

of the Specifications, in series chronologically arranged, and drawn up by competent men acquainted with the subject to which each series refers.

Notwithstanding this, the number of inventions still repatented may be drawn from the following analysis of those relating to our subject between the years 1861-1865, inclusive:—

Resin was used on the surface of melted metal as early as A. D. 1786. Silvering glass with silver, which is afterwards electro coated with copper, is referred to in the year 1852. Apparently, the first patent in which machinery was used for tinning iron or steel plates was secured in 1852. A solution of copper carbonate in potassium cyanide was used to electro-deposit copper in 1853. Although Smee sets forth the deposition of copper from its electro-solution in potassium cyanide, it forms the subject of Walcott's patent. Smee, in 1851, and Alexander Watt, in 1863, electro-deposit silver from a solution of its chloride in potassium cyanide. Smee points out the electro-deposition of gold from a solution of its chloride in potassium cyanide. The combination of hydric tartrate, ammonia, and potassium cyanide, was used in 1857 to electro-deposit silver.—Ironmonger (London).

STEAM FIRE ENGINES AND THE PETROLEUM FUEL.

In our issue of Oct. 26th we copied from the Boston Traveller an account of the performances of a steam fire engine in that city using petroleum for fuel. The report was quite favorable to the performance of the engine and to the value of petroleum as a means for generating steam. By reference to that notice on page 265, current volume, our readers will understand the force of the criticism which we have received from a "Looker-on," who is evidently a practical man. He says: The engine had but one stream on and the hose could be compressed by the foot. He stood by the engine half an hour, and during that period it was stopped several times to get up steam. The gage never showed over 60 pounds pressure. If the experiment was as successful as the Traveller represents, our correspondent inquires why was it taken off the next morning.

We have yet to learn of any experiment made with this fuel where its advantages over coal were undeniably demonstrated.

OFFICIAL REPORT OF PATENTS AND CLAIMS

Issued by the United States Patent Office,

FOR THE WEEK ENDING OCTOBER 29, 1867.

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', 'On issuing each original Patent', etc.

In addition to which there are some small revenue-stamp duties. 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 also 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.

70,143.—MOLD FOR ARTIFICIAL TEETH.—A. M. Asay, Philadelphia, Pa. Antedated Oct. 15, 1867.

1st, I claim constructing the mold with oblong depressions, c, for receiving and retaining the bowed end of the staples, b, or end of plates which project from the lingual surface of the teeth for containing them in a vacuum of other plates.

2d, The depressions, d, and e, constructed and arranged substantially as described, for giving increased strength to the rim, f, substantially as set forth.

70,149.—SPRING BOLT FOR DOORS.—George F. Atkinson, Seymour, Conn.

I claim the bolt, A, moving in casing, B, in combination with spring, C, and screw bolt, F, and nut, G, when all are combined and arranged together substantially as and for the purpose described.

70,150.—CONSTRUCTION OF MILK CANS.—Silas O. Avery, Brewster's Station, N. Y.

I claim the making of a can or vessel to contain milk or other fluid substances from the inside or strip of tin or other metal so constructed in the manner and with the devices described as to have between the inner and outer surfaces an air chamber perfectly sealed and impervious to the external effects of atmospheric heat or cold, and which may be applied to all cylindrical vessels composed of tin or other metals and designed to contain fluid substances.

70,151.—TREENAIL.—John Baird, New York City.

I claim the new fastening herein described namely a treenail combined with a metallic socket and wedges applied thereto, substantially as specified.

70,152.—SEWING MACHINE.—George W. Baker (assignor to himself and Warren E. Eason), Hinsdale, N. H.

1st, I claim the combination of the gear wheel, a, and crown gear, k, needle feeding bar, L, carrying the looper, N, and pin, p, as herein described for the purpose specified.

2d, Regulating the lateral or feeding action of the needle feeding bar, L, carrying the looper, by means of a cam or lever, M, made substantially as herein shown and described.

3d, Combining the looper bar, L, and looper, N, with the slotted or adjustable plate, o, spring, q, and lever, M (or its equivalent), all made and operating substantially as and for the purpose herein shown and described.

4th, The take-up device, J, constructed as described when arranged as set forth on the needle bar, D, and when operated by the motions of the same and by the stationary pin, J, in combination with the hinged bar, H, a ratchet, e, and looper bar, L, all made and operating substantially as and for the purpose herein shown and described.

70,153.—FIELD FENCE.—T. H. Bellard, Colbrook, Ohio.

I claim the special arrangement of the bars, A, stakes, B, yoke, C, and rails, E, in the manner as and for the purpose set forth.

70,154.—SINKING WELL TUBING.—K. N. Bennett, Branchport, N. Y.

1st, I claim the point, C, with its slank, B, provided with the cylindrical portion, a, the chamfer, p, b, and the taper, c, and attached to the slat and pin, f, when combined with the tubing, A, in the manner and for the purpose herein set forth.

2d, The combination of the slank, B, of the star-shaped diaphragm, g, arranged and operating in the manner and for the purpose specified.

70,155.—WINDOW SCREEN.—J. G. Bicknell, Cambridgeport, Conn.

I claim the combination of the outer frame, A, with the inner netting covered frame, B, fitted into it and hinged at its ends, all as and for the purpose described.

70,156.—PLATED WARE.—J. C. Blackman, West Meriden, Conn.

I claim the combined arrangement of the spindle, c, adjusting slide, N, and plate, d, the adjusting bolt, y, and adjusting stud, h, arranged substantially as and for the purpose described.

70,159.—GANG PLOW.—G. T. Brewer, Prairie du Rocher, Ill.

I claim the combination and arrangement of the plows, B B1 and B2, with the beams, A A1 and A2, as described and set forth.

70,160.—MACHINE FOR BRAIDING OPEN-WORK BASKETS.—Franklin H. Brown (assignor to himself, Edward F. Pongast and Lemuel H. Piershenn), Chicago, Ill.

1st, I claim the case, R and S, in combination with lever, M, as and for the purposes set forth.

2d, Slides P, having an opening or hole 7, and a groove, 11, as and for the purposes set forth.

3d, Combination of the shaft, E, disk, D, and disk, N, as and for the purposes specified.

4th, Plug, V, F, in combination with pieces, R and S, and lever, G, as and for the purposes specified.

5th, A crank pin, L, piece, K, and rods, k k', in combination with rods, 3 and 4, shaft, E, and sleeves, 9, as and for the purposes specified.

6th, In a braiding machine the movable platform, U, as and for the purposes set forth.

7th, Case, B, in combination with lever, G, and standard, J, as and for the purposes specified.

8th, Spring, C, in combination with lever, M, as set forth and for the purposes specified.

9th, The general construction and arrangement of mechanism, substantially as shown and for the purposes specified.

70,161.—BRUSH.—John Buercky (assignor to himself and Michael Wehr), Overbrook Station, Ohio.

I claim the plate, F, with its arms or guards, ff, and plate, F, with ledges, e, e, in combination with plate, b, arms, a, a, and adjustable handle, c, constructed, arranged and used in the manner and for the purpose described.

70,162.—PORTABLE FENCE.—G. W. Campbell, Pendleton, Ind.

I claim the connecting together of the upper parts of the panels, A, by means of the hooks, j, and the slots, h, in the upper ends of the braces, c, with the rods, k, passing through said slots for the hooks, j, to catch over in combination with the slots, i, in the upper edges of the centers of the base strips, g, g, of the braces to receive the lower ends of the end bars, b, of the panels, substantially as shown and described.

70,163.—CHENILLE.—William Canter (assignor to J. Henry Vogt and J. Jacob Gass), New York City. Antedated Oct. 16, 1867.

I claim the partially uncut chenille made in the manner specified as a new article of manufacture.

70,164.—PICKER FOR LOOMS.—William E. Card and Pardon Andrews, New York City.

1st, I claim the combination of the staff, A, having recesses, E, G, of unequal diameters in its end, h, the loop, p, D, elastic cushion, F, and plate, J, as constructed as herein described and for the purpose specified.

2d, So securing the pad to the staff as to have a side or lateral play, substantially as and for the purpose set forth.

70,165.—CLOTHES DRYER.—R. D. Chandler, Fairhaven, N. J.

I claim the combination of the center post, A, having shoulder plates, E, in combination with the clothes frames, C, having slide spring bolt, D, substantially as and for the purpose described.

70,166.—METHOD FOR REMOVING CARBON FROM GAS RETORTS.—B. E. Chubb, Leavenworth, Kansas.

I claim a method of a jet of steam in the end pipes of gas retorts to cause a draft of air through the retort for the purpose of burning or consuming the deposit of carbon, substantially as described.

70,167.—BEEHIVE.—John Coats, Camden, Ohio.

I claim the herein described extension beehive when constructed and arranged in the manner and for the purpose substantially as set forth.

70,168.—STOVE DRUM.—J. L. Collins and H. C. Bergie, Chicago, Ill.

1st, We claim the reversible partition, F, when provided with lateral flanges and bent at the lower end so as to close one half of the lower opening into the drum, substantially as specified.

2d, The combination and arrangement of the outer case, A, and r movable partition, F, with the collars, E, substantially as and for the purpose specified.

70,169.—DEVICE FOR TRUSS SPRINGS.—Geo. A. Colton, Adrian, Mich., and Albert D. Angell, Coldwater, Mich.

We claim the plate, B b', and adjusting screws, C C', in combination with the hinged sections, A A' a', of the truss spring, substantially as described and for the purpose specified.

70,170.—WASHING MACHINE.—Thomas Courser, Burlington, Iowa.

I claim the combination of an elastic yielding box, B, carrying a concave, b, with a plunger, c, which receives motion from a crank shaft, D, substantially as described.

2d, The combination of a washboard, E, pressure board, G G', and plunger, c, with the concave bed, b, arranged to operate substantially as described.

3d, So constructing and arranging the plunger, c, and combining it with a concave bed, b, that the clothes are raised out of the water and compressed at every forward stroke of said plunger, substantially as described.

70,171.—SHUTTLE.—George L. Crandal, Pitcher, N. Y.

1st, I claim the curved tension spring, a, in combination with the curved fixed wire, e, when arranged and operating in a shuttle, substantially as and for the purpose specified.

2d, The inclined groove, m, in the shell of the shuttle opposite the eye, c, for guiding the threading wire, p, as set forth.

70,172.—CONNECTING LINK.—Robert Creuzbaur N. Y. City.

1st, I claim an O connecting link having a closing piece pivoted to its substantially as described.

2d, Applying the pivoted closing piece of the O-link to serve as a means for strengthening the main portion of the link, substantially as described.

3d, The combination of the pivoted closing piece, B, spring, E, and link part, A, constructed substantially as described.

70,173.—SHUTTER BOWING BOLT.—J. M. and M. L. Cummings, Philadelphia, Pa. Antedated Oct. 15, 1867.

1st, I claim a shackle bolt having a jointed end of its slide, C, an T-piece, c', so as to operate in combination with the case, A, substantially and for the purpose described.

2d, We also claim in combination with the slide, C, having a jointed end and operating in the case, A, substantially as described, the adjustable thumb and finger piece, c, and the slotted hole, b, in the plate, B, substantially as and for the purpose set forth and described.

70,174.—BUNK FOR LOGGING SLEIGH.—James P. Davis, Siles, Wis.

I claim my improved logging bunk, A, the ends of which are slotted vertically and which has rollers, B, at the end to fit within the said slots and set or near their inner ends, substantially as herein shown and described and for the purpose set forth.

70,175.—LEATHER SPLITTING MACHINE.—Alfred Dawes, Hudson, Mass.

I claim the leather splitting machine constructed, arranged, and operating substantially as described.

Also, the compound roll consisting of the central roll or shaft, the sleeve of yielding elastic material covering said roll, and the outer rings of hard material arranged to operate as set forth.

Also, the construction of a cylinder cam in two separate pieces, adjustable with respect to each other substantially as and for the purpose specified.

70,176.—MANUFACTURE OF ENAMELED AND JAPANESE LEATHER.—Isabod W. Dawson, Newark, N. J.

I claim leather the Japan or composition of which is applied after the same has been subjected to a powerful stretching action, as a new article of manufacture.

70,177.—PNEUMATIC SPRING.—W. A. Driggs, Fort Wayne, Ind.

I claim the construction of the pneumatic spring consisting of the case, A, and having an eccentric cylinder, B, and a cover, J, said cylinder containing the fluid, and having a shackle bolt having a jointed end of its slide, C, and provided with the rod passing through the cover, J, as herein set forth, for the purpose specified.

70,178.—WASHING MACHINE.—H. W. Driver, Havana, Ill.

I claim the drum, B, rollers, I I, and rubbing board, N, when arranged in connection and combination with each other, substantially as and for the purpose described.

70,179.—CRADLE.—D. A. Dunham, Pilatka, Fla.

I claim a child's cradle, A, formed of a barrel with the hoops, b, b, projecting over the ends, and the rib shaped rockers, c, c, lying close underneath, arranged substantially as described.

70,180.—HOISTING MACHINE.—Jacob Edson, Boston, Mass.

I claim the arrangement and combination of the lever pawl, G, the brake, H, the windlass barrel, A, the brake pulley, I, the ratchet, D, the shaft, B, and the frame of gears, e, c, c, or the equivalent thereof, such gears being applied to the shaft, ratchet, and windlass barrel, substantially as specified.

I also claim the combination of the screw arm, I, an its nut, j, or nuts, k, i, with the brake, H, and the lever pawl, G, substantially as described.

70,181.—CLOTHES WRINGER.—T. E. Emerson, Seville, Ohio.

I claim the shaft, A, collars, C, provided with notches, D, when said collars and shaft are constructed in one entire piece, in combination with the rod, E, canvas, F, and rubber, G, in the manner as and for the purpose set forth.

70,182.—PAINT BRUSH.—Joseph M. Estabrook, Milford Mass.

1st, I claim the arrangement of the rings, D and E having flanges or ends of unequal size, a and b, respectively, and being combined with the handle, A, having the ferrule, B, and a circular pin, c, all made and operating substantially as herein shown and described.

2d, Making the ferrule, B, and pin, c, of one piece of sheet metal, substantially as herein shown and described.

70,183.—SETTING TIRES ON WHEELS.—Anders Fagerstrom, Wyoming, Pa.

I claim the notched bars, F, F, in combination with the hooked or bent ends, a, a, of the tire, B, and the bar, G, fitted between the bars, F, F, all being arranged and applied to the wheel substantially in the manner as and for the purpose set forth.

70,184.—GAS GENERATOR.—Wathew Falcon, Bloomington, Ill.

I claim the combination of the fountain, C, connected to the generator, B, by means of the tube, d, with the sack, A, provided for different kinds of nozzles, substantially as herein shown and described and for the purposes set forth.

70,185.—ANTI-KICKING ATTACHMENT FOR HORSES.—O. H. P. Fisher, New York City.

I claim the strap, G, applied to the thills, A, and bit rings, a', as shown, in combination with the straps, b, b, bit rings, a, and rings, C', all arranged to operate substantially as and for the purpose set forth.

70,186.—HAND LOOM.—G. W. Firestone, Fredericksburg, O.

I claim the combination of the lathe, E, with the sweeps, F, F, shaft, G, treadles, H, cords, K, K, and pickstaves, M, M, substantially as and for the purpose specified.

70,187.—RAILROAD SWITCH.—Thomas Fogg, Detroit, Mich.

I claim the switch composed of the three rails, C D E, at each side, in combination with the rigid tongues, I, J, yielding main rails, A' A', and guard rails, K, arranged to operate in the manner substantially as and for the purpose set forth.

I further claim the combination of the springs, L, with the rails A' A', when the latter are used in connection with the tongues, I, J, and the switch, substantially as and for the purpose specified.

70,188.—MACHINE FOR OPENING CANS.—Wm. H. Forker, Meadville, Pa.

I claim the handle, A, with the base, R, and the handle or lever, B, constructed as described, when the same are in combination with the knife, C, C, and the point, F, as described and for the purpose set forth.

70,189.—HAY STACKER.—J. Forsher and J. C. McCand, Unionville Center, Ohio.

We claim the shaft, a, supported by standard, b, upon the carriage, c, and having at its top the revolving cross piece, d, with shaves, e, over which lattice pass ropes, h, attached to windlasses, k, and forks, i, the whole being constructed and arranged as and for the purpose described.

70,190.—CANDS FOR HOOKS AND EYES.—Malby Fowler, Northford, Conn.

I claim the car, J, A, provided with two or more series of punctures, a, the convex side of each series facing each other, and provided with the tongue p, fitting over the hooks and eyes, as herein set forth for the purpose specified.

70,191.—SEAT FOR CHAMBER VESSELS.—Isaac Freed, Harrisburg, Pa. assignor to Wm. Gatty, Camden, N. J.

I claim the arrangement of the springs, C, the boards, A B, and the rims, D E, as and for the purposes specified.

70,192.—MACHINE FOR CUTTING WOOD GEAR.—Thomas F. Freeman (assignor to himself and Wm. H. Abbott), Brooklyn, N. Y.

I claim, 1st, A pair of revolving cutters set upon the same axis of rotation, but capable of being moved toward or away from each other, in combination with guides or slides, substantially as specified, for directing the cutters in forming gear teeth, as set forth.

2d, The arrangement of the slides, q, r, arms, n, p, frame, m, slide, c, and bed, b, in combination with the rotary cutters, b b, mounted and actuated as set forth.

70,193.—CAPPING SCREWS.—John Gardner, New Haven, Ct.

1st, I claim the combination of the cap, and screw stem fast to the cap, with the screw head and socket or orifice formed therein for the reception of the said stem, under the arrangement and for the purpose set forth.

2d, In screws in which the cap and its central screw stem are combined with the head of the screw as described, I claim making the under surface of the said cap concave, substantially as and for the purpose set forth.

70,194.—HAIR BRUSH.—J. N. George, Boston, and Jacob R. Saubert, Waltham, Mass.

We claim the combination of a hair brush of a sponge, C, or equivalent absorbent material, substantially as and for the purpose specified.

70,195.—CORN SHELLER.—George Goeway (assignor to himself and Howard Eaton), Philadelphia, Pa.

1st, I claim the ribs, l, for the purpose of nailing the ears of corn, while being shelled, to revolve freely and not clog.

2d, The longitudinal flange, m, for the purpose of compelling the ears of corn to revolve and prevent their getting crosswise in the machine while being shelled.

3d, The concave, c, formed in sections with diagonal toothed bars, each section acting independently of the other sections and co-responding in width with the spaces between any two of the longitudinal flanges, k, at their outer edges, substantially as set forth.

4th, The combination of the cylinder, b, concave, c, and springs, d, in the manner and for the purpose substantially as set forth.

70,196.—PORTABLE DUMPING AND LOADING MACHINE.—William Goff, Big Flat, N. Y.

1st, I claim the spring, G, operated by lever, K, and system of levers, L, substantially as described, in combination with an incline or inclined track, D, and rest, f, and their respective equivalent, substantially as herein shown and described.

2d, The folding apron, C, hinged at c, in combination with a device for dumping and loading, substantially as above set forth and described.

3d, The combination of the folding apron, H, hinged at h, also in combination with a device for dumping and loading, substantially as above set forth and described.

70,197.—WHIFFLETREE, TRACE CATCH, OR COCKEYE.—Wm. W. Gordon, Delhi, N. Y.

1st, I claim the stud, key, or pin, a, Figs. 1, 2, 3, and 4, in combination with a whiffletree tip or trace catch, substantially as set forth.

2d, I claim the slot, e, in combination with the cockeye, c, Figs. 1 and 5 when constructed in the manner and for the purposes set forth.

3d, I claim the combination of the stud, f, 2, and slot, e, Fig. 1, when constructed in the manner and for the purposes set forth in the above specification.

70,198.—VENTILATING MILLSTONES.—John Gray, Dubuque, Iowa.

1st, I claim the fan blower, E, arranged in relation with the box, D, constructed as described, spouts, C, C, and millstones, s, herein set forth, for the purpose specified.

2d, The box, D, constructed as described, provided with the discharge spouts, G, G, at each end, and having the cleaning sweep, g, operated by means of the cord, h, as herein set forth and for the purpose specified.

3d, The oblong box, D, inclined spouts, C, and fan blow, r, k, arranged in relation with each other and with the millstone, s, as herein set forth for the purpose specified.

70,199.—HATCHET DRILL.—John Gray, Uitchfield, Ill.

I claim the combination of the feeding screw, c, with its head, C2, the sliding collar, d, the yielding collar, C3, the drill spindle, A, with its dove tail, a, and the cylindrical head D, with its flange, d', substantially as described.

70,200.—FURNACES FOR STEAM BOILERS.—Jacob Green, Northampton, Pa.

1st, I claim the ash pit, A, with its arched top composed partly of brick and partly of a cast iron key, when the latter is constructed to form a bearer for the grate bars, all substantially as herein set forth.

2d, The cast iron key, F, its side pieces, a, a, and notched ribs, l, in combination with the movable bars, m, for the purpose described.

70,201.—BAG TIE.—Joseph Grimes, Alexandria, Va., assignor to himself and F. A. Reed.

I claim the combination of the lever, c, provided with the teeth, c', with the links, a, a', and clevis, b, arranged substantially as described.

70,202.—SAFE.—Joseph L. Hall, Cincinnati, Ohio.

I claim the joining together two or more metallic plates by means of dovetailed grooves, and lemons at their edges or otherwise, as herein described, when the said plates are used in the construction of burglar proof safes, vaults, and other secure receptacles.

2d, The dovetailed, grooved, and notched angle irons, G, when the same are used for securing together the corners of safes, vaults, or other secure receptacles, as herein described and for the purposes specified.

3d, The dovetailed plates, B D, or their equivalents, in combination with the dovetailed, grooved and tenoned angle irons, G, and the tapered arbors, c, when the same are constructed and arranged for burglar proof safes, vaults, and other secure receptacles, substantially as and for the purpose herein described and set forth.

70,203.—LIGHTNING ARRESTER FOR TELEGRAPHS.—Wm. H. Hall, Chicago, Ill.

1st, I claim supporting the connecting plate, G, over the ground plate, A, with any non-conducting substance, c, between them, by means of the plate B, substantially as specified.

2d, Connecting the plate, B, to the ground plate, A, adjustably by means of the posts, E, and slides, D, substantially as and for the purposes specified.

3d, The non-conductor plate, B, when supported and supporting the connecting plates or disks, G, substantially as specified and shown.

4th, The non-conducting supports, a, substantially as and for the purposes specified.

5th, The combination of the ground plate, A, and posts, E, with the non-conducting plate, B, non-conducting supports, a, and collars or slides, D, substantially as specified.

6th, The combination of the ground plate, A, posts, C, and standards, E, with the plate, B, connecting plate, G, post or posts, F, and slides or collars D, substantially as and for the purposes specified.

70,204.—TRY SQUARES.—Eelson Hamblin, Flatbush, N. Y.

I claim the combination of the plates, C and D, with the blade or