Claim.—1st. The wallower R open at its bottom and consisting of the inclined perforated sides r, connected together at their inner ends by the short top plate r₁, in combination with the plate D, cross bar S and chains S₁. 2nd. The combination of the sectional apron H with the travelling screen G, excavator F and guard plate F₁. 3rd. The combination of the sectional apron H with the excavator and travelling screen. 4th. The travelling screen composed of bars d, flat upon their upper faces and rounded on their under faces, and having flattened end d' with rounded edges e₁, embracing opposite sides of the rounded links e e and held in place by the open metallic clamps e₂. 5th. The angular standard b provided near its lower end with the stud b₁ in combination with the roller o having the flanges f f₁, recess b₂ b₃, nut b₄ and screw plug b₅.

No. 12,274. Improvements on Fluid Meters. (*Perfectionnements aux compteurs à fluides.*)

John R. Norfolk, Boston, Mass., U.S., 28th January, 1881; for 5 years.

Claim.—The valve mechanism set forth, the same consisting of the combination of the main valve E, casing F and supplementary valve M arranged to operate in the valve chamber B in the manner described.

No. 12,275. Improvements on Apparatus for Bleaching Fruit or other Materials. (*Perfectionnements aux appareils à blanchir les fruits ou autres objets.*)

Oscar F. Tiffany, Buffalo, N.Y., U.S., 28th January, 1881; for 5 years.

Claim.—1st. A chamber D for the bleaching material, and one or more boxes G having slotted or perforated bottoms for holding the material to be bleached, and allowing the bleaching gas to pass up through it, in combination with an inlet opening C, a curtain N₁ and a suitable flue P for conducting the gas that may escape from said curtain to the smoke stack. 2nd. The combination of the bleaching material apartment D having a door E, one or more boxes G provided with a slatted bottom, and a gas chamber L provided with a permanent gas holding chamber K and a damper M. 3rd. The combination of one or more openings C, boxes G and the deflecting device S. 4th. The combination of the inlet openings C, curtains N₁ and flues O O'. 5th. The gas chamber L terminating in the flue L₁, in combination with the gas flues O O' P P₁.

No. 12,276. Improvements on Carriage Tops.

(Perfectionnements aux soufflets des voitures.)

Joseph Simpson. (Co-inventor with Joseph Best,) Montreal, Que., 28th January, 1881; for 5 years.

Claim.—1st. The brackets F having socket terminations provided with cam lever G, for holding the shifting rail E to the seat. 2nd. The combination of the shifting rail E having arms H, brackets F having socket terminations receiving said arms, and cam lever G or equivalent holding device. 3rd. The combination of prop K, spring lever L, with the rail E for supporting the top.

No. 12,277. Method of and Machine for Rolling the Threads of Screws. (Méthode et machine pour cylindrer les fils des vis.)

Hayward A. Harvey, Orange, N. Y., U. S., 28th January, 1881; for 5 years.

Claim. 1st. The method of forming screw threads consisting in subjecting the blank to two or more progressive rolling operations between successive pairs of dies, the respective pairs of dies having ridges on their working faces relatively varying in depth or width, the primary dies forming a shallow spiral groove upon the body of the blank, and the subsequently following pair of dies deepening and enlarging such grooves until the thread is finished. 2nd. A rotating die and a stationary curved die, for forming the threads of screws or bolts, in which the working faces for impressing the thread upon the body of the blank are transversely notched at intervals. 3rd. In machines for forming screw threads jointly, two or more pair of dies, each pair consisting of a rotating die and a stationary curved die, the respective pairs of dies having the ridges on their working faces relatively varying in depth or width, for the purpose of forming the thread of a screw or bolt by a series of two or more progressive operations, the primary dies forming a shallow spiral groove upon the body of the blank, and the subsequently following pair of dies successively deepening and enlarging such groove until the thread is finished. 4th. The combination of pairs of dies with transferring mechanism for conveying the blank from one pair of dies to the next following pair of dies consisting of the wheel C and the guide C'. 5th. The oscillating arm H, connected with the stationary guide provided with the tripper H', in combination with the stationary guide H2, and with the actuating pin H3. 6th. The hollow cylinder I, affording upon its exterior the bearing for the milling wheel L, in combination with the shaft D, extending eccentrically through the hollow cylinder I and carrying the rotating die A.

No. 11,278. Improvements in Processes for Coating and Finishing Walls. (Perfectionnements aux procédés pour enduire et finir les murs.)

John W. O'Bryan and John W. Cook, Petersburg, Ill., U. S., 20th January, 1881; for 5 years.

Claim.—The method of ornamenting the outer surfaces of building by first aligning, and then applying a compound of putty, white lead and Japan varnish, to form raised joints projecting from the plane of the surface.

No. 12,279. Improvements on Horse Shoes. (Perfectionnements aux fers à cheval.)

William Jones and William Glen, Toronto, Ont., 28th January, 1881; for 5 years.

Claim.—1st. A horse shoe B provided with lips or projections C and plate D, located and shaped as described, in combination with the semi-circular band E, arranged to fit the hoof. 2nd. A horse shoe provided with a clasp plate at its toe, in combination with a band fitting the hoof and connected to the heel of the shoe.

No. 12,280. Improvements in Pneumatic Economizers for Ice Making or Refrigerating Purposes. (Perfectionnements aux régulateurs des machines pneumatiques pour faire la glace ou pour refroidir.)

Simon B. Hunt, New York, U. S., 29th January, 1881; for 10 years.

Claim. 1st. The expanding cylinder C' having the air chest and valve chamber D, forming a part thereof, in combination with cut off shaft S, and pedals 5 6 7 8, gate N, valves 1 2 3 4 and lever V, all operating by the main crank shaft F, so that the elastic force of compressed air, in the cylinder C' of the expanding engine, will act as an auxiliary power to the driving engine A. 2nd. The steam piston rod W geared to the outer face of the fly wheel Y, and the piston rod in expanding cylinder C' to the outer face of the fly wheel Y, in such a manner that the said piston operates alternately in opposite directions to the steam piston in cylinder A, by which means the compressed air in the cylinder C' assists in operating the driving crank shaft F, which operates the compressors B, in combination with the valves 1 2 3 4, pedals 5 6 7 8, shafts S, and lever V.

No. 12,281. Apparatus for Producing Dry Atmospheric Air for Refrigerating, &c. (Appareil pour produire l'air atmosphérique sec pour refroidir, &c.)

Simon B. Hunt, New York, U. S., 29th January, 1881; for 10 years.

Claim. 1st. An air trap for the production of cold dry atmospheric air under pressure. 2nd. The air trap T having a blow off valve and pipe N, extending into and near the bottom of said trap, and pipes P' S', in combination with the coil chamber A, expanding engine C, C', egress pipe S1.

No. 12,282. Art of Reducing the Temperature of Atmospheric Air for Freezing Water or Refrigerating Purposes. (Art de réduire la température de l'air atmosphérique pour geler l'eau ou pour refroidir.)

Simon B. Hunt, New York, U. S., 29th January, 1881; for 10 years.

Claim. 1st. The process of drying the compressed air while under pressure by means of a suitable trap, in combination with any suitable compressing apparatus cooling coil and expanding engine. 2nd. The process of discharging the compressed dry cold air broad cast into the refrigerating room, and then returning it to the cooling coil chamber.

No. 12,283. Improvements on Steering Apparatus for Vessels. (Perfectionnements aux appareils à gouverner les vaisseaux.)

James F. Guild, Dundee, Scotland, and Arthur E. Knights, New York, U. S., 29th January, 1881; for 5 years.

Claim.—1st. In apparatus for steering by steam or other power, one or more cylinders having pistons connected directly to the steering chains, and a valve fitted for movement by a hand wheel, for admitting steam or other fluid under pressure to either or both sides of the piston head, combined for operation as described. 2nd. The combination, with a cylinder and piston fitted to move the rudder, of an auxiliary cylinder or cylinders containing fluid and having pistons connected to the piston of the steam cylinder, and a valve or valves fitted to move simultaneously with the steam valve, to allow or prevent passage of the fluid from one end of the cylinders to the other. 3rd. In apparatus for steering by steam or other power applied to move a piston in a cylinder, a valve for regulating the pressure so constructed and combined with the mechanism that, when the piston is in its middle position, both parts are open for admission of steam to equalize the pressure on the piston. 4th. The steam cylinder B, steam chest D having pistons C and containing valve E, liquid cylinder A having passages G, chamber E provided with partition H and valves I, and pistons A connected with the steering chains combined together and provided with a hand wheel for giving simultaneous movement to the valves. 5th. In steering apparatus, the combination, with the rudder head and chains, of eccentrics C made in the double form as described. 6th. A shaft J fitted for operation by wheel G and carrying the crank E combined with the steam cylinder B, liquid cylinders A and their valves E I, for the simultaneous operation of the valves.

No. 12,284. Improvements on Machines for Nailing Barrel Hoops. (Perfectionnements aux machines à clouer les cercles des barils.)

Lowell M. Palmer, (Assignee of Emerson Cole,) Brooklyn, N. Y., U. S., 29th January, 1881; for 5 years.

Claim.—1st. A hoop nailing apparatus consisting essentially of a curved anvil or bed for supporting the lapped ends of the hoop, and a moving clamping head, carrying nail or staple setters, provided with means for supplying them with nails or staples and driving or inserting the same through the hoop. 2nd. The combination, with a moving clamping head provided with nail or staple setters, having means for feeding nails or staples and driving the same into a hoop, of a former for determining the dimensions of the hoop, and a band for passing said hoop upon the former. 3rd. The combination, with a moving clamping head carrying nail or staple setters, of a former, co-acting with said head to properly support the lapped ends of a hoop or back plate projecting from said former, to sustain the inner edge of the hoop, and moving arms to operate against the outer edge of the hoop to even the same. 4th. The combination, with a moving clamping head carrying nail or staple setters, of a former co-acting with said head to properly support the lapped ends of a hoop, and a band for holding the hoop upon the former, during the operation of fastening the ends of the hoop ejectors, for removing the finished hoop. 5th. The combination of a moving clamping head carrying nail or staple setters, a former holding band and eveners co-acting therewith, to adjust and support the hoop during the operations of fastening its ends, and ejectors to remove the finished hoop. 6th. The combination, with the former 31, of the guide 37. 7th. The combination, with the former 31, of the ejectors 7. 8th. The combination of the former 31, band 10 and the ejectors 7. 9th. The combination of the former 31, band 10, eveners 2 and ejectors 7. 10th. The combination, with the former 31, of the elastically hung band 10. 11th. The combination, with the former 31 and head 40, of the band 10 and its carrying shoe 11. 12th. The combination, with the former 31 and the band 10, of the tappet 12 and one or more arms 35. 13th. The combination, with the former 31 and the ejectors 7, of the spring seated levers 9 and the cam 6. 14th. The combination, with the former 31 and arms 2, of the rods 1 and cams 13. 15th. The combination, with a spring seated plunger and a nail guiding channel in which said plunger reciprocates, of a nail directing recess and spring seated guides protruding into said channel and constituting a guide way, in continuation of that formed by the recess or the rails 47 48. 16th. The combination of a spring seated plunger 51, guiding channel 53, spring seated guides 18 19, and guide rails 47 48 that communicate directly with said channel and guides. 17th. The combination, with a hopper 22, of a spring seated plunger 51, guiding channel 53, spring seated jaws 18 19, guiding rails 47 48, and a head 49 having a nail directing recess as 23, of stops 9, whereby nails promiscuously received are fed forward in a row separated and set singly. 18th. The combination, with the guide rails 47 48, spring seated guides 18 19, spring seated plunger 51, guiding channel 53 and head 40, provided with a nail directing recess 23, of stops 9, whereby nails fed forward in a row are separated and set singly. 19th. The combination, with a moving head 40 furnished with a staple setting mechanism and carrying a guide 25, of a swinging horn 61 and a stationary horn 56, the swinging horn operating to pick up the staples from a hopper and direct them to the stationary horn for delivery to the guide 25. 20th. The combination, with the moving head 40 and the guide 25, of carries, of the stationary horn 56 and its spring seated hook 24. 21st. The combination, with the stationary horn 56 and the hopper 71, of the in-

terposed swinging horn 61 operating to pick up the staples from the hopper and transfer them to the horn 56. 22nd. The combination, with the plunger and a head provided with a guiding channel in which the plunger reciprocates, of the spring seated guide 77 constructed with an inclined face, and so as to provide spaces between its sides and the walls of the guiding channel, for the passage of the staple legs. 23rd. The combination, with the plunger 54, the guiding channel 75 in the head 40, and the delivery recesses connecting therewith, of the spring seated guide 77 and the inclined guide 25. 24th. The combination, with the plunger 54, guiding channel 75, and the delivery recesses connected therewith, of the inclined guide 25, spring seated 77 and stops 26.

No. 12,285. Improvements on Soldering Apparatus. (*Perfectionnements aux appareils à souder.*)

John J. Johnston, San Francisco, Cal., U.S., 31st, January, 1881; for 5 years.

Claim—1st. The combination, with the furnace A, the solder pot B and spindle C, of the float D sliding on the said spindle. 2nd. The combination of the furnace A, the solder pot B, hollow or tubular spindle C, and float D having a centrally apertured chamber, and sliding on the hollow spindle C.

No. 12,286. Improvements on Spark-Arresters. (*Perfectionnements aux arrête-flammèches.*)

David Groesbeck, New York, U.S., 31st January, 1881; for 5 years.

Claim—1st. The combination, with the smoke box of a locomotive, of a tank for containing water exterior to said smoke box, a pipe or passage E leading from the smoke box, connecting said smoke box and tank, having the end farthest from the smoke box open below the water level in said tank, and a smoke stack having its lower part connected with, inserted, or opening into said tank. 2nd. The combination, with the smoke box A, pipe or passage E, tank D and smoke stack C, of the flue or passage F placed in front and opening into the smoke stack, and the adjustable deflector G arranged in said flue. 3rd. The combination of the smoke box A, smoke stack C and the branch pipe B provided with a valve c. 4th. The combination, with the smoke box A, flue E, tank D and smoke stack C, of the water reservoir R, pipes p and cocks c1. 5th. The combination, with the water tank D, of the screen W placed at the water level in said tank.

No. 12,287. Improvements on Drop Light Fixtures. (*Perfectionnements aux chandeliers.*)

Charles F. Spencer, Rochester, N. Y., U. S., 31st January, 1881; for 5 years.

Claim—1st. The single central hanger A provided with loops b b at its lower end, and the lamp fixtures B B provided with vertical standards f f resting in the loops and secured by set screws c c or equivalents. 2nd. The combination of the hanger A provided with the loops b b, the fixtures B B provided with tapering or wedge-shaped vertical standards f f resting in the loops, and set screws c c clamping against the tapering standards.

No. 12,288. Improvements on Lamps. (*Perfectionnements aux lampes.*)

Charles F. Spencer, Rochester, N. Y., U. S., 31st January, 1881; for 5 years.

Claim—1st. In a lamp, the standard consisting of a continuous strap, forming a handle on each side, provided with slots for hanging on a hook or stud on a wall, and having a concavity in the top for receiving the cylinder.

No. 12,289. Improvements on Milk Coolers. (*Perfectionnements aux garde-lait.*)

Amasa C. Clark, Manchester, Iowa, U. S., 31st January, 1881; for 5 years.

Claim—1st. The combination, with the tank A and the transverse vertically vibrating balls B, hinged thereto at one end and resting thereon at the other end, of the pans C supported by said balls sliding thereon, endwise, and having each a projecting spout b. 2nd. The combination, with a tank A, of the balls B hinged to one edge of the same and resting on the other, and provided with the downward bends a forming the depressed part a1 reaching under the water, and the independent pans C supported by the balls, and sliding endwise on said depressed parts. 3rd. The combination, with the tank A, the vibrating balls B having the depressed portions A1 under water, and the pans C supported by said balls and sliding endwise thereon, of the lids D fitting over the pans and spouts, and provided with a flange extending down the bends into the water forming a seal.

No. 12,290. Improvements on Thill Couplings. (*Perfectionnements aux armons des limonnières.*)

George W. Fried, Allentown, Pa., U.S., 31st January, 1881; for 5 years.

Claim—The box B having side walls D provided with slots C, and the bottom wall H having step N, in combination with the thill iron G having c, e F, the swinging loop I having cross bar L and set screw M, the bolt E and nut E.

No. 12,291. Improvements on Suspenders. (*Perfectionnements aux bretelles.*)

Jacob Katzenberg, New York, U.S., 31st January, 1881; for 5 years.

Claim—1st. In the manufacture of suspenders, the shoulder straps fastened together at the point a and having the extension b below the

same. 2nd. The shoulder straps A A formed of a single piece or web which is folded or doubled at the middle of its length and fastened together above the fold, for the purpose of securing the rear buckle or clasp and forming a pad for the same. 3rd. The combination of the rear buckle or clasp B with the shoulder straps A A, fastened together at a and having the extension forming a pad b. 4th. As an improved article of manufacture, in suspenders constructed as described, the shoulder straps A made in one piece folded together at the centre and having hook buckles or clasps B C C, the plates E having wide curved hooks or runners, and the single cord G having button pieces H upon the opposite sides of its centre, and button pieces K at its ends. 5th. The suspender button hole tips formed of three plies or pieces of fabric 1 2 3, the middle piece being arranged with its warp threads crosswise of, or at right angles to those of the other pieces which are secured thereto. 6th. The improved suspenders composed of the shoulder straps A A, the elastic straps B B and the non elastic button hole tips formed of three plies of fabric arranged as described, and the outer one being of the same pattern and appearance as the shoulder straps, and the metal clasps for connecting the said button tips with the elastic straps.

No. 12,292. Improvements on Force Pumps. (*Perfectionnements aux pompes foulantes.*)

Andrew J. Hopkins, Hamilton, Ont., 31st January, 1881; for 15 years.

Claim—1st. The offset pipe B cast with curved head at side of cylinder A. 2nd. The valved cylinder head C1, cast with recess B1 on its under side, and valve E stopping therein. 3rd. The cylinder head C1 cast with a flange b, to stop against opening in the valve chamber through which the valve E is inserted. 4th. The valve E held in valve chamber by pintle d. 5th. The valve E constructed of a metallic plate C and exterior leather coverings h. 6th. The combinations of the piston plunger I constructed of two metallic discs f f1, and two intervening discs of leather g g, on rod I and valves E G G1, and cylinder A. 7th. The combination of the tubular pump rod K, piston rod I, coupling L, and cylinder A. 8th. The glass tube O supported from pump post Q to guide pump rod K. 9th. The angle side plates P bolted to pump post Q, and caps R removably attachable to said plate by bolts and nuts S, both having semi-circular bearings for loosely confirming fulcrum pin of the handle. 10th. The air chamber constructed of tubular pipe T, with screw-capped ends U V, removably connected with delivery pipe J, and spout W by a T-coupling. 11th. The combination of the clamp plates K, valves G G1, screws l and grating m.

No. 12,293. Improvements on Paper Bag Machines. (*Perfectionnements aux machines à sacs de papier.*)

William C. Cross, Boston, Mass., U.S., 31st January, 1881; for 5 years.

Claim—1st. The combination of the guide bar, the rotary nipper bar and its nipper, the reciprocating folding guide and mechanism for continuously feeding along the paper tube or blank. 2nd. The combination, with the feeding mechanism, the guide bar, the rotary tipping or grasping mechanism, and the reciprocating fold guide, the fold retaining finger N. 3rd. The combination of the tapes C1 or their equivalent, the travelling apron D2, the folding roll and folders, arranged and operating as described, the sweep over the folding line on the folding roll in both directions in a plane tangential, or nearly so, to said line. 4th. The carrying tapes C1, or their equivalent and the folding roll, in combination with the apron D2, inclined downward in front of the folding roll, and the swinging folders described, with or without the shoe. 5th. The combination, with the feeding apron D2, of the parallel stationary presser guides or strips C2 and means for folding the flaps after diamond. 6th. The combination of the feeding carrier or apron D2, and tapes C1, or their equivalent, inclined at the front, the correspondingly inclined auxiliary travelling apron or tapes F2, the folding blade K2 carried by the same, and the fingers Z1.

No. 12,294. Improvements on Reaping Machines. (*Perfectionnements aux moissonneuses.*)

David Clark, Hollowell, Ont., 31st January, 1881; for 5 years.

Claim—1st. The combination of the roller C and the top piece A A. 2nd. The combination of the roller C and the top piece A A, with the main body of the guard E.

No. 12,295. Improvements in Locks. (*Perfectionnements dans les serrures.*)

Pierre E. Labelle, (Assignee of Pierre Lacroix.) Montreal, Que., 31st January, 1881; for 5 years.

Claim—1st. The combination of the key pivot p having bridge piece g, ward block r and key A, having slot n1 and projections. 2nd. The combination of key A, key pivot p, ward block r, pawl e1 and slide d, having projection f and notch h1.

No. 12,296. Improvements on Kilns for Drying and Revivifying Bone Black. (*Perfectionnements aux fours à sécher et revivifier le noir animal.*)

Walter R. Elmenhorst, Montreal, Que., 31st January, 1881; for 5 years.

Claim—1st. The combination of the retorts with a series of movable pricker rods, pressed in longitudinal alignment, with the retorts by suitable guides. 2nd. The retorts B, in combination with the pricker rods G, the carriage F and the hoisting rope F1. 3rd. The carriage F, pricker rods G and hoisting rope F1, provided with the counter weight F3, in combination with the pulley F2, and suitable guiding devices for preserving the longitudinal alignment of the pricker rods with respect to the retorts B. 4th. The method of facilitating the drying of bone black, which consists in forming the deep bent holes H in the masses of bone black contained in the retorts.

No. 12,297. Improvements on Motive Powers.

(Perfectionnement aux machines motrices.)

Joseph S. Frye and Nelson Parker, (Assignees of William W. Corey,) Littleton, N.H., U.S., 31st January, 1881; for 5 years.

Claim—1st. The combination, with the seat of a hand car or other vehicle or carriage, of a lever pivoted in front and independent of said seat and provided with a removable vertically adjustable cross bar or handle. 2nd. The combination, with the seat of a hand car or other vehicle or carriage, of a lever pivoted in front thereof, a second lever provided with foot rests and suitable intermediate rods, and levers connecting said levers to each other and to the gear wheel *o*. 3rd. The combination, with an axle of a hand car having a pinion *R* of the gear wheel *o*, connecting rod *N* and levers *M*, *E*, said levers connected together at their lower ends with suitable intermediate rods and levers. 4th. The combination of the pinion *R* arranged on an axle of a hand car, gear wheel *o*, connecting rod *N*, lever *M* having foot rests, lever *E* with removable adjustable handles *F*, suitable intermediate rods and levers connecting the lower ends of said levers *M* and *E* and a seat. 5th. The combination of the pinion *R* arranged on an axle of a hand car, gear wheel *o*, lever *M* having foot rests, lever *E* provided with the removable adjustable cross bar or handles *F*, intermediate rod *N*, rod *G*, lever *H*, rod *J*, lever *K* and rod *L* connecting said levers *E* and *M* to each other and to the said gear wheel, and operator's seat *S*.

No. 12,298. Improvements in Car-Couplings.

(Perfectionnements aux accouplages des chars.)

John C. Matthews, Buffalo, N. Y., U. S., 31st January, 1881; for 5 years.

Claim—1st. A drawhead constructed with an open top and front, and a coupling hook arranged longitudinally within the drawhead, pivoted with its rear end to the drawhead and resting with its free front end upon the bottom plate of the drawhead. 2nd. The combination, with a drawhead, of a coupling hook having a face composed of two inclined surfaces *c* *cl*, whereby the link of the opposite coupler is deflected upward or downward. 3rd. The combination, with a drawhead having its bottom constructed with an inclined face *a*, of a coupling hook having a face composed of two inclined surfaces *c* *cl*. 4th. The combination, with a drawhead, of a coupling hook provided with an upper claw *b* and a lower claw *bl*, both adapted to engage with the link of the opposite drawhead. 5th. The combination, with a drawhead, of a pivoted coupling hook having a face composed of two inclined surfaces *c* *cl* and provided with an upper claw *b* and a lower claw *bl*. 6th. The combination, with a drawhead of a pivoted coupling hook having an upper claw *b* and a lower claw *bl*, the latter resting upon the bottom of the drawhead, and a transverse shoulder *d* and lugs *D* formed on the bottom and sides of the drawhead in rear of the claw *bl* to receive the thrust of the link engaged behind said claw. 7th. The combination, with a drawhead of a coupling hook pivoted with its rear end to the drawhead and provided with an upper claw *b* and a lower claw *bl*, both adapted to engage with the link of the opposite drawhead, and a link secured in the drawhead by means of the pivoted hook. 8th. The combination, with a drawhead, of a pivoted coupling hook, a link attached thereto, and lugs *D* formed on the bottom and sides of the drawhead on both sides of the hook, to support the link. 9th. The combination, with a drawhead, of a coupling hook arranged longitudinally therein and pivoted at its rear end to the same, by means of lugs formed on the hook engaging in pockets or depressions in the shank of the drawhead. 10th. The combination, with a coupling hook provided at its rear end with lugs *e* of a drawhead having pockets or depressions *E* *E'* for the reception of the lugs of the hook, and an opening *F* extending through the rear wall of the drawhead and connecting with the pockets *E* *E'*, by means of which the rear end of the hook can be introduced into the drawhead, and the lugs of the hook be inserted in the pockets. 11th. A drawhead constructed with a longitudinal recess *g* provided with rearwardly diverging sides *g'*, for the reception of the pivoted coupling hook. 12th. The combination, with a drawhead constructed to limit the lateral motion of the link, of a coupling hook having a limited lateral motion in the drawhead, whereby the hook is relieved from all lateral strains. 13th. The combination, with a drawhead provided with depressions *E* *E'*, and a removable coupling hook having draw lugs *e*, of the locking plate *h*, and ways *n* formed in the drawhead for introducing and securing the locking plate. 14th. The combination, with a drawhead, of a pivoted coupling hook, a link attached to the coupling hook, and shoulders *l* formed on the rear wall of the drawhead, whereby the upward motion of the hook and link is limited. 15th. The combination, with a drawhead, of a pivoted coupling hook provided on its upper side with a recess *m* and an uncoupler blade *M* pivoted to the hook in the recess *m* thereof. 16th. The combination, with a drawhead, of a coupling hook having a claw *b*, a recess formed in the coupling hook and extending partly into the claw *b*, and uncoupler blade *M* pivoted to the hook and resting in the recess thereof, and a shoulder *m* formed on the blade and overhanging the crotch thereof, the parts being so arranged that the blade will rise through the claw of the hook and its shoulder will strike against the under side of the link coupled behind said claw, thereby preventing the blade from being raised until the link is pushed back. 17th. The combination, with a drawhead, of a pivoted coupling hook provided on its upper side with a longitudinal recess *m* for the reception of the uncoupler, and a channel *n* extending from the recess *m* through the hook, for the discharge of water and cinders. 18th. The combination, with a drawhead, of a pivoted coupling hook provided with jaws *m*, *m'*, and a shoulder *o*, between the jaws of the uncoupler blade *M*, having a shoulder *o* adapted to come in contact with the shoulder *o* and arrest the upward movement of the blade, before the latter reaches a vertical position. 19th. The combination, with a drawhead, of a pivoted coupling hook provided on its upper side with a longitudinal recess *m*, and uncoupler blade *M* resting in the recess *m*, and a hiter *n* pivoted to the blade and covering the latter, and the contiguous portions of the hook on both sides of the blade. 20th. The combination, with a drawhead constructed to limit the lateral movement of the link, of a pivoted coupling hook, having a limited lateral movement in the drawhead, and a link attached to the hook and contracted from its outer towards its inner end. 21st. The combination, with a drawhead, of a pivoted coupling hook having an upwardly inclined face *c*, the lower edge of which is arranged above the plane of the centre of the pivot, at the rear end of the hook, whereby the hook is raised when the

link of the opposite drawhead strikes the lower edge of the inclined face, or the face itself. If, if it be rough, thereby changing the direction of the link and causing the latter to slide up on the inclined face and engage over the hook. 22nd. The combination of two drawheads, each having a coupling hook arranged centrally within the drawhead, and a link pivoted to the drawhead in rear of the head of the hook, of a shoulder, whereby the upward movement of the link which is not employed in coupling is arrested before this link has reached a vertical position, and after the link has been swung back far enough to permit the opposite link to engage over the hook, thereby causing the link not used in coupling to return automatically to its lower position when released. 23rd. The combination, in a car-coupling, of two drawheads, each having an open top and front, a coupling hook placed centrally within each drawhead, and a link pivoted with its rear end to each drawhead, the links of both drawheads being arranged in line with each other and having their free front ends held higher than their pivoted rear ends, whereby the front ends of the links when they come in contact with each other, are compelled to rise together until, by momentous concussion of the drawheads meeting or some other cause, they disengage one link passing under the other and engaging over the opposite coupling hook. 24th. The combination, with the hook *B* having a recess or depression *m*₁, of a lifter provided with a crotch *m*₂, arranged to engage the link, and to deposit it on the top of the hook. 25th. In a car-coupling, a lifter having a circular crotch *m*₂ and an extension or tongue *m*₁ in front of said crotch. 26th. The combination, with an uncoupler blade *M*, of the bell crank lever *p* constructed with a long arm *p* and two shorter arms *p*₁ a wire or rod *r* connecting the arm *p* with the blade *M* and rods *s* running from the arms *p* *p*₁ to the top and both sides of the car. 27th. The combination, with the lever *p*, having a long arm *p*, and two shorter arms *p*₁, of the bearing plate *p*₁ provided with a guide segment *q*. 28th. The combination, with three armed lever *P* provided with tapering holes *t*, of the wires or rods *r* *s* extending through these holes and provided with heads or stops on the narrow sides *th* roof. 29th. The combination, with the bell crank *P*, of the bearing plate *p*₁, provided with a bore for the insertion of a fastening screw or bolt, a sleeve *p*₂ formed on the plate surrounding the bolt and forming a journal on which the bell crank turns, and whereby the crank is relieved from the pressure of the fastening screw or bolt.

No. 12,299. Improvements on Grain Tollers.

(Perfectionnements aux moyens de prélever la mouture.)

William J. Wilson and James Beech, Stephenville, Texas, U. S., 31st January, 1881; for 5 years.

Claim 1st. The combination of the hopper *M*, having at the lower end the space *l* divided by a partition *K*, and a solid wheel *C* having the row of cavities *D* to measure the customers grain, and the cavity *E* to measure the millers toll, the said cavities *D*, *E*, being at some distance apart near opposite edges of the wheel *C*. 2nd. In a tolling wheel, the measure *E* provided with a false bottom having a subadjacent screw, by which said bottom may be moved nearer to, and farther from the top.

No. 12,300. Improvements on Feeding and Watering Devices for Cattle in Cars, on Shipboard and in Stables.

(Perfectionnements aux crèches et abreuvoirs pour les bestiaux sur les chars, à bord des vaisseaux et dans les étables.)

Stephen S. Haight, New York, U.S., 31st January, 1881; for 5 years.

Claim 1st. The combination of the stall posts *B*, rods *B*₁, chains *B*₂ and canvass partitions *D* as described, whereby vertically adjustable partitions are formed. 2nd. The combination, with the posts *B*, rods *B*₁, chains *B*₂ and canvass partitions *D*, of the sockets *C*, whereby a temporary widening of the stalls may be effected. 3rd. The combination, with the partitions *D* and rings *l*, of the feed troughs *E*, provided with snap hooks *K*. 4th. The combination, with the feed receptacle *K*, of the funnels *h* provided with gravity valves *N*₁ and wires *N*₂. 5th. The combination, with the water *r* reservoir *L*, of the upright feed pipe *L*₁, funnels *M* provided with valves *M*₁, having elastic washers *m*₂ *o*₁ and spring *p*, and wire *M*₃. 6th. The combination of the grooved rear board *H*, water reservoir *L* and feed pipe *L*. 7th. The combination, with the car *A*, of the vertically adjustable partitions *D*, troughs *E*, provided with adjusting mechanism, covered roof, food receptacle *K*, perforated water reservoir *L* provided with upright feed pipe *L*₁, and funnels *M* *N* provided with valves *M*₁ *N*₁ respectively.

No. 12,301. Improvements in Car Trucks.

(Perfectionnements aux trains des chars.)

The Suspension Car Truck Company, New York, (Assignee of E. R. Esmund, Brooklyn, N. Y., U. S., 31st January, 1881; for 5 years.

Claim 1st. In a car truck, in combination, the standards *l* secured to the truck frame, the shaft *m*, links *n*, reverse standards *p* secured to the car body and the shaft *o*, constructed as described so that the shaft *o* is free to move in a longitudinal direction and swivel between the standards *l*, and yet have no lateral movement. 2nd. The upper or longitudinal links *n*, having the holes therein circularly enlarged from their centres towards each end and hanging on the shaft *m* secured to the truck, in combination with the lower shaft *o*, secured to the car body, and passing through the lower ends of the links, and prevented from moving laterally by its rounded ends bearing against the side frames of the truck or pieces secured to the transome, and is free to swivel with the links. 3rd. In combination, with a six wheel car truck, the two sets of suspension links and their connections supporting the car body, one set having no lateral movement in relation to the truck, but free to swivel thereon, and the other set both free to move laterally and swivel as set forth. 4th. The combination of the axle box *8*, provided with the receptacle *f*₁, spring *g*₁, *o*, *o*₁, rod *g*₁ and the links *46* *46*. 5th. The combination of the side frames of a car truck consisting of the wheel piece *ly* and bar *6*, and pedestals *5*, with the links *46* *46*, fitted at their lower ends to turn in grooves made in the bar *6*, and pivoted at their upper ends to the axle boxes *8*. 6th. The brake shoe *9*₁ provided with the two reversible hooks, in combination with the brake blocks *9*₂ *9*₂

secured to the brake beam 84. 7th. In combination, the rigid pedestals 5 5, of a car truck with the axle boxes 38 and lateral links 46 46, whereby the said boxes and links are held longitudinally rigid in relation to the truck, but are free to move laterally thereto.

No. 12,302. Improvements on Fog Signals.

(*Perfectionnements aux signaux de brume*).

Felix Brown, New York, U. S., 1st February, 1881; for 5 years.

Claim.—1st. The combination, in a siren, of a suitable casing with one or more openings for admitting air, and two or more openings for discharging the air, and a fan wheel which revolves in the casing and serves to draw in the air through one set of openings in the casing and to discharge it in intermittent currents through the other set of openings. 2nd. The combination, in a siren, of a cylindrical casing with openings in its periphery and in one of its heads, a fan wheel mounted on a shaft and adapted to revolve in the interior of the casing, openings in the jacket of the fan wheel which can be made to register with the openings in the casing, and wings of said fan wheel constructed to draw in air through one set of openings in the casing and drive it out intermittently, through the other set of openings. 3rd. The combination, with the casing A and its two sets of openings, of a fan wheel constructed to revolve in the casing, and of mechanism for adjusting the fan wheel in relation to the air escape openings.

No. 12,303. Improvements on Carpet Tackers.

(*Perfectionnements aux cloueurs des tapis*).

Sidney S. Grannis, Red Wing, Min., U. S., 1st February, 1881; for 5 years.

Claim.—1st. In a carpet tacker, a tubular tack conduit terminating in a driving hammer in combination with a suitable inclosing case having a tack exit. 2nd. A tubular tack conduit terminating in a series of contractable rods, in combination with a covering tube terminating in a conical or contracted tack exit, whereby said rods are contracted to form a compact driving head. 3rd. The combination of the conduit A provided with crook handle B C, with the tube D provided with bottom pricking point *g*. 4th. The spring stop *p* upon the enclosing case, in combination with tube D provided with collar *e*. 5th. The combination, in a carpet tacker, of a tubular tack conduit terminating in a series of contractable rods, to form a compact driving head, with an enclosing tube terminating in a conical or contracted exit and provided with spring jaws. 6th. The enclosing case for the tack conducting and driving mechanism provided with spring jaws arranged at right angles to each other, and one set above the other, for the purpose of directing the tack. 7th. The spring stop *m* on the enclosing case, in combination with the upper flange collar of the tube A for limiting the upward movement of the driving tube. 8th. The tubular tack conduit, terminating in a series of contractable rods, and provided with a crook handle, a covering tube for said conduit terminating in a contracted exit and a pricking point, the spring jaws, the hammer retracting spring and the inclosing case.

No. 12,304. Composition for Grinding Wheels, etc.

(*Composé pour les tambours à émeri*).

Charles E. Stevens, Northampton, Mass., U. S., 1st February, 1881; for 5 years.

Claim.—A composition of emery or corundum, sibracate of soda, carbonate of lime and oxide of manganese, in about the proportions specified.

No. 12,305. Improvements on Washing Machines.

(*Perfectionnements aux machines à laver*).

Francis D. Taylor, Astou, near Birmingham, Eng., 1st February, 1881; for 15 years.

Claim.—An apparatus for washing or cleansing linen or other fabrics, clothes and other articles by means of steam and condensed water herein described, that is to say, the arrangement within an outer case or body *a*, to contain steam and having a condensing space or chamber at the top of a reticulated or perforated cage or receiver *b*, in which the linen fabrics or articles to be washed or cleansed are to be packed, the said cage or receiver being furnished with passages or flues *d* for the upward and lateral passage of the steam into and among the linen or articles and to the condensing chamber of the apparatus.

No. 12,306. Improvements on Car Brakes.

(*Perfectionnements aux freins des chars*).

Alfred F. Gue and George F. Field, Boston, Mass., U. S., 1st February, 1881; for 5 years.

Claim.—1st. In a car brake, the horizontally vibrating lever *e* pivoted at one end, the pulley or sheave *c* for the wire rope at its other end, and the brake moving link *d* connected with the said lever between its ends combined with the wire rope brakes and connections between the link *d* and brakes. 2nd. The horizontally vibrating auxiliary brake lever *e* and its roller *o* combined with the curved support *o* and with the pulley *c*, and wire rope to move the lever. 3rd. In a car brake, the horizontally vibrating brake lever *e* and the wire rope to move it in one direction, combined with the adjustable pushing mechanism, to push the said lever backward, when the rope is released. 4th. In a car brake operating mechanism, a system of operating levers, a drum on the axle clutches *g* to engage such drum, and collars *h* sliding on the axle and having lubricant recesses *l* for oiling the same and connected with the operating levers and the clutches.

No. 12,307. Process for Producing Relief Line Printing and Embossing Plates.

(*Procédé pour produire des planches à imprimer les lignes en relief et bosseler*).

Charles Snelder, New York, U. S., 1st February, 1881; for 5 years.

Claim.—1st. The process of producing relief line plates, blocks, or types for printing, embossing and other like purposes, by securing a sheet or coating of suitable substance, upon a plate of glass, or other destructible material, placing the same in a suitable flask and pouring the molten metal into the same, so as to pass over the face of the matrix and carry the air and slag before it, prior to cooling and forming upon the same. 2nd. The process of

producing relief line plates, blocks or types in hard metal by forming a matrix of suitable compositions on a sheet of glass, or other destructible material and casting the hot metal upon the same in a suitable mould, whereby the glass or destructible plate will be destroyed, forming the escape for the gases developed by the hot metal in such manner as to obviate the formation of blow holes, bubbles and other imperfections. 3rd. The method of forming matrices for the construction of relief line plates, blocks or type for printing, embossing and other like purposes, by securing to a sheet of glass or other destructible material a coating of proper material and engraving through such material. 4th. The method of constructing a matrix for the formation or relief line, printing or embossing blocks, plates or types, by securing a sheet of proper material to a sheet of glass, engraving through such material and scoring or scratching the back of the glass. 5th. The method of constructing matrices for the formation of registering plates, blocks or types for printing and embossing by securing a suitable composition of material to a sheet of glass and suitable designs to the opposite side of the same, and cutting or engraving through the material the designs forming guides for cutting or engraving, whereby a series of accurately registering plates, block or type may be formed. 6th. The method of forming castings by causing the metal to flow over a matrix in a flask, so as to carry the air and slag before it and cool gradually on the face of said matrix. 7th. The method of forming metallic coatings by causing the metal to collect against the face of a matrix having a destructible backing of glass or other material in a suitable mould. 8th. The mould constructed, as described, with a matrix having a destructible backing and passages for the escape of the gases, and provided with a gate for the admission of the metal, and a receptacle for the superfluous metal.

No. 12,308. Improvements on Nailing Machines.

(*Perfectionnements aux machines à clouer*).

John H. Foster, Chicago, Ill., U. S., 1st February, 1881; for 5 years.

Claim.—1st. A nailing apparatus consisting essentially of a work supporting table, a reciprocating nail setting die, a nail driver reciprocating through said die, and a nail feeding mechanism, the hopper or carrier of which is vibrated by the reciprocations of the nail driver to cause the feeding operation. 2nd. A nail feeding mechanism consisting of a slotted guide plate 36 having an aperture 1, and a laterally reciprocating feeding plate 50 having a tongue 5, channels 23 and aperture 7. 3rd. The combination of the slotted guide plate 36 having an aperture 1, a laterally reciprocating feeding plate 50 having a tongue 5, channels 23 and aperture 7, with a chute 35 and a hopper. 4th. The combination, with the hopper 33, of guide plate 36 and chute 35, whereby nail channels 41, connecting the reservoir 39 and receptacle 40, are provided. 5th. The combination, with the nail channels 41 and chutes 35, of the corrugations 67 of the hopper 33, whereby nails are straightened so as to lie in a position to readily pass from the channels to the chutes. 6th. The combination, with a vibrating hopper 33 and a slotted plate 36, of an automatically operating controlling device that presses upon the nails in the slot 37, when the hopper tips rearward to prevent displacement of said nails contained in the said slot. 7th. The combination, with a hopper 33 and its slotted guide plate 36, of a spring seated jaw 10 that automatically operates to press upon and hold nails in the slot of said plate, when the hopper tips rearward. 8th. The combination of a hopper 33, its slotted guide plate 36, recessed support 42 and spring seated jaw 10. 9th. The combination of a hopper 33, its slotted guide plate 36, recessed support 42, spring seated jaw 10 and feeding plate 50. 10th. The combination, with the chute 35, of the stop gate for the purpose of presenting the feed of nails to the setting position. 11th. A nail setting die consisting of spring seated plates 55 56, having their inner faces cut away to provide a channel in which the driver 54 may descend without spreading the plates and inwardly projecting inclines 12 13, with which said driver engages to force said plates apart. 12th. A conveying device whereby a nail is presented beneath the driver consisting of a narrow inclined channel 14 for the nail shank, and a laterally extended channel 15 for the nail head, whereby the shank is carried forward faster than the head and the nail is brought into a vertical position as it enters beneath the driver. 13th. The combination, with the feeding recesses of a nail guiding die, of nail conveying tubes 48, arranged so as to be moved from one to another of such recesses, and thus convey nails to different setting points. 14th. The combination, with a work support and a single nail driver, of a nail guiding die having a series of inclined nail guiding channels, whereby a series of nails are simultaneously driven in angular positions. 15th. The combination, with a work support and a nail guiding channel, of a nail driver having means for moving it laterally during the driving operations. 16th. The combination, with a work support, a nail guiding die and a nail driver, of an adjustable plate 70.

No. 12,309. Improvements on Parlour Mantle Grates.

(*Perfectionnements aux grilles des foyers*).

John L. Tressler and William H. Loomis, Alameda, Cal., U. S., 1st February, 1881; for 5 years.

Claim.—1st. The basket E, having curved flanges *e*, horizontal grate bars *c* and closed portions *d*, in combination with the rotary grate sections *f g* and spindle *h*. 2nd. The basket E with its curved flanges *e* and tilting grate sections, in combination with the removable cooking plate F, having legs *u*, lugs *m*, rear flange *l* and centrally placed opening provided with a lid *o*. 3rd. The combination, with the improved grate described, of a hot air casing having flues for the admission of cold air, a contracted neck, a wide mouth or opening for the escape of hot air and suitably arranged dampers. 4th. The combination, with improved grate herein described, of the casing PQ arranged as shown and having flue U and opening T, provided with dampers V.

No. 12,310. Improvements in Skates.

(*Perfectionnements aux patins*).

Evreett H. Barney, Springfield, Mass., U. S., 1st February, 1881; for 5 years.

Claim.—1st. The combination of the sole plate A, clamps B, screws M, hook supports *a*, standard 1, with its vertical ribs F having lateral extensions *d* of a bracket form, and standards 2. 2nd. The runner standard of a skate cast with double vertical strengthening ribs united, at their upper ends, by a lateral extension *d* of the rib having a bracket form for the support of the sole

and heel plate, the said ribs increasing in lateral dimensions as they approach the said sole or heel plates. 3rd. The combination of the heel plate B, standards 3 4, with their double vertical ribs F, and the lateral extension D of the rib having a bracket form surrounding the end thereon, under the sole plate clamps b, screw m and hook supports a. 4th. The runner of a cast iron skate constructed with a web and with a rib cast on each side thereof along its bottom edge.

No. 12,311. Improvements in the Manufacture of Starch, Glucose, etc., from Grain. (*Perfectionnements dans la fabrication de l'amidon, la glucose, etc., avec du grain*).

Rudolph d'Heureux, New York, U. S., 1st February, 1881; for 5 years.

Claim.—1st. In the manufacture of starch, sugar, glucose or the like, the process of treating indian corn (or other grain) which consists in first steeping the grain, then removing the hulls and germs from the steeped grain, and in ejecting from the starchy portion of the kernel the adhering soluble gluten previous to wet grinding and sifting or disintegrating the starchy portion of the grain. 2nd. In the manufacture of starch, sugar, glucose, or the like, the process of treating indian corn (or other grain), which consists in removing from the previously steeped grain the hulls and germs, and then to submit the remaining starchy portion of the grain, to grinding, crushing, or disintegrating preparatory to the elimination of the starch, or to the conversion of the starchy particles into sugar or dextros by acid or diastase of malt. 3rd. In the manufacture of starch, sugar, maltose, glucose, etc., from indian corn (or other grain), the mode of removing from previously steeped grain, the hulls and germs as valuable by products, previous to grinding or crushing the starchy portion of the grain, preparatory to the elimination of the starch or previous to their disintegration with water under stirring, by steam under pressure, preparatory to converting the starch into glucose, dextrose, etc., by acid or diastase of malt. 4th. In the manufacture of glucose or starch, sugar, or of other syrups, the process of eliminating the remnant of sulphate of lime, which consists in first adding oxalic and then soda to the syrup.

No. 12,312. Improvements on process of Preserving Food Substances. (*Perfectionnements aux procédés de conservation des substances alimentaires*).

Ann E. Arnold, Providence, R. I., U. S., 1st February, 1881; for 10 years.

Claim.—1st. Subjecting the substances to be preserved, they being placed in a closed chamber, to the fumes or gases caused by igniting a mixture of sulphur and of nitre capable of giving out a considerable quantity of oxygen. 2nd. The compound for preserving food substances by fumigation consisting of a mixture of sulphur, chloride of lime and nitre.

No. 12,313. Improvements on Rivet or Eyelet Setting Machines. (*Perfectionnements aux machines à poser les rivets ou les œillets*).

Clark M. Platt, (Co-inventor with William W. Bradley), Waterbury Conn., U. S., 1st February, 1881; for 10 years.

Claim.—1st. A combined rivet setting and feeding device with a circular feed box provided with oblique serrations entirely around its lower edge and constructed to revolve intermittently in one direction. 2nd. A pawl carrying lever, in combination with a rod fitted to said lever and to the operating lever of the device, whereby the feed box may be operated. 3rd. An inclined bar and channel provided with an upsetting plate at its lower end, whereby the position of the rivet as it descends from the channel is reversed, and the rivet is deposited point downward in a holder to be acted upon by a punch. 4th. An inclined channel bar with a channel of dove-tail section formed in the face thereof, provided with two spring fingers constructed to alternately retain and release the rivets within the channel bar. 5th. A pivoted lever provided with a two part spring holder at its front end, in combination with an actuating spring whereby the holder is restored to its position after the rivet has been released therefrom. 6th. A pivoted lever provided with a two part spring holder at its front end, combined with a stop to check its upward movement when retracted by the actuating spring connected therewith. 7th. Fingers overlapping the face of an inclined channel bar and the channel formed therein constructed with a spring, whereby one of said fingers may be protruded across the channel in the bar, while at the same time the other of said fingers is withdrawn therefrom. 8th. Two fingers placed on the face of a channel bar and channel, and with an actuating spring fixed thereto, in combination with a tripping rod, whereby said fingers are enabled to retain and release alternately the rivets in the channel.

No. 12,314. Improvements in Harvesters. (*Perfectionnements aux moissonneuses*).

Christopher C. Bradley, Syracuse, N. Y., U. S., 1st February, 1881; for 5 years.

Claim.—1st. In a harvester, the combination of a rake carried upon the cutter bar or platform, with a driving mechanism carried upon the main frame by means of intermediate oscillatory gearing which allows of a horizontal movement of the cutter bar and platform without unengaging said driving mechanism. 2nd. The combination of a rake carried upon the cutter bar or platform with driving mechanism carried upon the main frame by means of intermediate slide connections and oscillatory gearing which enable both vertical and horizontal movements of the cutter bar and platform. 3rd. The combination of a rake, carried upon the cutter bar or platform, with the main axle set in bearings in the main frame and provided upon its inner extremity with a rocking pinion by means of an oscillatory gear frame provided with a seat for the rocking pinion, and with the crown wheel that drives the rake shaft, whereby a horizontal movement of the cutter bar and platform with respect to the main frame is enabled. 4th. The combination of a rake, carried upon the cutter bar or platform, with the main axle set in bearings in the main frame and provided upon its inner extremity with a

rocking pinion by means of the hinged rake, head frame, and the oscillatory gear frame, said oscillatory gear frame and rake head frame being together adapted to permit of both vertical and horizontal movements of the cutter bar and platform. 5th. The oscillatory gear frame S hinged upon the post hub and provided with the crown wheel which drives the rake shaft, and with the rocking pinion which meshes therewith and is driven by the main axle. 6th. In a harvester in which the cutter bar and platform are connected with the main frame by a post and slide connection, the combination of a rake carried upon said cutter bar and platform, with driving mechanism carried upon the main frame by means of a rake driving shaft extending from said rake and provided with a crown wheel feathered thereon and engaging with said driving mechanism. 7th. A harvester in which the cutter bar and platform are connected with the main frame by a post and slide connection as a device for raising and lowering said post and its attached finger bar, platform and rakes, a rack applied to, or formed upon said post, in combination with a pinion located upon the main frame. 8th. A rake head for a harvester formed of cast or malleable metal and provided with portions of bearings for the pivot pins or trunnions of the rakes, in combination with removably attached cover plates fitted thereto and provided with the remaining portions of the bearings for said pivot pins. 9th. A main frame for a harvester formed wholly of cast iron provided with removable bushing bearings for the main axle, with a suitable housing for the minor axle, and with a vertical slide bearing or post hub, at right angles to the horizontal plane of the frame, for the sliding post. 10th. A journal box for the crank shaft of the cutter bar consisting of a tubular casting (within which said shaft rotates) provided with a lug, in combination with a hole in the housing of the minor axle, and with the removable portion of which casing depending from the main frame a recessed projection of which casing engages with the lug. 11th. A bushing for the axles of a harvester provided with a lug on its inner extremity, in combination with a journal box encasing it and provided with a series of radially arranged seats within which the lug can be successively retained. 12th. A rake arm shoulder for a harvester cast in one piece with trunnions upon both sides of the shoulder proper and with webs. 13th. In a harvester in which the cutter bar and platform are connected with the main frame by a post and slide connection, the combination of a rake carried upon said cutter bar and platform with the driving axle and rocking pinion carried upon the main frame by means of a rake shaft extending from said rake and provided with a crown wheel feathered thereon, and engaging with said rocking pinion. 14th. As a mechanical movement designed to permit a horizontal play to the cutter bar and platform with respect to the main frame of a harvester in a bevel pinion having a square hexagonal, polygonal or irregularly shaped bore enlarging in diameter from its centre outwardly in both directions, and fitted upon a tapering and correspondingly shaped extremity of an axle, in combination with a crown wheel actuating the stern of the rake head.

No. 12,315. Improvements on Furnaces for Steam Boilers. (*Perfectionnements aux fourneaux des chaudières à vapeur*).

Hiram Cowell, Janesville, Ohio, U. S., 7th February, 1881; for 5 years.

Claim.—1st. In furnaces, a wall or walls built up to the boiler back of the fire chamber and provided with transverse tapering openings or flues, in combination with openings for the admission of external air behind said walls. 2nd. The combination of the imperforated deflecting wall C with the wall B, provided with tapering openings D, the openings E and the combustion chamber C.

No. 12,316. Improvements on Quilting Frames. (*Perfectionnements aux métiers à piquer*).

George R. Glassford, Artemesia, Ont., 7th February, 1881; for 5 years.

Claim.—1st. The legs A provided with eye bolts B, which pass through slots in the slats C D, in combination with rollers E and F. 2nd. The rollers F made and connected together, in combination with the slats C provided with a dovetail connection, the eye bolts B and legs A arranged and connected as specified. 3rd. A quilting frame detachably connected together, in combination with a detachable top.

No. 12,317. Improvements on Car-Couplers. (*Perfectionnements aux accouplages des chars*).

George C. McKenzie, Collingwood, Ont., 7th February, 1881; for 5 years.

Claim.—1st. A lever F pivoted to the car A and extending to the outside thereof, in combination with the lever F pivoted to the standard G and connected to the coupling pin D by the chain E. 2nd. The lever block I applied to the coupling B below the link C, and connected to the lever J by the vertical link K, in combination with the hand lever N extended to the outside of the car and arranged to operate the lever J.

No. 12,318. Wood Bending Machine. (*Machine à plier les bois*).

Edward A. Gillett, Boston, Mass., and Oscar S. Gillett, Buffalo, N. Y., (Assignees of Samuel R. Bailey, Boston, Mass.,) U. S., 7th February, 1881; (Extension of Patent No. 5,666).

No. 12,319. Improvements in Machines for Dressing Stone and other Materials. (*Perfectionnements aux machines à tailler la pierre et autres objets*).

Richard F. Bridwell, San Francisco, Cal., U. S., 7th February, 1881; for 5 years.

Claim.—1st. In machines for dressing or grinding stone, etc., the sliding frame B, revolving shaft e, head C carrying the tools, and bed for supporting the material combined for operation. 2nd. The revolving head C fitted for movement toward the material and provided with shafts f carrying dressing tools or rollers K. 3rd. The shafts f and loose rollers K formed with hubs, combined with the revolving head C. 4th. The combination, in a stone dressing machine, of the revolving and sliding head C, the trucks D and track C.

No. 12,320. Improvements on Air Engines.*(Perfectionnements aux machines atmosphériques.)*

Cornelius H. Delamater and George H. Robinson, (Assignees of John Ericsson), New York, U. S., 7th February 1881; for 15 years.

Claim.—1st. The combination, with the cylinder, crank shaft and crank of an air engine, of a working piston and an exchange piston in the said cylinder, a beam and connecting rod connecting the working piston with the crank and a bell crank lever and connections connecting the crank with the exchange piston. 2nd. The combination of the working pistons A, B, beam C, connecting rod D, crank E, connecting rod F, bell crank lever G and rods or yoke H. 3rd. The combination, with the working cylinder and piston of an air engine and a beam with which the said piston is connected, of a pump having its piston or plunger connected with the said beam at a greater distance from the centre of oscillation thereof than the connection of the working piston. 4th. The combination, with the air cylinder and the water pump of an air engine for pumping water of a water jacket surrounding the said cylinder and so connected with the said pump that the water passing through the said pump passes also with a forced circulation, through the said jacket.

No. 12,321. Improvements on Curtain Fixtures. *(Perfectionnements aux bâtons des rideaux.)*

Benjamin Handforth, Hoboken, N.J., U. S., 7th January, 1881; for 5 years.

Claim.—1st. The combination in a curtain or shade roller, of a spindle which at one end is eccentric, and at the other end axial to the roller, and a helical spring which is attached at one end to the spindle and at the other end connected with the roller adjacent to the eccentric end of the spindle. 2nd. The combination, in a spring curtain roller, of a spindle that is eccentric to the helical spring, so that the helical spring bears against one side of the spindle and produces a friction proportionate to the tension of the spring.

No. 12,322. Improvements on Agricultural Forks. *(Perfectionnements aux fourches d'agriculture.)*

Henry H. Warren, Côte St. Paul, Que., 7th February, 1881; for 5 years.

Claim.—1st. The agricultural fork consisting of tines A and shank B, integrally cut from a sheet metal blank and struck up between dies, in the direction of their length, with a V-shaped corrugation in cross section.

No. 12,323. Improvements in Garden Rakes. *(Perfectionnements aux râteliers des jardins.)*

Henry H. Warren, Côte St. Paul, Que., 7th February, 1881; for 5 years.

Claim. 1st. A garden rake whose head A and teeth B are formed integrally out of one piece of sheet metal, stamped up between dies with a longitudinal corrugation, V-shaped in cross section along the head and each tooth. 2nd. The sheet metal shank D, corrugated longitudinally V-shaped in cross section, with a plain portion bent over the head of the rake and held into the corrugation of the same by rivets E, for securing the rake to the handle.

No. 12,324. Improvements on Shingling Platforms and Gauges. *(Perfectionnements aux échafauds-jauges pour couvrir en bardeau.)*

Charles Marin, Kingston, Ont., 7th February, 1881; for 5 years.

Claim.—The platform C, provided with brackets D and hooks E and chain G.

No. 12,325. Improvements on Carriage Jacks. *(Perfectionnements aux chèvres des voitures.)*

James Miller, Streetsville, Ont., 7th February, 1881; for 5 years.

Claim.—1st. The provision to the arms of the cruciform platform M of extensible ends N, set screws P and thumb screws Q. 2nd. The double ended lever G confined loosely to end of rod F and operating under floor A from either side thereof.

No. 12,326. Improvements in Telephones and other Systems of Electrical Communications. *(Perfectionnements aux téléphones et autres systèmes de communications électriques.)*

John N. Culbertson, Antwerp, Belgium, and James W. Brown, London, Eng., 7th February, 1881; for 15 years.

Claim.—1st. In systems of electrical communication where numerous stations are connected by wires with a central station, the employment of a separate and independent earth plate or separate connection with a large earth plate for each of the wires which are led into such station and which are either cabled together or carried along for a distance, in proximity to one another. 2nd. In systems of electrical communication where numerous distant stations are connected with a central station by wires bunched or cabled together, the employment at such distant stations of a separate and independent earth plate for each wire. 3rd. The construction of commutators or coupling boards, used at such central stations, in such a manner that each wire of a bunch or cable of insulated wires may be coupled to an independent earth plate, or separately connected to a large earth plate. 4th. The construction of commutators or coupling boards, used at such central stations, in such a manner that when any two of the wires from distant stations have been coupled together they may at the same time be coupled to an independent earth.

No. 12,327. Improvements on Wire Bending Machines. *(Perfectionnements aux machines à plier le fil métallique.)*

Irving A. Kilmer, Niskayuna, N.Y., U. S., 7th February, 1881; for 5 years.

Claim.—1st. The bending plate journalled in arms which are hinged to

the frame at one end, and having their other ends passed through slotted posts in which they have an adjacent range of motion. 2nd. A device for bending wire loops consisting in the combination of a bending plate, a bearing plate and a mandrel plate, the last one being connected to the bearing plate at one end only and being shorter than said bearing plate.

No. 12,328. Improvements on Wire Bending Machines. *(Perfectionnements aux machines à plier le fil métallique.)*

Irving A. Kilmer, Niskayuna, N. Y., U. S., 7th February, 1881; for 5 years.

Claim.—1st. Frame A, in combination with mandrel B, extending across the frame at a distance above its top, and rigidly secured in a lug upon one side of said top, a pulley C loosely sleeved upon said mandrel, and a bender D, secured to pulley C and extending therefrom across the frame, parallel to mandrel B. 2nd. The frame A, having block G seated in its top, forming groove F, in combination with mandrel B, pulley C and bender D. 3rd. Frame A, in combination with mandrel B, pulley C having bender D, block G and gauge K.

No. 12,329. Improvements on Indicator Padlocks. *(Perfectionnements aux cadenas-délateurs.)*

The Russell Indicator Lock Company, (Assignee of Henry L. Russell), Bloomington, Ill., U. S., 7th February, 1881; for 5 years.

Claim.—1st. The combination, with a shackle, of one or more pivoted registering tablets and a series of pivoted and interchangeable locking tumblers, having differently formed key shoulders, said tablet or tablets and tumblers being directly operated by any one of a series of differently formed and indicated keys for registering or indicating the particular key used in unlocking the lock. 2nd. The combination, with a shackle, of one or more registering tablets, a moveable dog or detent I, for engaging with said registering tablets, and a locking dog adapted to be thrown into engagement with the block of the shackle, shank or spindle, through the medium of said dog or detent, when thrown out of engagement with the registering tablets. 3rd. The combination, with a shackle, of one or more registering tablets, sliding or moveable dog or detent I, for engaging with said registering tablet or tablets, sentinel tumbler R, and one or more tumblers arranged relatively to each other. 4th. The combination, with a shackle, of one or more registering tablets, sliding or moveable dog or detent I, for engaging with said tablet or tablets, locking dog O, sentinel tumbler R, and one or more locking tumblers. 5th. The combination, with a shackle, of locking and registering mechanism adapted to be operated by differently formed and numbered slotted thrust keys and means whereby, upon a partial insertion of one of said thrust keys in the lock, it will be locked therein and prevented from being withdrawn without unlocking the shackle and registering its number. 6th. The combination, with locking and registering mechanism, of a pivoted dog L, pivoted lever K, and pivoted dog M having hooked lug m_2 , whereby, upon the partial insertion of a slotted thrust key, it is prevented from being withdrawn without registering its number and unlocking the lock. 7th. The combination of one or more registering tablets, sliding or moveable dog or detent I, for engaging with said tablets, pivoted lever K, and pivoted dog L, adapted to be operated by the insertion of a key in the lock for unlocking the registering tablets. 8th. The combination of one or more registering tablets, sliding or moveable dog or detent I, adapted to engage with said tablets, pivoted lever K and pivoted dogs L M. 9th. The combination, with the shackle, of the locking dog O, locking tumbler or tumblers, pivoted sentinel tumbler R, moveable or sliding dog or detent I, one or more registering tablets, pivoted lever K and pivoted dog L. 10th. The combination, with a shackle, of one or more locking tumblers, locking dog O, sentinel tumbler R, sliding or moveable dog, or detent I, one or more registering tablets, pivoted lever K and pivoted dogs L M. 11th. The case or rim having side plates with extensions a_4 , and the rim having exterior projecting portions a_5 , forming a shield around that portion of the rim a_2 , containing the apertures a_1 .

No. 12,330. Railway Car for the Transportation of Cattle. *(Char de railroute pour le transport des bestiaux.)*

Kennard Knott and Edward P. Bridges, London, Ont., 8th February, 1881; (Extension of Patent No. 5,672.)

No. 12,331. Improvement on Armatures for Dynamo-Electric Machines. *(Perfectionnement aux armatures des machines électro-dynamiques.)*

Elihu Thomson, New Britain, Ct., and Edwin J. Houston, Philadelphia, Penn., U. S., 8th February, 1881; for 5 years.

Claim.—1st. In a dynamo-electric machine, a discontinuous ring armature constructed by first placing coils of insulated wire upon the projecting teeth T T of the sections of said armature, and afterward fitting the sections together. 2nd. In a ring armature, the opposite coils of which are connected so as to leave six corresponding terminals, three of said six terminals that are alternate being permanently connected, whilst the three remaining terminals are carried to the commutator, the whole system of coils constituting a single three branched conductor. 3rd. The combination of a discontinuous armature core, the sections of which follow one another circumferentially, without electrical contact, with a system of six armature coils, constituting three pairs of opposite coils, which coils are united to form a single three branched conductor, the three free ends of which are connected to a commutator. 4th. A commutator, the segments of which are mounted upon metallic rods, two to each segment, said rods being in turn supported in holes in metal flanges placed upon the shaft, the rods insulated from said flanges by a suitable insulator, metal sleeves placed upon said rods, to which the armature coils are connected. 5th. A commutator, the segments of which are surrounded on all sides by an air-space. 6th. A commutator, the segments of which are mounted between metal discs or flanges and held in position at a distance from said flanges by interposed metallic sleeves S S, to some of which the armature coil terminals are permanently attached and arranged, so as to permit the ready removal of said segments for cleaning or replacement. 7th. The combination, with the commutator consisting of three insulated segments, of four or more collecting brushes constituting two

or more pairs of diametrically opposite brushes, each pair being adjustable with respect to said commutator-segments to be used for the purpose of varying the electro motive force of the machine.

No. 12,332. Improvements on Millstone Drivers. (*Perfectionnements aux chissoirs des meules.*)

Samuel C. Bogart and Joseph A. Mitton, Chatham, Ont., 8th February, 1881; for 5 years.

Claim.—The combination of plates C, clutch E, lugs F and pins D or their equivalent, with a spindle for the purpose of driving a millstone.

No. 12,333. Improvements in Portable Engines. (*Perfectionnements aux machines portatives.*)

Hosen K. Kriebel, West Point, Penn., U.S., 8th February, 1881; for 5 years.

Claim.—1st. The combination, with a vertically sliding valve chest H supported upon springs R and having stem J, of the cap Y having rim Z, and the stuffing boxes arranged as described. 2nd. In a reversible oscillating steam engine constructed as described, the combination of the vertically sliding valve chest H supported upon springs R, casing S, cover T and cap Y having rim Z. 3rd. A self-adjusting vertically sliding valve chest provided with steam and exhaust ports, in a surface curved in one direction only in combination with a steam chest having its face oppositely curved only and fitting the valve chest, and provided with ports or passages to convey the steam to and from either end of the oscillating cylinder, and oscillating from the centre of the trunnions attached to the cylinder. 4th. In an oscillating steam engine, a vertically sliding valve chest provided with steam and exhaust ports and having its upper surface curved in one direction only, in combination with a steam chest having its lower face oppositely curved and fitting the face of the valve chest, and mechanism to cause the valve to vertically adjust itself and bear upon the steam chest to take up all wear. 5th. An oscillating steam engine provided with trunnions working in rigid bearings and having a suitable oscillating steam chest, to convey steam to or from either end of the cylinder, in combination with a self-adjusting vertically sliding valve chest which supplies steam to the steam chest or allows exhaust to take place, and springs or their equivalent to keep the vertically sliding valve chest against the oscillating steam chest, for the purpose of taking up all wear and making a steam tight joint. 6th. In an oscillating steam engine having trunnions working in rigid bearing, a vertically sliding valve chest having steam and exhaust ports registering with corresponding ports in the cylinder. 7th. In a reversible oscillating steam engine, mechanism to reverse the motion of the engine, by causing the steam port to become the exhaust port, and the exhaust port to become the steam port. 8th. In a reversible oscillating steam engine, the combination of an oscillating cylinder having trunnions working in rigid bearings and provided with an oscillating steam chest, a vertically sliding self-adjusting valve chest provided with steam and exhaust ports, passages connecting with the ports, and a valve to cause either passage to supply steam or allow exhaust to or from the valve chest. 9th. In a reversible oscillating steam engine, mechanism to supply steam to either end of the cylinder and allow exhaust, in combination with mechanism to alternately change the steam passage to the exhaust passage, or vice versa at will, for the purpose of reversing the engine. 10th. In an oscillating engine having its trunnions at or near the bottom, and working in rigid bearings, the combination of its piston, piston rod, cross-head attached to such rod, a guide to steady the motion of such rod and a crank. 11th. In an oscillating steam engine, a standard consisting of a boiler provided with brackets to support the main shaft, and a tube of greater diameter than the shaft riveted in the boiler and enclosing the shaft, in combination with an oscillating steam cylinder and its appendages, the crank wheel and balance wheel, the whole being secured to the same base.

No. 12,334. Improvements on Sewing Machines. (*Perfectionnements aux machines à coudre.*)

George W. Zeigler, Tecumseh, Francis W. Beckwith and John W. Kelly, Detroit, Mich., U. S., 8th February, 1881; for 5 years.

Claim.—1st. The combination, with the driving shaft C, provided with a crank arm or balance wheel D, having a wrist or crank pin c, and the foot piece G, of means whereby the foot piece G may be swung backward and forward, and oscillated upward and downward, and the wrist or crank pin may be pulled and carried over the points usually designated as "the dead centres." 2nd. The combination of the bar H, foot piece G, rod g, pitman E, latching bar I and swinging bar F, with the driving shaft C, having wheel D, provided with a wrist or crank pin c. 3rd. The combination of the bar H having holes n, foot piece G, rod g, pitman E, latching bar I and swinging bar F, with the driving shaft C, having wheel D provided with a crank pin c. 4th. The combination of the foot piece having toe piece g² provided with holes g⁴, rod g, pitman E having holes g³, latching bar I having notches m¹, and bars F H having pins m, with the driving shaft C, provided with wheel D having wrist or crank pin c. 5th. The combination of the foot piece G, rod g, pitman E having holes g³, bars F H, and latching bar I, with the driving shaft C, provided with wheel D having a wrist or crank pin c. 6th. The combination, with the driving shaft C, provided with a wheel having a wrist pin c, of the bars F H, pitman E, latching bar I, rod g and foot piece G, having a toe piece with adjusting holes g⁴. 7th. The combination of the swinging bars F H, bar I, pitman E, wheel D having a wrist or crank pin c, and shaft C.

No. 12,335. Boot Tree. (*Embauchoir de botte.*)

George Rumpel, Berlin, (Assignee of Joseph K. Feick, Harrisburg, Ont.,) 8th February, 1881; (Extension of Patent No. 6,297.)

No. 12,336. Boot Tree. (*Embauchoir de botte.*)

George Rumpel, Berlin, (Assignee of Joseph K. Feick, Harrisburg, Ont.,) 9th February, 1881; (Extension of Patent No. 6,297.)

No. 12,337. Manufacture of Glucose. (*Fabrication de la glycose.*)

Samuel H. Johnson, Stratford, Eng., 9th February, 1881; (Extension of Patent No. 5,761.)

No. 12,338. Manufacture of Glucose. (*Fabrication de la glycose.*)

Samuel H. Johnson, Stratford, Eng., 10th February, 1881; (Extension of Patent No. 5,761.)

No. 12,339. Improvements on Coverings for Pipes, &c. (*Perfectionnements aux couvertures des tuyaux, &c.*)

Andrew B. Battelle, Bellaire, Ohio, U.S., 10th February, 1881; for 5 years.

Claim.—1st. As a covering or shield for steam pipes, water pipes and other things, and for a shield for furnaces, cotton seed hulls applied substantially as described. 2nd. In a covering or shield for steam pipes and other articles, the combination of cotton seed hulls and an outer casing. 3rd. In a covering or shield for steam pipes and other articles, the combination of cotton seed hulls and an inner and outer casing. 4th. In a covering or shield for steam pipes and other articles, the combination of cotton seed hulls, an inner and outer casing, and an air space between said inner casing and the steam pipes or other articles. 5th. A covering for steam and hot air pipes composed of an outer casing of metal having its edges bent so that they may be hooked together, and an interposed non-conducting filling of cotton seed hulls.

No. 12,340. Improvements on Indicator Locks. (*Perfectionnements aux serrures-délateurs.*)

The Russell Indicator Lock Company, (Assignee of Henry L. Russell,) Bloomington, Ill., U.S., 10th February, 1881; for 5 years.

Claim.—1st. The combination, with the locking mechanism of a lock, of the registering mechanism for registering or indicating any one of a series of differently formed and indicated keys, which operates both the locking and registering mechanism in unlocking the lock. 2nd. The combination, with the locking mechanism of a lock, of one or more moveable registering tablets for registering or indicating any one of a series of differently formed and indicated keys, which operates both the locking mechanism and registering tablet or tablets in unlocking the lock. 3rd. The combination, with suitable locking mechanism and registering mechanism for registering or indicating any one of a series of differently formed and indicated keys which operates both the locking and registering mechanism, of means acting to prevent the withdrawal of a key after a partial revolution thereof, without first unlocking the lock and indicating or registering its number. 4th. The combination, with the locking mechanism of a lock, of registering mechanism for registering or indicating any one of a series of differently formed and indicated keys, which operates both the locking and registering mechanism, and means for securing said registering mechanism in any position to which it may be moved by a key in unlocking the lock. 5th. The combination, with the locking mechanism, of a lock of one or more moveable registering tablets for registering or indicating any one of a series of differently formed and indicated keys which operates both the locking mechanism and registering tablet or tablets, and means for securing said registering tablet or tablets in any position moved by a key in unlocking the lock. 6th. The combination, with the locking mechanism of a lock, of a series of registering tablets for registering or indicating any one of a series of differently formed and indicated keys, which operates both the locking mechanism and registering tablets, and means for moving said tablets in parallel position, previous to being operated upon by a key in unlocking the lock. 7th. The combination, with the locking mechanism of a lock, of a series of registering tablets for registering or indicating any one of a series of differently formed and indicated keys, which operates both the locking mechanism and registering tablets, locking device for securing said tablets in position, and means for throwing said locking device out of engagement with said registering tablets, previous to their being operated upon by a key in unlocking the lock. 8th. The combination, with locking mechanism and registering mechanism adapted to be operated by differently formed and indicated keys, of a master key adapted to operate the locking mechanism without interfering with or disturbing the registering mechanism. 9th. The combination, with locking mechanism, of registering mechanism adapted to be operated by differently formed and indicated keys, a moveable plate for closing the register, a master key and mechanism acting to operate said moveable plate to open the register only through the master key. 10th. The combination of the lever or levers G, one or more registering tablets N, ratchet or ratchets O and the pawl P. 11th. The combination of lever or levers G, one or more registering tablets N, ratchet or ratchets O, pawl P and moveable slide V. 12th. The combination of one or more levers G, one or more registering tablets N, ratchet or ratchets O, pawl P, moveable slide V, and revolving ring U provided with eccentric edge b². 13th. The combination of one or more levers G, one or more registering tablets N and the lever W. 14th. The combination of one or more levers G, one or more registering tablets N, lever W and spring or springs M. 15th. The combination of one or more levers G, one or more registering tablets N, one or more ratchets O, plates H I, spring pawl P and spring or springs M. 16th. The combination of the spring lever S, revolving ring U having slot a¹, and eccentric rim or edge b⁴, slide V, spring pawl P, one or more levers G, one or more registering tablets N and ratchet or ratchets O. 17th. The combination of one or more registering tablets N, sliding plate or cover Q, provided with an aperture t¹ and the lock case provided with apertures W. 18th. The combination of one or more moveable registering tablets N, moveable plate or cover Q, and lever R provided with arm d¹. 19th. The combination of the lever R having arm d², moveable plate or lever Q, spring X¹ having shoulder Z¹ and stud f¹, and spring Y¹. 20th. In a lock, the combination, with a spring bolt A of the moveable slide or slides E, lever D and one or more tumblers C. 21st. In a lock, the combination, with a spring bolt A, of the slotted tumblers C having shoulders K¹, lever D having boss d¹, and slides E, for engaging with said tumblers C.

No. 12,341. Improvements on Automatic Adjusters for Commutator Brushes of Dynamo-Electric Machines. (*Perfectionnements aux ajusteurs automatiques pour les brosses rhéotropes des machines électrodynamiques.*)

Edwin J. Houston, Philadelphia, Pa., and Elihu Thomson, New Britain, Ct., U.S., 10th February, 1881; for 5 years.

Claim.—1st. The art of automatically adjusting the collecting brushes of a dynamo-electric machine, consisting in making said adjustment directly dependent on the electrical condition of the commutator-segments on leaving said collecting brushes. 2nd. In combination with a commutator for dynamo-electric machines, an accessory collecting brush (one or more) placed in advance of the main collecting brush, the current taken up by said accessory collector being utilized in the manner to determine the adjustment of the commutator collecting brushes, and to hold said collectors in adjustment during operation. 3rd. The combination, with a dynamo-electric machine of a main collecting brush, and an accessory collecting brush connected to one another through the coils of an electro-magnetic device, by the operation of which an automatic adjustment of said collecting brushes is effected. 4th. In a dynamo-electric machine, for the purpose of controlling the adjustment of the commutator-collecting brushes, an electro-magnetic device, polarized or unpolarized, operating as a contact maker by means of the current derived from an accessory collecting brush. 5th. The combination, in a dynamo-electric machine, with main and accessory commutator collecting brushes, of an electro-magnetic device operated by a current resulting from a difference of potential of said main and accessory collecting brushes, which electro-magnetic device serves in turn to operate a suitable motor, for the automatic adjustment of said commutator collecting brushes. 6th. As a motor for effecting the adjustment of the commutator collecting brushes, in an electro-magnet M traversed by the current or a portion of the current of the machine, whose attraction upon its armature N moves said commutator collecting brushes in one direction, motion in the other direction being obtained by the action of a spring. 7th. The combination, in a dynamo-electric machine, of a contact maker operated by the current resulting from a difference of potential of the main and accessory collecting brushes with an electro-magnetic motor placed in a shunt or derived circuit around any portion of the field-magnet coils, said shunt or derived circuit to be closed or opened by said contact maker, as may be required for the automatic adjustment of the commutator collecting brushes.

No. 12,342. Improvements on Dump Cars.

(*Perfectionnements aux chars-tombereaux.*)

William H. Paige, Springfield, Mass., U. S., 10th February, 1881; for 5 years.

Claim.—1st. In a dump car, the combination, with each side bearing pivoted at its upper end to the car, of the longitudinally moving rod 2, the pivoted rod operating lever 1 and the arm 4 connected at one end with said rod, and at the other end with the side bearing, whereby the latter is moved into and out of supporting connection between the car and the truck. 2nd. The combination, with a winding drum arranged to revolve upon a shaft, of a sliding clutch to engage with either end of said drum, the longitudinally moving rod provided with projections connected with said clutches to move the latter into and out of engagement with said winding drum and the pivoted lever connected to and operating said rod. 3rd. The combination of a winding drum, arranged to revolve on a shaft, of sliding clutches to engage with said drum, of a longitudinally moving rod provided with projections connected with said drum, clutches to move the latter into and out of engagement with said drum, of a moveable side bearing arranged between the car and the truck frame, to partially support the load, an arm connected at one end with the longitudinally moving rod, and at the other end with the side bearing, and an operating pivoted lever, whereby the side bearing is moved into and out of supporting connection between the car and the truck frame, and the clutches are also moved into and out of engagement with the winding drum, all by one movement of said operating lever. 4th. The combination, with the truck frame, of the tilting car frame, one or more latches for holding the sides of the car in place, a latch operating rod extending lengthwise the car and connecting said latches and a weighted swinging dog connected with said latch operating rod, whereby the side of the car automatically released by the tilting of the car, and is also automatically locked again by the righting of the car. 5th. The combination of a tilting car frame, the pivot E, the truck frame to which the car is pivoted and upon which it is supported, and a block or cushion 22 secured to the truck frame between the wheels, to receive the blow of the dropping side of the car in dumping.

No. 12,343. Improvements on Telephones.

(*Perfectionnements aux téléphones.*)

Carlos Skinner, Robert Booth and Thomas J. Tuck, Sherbrooke, Que., 10th February, 1881; for 5 years.

Claim.—1st. A receiving telephone embodying, in combination, the magnetic core and helix, the vibrating diaphragm and the lever (having its fulcrum nearer the diaphragm than to the magnetic core) carrying, at one end, an armature in front of the magnetic core, and its opposite end being in contact with the diaphragm. 2nd. A receiving and transmitting telephone embodying, in combination, a diaphragm operating solely as a vibratory element, a magnetic core and helix and a lever, said lever being vibratively operated as an armature in front of the magnetic core by the vibrations of the diaphragm in transmitting, and vibratively operated by the influence of the magnetic core in receiving, for vibrating the diaphragm. 3rd. A transmitting telephone embodying, in combination, the magnetic core and helix, the diaphragm and the armature lever having its fulcrum nearer the magnetic core than the diaphragm. 4th. The combination of the magnetic core and helix, the diaphragm and a lever provided with an adjustable fulcrum. 5th. The combination of the diaphragm, armature lever and the combined magnetic core and helix, which is adjustable with reference to the armature lever. 6th. The combination, with the diaphragm lever and magnet, of the practically unobstructed reverberating chamber in the head of the casing, at the rear of the diaphragm.

No. 12,344. Improvements on Thill Couplings

(*Perfectionnements aux armons des limonnières.*)

Theodore M. Richardson and Lewis M. Partridge, Stockton, Me., U. S., 10th February, 1881; for 5 years.

Claim.—The combination, with the forked thill end G, having the circular seat I and the slotted bearing disk R, of the axle clips B, the holder C having the cheeks D, the squared draft pin or bearing D, and the adjustable slotted friction plate F having an upwardly and reversely inclined bearing flange E, extending between the holder cheeks and engaging the rear branch N of the thill end.

No. 12,345. Improvements in Preserving Vegetable and Animal Matters.

(*Perfectionnements dans la conservation des matières végétales et animales.*)

Charles H. North, Somerville, (Assignee of Gilbert F. Holland, Boston), Mass., U. S., 10th February, 1881; for 5 years.

Claim.—1st. In protecting an article of food from decay, the combination therewith of one or more superficial coverings, consisting of gum arabic or dextrine and one or more saline substances as alum or nitre for instance, that will destroy or render inert the vitality of vegetable spores or organic germs, such covering or coverings being applied essentially as specified. 2nd. A composition for application to the exterior of articles of food in order to preserve them, the same consisting of sulphate of alumina, nitrate of potassa and gum tragacanth, or other suitable gum, combined in the proportions and prepared for use in the manner described.

No. 12,346. Improvements on Anti-Frictional Bushings.

(*Perfectionnements aux coussinets à anti-friction.*)

Herbert Loud, Everett, Mass., U. S., 11th February, 1881; for 5 years.

Claim.—1st. An anti-frictional bushing or box, for shafts and axles, composed of rollers arranged for a bearing around and upon the shaft or axle, and against the inner periphery of the box or case, a box or case therefor which has its bearing surface for the frictional rollers made of brass of an annular or ring shape, which is attached to, and surrounded by an outer casing or box of iron or of other suitable material, in any suitable manner. 2nd. An anti-frictional bushing or box, for shafts and axles, composed of rollers arranged for a bearing around and upon the shaft or axle, and against the inner periphery of the box or case, a box or case therefor, which has its bearing surface for the frictional rollers made of brass, which is attached to and surrounded by an outer casing or box of iron or other suitable material, and is constructed interiorly for an interlock between it and the rollers, in a direction and manner to hold and confine the rollers against escape in the direction of their length, or in other words, against escape at either end of the box or case. 3rd. The box or casing A, made of iron suitably protected against rust and lined with brass rings a, having a groove f between them within the box. 4th. A box or casing A, made of iron, in combination with brass lining rings a, having a groove f between them, and with a ring or plate B, which carries a series of frictional rollers z and is arranged within said groove f. 5th. The combination, with the box or case A, of two rings a arranged within and lining the case and separated from each other to create an annular groove f, and a ring or plate B arranged to rotate within said groove, and provided with a series of holes within which are arranged the connecting journals of friction rollers. 6th. A roller made in parts, in combination with an axial pivot C, having rollers L. 7th. A ring B, having holes h, in combination with rollers g, made in parts and attached thereto.

No. 12,347. Improvements on Steam Engines.

(*Perfectionnements aux machines à vapeur.*)

William F. Goodwin, Stelton, N. J., U. S., 11th February, 1881; for 5 years.

Claim.—1st. A cylinder A, having ports P P adapted to receive cylinder heads H H, in which latter the valves are located. 2nd. The cylinder heads H H. 3rd. The valves V V. 4th. The reversible valves V V constructed with two distinct bridges or port covers z z. 5th. The flanged three motion cam X, with its rollers X₂ and arms X₁, constructed to operate cut-off valves independently. 6th. The combination of the cams X Y, the connecting rods D D, and the links L L arranged to operate together. 7th. The piston R, having ridges R. 8th. In combination with a tubular piston rod R₁, the piston R. 9th. The device Z, in combination with valve operating mechanism. 10th. The partition ring or sleeve H₆. 11th. In the oil feeder, the automatic valve w₂ of the oil font W.

No. 12,348. Improvements on Lamps.

(*Perfectionnements aux lampes.*)

Frederick Siemens, Dresden, Germany, 11th February, 1881; for 5 years.

Claim.—1st. A lamp wherein the products of combustion are caused to pass downwards from the flame through a central regenerative chamber within the annular burner of the lamp, while the air required for combustion passes upward through an annular regenerative chamber surrounding the burner of the lamp. 2nd. In lamps wherein the products of combustion pass downward from the flame, through a central regenerative chamber, a cylindrical extension of such chamber constructed of fire-clay or other heat resisting material and projecting up beyond the burner to such a height as to afford the requisite length of flame. 3rd. A filling for the regenerate chambers of lamps consisting of superposed hollow perforated cones, or conical rings, or frustra of suitable heat resisting material, through the perforations of which the air or gases are made to pass, to take up heat therefrom or impart heat thereto. 4th. In lamps having regenerative chambers for taking up heat from the products of combustion and imparting such heat to the gas and air supply, a notched air deflector or shield, whereby the air supply is caused to impinge in divided currents against the flame, at or above the level of the burner. 5th. In lamps wherein the products of combustion are caused to pass downwards through a central regenerative chamber, the method of producing the requisite down draught in the said chamber by connecting its lower end to a tube or tubes passing up to a chimney flue above the lamp, the heat from which produces the requisite draught in the said flue. 6th. In regenerative lamps, the combination of the burner tubes c, the regenerative chambers a e provided with filling d f, the notched shield or deflectors g h and the tubular extension k. 7th. In regenerative lamps, the combination of the burner tubes c, regenerative chambers a e, tubular extension k, flue pipe i and chimney i₂. 8th. In regenerative lamps, the regenerative chamber e, for heating the air supply, having a downward extension in order to produce an upward air current of sufficient intensity to effect perfect combustion without the aid of a chimney draught.

No. 12,349. Improvements in Seeding Drills.

(*Perfectionnements aux semoirs-traceurs.*)

James S. Heath and George W. W. Billings, Oshawa, Ont., 11th February, 1881; (re-issue of Patent No. 9,163).

Claim.—1st. The casing B provided with grain opening *b* and flange B, in combination with the wheel A provided with the recesses *a*, arranged in such manner that the grain can be run to the front or rear by reversing the motion of rotating wheel, as described. 2nd. A variable reversible grain distributor consisting of the fixed downwardly and laterally projecting casing B and the rotating differentially recessed wheel A, which wheel is capable of horizontal adjustment in relation to the casing for the purpose of regulating the flow of grain. 3rd. The combination of the grain wheel A, casing B, sleeve E, set screw C, lever F and graduated index plate F. 4th. The oscillating or tilting grain conductors N, in combination with the distributors, scattering tubes O and troughs P of the drilling hoes. 5th. The troughs P provided with the projecting studs *p*, in combination with the heads P' provided with the hook *p* and perforated lug *p*. 6th. The combination and arrangement of the distributors, tilting conductor tubes, scattering tubes and troughs, connecting with the drilling tubes and the frame of the machine. 7th. A hoe or tooth, for a combined seeding machine, consisting of an upper permanent tubular section H to which may be secured in an interchangeable manner a cultivator tooth for sowing grain by broad casting, or a tubular section for sowing grain by drilling. 8th. The upper permanent tooth section H constructed in two sections, the contact faces of which are cut away in the manner shewn, to form bolts *h* and the recess *h*. 9th. A yielding locking device for the teeth of seeding machines, consisting of side bars K, connected at one end to the tooth and extending upwardly and forwardly, and connected together by a bolt at a point above the drag bars, in combination with the spring K₁ rollers K₂ and retaining block M. 10th. The retaining bifurcated block M provided with a bevelled face, downwardly projecting tenon *m* and depending lug *m*, in combination with the divided drag bars. 11th. The combination of the adjusting bolts I with the retaining spring and block. 12th. The bell crank lever T on one end of which is mounted the intermediate wheel D' and slotted link V, in combination with the lifting crank arms Q.

No. 12,350. Water Wheel. (*Roue hydraulique.*)

Calvin A. Campbell. (Assignee of Nathan Campbell and Thomas Tait), Rochester, N.Y., U.S., 14th February, 1881; (Extension of Patent No. 5,693.)

No. 12,351. Mode of Attaching and Shifting Sleigh Shafts. (*Mode d'ajustage et de déplacement des limonnières des traîneaux.*)

William Fairweather, Sussex, N.B., 14th February, 1881; (Extension of Patent No. 5,718.)

No. 12,352. Improvements in Dredging Scoops. (*Perfectionnements aux dragues.*)

Albert E. Hall, Plainfield, N.J., U.S., 14th February, 1881; for 5 years.

Claim.—1st. In a dredging scoop, in combination with the vertical frame A A' A', the rings or clasps J and sockets H H. 2nd. The combination of the sliding blocks D D, toggle bars *c c c c*, chala *g*, pivots *e e* and sleeves *m m*. 3rd. The combination of the toggle bars *c c c c*, pockets *b* *b* *b* *b* and pivots *e*.

No. 12,353. Improvements on Tube Cleaners. (*Perfectionnements aux nettoyeurs des tubes.*)

Marquis L. Metcalf, Williamston, Conn., U.S., 14th February, 1881; for 5 years.

Claim.—The combination, with a pair of expandible or elastic rods having screw threaded ends, of a pair of adjustable semi-circular scraping plates or discs adjustable upon the free ends of said elastic or expandible rods.

No. 12,354. Improvements on Stays for Trunk Covers. (*Perfectionnements aux arrêts des couvercles de coffres.*)

Alphonse Montant, Ottawa, Ont., 14th February, 1881; for 5 years.

Claim.—1st. The combination of the travelling moveable stop, and the automatically shifting spring for said stop, which combination is adapted to be secured for use on the cover of a chest or other moveable article to be caught or fastened on being opened. 2nd. The combination of the travelling moveable stop, the automatically shifting spring for said stop, and the fixed rest for said stop. 3rd. The combination of the travelling moveable stop, the automatically shifting spring for said stop, and the restoring spring device for restoring the moveable stop to its normal condition. 4th. The combination of the travelling moveable stop, the automatically shifting spring and the hook, whereby the stop is enabled to perform its duplex functions, of permitting the cover to hang backward, and of propping the cover open, with the capacity of automatic disengagement.

No. 12,355. Process of Preserving Food. (*Procédé de conserve alimentaire.*)

Johannes Echart, Munich, Bavaria, 14th February, 1881; for 5 years.

Claim.—1st. The preserving salt described and composed as specified. 2nd. The preservation of meat, fish, game, fowl, eggs, and other animal and vegetable food, by means of preserving salt according to the method specified and packing the same into casks or vessels filled with the gelatine solution specified. 3rd. The method of treating the flesh of fishes by mixing the same with the preserving salt, filling it into guts, and packing the filled guts into casks or other suitable vessels, which vessels afterwards are filled up with a solution of the preserving salt. 4th. Flesh of fishes preserved in the manner specified, called Rolled Fishes.

No. 12,356. Improvements on Fountain Pen-Holders. (*Perfectionnements aux porte plumes fontaines.*)

William W. Stewart, Brooklyn, N.Y., U.S., 14th February, 1881; for 15 years.

Claim.—1st. In a fountain pen-holder, the barrel A for a receptacle for ink, and a hollow head J provided with a long open tubular extension *k* penetrating said barrel to a point midway its length or thereabouts as a re-

ceptacle for air and froth, combined with the ink chamber D having its inner opening in line with the opening into the tubular extension K. 2nd. An expansion air chamber J, in the head of an ink reservoir in a pen-holder A and a narrow tubular connection between said ink reservoir and said holder head, combined with the ink chamber D having its mouth in close proximity to the mouth of said tubular extension *k* and a capillary wire G to conduct the entering air bubbles and discharge them near to the mouth of said tubular extension. 3rd. The reservoir holder A combined with an agitator L within the body of the ink receptacle and unconnected with the pen, whereby the ink may, at will, be disturbed and the deposition of sediment prevented. 4th. The reservoir holder A provided with the expansion chamber J and tubular extension K, combined with the fan-shaped agitator L mounted at or near the opening or mouth, which leads into said chamber, for the purpose of agitating the froth and facilitate its entrance into said chamber. 5th. The reservoir A provided with the expansion chamber J, tubular extension K combined with an agitator L mounted upon the end of the tube K. 6th. In combination with the ink chamber D and feeding tube *h* and pen C, the capillary wire G extending through said chamber tube beneath the pen and through the same terminating in a little coil *t* at the back of the pen. 7th. In a fountain holder combined therewith and with the pen C, the tubular extension or jacket *d* which at a little distance encloses, hides and protects the pen and prevents evaporation of the ink which is exposed upon the same and protects the fingers from soil. 8th. A reservoir or fountain pen-holder A, provided with an ink chamber and capillary wire G, and a pen combined with a sponge holder formed at the back of the pen by proper convolutions of the capillary wire adapted to receive and hold a portion of sponge or other absorbent material. 9th. A reservoir or fountain pen-holder A, provided with an ink chamber G, a discharge tube D, and a vent F, combined with a capillary wire G, which is passed through said chamber and discharge tube, and formed into a loop I, and the end of said wire returned and secured. 10th. A reservoir or fountain pen-holder A, provided at its head and removed from the grasp, with an air chamber J, with elastic walls. 11th. A reservoir or fountain pen-holder A provided with an air chamber J in its head, and an exterior wall for said chamber formed of rigid material similar to hard vulcanite, and with longitudinal slits to make said head elastic.

No. 12,357. Apparatus and Method for the Manufacture of Vehicle Wheels. (*Appareil et mode de fabrication des roues des voitures.*)

A. Blasco Y. Fabregas, New York, U. S., 14th February, 1881; for 5 years.

Claim.—1st. The combination of the segments *q*, arranged horizontally on a table, the clamping screws *t* arranged vertically in a suitable support, and the screw operated slides *b*. 2nd. The combination, with the table C, peripheral or tire clamps and segments arranged thereon, of the spiral grooved revoluble disc suspended concentrically beneath the table, and a screw threaded crank shaft, arranged as shewn, to adjust the disc for the purpose of drawing back the segments when required to release the wheel rim. 3rd. In a machine for forming wheels, the combination, with segments arranged radially, of "sizers" or reinforcers *q*, which are provided with dovetail vertical ribs, to adapt them for convenient detachment and removal. 4th. Placing in the required local relation, the rings and spokes composing the hub proper, and after the spokes are permanently attached to the rim of the wheel, inserting screws for temporarily confining them in horizontal position and applying the heavy pressure requisite to force, and hold the parts together, and then inserting the remaining screws to form the complete hub.

No. 12,358. Improvements on Telegraph Keys. (*Perfectionnements aux manipulateurs télégraphiques.*)

William Neilson, Bath, Mich., U. S., 14th February, 1881; for 5 years.

Claim.—1st. In telegraph keys, the spring arm *d*, having a pin *f* extending through the knob of the lever, and having spring contact normally with the lever and stand. 2nd. The combination, in a telegraph key, of the lever A, having apertured knob *a*, and point *b*, stand B having point *c*, spring *d*, projection *e*, pin *f* and button *g*.

No. 12,359. Improvements on Wood Planing Machines. (*Perfectionnements aux machines à raboter le bois.*)

Austin W. Goodell, Philadelphia, Pa., U. S., 14th February, 1881; for 5 years.

Claim.—1st. The combination of two feeding pressure rolls, each being reduced in diameter for a portion of its length, and said rolls being arranged relatively to each other with the normal or enlarged part of one opposed to, or in line with the reduced portion of the other, whereby two boards of different thicknesses may be simultaneously and uniformly fed to the cutter. 2nd. A presser roll E, of varying diameter, in combination with the feeding pressure rolls, each of which has its diameter reduced for a portion of its length, the reduced portion of one roll being opposed to the normal or unreduced part of the other roll. 3rd. In combination, with the feeding rolls C D, each of varying diameters and arranged with the reduced part of one opposed to, or in line with the normal or unreduced part of the other, the weight rods (G) secured to the yokes H J, on opposite sides of the middles of said yokes, so as to impose the weight principally upon the ends of the larger ends of the feeding pressure rolls. 4th. A feeding or pressure roll of varying diameters, or having one portion of less diameter than the remaining portion, whereby boards of unequal thickness may be simultaneously and uniformly fed to the same cutter.

No. 12,360. Improvements on Lifting Jacks. (*Perfectionnements aux crics.*)

Franklin B. Stevens, William Bonner and George Bonner, Port Haron, Mich., U. S., 14th February, 1881; for 5 years.

Claim.—The combination of tubular standard B having nut C, sliding post H having swivel cap J, lever G, ratchet bars F F and tripple grip pawls D, provided with gravitating arm E pivoted to the nut.

No. 12,361. Improvements in Skate Fastenings. (*Perfectionnements aux attache-patins.*)

Charles Brewster, Montreal, Que., 16th February, 1881; for 5 years.

Claim.—1st. The combination of the plate A having inclined slots N, slide G having slots O, and clamps K having studs M, with an operating device B₂. 2nd. The combination of the spindle B₂ having windlass head S, with slide G, to operate in conjunction with plate A₁ and clamps K, and with slide K₂. 3rd. The combination of the projection B having recess D₂; plate E₂; heel plate I₂ and slide K₂. 4th. The combination of the projection C, having recess D₂; plate E₂ and slide G.

No. 12,362. Improvements on Indicator Padlocks. (*Perfectionnements aux cadenas-dé-luteurs.*)

The Russell Indicator Lock Company, (Assignee of Henry L. Russell.) Bloomington, Ill., U. S., 16th February, 1881; for 5 years.

Claim.—1st. The combination, with a shackle, of one or more locking tumblers, and one or more registering tablets, both said tumblers and tablets being directly operated by any one of a series of differently formed and indicated keys, for registering or indicating the particular key used in unlocking the lock. 2nd. The combination, with a shackle, of locking and registering mechanism adapted to be operated by differently formed and indicated keys, means to prevent the key from being turned entirely around in the lock, and mechanism for preventing the key from being removed therefrom after a partial revolution, without first registering its number, and unlocking the lock. 3rd. The combination of a series of registering tablets and one or more intermediate locking tumblers, both said tumblers and tablets being directly operated by differently formed and indicated keys, and a pivoted dog or detent for securing said tablets in any position into which they may be moved by a key in unlocking the lock. 4th. The combination of a series of movable registering tablets, for registering any one of a series of differently formed and indicated keys, a series of operating springs, and an abutment G, whereby said tablets are adapted to be thrown or returned to their normal position, previous to being moved by a key for registering its number in unlocking the lock. 5th. The combination, with a shackle, of a series of registering tablets, pivoted locking dog or dogs H, pivoted tumbler or tumblers K and a pivoted dog D. 6th. The combination, with a shackle, of a series of registering tablets, locking dog or dogs H and a pivoted dog D, having a supplemental dog J, adapted to engage with said

dog or dogs H. 7th. The combination of one or more locking tumblers, a series of registering tablets, a pivoted dog or detent D adapted to engage with said tumbler or tumblers and tablets, and a spring tumbler C for holding said dog or detent in engagement with said tablets, and thrown out of engagement with said dog or detent by a key for operating the lock. 8th. The combination, with the registering tablets, of the pivoted dog or detent D, having projecting portion a₁, and the pivoted tumbler or tumblers K having curved and tapering faces K₁, adapted to pass between said dog or detent D, and registering tablets for holding or securing said dog or detent D into engagement with said registering tablets. 9th. The combination, with the registering tablets, of the pivoted dog or detent D, and tumbler or tumblers K, provided with a pivoted dog or detent L. 10th. The combination of the registering tablets, having arms I, provided with curved shoulders i having different radius. 11th. The combination of the registering tablets having arms I, provided with notches i₁, and the pivoted locking dog or dogs H having a notch or notches h₂. 12th. The combination of the registering tablets, having notches or serrations e₁, on their inner concave faces, pivoted dog or dogs H having notches h₂, pivoted tumbler or tumblers K having pivoted dog or dogs L, pivoted dog D and spring tumbler C.

No. 12,363. Improvements on Metal Corners for Oil Cloths. (*Perfectionnements aux garnitures métalliques des coins des prélatars.*)

Ray Hubbell, Northville, N. Y., U. S., 16th February, 1881; for 5 years.

Claim.—As a new article of manufacture, a corner piece for oil and other floor cloths, struck up from a single piece of sheet metal, and consisting of the plate B, having upturned flange b around the outer edge thereof.

No. 12,364. Improvements in Artificial Ear Drums. (*Perfectionnements aux tympan artificiels des oreilles.*)

Homer P. K. Peck, New York, U. S., 16th February, 1881; for 5 years.

Claim.—1st. A tubular stem c, or its equivalent, with a thin flexible disc or artificial tympanum. 2nd. The double disc a b, forming the artificial tympanum centrally perforated for the admission of air, and provided with a suitable opening or slit f, for the insertion of a metal collar on the end of the tubular stem c, by which the latter is attached to the tympanum or disc. 3rd. A metal stem provided with a collar, or its equivalent, at its inner end, in combination with a flexible elastic disc or artificial tympanum, so attached to the stem as to cover and cushion the collar.

List of Patents issued up to 23rd March, 1881, but not yet Officially published in the Patent Office Record.

No. 12,448. Emerson C. Augell, New York, N. Y., "Radiator," (Extension of Patent No. 5,771), patented March 4th, 1881.

No. 12,249. Emerson C. Augell, New York, N. Y., patented March 5th, 1881.

No. 12,450. John R. McPherson, Jersey City, N. Y., "Stock Cars," patented March 5th, 1881.

No. 12,451. John R. McPherson, Jersey City, N. Y., patented March 7th, 1881.

No. 12,452. David Maxwell, Paris, Ont., "Reaper," patented March 7th, 1881.

No. 12,453. William W. Lobdell, Wilmington, Delaware, "Car Wheel," (Extension of Patent No. 5,855), patented March 7th, 1881.

No. 12,454. John P. Joor and James E. Dawney, Indianapolis, Ind., "Stove-pipe Elbow Flanging Machine," patented March 7th, 1881.

No. 12,455. John Conant and Luther T. S. Viele, Prairie du Chien, Wis., "Compound and Process for Iron, Steel, etc.," patented March 7th, 1881.

No. 12,456. Edward N. Heney, Montreal, (Assignee of Jules Lajeunesse), "Running Gear," patented March 7th, 1881.

No. 12,457. Doten Rotary Fire Grate Co., (Assignees of Clark W. Doten, Boston, Mass., "Rotary Fire Grate," patented March 7th, 1881.

No. 12,458. Joseph M. Hoyt, Lynn, Mass., "Bottle Washing Machine," patented March 7th, 1881.

No. 12,459. William H. Mumber, Boston, Mass., "Photo-Electric Process," (Extension of Patent No. 12,459), patented March 7th, 1881.

No. 12,460. George G. Lobdell, Wilmington, Del., "Wheel and Axle Lathe," (Extension of Patent No. 5,825), patented March 7th, 1881.

No. 12,461. Thomas Temple and James H. Miller, Fredericton, N. B., "Flange Cleaner," (Extension of Patent No. 5,946), patented March 7th, 1881.

No. 12,462. Thomas Temple and James H. Miller, Fredericton, N. B., patented March 8th, 1881.

No. 12,463. Zephim Vanier, Westborough, Mass., "Pressed Brick Machines," patented March 8th, 1881.

No. 12,464. Joseph W. Swan, Newcastle, Eng., "Connections with Electro Lamps," patented March 8th, 1881.

No. 12,465. Edward C. F. Otto, Peckham, Eng., "Velocipede Driving Bands and Steering Gear," patented March 8th, 1881.

No. 12,466. John O'Neill, of Pakenham, Ont., "Convertible Agricultural Wagon," patented March 8th, 1881.

No. 12,467. Frederick R. Cole, Montreal, (Assignee of Charles T. Spencer, of Rochester, N. Y., (Extension of Patent No. 6,707), patented March 9th, 1881.

No. 12,468. Joseph Close, Woodstock, Ont., "Brick Machine," (Extension of Patent), patented March 9th, 1881.

No. 12,469. John M. Bailey, Billinea, Mass., "Pruning Implements," patented March 9th, 1881.

No. 12,470. Theodore A. Heintzman, Toronto, "Pianos," patented March 9th, 1881.

No. 12,471. George P. Morrill, Canterbury, N.H., "Axe and Tool Handle," patented March 9th, 1881.

No. 12,472. John Reavie McKinnon, North Wakefield, P.Q., "Ventilator and Illuminator," patented March 9th, 1881.

No. 12,473. Adam Warnock, Galt, Ont., "Spring Gear for Carriages," patented March 9th, 1881.

No. 12,474. Lucratus H. Lawrence, Granby, Que., "Sap Bucket," patented March 9th, 1881.

No. 12,475. George W. Prentice, Providence, R.I., "Setting Instrument," patented March 9th, 1881.

No. 12,476. William A. Austin, Gloucester, Ont., "Folding Baker," (Extension of Patent No. 12,300), patented March 9th, 1881.

No. 12,477. William A. Austin, Gloucester, Ont., "Folding Baker," (Extension of Patent 12,477), patented March 10, 1881.

No. 12,478. David Maxwell, Paris, Ont., "Reaper," (Extension of Patent No. 8,275), patented March 10, 1881.

No. 12,479. David Maxwell, Paris, Ont., patented March 11th, 1881.

No. 12,480. Alfred F. Allan, London, Ont., "Portable Fence," patented March 11th, 1881.

No. 12,481. Charles Barrett, Somerville, Mass., "Railway Car Axle," patented March 11, 1881.

No. 12,482. Joshua L. Abell, Chicago, "Harvester," patented March 11th, 1881.

No. 12,483. Henry F. Biron, London, Eng., "Improved Method for Raising Sunken Vessels or Ships, etc.," patented March 11th, 1881.

No. 12,484. David B. Goeney, of Lyons, N. Y., "Torch and Fire Kindler," patented March 11th, 1881.

No. 12,485. Edward Bors, Galt, Ont., "Winter Boot," patented March 11th, 1881.

No. 12,486. Thomas Chambers, Woodstock, Ont., "Fertilizer Distributor," patented March 11th, 1881.

No. 12,487. George Ross, Chatham, Ont., "Centre Draft Plough," patented March 11th, 1881.

No. 12,488. Charles E. Roemelen and Christian Roshley, New Hamburg, Ont., "Hand Grain Seeder," patented March 11, 1881.

No. 12,489. Theodore Belanger, St. Vincent de Paul, Que., "Electro Alarm for Railways," patented March 11th, 1881.

No. 12,490. Stephen Worth, Syracuse, N.Y., "Ear Trumpets," patented March 11th, 1881.

No. 12,491. Henry A. Stearns, Lincoln, R.I., "Railway Crossing Gate," (Extension of Patent 5,929), patented March 11th, 1881.

No. 12,492. Henry C. Spalding, Bloomfield, New Jersey, "Electro Light," patented March 11th, 1881.

- No. 12,493. Henry C. Spalding, Bloomfield, N. Y., "Electro Group Light," patented March 12th, 1881.
- No. 12,494. William Stephenson, Jordan, Ont., "Ground Auger," patented March 12th, 1881.
- 12,495. Thomas Bartlett Griffith, Cawer, Mass., "Life Raft," patented March 12th, 1881.
- No. 12,496. William W. Horner and Horatius J. Higgins, London, Ont., "Bottle Washer," patented March 12th, 1881.
- No. 12,497. Elliott Metcalf, Port Huron, Ont., "Window Blind and Shade," patented March 12th, 1881.
- No. 12,498. Louis A. Fernou, Chicago, Ill., "Drying Machine," patented March 12th, 1881.
- No. 12,499. Frederick A. Brown and John Lewis, Boston, Mass., "Attraction Resisting Compass Card," patented March 12th, 1881.
- No. 12,500. Edward Gurney and Charles Sellers, Toronto, "Steam and Hot Water Heater," patented March 12th, 1881.
- No. 12,501. P. K. Dederick, Albany, N.Y., "Baling Presses," patented March 12th, 1881.
- No. 12,502. Edward W. Bowslaugh, Grimsley, Ont., patented March 12th, 1881.
- No. 12,503. William M. Fisher, Cincinnati, Ohio, "Boiler and Furnace Water Partition Circulator," patented March 12th, 1881.
- No. 12,504. Julius A. Pease and Ernest Munchie, Boston, Mass., "Corrugated Pumps," patented March 12th, 1881.
- No. 12,505. Byron Sloper and Walter M. Jackson, New York, "Apparatus for Decomposing Steam and Burning the Gases thereof in Conjunction with Liquid or sub-divided fuel, for the production of Heat," patented March 12th, 1881.
- No. 12,506. Albert Sylvester Hoyt and Edward Richmond Millard, Chicago, Ill., "Harvester and Gaveler," patented March 16th, 1881.
- No. 12,507. William E. Gwyer, New York, "Governor for Vulcaniz Apparatus," patented March 16th, 1881.
- No. 12,508. James G. Cockstrutt, Brantford, Ont., "Truss Plough Beam" patented March 17th, 1881.
- No. 12,509. Warren B. Howe, Chicago, Ill., "Triangular Pull Package," patented March 17th, 1881.
- No. 12,510. George Milliken, Philadelphia, Pa., "Apparatus for Breaking Hemp Flax, etc.," patented March 17th, 1881.
- No. 12,511. Ole C. Numbon Black, Eaith, Wis., "Milk Cooler," patented March 17th, 1881.
- No. 12,512. David Maxwell, Paris, Ont., "Reaper," patented March 17th, 1881.
- No. 12,513. David Maxwell, Paris, Ont., "Harvester Rake," patented March 17th, 1881.
- No. 12,514. Arthur W. Covell, Lombardy, Ont., "Cheese Box," patented March 17th, 1881.
- No. 12,515. John M. Irwin, Odina, Miss., "Feed Trough for Stock," patented March, 17th, 1881.
- No. 12,516. Narcisse Demers, Chambly, Basin, Que., "Serre pour Piquets de Clotures," breveté 17 Mars 1881.
- No. 12,517. John Bassemir, Brooklyn, N.Y., "Automatic Lamp," patented March 17th, 1881.
- No. 11,518. William P. Cragan, Edward F. Cragan and Charles Gardner, Chicago, (Assignees of Charles T. Beaman, Chicago, Ill.) "Fan Forming Machine," patented March 17th, 1881.
- No. 12,519. Charles E. Pearson, Iberville, "Waggon Axle Cutter," patented March 19th, 1881.
- No. 12,520. William W. Morton, Brooklyn, N.Y., "Gas Heating and Cooking Apparatus," patented March 19th, 1881.
- No. 12,521. Enoch Piper, St. John, N.B., "Method of Packing Fish for Transportation," (Extension of Patent 5,827), patented March 19th, 1881.
- No. 12,522. Adelaide T. Martel and Francois Gourdeau, Ottawa, Ont., "Paper File," patented March 19th, 1881.
- No. 12,523. William J. Murden, Constantine, Mich., "Barrel Swing," patented March 21st, 1881.
- No. 12,524. George C. Barney, Detroit, Mich., "Cue Lip," patented March 21st, 1881.
- No. 12,525. Judson I. Embrey, Fredericksburg, Virginia, "Ore Concentrators," patented March 21st, 1881.
- No. 12,526. Otisime J. Bergeron, La Rochelle, Quebec, "Rateau d'Acier Adjustable," Breveté le 21 Mars 1881.
- No. 12,527. John Wheeler Elliott, Ont., "Base Plate," (Extension of Patent No. 5,882), patented March 21st, 1881.
- No. 12,528. Samuel C. Colb, Jamesville, Wis., "Spring Tooth Harrow," patented March 21st, 1881.
- No. 12,529. Charles F. Lawton, Arthur W. Lawton and Albert S. Lawton, Rochester, N.Y., "Preserving Process," patented March 23rd, 1881.
- No. 12,530. Stephen Dennis and Antonio Samper, Columbia, S.A., "System for Transmitting Motion," patented March 23rd, 1881.
- No. 12,531. Charles G. Hutchinson, Chicago, Ill., "Bottle Stoppers," patented March 23rd, 1881.
- No. 12,532. Peter McGregor and Alexander McLean, Ottawa, "Fish Plate and Nut Lock," patented March 23rd, 1881.
- No. 12,533. Lacimus Havasy, New York, "Method of Ornamenting Furs," patented March 23rd, 1881.
- No. 12,534. John L. Wood, Maitland, Ont., "Coffins," patented March 23rd, 1881.
- No. 12,535. Rufus S. Craig and Greenlief G. Wyman, Dover Plains, N.Y., "Spark Arrester," patented March 23rd, 1881.
- No. 12,536. George P. Merrill, George G. Hadley and Frank Wells Stewart, (Assignees of George P. Merrill), "Car Unloader," patented March 23rd, 1881.
- No. 12,537. Francis M. Lechney and Joseph A. Jeffrey, Columbus, Ohio, "Mining Machine," patented March 21st, 1881.
- No. 12,538. William West the elder, and John Lord, Toronto, Ont., "Windows," (Extension of Patent No. 5,875), patented March 23rd, 1881.
- No. 12,539. Frederick Nishwitz, Millington, N.J., "Pulverizing Harrow," patented March 23rd, 1881.

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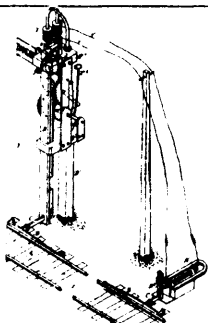
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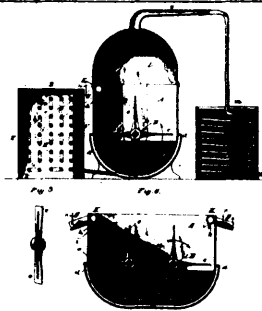
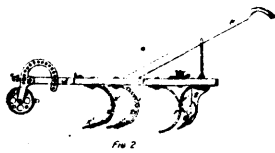
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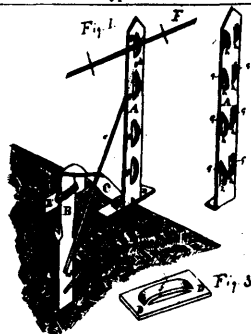
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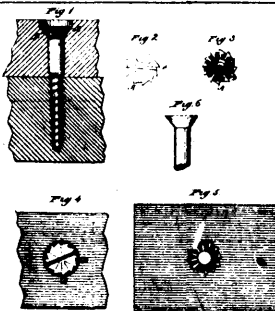
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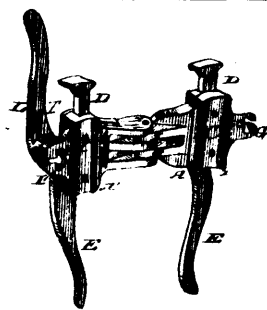
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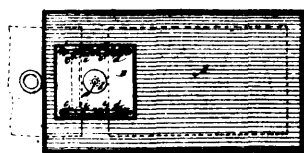
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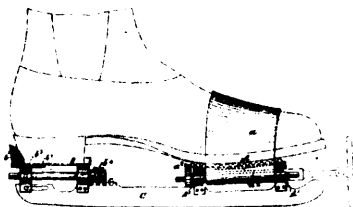
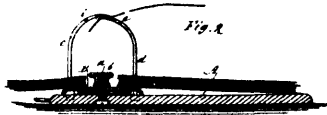
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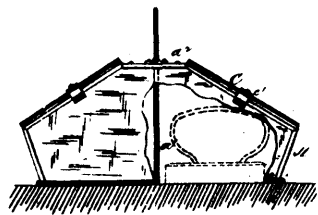
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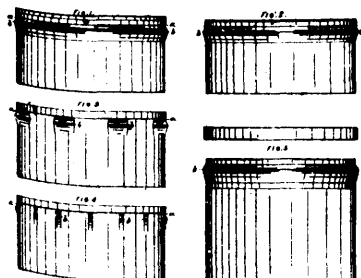
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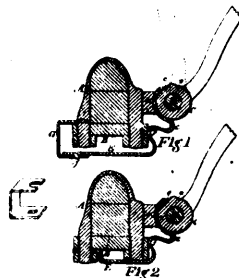
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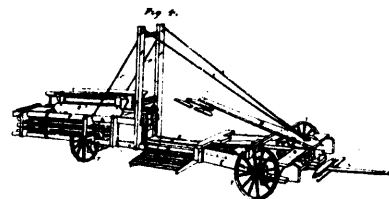
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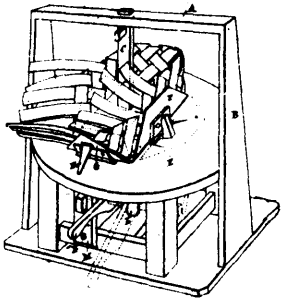
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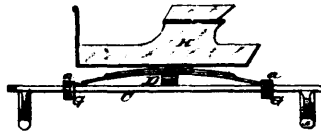
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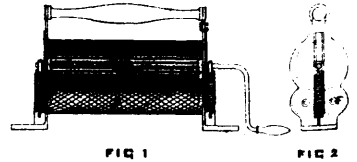
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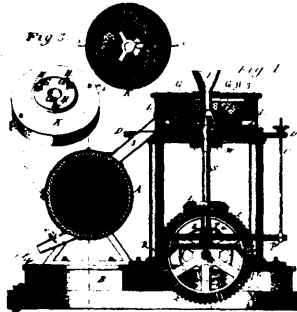
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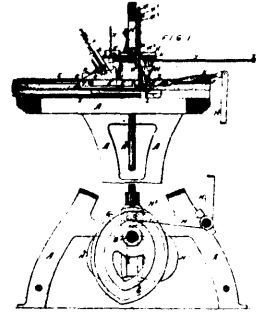
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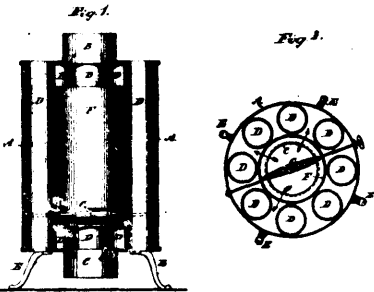
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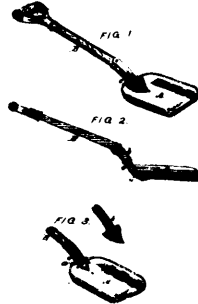
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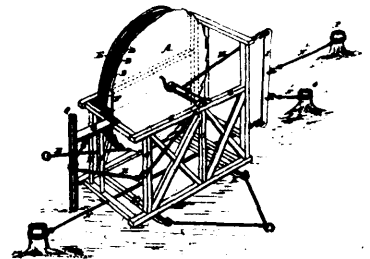
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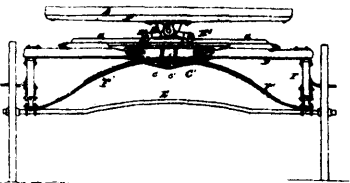
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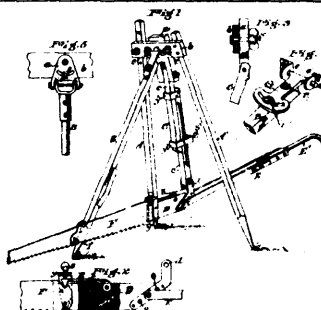
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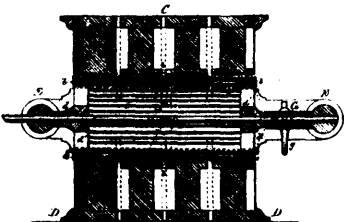
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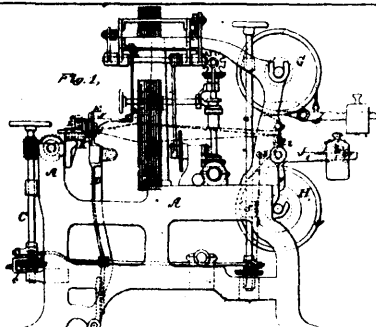
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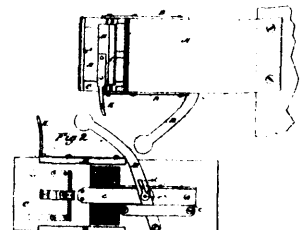
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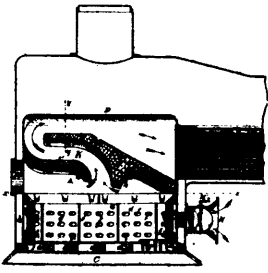
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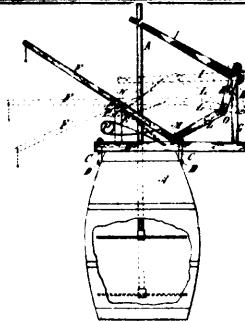
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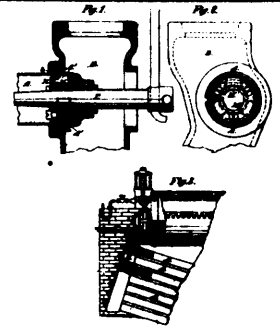
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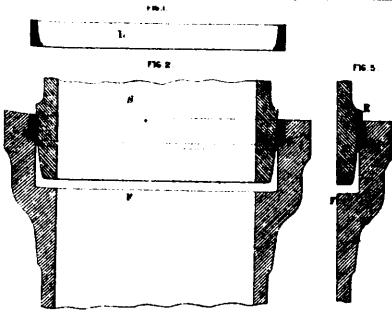
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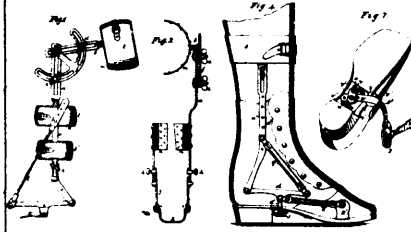
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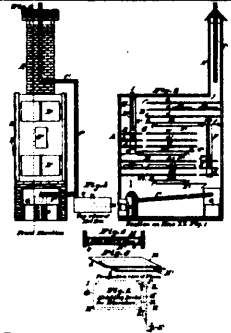
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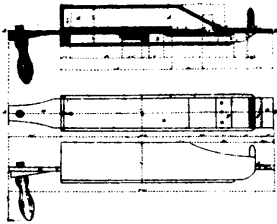
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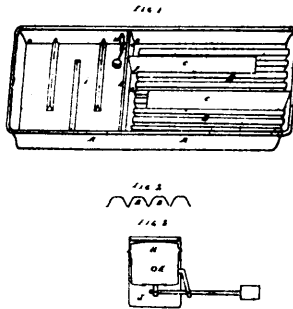
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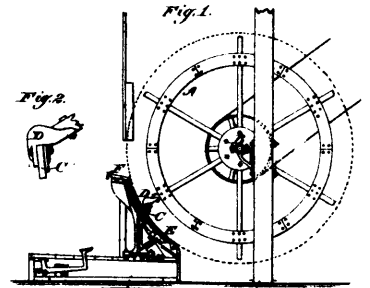
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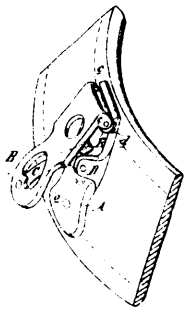
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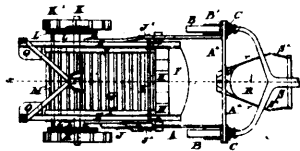
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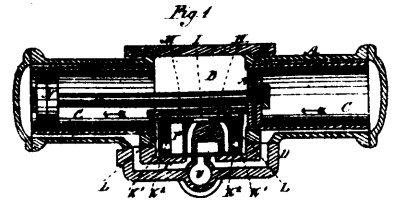
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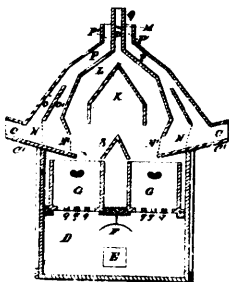
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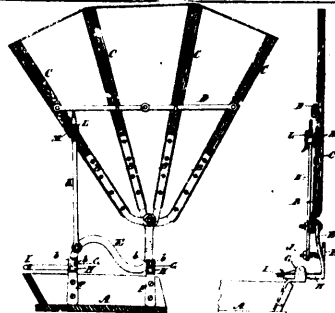
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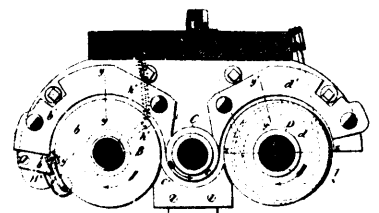
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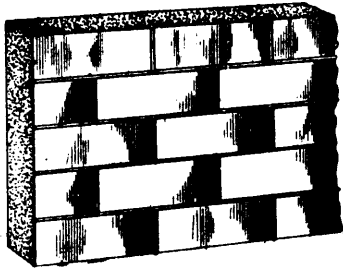
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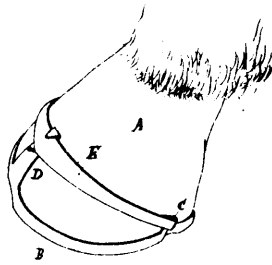
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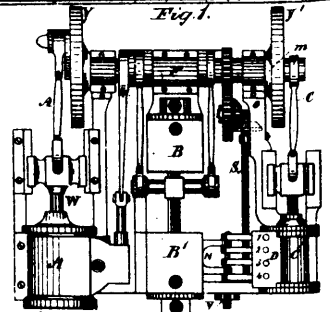
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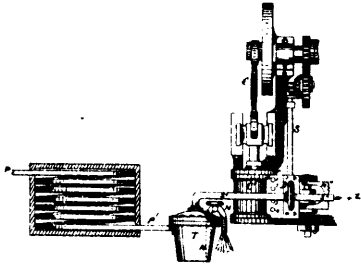
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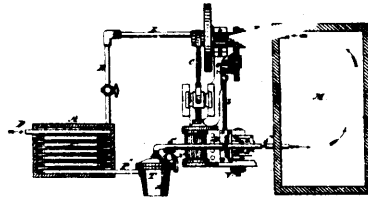
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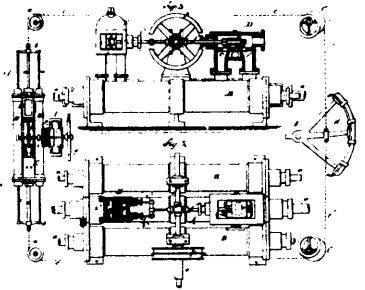
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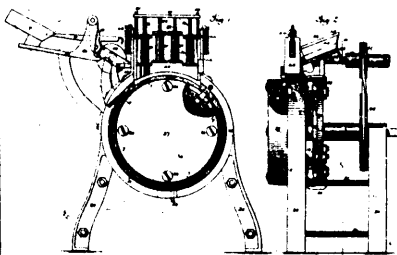
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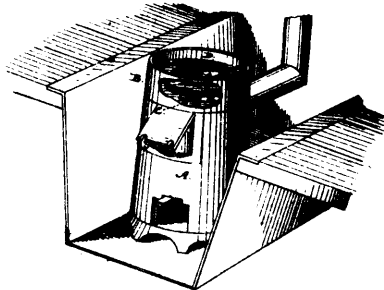
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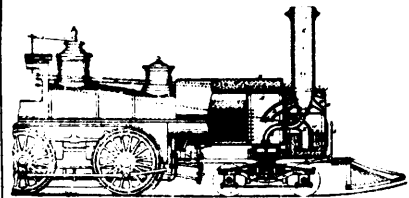
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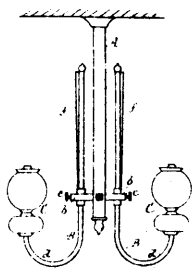
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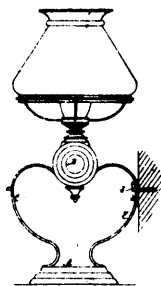
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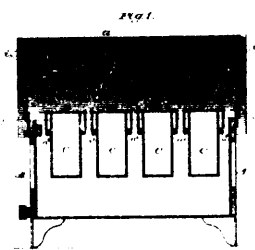
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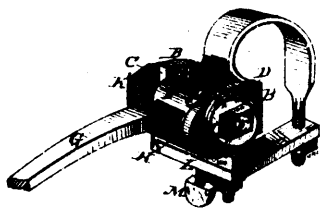
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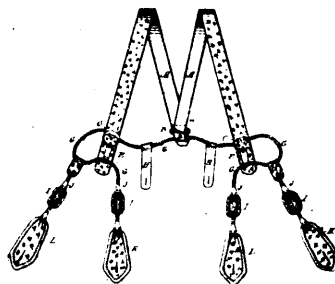
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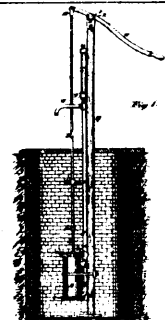
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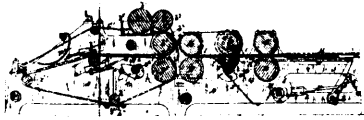
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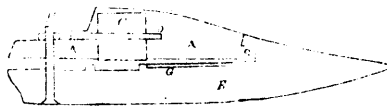
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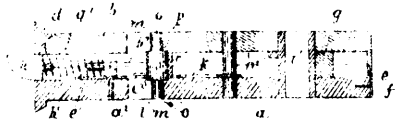
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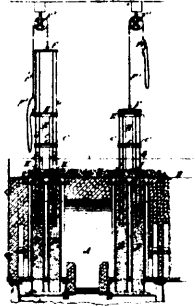
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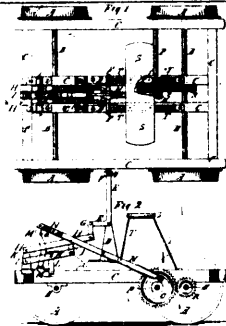
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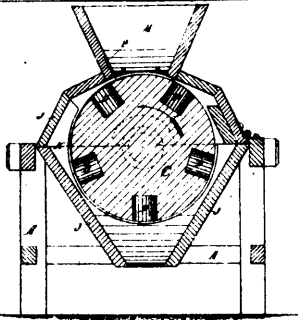
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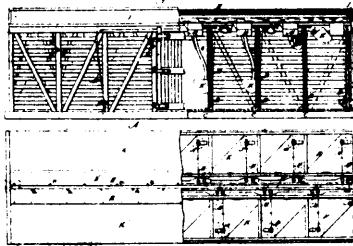
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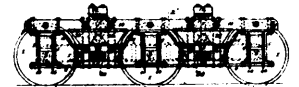
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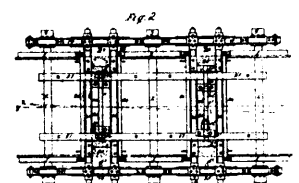
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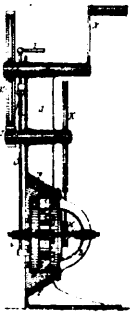
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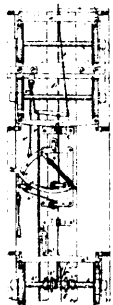
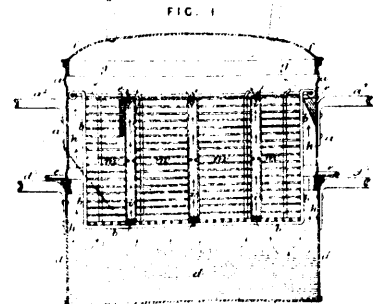
12305 Taylor's Improvements on Washing Machines.



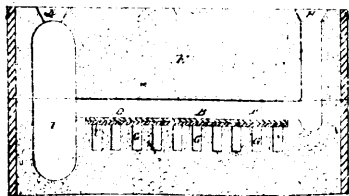
12302 Brown's Improvements on Fog Signals.



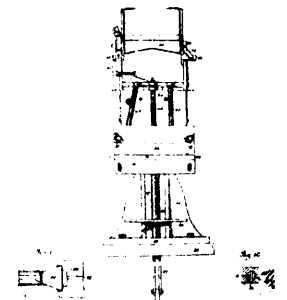
12303 Grannis's Improvements on Carpet Tackers.



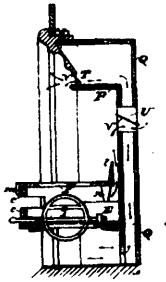
12306 Cue & Field's Improvements on Car Brakes.



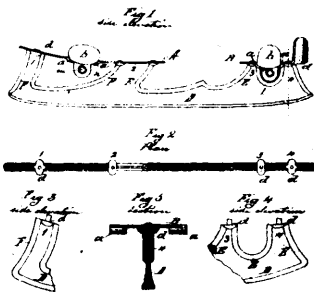
12307 Sneider's Process for Producing Relief Line Printing and Embossing Plates.



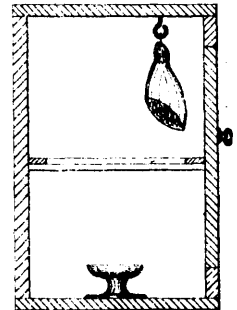
12308 Foster's Improvements on Nailing Machines.



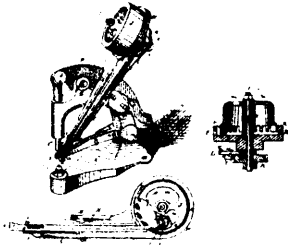
12309 Tressler & Loomis's Improvements on Parlour Mantle Grates.



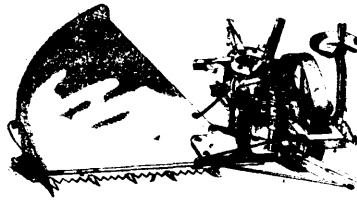
12310 Barney's Improvements in Skates.



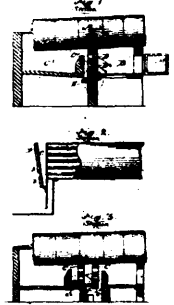
12312 Arnold's Improvements on Process of Preserving Food Substances.



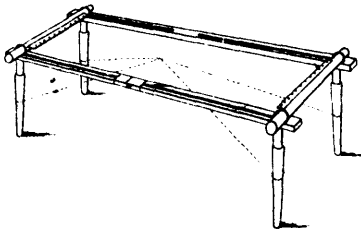
12313 Platt & Bradley's Improvements on Rivet or Eyelet Setting Machines.



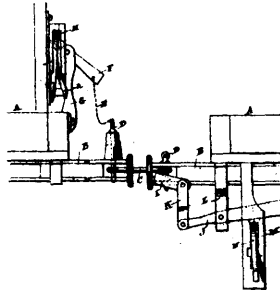
12314 Bradley's Improvements in Harvesters.



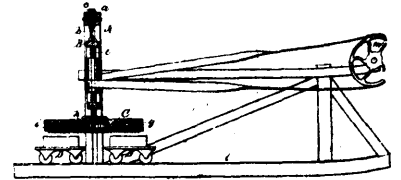
12315 Cowell's Improvements on Furnaces for Steam Boilers.



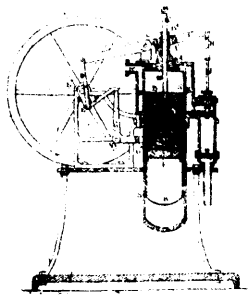
12316 Glassford's Improvements on Quilting Frames.



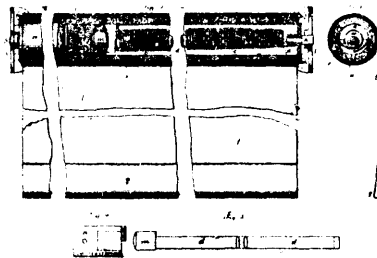
12317 McKenzie's Improvements on Car-couplers.



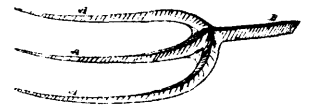
12318 Bridewell's Improvements in Machines for Dressing Stone and other Materials.



12320 Ericsson's Improvements on Air Engines.



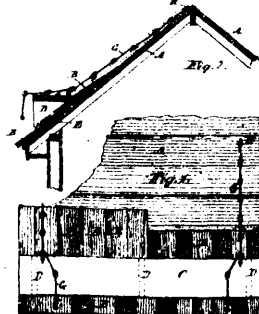
12321 Handford's Improvements on Curtain Fixtures.



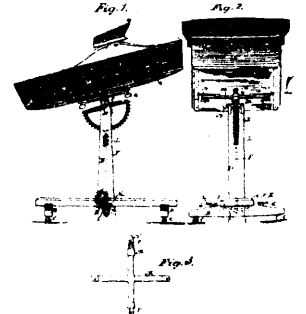
12322 Warren's Improvements on Agricultural Forks.



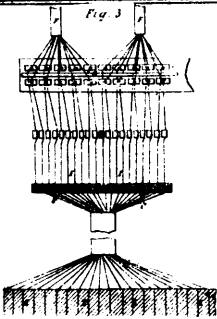
12323 Warren's Improvements on Garden Rakes.



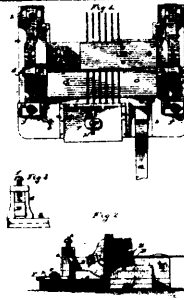
12324 Marin's Improvements on Shingling Platforms and Gauges.



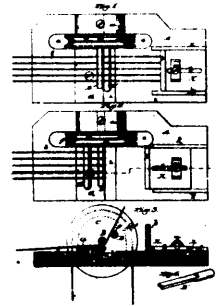
12325 Miller's Improvements on Carriage Jacks.



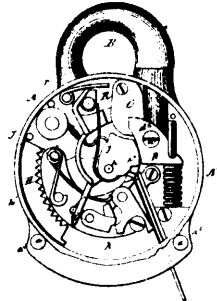
12326 Culbertson & Brown's Improvements in Telephones and other System of Electrical Communication.



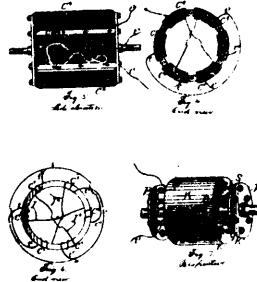
12327 Kilmer's Improvements on Wire Bending Machines.



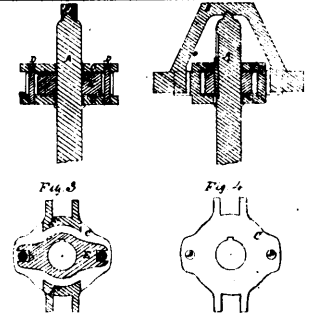
12328 Kilmer's Improvements on Wire Bending Machines.



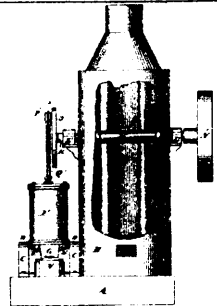
12329 Russell's Improvements on Indicator Padlocks.



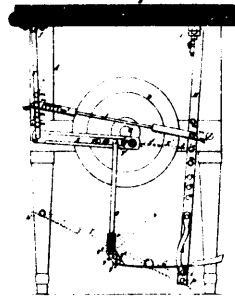
12331 Thomson & Houston's Improvements on Armatures for Dynamo-electric Machines.



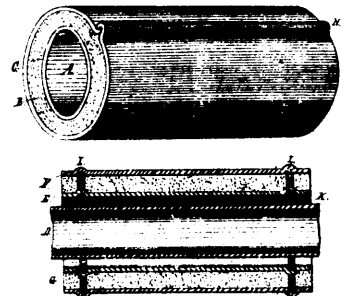
12332 Bogart & Mitton's Improvements on Millstone Drivers.



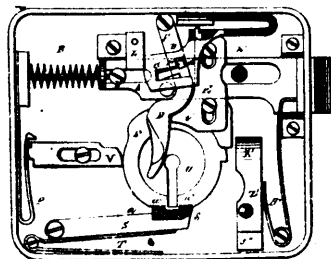
12333 Kriebel's Improvements in Portable Engines.



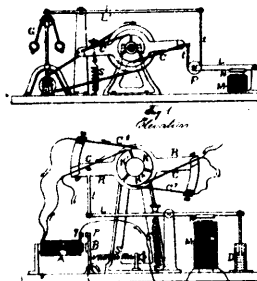
12334 Zeigler's Improvements on Sewing Machines.



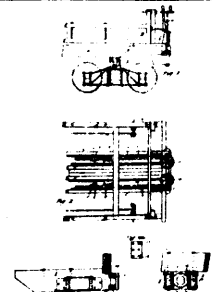
12339 Battelle's Improvements on Coverings for Pipes, &c.



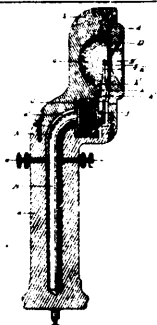
12340 Kussell's Improvements on Indicator Locks.



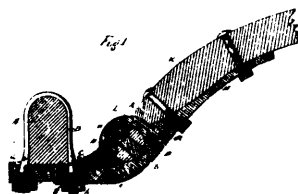
12341 Thomson & Houston's Improvements on Automatic Adjusters for Commutator Brushes of Dynamo-electric Machines.



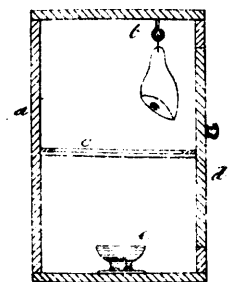
12342 Paige's Improvements on Dump Cars.



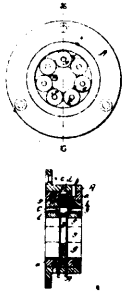
12343 Skinner's Improvements on Telephones.



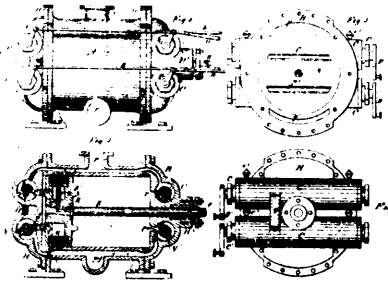
12344 Richardson's Improvements on Thill Couplings.



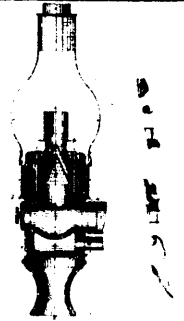
12345 Holland's Improvement in Preserving Vegetable and Animal Matters.



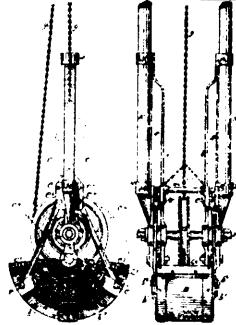
12346 Loud's Improvements on Anti-frictional Bushings.



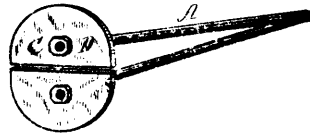
12347 Goodwin's Improvements on Steam Engines.



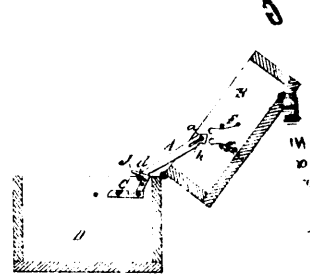
12348 Siemens's Improvements on Lamps.



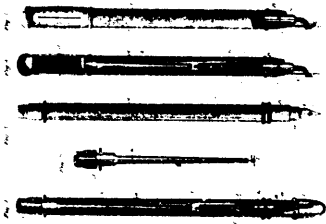
12352 Hall's Improvements in Dredging Scoops.



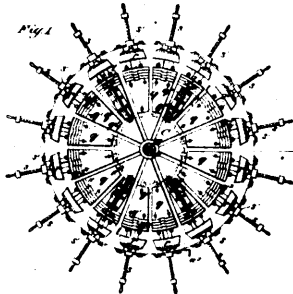
12353 Metcalf's Improvements on Tube Cleaners



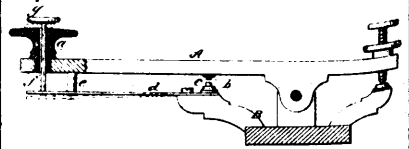
12354 Montant's Improvements on Stays for Trunk Covers.



12356 Stewart's Improvements on Fountain-pen-holders.



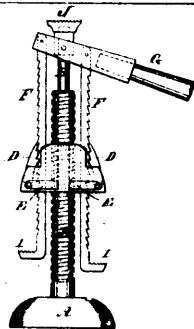
12357 Fabregas's Apparatus and Method for the Manufacture of Vehicle Wheels.



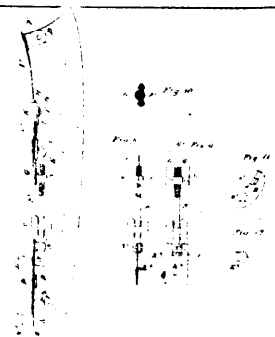
12358 Neilson's Improvements on Telegraph Keys-



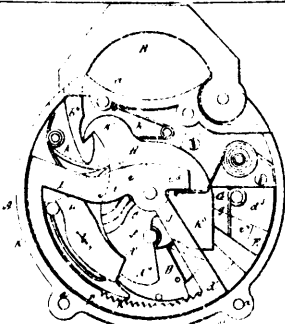
12359 Goodell's Improvements on Wood Planing Machines.



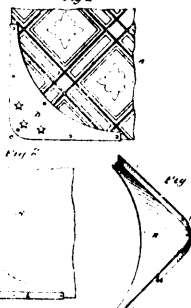
12360 Stevens's Improvements on Lifting Jacks.



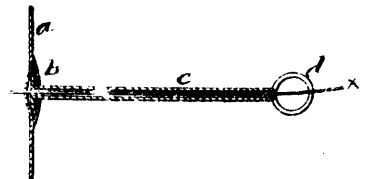
12361 Brewster's Improvements in Skate Fastenings.



12362 Russell's Improvements on Indicator Padlocks.



12363 Hubbell's Improvements on Metal Corners for Oil Cloths.



12364 Peck's Improvements in Artificial Ear Drums.