

OFFICIAL REPORT OF PATENTS AND CLAIMS

Issued by the United States Patent Office,

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PATENTS ARE GRANTED FOR SEVENTEEN YEARS, the following being a schedule of fees:—

Table with 2 columns: Fee description and Amount. Includes items like 'On filing each caveat', 'On filing each application for a Patent, except for a design', 'On appeal to Commissioner of Patents', etc.

In addition to which there are some small revenue-stamp taxes. Residents of Canada and Nova Scotia pay \$500 on application.

Pamphlets containing the Patent Laws and full particulars of the mode of applying for Letters Patent, specifying size of model required, and much other information useful to Inventors, may be had gratis by addressing MUNN & CO., Publishers of the Scientific American, New York.

72,959.—CHURN.—Henry W. Adams, Milton, Pa. I claim, 1st, the construction and arrangement of the two dashers, D, D, in combination with the churn, B, substantially in the manner and for the purposes described.

72,960.—ICE HOUSE FLOOR.—Joseph Barbian, Chicago, Ill. I claim an ice house floor, composed of the grooved zinc plate, F, strips, C, and strips, E, connected by metallic bands, D, all constructed and arranged substantially as described.

72,961.—FASTENING FOR SHOES.—John Barbier, Boston, Mass. I claim the bent arms or plates, C, when constructed and attached as set forth in combination with the entire strips, B, as herein described, and for the purpose set forth.

72,962.—WELL.—Samuel W. Barr and Edwin McGuire, Be-joit, Wis. We claim the combination and arrangement of the well tube, soldered filter, and drill point, all substantially as and for the purpose set forth.

72,963.—BOOT AND SHOE HEEL.—George Beatty, Middlebury, Ohio, assignor to W. W. Kitchen, West Union, Iowa. I claim constructing a metal boot heel hollow, when its upper face is beveled, so as to form a broad bearing for the shoe to rest in, and also having a series of spikes arranged in the center thereof, as herein described, and for the purpose specified.

72,964.—FIRE KINDLING AND FUEL.—Ira Bicknell, Cincinnati, Ohio. I claim the fuel combination, using for that purpose the aforesaid compound of rosin or pitch, fine coal, sawdust, and coal oil, or any other substantially the same, and which will produce the same effect.

72,965.—BAGGAGE CHECK.—Virgil W. Blanchard, Bridport, Vt. I claim, 1st, The circular plate, A, with the names of the stations of any particular railroad stamped upon its surface, near its periphery, with notches or recesses, cut in the periphery of a circular opening in the central portion of said plate, said notches or recesses corresponding with the names, figures, letters, or other symbols stamped upon the surface of the plate, near its periphery, in connection with the pointer, B, for the purpose of fixing the pointer, B, at any particular name, station, or symbol, on the outside of the plate.

72,966.—MODE OF REMOVING BURRS AND OTHER VEGETABLE MATTER FROM WOOL.—John W. Boynton, East Hartford, Conn., and John A. McGaw, Newark, N. J. We claim the employment of chemical vapors in the process of destroying burrs and other foreign vegetable substances in wool, substantially as described.

72,967.—HARNESS FOR LOOM.—Darius C. Brown, Lowell, Mass. I claim hanging the heddles in their frame at one end to a common bar, but at their opposite ends to two or more bars, substantially as and for the purpose described.

72,968.—MODE OF FASTENING ARTIFICIAL TEETH.—T. Yardley Brown, Reading, Pa. I claim the attachment of artificial teeth to swaged plates by means of a fusible metal or alloy, as herein described.

72,969.—BILLIARD CUE RACK.—Emanuel Brunswick, Chicago, Ill. I claim the revolving billiard cue rack, constructed and operating substantially as and in the manner herein described and specified.

72,970.—TABLE LEAF SUPPORT.—Daniel Bull, Amboy, Ill. I claim, 1st, The combination of a link, A, a recessed bar, D, provided with a spur, I, and a movable stop bar, E, arranged and operating substantially as and for the purposes herein set forth.

72,971.—SEED PLANTING MACHINE.—Henry Bundel and James Williams, Dayton, Ohio. We claim, in combination with the lifting bar, D, for raising, supporting, or lowering the shoes, the arms or brackets, C, for forming its angled connection with the main frame, substantially as and for the purposes herein described and represented.

72,972.—MECHANICAL MOVEMENT.—H. C. Burk, Mineral Point, Ohio. I claim the combination of the main wheel, A, spur-wheel, B, with its pinion, E, and pinion-wheel, C, all arranged to operate substantially as and for the purpose set forth.

72,973.—MATCH SAFE.—P. D. M. Carmichael, Le Roy, N. Y. I claim the propelling arm, B, constructed substantially as described, in combination with the actuating lever, C, spring, F, and mouth, K, arranged and operating substantially as and for the purpose set forth.

72,974.—SEWING MACHINE.—Wm. Chicken, Chelsea, Mass. I claim, in combination with a disk, provided with gear teeth, and having a cam for working in connection with a stationary plate cam, as described, a pinion, which meshes into the teeth of the disk, and on which pinion a friction clamp or gripe operates to impart intermittent rotative movements to said disk, for the purpose of giving movement to a stock or cloth clamp, substantially as described.

72,975.—CULTIVATOR.—Daniel Churchill, Ionia, Ill. I claim, 1st, The plates, I and F, when constructed and arranged to operate substantially as described.

72,976.—FARM GATE.—William D. Clark, Ottawa, Ill. I claim the peculiar and particular arrangement of the guides and rollers described, when attached to the gate, operating and constructed as set forth.

72,977.—COMPOSITION FOR ROOFING.—Allen Cody, James Bartlett, and Henry M. Jones, Ukiah city, Cal. We claim a compound cement for roofing purposes, prepared and applied substantially in the manner and for the purposes set forth.

72,978.—EYE GLASS.—E. Merritt Cole, Southbridge, Mass. I claim the arrangement and application of the tenon and mortise with the lens, and with respect to the joint screw or pin of the spectacle or eye-glass frame, substantially as specified.

72,979.—ANIMAL TRAP.—William Cover, Jenner's Cross-Roads, Pa. I claim a trap, consisting of a box, A, having one part closed by a cover, and a partition, B, having an opening through it, and with the revolving wire cylinder, C, in the open portion of the box, A, all constructed and arranged for operation, as shown and described.

72,980.—METHOD OF ROASTING METALLIC ORES.—Francis W. Crosby, Toledo, Iowa. I claim the method, substantially as herein described, of obtaining a pro-

no disposition of pulverized ores within the reducing chamber of a furnace, for the purpose set forth.

72,981.—COMBINED SULKY PLOW AND CULTIVATOR.—William G. Crossley, Shellsburg, Wis. I claim, 1st, The arrangement and combination of the beam, C, rod, I, spring catch, Y, and lever, B, for regulating the position of plow, E, substantially as and for the purpose set forth.

72,982.—CARTRIDGES FOR SMALL-ARMS.—Thomas Cullen, San Francisco, Cal. I claim the method and arrangement of securing the metallic base or cap, A, to the paper tube, D, which holds the charge, by means of the nipple, C, screwing into the interior washer, B, as substantially herein set forth and described.

72,983.—SAW.—James Davis, Buffalo, N. Y. I claim, 1st, Making the saw teeth above and below the center line, H, with the cutting edges toward said line, and the rake or set, above the reverse of that below the center line, in the manner and for the purpose described.

72,984.—CAR BRAKE.—Fred. Dengler, North Vernon, Ind. I claim, 1st, The lever, B, and roller, C, acting on the curved lever, A, all combined and operating substantially as described.

72,985.—CAR BRAKE.—David Dick, and O. W. Preston, Jr., Corning, N. Y. We claim, 1st, The dog, D, as constructed, in combination with spring, I, operating conjointly substantially as set forth.

72,986.—STOP COCK.—Justus Doering (assignor to himself, A. F. Shelly, and Charles Dixey), Philadelphia, Pa. I claim the combination of the case and conical valve of a cock, and a conical stationary sleeve, fitting the case, and in which the valve turns, and which is so constructed and connected to the valve that it may be withdrawn with the latter from the case without the necessity of detaching any nuts or other fastenings, all substantially as described.

72,987.—LET-OFF MECHANISM FOR LOOM.—George Draper, Milford, Mass. I claim the said combination of devices, substantially as above described, for operating the said ratchet, and the warp guide and beam, in manner as specified.

72,988.—TRUNK.—Jonathan Smith Eaton, Roxbury, Mass. I claim the combination, with the frame of a trunk, of the strips or pieces A, substantially as and for the purpose set forth.

72,989.—BREWING.—William H. Elliot, New York city. I claim the process herein described of brewing malt liquors, viz., condensing the vapor of boiling wort, returning it to the wort in a liquid state, and returning the two liquids together, substantially as herein set forth.

72,990.—HARVESTER RAKE.—Vanderlyn H. Felt, Rochester, N. Y. I claim, in combination with the reciprocating rake, F, provided with projecting teeth, Q, the arrangement of the connecting and operating parts, consisting of the loose pulley, H, provided with the reacting spring, I, and operated by lever, K, the endless chain, G, the hinged bar, O, and the stop and projection, M, M, the whole operating in the manner and for the purposes set forth.

72,991.—EXPANDING PULLEY FOR BRAIDING MACHINE.—Jesse Fewkes, Newton, Mass., assignor to Silver Lake Manufacturing Company. I claim the combination of the rods, B, pivoted to the pulley, A, with the plate, C, constructed as described, and the screw, D, for covering positively the position of said rods, substantially as described, and for the purpose set forth.

72,992.—INDIA-RUBBER DOOR SPRING.—B. G. Fitzhugh, Sykesville, assignor to himself and William G. Maxwell, Baltimore, Md. I claim an India-rubber door spring, that is vulcanized in a curved or circular form, and applied to a door in a straighter form than that in which it was vulcanized, substantially as and for the purpose herein described and represented.

72,993.—HOLDER FOR GUM SCRUBBER.—Leonard Flecken-estine, Manor Township, Pa. I claim the arrangement of the two corrugated or fluted plates, P, R, for the purpose of forcing the scrubbing edges of India-rubber, together with the use of a socket and screw bolts, substantially in the manner shown and specified.

72,994.—COMPOSITION OF MATTER FOR THE MANUFACTURE OF EMERY CLOTH, POLISHING WHEELS, ETC.—Lewis Francis (assignor to himself and Cyrus H. Loutrell), New York city. I claim a composition of matter for various purposes, when the same shall be made substantially as herein described.

72,995.—SCISSORS SHARPENER.—L. M. Gilbert, Warren, Mass. I claim a scissor sharpener consisting of the beveled file, A, combined and arranged with the circular guide piece, C, the parts being constructed and the whole arranged substantially as and for the purpose specified.

72,996.—MEDICINE FOR THE CURE OF HOG CHOLERA.—Geo. W. Gish and Wm. M. Ferguson, Daviess County, Ky. We claim the medicine made by mixing, or by using at the same time, the ingredients described, for the purposes set forth.

72,997.—MANUFACTURE OF CLAY PIPES.—Geo. D. Goodrich, Joliet, Ill. I claim, 1st, The improved method of fastening the trough carriage in, and securing the same from its rigid and described position on the frame on which its rests, substantially as herein described and specified, or other equivalent devices.

72,998.—HAT BLOCKING MACHINE.—Wm. C. Griswold, New York city. The ring, A, to which the clamps are hinged when elastically seated, substantially as and for the purpose specified.

72,999.—HARVESTER.—Samuel B. Haines, Lewistown, Pa. I claim, 1st, The leading wheel, A, attached to the shoe, G, as herein described and represented, and performing the double function of supporting the inner end of the finger beam and operating either the rake or reel, or both, and for the purpose of the machine, substantially as described.

73,000.—SAWING MACHINE.—I. R. Harman (assignor to himself and Thomas J. Meginnis), Whites town, Ind. I claim the combination of the movable center, 15, with slides, 7 and 7, 4 and 6, and eccentric cam, 5, and spring, 13, all constructed and operating substantially as set forth.

73,001.—APPARATUS FOR CLARIFYING SACCHARINE JUICES.—L. P. Harris, Crestline, Ohio. I claim, 1st, The adjustable float, and its combination with the siphon.

73,002.—PLOW AND HARROW COMBINED.—James Harsha, Circleville, Ohio. I claim the chain, A, lever, B, and chain, D, arranged and applied substantially as described, for the purpose of combining an ordinary plow and harrow.

73,003.—ELEVATED RAILROAD.—Charles T. Harvey, Tarrytown, N. Y. I claim, 1st, The arrangement and combination, with the column, A, of a false base, B, made in sections, and secured around the column at the surface of the ground, substantially as described.

73,004.—VEGETABLE CUTTER.—T. J. Hatfield, Warsaw, Ind. I claim the combination of the reciprocating head, B, adjustable knives, 1, 2, 3, plates, B', B', arranged with set screws, X, X, box, D, follower, E, and spring-lever, O, substantially as and for the purpose herein set forth.

73,005.—FLOWER STAND.—C. J. Hauck, Williamsburg, N. Y. I claim a flower stand, composed of one or more sections, each made of a platform, A, with a ring, B, and one or more standards, C, supporting a guide ring, A, all as shown and described.

73,006.—TOY.—John E. Hawkins, Lansingburgh, N. Y. I claim the combination and arrangement of the ball driver or pocket, G, and its spindle, B, with the stock or handle, A, and cup, D, in manner substantially as and for the purpose as herein described.

73,007.—FIRE ESCAPE.—Edward Hawthorne, Mountain View, Cal. I claim the apparatus constructed, arranged, and operated substantially as and for the purpose described.

73,008.—INVALID BEDSTEAD.—Wm. Heath, Bath, Me. I claim the arrangement and application of the windlass, G, and its cord, H, and the gear, Z, and belt, h, thereof, with the lock frame, B, and the main frame, A, of the bedstead, substantially as described.

73,009.—HAY FORK.—John G. Hitchcock, New York city. I claim, 1st, Holding the tines against end pull by means of the projections or shoulders, b, arranged to lock against the ferrule or cap, C, while the latter is fixed on the handle by the screw, D, or its equivalent, all substantially as herein set forth.

73,010.—BOOTS.—James Holland, Conshohocken, Pa. I claim a metal ring or bent wire, d, applied to the upper edge of the boot leg, within the folds of the strips, A and A', as set forth, for the purpose specified.

73,011.—FIELD FENCE.—D. S. Humphrey, East Townsend, O. I claim the combination of two or more wires, B, with the posts, A, and slats or pickets, d, when secured thereto by means of the hook spikes, C, as specified.

73,012.—LANTERN.—John H. Irwin, Chicago, Ill. I claim, in combination with the burner of a lamp, and a globe or protector thereof, one or more tubes or passages, D, or their equivalent, arranged to operate substantially as specified and described.

73,013.—ALARM LOCK FOR DOORS.—Anthony Iske, Lancaster, Pa. I claim the combination and arrangement of one or two hooked bolts, C, lever, D, sleeve, E, with the arm, B, on the vibrating plate, with or without knob, b, when applied to a lock for the purpose of connecting the same with the bell or alarm, in the manner specified.

73,014.—FASTENING OF JAR COVER.—J. F. Johnson, New York city. I claim the use of two or more inclined recess on the neck of the vessel, in combination with a metal cap or stopper, with corresponding inclined, substantially as described.

73,015.—WATER HEATER FOR FIRE ENGINES.—Peter M. Kaffer and Joseph M. De Lacy, Trenton, N. J. We claim the arrangement of the checks, A, A and E, elastic pipes, F, F, condensing coil, D, and with cocks B, B and D, D, levers, C, C, pin, e, compensating levers, b, b, wrenches, a, a, constructed substantially as set forth.

73,016.—FARM GATE.—Israel L. Landis, Lancaster, Pa. I claim, 1st, The upright lever, K, its spring, N, clip, M, and latch, P, when arranged, combined and operated by the rope, S, and pulleys, T, as herein described, and for the purposes set forth.

73,017.—BREAD CUTTER.—John Madden and I. G. Haserot, Cleveland, Ohio. We claim, 1st, Operating the hinged or jointed table, F, by means of the cam, H, substantially as and for the purpose set forth.

73,018.—CONFECTION OR CAKE.—Wm. Manning, Chelmsford, Mass. I claim a new and improved combination cake, as herein described, using for that purpose the aforesaid ingredients, or composition of matter, or any other substantially the same, and which will produce the intended result.

73,019.—LINE REEL.—Lynian Martin, Indianapolis, Ind. I claim the combination of the frame, A, drum, B, crank, C, the plate, D, and pin, G, for the purpose of a line reel, all arranged and operating as set forth and described.

73,020.—SEEDER AND CULTIVATOR.—Henry S. Matteson, Stockton, Cal. I claim, 1st, The beams, C, B, in combination with beams, D, and cross beam, I, with draw bar, L.

73,021.—APPARATUS FOR COLLECTING PRECIOUS METAL.—James T. McDougall, San Francisco, Cal. I claim, 1st, A sluice containing obstructing standards, so placed as to convert the current into eddies, substantially as herein described.

73,022.—CORN PLANTER AND PLOW COMBINED.—Patrick Meisaac, Waterloo, Iowa. I claim the herein described arrangement of the several parts constituting the corn planter, and the mode herein described of attaching the same to a common plow, as specified.

73,023.—CHURN.—Gabriel McWilliams, Fostoria, Ohio. I claim the tube, B, piston, P, as arranged in combination with the case, A, and operated in the manner and for the purpose set forth.

73,024.—HARROW.—John Mercier (assignor to Israel Kinney), Detroit, Mich. I claim, 1st, The blocks or balls, A, A, etc., with holes cast or bored, and the rods, B, B, etc., when constructed substantially as and for the purpose described.

73,025.—SLEIGH RUNNER.—John G. Meiler, Plymouth, Mich. I claim, 1st, The construction of metal runners, of the shape set forth, provided with clips, B, and provided with means of connection, substantially as described, and for the purpose set forth.

73,026.—COTTON BALE TIE.—Carson Mudge, New Orleans, La. I claim the making of the two additional openings or holes, A, in cotton ties, designed for use in connection with the iron rings, so that the same may be used with equal ease for fastening together the ends of wire rope or wire, as herein described.

73,027.—LATHE.—L. F. Munger, Rochester, N. Y. I claim, in combination with the lathe centers, placed vertically, or nearly so, over the front of the lathe, the ways, a, b, on said front of the lathe, for the slide rest to move on, for the purpose of adapting the parts to the different operations, as herein described and represented.

73,028.—VISE CLAMP.—H. O. Nauen, New York city. I claim a vise clamp, composed of two jaws, A, hinged together by means of shanks, a, and a pivot or pivots, b, and provided with lips, d, on their backs, d, removable lining, e, on their working faces, and a spring, c, which opens the jaws, substantially as herein set forth.

73,029.—VELOCIPEDE.—Martin Newman, Unadilla, N. Y. I claim the device for propelling velocipedes, constructed substantially as herein shown and described.

73,030.—PULLEY BLOCK.—I. W. Norcross, Boston, Mass. I claim, 1st, In pulley blocks, making the several checks by casting them independently and separate from the other parts, substantially as described.

73,031.—SAW MILL.—C. D. Olmstead, Williamsport, Pa. I claim, 1st, The stirrup, with its fast and loose slides, holding in one side the section of a ball, and provided with set screws for adjusting purposes, all

arranged and constructed as shown and described, and for the purpose indicated.

2d, In connection with the stirrup, as shown, the construction and arrangement of the action parts which constitute my muley block, as described and for the uses indicated.

73,032.—STEAM TRAP.—Chas. E. Palmer, Manchester, N. H. I claim the movable valve seat, C, constructed with a partitioned coupling, A, B, substantially as set forth.

73,033.—RAIL SET.—George Patterson, Augusta, Mich. I claim the withstanding device, C, D, E, adapted for bending or straightening railroad rails substantially as specified.

73,034.—COTTON BALE TIE.—Joshua L. Phillips, Washington County, Miss. I claim the device herein described, consisting of the central bar, A, when provided with the wings, B, B', in which, at the points, a, a', are rooves to receive the hand, a longitudinal opening for the ends of the band, and holes, d, d', as and for the purpose herein set forth.

73,035.—ANCHOR.—D. C. Pierce, Clayton, N. Y. I claim the fenders or rods, C, C', constructed as shown, attached to the flukes and stock of the anchor substantially in the manner as and for the purpose set forth.

73,036.—ANCHOR.—D. C. Pierce, Clayton, N. Y. I claim the shackle, E, in combination with the bars, C, C', and the pivoted fluke, A, all arranged substantially as and for the purpose specified.

73,037.—PICKER MOTION FOR LOOMS.—Joseph Pilkington, Frankford, Pa. I claim the combination of the weight, 2, shaft, O, arm, g, and staff, d, all constructed and arranged as and for the purpose described.

73,038.—PUMP VALVE.—Wm. H. Follard (assignor to Downs & Co.'s Manufacturing Company), Seneca Falls, N. Y. I claim the combination of the concave disk, g, of the valve, with the elevated seat, a, arranged as described, and operating in the manner and for the purpose specified.

73,039.—LOCK COUPLING FOR GAS FIXTURES.—Thomas L. Reed, Providence, R. I. I claim the coupling constructed substantially as described, with a male and female sleeve, and an annular packing cavity, and a helical groove, and a peg or stud, in combination, all as and for the purpose set forth.

73,040.—GAS SOCKET.—Thos. L. Reed, Providence, R. I. I claim the shell of the socket constructed with a cylindrical cavity, and a shoulder, e, and a lip or ledge, l, as described, and in combination with the packing, n, constructed substantially as and for the purpose set forth.

73,041.—APPARATUS FOR SEPARATING GOLD FROM ORES.—Thomas Rhoads, Ottawa, Ill. I claim the inside double helix, C, the helix, B, inside kettle, A, the feed pipe, F, and the heating flue, H, when in combination with each other, constructed substantially as and for the purpose described in the foregoing specification.

73,042.—DRIVING BRIDLE.—Archibald Rice and Lewis Leach, Fresno, Cal. We claim the combination and arrangement of the straps, a, a', with loops or pulleys, c, c', and d, with the reins, A, hitched to the post hook, and running through the loops or pulleys, c, c', and to the hames or saddle, substantially as described.

73,043.—DEVICE FOR SECURING STOPPERS TO BOTTLES.—Wm. H. Richards, Amherst, Mass. I claim a device for securing, corkers or stoppers, demijons, etc., substantially as described.

73,044.—MACHINE FOR POUNCING HATS.—John C. Richardson, Newark, N. J., assignor to himself and James H. Prentice, Brooklyn, N. Y. I claim, 1st, Mounting the partially revolving frames, B and C, and their connections on the centers, b and c, arranged out of line with the shafts, D and M, and arranged to operate relatively to each other substantially as and for the purposes herein set forth.

2d, Also, in pouncing machines, the sand paper, W, or its equivalent, the beveled parts, P and P', and the buttons, Y, and grooves, r, or their equivalents, combined and arranged for joint operation as a pouncing wheel, substantially as and for the purposes herein set forth.

73,045.—CHECK FOR PICKER STAFF.—Elisha Robbins, Worcester, Mass. I claim the arrangement and application of the adjustable spring brake with the picker staff and shuttle box, as described.

73,046.—STUMP EXTRACTOR.—John B. Robertson, New Orleans, La. I claim the truncated pyramidal frame structure, B, C, when the same is supported at its front end by the axle of the wheel, A, and at its rear end by the pivoted adjustable standards, E, in combination with the rod, F, screw, collar, or nut, N, metallic plate, M, circular collar, b, and pivoted standards, b, when these several parts are constructed and arranged for joint operation, substantially as herein described, for the purpose set forth.

73,047.—HOOK FOR WHIFFLETREES.—D. D. Robinson, Niles, Mich. I claim the hook, C, pivoted in the groove at the outer end of the socket, A, connected closely to the projection, B, forming a perfect loop, and held in place by the spring, a, when all are constructed and arranged as herein set forth.

73,048.—MODE OF LASTING BOOTS AND SHOES.—Ichabod R. Rogers (assignor to Geo. E. Bartlett), Lynn, Mass. I claim an inner sole, A, of any suitable material, provided with a row of stitches, a, by which the upper leather is united to it by stitches, substantially as and for the purpose set forth.

73,049.—GATE.—Wm. H. Rogers, Harlem, Ill. I claim, 1st, The combination of the gate, a, with the cord, n, and the roller, u, sheaves, v, w, and handle, m, or an equivalent, arranged for the purpose of opening the gate, substantially as described.

2d, The combination of said gate with the cord, e, and the sheaves, b, b', and handle, l, or an equivalent, for closing the gate, substantially as described.

73,050.—HORSEHOE CURBION.—G. E. Rust, Boston, Mass. I claim the double pad or cushion composed of leather and felt or other fibrous cloth, and interposed between the hoof of the horse and the shoe, substantially as herein described.

73,051.—TRACTION ENGINE.—Theodore Scheffler and Henry Morrison, Paterson, N. J. We claim, 1st, In traction engines for common roads, supporting each wheel on an independent axle, running in suitable bearings, situated on each side and close to the wheel, in the manner and for the purpose described.

2d, The arrangement of the loose clutch, J, and the internal and external clutches, K and L, in combination with the levers, a, and b, or their equivalents, operated by the steering lever, M, the whole being arranged and combined in the manner and for the purpose substantially as set forth.

3d, Connecting the driving wheels, H, with the driving shaft, F, through chains, or their equivalents, passing over clutches, arranged and operating substantially as specified.

4th, Driving the forward wheels, P, P', by a separate and independent cylinder or cylinders attached to the movable truck, Q, and turning with said truck and wheels.

5th, The center piece, R, fast to the truck, Q, with suitable passages for the steam and exhaust through said center piece, in combination with the socket S and guide frame, T, supporting the smoke box, C, or end of the boiler, the whole being constructed and arranged in the manner and for the purpose described.

6th, Operating the ropes or chains that turn the forward truck and wheels of the engine, to guide or direct its movements by means of hydraulic cylinders operated by a force or steam pump, substantially in the manner and for the purpose set forth and described.

73,052.—BED BOTTOM.—Adolph Schlingman, Alexandria, O. I claim, 1st, A bed bottom consisting of the cord, F, and transverse perforated slats, G, G', G'', with or without the longitudinal stiffening slats, H, the cord being rove forth and back through said slats, and held at the ends by pins, substantially as described and represented.

2d, The combination with the cord, F, of the transverse, G, G', G'', of an adjusting or tightening, R, or K, applied and operating substantially as described and represented.

73,053.—ROCK DRILLING MACHINE.—Carl Schumann, Freiberg, Saxony, assignor to Edward H. Jackson, Boston, Mass. I claim, 1st, Imparting a forward and rotating movement simultaneously to the valve rod of a rock drill, by means of the levers, e, e', and their connections, substantially as described.

2d, The rotative device consisting of the levers, e, e', operated by means of the guide, b, on the piston rod, E', the link, f, guide rod, f', pawl, p, pivoted on the guide rod, f', pawl, p, pivoted on the guide piece, n, and the guide pieces, m, n, and ratchet wheel, H, substantially as described.

3d, The device for operating the valve rod, consisting of the levers, e, e', operated as described, the forked lever, r, b, toothed wheels, K, K', screw rod, j, bar, i, and bar, l, provided with shoulders, i, substantially as described.

4th, The device for rotating the piston rod and rock drill, consisting of the levers, e, e', operated as described, lever, g, slotted guide rod, g', pawl, p, pivoted to the guide piece, m, guide pieces, m, and n, shoulder, d, and the piston rod, E', and slotted ratchet wheel, c', substantially as described.

5th, The combination of the pieces, I, I', with the morticed shoulders, J, cylinder, K, with tongue, s, clamp, L, and ratchet wheel, H, operated substantially as set forth.

6th, The arms, e, extending from the back plate, G', of the valve chest, G, forming the bearing of the main shaft of the device, substantially as described.

73,054.—DEFECATING CANE JUICE.—A. B. Sharp, Paincourtville, La. I claim the supplemental or additional revolving cylindrical water cistern, B, when constructed and operating in connection with Patterson's cylinder A, or any other cylinder substantially the same, and specially employed for purifying the fumes of sulphur to be subsequently used in the defecation of cane juice, as set forth.

73,055.—JOURNALS OF AXLES OR SHAFTS.—Cal in D. Smith, Baldwinville, Mass. I claim the arrangement of the inclined passage, c, and the grooves, a, and b, together and with the journal, as specified.

73,056.—MACHINE FOR MASHING AND BOILING WORT FOR BEER.—John Stark and Michael Stark, Buffalo, N. Y. We claim the combination of a beer mashing and boiling apparatus, in the manner and for the purpose set forth, or any other principally the same.

73,057.—MANUFACTURE OF ILLUMINATING GAS.—Levi Stevens, Washington, D. C. I claim, 1st, The use of a close chamber, for mixing a hydrocarbon and hydro-oxygen, under heat and pressure, which mixture is to be afterwards forced, to convert it into a fixed gas for illuminating purposes, as described.

2d, Also in combination with the close heating or mixing chamber, an injecting apparatus, worked by a volume of escaping steam to force the hydrocarbon into said chamber against the pressure of steam therein, substantially as described.

73,058.—RAILWAY CHAIR.—Isaiah Tillson, South Abington, Mass. I claim in the arrangement and combination of the jaw arms and their chambers in the chair, with the rails arranged within the chair, as set forth.

Also the combination of the covering plates with the jaws, their arms, and the chambers for receiving such arms, as set forth, such covering plates serving to prevent the jaws and their arms from being thrown out of the chair by vertical movements or vibrations of the rails.

Also in combination with the chair, movable jaws, to act against or grasp opposite sides of the rail or rails, and be pressed against such by a weight or wheel while resting on or passing along on such rail or rails, or either of them, as set forth.

73,059.—WINDLASS.—Lafayette L. Treman, Ithaca, N. Y. I claim, 1st, The enlarged ends of the levers extending and bifurcating over the ratchet wheels, E, so as to embrace the said ratchet wheels by a sliding surface, F", as set forth.

2d, The adjustment of the said levers and ratchets, made as described, on the shaft, C, within the bits, A, for the purposes specified.

3d, The combination and arrangement of the levers, ratchets, and clicks, constituting the working parts of the windlass, with n or inside of the bits, for the purpose of giving free scope to the chain, cable, or rope on the heads, and avoiding the interference with the said moving parts, with the heads on the ends of the shaft, outside of the bits, as set forth.

73,060.—PAINTER'S CANVAS.—Chas. Volkmar, Baltimore, Md. I claim a canvas or other material prepared for receiving colors or other substances, by means substantially as herein described.

73,061.—HARROW.—John N. Wallis and Theodore Wallis, Fleming, N. Y. We claim, 1st, The flanged cylinder, C, when used as and for the purpose specified.

2d, The double nut or shell pieces, F, when used in the manner and made to subserve the purpose above set forth.

3d, Supporting the teeth of drags or harrows by means of a cylinder, which shall allow the teeth to rotate as and for the purpose specified.

73,062.—MODE OF CLOSING UP BOOT LEGS.—Preston Ware, Newton, and Calvin R. Tilton, Tisbury, Mass. We claim making a boot leg whose diverging edges are united by a lap seam by machinery, substantially as described.

73,063.—SEWING MACHINE.—Albin Warth, Stapleton, N. Y. I claim, 1st, Making the needle slide, M, and the guide rod, P, either or both, in the form of tubes, closed below, so as to prevent oil used in lubricating them from falling on the table, substantially as described.

2d, The combination of the guide rods, O and Q, with the holding plate, S, for the purpose of guiding the needle and pressure guide rods, O and Q, either or both, hollow, to allow the escape of air, substantially as described.

3d, The combination of the thread guide, S', with the presser foot, substantially as described.

4th, The hook, 28, formed substantially as and for the purpose described.

5th, The combination of the grooved shuttle with the hook, 28, as and for the purpose specified.

6th, The disconnected friction pins in the shuttle, arranged substantially as described.

7th, The shuttle, S', constructed as shown and described.

8th, The spring, L, arranged so as to bear upward against the needle slide, substantially as described.

9th, The combination of the eccentric, r', universal joint, G, I, rod, F, and needle lever, v, constructed and operating substantially as and for the purpose specified.

10th, The tension device, X, y, and the take-up, W, arranged and combined substantially as described.

11th, The combination of the reversible slide, r, the nut, n, bayonet arms, p, p', and the hook, shaft, v, having pins, t, substantially as described.

12th, The lever, provided with two shoulders, l, l', in combination with the spring, x, substantially as described.

13th, The adjustable plate, 7, for regulating the length of the stitches, in combination with the jaws, 5, 5', of the feeding apparatus, substantially as described.

14th, The box that holds the feed wheel, composed of the right plate, 11, the spring plate, 12, and the elastic rings, M, 16, substantially as described.

15th, The hollow axle in which the feed wheel turns, in combination with the hollow hub, closed at one end, substantially as shown and described.

73,064.—SEWING MACHINE.—Albin Warth, Stapleton, N. Y. I claim, 1st, The arm, D, and brace, H, in combination with each other and with the shaft, C, table, A, and platform, G, substantially as and for the purpose specified.

2d, The independent take up K, and cam E, in combination with the double pointed shuttle, B, constructed and operating substantially as and for the purpose set forth.

3d, Making the shoulders, h, of the double pointed shuttle, B, radiating from the center of the shuttle race, substantially as and for the purpose described.

4th, The arrangement of the winding attachment, m, in combination with the elastic center, j, substantially as and for the purpose set forth.

5th, The cap, k', in combination with the elastic center, j, and with the shuttle, B, constructed and operating substantially as and for the purpose specified.

6th, The hooked pin, p', in combination with the pin, p, in the shuttle, substantially as and for the purpose set forth.

7th, The movable center, v, in combination with the adjustable center point, r, constructed and operating substantially as and for the purpose set forth.

8th, The adjustable cap, M, on the main cam, E, combined and operating in connection with the feed bar, L, substantially as and for the purpose set forth.

9th, The recess, w, in the presser foot, in combination with the adjustable spring, x, constructed as described, which keeps the braid up against the shoulder, y, substantially as and for the purpose set forth.

73,065.—SHEEP RACK.—Jacob D. White, Kilbourne, Ohio. I claim a feeding rack or manger, a a b b c c I, provided with an inclined hinged lid or cover, d, and a self-adjusting feed rack, g g g' j, which is held in position by the pieces of leather, k k k', attached to each end of the rack and so arranged as to prevent the feed material from falling by its own gravity, without any auxiliary appliances, constructed and arranged substantially as herein shown and described, for the purpose set forth.

73,066.—MEANS OF ATTACHING HANDLES TO DIPPER.—John B. Wood, Cranston, R. I. I claim slitting or otherwise removing a portion of the material of the stick or handle which is held in the metal socket piece, when combined with the metal socket, substantially as and for the purpose specified.

73,067.—FELLER FOR SEWING MACHINES.—Enoch S. Yentzer and Alfred K. McCain, Ottawa, Ill. We claim, 1st, The attachment of both the single turner, a, and the gage or guide, b, to the presser foot, by the means and in the manner substantially as herein described.

2d, The single turner, a, in combination with an adjustable gage or guide, f, adapted for feeding seams, substantially as described.

3d, The attachment of the turner, a, of a feller, to an elastic holding plate, B, substantially as described.

73,068.—LAMP CHIMNEY FASTENING.—John Allen and Chas. E. Lewis, Washington, D. C. We claim, 1st, The circular and grooved holder, divided into segments, operating on rings, and held by fastenings, as herein described and for the purpose set forth.

Also the use of an elastic or rubber ring, fitted into the groove of the holder, for the purpose set forth.

73,069.—VALVE GEAR.—John F. Allen, New York City. I claim the arrangement of the governor and link motion with reference to the wrist motion, constructed as described, to produce an automatic control of the motion valves, substantially as specified.

73,070.—FRICTION ROLLER FOR BAND SAWS.—Thomas A. Ballou, Cleveland, Ohio. I claim the roller, A, consisting of the head, A', and follower piece, D, and pieces of raw hide, C, clamped between the head and follower by means of clamp screws, 1, all constructed to operate substantially as described.

73,071.—RAILWAY SWITCH.—Truman G. Beecher, Beaver Dam, N. Y. I claim, 1st, The rails of a portable switch, constructed with flanges, for attaching to the track of a railroad, and locking in position, substantially as set forth.

2d, In combination with such rails, the ties, D, constructed substantially as described.

3d, The ties, D, formed with flanges, arranged substantially as set forth, to form loops to hold the tie on the bed-rail, when in proper position to stain the temporary track.

4th, So constructing the rails of a temporary switch that the temporary track may be carried over the bed-rail, said portable rails being formed substantially as set forth.

5th, In combination with the tie, D, the brace, D', so arranged as to act both to support the rail laterally and to form a chair to hold the rail down, substantially as described.

73,072.—KEY COUPLING FOR MUSICAL INSTRUMENTS.—Jonas Berger, Knoxville, Ill. I claim, 1st, The construction of a key coupling in which the octave is operated without depressing its key, substantially in the manner and for the purpose as herein specified.

2d, The construction of the key board, F, with standards, E, and providing the same with grooves and slides, d, in combination with the straps, G, cross pieces, f and c, standards, D, valves, C, C', and springs, a, a', all arranged substantially in the manner and for the purpose as herein specified.

73,073.—APPARATUS FOR CARBURETING AIR.—William W. Berc, Cleveland, Ohio. I claim the immersed carburizing vessel, Z, with its contained float, D, in combination with the gravitating air holder, M, tank, L, and inverted siphons F, I, Q, R, when arranged and employed substantially as and for the purpose set forth.

73,074.—CANE AND UMBRELLA COMBINED.—Geo. Bockstaller, New York City, assignor to Lewis Schneider and W. W. McCay. I claim the combination of the cover, detachable from the stretchers, and from the stick and the shaft, T, arranged to take the place of the cover, and to give to the umbrella the appearance of a walking stick, all as set forth.

73,075.—CANT HOOK.—E. Broad, St. Anthony's Falls, Minn. I claim the plate, D, with its ears and stops, x, x, as shown and described, whereby the hook, C, as constructed, is hinged to the handle, A, and prevented from falling too far back or forward, substantially as herein specified.

73,076.—CONSTRUCTION OF LUMBER WAGONS.—S. D. Carter, Madison, Wis. I claim the coupling block and the coupling block attached to the pole, for the purposes and substantially as herein described.

2d, Also, the manner of fastening the stakes to the bolster, for the purposes and substantially as herein described.

Also, the manner of fastening the reach together and operating the same, the cast iron socket, C, the sleeves and wedges, the shank, E, and the wrought iron fillet for strengthening the same, for the purposes and substantially as herein set forth.

73,077.—WATCHKEY PROTECTOR.—A. J. Chase, Boston, Mass. I claim a vulcanized india-rubber key guard, consisting of the bulb, d, and loop, f, made substantially as and for the purposes herein shown and set forth.

73,078.—COMBINED LATCH AND BOLT.—Pascal P. Child (assignor to S. R. Fox Manufacturing Co.), St. Louis, Mo. I claim the sliding bolt latch, C, in combination with the keeper and striker, D, the latter being constructed as described, with rebated projections, d', which act as strikers for the latch when it is used as such, and the hasp rail, d, which confines the latch when acting as a bolt, as shown and described.

73,079.—MACHINE FOR PRESSING BRICK.—Wm. H. Coombs, Fort Wayne, Ind. I claim, 1st, The improved brick-pressing machine, constructed and operating substantially as herein described.

2d, In combination with the mold, in which the bricks are pressed, and a plunger or piston, operated by a crank and pitman, to press the brick in the mold, the movable back piston, P', moved by the means and in the manner substantially as herein described, to remove the pressed bricks from the mold.

3d, In combination with a plunger or piston, operated by a crank and pitman, to press the bricks in the mold, the feeder, I, operating in the manner and by the means substantially as herein described, and for the purpose set forth.

4th, In combination with the mold and a pressing plunger or piston, the elastic backing, O', substantially as and for the purpose set forth.

73,080.—MELODEON.—Wm. Cooper, Deposit, N. Y. I claim, 1st, Graduating the dipor depression of the keys, by mechanism controlled by the receiver, substantially as herein described, for the purposes specified.

2d, The two receivers, A, and the two exhausters, with their operating pedals, so combined that the aforesaid receivers may be worked, either together or separately, at the pleasure of the player, substantially as herein set forth.

3d, The slide, b, or equivalent device, arranged in such relation with the two receivers that the latter may be either separated or made to communicate with each other, substantially as and for the purpose specified.

73,081.—CULTIVATOR AND PLOW.—Wm. H. Damron, Robt. H. Massey, and Lorenzo F. Whitman, Macomb, Ill. We claim, 1st, The combination of the wheel, a, with the wrist, c, sliding chases, e', and cross beam, a', as and for the purpose specified.

2d, The combination of the plow beam, c, with the sliding crotches, 1, the cross beam, a', the guide, n, and slotted cross beam, o, substantially as set forth.

3d, The combination of the plow beam, c, with the crotches, 1, provided with the bores, l, and pins, k, as and for the purpose set forth.

73,082.—STRAIGHT EDGE.—Samuel Darling, Bangor, Me. I claim, 1st, A straight edge, hardened at its edge or edges and not at its center, substantially as described.

2d, Also, a straight edge, having a hardened edge or edges, and admitting, when warped by hardening, of being brought into true, substantially as described.

3d, Also, a straight edge made of two or more thin pieces, having one or both edges hardened for the purpose of making it thicker, substantially as described.

4th, Also, a straight edge composed of a thin plate, with hardened edge or edges, and a supporting bed or plate, substantially as described.

5th, Also, a straight edge composed of two or more hardened straight edges secured end to end upon a supporting bed plate.

6th, Also, a straight edge, when constructed as herein set forth, whether the same be used as a single edge or with two opposing edges, as in a gage, substantially as described.

7th, Also, the mode, herein described, of undergraduating the straight edges to compensate for the stretch in hardening.

8th, Also, the process, herein described, of reducing the graduated edges to the proper standard by tempering.

73,083.—STEAM GENERATOR.—John H. Duhme, Cincinnati, Ohio. I claim the steam boiler, constructed as described, consisting of the section placed one above the other, and connected together at the ends by means of the pipes, a, each section consisting of the corrugated longitudinal plate, c, and corrugated transverse plate, d, secured together at their points of intersection, all arranged as described, as and for the purpose specified.

73,084.—BOILERS FOR HEATING APPARATUS.—C. R. Ellis, Rockl. N. Y. I claim a series of pipes for a hot-water heating apparatus, formed with the waterway thimbles near the ends of the tubes, in combination with the pipe, k, h, having a range of nipples on one side, the whole being connected together by tie rods, as set forth.

73,085.—WATER-PROOF SAFE.—J. P. Ellis, Flushing, N. Y. I claim a water-proof safe or receptacle for papers and other valuable documents, constructed substantially as herein specified.

73,086.—POTATO PLANTER.—Henry Farmer, Pontiac, Mich. I claim the arrangement and combination of the said iron fingers, hopper, and plow, acting together as and for the purpose specified.

73,087.—CULTIVATOR.—Wm. F. Franz, Piqua, Ohio. I claim the combination of the standards, D, D', and shovel plows, E, E', adjustably attached to cross bars, C, and the adjustable rake, F, arranged to operate substantially as set forth.

73,088.—PICTURE AND CURTAIN KNOB.—J. Gardner, New Haven, Conn., assignor to Samuel Peck & Co. I claim, as a new article of manufacture, a picture or curtain knob, or knob for like purposes, made of the material and in the manner substantially as herein specified.

73,089.—LUBRICATING COMPOUND.—E. J. Gerdon and C. W. Schindler, Albany, N. Y. We claim a lubricating compound made of the ingredients above specified, and having the property that it will melt at a temperature of from 100° to 110° as set forth.

73,090.—FIELD FENCE.—I. A. Gormly, Bucyrus, Ohio. I claim the combination of metal posts, anchors, and braces, with dowel pins and wedges, substantially as described.

73,091.—BASE BURNING HOT-AIR FURNACE.—James Gray, Albany, N. Y. I claim, 1st, In a base burning stove or furnace, which has a supply cylinder, an escape passage from the chute, J, through the horizontal pipe, d', or the hollow ring, e', into the flue, F, substantially as described.

2d, Providing the chute, J, leading through one side of the external casing into the cylinder, E, with a damper or valve, g, substantially as described.

3d, The construction of the double-wall cylinder, D, D', annular chamber, d, and a p-passages, f, substantially in the manner shown and described.

4th, The combination of the magazine, E, outer casing, H, with the hollow open-work section, F, and the annular chamber, d, with air passages, f, crossing it, of a base burning air heating furnace substantially as described.

5th, The combination of the magazine, E, central exit flue, F', and ascending annular flue, d, leading from the fire chamber, substantially as and for the purpose set forth.

6th, Conducting the heated products of combustion, rising from the fire pot into the annular chamber, f, substantially in the manner shown and described.

7th, Making the iron protector or the guard plates, k, k', of the fire bricks, or their equivalents, porous in segments, so that they may be removed through the lower end of the magazine, E, substantially as described.

8th, In the construction of a base burning air heating furnace, having a magazine, E, an annular circulating air chamber, and a damper or valve, g, both surrounding said magazine, and situated between the same and the horizontal pipe, d', the inclined chute or passage, J, provided with a valve, g, and gas-escape cone, and adapted to serve as a means for introducing coal into the magazine from a point which is below the top of the outer casing, substantially as described.

9th, The flaring arched opening of the ash pit, A', formed by the inclined plate, a', substantially as described.

10th, The combination of the sectional lining, h, h, with annular circulating space, G, and jacket or wall, D', substantially in the manner described and shown.

11th, The combination of the magazine, E, damper or valve, g, the horizontal pipe or pipes, d', and the hollow ring, e', substantially as described.

12th, The arrangement of the flues, d' and e', so that they can be cleaned by using a flexible handled brush from inside of the door leading into the coal-supply cylinder or reservoir, substantially as described.

13th, In a base burning air heating furnace having a magazine, E, a doorway or passage, provided with a door or window, opening into the combustion chamber through the outer casing of the furnace, substantially as described.

14th, In a base burning air heating furnace having a magazine, E, a passage, covered by a door or window, and leading into the combustion chamber through and across the air chamber formed by the exterior case or wall and the outer wall of the furnace, substantially in the manner and for the purposes described.

73,092.—APPARATUS FOR DISTILLING AND RECTIFYING.—Callr Grelschna, New York City. I claim the blow-off pipe, F, in combination with the cups, d1 d2 d3 d7, in the rectifier, G, substantially as and for the purposes described.

73,093.—RECIPROCATING BALL TOY.—Theo. D. Haehnlen, Philadelphia, Pa. I claim the combination of the ring, A, the elastic cord, C, the ball, D, and handle, B, substantially as specified.

73,094.—CULTIVATOR.—W. O. Hargrave, Ripon, Wis. I claim, 1st, The board, H, connected to the tongue, C, by the hinge, H, so that the drill teeth can be elevated by the driver, in the manner as set forth.

2d, The axle, A, with its blocks D, D', between which are hinged the beams, E, E', provided with their shovels, e, e', when used in connection with the beam, H, bars, d, securing the horizontal resting bar, G, and operated by the rod, b, upon the beam, E, by the hinge, H', the whole constructed and used in the manner substantially as specified.

73,095.—WORM FOR GEARS.—Dennis Harrigan and Joel Whitney, Winchester, Mass. We claim an endless screw or worm, with its threads so formed as to have their general direction from root to summit such that, if prolonged, they would meet at a point distant from the roots of the threads equal to the radii of the wheel they are intended to drive.

Also the forming of the threads upon a body whose bounding lines, in a direction parallel with the axis of the worm, are concave, the radius of the concavity being equal, or nearly so, to the radius of the wheel to be driven.

73,096.—BEEHIVE.—Chas. Hastings, Dowagiac, Mich. I claim the combination of the box, A, with an air chamber, a, and a series

of movable comb frames, B B, with recesses, x x, said frames and recesses are covered with paper, C, or equivalent material, as and for the purposes specified.

73,097.—BRICK TRUCK.—Napoleon B. Heaffer, Bloomington, Ill.
I claim a truck which is adapted for general use in a brick yard, consisting of a platform, A, with removable head and tail boards, A', mounted upon rollers, B, and provided with a sliding hand tongue, E, and also means for attaching thills, F, substantially as described.

73,098.—PORTABLE FENCE.—L. F. Henderson, Freeport, Ill.
I claim the uprights, A, secured with cleats, F, F, and to bases, B, B, in combination with top rails, D, stakes, C, and lower rails, G, substantially as and for the purpose set forth.

73,099.—SPIRIT METER FOR DISTILLERS.—J. C. Horton, New York city, and James Milligan, Brooklyn, N. Y.
We claim, 1st, The method of ascertaining the quantity of spirits produced in a distillery in a given time by using, in combination with an automatic meter to measure the spirits passing from the worm, another automatic meter, to measure the beer passing from the fermenting cisterns to the still, said meters being arranged and provided with automatic registers, substantially as described.
2d, Also, the method of ascertaining the quantity of spirits produced by a distillery in a given time by passing the beer through an automatic registering meter on its way from the fermenting cisterns to the still, whether in combination with a meter to measure the distilled spirits or not, substantially as herein described.

73,100.—SHAFT COUPLING.—Geo. W. Hubbard (assignor to Cresson & Smith), Philadelphia, Pa.
I claim the combination of a clamp or gripping coupling, A, constructed substantially as described, and provided with a safety key, D, with the shafts, B and B', as and for the purpose set forth.

73,101.—PUSHING JACK FOR RAILROAD CAR.—Ezra Hutson, Brockport, N. Y.
I claim the hinged jaw, g, in combination with hinged lever, C, and hand lever, A, substantially in the manner specified.

73,102.—DEVICE FOR SHARPENING HORSESHOE CALKS.—Wm. M. Jones, Horton, Wis.
I claim the within-described V-shaped file, constructed and used substantially as and for the purpose specified.

73,103.—WASHING MACHINE.—Joel Lee, Galesburg, Ill.
I claim, in combination with the box, with wheel, B, and crank, shaft for operating the rimman, rack bar, and pulley, E, the arrangement of the self-adjusting pins, G, G, directly over the pedestal, I, constructed as described, and placed over the bottom of the box, as specified.

73,104.—BREAD BOARD.—Wm. H. Lewis, New York city.
I claim the cutting board for bread, etc., formed with a recess or cavity for receiving the knife, as set forth.

73,105.—FILTER.—Joseph N. Lighthall, Joliet, Ill.
I claim a filter consisting of a vessel, A, provided with a central inlet pipe, C, a removable cover, B, perforated partitions, F, G, and an outlet pipe, G', substantially as described.

73,106.—PANTALON PROTECTING GUARD.—E. Lindsley, Cleveland, Ohio.
I claim, 1st, The guard plate, A, loops, B, B, and pins, C, when combined and arranged in relation to the pantaloons, substantially as and for the purpose described.
2d, The button, D, and guard, A, arranged as described, in relation to the foot and pantaloons, substantially as and for the purpose set forth.

73,107.—BROOM.—H. Lumbard (assignor to himself, G. E. Gerts, and John Schmidt), Chicago, Ill.
I claim the arrangement of the reeds on the wedges, B, B, and the manner of securing them to the block, A, by means of said wedges, substantially as and for the purpose herein set forth.
In combination with the above, the rivets, C, C, and plates, D, D, arranged as described and specified.

73,108.—CURTAIN FIXTURE.—T. J. Marinus, Independence, Iowa.
I claim, 1st, The automatic clamp, G, when constructed substantially as and for the purpose specified.
2d, The combination of the automatic clamp, G, wire, H, and cord, E, all arranged and operating in the manner and for the purpose set forth.

73,109.—FIBROUS MATERIAL FOR THE MANUFACTURE OF ROPES, CORDS, AND FOR COVERING WIRES, CORDS, ETC.—Henry A. Martin, Roxbury, assignor to Joseph H. Adams, Boston, Mass.
I claim a fiber formed from gutta serena, for the purposes set forth.

73,110.—SCREW MACHINE.—B. A. Mason, New York city.
I claim, 1st, The receiver, n, and pusher, i, in combination with the blank carrier, c, substantially as and for the purposes set forth.
2d, The ring blank carrier, i, in combination with the ring tool holder, d, and cutters, r, the holder passing through the carrier, as and for the purposes set forth.
3d, The arrangement of devices as described for operating the pusher, i, as and for the purposes set forth.
4th, The removable chucks, constructed and applied as set forth, in combination with the ring blank carrier, i, as and for the purposes specified.
5th, The delivery slide, w, actuated as specified, in combination with the ring-blank holder and ring tool holder, as set forth.
6th, A machine for cutting screws, in which the tools and their supporting ring are moved continuously by gearing that is connected with the screw driver by a changeable gearing all arranged substantially as set forth so that the pitch of the screw threads may be varied, as specified.
7th, The cams, k and h, or projections applied to the ring, d, substantially as specified in combination with the parts that supply the blank, form it into the blank holder, and move the blank holder and the screw driver, the parts being arranged and operating substantially as set forth.

73,111.—GOVERNOR.—T. B. McConaughy, Newark, Del.
I claim, 1st, The hinged arm, D, in combination with hook, e, and tripping lever, E, when constructed and operating substantially as set forth.
2d, The governor pulley, h, when driven by and combined with pulley, z, and belt, n, in the manner substantially as specified.

73,112.—GRAIN MEASURE.—E. O. Melvin, Brooklyn, Wis.
I claim the combination of the bifurcated chute, A, a s', with the gate, B, lever, L, rod, s, and the registering apparatus above described, substantially as and for the purpose herein set forth.

73,113.—RAILWAY-SWITCH ALARM.—I. Ferguson Morsell, Stamford, Conn.
I claim the combination with the switch bar and lever, capstan or other device for operating the same, of a clock movement provided with an alarm gong attachment, substantially as and for the purposes herein specified.

73,114.—REEDS FOR ORGANS, ETC.—William Munroe, Cambridge, Mass.
I claim, as an improved manufacture, musical reeds in which the tongue is secured in place between two projections, in the manner substantially as described.
Also the combination with the tongue secured in place substantially as described of a recess on the middle of elevation at the ends of the bed to which it is secured, substantially as and for the purpose set forth.

73,115.—MACHINE FOR MAKING PASTE.—G. G. Noah, Boston, Mass.
I claim, 1st, Introducing steam into the perforated arms and into the contents of the tub, for the purpose above described and in the manner substantially as set forth, or by any equivalent means.
2d, The combination of arms attached to the shaft wholly perforated or partly perforated, and partly not perforated, for the purpose above described and in the manner substantially as set forth.

73,116.—SHINGLE MACHINE.—D. L. Peacock, Rockport, Ind.
I claim, 1st, A cutter frame composed of two parallel planes, m, m', the upper one holding a knife, N, and the lower one having a raised bed, m'', arranged and combined substantially as and for the purpose specified.
2d, The combination of a cutter frame having tapering arms, t, with the movable planer, G, bearing in hinged arms, H, H, substantially as and for the purpose specified.

73,117.—FRICTION ROLLER.—C. W. Pierce, Albany, N. Y.
I claim the collars, A, A, made in two parts and provided with slots or openings in which the rollers, D, D, are held, as and for the purpose set forth.

73,118.—SKATE SHARPENER.—B. F. Prettyman, Alexandria, Va.
I claim, 1st, The adjustable guides, B, B, in combination with the adjustable file or cutting tool, F, substantially as described and for the purpose set forth.
2d, The combination of the file or cutting tool, E, and key, F, when the same are constructed and arranged substantially as described.

73,119.—SEWING MACHINE.—George Rehffuss, Philadelphia, Pa., assignor to the American Buttonhole, Cording, Braiding and Embroidering Machine Company, New York city.
I claim the combination of the upper and lower eye-pointed needles when the movements herein described are imparted to the two needles so that by their joint action they may produce with two threads the stitch herein described in the body or on the edge of a fabric.

73,120.—HINGE.—Reuben Reiber, Lebanon, Pa.
I claim, 1st, The pivoted plate, c, with screw hole to fasten it to the shutter or other object in combination with the leaves, A, A', and pins, a, a, all constructed and arranged and operating substantially in the manner and for the purpose described.
2d, The right and left-hand hinge leaves, A, A', b, fastened together by a pin, a, which has a head, a', and to which head a plate, c, is pivoted, all substantially in the manner and for the purpose described.

73,121.—TICKET HOLDER.—N. J. Richardson, Lowell, Mass.
I claim, 1st, As a new article of manufacture, a ticket holder formed of a single wire, in the manner described.
2d, The holding spring or clamp, E, arranged and operating as described.

73,122.—GLASS LAMP.—D. C. Ripley (assignor to Ripley & Co.), Pittsburg, Pa.
I claim a lamp which is constructed with a pressed base, A, and one or two handles, R, and a globe, C, blown thereupon, substantially as described.

73,123.—MACHINE FOR HANDLING OR PILING BRICK.—James Sangster, Buffalo, N. Y.
I claim, 1st, The partitions, B, when made movable by means of the handles, C, and pins, D, substantially as and for the purposes herein described.
2d, Also, in combination with the above, the springs, G, so arranged as to force said partitions, B, apart, substantially in the manner and for the purpose herein described.

73,124.—APPARATUS FOR GENERATING GAS.—D. F. Scheaf, Dayton, Ohio.
I claim, 1st, The arrangement of the tank, A, pipe, C, and stove, B, in such a manner that the made gas is passed back through the oil tank, the various parts being arranged and operating substantially as set forth.
2d, The arrangement of the receiver top with valve, N, lever, F, and pipe, C, provided with a stop cock in such a manner that the flow of oil to the generator is regulated by the rise and fall of the receiver top, substantially as and for the purposes specified.

73,125.—CHURN.—Conrad Schifferly, Bourbon, Ind.
I claim, in combination with the dasher, b, the saucer-shaped disk, e, as and for the purpose described.

73,126.—DIVIDER AND CALIPER.—E. S. Scripture, Brooklyn, N. Y.
I claim, 1st, The wedge-shaped circular rib, B, and groove, R', secured by a set screw, s, or an equivalent thereof, for the purpose substantially as described.
2d, Also adjusting the leg, B', of the caliper by means of a set screw, c, in the manner as above set forth and shown in the drawings as Fig. 1.
3d, A universal divider with braces, 1 2 3 4, and having the inner surfaces of disks of the head, A, corrugated or ribbed and grooved, as shown at Figs. 3 and 4, for the purpose as above set forth.

73,127.—CLOCK CALENDAR.—J. K. Seem, Canton, Pa.
I claim the construction and arrangement of the wheels, B, C, D, and the plate, d, substantially as described for the purposes set forth.

73,128.—SWING.—B. F. Shaffer, Dayton, Ohio.
I claim, in combination with the seat, g, g, of a swing, the hinged pedal attached to the swing and the cords, c, c, fastened to the pedal and carried over pulleys on the swing frame, h, h', and then fastened in front of the point of suspension of the swing, said several parts being respectively constructed and arranged substantially as set forth.

73,129.—GATE.—Franklin R. Sherman, Dowagiac, Mich.
I claim the frame, E, used in combination with the gate, the wheels, G, G, and the post, C, substantially as and for the purposes set forth.

73,130.—GARBAGE CAN OR VESSEL.—William Shires, Cincinnati, Ohio.
I claim a garbage vessel consisting of the sheet-metal body, A, wooden staves, B, and base, C, for the purpose set forth.

73,131.—MACHINE FOR BRAIDING WHIP LASHES.—Phineas L. Slayton (assignor to himself and Almet Reed), New York city.
I claim, 1st, The brading frame, B, with slots, b, b, in each side for carrying the braiding fingers, herein described, constructed, arranged and operating as set forth.
2d, The braiding fingers herein described traveling in guide ways, a, a, with their ends pointing inward and approaching near to the center of the hollow sphere herein described, all constructed, arranged and operating substantially as and for the purpose set forth.
3d, The oscillating guide blocks, a, a', for the curved plates, n, n', and the pin, o, in combination with the plates, i, i', constructed, arranged and operating substantially as described.

73,132.—WAGON PROTECTOR.—G. R. K. Smith, Brooklyn, N. Y.
I claim the construction, application and arrangement of a protecting guard, substantially as and for the purposes described.

73,133.—SAFETY PADLOCK FOR RAILROAD CARS.—George W. Stevens, Albany, N. Y.
I claim the lock composed of the shell, A, yoke, B, and springs or spring catches, C, combined and operating in such a manner that the lock may be detached only by severing the yoke, substantially as herein set forth.

73,134.—BARREL CHURN.—S. H. Swasey, Morristown, Vt.
I claim, 1st, A float frame made to fill or nearly fill the diameter of the barrel, the floats being provided with floats, extending to or nearly to the central float arbor and operating in connection with said float arbor, substantially as described.
2d, The central float arbor provided with floats alternating with those on the float frame so arranged that it may be made to rotate with the float frame or held stationary when desired, substantially as and for the purposes described.
3d, The means for adjusting or setting the float frame and float arbor, whereby the floats may be set or held in the same plane with or at right angles to each other, for the purposes and substantially as described.
4th, The adjustable shaft, b, provided with the squared end and with the grooves, c, c', for controlling the relative operation of the float arbor and frame, substantially as described.
5th, The grooved perforated pivot, b', provided with the squared end fitting into the shaft, whereby said arbor may be held stationary for working the butter, substantially as described.

73,135.—MEDICAL COMPOUND.—D. W. Taylor, Bell county, Texas.
I claim the preparation of medicine herein described for the purpose set forth.

73,136.—PADLOCK.—M. P. Thatcher, Pontiac, Mich.
I claim the arrangement of the plates, A and B, with their shafts and cylinders as constructed and used in combination with the wheels, F, F, as and for the purpose specified.

73,137.—MACHINE FOR TREATING ORES OF GOLD AND SILVER WITH VAPOUR OF MERCURY.—William A. Thompson, New York city.
I claim, 1st, The cylinder, A, when suspended upon hollow trunnions, H, one of which is connected with a retort for vaporizing mercury and the other with a steam generator and so suspended that the end may be turned down, the method and means above described, substantially as set forth.
2d, The cylinder, A, suspended upon hollow trunnions, and constructed with opposite windows, G, and openings, D, E and F, and used in combination with the stirrer, B, substantially as and for the purpose set forth.

73,138.—APPARATUS FOR PREPARING PAPER STOCK.—Joel Tiffany, Albany, N. Y.
I claim, 1st, The use of a strong, close vessel for heating the entire liquor to be used in the reducing vessel to its maximum heat before introducing the same into the reducing vessel in combination with the reducing vessel, substantially in the manner and for the purpose above described.
2d, The use of a vessel, B, in combination with a reduced vessel, G, to be used with their several connecting pipes, substantially in the manner and for the purpose above described.

73,139.—WATER-PROOF FABRIC FOR THE MANUFACTURE OF TRAVELING BAGS, TRUNKS, CARRIAGE TOPS, AND OTHER ARTICLES.—William H. Towers, Cambridge, Mass.
I claim, 1st, The improved fabric, made substantially as herein described.
2d, The combination of one or more thicknesses of paper with a woven fabric and finishing the same with enamel, in the manner and for the purpose above described.
3d, The method and means above described, for making covers, carriage tops, and similar articles, by combining enamel paper with other textile fabric, substantially as described.
4th, The application of glycerin to compound fabrics of paper and cloth, such as herein described, to render them tough and pliable, substantially as set forth.
5th, The combination of gums, resins, taffine, colloidion, drying oils, and the like with a fabric composed of paper and cloth, substantially as described.

73,140.—CAR COUPLING.—Jacob N. Vanegrefit, Stephen T. Vanegrefit, Smith D. French and Elias S. Stone, Warsaw, Ind.
We claim, 1st, The method and means described for self-coupling cars of a railroad train, to wit, by forcing the link held by the coupling bolt of the bumper of one car up to and past the beveled coupling bolt, D, of the bumper of the other car which coupling bolt is fixed by a rivet, E', to an attachment, E, which fits as the coupling bolt rises and falls, and which attachment is kept in place by the spring, D', for uncoupling and detaching railroad cars, and, 2d, the former being slotted, pivoted as described, adjusted by means of the lever, D, and connecting rod, d, so combined with the float, I, in the bottom of the hopper that the said lever may operate when the float is released from the weight of grain in the hopper, substantially as and for the purpose specified.
3d, The bell, F, wire, f, and adjustable annular block, E, in combination with the standard, C, rod, g, and bar, q, substantially as and for the purpose specified.

73,141.—SULKY PLOW.—Joseph Warwick, Springboro, Ohio.
I claim, 1st, The device for lowering and raising the plow beam consisting of the plates, g, and the former being slotted, pivoted as described, adjusted by means of the set screws, k, and operated by means of the lever, G, and bow rack, H, substantially as described.
2d, The screw shaft, a, of the sheath, k, and nut, t, in combination with the standard, P, attached to the land side, L, by means of the bolt, p, for the purpose of lowering the plow point, substantially as described.
3d, The mold board, I, J, with its part, J', bent around the sheath and secured to the same substantially as and for the purpose described.
4th, The share, M, with its bent part, N, connected to the land side, L, and with the latter forming the point, attached and constructed substantially as described.
5th, A plow with separate mold boards and share both attached to the sheath, in such a manner that no bolt or rivet is used on their surface, substantially as described.

73,142.—FLOCK DUSTER.—Miles Waterhouse, Passaic, N. J.
I claim the rotating brush cylinder, d, with its spirally-arranged brushes and beaters, d', d', when combined together and with the screen, e, and the openings, c, c, and i, in the manner and for the purposes shown and described.

73,143.—LAMP.—Hiram B. Wellman, Allegheny City, Pa.
I claim the pipe, C, for oil, and the pipe, E, for water, having chamber, D, between them, when arranged in combination with the lamp, A, and used for the purposes set forth.

73,144.—PROCESS OF MANUFACTURING WHITE OXIDE OF ZINC.—Samuel Wetherill, Philadelphia, Pa.
I claim passing the products of combustion from the furnace into an auxiliary chamber or chambers containing incandescent carbon, and thence, through the incandescent carbon, into contact with a hot blast, substantially as and for the purposes described.

73,145.—APPARATUS FOR THE MANUFACTURE OF WHITE OXIDE OF ZINC.—Samuel Wetherill, Philadelphia, Pa.
I claim the combination, with the furnace, of one or more chambers, communicating with said furnace, and adapted to contain incandescent coals,

and permit the passage of the products of combustion from the furnace through the said coals, substantially as and for the purposes described.
Also, in combination with the incandescent chambers, hot-air flues, into which the vapors of zinc may pass from said chambers, to mingle with and be carried off by a hot blast, substantially as described for the purposes set forth.
Also, the arrangement of the blast tubes, g, immediately over the furnace and communicating with the chambers, E, E, as and for the purposes described.

73,148.—HAMES-TUG BUCKLE.—Ludwig Wetzell, Washington, D. C.
I claim the hames-tug buckle, g, with loop cover, a, and pin, f, when the parts are constructed, connected, and fitted to produce the result, substantially as described within.

73,149.—CARRIAGE HARNESS.—Ezra Wilder, South Hingham, Mass.
I claim making the parts of the saddle relatively adjustable, substantially as shown and described.
Also, making the parts of the hames relatively adjustable laterally, substantially as above described.

73,150.—WATER WHEEL.—Courtland B. Wilson and Abner S. Houghton, Trenton, N. J.
We claim the combination of the top plate, E, F, and the rim, G, H, with the movable self-adjustable buckets, L, L, stays, K, K, the groove channel, O, O, and stops or abutments, P, P, all substantially as above described, and for the purpose set forth.

73,151.—CHEESE BOX AND BUTTER TUB.—Frank H. Wilson, Wethersfield, N. Y.
I claim the arrangement of the box or tub, A, with its cover, B, box, A, having a flat metal shoulder, d, on each side, near its top, and cover, B, having similar metal shoulders, e, on its inner flange, as and for the purposes set forth.

73,152.—VISE.—Linus Yale, Jr., Cooperstown, N. Y.
I claim, 1st, A screw capable of operating the moving jaw of a vise, in combination with a nut having an inclined plane thereon, and an inclined plane attached to the moving jaw, these parts being and operating in combination, substantially as described.
2d, In combination with a rack attached to the stationary jaw of a vise, and an inclined plane attached to the moving jaw thereof, a racked nut, provided with a screw, and an inclined plane, the combination being substantially as described, and operating substantially as set forth.
3d, In combination with the jaws of a vise, a screw, a rack, and a racked nut, a spring, located as described, and operating in combination with the parts with which it is combined, substantially as described, to control the position of the rack, substantially in the manner and for the purpose specified.

73,153.—PUMP.—Frederick Yeiser, Danville, Ky.
I claim the rod or shaft, D, provided with a latching cross-pin, and used with the stock, A, substantially as and for the purpose set forth.

73,154.—TIME ALARM.—Louis Baum, Washington, D. C.
I claim an alarm, arranged to be operated by an ordinary watch, through the medium of the weight, T, cord, I, and revolving shaft, F, arranged to operate substantially as described.

73,155.—CAR SEAT LOCK.—G. W. R. Bayley and John McCuskey, Algiers, La.
We claim, 1st, The bar, A, and pins, a, disposed on the said bar, a, substantially as above described, in combination with the pins, E, or their equivalent, in the manner and for the purpose substantially as above set forth and described.
2d, The said bar, A, in combination with the half cap, F, and padlock, G, in the manner and for the purposes above set forth and described.

73,156.—BUCKWHEAT HULLING MACHINE.—Joseph Baysore, Freeport, Ill.
I claim, 1st, The arrangement of the tightening bar, N, spindle step, c, knockers, d, for operating the trash screen, spindle, a, ball, g, fan blower, E, and curved spout, G, as herein shown and described.

73,157.—STRAW CUTTER.—A. J. Bell, Bloomington, N. Y.
I claim the toothed cutter blade, C, in combination with the frame, G, guides, F, and box, B, all constructed, arranged, and operating substantially as described.

73,158.—ATTACHMENT FOR PLOW.—Wm. Bennett, Rushville, Ind.
I claim, 1st, The vertically-adjustable fender, H, attached to the bar, E, sliding in the guide, F, when such bar is attached to the spring, J, whose forward end is secured to the beam, A, in such a manner that the fender shall yield to a clod of earth, and be thrown into the proper position by the spring, J, after passing such clod, as herein shown and described, for the purpose specified.
2d, The spring, J, when secured to the sliding bar, E, bearing the pendent arm, G, and fender, H, for the purpose of allowing a yielding movement to the fender when brought in contact with clods of earth, as herein shown and described.

73,159.—AUTOMATIC WATER GATE.—H. Besse, Delaware, O.
I claim, 1st, A water gate, A, pivoted at or near its lower margin, and provided with a projecting float, B, all substantially as shown and described, and operating as and for the purpose set forth.
2d, The latch, e, or other equivalent device, operated by a float, m, or other equivalent device, substantially as shown and described, and in combination with the water gate, A, all as and for the purpose set forth.

73,160.—SLUICE BLANKET.—Abraham Block, San Francisco, Cal.
I claim a sluice blanket provided with woven ribs, substantially as herein described.

73,161.—WATCH.—George A. Bowen, Trenton, assignor to himself and Samuel C. Parrott, Bordentown, N. J.
I claim the ring, C, formed with a drum, A, and fastened to the main spring, B, when combined with the catch, E, and shoulder, a, substantially as and for the purposes herein shown and described.

73,162.—HOLLOW AUGER.—Albert Brush, East Constable, N. Y.
I claim, 1st, The hollow auger, D, provided with the knives, e, e', for forming upon spokes the tenons, b, and shoulder, s, adapted to fit into the recess in the fellys formed by the auger, C, having the extended cutting lips, c, and the adjustable guide, d, constructed to operate as herein shown and described.
2d, The auger, C, when provided with the projecting cutting lip, c, and adjustable guide, d, constructed and operating as herein described, for the purpose specified.

73,163.—PROCESS OF MIXING IRON AND STEEL.—James Cartwright, Youngstown, Ohio.
I claim the process of mixing and combining steel and iron, substantially as herein described.

73,164.—KNITTING MACHINE.—J. Chantrell, Bristol, Conn.
I claim, 1st, The manner, herein shown and described, of connecting the arms of the sinkers, m, by means of annular plates, r', and rivets, as set forth.
2d, The needle carrier, G, when connected with the sliding rack, F, and with the plate, E, in such a manner that a combined longitudinal and transverse sliding motion is imparted to it, substantially as herein shown and described.
3d, The reciprocating thread carrier, R, when arranged as described, in combination with the arms, e, needles, I and J, and shuttles, W, all made and operating substantially as herein shown and described.
4th, The devices herein shown and described, for communicating motion from the needle carrier, G, to the bar, F, holding the thread carrier, said devices consisting of the spring plates, a, b, cams, c, and stationary cams, d, all made and operating substantially as herein shown and described.
5th, The devices herein shown and described for adjusting the stroke of the sinkers, W, consisting of the grooved plate, V, vertical slides, g', eccentric shafts, B', gear wheels, I', and sliding rack, J', all made and operating substantially as herein shown and described.
6th, The combination of the perforated disk, d, adjustable connecting rod, g, and the segment, D, as and for the purpose set forth.

73,165.—WHIP.—J. S. Cook, West Groton, Mass.
I claim a whip having its lash secured or hung to its stick, through a swivel ring or eye, substantially as and for the purpose described.

73,166.—CORN PLOW.—S. H. Cox and William H. Pence, Matton, Ill.
We claim, 1st, Connecting the forward ends of the plow-beams, H, to the frame, C, by means of the clevis, I, constructed as described, and the long adjustable bolt, J, substantially as herein shown and described, and for the purpose set forth.
2d, The combination of the lever, O, and toothed pawl, P, with the shaft N, covered segments, M, chains, L, and beams, H, in connection with the clevises, I, and long bolts, J, for raising the plows vertically from the ground, substantially as herein shown and described.
3d, The combination and arrangement of the plows, V, having cutters, v', attached to them, and turning the dirt from the hills, plows, W, running at a lower level than the plows, V, and turning the dirt toward the hills, standards, R, and T, and beams, H, with each other, substantially as herein shown and described, and for the purpose set forth.

73,167.—FLOUR BOLT.—William Craig, Uniontown, Pa.
I claim the bolt, constructed as described, having the partition, v, between the outer and inner holding cloths, v, v', operating substantially as described, for the purpose specified.

73,168.—LOW WATER ALARMS FOR BOILERS.—F. S. Davenport, Jerseyville, Ill.
I claim, 1st, The construction and arrangement of the hollow tube, C, provided at its upper end with the screw plug, D, having valve seat, g, the hollow tube, E, fitting into tube, C, and having the opening, j, communicating with the interior of the float, and provided at its upper end with the pointed valve, h, all operating as described, for the purpose specified.
2d, In combination with the outer and inner tubes, c, and E, when arranged as described, the valve seat, g, the valve, h, and the orifice, j, substantially as and for the purposes set forth.

73,169.—BROOM OR BRUSH HOLDER.—Anthony G. Davis (assignor to himself and Augustus N. Woolson), Watertown, Conn.
I claim the patent broom-brush holder, constructed as described, consisting of the curved spring arms, A, made in one piece, c, and secured in position under the bar, B, and slotted to receive the sliding bar, C, as herein described for the purpose specified.

73,170.—TIRE SHRINKER.—Edward B. Decker, Bedford, Ill.
I claim the combination of the operating lever or handle, D, pivoted straps, C, and E, pivoted levers or bars, A, and B, having clamps with stationary jaws, F, G, and pivoted eccentric jaws, H, I, attached to them, with each other, substantially as herein shown and described, and for the purpose set forth.

73,171.—EXTENSION CLOTHES POST.—George Dittenhaver, Napoleon, Ohio.
I claim the combination of the sliding part, B, provided with the spring pawl, b, and having the removable clamp, D, secured to its upper end, and

73,172.—CULTIVATOR.—Edwin Doolittle, Pawnee, Ill.
I claim, 1st, The hinged sides, M, friction wheels, N, and bent bar, E, with each other, at the plow beams, I, and with the beams or bars, D, substantially as herein shown and described, and for the purpose set forth.
2d, In combination with the above, the knees or bars, O, cross bar, P, and lever, R, all arranged and operating in the manner and for the purpose set forth.
3d, The combination of the adjustable connecting and brace bars, W, up-rights, Y, and plow beams, I, when arranged to operate in the manner herein described and represented.

73,173.—CULTIVATOR.—John W. Doud, Forestville, Iowa.
I claim, 1st, The combination of the frame, C, strengthening braces, D, and diagonal plow beam, E, to which the standards, F, of the plows, G, are attached with each other, the said parts being constructed and arranged substantially as herein shown and described, and for the purpose set forth.
2d, Connecting the axle, B, to the tongue, I, of the frame, C, by the inclined bars, J, and jointed or link connection, K, substantially as herein shown and described.
3d, The combination of the cross bar, M, and adjustable chains, L, with the inclined bars, J, and frame, C, substantially as herein shown and described, and for the purpose set forth.
4th, The combination of the lever, N, chain, P, and bail or bar, R, with the frame, C, and axle, B, substantially as herein shown and described, and for the purpose set forth.
5th, The combination of the levers, S, and T, with the frame, C, axle, B, and inclined bar, J, substantially as herein shown and described, and for the purpose set forth.

73,174.—DOOR HINGE.—Charles Dupre, Louisville, Ky.
I claim the hinge plates, a and b, furnished with the arms or ears, F, E' and e, in combination with the pin, C, screw, D, and socket, F, or their respective equivalents, in manner as and for the purposes described.

73,175.—TIRE SHRINKING MACHINE.—James Elliott, Milford, Wis.
I claim, 1st, The combination of the connecting rod or chain, G, for opening the carriages, with the carriage, E, and cam levers, F, substantially as described.
2d, The slot, b, in the bed piece, B, and the groove, a, in the platform, A, making together a T-shaped groove, in combination with a T-shaped lug upon the carriage, as substantially specified and described.

73,176.—BUCKLE.—Louis Elsborg, New York city.
I claim the buckle constructed as described, consisting of the buckling loop, A, having the flattened center, C, and bent edge, D, its extremities, B, bent at right angles to the center, forming bearings for the loop, E, the latter having the serrated tongue, I, fitting between the arms, B, upon the flat surface of the loop, A, beneath the edge, D, as herein described for the purpose specified.

73,177.—HAY KNIFE.—Charles A. Fisher, Geneseo, Ill.
I claim, as a new article of manufacture, the hay knife, when formed from a piece of metal, as shown and described, and provided with the handles, F, G, as herein set forth.

73,178.—SEWING MACHINE.—David Forrest, Eastport, Me.
I claim the bent hand lever, D, in combination with the slide rods, e, k, mounted on the base, b, and connected with the needle, a, and the looper, d, as set forth, the whole constructed and operating as herein described.

73,179.—HORSE HAY FORK.—C. E. Gladding, Troy, Pa.
I claim, 1st, In combination with a power hay fork, the connection, d, or its equivalent, formed of the parts, E, F, and G, or their equivalents, substantially as and for the purposes herein shown and described.
2d, In combination with the connection, D, or its equivalent, the bail, C, substantially as described.

73,180.—STRAW CUTTER.—J. F. Hammond, North Sudbury, Mass.
I claim, 1st, The combination and arrangement of the bevelled knives, L, M, N, with each other and with the sliding frame, D, and feed box, C, substantially as herein shown and described, and for the purpose set forth.
2d, The combination of the sliding frame, D, sliding frames, O, and sliding rake heads, S, one set or both, with each other, with the feed box, C, frame, B, and knife frame, D, substantially as herein shown and described, and for the purpose set forth.

73,181.—CULTIVATOR.—C. A. Harper, Wheeling, Ind.
I claim, 1st, The combination of the wheel, D', with the cultivator frame, A, substantially as herein shown and described, and for the purpose set forth.
2d, The combination of the spiral or screw plate, H, with the wheel, D', and with the cultivator frame, A, B, substantially as shown and described, and for the purpose set forth.

73,182.—BURGLAR ALARM LOCK.—Samuel T. Heminway, Saratoga Springs, N. Y.
I claim the combination and arrangement of the pivoted lever, B, having its outer arm projecting through the aperture, T, on the top of the lock, the notched arm, A, secured to the verge, the spring, C, and arm, R, substantially as described, for the purpose specified.

73,183.—CAR AXLE BOX.—Geo. H. Henfield, San Francisco, Cal.
I claim the combination of the grooved caps, e, e, the linings, a, a, provided with pins, c, c, and the shells, A, A, arranged as and for the purpose herein described.

73,184.—STRAW CUTTER AND CORN SHELLER COMBINED.—Clark R. Hewett, Waupun, Wis.
I claim, 1st, The combination of the shafts, J, N, bevel gear wheels, L, M, cutter knives, P, and sheller teeth, S, with the balance wheel, O, of a combined folder cutter and corn sheller, substantially as described, and for the purposes set forth.
2d, The combination of the rubber springs, R, with the knives, P, and balance wheel, O, substantially as described, and for the purpose set forth.

73,185.—BOBBIN.—Albion P. Holmes, Great Falls, N. H.
I claim the spool or bobbin, having its solid wooden body surrounded by the metallic cylinder between the end disks, the bearings of said spool being composed of wood, as herein described, for the purpose specified.

73,186.—PAD CRIMP PRESS.—George Kennedy (assignor to himself and A. J. Tompkins), Clarksville, Iowa.
I claim, 1st, The frame or press, A, B, adapted to receive the blocks, C, D, constructed and operated substantially as herein shown and described and for the purpose set forth.
2d, The removable crimping blocks, C, D, or their equivalent, constructed and operated substantially as herein shown and described and for the purpose set forth.
3d, The combination of the removable crimping blocks C, D, or their equivalent, with the frame or press, A, B, substantially as herein shown and described and for the purpose set forth.

73,187.—FRUIT JAR.—J. M. W. Kitchen, New York city.
I claim the vent plug when attached to an elastic band, or its equivalent, and arranged for operation substantially as described, for the purpose set forth.

73,188.—SPRING BED BOTTOM.—Gottlieb Koenig, Plymouth, Mich.
I claim the bars, C, the springs, D, and the regulating rods, E, constructed, combined, and operating with the platform, B, and the base frame, F, in combination with a bedstead, substantially as described.

73,189.—SNOW PLOW.—Charles Lusted, New York city.
I claim, 1st, The hinged oscillating plowshare, D, when made and operating substantially as and for the purpose herein shown and described.
2d, A snow plow provided with an oscillating share, D, which is hinged to the upper edge of a stationary share, C, and which has flanges, b, at the ends, substantially as herein shown and described.
3d, The hinge, G, of the share, D, connected by means of a jointed rod or rods, or a crank or cranks, a, on the axle of the plow truck, as described, the crank or cranks being loose on the axle, and connected with clutches, s, so that the share can be made to oscillate or not, as set forth.

73,190.—HAY ELEVATOR.—Harvey McCown and Luther M. McCown, Egon Valley, Pa.
I claim, 1st, The carriage, E, constructed as described, when its bottom consists of the bar, E, hung at one end, e, of the carriage, its free end extending beyond the opposite side of the carriage, and notched at f, to fit over the catch, h, upon the pendulum, I, said pendulum, E, being held in position by means of the chain spring, F, as described.
2d, The combination of the hinged and notched bottom, E, coiled spring F, hook, d, pendulum, I, catch, h, rollers, C, C, and side bars, a, a, all constructed and arranged as described, for the purpose specified.

73,191.—ENDLESS CHAIN POWER.—William McCreery, Pittsburg, Pa.
I claim the arrangement of the shifting clutches, e, e, the bevels, a, a and b, the pulleys, c, c, c, c, and the endless chain, d, d, when applied as and for the purposes herein described.

73,192.—COMBINED HORSE RAKE AND HAY SPREADER.—Frederick F. Nearing, Brookfield, Conn.
I claim the frame, G, fitted loosely on the axle, B, and carrying the revolving rake, H, in combination with the loose pulley, E, and clutch, F, on the axle, B, and the lever bar, J, on the frame, G, with the spurs, g, g, on the rake head, all being arranged to operate in the manner substantially as and for the purpose set forth.

73,193.—NAG FASTENER.—Daniel Overholzer, Polo, Ill.
I claim the bag fastener constructed as described, consisting of the link, b, having an open hook at one end, and the sides of which the bend of the locking hook, d, is pivoted, in such manner that the link, C, when placed over the locking hook, will clamp the bend of said hook in the hooked end of the open link, b, as herein shown and described.

73,194.—WATER METER.—Walter Payton, Sewardstone Road, Victoria Park, England.
I claim the combination of the axles, b, b, vanes, b, b, gear wheels, h, h, worm, d, gear wheel, f, worm, f, gear, g, shaft, g, worm, g, and gearing for the operation of the indicators, g, g, plungers, e, e, and a, all arranged as described, for the purpose of measuring the passage or flow of liquids, or for raising and forcing fluids, or for obtaining motive power, substantially as herein shown and described.

73,195.—PRINTING PRESS.—C. Potter, Jr., Westerly, R. I.
I claim, 1st, The combination of the eccentric bearing, E, adjustable box F, segmental plungers, G, segments, H, lever, L, and cylinder, C, substantially as described, for the purpose specified.
2d, The wheel, b, and cam, c, in combination with the eccentric bearing, E, for the purpose of returning the cylinder after having been lifted to its original position before taking a sheet, substantially as herein shown and described.

73,196.—FEED GAGE FOR PRINTING PRESSES.—C. Potter, Jr., Westerly, R. I.
I claim the gage, D, D', and slotted guide plate, B, in combination with the box, composed of two parts, E, E', fitted to the shaft, A, and all arranged substantially in the manner as and for the purpose set forth.

73,197.—CLEVIS.—E. M. Potter, Kalamazoo, Mich.
I claim the employment of the two pulleys, a, a, and A', substantially as

shown and described, in combination with the ropes or chains, D and D', and the clevis, iron, or other equivalent device for the purpose of working three horses abreast in plowing or other equivalent operation, all as set forth.

73,198.—ICE SLEIGH.—John Rancevau, Carthage, N. Y.
I claim, 1st, The wheel, b, having its bearings in the hinged frame, in combination with the elastic strip, I, whereby the wheel is held upon the ice and permitted to conform to its irregularities, as herein set forth, for the purpose specified.
2d, The construction and arrangement of the pivoted brakes, K, I, connecting rods, G, levers, E, and N, and springs, F, substantially as described for the purpose specified.
3d, The combination and arrangement of the spur wheel, D, hung in the hinged frame, gear wheels, E, F, G, elastic strip, I, brace, J, springs, P, foot levers, M, connecting rods, U, pivoted brakes, K, L, block, U, and thumb nut, V, substantially as described, for the purpose specified.

73,199.—PLATE-LIFTER.—D. E. Roe, Elmira, N. Y.
I claim, 1st, The combination of the spring, C, with the claws, A and B, substantially as and for the purpose shown and described.
2d, The loop, b, or other equivalent device for holding the claw, B, at a predetermined distance apart from the claw, substantially as shown and described.

73,200.—RAILWAY SWITCH.—W. L. Rogers, North Cornwall, and W. E. Crane, New Britain, Conn.
I claim, 1st, The combination of the lug or projection, Q, and the movable jointed connection, D, or its equivalent when constructed and arranged substantially as and for the purposes herein described and set forth.
2d, Also, the projecting pieces or rims marked, F, within the rollers, in combination with the rims, G', or any equivalent thereto, on the upper perforated piston or pistons, I, substantially as and for the purposes herein described and set forth.
3d, The combination of the mechanism, X, X', spring, Y, and cross bar, A', with the vertically moving perforated pistons, substantially as and for the purposes described.
4th, Also, the combination of the vertically moving perforated pistons, I, when the perforations in the lower pistons, G, are made larger than those in the upper pistons, for purposes substantially as herein described.
5th, Also, the combination of the upper and lower perforated pistons, with the cam, R, and friction roller, B, or its equivalent, substantially as and for the purposes herein described and set forth.

73,202.—PRESERVE JAR.—F. Joseph Sheffery, Detroit, Mich.
I claim sealing a preserve jar by raising the cover in the neck of the jar, instead of lowering it, substantially as described.

73,203.—ENVELOPE.—F. Marion Shields (assignor to himself and James A. Jarnagin), Macon, Miss.
I claim the envelope, constructed as described, consisting of the parts, B, C, provided with the wings, G, G, and flaps, H, H, E, having their edges summed, as shown and described.

73,204.—THRESHING MACHINE.—John F. Skinner, Brasher Iron Works, N. Y.
I claim, 1st, The operating of the shoe, C, through the medium of the lever, G, and the cam composed of the double spiral thread or flange, c, on the pulley, H, substantially as shown and described.
2d, The spring, N, pulley, b, and lever, M, arranged in connection with the belt, L, and wheel, O, substantially as and for the purpose specified.

73,205.—BOLT CUTTER.—E. A. Sloat, Theresa, N. Y.
I claim the stationary cutter, A, the movable cutter, C, the lever, E, and the plates, B, constructed and arranged substantially as herein shown and described, for the purpose set forth.

73,206.—GATE.—Gaius P. Stebbins, Sparta Centre, Mich.
I claim the sliding gate, B, hung or suspended on rollers, a, a, in combination with the weight, k, the pivoted bar, E, platforms, F, F, and the pulleys, D, J, J', all arranged to operate in the manner substantially as set forth.

73,207.—UTERINE ELECTRODE A D ABDOMINAL SUPPORTER.—Alber J. Steele, New York city.
I claim, 1st, Wire electrodes, insulated and covered with sponge, substantially as shown and for the purpose specified.
2d, The straps, B, for sustaining the electrode in place, substantially as shown, and for the purpose specified.
3d, The electrode having a ring, g', and stems, f', attached thereto, substantially as shown and for the purpose specified.
4th, The form of electrode having the ring, g', and cross pieces, h, h, substantially as shown and for the purpose specified.
5th, The form of electrode having a single stem, f', and cross piece, h, substantially as and for the purpose shown and described.
6th, Elastic straps, c, c, in combination with the strap, B, substantially as and for the purpose shown and described.
7th, The abdominal belt, A, in combination with the above described electrodes, substantially as and for the purposes shown and described.
8th, The non-conducting plate, D, in combination with the wire electrodes, as hereinafter described, substantially as shown and for the purpose specified.

73,208.—TINNERS' FORMING MACHINE.—William Stine, Elmore, Ohio.
I claim the flaring gage, a, in combination with the rollers of a tinman's forming machine, arranged and operating substantially as and for the purpose herein described.

73,209.—PLOW.—James Urie, Evansville, Ind.
I claim, 1st, The standard, C, constructed as described, having the flange, c, extending its entire length upon one side, and the horizontal part or land side forming two flanges upon its rear end, gradually decreasing in width toward the forward part, all cast in one piece, as herein described, for the purpose specified.
2d, The point, A, when cast in one piece as set forth, in combination with the standard, C, constructed as described, having the flange, c, extending its entire length upon one side and the horizontal part or land side forming the flanges upon its rear end gradually decreasing in width toward the forward part all cast in one piece, as herein shown and described.

73,210.—SAW.—George Walker, Middletown, N. Y.
I claim the annular rivet, c, inserted in the side of the saw tooth engaging with the notches, a, upon the cutter, B, whereby the latter is held in the groove of the tooth, as herein shown and described.

73,211.—HORSE HAY FORK.—J. H. Walker, Grand Rapids, Mich.
I claim the vertical spring bolt, D', working in projections upon the side of the suspension bar, C, near its upper end and fitting into the notch, e, in the underside of the curved frame, B, passing through the mortise in the suspension bar, C, above the spring bolt, D', arranged and operating as described for the purpose specified.

73,212.—SCRAPER ATTACHMENT TO CARS.—E. B. Wells, Northampton, Mass.
I claim, 1st, Adjustable scrapers, D, held down upon the track by means of pressure upon the bar, H, the spring, E, permitting said scrapers to yield to the inequalities of the track, as herein set forth for the purpose specified.
2d, The construction and arrangement of the scrapers, C, attached to the end of the inclined springs, E, curved bar, F, stud, a, slotted and jointed rod, G, sections, c, d, pivoted rod, h, in combination with the section, c, connected to the operating wheel, g, as herein set forth for the purpose specified.

73,213.—VENTILATOR AND WINDOW SCREEN.—J. R. Wharry, Mountville, N. Y.
I claim, 1st, The combination of the wire screen and frame, F, G, shutters, C, C', and window frame, as herein described for the purpose specified.
2d, The shutter, C, C', metal bar, e, and lever, E, substantially as described when disposed without the lower part of a window frame, substantially as above set forth and described.
3d, The said shutter, C, C', in combination with the slot, g', in screen frame, G, substantially as above set forth and described.

73,214.—MACHINE FOR SAWING LATHS.—Emery T. Wheeler and William H. Vaughan, Canneton, Ind.
I claim, 1st, The adjustable rest, p, p', in which are mounted feed wheels, u, u', in combination with the sliding supporting rods, r, r, and bars, s, all constructed, arranged and operating substantially as and for the purpose herein shown and described.
2d, The carriage, B, on which the vertical saw, b, and horizontal saw, a, are mounted when arranged to be moved on the ways, A, a, by means of a rack and pinion and when arranged to operate a rod, I, through the medium of a pulley, f, on the same, substantially as and for the purpose described.
3d, The rod, I, provided with pins, f, f', and double incline, l, when arranged to be operated from the carriage, B, in combination with the saw, z, and gage ratchet wheel, g, described, arranged and operating substantially as and for the purposes set forth.
4th, The toothed feed wheel, u, to which motion is given by worm, w, on shaft, g, through the medium of clutch pulley, n, on same shaft, substantially as described.
5th, The combination of the clutch pulley, n, arm, v, gage ratchet wheel, y, and shaft, g', all constructed and arranged substantially as described.

73,215.—WATER WHEEL.—George W. Wheeler and George V. Allen, Hartford, Md.
I claim the combination of the three sets of buckets, a, b, c, and the inclined rim, d, and bottom, e, to form the wheel, C, in connection with the case, applied to the wheel, and all arranged substantially as and for the purpose specified.

73,216.—MARKER FOR SEWING MACHINES.—Joseph P. White, Savannah, Ga.
I claim, 1st, The spring catch, e, and handle, d, in combination with the presser, C, bar, e, and gage, A, all made and operating substantially as herein shown and described.
2d, The hammer, D, composed of two pieces, h and i, constructed as set forth, in combination with its sliding supporting block, f, bar, B, and gage, A, as and for the purpose herein shown and described.
3d, The marker, E, F, hinged to the sliding block, k, and provided with the spring, m, substantially as set forth and described in combination with the presser, C, all made and operating as set forth.
4th, The adjustable gage, A, when provided with set holes, b, b, in combination with the presser, C, handle, d, spring catch, e, adjustable sliding hammer, D, and hinged and sliding marker, E, F, all made and operating substantially as herein shown and described.

73,217.—CULTIVATOR.—Joseph Widman, Panola, Ill.
I claim, 1st, The detachable seat bars, E, E', secured to the main frame, A, of the cultivator, substantially as and for the purpose set forth.
2d, The attaching of the ends of the plow beams, c, c, to the pendents, I, by means of universal joints, H, when this attachment is used in connection with the pivoted arms, O, O, connecting bar, P, and lever, Q, for giving a lateral motion to the plows, substantially as described.

73,218.—BED BOTTOM.—S. J. Wingate, Decatur, Ill.
I claim the combination of the bars or levers, E, elastic straps or bands, L, and cross bars, I, with each other and with the slats, F, and frame of the bedstead, substantially as herein shown and described and for the purpose set forth.

73,219.—SHINGLE MACHINE.—Horace Woodman, Saco, Me.
I claim, 1st, The revolving table with its feeding and securing mechanism constructed substantially as described in combination with the rotary planer, V, and saw, C, as and for the purpose specified.
2d, The combination and arrangement of the outer grooved cylinders, K, adjustable frame, R, lever, Q, segment rack, k, and spring, g, substantially as described for the purpose specified.

NOTE.—In the above list of patents SIXTY-FIVE were obtained through the office of this paper.—Eds.

PENDING APPLICATIONS FOR REISSUES.

Application has been made to the Commissioner of Patents for the Reissue of the following Patents, with new claims as subjoined. Parties who desire to oppose the grant of any of these reissues should immediately address MUNN & Co., 37 Park Row, N. Y.

71,955.—SUSPENSION BRIDGE.—Charles Bender, New York city. Dated Dec. 16, 1867. Application for reissue received and filed Dec. 26, 1867.
I claim, 1st, The construction and arrangement of one or more yielding joints, connecting the beams or trusses of stiffened suspension bridges, substantially for the purpose herein described.
2d, I claim the use of balls, serving as material axis of rotation of said yielding joints, and I also claim the means and method to prevent any horizontal deviation of one or more of the adjoining parts of the beams or trusses, substantially for the purposes specified, both for all kinds of stiffened suspension bridges.
3d, I claim the attachment of the ends of the cables or chains at or near the first or shore piers to the longitudinal beams or to the trusses of stiffened suspension bridges, substantially as set forth.
4th, I claim the method employed to reduce the side motion, by leaning the longitudinal beams or trusses of stiffened suspension bridges against the piers; and I claim also the attachment, on one pier immovable in any horizontal direction, while the other piers allow, is made for the variations of the length of the beams or trusses, substantially for the purposes set forth and described.
5th, I claim one or more rollers, or pieces of rollers, with or without journals, placed on the end piers of stiffened suspension bridges, substantially for the purpose specified.
6th, I claim the means and method by which the beams and trusses of stiffened suspension bridges are secured vertically to the end or shore piers by use of the weight of the piers, if said bridges are constructed according to any of my claims, 1st to 5th inclusively, and I claim that method for suspension bridges with abutments, and I claim in all cases the means to allow thereby for the expansion and contraction of the bridge, for the purposes set forth and described.

70,648.—LAST.—Ambrose Taylor, Osawatimie, Kansas. Dated Nov. 5, 1867. Application for reissue received and filed Dec. 27, 1867.
I claim, 1st, The spring hook, E, secured by its shank, F, in the block, B, and engaging with the hook, C, set in the last, A, all constructed and arranged to operate as herein set forth for the purpose specified.
2d, I further claim the prevention of lateral or backward movement of the block, B, by having the hook, C, extend upward above the surface of the upper side of the last, and within a recess in the under surface of the block, B, substantially as shown and described.

595.—APPARATUS FOR VULCANIZING CAOUTCHOUC.—George E. Hayes, Buffalo, N. Y. Dated March 5, 1861. Application for reissue received and filed Dec. 27, 1867.
I claim, 1st, A vulcanizing vessel or oven having its opening and closing joint for insertion and removal of the mold at or near the bottom, by making it of two main sections, the upper or inclosing one of which forms the body of the vessel, while its lower section constitutes a base thereto, substantially as specified.
2d, So constructing and using a vulcanizing vessel with a flattened bottom so that the plaster mold containing the rubber compound shall be in contact with the inside of the lower part of the vessel, so that the heat from the lamp or other heater shall be applied directly to that part of the vessel upon which the mold lies, substantially as and for the purposes set forth.
3d, A mercury chamber formed in the upper section of the vulcanizing vessel, the same being constructed and arranged with the thermometer essentially as described.
4th, The open ring, C, in combination with the bottom, A, band, D, and cover, E, substantially as specified.

44,130.—METALLIC CONCENTRATOR.—Zenas Wheeler, San Francisco, Cal. Dated Sept. 6, 1864. Application for reissue received and filed Dec. 27, 1867.
I claim, 1st, The arrangement and combination of the corrugated surface, B, with a vibratory or oscillating pan or concentrator.
2d, The inclined grooves, K, L and K', L', or their equivalent, in combination with a vibratory or oscillating pan or concentrator.
3d, The opening, D, in combination with a vibratory or oscillating pan or concentrator.
4th, The bowl, F, and tube, F, or either of them, in combination with a vibratory or oscillating pan or concentrator, substantially as and for the purposes herein specified.

36,201.—FLUID METER.—Napoleon Aubin, Montreal, Canada. Dated Aug. 19, 1862. Application for reissue received and filed Dec. 23, 1867.
I claim the combination of a diaphragm or its equivalent with a reversing apparatus and a slide valve, connected each with the other without the use of stuffing boxes, and the whole enclosed within a proper receptacle containing a valve seat, and constituting a fluid meter, constructed and operating substantially as above described.
I also claim constructing fluid meters with a single slide valve of such length that it will not cover both of the outside ports in the valve seat at the same time, in combination with a reversing apparatus arranged to throw said valve, while acting upon it, rapidly across the said ports, substantially as and for the purpose above described.
I also claim the use in fluid meters of a diaphragm when combined with a short slide valve of the above description, substantially as and for the purpose above described.
I also claim the use in fluid meters of compression springs when combined with a short slide valve of the above description, substantially as and for the purpose above described.
I also claim constructing the receptacle of fluid meters in two pieces, one half of which contains part of the side pipe, and the other half the other part thereof, when the joint between the two is made by a diaphragm, and the latter acts upon a reversing apparatus contained in one half of the said receptacle, substantially as above described.

16,627.—MACHINE FOR CUTTING DOVETAILS AND THEIR GROOVES.—Harvey Church, Troy, N. Y., assignee of Elbridge G. Matthews, Clear Water, Minn. Dated Feb. 10, 1857. Application for reissue received and filed Dec. 23, 1867.
I claim the use of knives, a, a, as hereinbefore described, either stationary or having a reciprocating motion, for cutting dovetail or male and female grooves "cut under," in place of cutting them with knives having a rotary motion, the knives so described being used either singly or in combination with others for miters, as may be desirable.
I likewise claim the combination with the fixed stock, Q, of the mitering knife, f, and scoring and cleaning knives, e, e, as herein set forth, for forming at one operation the miter and dovetail tongue and groove.
I likewise claim in combination with the fixed stock and mitering and dovetail cutters above described, the traversing of the block or board in a clamped position past the same, or a reverse process, namely, moving the cutters adjusted in the fixed stock past the block or board clamped in position as described, all for the purpose of having the miter and dovetail formed therein as set forth.

9,781.—MOP HEAD.—George I. Colby, Waterbury, Vt., assignee of Harvey Murch, Lebanon, N. H. Dated June 14, 1853. Extended May 20, 1867. Application for reissue received and filed Dec. 23, 1867. Division A.
I claim, 1st, The combination of a socketed cross head with a binder having the two ends thereof united, the combination being substantially such as described.
2d, The combination of a socketed cross head with a binder having the two ends thereof united and a single fastening for holding the whole binder in such position as to clamp rags, etc., the combination being substantially as described.
3d, The combination of a socketed cross head with a handle and a binder having the two ends thereof united, the combination being substantially such as described.
4th, The combination of a socketed cross head with a handle and a binder having the two ends thereof united and secured in clamping position on the handle, so as to sustain or aid in sustaining the cross head, the combination being substantially such as set forth.
5th, I claim a binder in combination with a handle when the former can move longitudinally with reference to the latter, and is secured thereto when desired, the combination being substantially such as described.

9,781.—MOP HEAD.—Geo. I. Colby, Waterbury, Vt., assignee of Harvey Murch, Lebanon, N. H. Dated June 14, 1853. Extended May 20, 1867. Application for reissue received and filed Dec. 23, 1867. Division B.
I claim, 1st, The combination with a cross head and binder of a ratchet fastening, the combination being substantially as described.
2d, The combination of a ratchet fastening, handle, binder, and cross head, the combination being substantially as set forth.

NOTE.—The above claims for Reissue are now pending before the Patent Office and will not be officially passed upon until the expiration of 30 days from the date of filing the application. All persons who desire to oppose the grant of any of these claims should make immediate application. MUNN & CO., Solicitors of Patents, 37 Park Row, N. Y.

The richest silver mining region in Europe, at the present day, is the Austrian dominions, at Prazbram, in Bohemia. Some of the ores found in that place are remarkable, one vein in particular being composed almost wholly of rubysilver ores. Some of the zinciferous ores in this vicinity contain a very large percentage of cadmium, as compared with the blends of other parts of the world. Several of the mines at Prazbram are now worked to a depth of more than 1,300 feet, with no appearance of giving out.