



ISSUED FROM THE U. S. PATENT OFFICE FOR THE WEEK ENDING APRIL 3, 1866. Reported Officially for the Scientific American

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53,552.—Quartz Crusher.—S. F. Ambler, Tuolumne Co., Cal. I claim the strip or flange, c, attached to the mortar box, A, of a float quartz battery, substantially as shown, for the purposes set forth.

53,553.—Weighing and Measuring Grain.—D. D. Armes, Decorah, Iowa: First, I claim the combination of the measuring boxes, C, D, slides, R, R', and dials, d, and arms, e, e, substantially as and for the purpose set forth.

53,554.—Safeguard for Watches.—Eugene F. Badgley, Brooklyn, N. Y.: First, I claim the attachment to a watch or pocket case of a clamp or ring, when constructed in the manner and for the purpose as described.

53,555.—Gage Cock.—Phineas Ball, Worcester Mass.: First, I claim the combination and arrangement within the chamber, V, of the filter, s, with the water way, l, and port, n, as and for the purpose set forth.

53,556.—Carriage Spring, etc.—M. L. Ballard, Canton, Ohio: I claim the uniting and holding the ends or plates of a spring by means of an independent cap, and bolt or rivet, made and applied, substantially in the manner and for the purpose described.

53,557.—Street Sprinkler.—L. F. Bancroft, Worcester, Mass.: I claim making the upper part of the water reservoir, A, circular, and the bottom flat, in combination with the use of the clamping bands, L, and tightening nuts, f.

53,558.—Tool for Trimming Boot and Shoe Heels.—S. C. Bedell, Red Bank, N. J. Antedated March 30, 1866: I claim a tool for trimming boot or shoe heels, having the general construction and arrangement herein described, and either with or without an adjustable cutter socket, operated as specified.

53,559.—Plows.—Alonzo T. Boon, Galesburg, Ill.: First, I claim the spiral cam, C, in connection with the shaft, e, for operating either a mole or subsoil plow, substantially in the manner and for the purpose herein set forth.

53,560.—Car Coupling.—John W. Boughton, Appleton, Wis.: I claim the combination of the shouldered tumbler, obliquely set coupling pin and corresponding opening, operating substantially as described and represented.

53,561.—Social Game.—Milton Bradley, Springfield, Mass. Antedated March 30, 1866: I claim as an article of manufacture, the social game, substantially as herein set forth.

53,562.—Letter Boxes.—W. H. Bramble, Decatur, Ill. Antedated March 30, 1866: I claim the use of hinged or adjustable doors or lights for inside office boxes, when said doors or lights are operated from the post of the office or box for the purpose of facilitating the delivery of letters, as herein specified.

53,563.—Manufacture of Bronze Powder.—Leopold Brandeis, Brooklyn, N. Y.: I claim the production of grains, scrapings, filings, shavings or borings from copper, tin, etc., their alloys by proper tools, like a turning lathe or other tool, to flatten these particles of metal by means of rollers or stamper with polished steel or chilled surface, for the purpose of getting them bright and brilliant to manufacture therefrom bronze powder in any way used for the purpose of reducing these small flat fragments to still finer ones, always offering a bright surface, just the same as if the metal had passed previous through all the processes of repeated hammering, annealing, rolling, beatings, etc., etc.

53,564.—Drill Cable Meters.—L. C. Bristol, Victor, N. Y.: I claim in combination with the drill cable or its equivalent, of well boring apparatus, a meter having a traction wheel or pulley, substantially as shown, for the purposes herein set forth.

53,565.—Plowshare.—P. H. Bronson, East Avon, N. Y.: I claim securing the detachable false point, P, to the shares or plows, by means of the screw bolt, S, and the dove-tail locking lips, a and c, substantially in the manner and for the purposes herein set forth.

53,566.—Step Ladder.—Charles W. Brown, Newark, N. J.: I claim the arched brace of wood in one piece, spanning the ladder frame, substantially as specified.

53,567.—Corn Sheller.—William R. Burns, Lancaster, Pa.: I claim the combination of the adjustable shelling bar, with its slots, P, P', and the concave, double-inclined bottom, P', P', with its opening, V, under the spiked cylinder, G, together with the

vibrating sieve, S, shaking attachment, L, M and D, fan, B, and the C, when these several parts are arranged and operated substantially in the manner described for the purpose specified.

53,568.—Carriage.—Clarke T. Bush, Rensselaerville, N. Y.: I claim the arrangement and combination of the side springs, e, e, yielding parts, d, diagonal braces, h, h', slot or loop, i, hinges, p, p, substantially as and for the purposes set forth.

53,569.—Method of Extracting Gold and Silver from Ores.—Charles F. Carpuster, Louisville, Ky.: I claim the manner of using atmospheric air for the purpose of facilitating the extraction of gold and silver from ores, causing a separation between gold or silver and the ores of base metals, and consists in introducing the said atmospheric air between the flame of a reverberating furnace and the ores containing gold or silver which are spread upon the hearth of the furnace.

53,570.—Valve Gear for Oscillating Engines.—Henry T. Carter, Portland, Me.: I claim the rocking valve, S, arm, a, in combination with a slotted link upon the trunnion box cap, in the manner and for the purpose herein set forth.

53,571.—Means for Attaching Legs to Music Stools.—Elijah D. Castelov, Meriden, Conn.: I claim the combination of the pillar, A, B, with the blocks or supports, C, D, and the hubs, e, e, which are made to fit and the disc to hold, substantially as herein described.

53,572.—Spring Power for Propelling Carriages.—Wm. K. Chase, Charlestown, Mass.: I claim the springs, K, K, one or more, applied to a drum, I, placed loosely on a shaft, E, to which wheels, F, F, are attached, in connection with the pinions, D, on the hubs, a, of the hind wheels of the wagon, the trunnion, S, H and J, on drum, I, the yokes, L, L, lever, M, and sliding rod, N, and the pawls, b, b, on the wheels, G, G, of shaft, E, all arranged and applied to operate in the manner substantially as and for the purpose specified.

53,573.—Stair Carpet Pad.—George W. Chipman, Melrose, Mass.: I claim as a new article of manufacture, the stair carpet pad constructed of one or more layers, consisting of fibrous matter covered on each side with sheets of paper and enveloped in a closed case of textile material, when the whole is quilted at several points through all the materials composing the pad.

53,574.—Railway Car Coupling.—Thomas J. Christy, Noblesville, Ind.: I claim the drop latch, L, when the same is constructed substantially as shown, with pivoted slot, p, and inclines, d and l, each performing the offices described, all constituting a self-acting car coupling, as set forth in the foregoing specification.

53,575.—Grain Drier.—George Clark, Buffalo, N. Y.: First, I claim a closed or air-tight grain drying kiln or chamber, combined and operating in connection with air-heating furnaces, and blowing air pumps or fans, for the purpose and in the manner substantially as described.

53,576.—Broom Head.—James O. Clay, Hudson, Wis.: First, I claim a broom head or frame consisting of the piece, B, being moved in and out of gear with the pinions, D, when said arms, a and b, fitting in the openings in said socket, said piece being hinged at a, as shown and described.

53,577.—Rotary Plows.—Levi H. Colborn, Chicago, Ill.: First, I claim giving the helical screw plow blades of a rotary plow, in addition to their screw form, an additional curvature from the periphery toward the centre, beginning at or near the entering edge, and gradually increasing toward the leaving edge, the same being a development of the mold board of the common plow around an axis of rotation.

53,578.—Gig Tree.—Edward A. Cooper, Lancaster, N. Y.: First, The square raised shank, C, on the check hook, E, and corresponding mortise in the tree plate, in combination with a binding screw or bolt, as described.

53,579.—Bed Spring.—Delos V. Crandall, Canton, Iowa: I claim inserting the coiled wire in the aperture, C, of the slat, B, and fastening it by the stopper, D, as herein described and for the purposes set forth.

53,580.—Mangle and Wringer.—David Cumming, Jr., New York City: I claim the use of the abutments, g, g, in combination with two or more rollers, arranged substantially as described and for the purposes set forth.

53,581.—Apparatus for Distilling Spirits.—H. G. Dayton, Maysville, Ky.: First, The evaporating pan, E, with a steam jacket, a, in combination with rose, i, coil, F, steam drum, B, and still, A, constructed and operating substantially as and for the purpose described.

53,582.—Bullets for Small Arms.—John G. De Coursey, Philadelphia, Pa.: I claim the within-described projectile for small arms, the same being composed of the central tubular lining of tinned iron, round and to which is cast a harder exterior, tapering in front as described, in combination with a hard metal washer, B, bearing against the rear of the said tube, the whole being otherwise constructed as set forth, for the purpose specified.

53,583.—Manufacture of White Lead.—Clarence Delafield, Factoryville, N. Y.: I claim, First, Uniting or combining a solution of the nitrate of lead or its equivalent for this purpose, made substantially as described for the purpose of producing the white lead of commerce.

53,584.—Reservoir for Wells.—R. H. Dewey and E. M. Tillotson, Pittsfield, Mass.: We claim in its application as a buried water reservoir in the bottom of a well, the filtering chamber consisting of a perforated cylinder whose intervening spaces are filled with filtering material, the central space forming a chamber from which the water supply is drawn by an ordinary elevating device, as described.

53,585.—Door Latch.—Henry L. De Zeng, Geneva, N. Y.: I claim, First, The sliding latch, A, and bolt, B, constructed substantially as specified.

53,586.—Rock Drill.—Julius C. Dickey, New York City: I claim the central drill bit, B, made to answer the purpose of a reamer in combination with the drill bits, A and C, substantially as set forth.

53,587.—Typographic Printing.—John Donlevy, New York City: I claim, First, The utilizing the spaces between the letters and lines of text, left blank in ordinary printing, by filling such spaces, by means of utilizing lines, with a pictorial background, divided into sections and adapted to arrange alternately or otherwise, with the lines of text, spaces, quatrats, etc., substantially as and for the purposes set forth.

53,588.—Axle Box.—D. H. Dotterer, Philadelphia, Pa.: I claim, First, Fitting the sections of packing of a journal box in such manner that they may be adjusted from the outside of the box, substantially as described.

53,589.—Pen for Weaning Calves.—J. B. Dow, Davenport, Iowa: I claim the calf-weaning and stall-feeding pen, constructed as herein described.

53,590.—Process for Amalgamating Gold, Etc.—F. N. Du Bois, Black Hawk, Colorado: I claim the use of an amalgam of gold and mercury, substantially of such consistency as to render it adaptable for the purpose set forth.

53,591.—Churn.—Daniel Dinton, Brooklyn, N. Y.: I claim the rotary dasher, B, constructed with an open center, substantially as shown, in combination with the plates or gatherers, all arranged substantially in the manner as and for the purpose specified.

53,592.—Cultivator.—Solomon Dwight, Rockford, Ill.: I claim the combination of the rigid tongue, the curved-side pieces, the adjustable rear and middle cross beams, the adjustable handles, the swivelling plows, and the yielding-spring corn guard, when constructed, arranged, and operating as described.

53,593.—Railway Switch.—Stephen A. Emery and Frederick A. Prince, Portland, Maine: We claim, First, The peculiar construction of the lever, d, with wings, in manner above described, or their equivalents.

53,594.—Apparatus for Draining Cellars.—Augustus F. Erich, Baltimore, Md.: I claim, First, The combination with the stationary vessel, A, provided with a pipe leading from the hydrant or other water supply, and with a discharge pipe, of the air-conducting pipe, E, vessel, G, discharge pipe or pipes, H, H', and float, I, substantially as and for the purposes set forth.

53,595.—Medicine.—W. H. Farnham, Sparta, Wis.: I claim the medical compound of the several ingredients mixed together or in about the proportions stated, and for the purpose specified.

53,596.—Steam Engine.—Isaac Ferris, Cincinnati, Ohio: I claim, First, The open-ended cylinders, A, A', B, B', C, C', and pistons, D, D', E, E', arranged, connected and operating substantially in the manner, and for the purpose set forth.

53,597.—Mash Machine.—Jacob T. Forrer, Peoria, Ill.: First, I claim the combination of the shaft, G, and post, D, with the tub, A, substantially as described and for the purpose set forth.

53,598.—Grinding Cylinders of Paper Engines.—Clinton T. Frost, Medfield, Mass.: I claim the application of the grinding plates, a, to the cylinder of paper engines in such manner that they may be moved outwardly from its circumference, and secured in position, as occasion may require, as hereinbefore explained.

53,599.—Rock Drill.—George P. Ganster, New York City: First, I claim the combination and arrangement of the flyer, C, rat bet wheel, D, pawl, o, rock shaft, Q, rod, T, and a crank, S, on the axle, S', of the roller, S'', or its equivalent, substantially as and for the purpose herein specified.

53,600.—Brick Machine.—John George and Henry Hague, Jackson, Mich.: We claim the attaching of the grinding or tempering arms, J, of

the pug mill of a brick press to a tubular bar shaft, F, fitted loosely on the shaft, B, which has the presser attached and driving said shaft by means of gearing, so arranged that the shaft, F, will rotate more rapidly than the shaft, B, substantially as and for the purpose herein set forth.

53,601.—Shutter and Blind Fastening.—Charles H. Gilman, Portland, Me.: I claim the combination and arrangement as herein set forth of the plate, D, D, cylinder, E, packing, B, bar, A, with a catch or staple, all substantially as and for the purpose described.

53,602.—Rock Drill.—Lucius M. Gilmore, Janesville, Wis.: I claim the drill or built tool, F, when constructed and arranged substantially as and for the purpose set forth.

53,603.—Grinding Mill.—Solomon Godfrey, Peoria, Ill.: I claim the combination of the openings, D and E, and the flange, C, with the rim, A, and the runner, substantially in the manner and for the purpose described.

53,604.—Washing Machine.—J. T. Greenwood, Sen., Beloit, Wis. Antedated March 13, 1866: I claim the crutchets, D, D, and the application of the regulating device, consisting of the levers, E, E, screw rods, H, H, thumb nuts, h, h, plate, i, i, and the springs, F, F, when constructed substantially as herein described and for the purpose set forth.

53,605.—Stovepipe Damper.—Demas L. Grover, Groton, N. Y.: First, I claim the plates, C and B, the pin, F, and stays, G, when constructed and operated in the manner described and for the purpose specified.

53,606.—Filtering Apparatus.—John P. Gruber, New York City: First, I claim the combination of an exhausting and forcing air pump with a filtering vessel, which is constructed with a central filtering partition, a movable cover, and with pipes, j, k, leading from the chambers, E, F, to the pump chambers, substantially as described.

53,607.—Railroad Station Indicator.—Parson E. and John P. Gruger, Lancaster, Pa.: I claim the arrangement of the bolt, D, springs, S, S, spring case, F, pawls or clicks, C, C, in combination with the reversely-toothed ratchet, B, B, on the same shaft, Q, that carries the cog wheel, M, when these parts are fixed upon a plate, A, constituting one end of the box or indicator, transferable from one rod, N, to the other, and actuated substantially in the manner specified.

53,608.—Photography.—C. A. Guillette (assignor to himself and George P. Towle), Boston, Mass.: I claim making a negative from which to print a photographic likeness of a person with a fac-simile of an autographic signature, forming part of such photograph, by means of a card or tablet having the signature written upon it, and placed upon some part of the person, and so that the autograph shall be taken with the person in the negative picture and without showing the outline of the card or tablet, as hereinabove specified.

53,609.—Rotary Blower.—Frederick Hainsworth, Chicago, Ill.: First, I claim the employment of a rotary series of bellows, when arranged and operated substantially as herein described.

53,610.—Preparing Timber for Cutting into Veneers.—Thomas Hanvey, Elma, N. Y.: I claim preparing logs or blocks of wood for cutting or slicing into boards, veneers and the like, by the process of steam boiling in tanks or vats of water, substantially as herein described.

53,611.—Hominy Mill.—James Hayden, Philadelphia, Pa.: First, I claim the combination of the adjustable, slide, W, with the shaker, Q, for regulating the supply of corn from the hopper, the said slide being arranged and operated substantially as described.

53,612.—Vulcanizing Vessels for Dentists' Use.—George E. Hayes, Buffalo, N. Y.: I claim a vulcanizing vessel constructed of an outer shell and an inner lining, substantially as herein specified, whereby on the lining being corroded through steam may escape between it and the shell, as herein set forth.

53,613.—Steam Engine.—William M. Henderson, Philadelphia, Pa.: First, I claim the union of the valve chest with the steam cylinder in such manner that the roof of the main steam piston is formed by the bottom of the valve chest, in the manner and for the purposes represented.

53,614.—Hay and Straw Cutter.—William Henshaw, Spencer, Mass.: First, I claim the cast-iron knife frame, G, made in the peculiar manner described, as shown in the drawings.

53,615.—Paper Bosom Machine.—Sylvester B. Hill, Chicopee, Mass.: First, I claim forming ornamented paper shirt bosoms by passing the prepared paper through or between rollers, constructed substantially as and for the purpose set forth.

53,616.—Fence.—W. D. Hillis, Elgin, Ill.: First, I claim the wire or rod flattened at intervals, as described for the purposes set forth.

Third, I claim the mode of fastening the stringers, by means of their bent ends in the ring, I, secured by the spike, substantially as described and represented.

53,617.—Steam Generator.—Birdsill Holly, Lockport, N. Y.: I claim the combination and arrangement of the vertically placed tubes, C, C, with the furnace, B, flues, d, d, and waterjacket, a, substantially in the manner and for the purposes described.

53,618.—Stave Machine.—Albert H. Hook, New York City: I claim the clamp so constructed as to enable the jointing tools and the howlitz, crozing and chamfering to perform their office upon the stave, without removing the stave from the clamp, said clamp being constructed for these purposes, substantially as herein set forth.

53,619.—Button Hole Cutter.—James A. and Henry A. House, Bridgeport, Conn.: First, I claim the axially adjustable cutter, substantially as described for cutting button holes at any desired angle to the selvage.

53,620.—Folding Bedstead.—Tyler Howe, Cambridgeport, Mass.: I claim the combination of the brace, C, constructed substantially as described, with the rail, A, the leg, B, and cross brace, E, the whole being arranged in manner and so as to operate together as specified.

53,621.—Water Elevator.—Edwin Hoyt, Stamford, Conn.: First, I claim the friction wheel, D, having either a bevelled or plain periphery, in combination with the brake on the end of the crank, F, constructed and arranged substantially as described.

53,622.—Pen.—Thomas S. Hudson, East Cambridge, Mass.: I claim an improvement thereon, the application of the ruler guard, A, to the pen carrier, J, by means of a tube, B, to encompass and slide on the said carrier, such tube being furnished with a slot, C, or its equivalent, to operate with a stop, D, projecting from the carrier, as set forth.

53,623.—Lamp Burner.—James G. Hunt, Cincinnati, Ohio: First, I claim the construction, arrangement and combination of the shell, A, g. diaphragm, D, tube, G, wick tube, E, and lamp collar, C, substantially in the manner described.

53,624.—Broom Head.—John E. Hunter, Mechanicsburg, Ohio: I claim the construction of the case for receiving the broom corn in combination with the toothed jambs or rings, C, and support, F, attached to the side of the said ring, substantially in the manner and for the purpose set forth.

53,625.—Process for Making Steel.—Thomas H. Jenkins, New York City: I claim the process of making steel by using what is known as malleable cast iron, which has been subjected while in the heated state to the action of a solution, substantially such as described and melting it in admixture with wrought iron in a crucible or equivalent therefor, substantially as described.

53,626.—Washing Machine.—Watson Kenderdine, Lumberville, Pa.: First, I claim the combination of the rotary cylinder, A, with a surface of cone-shaped fluted rollers, C, and the adjustable concave, G, operating substantially as described.

53,627.—Stop Cock.—Martin C. Kilgore, Washington, Iowa: I claim a stop cock in two halves, united by screws or bolts for holding the parts together or loosening them, and having the plug through which the fluid passes made straight and with a groove or V, in its surface to prevent its moving endwise, with a lining in the bore of the metal having on it a projection answering to the groove or V, in the plug.

53,628.—Suspended.—53,629.—Blow Pipe.—N. W. Kingsley, New York City: I claim a blow pipe having a valve for regulating the supply of gas hereto arranged, and operating substantially in the manner and for the purpose described.

53,630.—Piston for Deep Well Pumps.—Elisha Y. Kneeland, Buffalo, N. Y.: First, I claim a piston valve constructed in sections, B, B', B2, with intermediate leather crown packing, f, and guiding rod, h, for the purposes and substantially as described.

53,631.—Process for Molding Articles from Paper Pulp.—Edward H. Knight, Washington, D. C.: I claim the process of making boxes and other hollow paper articles, substantially as described.

53,632.—Chamber Bucket.—Wm. W. Knight, Philadelphia, Pa. Antedated March 23, 1866: I claim the seat, D, with its plate, E, adapted to and combined with the stop can, A, and its plate, b, in the manner described.

53,633.—Fluting Machine.—Susan Knox and W. D. Corrister, New York City: We claim a fluting machine having the upper roller hung in a horizontal spring swinging frame, substantially in the manner described for the purpose specified.

53,634.—Portable Feed Rack.—Casper W. Lamb, Columbia City, Ind.: I claim the combination and arrangement of the different parts of my farm-stock portable feed rack and shed, substantially as described and illustrated.

53,635.—Seed Planter.—James N. Lane, Bethel, Ky.: First, I claim the scrapers, I, when hinged to the frame, and disposed diagonally to the line of draft, substantially as set forth.

53,636.—Purifying Isinglass.—Jesse Lewis and Isaac Stanwood, Gloucester, Mass.: We claim separating from the swimming bladder or sound of the hake, or other fishes from which isinglass is usually made, the impurities by boiling, substantially as and for the purpose set forth.

53,637.—Hinge.—John R. Lomas, West Haven, Conn.: I claim a hinge constructed substantially as herein set forth.

53,638.—Tag Needle.—Oscar Low, Chelsea, Mass.: I claim my improved tag needle, made substantially in the manner and for the purpose as above set forth.

53,639.—Car Coupling.—Alpheus A. Lusk and Samuel A. Wells, Wooster, Ohio: We claim a projection at the eye of the hook to prevent it from falling entirely back so that it will couple in any position.

53,640.—Manufacture of Steel for Safes.—Walter K. Marvin, New York City: I claim as a new metal or alloy the composition herein described, the same consisting of chromium cast iron and wrought iron compounded in the manner and proportions herein before set forth.

53,641.—Distilling Pine Wood.—James A. Mattocks, Swansboro, N. C.: I claim the construction and arrangement of a retort, protected by sheet iron or other material, furnaces, flues, sliding grates and the application of heat to the upper surface of the tar, as shown in the accompanying drawings and specifications.

53,642.—Machine for Cutting and Stoning Peaches.—W. D. Mayfield, Ashley, Ill.: First, I claim the feed wheels, r and u, in combination with the knives or cutters, a' a', arranged with regard to each other and operating substantially in the manner described.

53,643.—Manufacture of Hard Rubber.—Charles McBurney, Roxbury, Mass.: I claim the use of waste rubber for the production of hard rubber, as set forth.

53,644.—Flour Sifter.—William C. McGill, Cincinnati, Ohio: I claim the arrangement of vibrating sweep, I, with flexible and jointed scraper, J, and concave sieve, B, substantially as set forth.

53,645.—Soap Mold.—John McRoberts, New Orleans, La.: I claim the mold constructed of two parts, G, H, of V' form in their transverse section and placed in an inclined position so that said parts, when in contact, will form a rectangular box having an inclined position and resting on one angle of crown, the upper part, H, being movable and all arranged to operate in the manner substantially as and for the purpose set forth.

53,646.—Bleaching Stained Cotton.—James A. Meany, Brooklyn, N. Y.: I claim the process of cleaning and bleaching stained cotton by passing it through solutions of soda ash and of chloride of lime, and rinsing it after each operation in cold water and in vinegar and water, in the proportions and manner substantially as herein described and for the purposes set forth.

53,647.—Machinery for Shaving Wood Screws.—Dustin F. Mellen, New York City. Antedated March 14, 1866: I claim the inclined hopper having a channel of polygonal form at the base, to receive the blanks from the hopper, as and for the purpose described.

53,648.—Machine for Nicking Screws.—Dustin F. Mellen, New York City. Antedated March 21, 1866: I claim the combination of the piston rod, d, and directing torcsps, p, employed with the feeding apparatus as described for feeding the screw blanks to the ripping dies, as specified.

53,649.—Handle for Milk Cans, Etc.—Charles Miller, Utica, N. Y.: I claim in combination with a milk can, the handles, C and d, constructed and adapted substantially as described, whether the handle, d, be hinged at h, or be made solid and immovable at its connections, h and L.

53,650.—Machine for Cutting Files.—George Miller, New York City: I claim, first, the combination and arrangement of the chisel stock with the recoil springs, socket bearing and springs connected with the adjusting screw, operating substantially as and for the purpose herein shown and described.

53,651.—Railway Signal.—Patrick Francis Milligan, Washington, D. C.: I claim in combination with the frame work, on both sides of the railroad track, the chains, S and X, and their supporting pulleys and bolts, whereby they are attached to the timber supports beneath the railroad track, the whole constructed and arranged as herein described and set forth.

53,652.—Washing Machine.—Henry C. Moody, Fulton, N. Y.: I claim the arrangement, construction and combination of the levers, G, the self-adjusting rubber, F, the side rollers, E, and guides, D, as herein described and for the purposes set forth.

53,653.—Harvester Rake.—C. Moul, Hanover, Pa.: I claim, first, applying the rakes and the reel arms to short radial shafts, g', all of which have independent movements of each other upon a revolving crown wheel, d, substantially as described.

53,654.—Broom Head.—Jacob H. Mumma, Harrisburg, Pa.: I claim the combination of the jaws, B, B, with the case A, one of

the said jaws being hinged to the case as represented and one provided with an arm and the other with a sleeve, substantially as and for the purpose herein specified.

Second, The bars C C and D D, constructed so as to form a joint for expanding to suit the bloom.

Third, The combination of the jaws, B B, with the bars, D D and C C, when constructed and used as and for the purpose herein specified.

53,655.—**Stopper for Bottles.**—L. B. Myers, Elmora, Ohio :

I claim, First, The discharge spout, A, constructed substantially as specified, whether it be independently made and fitted to the article with which it is used, or formed with the article as a part of it, substantially as specified.

Second, The cap, C, in combination with the spout, A, applied substantially as and for the purpose specified.

53,656.—**Method of Deodorizing Petroleum.**—Robert Newell, Marietta, Ohio :

I claim deodorizing petroleum, and other hydro carbons by treating and washing them with a solution of lime containing chloride of lime, soda ash, and common lime, or their several equivalents, in the proportions above stated, substantially as above described.

53,657.—**Press.**—William Norman, New York City :

I claim the toggle joint, H G, slots or guides, G, pulleys, J, K, axles, I, and a spur wheel, D, and cords or ropes, L N R, all arranged with reference to each other and to the pressing box, C, substantially as herein set forth, and for the purpose specified.

53,658.—**Apparatus for Refining Iron.**—John W. Nyström, Philadelphia, Pa. :

First, I claim the herein described method of an apparatus for refining metals so that the oxidizing blast shall be admitted into the converting furnace under the molten mass, at elevations with respect to the surface of the metal, higher, as the work of refining progresses, as set forth.

Second, In a converting furnace constructed and operating as herein described, I claim forming the tuyeres of an oblong or rectangular section, as at the point where they enter the furnace, substantially as and for the purposes set forth.

Third, In a converting furnace constructed and operating as herein described, I claim forming the tuyeres of a curved form, substantially as and for the purposes herein set forth.

Fourth, The combination with the converting furnace constructed and operating as herein described, of cranks and friction wheels, substantially as herein described, for the purposes specified.

Fifth, The employment in connection with a converting furnace, constructed and operating substantially as herein described, of movable ingot molds, so as to allow of their being brought under the furnace, in the manner and for the purposes set forth.

Sixth, Forming the ingot molds of Z-shaped pieces, substantially as and for the purposes specified.

Seventh, Clamping the molds together successively, substantially as and for the purposes herein explained.

Eighth, The lining of the inside of the converting vessel and also of the ingot molds, with a composition of silicate of oxide of iron and fire clay or plumbago, as described.

53,659.—**Stopper for Jars and Bottles.**—Thomas O. Oliver, New York City :

I claim the combination of the eccentric, A, with arm, a, attached to the staple, C, firmly attached to the lower disk, E, of the stopper, substantially as described, and for the purpose set forth.

53,660.—**Horse Hay Fork.**—John K. O'Neil, Kingston, N. Y. :

I claim the right-angled or bent lever, D, for producing the sliding movement, of the slide bars on the main bar, to open and close the barbs, B B, arranged and operating substantially as herein specified.

I also claim the arrangement and combination of the operating tackle and angular lever in such a manner as to shift the suspension of the instrument from one arm of the angular lever to the other, substantially as and for the purpose herein specified.

I also claim the hinge hook, H, constructed, arranged and operating in combination with the angular lever and operating tackle, substantially as and for the purpose herein set forth.

53,661.—**Machine for Blocking and Shaping Hats.**—George Osterheld and Rudolf Eickemeyer, Yonkers, N. Y. :

First, We claim the bending shell, H, applied and operating in combination with the hat block, D, and with suitable means of holding the brim of the hat, substantially as and for the purpose herein described.

Second, We claim so applying the holding plates for clamping the brim of a hat in a hat-shaping and blocking machine, that they are opened and closed automatically by the operation of the machine, substantially as herein described.

Third, We claim so applying and operating the bending shell and the holding plates as to produce the over-stretching of the hat-body in height or depth, preparatory to the entrance of the block, substantially as herein specified.

Fourth, The banding ring, B, applied within the holding plate and operating in combination with the banding shell, H, substantially as herein described.

Fifth, The tip flatterer applied and operating in combination with the hat block, substantially as herein specified.

Sixth, Making the tip flatterer with a convolute face, substantially as and for the purpose herein set forth.

53,662.—**Implement for Setting out Plants.**—Edmund W. Packer, Paulsborough, N. J. :

I claim the combination of the shaft, A, tongue D D, and ram, F, when arranged together so as to operate substantially in the manner described, for the purpose specified.

53,663.—**Cultivator.**—C. S. Pangborn and George W. Beers, Onarga, Ill. :

We claim the combination of the treadles, L L, plow beams, G G, swivel sockets, H H, arms, J J, treadles, O O, and frame, D, constructed and arranged to operate in the manner as and for the purpose herein specified.

53,664.—**Horse Power.**—George Partridge, St. Louis, Mo., and David M. Johnson, Coshocton, Ohio :

We claim the master wheel, B, and sweep, C, attached to the upright shaft, A, in combination with the horizontal shaft, E, provided with the level pinion, D, and the crank pulley, F, connected with the walking beam, G, all arranged to operate in the manner substantially as and for the purpose set forth.

We further claim in combination with the parts above specified, the horizontal shaft, I, arranged with an eccentric collar, K, or its equivalent, for the purpose of throwing the pinion, J, in and out of gear with wheel, B, substantially as and for the purpose set forth.

53,665.—**Wet Bobbin.**—Oliver Pearl, Lawrence, Mass. :

I claim the combination of the enlarged or bulbous end of a filling bobbin with the barrel of the bobbin, as herein described and for the purpose set forth.

In combination with the enlarged end of the bobbin, I claim the groove or rings cut into the barrel at intervals to prevent the yarn from slipping from the bobbin, when in motion in the shuttle.

53,666.—**Dental Vulcanizing Heater.**—D. J. Peer, Rochester, N. Y. :

I claim two or more clamping bolts, B, in combination with the head and bodies of dentists' vulcanizing heaters, said bolts being constructed, arranged and operating substantially in the manner and for the purposes herein shown and described.

53,667.—**Vulcanizing Flask.**—D. J. Peer, Rochester, N. Y. :

I claim in combination with the nowell, N, plate, P, cope, B, or its equivalent, the swinging or pivoted bolts, B, arranged and operating substantially in the manner and for the purposes shown and described.

53,668.—**Secondary Electric Pile.**—Geo. G. Percival, Brooklyn, N. Y. Antedated March 9, 1866 :

I claim the forming of the electrodes of a secondary pile of layers of gas carbon or some other conducting power, substantially as and for the purpose hereinbefore described.

53,669.—**Electrical Lamp.**—Geo. G. Percival, Brooklyn, N. Y. Antedated March 9, 1866 :

First, I claim the attachment to a lamp or to the base or fixtures thereof, of a secondary pile which will store up and retain gas in amount sufficient from time to time as may be required, for the purpose of lighting the lamp, substantially as hereinbefore described.

Second, The attachment to a lamp or to the base or fixtures there-

of, of a helix of insulated wire, or its equivalent, forming part of the primary circuit of the secondary pile, when this helix is used to increase the spark produced by breaking this circuit, and the spark is used to light the lamp.

53,670.—**Sawing Machine.**—Charles L. Pierce, Buffalo, N. Y. :

I claim supporting a drag saw bar, A, at its rear end by a rocking slide bar, C, whose axis is in line with the axis of the driving crank, in the manner and for the purpose set forth.

Second, The combination of the slide bar, A, arranged as stated, with the driving crank and slotted cross head, in the manner and for the purpose set forth.

Third, Supporting the saw bar, A, at a point between the driving crank and saw by the adjustable guide box, E, and adjusting rack frame, F, and pinion, F', for the purpose and substantially as described.

Fourth, The combination of the windlass, P, and friction clutch, L, L', with the pulley, K, sliding chock, H', and buffer guide post, L, arranged and operating in the manner and for the purpose set forth.

53,671.—**Spring Lever Clasp.**—Gustavus D. Pike, Chatham, Conn. :

I claim the employment of the spring lever, Z, and the ears, d d and the teeth, E E E, or their equivalents, combined with the strap hole, a, and the riveting of clasp to strap, for the purposes specified.

53,672.—**Tree Protector.**—Joseph L. Piper, Winthrop, Mass. :

I claim the said improved tree protector, as made, of the platform to be applied to the trunk of a tree, and with the strips of glass arranged in such platform, substantially in manner as hereinbefore set forth.

I also claim the platform, as made, with the rebate and the saw kerf or recess arranged on and around it, substantially in manner and for holding the plates of glass, as specified.

53,673.—**Railway Frog.**—Peter Quinn, Philadelphia, Pa. :

I claim a frog rail or rails adapted to the main rails of a railroad and to those of turnout, and operating substantially as and for the purpose herein set forth.

53,674.—**Railway Switch.**—Peter Quinn, Philadelphia, Pa. :

I claim the switch rails, D and D', when connected and operating together, as described, and when the inclined switch rail, D, bears on the top of the main rail, A, when it is necessary to transfer the cars from the main track to the turnout, all as set forth.

53,675.—**Combined Switch and Frog for Railways.**—Peter Quinn, Philadelphia, Pa. :

I claim the combination, substantially as described, of the movable frog rail, G, arranged to rest on one, of the main rails with any suitable switch rails, the whole operating together as set forth.

53,676.—**Water Elevator.**—Geo. Race, Norwich, Conn. :

First, I claim a water elevator having a supplementary frame operated and constructed as shown and described.

Second, In combination with the supplemental frame, I claim the system of gearing, as shown, and so arranged and operated that the bucket can be lowered rapidly by a forward movement of the crank.

Third, In combination with the supplemental frame, I claim the brake lever, the hand rest, the spring pawl, and the adjustable friction band, all constructed and arranged as described and for the purpose set forth.

53,677.—**Cooler for Brewing and Distilling.**—Ludwig Reich, New York City :

I claim the pan, E, tubes, F, and box, G, communicating with each other and constructed as shown and described.

Second, The combination of the pan, E, and with or without the ice chamber, J, all arranged substantially as and for the purpose herein set forth.

53,678.—**Box for Cigar Fuses.**—Henry Reiman, Brooklyn (U. S.), N. Y. :

I claim the box with two compartments, and with a sliding lid and spring, constructed as shown and described, to permit either compartment to be opened but to prevent both from being opened or uncovered at the same time, substantially as herein described.

53,679.—**Lamp Extinguisher.**—Wm. A. Richardson and Henry D. Ward, Worcester, Mass. :

First, We claim the two wings, combined and arranged in relation with each other and with the wick tube of the lamp, substantially as herein set forth, for the purpose specified.

Second, The elastic construction of the lower parts of the said wings, for the purpose of holding them apart, substantially as described, until the flame is to be extinguished.

Third, The combination of the shaft, H, arms, c and c', and elastic wings, r, substantially as herein set forth, for the purpose specified.

Fourth, The catch, w, in combination with the arms, c and c', and wings, r, substantially as herein set forth for the purpose specified.

53,680.—**Cut-off Valve Gear.**—John T. Rich, Philadelphia, Pa. :

First, I claim actuating the cut-off valve of a steam engine positively, both in opening and closing through the medium of a toggle joint and multiplying the motion thereof, substantially as set forth.

Second, So combining the governor and cut off valve of a steam engine by means of a bell crank, F, lever, G, and other connecting mechanisms, as set forth, that the valve may be operated by the governor in connection with and independently of the toggle joint, E, substantially as set forth.

Third, The connecting rod, D, toggle joint, E, bar, m, link, L, and lever, G, in combination with the stud, H, valve stem, N, and valve, I, the parts being constructed and arranged substantially as and for the purposes set forth.

Fourth, In combination with the cut-off valve stem, N, the stud, H, constructed substantially as set forth.

53,681.—**Bag Holder.**—S. S. Rockwell, Lansing, Mich. :

I claim the shield, D, in combination with the springs, E, when used for the purpose of a bag holder, in the manner and for the purpose herein described.

53,682.—**Apparatus for Cooling Beer.**—William Rose, St. Louis, Mo. :

I claim the process of forcing air through the liquid, thus bringing the liquid in close contact with the air and reducing the temperature of the liquid to the temperature of the air forced through it.

53,683.—**Lathe Chuck.**—Richard Rothwell, Dover, N. H. :

I claim the conical-shaped lathe chuck, a, having a series of longitudinal grooves or depressions, d d, upon its periphery, substantially as and for the purpose specified.

53,684.—**Tackle for Raising Sunken Whales and other Bodies.**—Thos. Welcome Roys, New York City :

First, I claim the yielding connecting link, substantially as illustrated in figures 1 and 2, introduced between the suspension rope and tackle block or in the suspension rope on either side of the blocks, substantially as shown and described.

Second, The use of a weight working within guides in combination with the said spring or springs, as above, substantially in the manner and for the purposes herein described and set forth.

Lastly, The combination and use of the two horizontal bars or axle, B B', with the grooved pulleys, plain or fluted rollers, C, and india-rubber rings or endless bands, D, and suspended braces, E, substantially in the manner and for the purposes hereinbefore described and set forth.

53,685.—**Fruit Jar.**—George H. Russell, Dickinson, Pa. :

First, I claim forming one or more inclined ways or planes, with notches at their lowest points upon the cover of a fruit jar, can or other similar article, in combination with one or more fixtures, a, at the mouth of the jar, substantially as described and for the purpose specified.

Second, Hermetically sealing fruit jars, cans or other similar articles, with a composition of rosin and tallow, substantially as herein described.

53,686.—**Boring Artesian Wells.**—Anton Safer, New York City :

First, I claim the intermediate guides, b, arranged in the joints or couplings of the tube, B, and operated in a mutually steady manner, as and for the purposes hereinbefore specified.

Second, I claim the wheel, E, with its grooves, e', and wiper, F, arranged to operate relatively to the cutters, B B', and their connections, substantially in the manner and for the purpose herein set forth.

Third, I claim in connection with the above the conical or tapered upper surface of the part, E, and levers, H, arranged to operate to-

gether alternately lifting and liberating the cutters, B B', and their connections, substantially in the manner and for the purpose herein set forth.

Fourth, I claim the cutters, B B', arranged transversely in combination with the braces, B B', and with suitable reciprocating mechanism for well boring, substantially as herein set forth.

Fifth, I claim the hollow screw, I, or its equivalent, adapted to regulate the motion of the cutters, B B', substantially in the manner and for the purpose herein set forth.

Sixth, I claim the shoulder, b', arranged relatively to the screw threads and cutters and tubular stock, substantially in the manner and for the purposes herein set forth.

53,687.—**Sound-boards to Pianos.**—P. Schuler, Philadelphia, Pa. :

I claim the application of a metallic plate, E, constructed substantially as described, to the underside and directly beneath the treble portion of the bridge, C, of the sound board of a piano, substantially as and for the purpose described.

53,688.—**Tanning.**—Judson Schultz, Ellenville, N. Y. :

I claim the treating of hides or skins with saw dust, substantially as herein described.

53,689.—**Shoe Brush.**—H. E. Scotchmer, Chicago, Ill. :

I claim a pocket or traveler's blacking case provided with a brush having the handle and small brush detachable, and a blacking box, arranged to pack within the case, substantially as shown and described.

53,690.—**Mold for Casting Flanged Pipe.**—George T. Sheldon, Chelmsford, Mass. :

I claim the use and application of the squaring blocks, D D, and the cores, f, for the purpose of squaring or finishing the ends of flanged pipes, and forming the bolt holes, in the process of casting the same, substantially as specified.

53,691.—**Skeleton Skirt.**—S. J. Sherman, Brooklyn, N. Y. :

First, I claim the within-described hinge joint on the ends of the hoops, the same being rigid in the vertical direction, and adapted to yield inwardly, but prevent from yielding outwardly, by extending the one part past the axis of the joint so as to bear against the other part, substantially in the manner and for the purposes herein set forth.

Second, The three hinges arranged at the sides and front of the skirt hoop and caused by yielding inwardly, but not outwardly, so as to allow the skirt to be compressed inwardly at any of those points without protruding outward at either point beyond the general circuit of the hoop, substantially in the manner and for the purposes specified.

53,692.—**Beer Faucet.**—Emil Sirret, Buffalo, N. Y. :

I claim forming beer or other liquids any degree desired previous to their being drawn, by constructing a hollow room or reservoir within an ordinary faucet, between the cross pin and the end to be tapped in the barrel, to be operated into by the syringe, E, for the purpose and in the manner set forth.

53,693.—**Syrup Filter.**—James L. Smith, Tuscola, Ill. :

I claim the arrangement of sieves, D and B, the body and the braces, C C C, in the manner and for the purpose herein specified.

Second, The wool, F, in combination with the body, A, and sieves, D and B, when used as and for the purpose herein specified.

53,694.—**Thrashing Machine.**—John P. Smith, Hudson, N. Y. :

First, I claim the concave provided with semi-spheroidal projections or threshing teeth, n, substantially as and for the purpose herein set forth.

Second, The deflecting board, F, so applied to the rear end of the machine as to deflect the threshed straw downward, substantially as and for the purpose herein set forth.

Third, The relative arrangement of the inclined board G, the ribbed threshing cylinder, E, and the concave, D, substantially as herein described, whereby special feeding contrivances are dispensed with.

53,695.—**Process of Generating Gases to be Used for Motive Power.**—Daniel E. Somes, Washington, D. C. :

First, I claim the apparatus for generating steam or gas to be used as a motive power, substantially as herein described.

Second, The combination and using the ingredients herein described, substantially as and for the purpose set forth.

53,696.—**Machine for Stripping Sorghum.**—John M. Spencer, of Ottawa, Ill. :

I claim the arrangement shown and described of the toothed endless apron, B, the toothed endless roller, C, slotted plate, G, feed rollers, E E', and supports or table, J, J'.

53,697.—**Laundry Stove.**—Horatio Squyer, Rochester, N. Y. :

I claim the combination and relative arrangement of the furnace, H, having inclined plates or oblique sides, I, with the cauldron, D, as shown, the relative arrangement of the furnace being below, and in front of the cauldron, which latter is encased with a fire jacket, A.

I claim the special construction of the cast handle and clamp with the shoulder, b, formed between the clamp and the handle blade, B, and set screws, d, and operating substantially as described.

53,699.—**Piping for Boots and Shoes.**—Charles Stone, Stoughton, Mass. :

I claim as a new article of manufacture, a piping or binding for boots and shoes, having a rounded edge or nearly so, substantially as described.

53,700.—**Telegraph Cable.**—James Story, Paris, Ky. :

First, Constructing marine telegraph cables with a steel plate provided with projections upon its edges, for securing a platting of hemp coils, in the manner and for the purposes described.

Second, I claim the application and use of hemp cords or other equivalent substances in combination with a steel plate to support and secure the tension of from the insulated conducting wires in marine telegraph cables.

Third, I claim the use of hemp cords in plates or other equivalent substances, in combination with a steel plate, when encased, and the joints secured as herein described.

Fourth, I claim supporting a series of curved conducting wires, in partition walls, placed in the cables at certain determined distances, and which are constructed and secured in the manner herein described for the purposes specified.

Fifth, I claim the elastic straps, e e, the same being placed so as to give support to the outer covering and secured to F, and the partition walls, in the manner and for the purposes described.

Sixth, I claim providing a marine telegraph cable with air chambers, constructed substantially as and for the purposes herein specified.

53,701.—**Rail road Rail.**—Zadok Street, Salem Ohio :

I claim the combination of animal charcoal, vegetable charcoal or other carbonaceous material, such as animal oil or tallow and prussiate of potash, in about the proportions specified, and for the purpose of hardening railroad rails, as set forth.

53,702.—**Umbrella.**—George Styles, New York City :

I claim the telescope tubes, b, with holes k m, in combination with the spring catch, j, and runner, e, of a parasol, constructed and operating substantially as and for the purpose specified.

Also the trigger spring, n, in combination with the catch, j, runner e, and tubes, a, b, substantially as and for the purpose set forth.

53,703.—**Curtain Fixture.**—John B. Tarr, Chicago, Ill. :

I claim the arrangement of the lower roller, B, endless cord, b, curtain, a, attached to the endless cord, and tension roller, c', substantially as set forth.

53,705.—**Mop Head.**—Levi H. Thomas, Waterbury, Vt. :

I claim the handles or guards, E E, on the wire, D, substantially as and for the purposes herein set forth.

53,704.—**Clothes Drier.**—Samuel I. Trask, Guilford, N. Y. :

I claim, First, The combination with the side frames which contain the bars for sustaining the clothes, and which are hinged together at the top of the latches, D and E, substantially in the manner and for the purpose set forth.

Second, The combination with the said side frames, constructed as described, of the shafts, G, and rollers, F, of a parasol, constructed and operating on the same end of the clothes drier, as and for the purpose herein above specified.

53,706.—Bed Bottom.—Edward W. Tucker, Lowell, Mich.:

I claim, First, The bar, H, with cogs, a, a, and rack bars, b, b, when arranged in the manner and for the elevating or lowering the head of a bed bottom, substantially as and for the purposes specified. Second, The bars, B, and bars, C, with springs, E, in combination with the springs, E, and balls, C, arranged substantially as and for the purposes herein set forth.

53,707.—Slide Valve for Steam Engines.—Reuben D. Turner, New York City:

I claim the hollow piston, E, cylinders, C, C, and inner valve chest, B, in combination with each other, and with the valve, D, and outer chest, A, substantially as and for the purpose herein specified.

53,708.—Balance Slide Valve.—A. E. Vanbeber, A. Salle and J. Britton, Fulton, Ill.:

First, We claim the combination with a steam engine valve, C, of the suspension rod, E, balancing piston, D, D, and guide, O, all constructed and arranged to operate as and for the purposes specified. Second, The combination of the spring G, and temper screw, I, as and for the purposes specified.

Third, The guide H, projecting inward over the edge of the piston, D, to act as a guard to prevent the blowing out of the piston, in the manner described.

53,709.—Burning Fluid.—Aaron C. Vaughan, Rainsburg, Pa.:

First I claim treating benzine with common resin, in the manner and for the purpose set forth. Second, A burn of fluid composed of benzine treated with resin and mixed with ordinary illuminating oil, as set forth.

53,710.—Corn Harvester.—J. M. Wallis and Elias Miller, Milton, Iowa.:

We claim the bar, D, passing through the shaft, M, and arranged in relation with the arms, J, substantially as and for the purpose specified.

53,711.—Construction of Pulleys.—A. Warth, Stapleton, N. Y.:

First, I claim the working face or faces of a pulley of one or more layers of india-rubber or other soft and elastic material, covered with leather or other flexible material, substantially as and for the purposes described. Second, The combination and arrangement of the adjustable disks, a, a, india-rubber plates b, leather faces, d, and intervening metal plate, e, all constructed and operating substantially as and for the purpose described.

53,712.—Egg Holder.—Franz Wegrather, Chicago, Ill.:

I claim the cup formed in sections as shown and provided, with the cup, A, and spring, B, all arranged to operate as and for the purpose set forth. First, I claim treating benzine with common resin, in the manner and for the purpose set forth. Second, A burn of fluid composed of benzine treated with resin and mixed with ordinary illuminating oil, as set forth.

53,713.—Harvesting Machine.—Thomas Welch, Churchville, N. Y.:

First, I claim the pitman, P, and set nuts in harvesters in combination with the head or case, A, whereby the wear of the boxes, b and b', may be compensated for. Second, The use of the swivel nut, E, constructed, arranged and operating substantially in the manner and for the purposes set forth.

Third, Securing the head or case, A, and boxes, b and b', to the crank pin, O, of harvesters, by means of the groove, c, and rib, e, substantially as shown and described, and for the purposes set forth. 53,714.—Ladies' Fan.—Thomas Welham, Washington, D. C.:

First, I claim a fan so constructed in relation to its handle that the fan and the handle may be adjusted in line or at any desired angle, substantially as described. Second, So pivoting said fan as to permit it to revolve upon the handle, whether fixed in line with the handle or set at any angle, all substantially as described.

Third, In combination with such adjustable or revolving fan, a basket in the handle thereof, substantially as described. Fourth, In combination with such adjustable or revolving fan, the weighted extremities of the fan or feathers thereof, substantially as described.

53,715.—Boring Artesian Wells.—Daniel Wheeler, Decorah, Iowa.:

First, I claim the combination of stop, F, catch, A, and ratchet, B, in combination with rollers, B, and E, or any equivalent contrivance, working substantially as described. Second, The cog wheel, A, N, with the square hole, A, B, for the drill rod to work in, in combination with the moving dog, C, stop dog, F, and spring, E, connected with d, g, C, or any equivalent contrivance working substantially as described.

53,716.—Roofing Cement.—Warren P. Wheeler, Waterloo, N. Y.:

I claim the composition of matter above described for covering roofs of buildings, together with the process of applying the same, as set forth in the above specification. 53,717.—Belted Friction Gearing.—James D. Whelpley, Boston, Mass.:

I claim the belted friction gearing consisting of friction drums, A, B, belt pulleys, a' and b', and belts, d, G, arranged, combined and operated substantially as described and for the purpose stated. 53,718.—Apparatus for Separating Ores.—James D. Whelpley and Jacob J. Storer, Boston, Mass.:

First, We claim the secondary hopper, in combination with the main hopper and opening into it and into the open air by valves to be employed alternately, substantially as described. Second, The door, c, and its rod, g, in combination with partition, b, substantially as and for the purpose described.

Third, The valves, e e', e'', constructed respectively with their openings, h, of the same size and shape as the open area of the bottom of the hopper to be closed, in combination with the bottom of the hopper and the dust-tight felt packing, substantially as described. 53,719.—Scissors.—Luther G. White, Waterbury, Conn.:

I claim forming a shoulder upon the handles of scissors or shears so that a recess shall be left between the same and the blades when riveted thereto, for the purposes herein specified. 53,720.—Smut Machine.—S. B. Williams, Wheeling, West Va.:

I claim the combination of the perforated concave, D, fan, J, below said concave, the beaters, U, air regula, or K3, and air conductors, W X Y, all arranged as herein specified to force the air in separate downward currents within, around and outwardly through the perforated walls of the concave, the external current being governed by the regulator, K3, and all the currents mingled with the dust in the fan case below. 53,721.—Steam Gate.—Charles A. Wilson, Cincinnati, Ohio:

I claim the air chamber, A, whose upper part communicates by a pipe, B, with the boiler steam space, while its lower part communicates by a pipe, D, with a diaphragm chamber of a steam pressure gate, and its extreme bottom by a pipe, C, with the boiler water space or devices, substantially equivalent, for the purpose set forth. 53,722.—Hollow Auger.—Arcalous Wyckoff, Elmira, N. Y.:

I claim the cutters, A, A, constructed with two or more alternate projecting cutting points, t, t', as shown and arranged as to cut in parallel but concentric planes, substantially in the manner and for the purpose set forth. 53,723.—Postage and Revenue Stamps.—William C. Wyckoff, Brooklyn, N. Y.:

I claim coating the side of the paper which is to receive the print of the postage and revenue stamp, with a surface of water-color pigment or paint, or some sufficiently opaque or non-transparent surface as to receive a good impression from types or plates, and at the same time be soluble in water or other fluid, substantially as described. 53,724.—Stove Blacking Cutter.—William W. Armington, Meriden, Conn., assignor to himself and Stephen L. Usher, New Haven, Conn.:

I claim the follower, E, and the cutter, D, constructed and arranged to operate substantially in the manner herein described, in combination with the pan, A, or its equivalent, for the purposes specified. 53,725.—Saw-grinding Machine.—John G. Baker (assignor to Henry Disston), Philadelphia, Pa.:

First, I claim the combination with a grindstone, J, of a segment, G, for holding a saw blade on its concave surface, to which segment a vibrating motion in the arc of a circle having a fixed center is imparted by the mechanism described, or any equivalent to the same, for the purpose specified. Second, The combination of the rock shaft, R, rods, d, d, segment, G, or the nuts, f, f, or their equivalents, for adjusting the said segment on the rods. Third, The combination of the reversible, pulley, F, belt or band, E', and segment, G.

Fourth, The combination of the segment, its set screw, h, the sliding piece, i, and its set screw, h', and spring lever, i', the whole being arranged for the retention and release of the saw blade, substantially as and for the purpose herein set forth. Fifth, The combination of the segment, G, and its adjustable dogs, k and k', with the device herein described, or the equivalent to the same, for shifting the driving belts. Sixth, The grindstone dresser, composed of a number of disks, a, with pointed teeth, adapted to the sliding spindle, Q, and operating substantially as and for the purpose herein set forth.

Seventh, The screw shafts, N, N, having threads of different pitches, those of one pitch controlling the position of the grindstone, and those of the other pitch controlling the position of the dressing disc, all substantially in the manner and for the purpose herein set forth. 53,726.—Check Hook.—Charles A. Ball (assignor to himself and Thomas Livey), New York City:

I claim the spring-check rein hook attached to the socket or plate, a, by the fulcrum pin, d, and provided with the moving end, x, that descends against the socket or plate, a, as and for the purposes specified. 53,727.—Curtain Fixture.—John H. Barnes and Thomas W. Brown, Brooklyn, N. Y.:

We claim the described device for holding and tightening the cords of window shades, etc. consisting of the plate, A, with the hook, B, or its equivalent, for taking the cord, such plate and hook being so arranged as to have motion up and down upon the screw by which they are held to the casing. 53,728.—Keyboard for Organs, Etc.—Moritz Baumgarten (assignor to himself, Jacob Heller, G. C. Clark, A. S. Keeler, and Morris Steinhart), New Haven, Conn.:

I claim constructing and combining two banks of keys substantially in the manner and for the purpose herein set forth. 53,729.—Inkstand.—Hezekiah Bradford (assignor to Horatio Bogert), New York City. Antedated March 30, 1866:

First, I claim a stationary cork or yielding stopper with or without a tapering or inclined end, against which the pen comes in contact when it is dipped into the ink, as set forth. Second, I claim the combination of the stopper, e, well, b, and fountain, c, as and for the purposes specified. Third, I claim the fountain, c, and well, b, in combination with a stopper in the bottom of the inkstand as set forth, whereby the fountain may be filled when the inkstand is inverted, as specified. 53,730.—Clamp Pulley.—Rufus Chandler, Springfield, Mass., assignor to himself and M. S. May, Milford, Mass.:

I claim a clamp pulley having sections, A and B, with dove-tail connections therewith, as described, and a roll, e, all constructed, combined and arranged substantially as herein specified. 53,731.—Rotary Steam Engine.—John Collicott (assignor to self and Otis Marshall), Boston, Mass.:

First, I claim the pistons, D, D when formed in one piece with or immovably fixed to the rotary cylinder, and provided with packing strips acted on by the pressure of the steam, substantially as and for the purposes herein set forth. Second, I claim the steam chest with its rotating balance valve, in combination with the steam ports and channels of a rotary steam or air engine, when arranged so that the steam shall be allowed to impinge directly upon the pistons in the center of their lengths, and at right angles, or nearly so, with their surfaces. Third, I claim the angled valves extending from and to end of the cylinder, formed at their ends, to pack against the shoulder, c, of the cylinder heads by the pressure of the steam, as described. 53,732.—Cooking Stove.—John B. Crowley (assignor to Chamberlain & Co.), Cincinnati, Ohio:

First, I claim a fire back of a cooking stove composed of two or more overlapping or related plates, F, secured at the midwidth of the stove, while permitted unrestricted elongation toward the sides of the stove, substantially as set forth. Second, The hollow perforated stand or rest, H, in combination with a center plate, perforated at its middle portion, substantially as set forth. Third, A stand or rest having a circular or other symmetrical head which fits a corresponding view on the under side of the center plate, for the purpose of support and reversal, as explained. Fourth, The arrangement of depressed hearth plate, L, l, flaps, eccentric levers, m, hook, N, and eye, O, as herein described. Fifth, The jamb plate, G, g, formed and arranged in the manner and for the purpose set forth. 53,733.—Horse Shoe Calking Vise.—William Delano (assignor to self and Walter H. Foster), Bangor, Me.:

I claim the new or improved horse shoe calking vise, made substantially as described, viz., of the vibratory bearer or plate, G, and the common vise having the jaws, A, B, the whole being arranged and combined substantially in manner and so as to operate as and for the purpose specified. 53,734.—Corset Busk Clasp.—William Devines, Brooklyn, N. Y., assignor to Howell Smith, New York City:

I claim the attaching of hooks and eyes to garments by means of clamps, constructed and arranged to fit over and catch into slots in springs inserted in the hems in the garment, the clamps passing through openings in the sides of the hems, substantially as herein shown and described. 53,735.—Grain Separator.—J. H. Fairchild, East Highgate, Vt., assignor to self and George L. Haywood:

I claim the lever, G, hammer, m, and spring, L, I, in combination with the packing, j, and roller, p, when arranged and operating substantially as and for the purposes set forth. I claim the adjusting screw, o, spring, L, shafts, f, c, arm or wrist, J, in combination with the hammer, m, hung to the shaft, f, lug, g, and reel, as and for the purpose substantially as described. 53,736.—Hydrant Stop Cock.—Henry L. Fralley (assignor to self and Christian G. Herr), Lancaster, Pa.:

I claim a stop cock, the barrel, C, of which is provided with three pipes, D, E, F, opening into the chamber, and the key, B, with a hollow central portion communicating by apertures, 1 2 with the pipes, D, E, and by its perforation, 3 4, with pipes, F, E, arranged and operating in the manner and for the purpose specified. 33,737.—Ditching Machine.—Conrad Freese, Aurelius, N. Y., assignor to self and Frederic H. Lyon, Cayuga:

I claim the horizontal framing, A, and annular plat form, B, supported by or mounted upon rollers, c, c', c'', in combination with a rotary digger, M, operated by draught animals attached to sweeps, J, and walking around the platform, B, substantially as and for the purpose set forth. The placing of the shaft, N, of the rotary digger, M, in a rising and falling frame, H, arranged in connection with racks, a, a, and a pivoted bar, R, or their equivalents, for the purpose of adjusting the digger to its work, substantially as described. The construction of the rotary digger, M, as shown and described, to wit, of the circular plate, c, annular plate, d, with the buckets, e, between them, provided with cutters, e, at their outer ends and with bent inner ends, f. 53,738.—Bench Vise.—Richard Jones (assignor to self and Thomas Bromby), Paterson, N. J.:

I claim the eccentric or cam, B, or its equivalent applied to a bench vise, to operate in the manner substantially as and for the purpose herein set forth. 53,739.—Hay Spreader.—Luke L. Knight, Barre, Mass., assignor to J. E. Taylor, Sutton, Mass.:

I claim the combination of the shaft, D, provided with the clearers, E, and the revolving shaft, B, provided with the elevating fingers or tines, C, as and for the purpose specified. 53,740.—Harvester Rake.—Joseph D. Loveland, Wheatfield, Niagara, N. Y., assignor to Dayton S. Morgan, Rockford, N. Y.:

I claim the combination in a harvester of teeth or brushes on the reel ribs to sweep the grain upon the platform, with a vibrating sweep rake to remove it therefrom, the combination being and operating substantially as described. 53,741.—Leather Splitting Machine.—J. A. Marden, assignor to Samuel Vance and Albert E. Currier, Newburyport, Mass.:

I claim the rotating cylinder, B, in connection with the reciprocating knife, S, arranged relatively with each other to operate in the manner substantially as and for the purpose set forth. The pressure shoes, Y, in combination with the rotating cylinder B, and reciprocating knife, S. The endless apron, U, in connection with the pressure bar, W, shoes, Y, cylinder, B, and knife, S, substantially as and for the purpose specified. The placing of the cylinder, B, in adjustable bearings, substantially as shown when said cylinder is used in connection with the reciprocating knife, endless apron, pressure shoes and pressure bar, substantially as and for the purpose set forth. 53,742.—Process for Desulphurizing Ores.—Melchor B. Mason, New York City, assignor to United States Mining and Ore Desulphurizing Company:

I claim the combination of lime, nitrate of soda, a, other equivalent alkaline substance with pulverized or disintegrated ore in a raw condition, preparatory to the calcination thereof, all substantially in the manner and for the purpose set forth. 53,743.—Sewing Machine.—James S. McCurdy, Bridgeport, Conn., assignor to Elias Howe, Jr., Fairfield, Conn.:

First, I claim, a needle throat or die so constructed and arranged that it forms a guide for the needle throughout the whole depth of and below the shuttle case, and that its upper part presents above the work plate a rounded annular edge of such a character as to form a center between which and the pressing device or devices the cloth may be turned about a center in line or concentric with the axis of the needle, substantially as herein described. Second, In combination with the throat, constructed and applied as above described, I claim the two independently but simultaneously acting pressure rollers, E, E', applied and operating as herein specified. Third, I claim the lever-like fingers, p, fulcrum, p', spring, s, and irregular shaped tracks, r, r', in combination with each other and with the shuttle case, and shuttle, substantially as and for the purpose herein specified. Fourth, I claim the single-grooved friction roller, T, spring, U, and guide, w, applied in combination, and operating substantially as and for the purpose herein specified. Fifth, I claim the attachment of the driving wheel or pulley to the main shaft of the sewing machine by friction, in the manner substantially as and for the purpose herein specified. Sixth, I claim the spooler attached to the sewing machine by means of a spring, Q, applied and having its position controlled by a screw, s, substantially as and for the purpose herein specified. 53,744.—Griddle Cake Baker.—Jonas Mull (assignor to self, Ara D. Reed and J. R. Calkins), Troy, N. Y.:

I claim the employment of the inward and annular or surrounding flange or projection, A', of the surrounding rim, A, and its combination with the griddle cake bakers sections, B and C, and flues or apertures, G, in the manner and for the purposes substantially as herein described and set forth. I also claim the employment of the annular or surrounding chamber, a, and the combination thereof with the flues or apertures, G, and with the inward flange or surrounding projection, A', in the manner and for the purposes substantially as herein described and set forth. 53,745.—Knob Latch.—Wallace T. Munger (assignor to himself and J. A. Leggat), Bradford, Conn.:

First, I claim the combination of the latch bolt, C, the yoke H, and follower, E, substantially in the manner for the purpose specified. Second, The combination of the horseshoe, F, link, I, spring, M, and latch bolt, D, substantially in the manner and for the purpose set forth. 53,746.—Machine for winding Yarns.—William Orr, Jr (assignor to himself and William Orr, Senr.), Clinton, Mass.:

First, I claim in machines for winding yarn, hanging the swift on a pivot at one side of the center of its length, or at one side of its center of gravity, so as to give it a pendulous character, substantially as described. Second, I also claim passing the yarn on its way from the swifts to the quill in between elastic rolls, arranged and applied substantially as and for the purpose above described. Third, I also claim in combining in one machine devices for winding yarn from the swifts, and quilling the yarn, when the two operations are performed by such combination in one connected operation, by means of sockets, V, W, the guides, H, H, and the elastic rolls, m, substantially, as described. 53,747.—Machine for Holding and Grinding Edge Tools.—John Richardson (assignor to himself and Edwin Ferriard), Turner, Maine.:

I claim the improved machine constructed as herein before described, for holding and grinding chisels, plane irons and any other tool requiring a like bevel, and any tool having an angular edge of like bevel, perfectly true and with entire accuracy to any bevel required, either acute or obtuse. 53,748.—Water Can for Railroad Cars.—Leon T. Richer (assignor to himself and Isaac L. Allen), New York City:

First, I claim the employment of the waste or unclean water chamber, L, in combination with the vertical connecting tube, K, and receptacle or box J, each being constructed and arranged in the manner, and for the purposes substantially as herein described and set forth. Second, I claim the employment of the discharge water valve, D, in combination with the discharge pipe, C, and with the valve chamber, E', each being constructed and arranged in the manner and for the purposes substantially as herein described and set forth. Third, I claim the employment of the coil or spiral spring, E, in combination with the valve rod, d, upper connecting rod, F', lever, G, thumb piece, H, and with the tube E', each being constructed and arranged in the manner and for the purposes substantially as herein described and set forth. 53,749.—Attachment in Plows.—Milton Roberts, St. Pauls, Minnesota, assignor to himself and Nathan H. Roberts, Richfield, Minnesota.:

First, I claim the attaching of the plow to the axle and wheels, in the manner substantially as and for the purpose herein set forth. Second, I also claim the rod, J, pivoted to the axle, A, and provided with a hook, I, at its outer end in combination with the plow and the wheels and axle, substantially as and for the purpose specified. Third, I also claim the wheel, B, provided with the concave flange, K, in combination with the plow, F, substantially as and for the purpose set forth. Fourth, I further claim the rollers, N, placed in the frame, M, having the rods, O, O, attached in combination with the plow and the wheels and axle, substantially as and for the purpose specified. 53,750.—Pump.—H. M. Stoker (assignor to himself and J. C. Stoker), Watson, Illinois:

I claim the reciprocating pump cylinder, B, in combination with the fixed or stationary valvular pistons, E, E', and the abutment, F, placed or secured within the pump cylinder, and provided with the opening valve with the elastic or force tube, G, communicating with said openings, substantially as and for the purpose herein set forth. 53,751.—Sheet-Metal Can.—George F. Stone (assignor to himself and J. H. Whiturst), Philadelphia, Pa.:

I claim the disk, A, which forms the end of a tinned plate vessel, and its groove, c, constructed as described for the reception of the edge of the body, D, when the whole is applied to a bath of molten solder, having its depth arranged in respect to the said disk and its groove, as set forth for the purpose specified. 53,752.—Hand Corn-Planter.—Salmon E. Tyler and Richard Tattershall (assignors to themselves and Jackson Simons), Anoka, Minnesota.:

We claim the reciprocating head, E, rotating in the grooves, e e e,

the adjustable recessed cylinder, D, graduating the grooves, j, j, in connection with the set-screw, H, when constructed substantially as herein set forth and described.

53,753.—Cotton Gin.—Edward Alfred Cowper, Westminster, Great Britain:

First, I claim the intermittent nipping or forcible holding of the fibre of the cotton very nearly close up to the seed by the holding instruments caused to approach at intervals, so as to nip or hold the fibre whilst the seeds are detached by another part of the apparatus.

Second, I claim the nipping-blade, A, roller, B, and beater, C, operating in combination in any manner, substantially as herein described.

53,754.—Paring, Cutting and Coring Machine.—William Weaver (assignor to E. Price), Phoenixville, Pa.:

First, I claim the curved serrated plate, e, in combination with the lever, F, and knife, d.

Second, The box, A, receptacle, A', tubes, J, J' and K, and plates, l, l', the whole being arranged as and for the purpose described.

53,755.—Rotary Engine.—Robert D. Wright (assignor to himself and L. B. Holland), St. Louis, Mo. Antedated March 21, 1866:

I claim the employment of the plunger, b, in combination with the rotary piston, c, all being constructed and arranged to operate substantially as herein described and represented for the purposes set forth.

53,756.—Means of Protecting the Bottoms of Ships.—Cowper Phipps Coles, Ventnor, England. Patented in England May 21, 1864:

I claim the combination of the exterior portions of structures that are liable to be submerged, with cement, by means of holding agents, the whole being combined, and operating substantially as set forth.

53,757.—Fire Alarm.—Charles Dion, Montreal, Canada East:

I claim the spring, A, plate or tube, B, or other equivalents, as shown in the different modifications, in combination with the tilting lever, D, or its equivalent, and with the falling weight, F, or its equivalent, constructed and operating substantially as and for the purpose described.

53,758.—Compressed Gas Generator.—Jules Gros, Paris, France:

I claim the generator, d, provided with a revolving chambered cylinder or any equivalent device, in combination with the receiver, a, constructed and operating substantially as and for the purpose described.

53,759.—Propelling and Steering Apparatus for Vessels.—Jonathan Jopling, Bishopwearmouth, England. Patented in England May 30, 1865:

I claim the apparatus for propelling and steering vessels, consisting of a fan or fan wheel, fixed on a vertical shaft, and made to rotate within a movable case, secured to a hollow shaft, the combination of the fan, and case, and shafts, being substantially as described, and operating substantially in the manner set forth.

53,760.—Muff.—Moritz Mahler, Hungary, temporarily residing in Montreal, Canada:

First, I claim the muff provided with a covering of leather or other suitable material, without fur or hair on the side that comes next to the person, as and for the purposes set forth.

Second, I claim the muff formed wider at the bottom than at the top portions, so that the ends may be at an inclination, for the purposes and as specified.

Third, I claim rings or loops attached to the upper part of the muff, for the receipt in of the suspending cord, as set forth.

Fourth, I claim a pocket formed in the front portion of the muff, and provided with a flap of skin or fur hanging from the top portion of the muff, down over the front part of the same, as and for the purposes specified.

53,761.—Steam Generator.—Peter C. Moller, Leipzig, Saxony, assignor to Johann Tobias Rominger, Dresden, Saxony:

I claim the combination of the cross-shaped blocks, L, water passages, K, elbows, M, jackets, O, tank, F, and coil, G, constructed and arranged relatively to each other in the manner and for the purposes herein represented and described.

53,762.—Propeller for Vessels.—Ambroise Raphin, Paris, France:

I claim the propeller, c, mounted on two or more shafts, B, secured to the hull of a vessel, in combination with two or more parallel rods, D, and buckets, e, all constructed and operating substantially as and for the purpose described.

53,763.—Apparatus for Burning Liquid Hydro-Carbons.—Alexander Schnpkofsky and Nicholas Strange, St. Petersburg, Russia:

We claim the method of, and apparatus for, burning the vapors of hydro-carbon fluids, substantially as herein shown and described.

53,764.—Car Coupling.—A. B. and Frank S. Taft, temporarily residing in Montreal, Canada East. Antedated March 21, 1866:

We claim the shackle, E, provided with the shoulders, d, e, and fitted in the draw-head as shown, in connection with the pins, B, B', provided with springs, C, and having rods, D, attached, all being arranged to operate substantially as and for the purpose set forth.

REISSUES.

2,217.—Process for Bleaching Fibrous Substances.—J. J. Eckel and Isaac S. Schnyler (assignees of Joseph Short), New York City. Patented Jan. 23, 1866:

First, We claim washing or cleansing liquid, composed of potash or caustic soda, and the chloride of sodium, spirits of ammonia, or an equivalent substance, dissolved in water, about in the proportion as set forth.

Second, The cold alkaline solution, composed of liquid potash and the chloride of sodium, spirits of ammonia, or an equivalent substance, and water, about in the proportion as set forth.

Third, The bleaching liquid composed of chloride of lime, and sulphuric or other acid, about in the proportion as set forth.

2,218.—Artificial Limb.—Anton Mennel, New York City. Patented December 20, 1864:

I claim constructing the shell of an artificial limb of two or more layers of wood, or metal, or of one or more strips, placed crossways to each other, substantially in the manner and for the purpose herein set forth.

2,219.—Mode of Lining Pipes with Tin.—W. Anthony Shaw, New York City. Patented March 10, 1863:

First, I claim forming a double metallic pipe or tube out of any two of the ductile metals or their alloys by pressing them together, through, over, on or in a die, in such manner as to make each of said metals form a tube or pipe, the one inside of the other.

Second, Putting the tinnead lead together in a cylinder over said mandrel, and forcing them through a die over said mandrel, so as to press a lining of tin in the pipe, at the time of its formation.

Third, The mandrel, of lead pipe with a lining of tin, by forcing an ingot of tin and an ingot of lead, while over a core, out of a cylinder through a die, by hydraulic pressure, as specified.

2,220.—Ruler.—S. L. Simpson, New York City. Patented June 27, 1865:

First, I claim the spring-stop, d, applied in combination with a valve, a, substantially as and for the purpose set forth.

Second, The index, e, and scale, f, in combination with the link, C, connecting the two parts of a parallel ruler, substantially as and for the purpose described.

Third, The adjustable pencil slide, F, in combination with the radius arm, D, compass-dial E, and parallel ruler, A, A', constructed and operating substantially as and for the purpose set forth.

Fourth, The clamping screw, K, in combination with the arbor, h, pinion, g, disk, j, compass-dial, E, parallel ruler, A, A', constructed and operating substantially as and for the purpose described.

DESIGNS.

2,288.—Cuff and Collar.—William Bell, Jr., Boston, Mass.

2,289.—Alphabet Letters.—William H. Carter, Cincinnati, Ohio.

2,290.—Statuette and Clock Case.—William A. Giles, Chicago, Ill.

2,291.—Clock Case.—William A. Giles, Chicago, Ill.

2,292.—Bust and Clock Case.—William A. Giles, Chicago, Ill.

2,293.—Pump.—B. S. Nichols (assignor to Downs & Co.'s Manufacturing Company), Seneca Falls, N. Y.

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