

OFFICIAL REPORT OF PATENTS AND CLAIMS

Issued by the United States Patent Office.

FOR THE WEEK ENDING JUNE 23, 1868.

Reported Officially for the Scientific American.

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', 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 models required, and much other information useful to inventors, may be had gratis by addressing MUNN & CO., Publishers of the Scientific American, New York.

79,048.—CARBURTER.—Henry C. Appleby, Conneaut, Ohio. I claim, 1st, Discharging a current or currents of air into hydrocarbon liquid, by centrifugal force, substantially as and for the purposes described.

79,049.—DEVICE FOR GRINDING TOOLS.—Daniel W. Ayres, Sheldon, Ill. I claim an implement for grinding or sharpening tools, composed of a stock, gearing, and winding wheel, one or more, arranged to operate in the manner substantially as shown and described.

79,050.—LOUNGE.—Lewis H. Baker, Tarrytown, N. Y. I claim in combination with a furniture lounge, an extension or folding seat, arranged and operated substantially as described.

79,051.—SELF-LOCKING SHUTTER HINGE.—E. H. Benjamin, Oak Hill, N. Y., assignor to Gifford, Foster and Company. I claim, 1st, The device, provided with a curved recess, the pintle, F, and pin, I, adapted to be secured to the arm, B, of the right-angled plate, B, by means of the tongue, I, and screw, K, all constructed and arranged as described, for the purpose specified.

79,052.—CARPENTERS' GAGE.—A. H. Blaisdell, Newton Corner, Mass. I claim the fingers, E, E, pivoted on the sliding block, C, and operating so that their four ends will always remain in contact with a curved or straight edge, substantially as herein shown and described.

79,053.—PRINTING PRESS FRISKET.—T. W. M. Castle and J. B. Conner, Airlie, Ind. We claim constructing the frisket of the bars, D, D, attached to the tympan, A, substantially as shown, in combination with the pulleys or screw-pulleys, F, springs, E, levers, G, and the prongs, C, C, all arranged and applied to operate in the manner substantially as and for the purpose set forth.

79,054.—RAILWAY.—John G. Cross, Brattleboro, Vt. I claim, 1st, The rails, A, formed with rounded heads and branched or arched bases, and having their ends nailed vertically to overlap and fit upon each other, substantially as herein shown and described, and for the purpose set forth.

79,055.—CONNECTION FOR SOFT METAL PIPE.—Isaac Davis, Brooklyn, N. Y. I claim a lead pipe connection, consisting of the screw clamps, C, D, applied over flanges, A, A, and packing, all substantially as and for the purpose set forth.

79,056.—GRIDIRON.—Clayton Denn, Frankford, Pa. I claim, 1st, The gridiron, A, constructed substantially as and for the purpose described.

79,057.—HARVESTER RAKE.—H. F. W. Deterding, Alton, Ill. I claim, 1st, The wheel, I, rack, J, gear, K, L, and the shafts, M, O, Q, all arranged and applied as shown, or in an equivalent way, for the purpose of operating the endless chain, V, and rake, substantially in the manner as and for the purpose set forth.

79,058.—HORSE HAY FORK.—H. L. Doane, Green Oak, Mich. I claim, 1st, The swinging tines, E, E, G, constructed of one piece of metal, when the parts, E, E, are crossed as shown, whereby their points are brought obliquely across the points of the fixed tines, as and for the purpose herein set forth.

79,059.—HAT BLOCKING MACHINE.—Jacob Eberhardt, Newark, N. J. I claim the brim preserver, consisting of the elastic annular plate, E, between the metallic annular plate, D, and frame, B, in combination with the elastic male die, A, and metallic female die, C, as herein described for the purpose specified.

79,060.—PASSENGER REGISTER.—John Enright (assignor to himself and James R. Del Vecchio), Louisville, Ky. I claim, 1st, The combination of the doors or bars, B, shaft, B, radial arms, G, H, and the dial plate, H, lever or arm, B, pawls, W, and A, connection, P, lever, O, rod, J, and gong, K', all arranged and operating as set forth for the purpose specified.

79,061.—CUTLERY.—R. H. Fisher, West Meriden, Conn., assignor to Beaver Falls Cutlery Co., Beaver Falls, Pa. I claim, 1st, The bifurcated tang, B, provided with hooks, C, C, fitting into the recesses in the handle, C, and secured in position by means of the bolster, D, fitting into the recesses, b, b, and over the end of the handle, as herein shown and described.

79,062.—BEVEL SQUARE.—W. T. Fisher, Lenoirs, Tenn. I claim, 1st, The arrangement of the fixed index, G, and movable index, H, with relation to each other, and the stock, A, graduated blade, B, and slotted protractor, D, when by the required angle of the blade with the stock is described, as herein shown and described.

79,063.—NECK TIE AND WATCH GUARD COMBINED.—Thomas J. Flagg, New York city. I claim as a new article of manufacture the combined neck tie and watch guard, A, consisting of the widened part, a1, and the narrow part, a2, the latter being adapted to receive the slide, a3, which is secured to the button of the shirt by the loop, a4, thereby holding the neck tie in proper position on the neck of the wearer, the ends, a2, being also provided with a suitable means for attaching to the watch, the whole constructed and arranged as herein set forth.

79,064.—TRACE BUCKLE.—Martin Gayhart, Young America, Wis. I claim the parts, A A A', and B B B', pivoted together by a rod, a,

and provided with a right tongue, e, corrugated cross piece, A' and B', all constructed and operating substantially as shown and described, and for the purpose set forth.

79,065.—HORSE RAKE.—Jacob Ginther, Mier, Ill. I claim, 1st, The described arrangement of the tripstick, d, having a ratchet handle, g, foot, b, pivoted stop rod, e, and spring brace, f, with relation to the hinges, bars, I, carrying the rake, A, said bars, I, being adapted to be elevated and lowered by means of the cord, c, drum, o, and lever, j, all as and for the purposes herein shown and described.

79,066.—HAMMER.—J. H. Goodwin, Scotland Neck, N. C. I claim as an improved article of manufacture, the tool consisting of the combination of a hammer with graduated handle and tack claw, with a screw driver, constructed as described.

79,067.—SADIRON.—James Gray, Newark, N. J. Antedated June 18, 1868. I claim, 1st, The cover, D, constructed as described, consisting of the plates b, c, forming a cold air chamber, the upper plate being slotted for the passage of the steam, e, of the catch damper, G, as herein shown and described.

79,068.—WASHING MACHINE.—Wm. Hachenberg, Wild Pig-corn, Mich. I claim the combination of the curved sides, B, bearing the rollers, C, segmental rubber, E, whose journals, e4, are hung in vertical slots, slotted bar, F, connecting bar, G, lever handle, H, shell, I, shaft, J, bars, K, and spring lever, L, all arranged as described for the purpose specified.

79,069.—BEVEL SQUARE.—C. O. Hansen, Memphis, Tenn. I claim the bevel constructed as described, and consisting of the graduated plate, B, longitudinally slotted, the pivoted arms, A, I, K, C, and sliding clamp nut, D, all arranged to operate substantially as herein shown and described.

79,070.—LEATHER ROLLER.—J. T. Harris, Swampscott, Mass. I claim the guards, D and E, either or both, and whether made separate or in one piece, in combination with the rollers of a leather rolling machine, substantially as herein shown and described, and for the purposes set forth.

79,071.—HOISTING APPARATUS.—Dexter Head, Medusa, N. Y. I claim the lazy tongue, C, arranged to operate in connection with the derrick, A, slotted frame, B, the pulleys, cord, e, and windlass, f, as herein described, for the purpose specified.

79,072.—HOP STRIPPER.—Kidney Holt, Baraboo, Wis. I claim, 1st, The combination and arrangement upon the frame, A, of the fixed and sliding bars, E, F, respectively, substantially as and for the purpose set forth.

79,073.—TOY CANNON.—Geo. E. Hutchinson, Cleveland, O., assignor to himself and J. B. Brown, Peeskill, N. Y. I claim a toy cannon having an enlarged chamber, r, at the rear end of the bore and having the front end of the spring confined in a sliding barrel, E, in combination with the lever, F, and pin, d, all made and operating substantially as herein shown and described.

79,074.—HORSE POWER.—J. H. Kleppinger, Cherryville, Pa. I claim the wheel, E, with the toothed face, and the loose wheel, F, with the jaws, b, all arranged as described, in combination with the shafts of a horse power, and with the fly wheel, H, mounted on one of them, as specified.

79,075.—HOT AIR FURNACE.—Wm. H. Lee and Charles M. Hardenbergh, Minneapolis, Minn. We claim, 1st, The arrangement and combination of the furnace drum, A, (with the vertical air tubes, a) the angular fire drums, C, the smoke flues, D and E, and the chimney flues, F and J, substantially as described for the purpose set forth.

79,076.—SAFETY GUARD FOR MINING SHAFT.—E. O. Leetimo, Gold Hill, Nevada. I claim the combination with the railroad track and the cage of a mining shaft of the automatic safety guard attachment, substantially as and for the purpose described.

79,077.—SHUTT MACHINE.—Carl Millar, Sandoval, Ill. I claim the shuttle machine, C, with its screen, B, and blower, E, in combination with the brush, G, blower, H, and screen, K, when constructed and arranged in the manner and to operate substantially as described.

79,078.—MANUFACTURING BUTTER FROM WHEY.—Ira Page, Adams, N. Y. I claim the improved mode of manufacturing butter from whey, substantially as and for the purpose described.

79,079.—EXTENSION TRESLE OR HORSE.—George H. Pierce and Martin T. Gilmestral, Mineral Point, Wis. We claim, 1st, The traveling boards, B, B', constituting the platform of trestle or horse, substantially as shown and described, in combination with the braces, A, A', and their respective bolts, r, r', all as and for the purpose set forth.

79,080.—DEVICE FOR STOPPING AND STARTING CALENDER.—Wm. T. Porter, Wilmington, Del. I claim the rod, F, passing through the roll, A, and connected at one end to the shaft, D, of the roller and friction disk, by a swivel joint, its other extremity fitting within the hub block, H, provided with the hand wheel, G, all constructed and arranged to operate substantially as and for the purpose set forth.

79,081.—GAS BURNER.—A. C. Rand, New York city. I claim a gas burner in which a movable check is adjustable towards or away from the stationary check, as herein described for the purpose specified.

79,082.—ORGAN.—Isaac Roush and J. W. Truby, Otto, N. Y. We claim the grooves, B, on a surface, in combination with block moving in such grooves, substantially as and for the purpose described.

79,083.—TAILORS' MEASURE.—Wm. Sinnott and John McNaughton, Brooklyn, N. Y. We claim the adjustable quadrangular frame, composed of the metal bars on each of which a graduated scale is marked, in combination with the vertical bar, d, sliding upon the lower bar, b, of the quadrangular frame, and carrying the adjustable tape measure, C, as herein described for the purpose specified.

79,084.—PORTABLE STOVE.—Jos. Smallwood, St. Johns, N. B. I claim the frame or part, A, and the boiler or part, B, when constructed so that they will slide or fold together, as seen in fig. 2, and when used for the purposes set forth, or in combination with a lamp, substantially as described.

79,085.—MEAT CUTTER.—S. L. Stockstill and H. H. Dille, Wadway, Ohio. I claim the inclined slotted plate, E, attached to opposite sides of the shell, A, below the spikes, A, whereby, as the two halves of the shell are brought together, the inner edges of the plates fit against each other, to form a partition, as herein described for the purpose specified.

79,086.—SHUTTER OPERATOR.—Martin Streeter, New Haven, Conn., assignor to himself and Artell Austin, Jersey City, N. J. I claim securing the blind, C, in any desired position, by means of the screw handle, G, upon the screw shaft of the lever, D, acting upon the curved edge of the plate, E, as herein shown and described.

79,087.—SHOE LASTING.—Peter J. Thompson, Sardis, Ohio. I claim in combination with the pinners or parts, A, the jaws, C, C, and springs, F, F, constructed, arranged, and operating substantially as shown and described.

79,088.—THRILL COUPLING.—J. T. Thorp, Southington, Conn. I claim the hook, F, applied to thrill coupling, and passing through a hole in the thrill wire, to operate in the manner substantially as and for the purpose set forth.

79,089.—TILE-BENDING MACHINE.—Robert Tyrrell, Sumner, Ill. I claim the combination of the rotary disk, A, having the two diameters, e, f, and provided with the lever, B, and clamping device, g, with the horizontally and vertically adjustable roller, C, slotted arm, D, E, blocks, n, o, headed

rod, h, provided with the nut, j, and gudgeon, k, all constructed and arranged to operate substantially as herein set forth.

79,090.—INNER SOLES FOR BOOTS AND SHOES.—R. A. Webster, Sandisfield, assignor to himself, John Dowd, and R. J. Dowd, Lee, Mass. I claim the inner sole, A, constructed substantially as described, for the purpose set forth.

79,091.—PLOW.—J. M. Wilson, Lexington, Miss. I claim, 1st, A plow consisting of the combination of the arrow, C, with the scraper, D, all made and operating substantially as herein shown and described.

79,092.—APPARATUS FOR CONVERTING MOTION.—Kenelm J. Winslow, Montpelier Row, Twickenham Eng. I claim, 1st, The combination of the loose hollow drums, C, hinged pawls, D, link connections, E, E, G, friction pulley, H, fixed ratchet wheel, R, and shaft, A, all constructed and arranged substantially as and for the purpose herein shown and described.

79,093.—THREAD CUTTER.—C. A. Woodbury, Woodstock, Vt. I claim the thread cutter consisting of the die, A, having a sharp edge, the notched shield, B, and springs, a, substantially as herein set forth.

79,094.—STEAM GENERATOR.—John Armstrong, New Orleans, La. I claim the central line or set of vertical tubes, A, in combination with the outer lines or sets of tubes, and with the system of oppositely inclined connecting flues, B, arranged in the manner and for the purpose set forth.

79,095.—WASHING MACHINE.—A. A. Atherton, Waterbury, Vt. I claim the combination of the board, D, with the knuckles, and the board, E, with rollers containing holes which allow the water to flow freely through them, as and for the purpose specified.

79,096.—WRINGER.—Alfred M. Bailey (assignor to Metropolitan Washing Machine Co.), Middlefield, Conn. I claim, 1st, The clothes wringers and other machines in which two rolls are required to operate at varying distances from each other, the employment of a spring whose ends extend beyond the bearings of the upper or driven roll, in the manner described, so that the ends of said roll shall bear against the spring, at points intermediate between the bearing points of said spring, as and for the purposes set forth.

79,097.—CULTIVATING HOPS.—Nelson Baker, Algaznee, Mich. I claim the herein described method of destroying insects upon hop vines by the use of a special acid, by subjecting the vines to the action of pyrologous sulphurous hydrocarbon, or other similar vapors, in the manner specified.

79,098.—MEDICINE FOR HOG CHOLERA.—Joseph P. Ball, Lebanon, Ind. I claim the improved and newly discovered medicine for the cure and prevention of hog cholera, C, compounded and prepared of the materials and substances in the manner and proportions, and administered as herein set forth.

79,099.—SAW.—Samuel Barry, Dayton, Ohio. I claim the mode of attaching the teeth, B and C, to the saw plate, A, substantially as shown and described.

79,100.—IMPLEMENT.—B. F. Bean, Schuylkill, Pa. I claim the combined implement herein described, consisting of the tongue, B, C, and screw wrench, C, D, E, the movable jaw of the latter being made adjustable upon the arm or handle, C, by a nut, H, which is fitted to a screw thread cut upon the arm, C, the whole constructed and operating in the manner and for the purpose specified.

79,101.—WASHING MACHINE.—E. E. Brewster, Cleveland, O. I claim, 1st, The soap drawers, J, in combination with the perforated wash board, K, for the purpose specified.

79,102.—MACHINE FOR CUTTING SOAP.—David S. Brown, Jr., New York city. I claim, 1st, The combination and arrangement of the bar, B', arms, B, racks, C, wheels, D, shaft, E, wire frame, H, and bench, A, the whole being made and operated as shown and described.

79,103.—CHURN.—Moses Calvert, Marshall, Ohio. I claim the construction and combination of the frame, gearing, and dasher, when arranged and operating as herein described and for the purpose set forth.

79,104.—CAR TRUCK FOR CHANGING GAGES.—Henry T. Carter, Portland, Me. I claim, 1st, The four shoulders, d, d', and d'', constructed on the bolster, B, substantially as and for the purposes set forth.

79,105.—EYELET MACHINE.—George P. Tew, Cranston, assignor to Charles W. Clewley, deceased, assignor to American Eyelet Company, Providence, R. I. I claim, 1st, The compound instrument, B, composed of a male cutter, c, a die, a, and a female cutter, o, in combination, constituting the moving instruments in the formation of an eyelet, substantially as described.

79,106.—HORSE HAY FORK.—Wm. S. Coffman, Coldwater, Mich. I claim, in combination with the two parts, A, E, of the horse hay fork, hinged together as shown, the spherical rubber spring, G, and bolt, k, upon one part, and the keeper or recess, a, on the upper part, the two acting together, substantially as and for the purpose described.

79,107.—HARNESS SNAP.—Edward A. Cooper, Buffalo, N. Y. I claim the arrangement with the main body of the hook constructed with a flat plate and inwardly projecting lug, g, and an outwardly projecting thumb piece, h, and a flat spring, E, one end of which is secured to the lug, g, and receives the screw in the main body, and the other end bears against the lug, g, and having an entirely closed chamber for the spring, as herein described.

79,108.—EXTENSION RING FOR BASE OF COOKING STOVES.—David B. Cox, Troy, N. Y. I claim an extension ring, A, applied between the base, B, and body, C, of a stove, substantially as and for the purpose herein specified.

79,109.—FARM GATE.—Jonathan David, East Enterprise, Ind. I claim, 1st, The arrangement of the forked lever, F, and sheave, c, with the articulation of the said lever on the bar, a, by means of which the front stile, C, is lifted simultaneously with the drawing back of the bolt, G, in the manner and for the purposes substantially as described.

79,110.—STEAM GENERATOR.—Geo. B. Field, New York city. I claim, 1st, A steam generator constructed of cast iron or other cast metal, with a hollow cylindrical hot radiating hollow arm, and a hollow rim connecting the outer ends of said arms substantially as set forth.

79,111.—LIFE BOAT.—Lawrence F. Frazee, Jersey City, N. J. I claim, 1st, The combination of a buoyant and adjustable bow and stern, so arranged that whichever side of the boat floats uppermost, the desired form may be given to the ends thereof.

79,112.—SHOE LASTING.—Peter J. Thompson, Sardis, Ohio. I claim in combination with the pinners or parts, A, the jaws, C, C, and springs, F, F, constructed, arranged, and operating substantially as shown and described.

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79,098.—MEDICINE FOR HOG CHOLERA.—Joseph P. Ball, Lebanon, Ind. I claim the improved and newly discovered medicine for the cure and prevention of hog cholera, C, compounded and prepared of the materials and substances in the manner and proportions, and administered as herein set forth.

79,099.—SAW.—Samuel Barry, Dayton, Ohio. I claim the mode of attaching the teeth, B and C, to the saw plate, A, substantially as shown and described.

C, embracing the wick tube, F, and operating in connection with the spindle crank, B.

79,188.—MANGLE.—Joseph Beaumont, Chambersburg, Pa.
I claim the rollers, a c', in combination with the enveloping cloth, e, table, A, adjustable crickets, d, d', and springs, c'' c''', as and for the purpose described.

79,189.—SEEDING MACHINE.—Sanford Beckwith, Oshkosh, Wis.
I claim, 1st, The screw cylinder, d, cup, m, and adjustable cap, e, arranged relatively one to the other for joint action, substantially as and for the purpose set forth.
2d, The screw cylinder, d, in combination with cup, m, as herein described for the purposes set forth.
3d, The semi-elliptical tube or scatterer, k, l, as and for the purposes set forth.
4b, The slots, n, n', as a means of adjusting the part, l, relative to the part, k, as and for the purposes set forth.

79,190.—BASIN FACET.—John Benson, Yonkers, N. Y.
I claim, 1st, The combination of the coupling tube, A, having nuts, b, above and below the slab, with the stock, C, of the cock, and locking nut, D, all arranged and operating substantially as shown and described.
2d, In combination with the above, the cap or stem, E, attached to the stock, C, and enclosing the coupling joints, substantially as shown and described.

79,191.—SHEARS.—Georg Bergner, Washington, Mo.
I claim the slotted bit, b, with its cap, e, spring, o, shoulder, n, all in combination, when arranged in relation to each other and the blades of the shears, substantially as and for the purpose specified.

79,192.—BRICK DRYING KILN.—E. W. Bingham, Williamsport, Pa.
I claim the combination and arrangement of the drying kiln, A, with its apartments, arched entrances, a, a', gates, b, b', side flues, d, d', and the valves, e, e', and the furnaces, B, B', with flues, c, c', and valves, c, c', substantially as and for the purposes herein set forth.

79,193.—SHEARS.—Charles Bishop, Trumbull, Conn.
I claim shears, the joint of which is constructed in the manner described, that is to say, the one blade constructed with a circular flange, d, the internal diameter of which is less than the rivet or screw, the other blade with a recess corresponding to the said flange, d, and so that a portion of the recessed blade will enter, all, and the space within the circular flange on the other blade, and through the center of which a screw or rivet, i, is placed, to secure the two blades together, substantially in the manner and for the purpose set forth.

79,194.—CARD OR TICKET CASE.—Charles C. Blakemore, Washington Court House, assignor to George C. Roblison and Henry A. Manning, Cincinnati, Ohio.
I claim the case, A, hinged open face cover, C, rectangular spring, D, and elastic lips, B, combined, arranged, and operating in the manner and for the purpose specified.

79,195.—GRATE.—Edmond Bosdevex, Philadelphia, Pa.
I claim the combination of a permanent grate, B, and a grate, D, hung to the rear side of a fire place, and capable of such adjustment that its front edge may be brought to any desired position on the grate, B, for the purpose described.

79,196.—PAINT COMPOUND.—H. W. Bradley, Binghamton, N. Y.
I claim a paint, produced by combining the oxide of lead or zinc, or other pigment or pigments, with the materials hereinbefore named, mixed and treated in or about the proportions and substantially in the manner described, for the purpose specified.

79,197.—CHURN.—Joseph W. Bradley and George H. Jordan, Rochester, Mo.
We claim, 1st, The perforated agitator, D, when provided with knives, x, and operated as and for the purpose specified.
2d, The agitator, E, when used in combination with a churn, and constructed as and for the purpose set forth.

79,198.—EXPANDING MANDREL.—John Brewer, Philadelphia, Pa.
I claim the cutter head, E, in combination with the screw rod, D, cap, C, swivel, B, slotted stock, A, and the rod, G, as shown.

79,199.—SEWER.—Jesse Brown, San Francisco, Cal.
I claim the protective cap, when constructed and arranged as described, so as to secure the upper and lower drains of privies, as set forth.

79,200.—HYDRANT.—Thomas Brown, Allegheny City, Pa.
I claim, 1st, The spout, D, and pipe, E, with the inclined slot, B, and movable cap, C, combined, arranged, and operating substantially as described.
2d, The hollow valve, H, and hollow screw stem, G, with the nut, L, pipe, E, and spout, D, combined, arranged, and operating as and for the purpose set forth.

79,201.—GATE.—John A. Burchard and Richard Tattershall, Beloit, Wis. Antedated February 12, 1868.
We claim, 1st, Broadly the employment of the double pulley, D, d', pawl, E, ratchet, e, weight, G, and cords, h, h', when constructed, arranged, and operated for the purpose of operating a gate or gates.
2d, Broadly the circular inclined plane, J, when constructed and arranged substantially as herein set forth and described, for the purpose specified.
3d, The latches, n, n', and stops, p, p', in combination with the inclined planes J, J', shaft, C, C', crank, C', pulley, D, d', cords, h, h', weight, G, gate standards, B, B', rods, b, b', and rollers, i, i', when the whole is constructed and arranged to operate substantially as herein described.

79,202.—KNITTING MACHINE.—W. W. Burson and John Nelson, Rockford, Ill. Antedated June 12, 1868.
We claim, 1st, The combination and arrangement, with the supporting frame, A, of the gate, B, rotating yarn carrier, H, and plates, B, B', provided with loop carriers, e, e, e', and feed rack, N, the whole operating as and for the purpose set forth.
2d, The two parallel plates, B, B', carrying the loop carriers, e, e, e', and constructed and arranged to move in the groove, C, substantially as described.
3d, The combination of yarn carrier, H, with looper bearer, K, groove, n, and pin, m, constructed and operating substantially as set forth.
4th, The combination of yarn carrier, H, constructed in two parts as described, with releasing lever, P, loopers, a, a', and loop hooks, e, e', arranged to knit irregular work, as set forth.
5th, The reversing crank, L, in combination with the looper bearer, K, operating substantially as described.
6th, The combination of the stop blocks, t, t', reversing rods, o, o', and loop hooks, e, e', when constructed and operating substantially as described.
7th, The combination and arrangement of reversing rods, o, o', c, c', s, s', and trip plate, T, when constructed and operating substantially as described.
8th, The combination and arrangement of the feed lever, M, toothed rack, N, and cam opening, V, constructed and operating substantially as described.
9th, The combination and arrangement of spring, Y, feed bar, M, and crank L, operating substantially as described.
10th, The combination and arrangement of releasing lever, P, looper bearer, K, and crank, L, when constructed and operating substantially as described.
11th, Constructing and arranging a knitting mechanism, substantially as herein described, so that the reciprocating motion of the gate, E, shall impart the proper motions to the different parts, substantially as set forth.

79,203.—EDGE PLANE FOR BOOTS, ETC.—F. Buxton and Geo. Crosby, Lake Village, N. H.
We claim the adjustable guard plate, E, constructed substantially in the manner and for the purpose set forth.
Also, constructing edge planes with a bolster or part, L, substantially as described and for the purpose set forth.

79,204.—OPERATING SLIDE VALVES.—Isaac Church, Jr., Norwalk, Conn.
I claim the arrangement of the puppet valves, I, I', with relation to main valve, D, steam passage, H, and piston, B, in such manner as to dispense with all other connection therewith, substantially as shown and described.

79,205.—WHIFFLE TREE PLATE.—James B. Clark, Plantsville, Conn.
I claim a whiffle tree plate, with its shaft, B, tenon, C, bearings, E and F, and third plate, G, all constructed and operating substantially as described.

79,206.—CAR BRAKE.—Lyman Clark, Pine Island, Minn.
I claim the friction wheels or rollers, C, and shaft, F, combined with the wheels of a railroad car, and with the brakes controlling the same, when operated by a chain or cord winding upon a horizontal rod or shaft beneath the car, substantially in the manner and for the purpose herein set forth.

79,207.—THREAD GUIDING PLATE FOR FILLING TATTING SHUTTLES.—Abram Clow, Fort Byron, N. Y.
I claim the combination and arrangement of the guide plate, A, constructed and slotted as herein shown and described, and for the purpose set forth.

79,208.—TOY HEAD FOR CANES.—Augustus Cooke, Orange, N. J.
I claim, 1st, Forming the top of a cane in the shape of an animal or bird's head, the features of which can be moved by pressing upon knobs in the cane.
2d, The combination of the wires, b, g and d, with the eyeball plate, a', tongue, e, lower jaw, f, and springs, a, l, and c', when arranged and operating substantially as described.

79,209.—INSTRUMENT FOR ADDING FIGURES.—Charles Corliss, Haverhill, Mass.
I claim, 1st, Operating the indicator that designates the figure or number to be added, by means of a sliding rod or bar, in such a manner that the said indicator will return to its original position upon each retraction of the rod or bar to its projected position.
2d, The simultaneous resetting of the several indicators, substantially as specified.

79,210.—CLASP FOR HOOP SKIRTS.—Abel J. Cross, Greenport, N. Y.
I claim a clasp for uniting the tapes to the hoops in skeleton skirts, the same being formed of a series of alternate diagonal metallic bars, extending from the penetrating points on one side to the penetrating points on the other side of the clasp, as specified.

79,211.—FLOUR PACKER.—Christian Custer (assignor to himself and Charles K. Bullock), Philadelphia, Pa.
I claim, 1st, The combination in a flour packing machine of a stationary cylinder, G, with a sliding cylinder, H, within which operate the devices for propelling and packing the flour.
2d, The within described propelling device consisting of two propellers, f and f', attached to a shaft, I, one on each side of a cross bar, e, having inclined arms, the whole being combined with the sliding cylinder, H, substantially as specified.
3d, The sliding cylinder, H, and strap bar, N, so connected that the said bar will be operated by the movement of the cylinder, substantially as described.

79,212.—STOVE DRUM.—D. W. Cutting, Cambridge, Vt.
I claim the arrangement of the drum, C, over the fire box or a cooking or box stove, when said drum is provided with an opening near each side, from which project two pipes, B, B', that lie parallel to each other in the stove, and are provided with elbows that pass through openings in the side of the stove, opposite to each other, for receiving and transmitting air, as and for the purpose set forth.

79,213.—DEVICE FOR HOLDING ROTARY CUTTERS WHILE BRINGING GROUND.—Henry Disston, Philadelphia, Pa.
I claim the combination of the spindle of a rotary cutter, as set forth, in combination of the rear rollers, f, and the vertically adjustable roller, c, substantially as and for the purpose specified.

79,214.—MAIL BAG.—D. Frank Dodge, Lowville, N. Y.
I claim the construction of the mouth frame, A, B, as herein constructed and set forth.

79,215.—STEAM GENERATOR.—Edward Dunscomb, Boston, Mass. Antedated May 7, 1868.
I claim a steam generator constructed and arranged as shown and described.

79,216.—CORK SCREW.—John E. Earle, New Haven, Conn.
I claim the combination of the handles, B and D, with the cork screw, E, pivoted together so as to operate in the manner shown and described, and with or without the cutters, A and C.

79,217.—PUMP.—Chas. F. Eastleek, Mantua, N. J.
I claim the pump having cylinder, A, plunger, B, piston, C, pipe, D, platform, E, lever, G, trough, K, constructed, combined, and arranged substantially as and for the purposes specified.

79,218.—SMUT MILL.—John T. Ewan and James R. Glenn, Hillsboro, Ill.
We claim the arrangement upon the frame, A, in the manner described, of the suction legs, C, C', arms, M, M', disk board, L, L', air trunk, D, and its valves, R, dust chamber, Q, and spout, S, S', with the cylinder, E, its wire brushes, J, staves, I, plates, G, H, F, and shaft, C, with their various parts, all constructed and operating substantially as and for the purposes set forth.

79,219.—SUPPLEMENTAL JAW FOR WRENCHES.—Robt. Faries, Indianapolis, Ind.
I claim the applicable wrench jaw, when made substantially as described, as an article of manufacture.

79,220.—LINING FLEXIBLE AND OTHER HOSE AND TUBES WITH INDIA RUBBER, ETC.—James C. Forsyth, Boston, Mass., assignor to himself and John H. Cheever, New York.
I claim, 1st, Water-proof hose or tubing composed of a tube of woven fabric or other material, B, vulcanized with india rubber lining, the two being held and cemented together by interposed non-vulcanizable gum, as and for the purposes herein set forth.
2d, The method of lining hose, or other tubular articles, by inserting in the article to be lined the vulcanized rubber, or equivalent lining, with its coating or exterior layer of vulcanizable gum, and then expanding said lining, and forcing the said gum or cementing material into the meshes or pores of the article to be lined, by means of steam, hot water, or hot air introduced within the lining, as set forth.
3d, A lining for hose and other tubular articles, composed of a tube of vulcanized rubber, with an exterior coating or layer of vulcanizable gum or cement, with or without one or more pieces of cloth or other fabric, combined and united with the lining as herein set forth.
4th, The method herein described of coating the hose or tubing with vulcanized rubber, both internally and externally, as and for the purposes set forth.

79,221.—LAMP BURNER.—Edward A. Galbraith (assignor to himself and Paul P. Todd), Boston, Mass.
I claim, 1st, The combination with the conduit for supplying air to the flame, of a vapor conducting pipe, leading from the fluid reservoir of the lamp and communicating with the said air conduit, substantially as and for the purposes herein shown and set forth.
2d, A lamp burner in which the divided wick tube with its double wick, the air supply, and the vapor conducting pipe are combined and arranged for joint operation in the manner herein shown and described.

79,222.—LETTER BOX.—Chas. P. Gorely, Boston, Mass.
I claim, 1st, The combination and arrangement of the h, bars, D, E, F, wire or chain, G, and spring, S, all constructed and operating substantially in the manner and for the purpose specified.
2d, The introduction of the chains, H and G, into the length of the bell wire, for the purpose of allowing either of two modes specified to be used in ringing the bell, without interfering with the other, as set forth.

79,223.—HAMES FASTENER.—Jacob Harding (assignor to Henry I. Allen & Co.), Schoolcraft, Mich.
I claim, 1st, The straps, A and B, connected by the lever, C, as and for the purposes set forth.
2d, The projecting feather, E, and groove, 3, when operated in connection with lever arm, C, and strap, B, substantially as described and for the purposes specified.

79,224.—HAMES COUPLING.—Geo. W. Heckart (assignor to himself and Christian Kramer), Columbiana, Ohio.
I claim a hames coupling constructed, arranged, and operating substantially as herein described and for the purpose set forth.

79,225.—STEAM GENERATOR.—H. Heine, New York City.
I claim, 1st, A steam generator composed of an internal main or central part, M, and of an outer annular water space, G, said internal part being provided with a water space, D, and fire flues, a, and communicating with the outer annular water space or pipes, e and q, all as shown and described.
2d, The combination of a right hand cone, L, with the center of the bonnet, I, which covers up the annular water space, G, said water space steam dome being connected by pipes, q, substantially as and for the purposes set forth.
3d, The water pipes, H, situated in the combustion chamber, F, between the central part and the annular water space, substantially as and for the purpose set forth.
4th, The siphons, b, connecting the pipes, H, and the water legs, C, substantially as and for the purpose set forth.

79,226.—HOT AIR REGISTER.—Wm. Highton, Malden, assignor to Moses Pond & Co., Boston, Mass.
I claim the arrangement and combination of the wheel with the grate, the sliders, and the series of shutters applied to the frame, A, as set forth.
Also the combination of the frame, A, and the ribs, F, with their recesses, r, r, as and for the purpose specified.

79,227.—FASTENING CHECK HOOKS AND TERRETS.—A. L. Hill, Decatur, Ill.
I claim providing tetterets, B, B, and check hook, A, with loops, b, h, as and for the purposes specified.

79,228.—HORSE HAY FORK.—Alfred Houghton, Seville, Ohio.
I claim the checks, E, F, springs, G, in combination with the slide, C, in the manner as and for the purpose specified.

79,229.—MANUFACTURE OF GUNPOWDER.—Wm. H. Jackson, Salem, Mass.
I claim the manufacture of gunpowder by mixing a solution of nitrate of potash, or a known equivalent thereof, with a soluble vegetable extract, such as extract of logwood, or with other soluble organic matter, and by subliming or evaporating to dryness, with or without the addition of sulphur or of pulverized charcoal, substantially as herein above described.

79,230.—GAS HEATER.—William Jones, Chelsea, Mass.
I claim, for the purpose of mixing air and gas to be burned, a plug cock, having a long, open, chambered plug, with inlets, k, k, and outlet, j, arranged to operate substantially as described.
Also, in connection with a burner arranged within a confined space, provision substantially as shown and described, for supplying fresh, unvitiated atmospheric air, to be mingled with the gas passing to the flame, as set forth.

79,231.—PESSEARY.—Benjamin Joseph (assignor to himself and Wm. McNiece), Philadelphia, Pa.
I claim, 1st, The hollow vertical shaft, c, in combination with the body, A, and the piston, B, as set forth.
2d, The combination of the base, B, shaft, c, and universal joint, d, as and for the above described purpose.

79,232.—TICKET PUNCH.—R. J. Kellett, San Francisco, Cal.
I claim a small auxiliary punch so arranged as to punch a hole in the coupon or portion so removed, at the same operation, which removes or punches the coupon or portion of the ticket, thus providing a convenient means for stringing said coupons or portions for preservation and reference, as described.

79,233.—BILLIARD REGISTER.—Isaac Kling, Seymour, Ind.
I claim, 1st, Operating the index rod, which shows the number of games played, by the movement of the points to mark the games, as set forth.
2d, The combination of the slotted slides, B and C, gears, I, I', index rod, D, and spring, c, with the bar, E, and wire, H, when arranged and operating substantially as described.
3d, The pivoted plates, d2, and spring, d3, in combination with the notches, H, for preventing the index rod from being raised from the outside of the case.
4th, The spring, h2, and inclined plane, B3, for operating the connection and disconnection of the slider and bar, E, as set forth.
5th, The checking points, e2, provided with springs, e4, and latches, e3, in combination with the notch, e6, and depression, f3, for preventing the points from being moved backward and re-marked without counting a game, as set forth.

79,234.—ZINCING IRON.—Fred'k A. Kraft, Philadelphia, Pa.
I claim a zincing bath composed of an outer casing of iron, containing an inner lining or casing of copper, or its equivalent, as set forth.

79,235.—SHIPS' FENDER.—Ezra B. Lake, Bridgeport, N. J.
I claim the within described fender, composed of a strip of wood and of vertical and transverse rollers, the whole being constructed and arranged substantially as and for the purpose herein set forth.

79,236.—COMBINED CULTIVATOR AND PLANTER.—Charles L. Lee, Fiteville, Ohio.
I claim, 1st, The adjustable frame, A, platform, K, lever, B', axle-tree, B, and wheels, D, all constructed and arranged to operate in the manner substantially as and for the purpose set forth.
2d, The slide boxes, J, groove, a, slide, G, and lever, H, as constructed and arranged to operate in the manner and for the purpose specified.

79,237.—MANUFACTURING BOLSTER PLATES.—Wm. J. Lewis and Henry W. Oliver, Jr., Pittsburg, Pa.
We claim a new article of manufacture, viz., iron bars rolled to the shape of a connected series of blanks for bolster plates, substantially as herein described and for the purpose set forth.

79,238.—AXLE BOX.—I. Stone Lister, Philadelphia, Pa.
I claim, 1st, A bearing arranged within an axle box above a journal, and having a chamber and channels leading from the same, through which oil may flow by its own gravity to the journal, all substantially as and for the purpose described.
2d, The combination of the said chambered bearing with the oil reservoir, G.
3d, The plug, I, with its air passages, p and p', and regulating valve, q, in combination with the reservoir, G.

79,239.—BELT COUPLING.—T. S. Livermore, Leicester, Mass.
I claim the above described coupling, consisting of the screw, with its conical head, in combination with a nut of similar form, capable of being drawn into the belt, when constructed and operating in the manner and for the purposes above set forth and described.

79,240.—WATER-PROOF LEATHER CEMENT.—Wm. S. Loughborough, Rochester, N. Y.
I claim the compound composed of the ingredients above set forth.

79,241.—FEVER AND AGUE MEDICINE.—John Mabrey, Jefferson City, Mo.
I claim a remedy for the fever and ague and other bilious diseases, composed of the ingredients in the proportions, and in the manner herein specified, substantially as described.

79,242.—CARPET STRETCHER AND TACK HOLDER.—R. M. Mansur, Augusta, Me.
I claim the construction of the three pronged plate, with the elastic rubber rings, F, F', as a tool for the purposes set forth and herein described.

79,243.—BEEHIVE.—Jacob McDonald, Buffalo, Ohio.
I claim the guiding board, A, with sidestrips, g, g', the two sections, C, C', and cross board, l, for the use and purpose as specified and herein set forth.

79,244.—CHURN.—James H. Monce, Hopkinsville, Ohio.
I claim, 1st, The arrangement and combination of the adjustable arm, K, plunger, L, and reversible balance wheel, M, as herein described and for the purposes set forth.
2d, The combination of the pitman, L, and reversible wheel, M, when constructed and operating as herein described, for the purposes set forth.

79,245.—CAR COUPLING.—Benjamin Monroe (assignor to himself, Wm. E. Chadwick, and Nathan N. Cole), Bristol, R. I.
I claim, 1st, The combination of the draw pin, B, constructed as described, with the slotted draw head, H, having an inclined funnel-shaped orifice, as described.
2d, The combination of the head, H, pin, B, and link, L, all constructed and operating as and for the purpose specified.

79,246.—SHEARS SHARPENER.—Melvin M. Morse and M. V. Collins, Buffalo, N. Y.
We claim, 1st, The adjustable gage plate, D, provided with stops, e, e', arranged and operating with the grinding wheel, B, substantially as set forth.
2d, In combination therewith, the self-adjusting pressure roller, F, substantially in the manner and for the purpose set forth.
3d, The spring, h, arranged with a pressure roller, F, and gage stops, e, substantially as and for the purpose specified.

79,247.—BRICK DRYER.—John M. Moyer, Pittsburg, Pa. Antedated Dec. 23, 1867.
I claim the turn table, with car tracks, with heater beneath, in combination with the grooved pulley wheels, arranged and operating substantially as and for the purpose herein described.
The car, with upright center plate, and hinged folding leaves, constructed and operating in manner and form as described, to and for the purpose in and for the purpose set forth.

79,248.—SASH FASTENER.—Henry North, New Britain, Conn.
I claim, 1st, The combination of the bolt, D, pivoted at f, with the shoulder k, and the leaf or bit, L, for the purpose of locking the sash down when the lock is placed in the casing, or locking the sash up when the lock is placed in the sash, substantially as herein described.
2d, The spring, G, operating in combination with the bolt, D, to press the sash laterally against the casing and prevent rattling when the bolt is locked into the recess, L, substantially as described.
3d, So constructing and arranging the several parts of the lock described, that the bolt, D, which locks into the recess, L, to secure the sash in the manner described when closed, shall turn upward when the sash is opened, and act as a pawl or stop, under the influence the spring, E, to hold the sash in any desired position, and which can be raised to release the sash by the same leaf or bit, l, which locks it down, substantially as herein specified.

79,249.—MORTISING MACHINE.—Gerrit V. Orton and John Richards, Cincinnati, Ohio.
We claim, 1st, The tractional device, p and q, for controlling the action of the treadle and chisel bar, substantially as herein described.
2d, Adjusting the table support, a', laterally upon the stud, b', in the manner and for the purposes above specified.
3d, The bent stops, n', n', when arranged to swing and adjust to different points on the snuff, in the manner herein set forth and shown.
4th, The adjustable nut piece, h', arranged with a clamping screw, to act upon stuff of different thickness, in the manner and for the objects as specified.
5th, The rotating clamp piece, l, for adjusting and holding the table support, a, in different positions, as shown and for the objects described.

79,250.—CHEESE CURD RAKE.—Edwin A. Palmer, Clayville, N. Y. Antedated June 12, 1868.
I claim the upper head, C, and the braces, D, D, or their equivalent, for the purpose herein described and set forth.

79,251.—WAGON BOX.—Hiram Palker, Salem, assignor to H. W. Persing, Marion county, Ill.
I claim the combination and arrangement of the eccentric, a, working on the studs, f, the rods, b, b', working in the staples, d, d', the pawl, y, attached to the handle of the eccentric, a, so as to work in the ratchet, g, substantially in the manner shown and described, and for the purposes above set forth.

79,252.—RAILWAY TRUCK.—Wm. P. Parrott (assignor to N. F. Bryant), Boston, Mass.
I claim the combination and arrangement of a cart truck with laterally moving wheels, as described.

79,253.—ANDIRON AND FIREPLACE.—Frederic Passy, Paris, France.
I claim, 1st, An andiron having channels or passages arranged substantially as described, so that a current of air from the lower portion of the apartment in which the andiron is placed shall pass into and through the andiron, and be discharged into the apartment in a heated state, as specified.
2d, The combination of the above and a water receptacle, arranged upon the upper end of the andiron, as and for the purpose described.

79,254.—CAR COUPLING.—Abram Perrin, Cleveland, Ohio, assignor to himself, Chas. L. Rowand, Geo. S. Selden, and Marmaduke Moore, Philadelphia, Pa.
I claim the construction of the draw head, A, with its open side, and pin, h, and having stops, c1 c2 and c3, of the head shown, in combination with the link or connecting irons, D and H, the former being provided with a head, d1, and lug, 2, and weight, G, all substantially as and for the purpose set forth.

79,255.—MACHINE FOR FORGING NUTS.—Amzi P. Plant and Amos Shepard, Plantsville, Conn.
We claim, 1st, The right and left hand conveyor, u, when so constructed as to convey a nut blank from the cut-off mechanism, w, either moving from the right or left, and slotted plate, A, in combination with the cut-off device and a forging mechanism on the right and left of it, substantially as described.
2d, The swinging conveyors, u1 u2 u3, in combination with the forging, p, and finishing mechanism, all constructed, arranged, and operating substantially as described.

79,256.—SAP SPILE.—Charles C. Post, Hinesburg, Vt.
I claim the sap spile constructed with the longitudinal fins, B, whereby it may be held or retained in the tap or hole in the tree without materially interfering with the flow of the sap, substantially as herein set forth.

79,257.—CHERRY STONER.—Albert Rakestraw, Peoria, Ill.
I claim a cherry stoner having sliding beam, D, openings, B, C, E, H and K, fork, O, and block, Q, constructed, arranged, and operating substantially as herein specified.

79,258.—TUBULAR AXLE.—T. C. Rice, Worcester, Mass. Antedated June 9, 1868.
I claim the square-shouldered offsets, v, C, on the axle, A, for securing it to the wooden bed, B, with the clips, a, a', which fit over such an axle, as herein shown and described.

79,259.—COAT RACK.—Jesse B. Rumsey, Sturgis, Mich.
I claim, 1st, The form or construction of the butterfly-wing frames, A, A', with their series of overhanging coat hooks, a, a', as arranged and combined with the socket chairs, B, B', substantially as described, for the purposes specified.
2d, The combination of the connecting bar, D, and the chairs, B, B', with one or more hinged frames, having each a series of overhanging coat or clothes hooks, to be placed and secured in any desired position, substantially as and for the purposes herein set forth.

79,260.—APPARATUS FOR DISTILLING.—D. Saville, Paris, France.
I claim, 1st, The combination, with the column, B, of a casing, A, divided into two compartments, A' B', the lower containing a heating pipe, m, and the upper a perforated pipe, a, or its equivalent, substantially as and for the purpose described.
2d, Graduating the size of the openings in the perforated plates of the column, and the length of the tubes which extend above said plates, substantially as and for the purpose specified.
3d, The casing, O, communicating with the heater, A, or with its column, in combination with the casing, O', its tube, s, and float, o, connected to the tube, m, the whole being arranged and operating substantially as and for the purpose described.
4th, The arrangement, in respect to the heater, A, and column, B, of a cooler, F, consisting of a casing divided by partitions and pipes into two compartments, one communicating with the column, and the other with the water pipes, c1, as set forth.

79,261.—SOLIDIFIED COLLODION.—Chas. A. Seely, New York City.
I claim the compound of collodion and nitro-glucose, prepared and compounded substantially as described.

79,262.—SAD IRON.—Joseph Shalkenback, Chicago, Ill.
I claim the revolving sad iron, A, constructed with flat and curved faces, as described, and adjusted in its handle, E, by means of the spring latch, G, and the disk, B, in which are the notches, K, arranged to correspond with the desired position of the sad iron, substantially as set forth.

79,263.—STEERING APPARATUS.—Henry F. Shaw, West Roxbury, assignor to J. A. Woodbury and S. S. Gray, Boston, Mass.
I claim the combination, with the rudder post, C, of the sieve, G, provided with the eccentric, g, and the gears, D and E, substantially as and for the purpose specified.
The combination of a spring with the arm of the oscillating gear, E, substantially as and for the purpose specified.

79,264.—PULLEY BLOCK.—Henry F. Shaw, West Roxbury, assignor to James A. Woodbury and Solomon S. Gray, Boston, Mass.
I claim the combination, in a pulley block, of the winding wheel, D, the differential gear, pulleys, E, F, and an eccentric sleeve, substantially as and for the purpose set forth.

79,265.—TYPE WRITING MACHINE.—C. Latham Sholes, Carolus Glidden, and Samuel W. Soule, Milwaukee, Wis.
We claim, 1st, The key levers, D, vibrating on the fulcrum, M, with the inner ends or fingers, u, reaching under the type bars, so that the keys will act directly on the types, substantially as and for the purpose described.
2d, The spacer or ratchet, l, combined with the biturated lever, H, connected with the bar, T, pivoted at, s, and resting on, and across the arms of the keys, L, behind the fulcrum, m, so that striking the faces of the keys will raise the teeth of the form of the lever up and into the notches of the spacer, and give a certain uniform and regular space movement to the paper carriage, in line of the types, when made substantially as described.
3d, The pins, e, fastened to the table, A1, combined with the pawl, u, and the spring, l', to give the paper carriage a certain and regular cross-line movement, at a right angle to the space movement, from line to line, when made substantially as described.
4th, The clasp or spring, g, attached to the bars, C and C', on line through the middle of the platen, G, combined with the springs, a, attached

to the bar, E, to hold the paper to the carriage, and press it down smooth and tight, in passing under the platen, when made substantially as described.

5th, The spools, m, combined with the edge on s, the shaft, n, the pulley, a, k and R, the band, o, the cord, v, the weight, w, the ratchet, wheel, V, the pawl, and the bar, P, pivoted to the back of the case, A, to feed a ribbon past the ink-ribbon under the platen, to each type successively, when made substantially as described.

79,266.—PISTON LEVEL.—J. D. Sibley, Middletown, Conn.
I claim the combination of the revolving sighted level with the disk, A, when arranged and operating as herein described, and for the purposes set forth.

79,267.—CAR TRACK.—Sidney Skillman, Jersey city, N. J.—
Ante-dated June 16, 1868.
I claim, 1st, The swiveling of the truck on a centre coincident with the centre of the boiler, by means of the swiveling ring, B, arranged substantially as herein described.
2d, In connection with the above, the tilting ring, G, turning on the centres, g¹ and g², and the arrangement of the truck for the purpose herein specified.
3d, In combination with the boiler, D, located at or forward of the centre of the truck, the employment of a bearing, I, in rear of the centre of the truck, so arranged as to support or aid in supporting the weight of the car in such manner as to throw more of its weight upon the rear than upon the front axle of the truck, substantially as and for the purposes herein set forth.
4th, The within-described arrangement of the hole, P, stack, d, boiler, D, and weak braces, M, or their equivalents, adapted to operate together in the manner herein specified.

79,268.—ELECTRIC FUSE.—H. Julius Smith, Boston, Mass.
I claim an electric fuse, in which the end of a single insulating cord, containing two insulated wires, is introduced directly into the cap containing the fulminate to be fired, in the manner described.

79,269.—BOOK BINDING.—William Smith, New York city.
I claim a book, when it has its covers secured to its leaves by tapes, or their equivalents that are passed through the leaves, and then their loose ends fastened to both the outer and inner sides of the covers, substantially as described.

79,270.—AUTOMATIC DENTAL PLUGGING INSTRUMENT.—
George B. Snow and Theodore G. Lewis, Buffalo, N. Y.
We claim a plugging instrument, having all its automatic operating parts contained within the case forming the handle of the instrument, substantially as described.

79,271.—TRANSMITTING SIGNALS.—P. A. Sparre, Stockholm, Sweden.
I claim, 1st, The disk, d, in combination with the stop, e, stand, f, and bolt, g, as described.
2d, The rack, i, in combination with the pinion, j, connected with the gear, k, by means of the ratchet wheel, l, in connection with the catch, m, escapement, n, and spring, o, as described.
3d, The plate, p, affixed to the cylinder, p³, in combination with the lever, q, and the spring, r, and spring, s, as described.
4th, The plate, t, hinged to its case as shown at, ti, in combination with the rack, i, square, u, pin, ul, and spring, v, as described.
5th, The stop, v, mounted on the disk, d, in combination with the inclined planes, v¹, v², v³, h^o, k, s, and spring, s, as described, to operate substantially as herein set forth.

79,272.—INSTRUMENT FOR ADDING AND REGISTERING NUMBERS.—Nelson Spofford and Charles Corliss (assignors to Charles Corliss), Haverhill, Mass.
We claim, 1st, The graduated sliding bar, b, when applied and operating substantially in the manner and for the purpose set forth.
2d, The sliding graduated bar, b, in combination with ratchet, f, and toothed-wheel, e, as and for the purpose specified.
3d, The combination of the bar, b, and spring, d, of the system of gearing, and the indicators, as set forth.
4th, The combination of graduated bar, b, casing, a, and head, c, substantially as and for the purpose specified.
5th, The method of adding a series of figures or numbers, by means of a sliding bar, operating a system of gearing or watch-work, substantially as set forth.

79,273.—SLED.—Edward L. Stevens (assignor to Isaac Baker), Moulton, Me.
I claim, 1st, The slotted bar, G, in combination with the spring, D, when constructed and operating substantially as and for the purposes described.
2d, A coupling sled, having a fender, A, bell holder and bell, C, spring, E, slot, H, chains, K, rollers, O, straps, S, constructed, arranged, and operating substantially as specified.

79,274.—RECIPROCATING STEAM ENGINE.—David Stoddard, St. Francis, Cal.
I claim, 1st, The arrangement of the pistons, B1 B2, small pistons D1 D2, valve, C, and the passages, H1 H2, communicating to the cylinder, substantially as described.
2d, The arrangement of the auxiliary passages, K1 K2, substantially as described.

79,275.—BASE-BURNING FIREPLACE STOVES.—David Stuart and Lewis Bridge (assignors to Stuart, Peterson & Co., Philadelphia, Pa.)
We claim, 1st, The base of the stove, enclosing the passages, E, F and G, arranged and communicating with the pipes, P and P', substantially as described.
2d, Two or more pipes, P and P', arranged within the outer casing of a fireplace stove, for conveying the products of combustion to the chimney, and for heating the air admitted to the space within the said outer casing, all substantially as and for the purpose herein set forth.
3d, The pipes P and P', in combination with the compartments, k and k', and the valve and partition between the same.
4th, The double cover consisting of plates 2 and 3, one for fitting to the top of the stove and the other to the top of the feeder, and so arranged that the products of combustion can pass between them.

79,276.—REAPER.—Edward Sullivan, Pittsburg, Pa., Ante-dated June 6, 1868.
I claim the combination and arrangements of the cutters and blank head, C, collar, e, sleeve, D, cone, f, rod, A, and the cutters and blanks, the whole being constructed, arranged, combined, and operated substantially as herein described, and for the purpose set forth.

79,277.—LAMP CHIMNEY.—Michael Sweeney, Wheeling, W. Va.
I claim, as a new article of manufacture a lamp chimney, constructed with a conical bell-shaped top, and a uniform curvature, except as to the rounded lens formed projection, B, on the sides, substantially as set forth.

79,278.—HAT.—B. B. Taggart and C. W. Brown, Watertown, N. Y.
We claim, as a new article of manufacture, a hat or bonnet body, molded or pressed from a continuous sheet of formed paper, substantially as and for the purposes herein shown and specified.

79,279.—LUBRICATOR.—Hiram Taylor, Cincinnati, Ohio.
I claim, 1st, A metallic band or collar, I, cast around and within the neck of the reservoir, G, for the purpose of attaching the supporting stem, E, thereto, as specified.
2d, In combination with the band or collar, I, of soft or fusible metal, applied as set forth, the threaded tube or bushing, F, of harder metal, for the reception of the upper end of the stem, E.
3d, The rod, D, fitted with a projection or enlargement, d, on its upper end, to support out of contact with the journal, substantially as described.

79,280.—COMBINED LAND ROLLER, FERTILIZER, AND SEED SOWER.—L. D. Taylor, Grand Centre, Pa.
I claim the combination of the front and rear hoppers, I, I, and their respective plates, K, K, pulleys, P, P, rollers, L, L, and cylinders, A, A, all constructed and operating substantially as specified.

79,281.—BRAKE FOR HORSE POWER MACHINES.—Daniel G. Terrell, Wakefield, Pa.
I claim the arrangement in horse powers, of the mechanism herein described, whereby the brake will be self acting when the belt breaks or flies off, and also serves the purpose of a hand brake, to stop the machine when the belt is on in running order, substantially as and for the purposes herein set forth.

79,282.—HORSE POWER.—Daniel J. Tittle, (assignor to Albi M. Tittle, Albany, N. Y.)
I claim, 1st, The endless thread composed of the pieces, e, e, and furnished with the links, f, outer coars, g, and middle coars, h, h, and all in combination with the said tread pieces, e, e, substantially as and for the purpose set forth and described.
2d, The gear wheel, K, working on the shaft of the carrying wheels, c, in combination with the lever, i, and n, and connecting bar, o, or their equivalents, as and for the purpose set forth and described.
3d, The gear wheel, M, in combination with the drive wheel, D, or its equivalent, and the gear wheel, K, substantially as and for the purpose set forth and described.
4th, The gears, i, with their supporting bars, tt, or their equivalents, in combination with the lever, S, and its link, w, and connecting bar, v, or their equivalents, as and for the purpose set forth and described.
5th, The holding clamps, x, x', and binding bolt and nut, y, or its equivalents, as and for the purpose set forth and described.
6th, The pan, Z, arranged as and for the purpose set forth and described.

79,283.—CAR COUPLING.—E. R. Whitney, Plattsburg, N. Y.
I claim the arrangement of a four armed cross or wheel, B, dog or lever, C, with spring, D, pawl, E, handle, F, and notch, a, all made and arranged in the coupling box, A, and operating substantially as and for the purposes above set forth.

79,284.—HORSE RAKE.—Frank Wicks, Upper Sandusky, O.
I claim, 1st, The runners, E, E, constructed substantially as described, with the curved part extending from the front extremity to the rear of the line of the points of the teeth, F, F, for the purpose set forth.
2d, Locating the post, G, or its equivalent, back of the points of the teeth F, F, substantially as and for the purpose specified.
3d, The construction and arrangement of the rods or braces, N, O, with the handle and cross bar, I, and nuts, t, t, for the purpose of bracing the handles to the cross bar, I, substantially in the manner described.

79,285.—SPRING BED BOTTOM.—Newiel J. Willis, (assignor to the Boston Spring Bed Company), Boston, Mass.
I claim the improved spring bed bottom, as composed of the frame, B, the two round bars, A, the two series of springs, C, (of the kind described), and the series of slats, D, arranged and applied together substantially as described.
Also, the construction and arrangement of the two buttons with the grooved slats and their springs, arranged and applied to such slats and round bars in manner substantially as explained.

79,286.—CHERRY PRESS.—Putnam Wilson, Newport, assignor to R. M. Manaur, Augusta, Me.
I claim the construction and arrangement of the levers, E, E, uprights, D, D, movable bottom, B, upright standard, F, and follower, G, all operated by the rope, I, drum, J, and lever, K, substantially as herein set forth.

79,287.—TAG.—George F. Wright and William Orr, Jr., Clinton, Mass., Ante-dated June 5, 1868.
I claim the use of a circular or otherwise shaped piece of pastboard, or its equivalent, when inserted between the two thicknesses of the tag or label

around which the string, or its equivalent, is looped, in the manner substantially as herein shown and described.

79,288.—LINE HOLDER.—John Hartzell Zinn, Harrisburg, assignor to himself and T. B. Weakley, Dauphin County, Pa.
I claim the arrangement of the lever, D, with central arm, a, pivoted on the frame, A, and arm, C, in connection with the arch shaped flange, B, all made of iron, brass, or other suitable material, for the holding of rope or wire substantially as and for the purpose set forth.

79,289.—APPARATUS FOR MOTIVE POWER.—S. G. Monce, Marathon, Ont.
I claim, 1st, A combination of the verge, g, arm or lever, i, connecting rod, k, and fly wheel, o, all as shown and described.
2d, CARBURETTOR.—Charles Benjamin Willoughby, (assignor to himself and W. A. Bovey, Ubriceville, Ohio.)
I claim, 1st, The combination of the oil tank, B, gas chamber, D, pipes and valves, d, all as shown and described, and for the purpose specified.
2d, The combination of the gas chamber, D, gas pipe, E, and valves, f, substantially as shown and described, and for the purpose specified.
3d, The combination of the oil chamber, B, the air supply pipe, C, and valve, c, substantially as shown and described and for the purpose set forth.

79,291.—BRECH LOADING FIRE ARM.—William Morgenstern, Hartford, Conn., assignor to Herman Funke.
I claim, 1st, In combination, with a hinged breech block, the firing pin, main spring, and sear, arranged within said block, substantially as described for the purpose set forth.
2d, Making the firing pin and dog, or handle, all in one piece, substantially as described for the purpose set forth.
3d, In combination with a swinging breech and firing pin or hammer the provisions in said breech for the weight of the hammer to accomplish the locking down of the breech, substantially as described.
4th, The employment, in combination with an extractor, of an ejector, composed of a spring cam or flapper, such as herein described.

79,292.—FRUIT PICKER.—James H. Lament and D. A. Lament, Troy, Pa.
We claim the combination, in a fruit picker, of the vessel, A, and fingers, a, a, a, all substantially as shown and described.

REISSUES.

2,996.—HARVESTER RAKE.—C. Aultman, Canton, Ohio, assignee of Daniel E. Swartz and Jonathan Kremer, Millheim, Pa. Dated May 12, 1868.
I claim, 1st, The combination of a main frame supported upon two wheels, a laterally projecting platform and cutting apparatus which shall be in advance of the main axle with the support of a series of combined rake and reel arms, rigidly connected with the finger bar.
2d, The combination with a two wheel iron cut harvester, of a main frame between the wheels, the hinged supporting bars, L, L', the cutting apparatus, and series of revolving rake and reel arms pivoted to a central hub, and driven by open slotted guard fingers, from the main axle.
3d, Mounting a combined rake and reel on a front cut harvester, in advance of the main axle.
4th, The combination of a combined rake and reel, having independent binged arms, a platform binged to the main frame and the support of the rake and reel rigidly connected with the platform and finger beam, so as to cooperate thereto.
5th, A series of pivoted arms of a revolving rake and reel, attached near the periphery of an enlarged head or hub, in lines tangential to a circle, the centre of which is in the shaft around which said arms rotate, so as to cause the revolving heads or rakes to approach the cutter in lines parallel or nearly parallel thereto.
6th, A combined revolving rake and reel, in combination with a hinged bar harvester, a coupling arm, and a movable brace or plate to support the finger bar, platform and rake and reel.
7, 997.—GRASS HARVESTER.—Jonathan Haines, Pekin, Ill., assignee by mesne assignments of himself, Division B. Dated September 4, 1855; reissue 545, dated April 13, 1858.
I claim, 1st, In combination with a laterally projecting finger beam, an enlarged support at the outer end, and provided with open slotted guard fingers, through which and across said fingers the cutters are reciprocated in straight lines, a connecting rod or brace bar, m, having one end connected with and joined to the heel of said finger beam, and its other end flexibly connected with the main frame of the machine, for the purpose of controlling the lateral movements of the finger beam, so that the cutters and guard fingers will be kept in unison with each other throughout the up and down movement of said finger beam, independent of the main frame, substantially as set forth.
2d, The drooping bracket, J, extending downward below the main frame, for the purpose of giving support to the crank shaft, and to bring the crank and pitman more nearly in the line with the cutters, substantially as set forth.
3d, The sliding brace, Q, connected to the bracket, J, to protect the crank which drives the cutters while passing over cut grass and other obstructions, substantially as set forth.
4th, Connecting the upper end of the brace or bar, m, to the bracket, J, substantially as set forth.
5th, The combination of the guide, y, with the short cutter, h, and open slotted narrow divider, when all are arranged for joint operation, substantially as set forth.

2,998.—GRASS HARVESTER.—Jonathan Haines, Pekin, Ill., assignee by mesne assignments of himself. Dated Sept. 4, 1855. Reissue 545. Dated April 13, 1858. Division C.
I claim flexibly connecting a laterally projecting cutting apparatus which has its cutters reciprocated in straight lines through open-slotted guard fingers to the main frame of a mowing machine, substantially as set forth.
The main frame and the gearing which drives the cutters of a mowing machine, mounted upon two driving and supporting wheels, a drift pole to draw the machine by, rigidly connected to said frame, and a finger beam and cutting apparatus (the cutters of which reciprocate through open slotted guard fingers in straight lines), flexibly attached to the main frame in such a manner as will permit said finger beam and cutting apparatus to receive all their up-and-down movements from the undulation of the ground over which they are drawn, substantially as set forth.
In a mowing machine having a laterally projecting finger beam flexibly connected with the main frame, a lever so arranged that the driver can, while operating in straight lines, flexibly raise the finger beam and cutting apparatus bodily out of the ground while the machine is in motion, to pass over obstructions, etc., substantially as set forth.
Connecting the lever by which the cutting apparatus is raised to the heel of the finger beam, substantially as set forth.
In combination with the main frame which carries the gearing to drive the cutters, to which is flexibly connected a laterally projecting finger beam, a series of open slotted guard fingers, and cutters reciprocating across said fingers in a straight line, a lever so arranged that the driver can, while operating in straight lines, flexibly raise the finger beam and cutting apparatus bodily out of the ground while the machine is in motion, to pass over obstructions, etc., substantially as set forth.
The combination and arrangement in a mowing machine having a laterally projecting cutting apparatus, the cutters of which are reciprocated in straight lines through open-slotted guard fingers, and the finger beam and cutting apparatus bodily out of the ground while the machine is in motion, to raise the cutting apparatus from the ground while the machine is in motion, and a holding device to lock and retain said lever, and hold the cutting apparatus elevated from the ground as desired for transportation, substantially as set forth.

2,999.—HARVESTER RAKE.—Samuel Johnston, Syracuse, N. Y., assignee of Wm. T. Shaw and John Manz, Wilmington, Del. Dated Nov. 22, 1864.
We claim, 1st, The combination of a main frame supported on two wheels, a laterally projecting platform and cutting apparatus, so hinged to the main frame that the cutting apparatus shall be in advance of the main axle, with a series of combined rake and reel arms revolving on a support mounted on the platform.
2d, The combination of a main frame supported on two wheels, a laterally projecting platform and cutting apparatus, so hinged to the main frame that the cutting apparatus shall be in advance of the main axle, with a series of combined rake and reel arms revolving on a support mounted on the platform.
3d, The combination with a two wheel front cut harvester, of a series of combined rake and reel arms on a standard or support, mounted on a hinged platform, the arms being independently binged, and having a rising and falling movement independent of their axis of rotation.
4th, The combination with a two wheel front cut harvester, of a main frame, and a series of rake and reel arms pivoted to a crown wheel or central hub, on the platform, and driven by an extensible connection with the main axle.
5th, The construction and adaptation of a combined rake and reel, which revolves entirely around a vertical center, so that it may be applied to the platform of a front cut hinged bar harvester, in front of the main axle and below the highest point of the drive wheel.
6th, The revolving head, H, H', made in two disconnected parts, adapted to be coupled and uncoupled by means of the key, h, and recess, h², so as to cause the rakes to operate when the machine is moving forward, and to remain at rest during the backward movement thereof.
7th, The frame or casing, F, formed with the guide, f', for controlling the movement of the rakes and reels, as described.
8th, In combination with the aforesaid guide, f', the roller, L, arranged and operating substantially as described, to initiate and assist in the elevation of the rake and reel arms, as and for the object specified.

3,000.—FLUTING MACHINE.—Geo. E. King, New York city. Dated February 26, 1867. Division A.
I claim the guide, E, constructed with one or more curved or arched portions, a', in combination with suitable fluting rollers, substantially as here in set forth for the purpose specified.

3,001.—FLUTED PUFFING.—Geo. E. King, New York city. Dated February 26, 1867. Division B.
I claim the within described puffing, as a new article of manufacture the same being formed by crinkling, gathering or irregularly waving one portion of the strip of muslin or other material simultaneously with fluting it along the edges of such portion, as at g, and forming flattened borders or portions, h, outside of the flutes, or between two next adjacent rows of them, to receive stitching, substantially as specified.

3,002.—STILL FOR PETROLEUM, ETC.—Charles Lockhart and John Grace, Pittsburg, Pa. Dated November 17, 1868. Division A.
We claim providing a still used for distilling hydrocarbon, with a scraper or scrapers combined with a receiving device, said a raper or scrapers being rotated during the process of distillation, and operating with relation to the bottom of the still and said receiving device, substantially as herein described, and for the purpose set forth.

3,003.—STILL FOR PETROLEUM, ETC.—Charles Lockhart and John Grace, Pittsburg, Pa. Dated November 17, 1868. Division B.
We claim a still provided with a pipe or pipes which is or are so arranged with relation to a still and its contents, that the vapor evolved from the contents of the still can be conveyed off at different heights, substantially as herein and for the purposes set forth.

3,004.—IMPROVEMENT IN PIANO-FORTES.—G. C. Mander, New York city. Dated November 13, 1866.
I claim, 1st, Placing the damp-lifters in a slot of the metal frame behind the point supporting the strings, substantially as and for the purpose described.
2d, The metal frame, A, when embedded in the wood-work of the piano fort, so as to butt against the wrest plank, and when provided with an inverted hollow filled brace, a, with a slot, b, and a diagonal brace, d, all made and operating substantially as and for the purpose herein shown and described.

3,005.—BIT BRACE.—Greenleaf Stackpole, New York city, and J. N. Winslow, Portland, Me., assignees of Greenleaf Stackpole, Dated September 23, 1862.
I claim, 1st, In combination with a divided bit-shank socket, having a contracted neck, the ring, E, for holding the bearings upon the shank of the bit, constructed and operating substantially as set forth.
2d, The bearings, C, C', having grooves, a1 and a2, therein, to admit different sized bit shanks without an enlargement of the groove to the extent of the whole length of the socket or the bit shank substantially as specified.

3,006.—HARVESTER.—Mitchell, Vance & Co., (assignees of Edgar M. Smith) New York city. Dated February 23, 1864.
I claim, 1st, In combination with the main driving and supporting wheels, running loosely on their axes or journals, the main rear wheels, D, running loosely on the hubs of said drive wheels, and having a ratchet and pawl connection with each other, substantially in the manner and for the purpose herein described and represented.
2d, The arrangement of the two sets of plates and boxes on the opposite sides of the main frame, so that the cutting apparatus may be arranged on either side as set forth.
3d, The combination with two sets of plates arranged on opposite sides of the main frame, the curved bar or brace, F, extending from one to the other so as to leave unobstructed space at I, for the free action of the rake as described.
4th, In combination with the loose and shifting main wheels and main cogged gears, the pinions, b, permanently arranged on the shaft, d, so that loose and shifting wheels will, when on either side of the machine, mesh with said pinions, as set forth, whichever end of the machine is foremost.
5th, Hinging the reel-blades to the reel shaft by means of the crossed arms and adjustable heads, hubs, or sockets, for the purpose of enlarging or diminishing the circumference of the reel, substantially as described.
6th, The adjustable pulley plate and adjustable pulleys thereon for the purpose of taking up or letting out the reel belt when the reel is lowered or raised on its support, substantially as described.



PATENTS.
The First Inquiry that presents itself to one who has made any improvement or discovery is: "Can I obtain a Patent?" A positive answer can only be had by presenting a complete application for a Patent to the Commissioner of Patents. An application consists of a Model, Drawings, Petition, Oath, and full Specification. Various official rules and formalities must also be observed. The efforts of the inventor to do all this business himself are generally without success. After a season of waiting and uncertainty and delay, he usually finds himself obliged to apply to a Patent Attorney. The best plan is to solicit proper advice at the beginning. If the parties consulted are honorable men, the inventor may safely confide his ideas to them; they will advise whether the improvement is probably patentable, and will give him all the directions needful to protect his rights. Messrs. MUNN & CO., in connection with the publication of the SCIENTIFIC AMERICAN, have been actively engaged in the business of obtaining patents for over twenty years—nearly a quarter of a century. Over Fifty Thousand inventors have benefited from our counsels. More than one third of all patents granted are obtained by this firm. Those who have made an invention and desire to consult with us are cordially invited to do so. We shall be happy to see them in person, at our office or to advise them by letter. In all cases they may expect from us an honest opinion. For such consultations, opinion, and advice, we make no charge. A pen-and-ink sketch, and a description of the invention should be sent, together with stamps for return postage. Write plainly, do not use pencil nor pale ink. Be brief. No business committed to our care, and all consultations are kept by us secret and strictly confidential. Address MUNN & CO., 37 Park Row, New York.

Preliminary Examination.—In order to obtain a Preliminary Examination, make out a written description of the invention in your own words, and a rough pencil or pen-and-ink sketch. Send these with the fee of \$5 by mail, addressed to MUNN & CO., 37 Park Row, and in due time you will receive an acknowledgment thereof, followed by a written report in regard to the patentability of your improvement. The Preliminary Examination consists of a special search, which we make with great care, among the models and patents at Washington, to ascertain whether the improvement presented is patentable.

In Order to Apply for a Patent, the law requires that a model shall be furnished, not over a foot in any dimension—smaller if possible. Send the model by express, prepaid addressed to Munn & Co., 37 Park Row, New York, together with a description of its operation and merits. On receipt thereof we will examine the invention carefully and advise the party as to its patentability, free of charge. The model should be neatly made of any suitable material, strongly fastened, with out-gine, and neatly painted. The name of the inventor should be engraved or painted upon it. When the invention consists of an improvement upon some other machine, a full working model of the whole machine will not be necessary. But the model must be sufficiently perfect to show, with clearness, the nature and operation of the improvement. New medicines or medical compounds, and useful mixtures of all kinds, are patentable. When the invention consists of a medicine or compound, or a new article of manufacture, or a new composition, samples of the article must be furnished, neatly put up. Also, send us a full statement of the ingredients, proportions, mode of preparation, uses, and merits.

Reissues.—A reissue is granted to the original patentee, his heirs, or the assignees of the entire interest, when by reason of an insufficient or defective specification in the original patent a reissue is made, provided the error has arisen from inadvertence, accident, or mistake, without any fraudulent or deceptive intention. A patentee may, at his option, have in his reissue a separate set of claims for each distinct part of the invention comprehended in his original application, by paying the required fee in each case, and complying with the other requirements of the law, as in original applications. Each division of a reissue constitutes a separate specification, and a separate specification descriptive of the part or parts of the invention claimed in such division; and the drawing may represent only such part or parts. Address MUNN & CO., 37 Park Row, for full particulars.

Interferences.—When each of two or more persons claims to be first inventor of the same thing, an "interference" is declared between them, and a trial is had before the Commissioner. Nor does the fact that one of the parties has already obtained a patent prevent such an interference; for although the Commissioner has no power to cancel a patent already issued, he may, if he finds that another person was the prior inventor, give him sole a patent, and thus place them on an equal footing before the courts and the public.

Caveats.—A caveat gives a limited but immediate protection, and is particularly useful where the inventor is unable to complete, or the model is not ready, or further time is wanted for experiment or study. After a caveat has been filed, the Patent Office will not issue a patent for the same invention to any other person, without giving notice to the caveator, who is then allowed three months time to file an application for a patent. A caveat, to be of any value, should contain a clear and concise description of the invention, so far as it has been completed, illustrated by drawings with the object admits. In order to file a caveat the inventor needs only to send us a letter containing a sketch of the invention, with a description in his own words. Address MUNN & CO., 37 Park Row, New York. Additions can be made to caveats at any time. A caveat runs one year, and can be renewed on payment of \$10 a year for as long a period as desired.

Quick Applications.—When for any reason parties are desirous of applying for Patents or Caveats, in GREAT HASTE, without a moment's loss of time, they have only to write or telegraph us specially to that effect, and we will make special exertions for them. We can prepare and mail the necessary papers at less than an hour's notice, if required.

Foreign Patents.—American inventors should bear in mind that, as a general rule, any invention that is valuable to the patentee in this country is worth equally as much in England and some other foreign countries. Five Patents—American, English, French, Belgian, and Prussian—will secure an inventor exclusive monopoly to his discovery among ONE HUNDRED AND THIRTY MILLIONS of the most intelligent people in the world. The facilities of business and steam communication are such that patents can be obtained abroad by our citizens almost as easily as at home. The majority of all patents taken out by Americans in foreign countries are obtained through the SCIENTIFIC AMERICAN PATENT AGENCY. A circular containing further information as to the scope of the Patent Agency's services in various countries will be furnished on application to Messrs. MUNN & CO. For instructions concerning Foreign Patents, Reissues, Interferences, Hints on Selling Patents, Rules and Proceedings at the Patent Office, the Patent Laws, etc., see our Instruction Book. Sent free by mail on application. Those who receive more than one copy thereof will oblige by presenting them to their friends. Address all communications to MUNN & CO., No. 37 Park Row, New York city. Office in Washington, corner of F and 7th streets.

Patents are granted for Seventeen Years, the following being a schedule of fees:

On filing each caveat.....	\$10
On filing each application for a Patent, except for a design.....	\$15
On issuing each original Patent.....	\$20
On appeal to Commissioner of Patents.....	\$20
On application for Reissue.....	\$30
On application for Extension of Patent.....	\$50
On granting the Extension.....	\$50
On filing a Disclaimer.....	\$10
On filing application for Design (three and a half years).....	\$10
On filing application for Design (seven years).....	\$15
On filing application for Design (fourteen years).....	\$30

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