

THE FAIR OF THE AMERICAN INSTITUTE.

We continue our notices of objects of interest:—
 HOWE'S FIRST SEWING MACHINE.

Under a glass case is exhibited the first sewing machine invented and constructed by Elias Howe, Jr. It is a very neat working model, made to turn by hand, and quite different in general construction from those at present in use. It contains, however, that essential improvement—a device for passing a second thread through a loop in the first—which stops the thread from unraveling—the idea that made mechanical sewing a practical art.

CENTRIFUGAL PULVERIZERS.

The idea of crushing stones and other substances by dashing them violently against an unyielding surface, instead of letting a heavy body fall upon them, was suggested and tried some years since, and, though successful in their operation, the machines were found to wear out so rapidly that they went out of use. By employing Franklinite iron, however, they may be constructed to endure, it is said, longer than any other kind of pulverizer. The Boston Milling and Manufacturing Company have on exhibition a mill constructed of this material, with samples of bone flour pulverized by it from unburned bones. A short iron cylinder has a shaft passing through its axis, the shaft carrying arms, which, in their rapid revolutions, strike the pieces of bone, knocking them against the sides of the cylinder; the bone is repeatedly beaten till it is reduced to a fine powder.

ELECTRIC PACKAGE EXPRESS.

Dr. D. D. Parmalee, of this city, has one of his package carriages running constantly round a circular railway. The carriage is driven by an electromagnetic machine, the electricity being generated by a stationary battery, and conducted along the rail. We shall soon publish an illustration of this curious affair.

EXPANSION SADDLE ENGINE.

Messrs. J. Wyatt Reid & Co., No. 7 Old Slip, this city, have running a portable engine designed for oil wells, with the bed plate so bolted to the boiler as to make ample allowance for the unequal expansion of the boiler and bed plate in firing up. The bed plate rests upon three saddles, but is bolted to the middle one only, the ends resting upon the other two, and being held down by set screws under which they may slide. As an engine will last much longer than a boiler, it is desirable to have a bed plate even in the case of a portable engine.

ROTARY FAN BLOWER.

Charles C. Overton, No. 163 Maiden lane, has in operation a blower for furnaces, made by two fans inclosed in a case, and running in opposite directions, each blade of one fan coming between two blades of the other; gears upon the shafts keep the two fans in a constant position in relation to each other. This blower creates a powerful blast.

WOOD ENGRAVING.

In a case containing samples of wood engraving, we noticed some beautiful specimens of mechanical work by Richard Ten Eyck, Jr. Mr. Ten Eyck has worked on illustrations for the SCIENTIFIC AMERICAN during the last fifteen years, and has been pronounced by other artists to be the best engraver of machinery upon wood, in the world. His samples at the Fair are "proofs" from cuts engraved for this paper.

Interesting to Every One.

At the recent trial of breech-loading rifles, held by Government at Springfield, Mass., there were some forty different varieties presented. A photograph of these guns has been executed by Messrs. Milton, Bradley & Co., of Springfield, Mass., which shows very clearly the external parts of each one. The actual size of the plate is 12x17 inches, and it is mounted on a sheet 16x21, the names of the inventors being set opposite their weapons. This photograph is a very beautiful specimen of the art, and would be an ornament to any room.

As an evidence of the rapidity with which commerce in the South is reconstructing itself, we see it stated that the St. Louis and New Orleans tannage—now over 40,000 tuns—is 33 per cent in excess of the tannage of 1859. The Ohio River tannage has increased 50 per cent and the Missouri River 50 per cent since that time.



ISSUED FROM THE UNITED STATES PATENT-OFFICE
 FOR THE WEEK ENDING OCTOBER 10, 1865.
 Reported Officially for the Scientific American

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

50,320.—Cut-off Valve.—James M. Albertson, New London, Conn. Antedated Sept. 27, 1865:

First, I claim the placing of a valve below the valve-seat of a steam cylinder, and in the ports or passages leading to the interior of the cylinder, in combination with the auxiliary exhaust ports, C, for the purpose substantially as described.
 Second, The auxiliary parts, C, C, when used only as an exhaust part, and connected with the passage into the cylinder which contains the valve herein described, and when used in combination with this valve, substantially as set forth.

50,321.—Window-sash Lock.—Alonzo C. Arnold, Norwalk, Conn.:

I claim the construction and arrangement of a window-sash lock, in the manner and for the purpose substantially as herein set forth and described.

50,322.—Machine for Kneading Dough.—George R. Baker, Brooklyn, N. Y.:

First, I claim the machine for kneading dough, constructed and operating substantially as herein described.
 Second, I also claim the combination of the shaft, a, with its pivoted arm, a', the slot, e, and spring, f, arranged and operating substantially as and for the purpose herein described.

50,323.—Dryer Felts for Paper-making Machines.—Seth W. Baker, Providence, R. I. Patented in England May 9, 1863:

I claim the use of the peculiar fabric, hereinbefore described, for a dryer felt in paper-making machines, the ends being united so as to make an endless belt or band, as set forth.

50,324.—Torpedo for Oil Wells, Etc.—A. T. Ballantine, Morristown, N. J.:

First, I claim an apparatus to be exploded in oil or other deep wells, constructed and operated substantially as above described.
 Second, I also claim securing a friction primer within a cylinder for holding powder or other explosive substance by means of a loose slotted bar placed in such cylinder, substantially as shown.

50,325.—Shears for Cutting Metal.—Henry Barth, Cincinnati, Ohio:

I claim the combination of the many-sided nuts, F, F, with the stationary and movable jaws, substantially as and for the purposes described.

[This invention consists in the employment or use in shears for cutting metal or other materials of many-sided cutters, the edges of which are grooved or hollowed out in such a manner that each edge presents two cutting edges, and if one of the cutting edges has become dull, the cutter can be turned or reversed, and a new cutting edge can be brought into play without loss of time.]

50,326.—Ore-crushing Stamp.—Henry J. Behrens, New York City:

I claim giving to the cross-bar, D, an eccentric motion to the motion of the pulley and its nose by means of the levers, G, which carry said cross-bar, D, and whose centers of motion are placed some distance from the center of motion of the driving shaft or pulley, and operating in the manner and for the purpose substantially as described.

50,327.—Grate Bar for Steam Generators.—E. G. Blakelee and A. Manser, Sing Sing, N. Y.:

We claim the tubular water heaters, g, in combination with the pipes, k, and m, and dried-water pipe, e, arranged and operating substantially as specified.

50,328.—Screw Driver.—Wm. G. A. Bomville, Dover, Del. Antedated Aug. 27, 1865:

I claim combining a countersink or other tool which can be operated by a straight handle, with a screw driver, by means of a socket, D, and a sliding joint, substantially as and for the purpose above described.

[This invention consists in combining with a screw driver any other tools which are commonly used in connection therewith, such as a countersink, gimlet, reamer, etc., by means of a sliding socket and joint, the socket being made removable or fixed.]

50,329.—Centering Chuck.—Thomas Brooks, Middletown, Conn.:

I claim the pivoted levers, d, with the sliding jaws, e, and conical screw spindle, c, b, all constructed substantially as and for the purpose described.

50,330.—Bistoury.—Charles C. Brown, Washington, D. C.:

I claim the construction of the director, A, provided with a groove, for the reception of a ligature, C, as and for the purpose herein set forth.

50,331.—Slide Valve.—Alexander Buchanan, New York City. Antedated Sept. 30, 1865:

First, I claim the attachment of the flexible valve cover to the inflexible cover of the steam chest by standing bolts G, G, and flanged nuts, H, H, which are fitted to form steam tight bearings on seats, m, m, outside of the latter cover, substantially as herein specified.
 Second, The clamping piece, J, and bolts, J, J, in combination with the flanged nuts, H, H, standing bolts G, G, valve-chest cover, B, and flexible valve cover, substantially as and for the purpose herein specified.

Third, The guard bolts, K, K, and jam nuts, U, U, in combination with the inflexible valve-chest cover, and flexible valve cover, substantially as and for the purpose herein specified.

Fourth, The longitudinally adjusting stop bars, L, L, applied at the ends of the valve chest, and adjustable from the exterior thereof, in combination with the flexible valve cover, substantially as and for the purpose herein specified.

Fifth, The nuts, r, r, and elastic washers, s, s, in combination with the standing bolts, G, G, and adjusting nuts, H, H, substantially as and for the purpose herein specified.

50,332.—Sash Supporter.—Edward A. Campbell, Williams Bridge, N. Y.:

I claim the sash supporter formed with a hooked end to act against the outside of the sash, and with a thumb piece or projecting end to be let into the window casing and protrude therefrom as and for the purposes set forth.

50,333.—Machine for Pressing Brick.—Morgan Chittenden, Danbury, Conn. Antedated Sept. 25, 1865:

First, I claim in combination with the transversely sliding mold

box, and horizontally reciprocating pressing plungers arranged at one end with the toggle, B, B, connected with the said plungers, and with a fixed bearing or fulcrum at the other end of the machine, and operated by a crank or eccentric wrist, substantially as herein described.

Second, I claim the combination of the transversely sliding mold box containing two sets of molds, the single set of reciprocating pressing plungers, and the two sets of discharging plungers, substantially as and for the purpose herein specified.

Third, I claim the semi-rotating receiving table J, in combination with the transversely sliding mold box, containing two sets of molds, and the two sets of discharging plungers, substantially as and for the purpose herein specified.

Fourth, I claim so combining the semi-rotating receiving table, J, with the transversely sliding mold box, that the movement of the said box is obtained through the movement of the said table, substantially as herein specified.

Fifth, I claim operating the discharging plungers by means of the tripping cam, V, p, m, the notched rod D, and the springs, e, e, the whole combined and operating substantially as herein set forth.

50,334.—Breech-loading Fire-arm.—Nathan S. Clement, New York City. Antedated April 29, 1865:

First, I claim the spring, F, arranged relatively to the cartridge and to the retracting hook, N, or its equivalent, substantially in the manner and for the purposes herein set forth.

Second, I claim so arranging the locking bolt, G, relatively to the breech piece, F, and the tumbler, B, that the hammer cannot strike and discharge the cartridge when the breech piece, F, is finally locked, substantially as herein set forth.

Third, I claim the thumb piece, H, as arranged relatively to the breech piece, F, and locking bolt, G, for the purposes herein set forth.

Fourth, I claim the back bolt, I, arranged to operate in the same plane as the locking bolt, G, for the purpose herein set forth.

Fifth, I claim, in combination with the sliding breech piece, F, the within-described arrangement of a single spring, K, connecting lever, J, and bolts, G and I, for the purposes herein set forth.

50,335.—Manufacture of Aniline Red.—Charles Clemm, Philadelphia, Pa., and August Clemm, Manheim, Germany:

What we claim is the treatment of salts of aniline and its homologues by the arsenates of the alkalis, substantially as above described, for the production of aniline red.

50,336.—Manufacture of Detergents.—Samuel Coburn, Stamford, Conn. Antedated Sept. 30, 1865:

I claim the combination, for the purpose aforesaid, of soda with ammonia, by the means and in the manner substantially above stated.

50,337.—Buckle.—A. H. Cole, Sylvania, Ohio.

I claim the combination with the buckle frame, a, of the wedge-shaped piece or tongue, i, arranged together and operating substantially in the manner described.

[This invention relates more particularly to buckles used for securing the tugs or trace-ropes to the hames of harnesses for horses and consists in a novel construction of them, whereby the tugs can be buckled and unbuckled with great readiness, and, besides, it is not necessary to bend the straps in order to pass them through the buckles.]

50,338.—Feathering Paddle Wheel.—M. Grier Collins, Cumberland, Md.

I claim the combination of the projections on the paddle stem with the stationary double cam, by means of which the paddles in their revolutions are feathered as they enter and leave the water, substantially as described.

50,339.—Cooking Stove.—J. D. Conner, Bloomington, Illinois.

First, I claim the pillar, C, with its forked arms, V, V, for supporting the grate, in combination with a dumping grate, substantially as described.

Second, I also claim the perforated throat, E, inclosed within an air chamber, F, substantially as described.

Third, I also claim the combination of the perforated throat, E, with the gas-combustion chamber, G, into which it discharges the masses of mixed gases and air, and with the lateral air passages, O, which deliver air into both from below the grate, substantially as described.

Fourth, I also claim the method, as above described, of securing to the closets the slats, R, to wit, by angular projections fitting into angular recesses made in the corners of the closet.

Fifth, I also claim the method, hereinafter described, of making the closet, A, to wit, forming an open frame or skeleton by casting, or otherwise, and securing the back and top and bottom plates or walls to the frame by means of bolts or equivalent devices, substantially as described.

Sixth, I also claim making the bottom and tube of the water reservoir, in one piece, by casting, or otherwise securing the top of the reservoir to the edges of the bottom, I, through bolt holes made therein for that purpose, substantially as described.

[This invention consists in a novel construction of a parlor or heating stove, intended especially for burning bituminous coal, although any kind of fuel can be used therein. The upper part of the fire chamber has provision for admitting air to the hot gases above the fuel, and above all is a gas-combustion chamber. The descending flue has a spiral course opening into an ash or soot receptacle from which the exit pipe ascends.]

50,340.—Casting Skeins of Wagon Boxes.—Thomas Considine, Chicago, Ill.:

First, I claim the screw, C, connected with a platform, F, and placed in a suitable framing, A, in connection with the rotary block, a, in the platform, F, arranged substantially as shown, for raising and lowering and for rotating the platform for the purpose specified.

Second, The mold, K, for the core of the skein and socket having a pattern, a', to form the mold for the inner end of the exterior of the socket, J, when used in combination with match board or box, k, and flask, L, as described.

50,341.—Box for Packing Eggs.—Eden M. Coombs, Memphis, Ind.

I claim the use of pads or cushions, C, applied to the bottom of the cases or shelves, for the purposes herein specified.

[In transporting eggs the breakage of the same is almost always caused by the weight of the layers of eggs, one upon another. The object, therefore, of this invention is to provide a packing box whose internal arrangement shall be such as to separate the several layers so that each layer shall be independent of the next; and to effect this a series of cases or shelves are arranged within a suitable box, at a sufficient distance apart to receive a layer of eggs, and the under side of said case or shelf (as well as the lid) are padded in by suitable material, so as to lie softly upon the eggs and prevent their jostling.]

50,342.—Ore-crushing Stamps.—Edward Dart, New York City:

First, I claim the arrangement of the pulley, C, with flanges, a, a, partly cut away to form a nose, b, in the manner and for the purpose described.

Second, In combination with the above described pulley, C, the cross bar, D, working loosely on said pulley, when constructed, arranged and operated in the manner and for the purpose set forth.

Third, I claim in combination with the pulley, C, the frame, G, constructed as specified, and operating on the cross bar, D, in the manner and for the purpose substantially as set forth.

Fourth, I claim the guard rods, N, in combination with the pulley, C, frame, G, and cross bar, D, arranged in the manner and for the purpose described.

50,343.—Pipes or Tubes for Wells.—Thomas Dutton and Thomas Maguire, Port Jervis, N. J.:

We claim the well pipe or tube composed of the interior non-perforated and the exterior perforated tubes, constructed and connected together substantially as described and herein set forth.

50,344.—Sheet-metal Can.—John C. Eiben, New York City:

I claim the head of the pail or can, composed of a ring, A, united

with the sides by a double seam joint, b, and having a turned-in edge, a, and the removals lid, c, with its depressions, c, and flange, d, soldered into and around the opening of the said ring, substantially as herein described.

50,345.—Shoe Buckle.—James Elleman, Providence, R. I.:
I claim as a new article of manufacture a buckle or shoe fastening, made substantially as shown and described.

This invention provides a very simple and cheap buckle for fastening shoes, skate straps, etc., and it can be manufactured at very little cost.

50,346.—Steam Superheater.—L. V. Fichet, New York City:

I claim an apparatus for superheating steam, composed of a box, B, provided with a series of horizontal pipes, b, and a series of vertical heating tubes, c, in combination with the furnace, C, substantially as herein set forth.

[This invention relates to an apparatus in which the steam from a steam generator is passed through a series of horizontal pipes, which are arranged in a box that is placed over a furnace, and provided with a series of vertical heating tubes, in such a manner that by the heat passing up through said vertical heating tubes the steam passing through the horizontal pipes is highly heated without exposing the pipes containing the steam to the direct action of the fire.]

50,347.—Whiffletree.—Isaac D. Flanagan, Ceresco, Mich.:
I claim the employment of crossed tracks connected to a short adjustable equalizer, E, when used in combination with the equalizing whiffletrees, B, B, and double tree, A, and constructed and arranged substantially as and for the purposes herein described and set forth.

50,348.—Tank for Storing Petroleum.—J. Fraser and James Calkins, Buffalo, N. Y.:

We claim a hermetically constructed metallic tank or store-house, A, provided with a safety-gas vent, and fuse, F, C, for preserving petroleum and other hydro-carbon fluids, substantially as described.

Second, We also claim the combination of a receiving, separating and gaging tank, B, with the hermetical tank, A, arranged in the manner and for the purposes set forth.

Third, We also claim, in combination with the hermetical tank, A, an equalizing delivery chamber, G, when the same are connected by a series of valves, I, I, arranged at different altitudes, each independent of the others, for the purpose of drawing oil of different gravities from the amount in store, substantially as set forth.

Fourth, We also claim the agitator, H, in combination with the chamber, G, and store tank, A, for the purpose of combining and equalizing the oil in G before delivery, when different grades are taken from A at one time, substantially as described.

Fifth, We also claim constructing the supporting columns, g, g, of tubular form, with one or more openings at the base, for utilizing the space in tank, A, substantially as set forth.

Sixth, We claim, in combination with the tanks, A, B, the arrangement of the distributing pipes, d, entering through the roof and descending to the floor of A, whereby the fresh oil is always introduced first in contact with the heavier stratum of oil and paraffine deposited on the bottom, and is discharged with a force acquired by its descent from the top of tank, A, substantially in the manner and for the purposes set forth.

Seventh, We claim, in combination with the hermetical tank, A, and delivery chamber, G, the heating coil, r, r, arranged and operating as and for the purpose shown and described.

Eighth, We also claim the metallic safety fuse, e, in combination with a hermetical incombustible reservoir, A, for hydro-carbon oils for preventing the burning of the escaping gas from igniting the contents of the reservoir, substantially as set forth.

Ninth, We also claim the combination and arrangement of the hermetical store-house, A, with the receiving, gaging and separating tank, B, equalizing delivery chambers, G, and agitator, H, operating conjointly, and constructed as described.

50,349.—Churn.—John B. Ghormley, Bellefontaine, Ohio:
I claim the arrangement of the circular corrugated dasher, B, and dasher, B, or their equivalents, in combination with the corrugated center, e, tub A', and hollow shaft, a, when operating in the manner and for the purpose set forth.

50,350.—Cane Stripper.—Wm. Gladden and Richard F. Bishop, Chrome Hill, Md.:

We claim, First, The knife, F, attached to the standard, in convenient position for the operator, whereby the top of the cane is struck off preparatory to stripping of its blades.

Second, We claim the pendant gate, E, for enlarging the opening between the cutting knives, C, C', C'', for the introduction of the first stalk, substantially as described.

50,351.—Suspensives.—B. J. Greely, New York City:

First, I claim the suspensives above shown, consisting of a band encircling each shoulder, and held adjustably behind, and a strap descending from it at the side, the whole constructed and applied substantially as above described.

Second, I also claim, in combination therewith, the buckle, F, having a double inclination of its back bar, substantially as and for the purpose above set forth.

Third, I claim the arrangement, with braces and pantaloons, of a spring hook and ring, or the equivalent thereof, substantially as shown and described.

50,352.—Broom and Mop Head.—E. J. Green, Valparaiso, Ind.:

I claim a metallic broom or mop head, composed of two sections, and each section having a semi-screw shank upon it, so that when the jaws or clamps of the sections are brought together the semi-screw shanks will also be brought up against each other and form a whole screw shank, upon which a handle is screwed to hold everything tight and firm, substantially as described.

50,353.—Ice Creeper.—D. Green, Troy, N. Y.:

I claim the combination of the elastic serrated bow, m, n, and attachment, g, h, when constructed as shown and described, and adapted to application to common boot without projecting horizontally beyond the area of the latter.

[This invention consists in so attaching to the heel of a boot or shoe, an ice creeper, to prevent the slipping of the feet on icy sidewalks, so that when it is not desired to use the same it can be readily removed from the treading surface of the foot, without detaching it from the boot.]

50,354.—Heater.—C. C. Hare, Louisville, Ky.:

I claim, First, The warm-air tubes or cylinders, A, passing through the drum, in combination with the smoke pipes, B, and with a drum whose bottom is convex, and has a soot pipe at its center, substantially as described.

Second, I also claim so connecting the fire chamber to the drum that the latter can be elevated to varying heights, substantially as described, for the purpose of increasing or decreasing the extent of radiating surface.

[This invention has for its object an improvement in heaters for household use, and it consists in a novel arrangement of flues and air tubes and passages, by means whereof great economy is attained in the use of the articles, and the cost of construction is much diminished.]

50,355.—Composition for Welding.—George Harpst, New Hamburg, Pa.:

I claim the well-described composition, made substantially as set forth, for the purpose specified.

[This invention relates to composition which can be used with great advantage for welding iron and steel, or steel and steel, or iron and iron together; it is used particularly for welding steel to iron. It can also be used to aid the operation of uniting copper and brass or other metals.]

50,356.—Chimney Top.—B. A. Henriksen, San Francisco, Cal.:

I claim, in combination with the cylindrical chimney, D, the upwardly tapering jacket, A, provided with supporting hooks, a, a, lateral openings, B, B, and partitions, C, C, and so applied that while

projecting slightly above the top of the chimney, D, nearly its entire length, will surround said chimney, all as herein described.

50,357.—Packing Projectiles for Rifled Ordnance.—B. Hotchkiss, New York City:

First, I claim the bridges or posts, A', extending across the packing, flush with the surface of the main casting, A, and adapted to allow windage at those points, substantially as and for the purposes herein set forth.

Second, I claim prolonging the legs or posts, A', in the rear of the packing, C, so as to protect the latter in handling and transportation, substantially in the manner and for the purposes herein set forth.

50,358.—Breech-loading Fire-arm.—Charles Howard, New York City:

I claim constructing the breech pin in the manner described, so as to unite in one piece the breech pin and spindle of the lock, in combination with a cylinder hammer sur rounding the said spindle, and inclosing within itself a spiral main spring, and the whole constructed and arranged to operate substantially as described, so as to compress the spring within the hammer by the forward movement of the breech pin in closing the breech of the arm, substantially as herein set forth.

50,359.—Billiard Ball.—John W. Hyatt, Jr., Albany, N. Y. Antedated Sept. 27, 1865:

First, I claim constructing balls of layers of fibrous and adhesive solid material, in such a manner, that the surface of said balls shall only present the edges of said layers for the purpose as herein described.

Second, I claim riveting the balls inside, as described, or in an equivalent manner, for the purpose specified.

50,360.—Machine for Cutting Boot and Shoe Uppers.—Pickmore Jackson, Saugus, Mass.:

First, I claim the indicators T, T, or their equivalents, in combination with the cutting dies, substantially as set forth and for the purpose described.

Second, A double die for galter boot fronts, having a single blade to cut the tops of two patterns, substantially as and for the purpose described.

50,361.—Claw Bar.—Henry Jeffrey, Vincennes, Ind.:

I claim the semi-circular rilling fulcrum, A, in connection with the handle or lever, C, and hinged bars, D, and either with or without the plate, B, all arranged substantially as and for the purpose specified.

[This invention relates to a new and improved device for drawing spikes and bolts, and is designed for general use, having for its object the drawing of the spikes or bolts without bending them, so that they may be used again after being drawn.]

50,362.—Mold for Casting Railroad Bars.—Henry Jenkins, Brooklyn, N. Y. Antedated Sept. 27, 1865:

I claim, First, a series of metallic sections connected together in substantially the manner specified, so as to form a continuous mold that will allow for expansion and contraction, without changing the shape or accuracy of the molds, as set forth.

Second, I claim the spring, c, or its equivalent at the ends of the sections, for pressing the sections closely together, and permit the longitudinal expansion of the molds or sections while in use, substantially as specified.

Third, I claim the bars, h, connecting the sections, f, or z, and fitted with springs, to press said molds together, substantially as specified.

Fourth, I claim the clamping bars, p, q, r, applied in the manner specified to press the sections of the mold together with uniform force, as specified.

Fifth, I claim the movable plates, w, applied to the faces of the pouring holes or sprues as specified.

Sixth, I claim the metal coil studs, 7, 7, sustained by the wires, 8, and forming the spike or screw holes in the cast railroad bar, as specified.

50,363.—Horse Rake.—William H. Johnston, Northboro, Mass.:

I claim the combination and arrangement of the treadles, T, M, the arms, H, K, and their connecting links, L, N, with the rake heads, the thills and the mechanism as described, for connecting the seat with the thills and the rake head, and for enabling the weight of the driver to be employed for pressing the rake downward, as and for the purpose set forth.

I also claim the combination and arrangement of the lever, A, and its link, M, with the above-described mechanism, for so connecting the seat with the rake head and the latter with the thills as to enable the rake head to be raised or depressed, and receive the weight of the driver, in manner substantially as herein before explained.

50,364.—Wrench.—Lucius Jordan and Leander E. Smith, Southington, Conn.:

We claim, First, The step, E, when held in place upon the bar, substantially as and for the purpose herein set forth.

Second, The nut, p, fitted to screw upon the bar, A, so that one of its sides or faces will rest against the step, E, and the other recessed to receive the upper end of the handle, substantially as described.

Third, The combination of the step, F, screw rod, C, nut, D, and nut F, substantially, as herein shown and described.

50,365.—Aerial Car.—F. Just and A. Koellener, Buffalo, N. Y.:

First, A balloon constructed in two sections, and constructed as described, for the purposes set forth.

Second, The balloon constructed in two sections in combination with the car, A, as herein set forth.

Third, The car, A, balloon, B, B', the connection, D, as arranged with the engine when constructed, as herein shown and described.

Fourth, The wings, H, H, the frame, C, in combination with the car, A, all constructed and arranged as herein described.

50,366.—Straw Cutter.—Daniel S. Kahler, Elkhart, Ind.:

I claim the compress sash, A, in combination with the knife sash, C, constructed and operated in the manner and for the purpose above set forth.

I also claim the straw gage, E, and spring gage, F, for the purposes above specified.

50,367.—Beehive.—A. K. King, N. H. King and F. S. Walker, Nevada, Ohio:

I claim, First, The comb frames, D, provided with the upper and lower bars, o, p, constructed and arranged substantially as and for the purposes described.

Second, The lower bar, p, of the comb frames, beveled so as to form the comb guide, r, for the purpose of securing straight combs, and provided with the double projections, g, to keep the frames at a proper distance from each other and from the walls of the hives.

50,368.—Apparatus for Distilling Petroleum.—A. Kreuler, New Lebanon, N. Y.:

I claim, First, The combination of an evaporator, B, and separator, E, constructed and operating substantially as and for the purpose set forth.

Second, The corrugated plates, b, with spiral grooves, in combination with the induction pipe, e, pipes, f, vapor pipes, c, and caps, d, constructed and operating substantially as and for the purpose specified.

Third, The compartment, D, arranged one above the other, in combination with pipe, j, branch pipes, g, stand pipe, h, and escape pipe, l, constructed and operating substantially as and for the purpose specified.

Fourth, The condensing chambers, m, arranged in the interior of the compartments, l, of the separator, in combination with the pipes, p, and v, partitions, o, o, and holes, q, and with the pipe, t, and connecting pipes, u, constructed and operating substantially as and for the purpose set forth.

Fifth, The use of a series of adjoining condensing chambers, arranged substantially as herein described, for the purpose of separating the condensed liquids of different specific gravity.

50,369.—Knitting Machine.—Isaac W. Lamb, Rochester, N. Y.:

First, I claim the employment in a knitting machine having two rows of needles operating alternately of shifters, p, p, having suitable bearings, and one or more oblique slots, p², p², in combination with the pins, r², and transverse slots, q, in the cam box, for the purpose of shifting the V-shaped cams to produce the alternation in the operation of the two rows of needles, substantially as herein described.

Second, I claim the combination of the shifters, p, p, having projections, p', with suitable stops, H, to effect the movement of the shifters, as needed, in order to change the V-shaped cams, substantially as herein described.

Third, The adjustable stops, H, so secured as to allow of their be-

ing placed either in position to combine with the projections, p' of the shifters, and thus change the V-shaped cams, or in position to allow the shifters to pass them without changing them, so as to permit of changes in the machines simply by the change of the stops, substantially as described.

Fourth I claim the outside cam pieces, r¹, when they are made either one or both adjustable in the line of the side of the V-shaped cam, so that when either of the outside cams shall be adjusted to regulate the length of the loops, the parallelism between the sides of the V-shaped cam, V, and the inside surfaces of both outside cams, r¹, shall always be preserved by the change of the shifters, as described.

Fifth, I claim the manner of regulating the length of the loops by means of the link, n, slot, m, and the thumb screws, substantially as described.

Sixth, I claim the friction spring, S, to prevent the changing of the shifters before they come against the stops, H, as described.

Seventh, I claim the plate, U, over the needles, when the same perform the double office of retaining the needles in their grooves, and also from the lower rests or bearings for the sliding frame, as described.

Eighth, I claim the manner of fastening the plates, U, in place, by means of pins, g', g', and holes, g², g², whether the pins are stationary in the foundation or in the plates, so long as the plates are held down on the needles, by the sliding frame, so as to make the needles to be readily removed, by simply loosening the bearings or stops, g', to allow the sliding frame to be raised, substantially as herein described.

Ninth, I claim making the inner edge of the plates, U, which plates perform functions stated in clause seventh of the claim, beveling or sharp on the upper side, as described, for the purpose of turning over the needle latches, when the needles are drawn down to be out of working position.

Tenth, I claim having the lower ends of the wire jacks, G, all firmly attached to the plates, E, in combination with the small rods, U, passing through the eyes in the upper portions of the jacks, substantially as described.

Eleventh, I claim making the jack plate, E, adjustable, out and in, so as to have the opening between the two rows of jacks wide or narrow, as described.

Twelfth, I claim the attachment of the crank, C₂, by suitable shaft and bearings, to the foundation of the machine, by means of a connecting rod, C', attached at one end to the crank, and at the other end to the sliding frame, substantially as described, whether the machine be in all respects similar to this or otherwise, so long as there be a sliding frame moving over two alternately operating rows of needles, substantially as herein described.

Thirteenth, I claim a detached yarn carrier, having an adjustable movement to conform to any desired width of fabric to be knit, in combination with a sliding frame, having a uniform distance of movement, substantially as described.

Fourteenth, I claim operating the yarn guide or carrier by means of the driving spring, K, on the sliding frame, working on the inclined surfaces and stops of the yarn carrier, in combination with the friction spring, g, substantially as herein described, for the purpose of taking hold and letting go of the yarn carrier as described.

Fifteenth, I claim a knife or sharp edged latch opener or guard that takes the latches from the tops of the hooks of the needles, whether the edge of such latch opener is nearly straight, and the movement of the needles opens the latches, or whether the needles are so constructed that the knife edge opens the latches.

Sixteenth, I claim the combination of the two latch openers, constructed as shown, with the yarn carrier, when the same are so arranged as to permit the yarn carrier to pass between the latch openers, as described.

Seventeenth, I claim the bent wire, Q, or its equivalent, to drop down on the yarn in setting up work on the machine, so as to permit a weight to be attached to the same under the machine by means of the bent wire, Q, or other suitable connection, substantially as described.

50,370.—Composition Friction Matches.—Louis Lanszweert, San Francisco, Cal.:

I claim the within-described match compound, made of the ingredients above set forth, free from phosphorus and sulphur, substantially as specified.

[This invention relates to a match compound which is not liable to be injured by the influence of moisture, and which will produce a match that ignites on a peculiarly prepared friction surface.]

50,371.—Flour Bolt.—S. Lewis, Tiffin, Ohio:

I claim, First, Applying and actuating hammers or rappers, which are arranged within the reel of a bolting mill, in such a manner that the force of the blows of said hammers can be increased or diminished at pleasure, whether the reel be in motion or at rest, substantially as described.

Second, The application of springs applied to hammers, which are arranged within the reel of a bolting mill, for the purpose of increasing the force of the blows of said hammers, substantially as described.

Third, The combination of spring hammers with a bolting reel, and a device which is arranged outside of said reel, for regulating the force of the blows of the hammers, as well as stopping their operation, substantially as described.

50,372.—Lightning-rod Joints.—J. B. Lyon, Cleveland, Ohio:

I claim uniting the sections of tubular lightning rods by means of the short tubes, B, the grooves, c' and c'', and the point, d, as herein set forth and described.

50,373.—Tool for Manufacture of Glass.—Geo. Matthewman, Williamsburgh, N. Y.:

I claim the employment of a shank holder, having a raised partition, b, substantially as described in combination with a female disk adapted to said projecting portion, b, the whole constructed to operate in the manner and for the purpose set forth.

50,374.—Holding Shanks of Molds for Glass Buttons.—George Matthewman, Williamsburgh, N. Y.:

I claim the movable plates, A, having cavities in their adjacent edges to match and form shank holding receptacles, in combination with a retaining bar, B, or its equivalent, the whole arranged to operate substantially as described, for the purpose set forth.

50,375.—Apparatus for Moving Buildings.—John S. McIntire, Chicago, Ill.:

First, I claim the chair, E, or its equivalent, of a balance frame in house-moving apparatus, so constructed as to be moved either way from the actual center, and operate as a central support of such balance frame.

Second, The combination of a cross timber, constructed of two or more pieces and supported by a frame or joint, with one or more balance frames for an apparatus for moving buildings.

Third, The shoes, C, when constructed and attached to the shoes or runners, B, substantially as and for the purposes specified.

Fourth, The roller guide, K, when attached to a house-moving apparatus.

Fifth, The combination of a flexible cross timber, composed of two or more pieces, c, c, connected together, with a balance frame, runners, B, and self-adjusting short shoes or runners, C, of each of said parts and combinations being constructed and operating substantially as set forth and specified.

50,376.—Safety Valve for Steam Generators.—Robert Mood, Indianapolis, Ind.:

I claim the arrangement of the valves, lever, spring and cross-bar with the eccentric, substantially as set forth.

50,377.—Carding Engine.—H. L. Moulton, Camden, N. J.:

First, I claim the revolving drum or cylinder, with the combs, h, and the bearings, m, or their equivalent, in combination with the stationary cam, F, F', and doffing cylinder, B, the whole constructed, arranged and operating substantially as and for the purpose herein set forth.

Second, The combination of the tube, A, a stripping cylinder, having bearings operating substantially as described, and the doffing cylinder, B.

50,378.—Bench Plane.—George Muller, San Francisco, Cal.:

I claim, First, The screw, I, traversing blocks, M and N, and cap, H, for clamping and holding the bit, and turning the shoving cut, substantially as described, whether the cap is made adjustable, horizontal or otherwise.

I claim making the cap, H, adjustable higher or lower on the cutting bit, by means of the brackets, O, grooves, P, and screws, F and G.

50,379.—Tackle Block.—Joseph W. Norcross, Middletown, Conn.:

I claim the metal frame, A, in combination with the inclined wooden cheeks, substantially as and for the purpose described.

[This invention consists in the use of a metal frame, having three spaces, the middle to take the sheave, and the outer ones to take the wooden cheeks of a tackle block, said frame being cast or otherwise produced by metal in such a manner that the cheeks can be readily introduced in the spaces intended for them, and by driving a suitable wedge in the middle space the frame is made to clamp said cheeks tight. Said frame is also provided with a small metal seat to receive a rope becket, so as not to wear it, which is unavoidable with the ordinary eye or rings.]

50,380.—Salinometer.—Patrick B. O'Neil, St. Mary's Villa, Great Britain:

I claim the salinometer formed with an outer tube and a flexible diaphragm, upon which diaphragm rests a weighted tube, balancing a given column of fluid of a known density, so as to indicate varying pressures of the saline column, substantially as specified.

Second, I claim in combination with the salinometer, fitted and acting as specified, I claim the hydrometer, applied and acting as set forth.

50,381.—Musical Instrument.—Francis Peabody, Salem, Mass.:

I claim the combination of one or more fly wheels, cranked shafts and pedals, with the automatic mechanism which in such instrument may be used for actuating those parts of it by which its musical sounds are produced, such fly wheels or wheel cranked shaft or shafts, and pedal or pedals being used, substantially in manner as hereinafter explained.

Second, I also claim the arrangement of the exhausting bellows, b, the exhaust vacuum bellows, a, and the shaft, M.

Third, I also claim the improvement, as described, for operating the exhausting bellows, the same consisting in the expansive spring of the bellows, the contractile strap, c, the pulley, d, the pedal, its rod, Y, and the cranked shaft, T, provided with a fly wheel, as specified.

Fourth, I also claim the combination of ungearing mechanism, viz., the slide, O, the levers, P, Q, and rods, G, Q₂, with the mechanism for revolving the dent plate and its supporting gear.

Fifth, I also claim the combination of the separate adjustable mandibles, F, F', with the dent plate, M, and the two series of base and treble levers, D, therefor.

50,382.—Railroad Signal.—Alfred Pell, New York City: I claim a signal, constructed and operated substantially as described, for railroad or other purposes, so as to be kept in motion by mechanical power.

[The object of this invention is to provide an apparatus for signaling railroad trains, and it consists in combining a signal or flag with mechanism to keep the signal in motion without requiring attention or labor on the part of the signal man.]

50,383.—Waterproof Blacking.—D. L. Pickard, Rochester, N. Y.:

I claim the compounding of the several ingredients, as specified, so as to produce a composition substantially such as herein described.

50,384.—Composition for Filling the Pores of Wood, Etc.—Elbridge S. Pixley, Great Barrington, Mass.:

I claim the use of acetic acid to destroy the adhesive property of the glue, and the combination of the various ingredients named, in such way as to secure the object desired.

50,385.—Manufacture of Illuminating Gas.—E. A. Pond, Rutland, Vt.:

I claim a new illuminating gas, the same consisting of carbureted hydrogen gas mixed or combined with atmospheric air, charged with the vapor of hydro-carbon fluid.

Second, The manner herein described of mixing the two gases at the works generating the two or in the tube supplying the burner, or at the burner, substantially as set forth.

50,386.—Buckle.—Nathan Post, East Cleveland, Ohio: I claim the body, A, the cross bar, W, the tongue bar, H, and the loop bars E, G, constructed, arranged and operating as and for the purpose set forth.

50,387.—Safety Coal Trap.—T. Willis Pratt, Boston, Mass.:

I claim a coal trap consisting of two lids, C, D, hinged to the frame, A, in combination with a flap, a, which extends under one of them when closed, and forms a support for both lids when open, substantially as and for the purpose set forth.

50,388.—Harvester Rake.—John M. Randle, Brighton, Ill.:

I claim the derrick, G, in combination with the pitman, c, and connecting rod, c, the pitman, m, and sliding head, l, and guide, n, the bent lever, J, and rake rods, B, and H, when such parts are constructed and operated as described and set forth.

50,389.—Valve for Steam Engines.—Ethan Rogers, New York City:

I claim, first, In valves for steam engines which have a constant upward movement around their center, constructing them with several steam openings, so arranged that the engine shall make a plurality of revolutions while the valve makes one, and that they communicate with two, three or more of the ports of the cylinder simultaneously, in constant succession, substantially as described.

Second, I also claim, in valves which have a constant motion around their center, giving to them a speed less than the speed of the engine shaft, in the proportion of the number of their steam openings, so that one entire revolution of the engine shall move the main valve only the distance from one of its steam openings to the next steam opening, substantially as described.

Third, I also claim supporting or counterbalancing the main valve by means of, or upon, one or more rings, s, at the center of said valve, substantially as described.

Fourth, I also claim the graduated cut-off valve, H, on the back of the main valve, so constructed and applied, substantially as shown, that the steam is cut off by the motion of the main valve.

Fifth, I also claim the exhaust passages, Q, made and arranged in the main valve intermediate of the steam passages, substantially as described.

Sixth, I also claim in combination the main valve, N, and the cut-off, H, when constructed and arranged substantially as described.

Seventh, I also claim the arrangement of the steam and exhaust ports, U and L, in combination with the main valve, N, substantially as shown.

50,390.—Dry Dock.—Joseph Ryan, St. Louis, Mo.:

First, I claim connecting the entire series of chambers, G¹, in the hold of the vessel, A, of my improved dry dock, with the two pump wells, G², thereof, by means of a main pipe, D, branch pipes, D', and controlling gates, D'', so that the pumps may be used singly in connection with all of said chambers or compartments, substantially in the manner herein specified.

Second, I claim the scuttle doors, a, and the scuttle valves, a¹ and b, constructed and operating as described.

Third, I claim the separation of each of the ballast chambers, A' and A'', into two compartments, by means of the partition, K, and connecting the chambers, A' and A'', together, by means of the pipe, l, and the sleeves, e and e¹.

Fourth, I claim the wrist, C, the rollers, P and P', in connection with the frame, P'', and the clutches, Q and Q', in connection with the levers, o, and connecting bar, N', all constructed and operating substantially as described.

Fifth, I claim, in combination with the center pump, P'', in either well, G², of my improved dry dock, a double plunger, operated by the working beams, d, substantially in the manner and for the purpose herein set forth.

Sixth, I claim, in combination with an improved dry dock, constructed substantially as described, the bent valve rod, L', in connection with the arm, L, the rock shaft, L'', and the lever, L''', constructed and operating substantially as set forth.

Seventh, I claim the movable cradle beam, B, in connection with the cam wheel, H, the endless screw, P, the cog wheel, x, and rack, x', and the tracks, x'' and r, substantially as described.

Eighth, I claim, in combination with and as a part of my improved dry dock, constructed as herein set forth, the hinged staging, A'', constructed and arranged substantially as described.

50,391.—Horse Rake.—Andrew V. Ryder, Germans, Ohio:

I claim the particular arrangement and combination of the levers, G and F, with the swinging bars, L, clearing bar, J, and rake head, D', substantially as and for the purpose set forth.

50,392.—Spool for Winding Yarn for Beaming.—Benjamin Saunders, Nashua, N. H.:

First, claim connecting the bearings, i, i, of the spools of a

spooler with treadles, substantially as and for the purpose herein specified.

Second, The spool frames, E E', sliding in guides, d, d, in combination with the levers, F F', or their equivalents, and treadles, G G', substantially as and for the purpose herein described.

Third, The adjusting screws, h, h', in combination with the levers, F F', and treadles, G G', substantially as and for the purpose herein set forth.

50,393.—Window Frame and Sash.—Cyrus B. Shaw, Brooklyn, N. Y.:

I claim the construction of sash and window frames, herein described, for the purpose specified.

[This invention consists in forming the joints of the sashes of a window with each other and with the sides of the window-frame or casing, in such a manner that the window can be tightly closed.]

50,394.—Cone Valve.—George Shield, Cincinnati, Ohio.

I claim a hollow cone valve with a tubular stem, a, and perforated with apertures, c, substantially as and for the purpose described.

[In cone valves of the ordinary construction used in steam and water works or engines, the fluid or liquid discharges between the valve and its seat, whenever the valve opens, and both the face of the valve and the seat are liable to be cut so that the same have to be refitted at short intervals. This difficulty is obviated by the valve which forms the subject matter of this present invention, and which is made hollow, with apertures passing through its face. When the valve is raised, the fluid or liquid discharges through the hollow body of the valve and through the apertures in its face, without producing any injurious influence on either the seat or face of the valve, and a valve is obtained which works tight for a long time.]

50,395.—Bolt Cutter.—Reuben Sischs, Tuscola, Ill.:

What I claim is the employment of frame, A, bits, B and C, rod, D, and bar, E, arranged and used as and for the purpose herein specified.

50,396.—Guides for Sewing Machines.—Albert M. Smith, Brooklyn, N. Y. Antedated Sept. 27, 1865:

I claim a single springing plate, with one or more corrugations or ridges, and a piece, A, with lips, b, second to it back of the line of sewing; said plate, when attached to a sewing machine, forming the clamping and guiding surface, and the bed plate the supporting surface of the cloth, substantially as herein described.

50,397.—Sofa or Lounge.—Ernest Smith, New York City: I claim, first, The segmental plate, E, arranged to operate substantially in the manner and for the purpose specified.

Second, The device consisting of the parts, e, f, g, in combination with the segmental plate, E, substantially as and for the purpose specified.

Third, I claim so stuffing the arm of the lounge or sofa that a protuberance will be made at the lower part thereof, for the purpose herein specified.

[This invention consists in the employment or use of a segmental plate to be attached to the arm of a lounge or sofa, the said plate having a slot cut in it and provided with suitable teeth into which is fitted to work a strip which is connected to a sliding rod by which the inclination of the arm of the sofa can be regulated as desired; it also consists in the insertion of a roll of extra stuffing at the lower part of the arm where it joins the sofa, whereby is made a better joint, so to speak, between the arm and sofa, whether the arm be in a vertical or inclined position; and the arm can be made separate from the lounge or sofa and subsequently pivoted thereto.]

50,398.—Lightning-rod Joint.—N. E. Smith, Cleveland, Ohio:

I claim connecting the sections of lightning rods, as herein specified.

50,399.—Mode of Cooling Water in Wells.—Daniel E. Somes, Washington, D. C.:

I claim constructing curbing or walls for wells, substantially as described.

50,400.—Comb.—Israel H. Southworth, Essex, Conn.:

I claim as an improvement in the manufacture of fine-tooth combs the grooved holder, b, into which are fitted the halves or pieces, a, substantially as described.

50,401.—Washing and Wringing Machine.—Ezra Springer, Davis, Ill.:

I claim, first, The adjustable roller frame, B, provided with two springs, G, G', arranged in such a manner that one or both may be made to act upon the lower or adjustable roller, F, as required.

Second, The chamber, I, at the bottom of the suds box, A, when used in connection with the roller frame, B, substantially as and for the purpose specified.

Third, The bed, N, connected with the adjustable frame, B, in the manner as shown, or in any equivalent way, so that it will be adjusted automatically by the movement of said frame, substantially as described.

[This invention consists in a novel arrangement of pressure rollers, an endless apron with an adjustable roller frame and hinged bed, whereby an exceedingly simple and useful machine for the purpose specified is obtained.]

50,402.—Caster for Sewing Machines.—Nesbitt D. Stoops, Newark, N. J.:

I claim attaching a caster, constructed substantially as described, to the leg of a skeleton frame sewing machine, in substantially the manner and for the purposes described.

50,403.—Cultivator.—R. Thayer and J. McClelland, Pittsboro, Ind.:

We claim the herein-described arrangement and combination of the beam, A, standards, B, B', handles, C, C', braces, D, D', and bolts, a, d, h, i, as and for the purpose specified.

50,404.—Combination of Blotter, Paper Weight, Rule, Cutter and Square.—A. Homer Trego, Trenton, N. J.:

I claim, first, The plates, A and B, in combination with each other, so arranged that a piece of blotting paper, may be clamped over a level surface, as shown and described.

Second, The metallic strips, D, in combination with the plate, B, substantially as and for the purposes herein mentioned.

Third, The spring plate, E, for clamping a sponge or other substance on which to wipe the pen, in combination with the plate, A.

Fourth, The receptacle, C, in combination with the plate, A, and screw rod, a, for the purpose mentioned.

Fifth, The combination and arrangement of the several parts, as herein shown and described.

50,405.—Cord for Window Sash.—Sigourney Wales, Boston, Mass.:

I claim as my invention the arrangement and combination of the wire helix, A, with the sash-weight cord, c, and its knot, b, substantially as described.

I also claim the wire helix, A, as made with the arch or bend, c, to span the cord above its knot, when applied thereto as specified.

50,406.—Polish for Glass.—John M. Warren, Boston, Mass. Antedated Sept. 28, 1865.

I claim the compound for polishing glass and other substances, as herein described.

50,407.—Valve Gear of Steam Hammer.—James Watt, Buffalo, N. Y. Antedated Sept. 25, 1865:

I claim first, The arrangement of the cams, T, U, with their connection so that they may be placed and used in such position, as to insure the taking and cutting off steam instantly, at any part of the movements of the hammer, substantially as set forth.

Second, I claim the exhaust port, R, R', so arranged that the exhaust steam may be had directly from the steam chest over the piston head, and thereby increase the force of the blow given by the hammer, substantially as described.

50,408.—Stove.—A. O. Wilcox, Port Richmond, N. Y.:

I claim the combination with a stove of a pan or drawer, for hold-

ing a supply for fuel, said pan being placed beneath the ash pan substantially as and for the purpose above set forth.

[This improvement in stoves consists in providing a drawer beneath the ash pan, to receive a quantity of fresh coals, so as to dispense with a coal hod and yet have coals at hand to renew the fire.]

50,409.—Leverage.—William W. Wills, Janesville, Wis.:

I claim the adjustable sliding bar, d, and roller e, in combination with the contracting levers, c, c', when arranged substantially as described, and operated in the manner specified.

50,410.—Machine for Pressing Sheet-metal Pans.—F. M. Woods, York, Ill.:

First, I claim the arrangement of wings, a, in the corners of the punch, in combination with corresponding grooves in the corners of the die, substantially as and for the purpose described.

Second, Making the die, H, in sections, substantially as and for the purpose described.

Third, The adjustable brackets, b, in combination with the die, H, constructed and operating substantially as and for the purpose set forth.

Fourth, The combination of movable frames, J, with the die H, substantially as and for the purpose specified.

[This invention relates to a machine for pressing sheet iron intended to form the four sides of a pan at one time, and also to turn the roove on the edge of the pan to receive the wire. This operation is effected by the use of a punch and die. The punch is made of the proper size to correspond to the pan to be pressed, and is provided with wings projecting from its corners, in such a manner that by its action all four corners are depressed uniformly, and the sides of the pan are prevented from getting wrinkled. The sides of the die are made in sections, and they are held in position by adjustable brackets in such a manner that by taking a greater or smaller number of sections for the die, said die can be adjusted for pans of different sizes. The depth of the die is adjusted by placing under the die one or more thin frames, whereby said pans can be accommodated to pans of different depth.]

50,411.—Hinge.—Henry Young and Martin Stachelin, Port Chester, N. Y.:

We claim the hollow spindle, D, bar, E, and plugs, F, G, in combination with the two wings of a hinge, substantially as and for the purpose set forth.

[This invention relates to a hinge, the two wings of which swing on a hollow spindle, through which a bar of steel or other suitable material passes, the ends of which are secured in plugs, one of which is fastened to one and the other to the other of the wings of the hinge, in such a manner that the hinge swings freely in either direction, and, at the same time, by the torsional power of the steel rod, said hinge is always brought back to its original position of rest, and, consequently, if a door is hung on a pair of these hinges, it will open in either direction, and be self-closing.]

50,412.—Apparatus for Making Coffee.—Heinrich A. Zopf, Milwaukee, Wis.:

First, I claim the general arrangement of the apparatus for making coffee, herein described, the same consisting of the water receptacle or steam generator, a perforated coffee receptacle a, provided with or not as may be desired, an outer covering or casing, q, and steam tube, o, connected together, and operating substantially in the manner specified.

Second, The conical-shaped end or nozzle to the steam pipe, o, substantially as and for the purpose specified.

[This invention relates to that class of coffee pots in which steam is employed for decocting the coffee, and consists in a novel construction of the pots, whereby a coffee decoction is obtained possessing the full flavor of the berry.]

50,413.—Valve Gear for Steam Engines.—John S. Barden (assignor to New England But Company), Providence, R. I.:

I claim the combination and arrangement of the cylinder i, the slider, t, and the guides, m, m, with a slide valve, A, and rocker lever, h, the whole being substantially as and to operate as herein before explained.

I also claim the combination of the ball governor with the slide valve of a steam-engine cylinder, by means as described, or the equivalent thereof, whereby such slide valve shall be controlled in its movements by the ball governor in manner as specified.

50,414.—Fruit-drying House.—Jasper Billings (assignor to himself, Thomas D. Mitchell and A. Kuhns), Dayton, Ohio:

First, I claim constructing a fruit-drying house, with a furnace chamber, A, and an upper-drying chamber, D, having an arched roof, G, escape, danges, d, d, and a covering roof, H, substantially as described.

Second, Arranging the furnace, B, and its flues, c, c₂, within the furnace chamber, A, or a drying house, substantially as described.

Third, The elevated open bottom furnace chamber, A, and inclined furnace, in combination with the upper drying chamber, D, having outlets, d, d, with valves or dampers applied to them substantially as herein described.

Fourth, The manner herein described of constructing the drying chamber with the arched curved roof, G, covering roof, H, and valved passages, all for the purpose set forth.

50,415.—Car Spring.—Horatio A. Black (assignor to himself, Wm. L. Boyer and Henry K. Boyer), Philadelphia, Pa.:

I claim a metallic spring for railroad cars, consisting of the box, A, B, piston, C, D, plain plates, E, E, and the corrugated plates, F, F, arranged combined and operating together, substantially as described and set forth.

50,416.—Cutting and Punching Spade Steps.—Samuel Chesnut (assignor to himself and Thomas Jones), Philadelphia, Pa.:

I claim the reciprocating crosshead, E, with its projections, f, h and i, in combination with the block, H, and its edges, x and y, the whole being arranged in joint action, substantially as and for the purpose herein set forth.

50,417.—Paddle Wheel.—William Choate (assignor to himself, Wm. Teel, John Whitmore and O. W. Clark), Newburyport, Mass.:

I claim a paddle wheel constructed with three sets of arms, with floats attached to them, so as to have a diagonal curved position, substantially as herein shown and described.

50,418.—Suspended.

50,419.—Process for Treating Hemp, Flax, Etc., for the Manufacture of Paper Pulp.—Mark Anthony Cushing, Glens Falls, N. Y., assignor to the Glens Falls Paper Company:

First, I claim the aforesaid method or process of preparing my boiling liquor by the use of the ingredients before named, in the manner before described, substantially and for the purposes therein described.

Second, I claim the use of the above-described boiling liquor in the treatment of flax, hemp, or other woody and fibrous substances, in the manner substantially and for the purposes therein described.

Third, I claim the use of the material thus treated, as flax, hemp, tow and other woody and fibrous substances, in the manufacture of fine paper, whether in mixture with straw and other paper stock in any proportions, or undisturbed.

Fourth, I claim the use of crude or other petroleum, kerosene, benzine or other oleagenous substances, in the manner substantially and for the purposes above described.

50,420.—Flat Wire Springs.—Henry Kellogg, New Haven, Conn., assignor to himself and Wallace & Sons, Derby, Conn.:

I claim the herein described spring as a new article of manufacture.

50,421.—Apparatus for Dedicating Eggs.—Charles A. Lamont, New York City, assignor to himself and David A. Burr, Washington, D. C.:

First, I claim the within-described mode of dedicating eggs, by the use in combination with a dipping trough or vat, H, of one or more drying plates, s, s, secured upon a central revolving shaft, D, substantially in the manner herein set forth.

Second, The use of one or more scraping blades, c, c, in combination with the revolving plates of an egg-dedicating apparatus, substantially as and for the purpose set forth.

Third, Supporting the movable supplying trough, H, of my improved egg-dedicating apparatus upon adjustable ways, r, r, so arranged as to operate substantially in the manner and for the purpose herein set forth.

50,422.—Water-heating Apparatus.—John McCloskey (assignor to Henry McGuekin), New York City:

First, I claim the water-heating apparatus above set forth, whereby different floors or apartments of a house or hotel may each have its own system of water-heaters, substantially as above described.

Second, I also claim operating the water spaces of the inner and outer cylinders of means of an air space, substantially as and for the purpose above described.

[This invention consists in an arrangement of water-heating apparatus for ranges and stoves, whereby the water for use in the kitchen and lower stories of a house is heated in, and supplied from, a boiler or heater, independent of that in which water is heated for the higher stories.]

50,423.—Hinge.—J. M. Riley (assignor to himself and W. A. Schmidt), Newark, N. J.:

First, I claim constructing a continuous door hinge, in the manner and for the objects herein described and represented.

Second, I also claim the key, D, of the spring rod, and its pins, b, in combination with the slot, V, of the tube, E, substantially as above described.

Third, I also claim the combination of the semi-circular plate, J, of the but, c3, with the key, D, of the spring rod, substantially as described.

[This invention consists of a spring door hinge, which closes the door by automatic action. It is of a length about equal to the door, and it is so made as to conceal the spring and the parts which actuate it, and are actuated by it, so that they are protected from the weather.]

50,424.—Sorghum Evaporator.—E. W. Skinner (assignor to himself and O. S. Willey), Madison, Wis.:

First, I claim the ledge, c, extending from one side nearly to the other of a pan of the construction specified, so as to form a contracted channel, C, for the introduction of the juice, and an outlet, d, to bring it in sudden contact with the boiling syrup, a, as herein explained, and for the purpose stated.

Second, I claim the combination of the transverse cold-air ducts, D, with the wooden partitions, a, a, and for the purpose specified.

Third, I claim the combination of the hot-air chamber, E, damper, F, cold-air duct, D, and chamber, b', all arranged as described.

50,425.—Wheel.—Joseph Stoliker (assignor to himself and J. H. McKenzie), Pine Run, Mich.:

I claim a metallic wheel for vehicles and for other purposes, provided with spokes arranged or applied to the rim or tire, so as to pass through a flange of the same, and connected at their inner ends to adjustable nuts or bosses on the hub, arranged in such a manner that the spokes may be strained or brought to a proper state of tension by spreading apart the nuts or bosses, substantially as described.

I also claim the crossing of the wires forming the spokes, and the securing of the inner ends of the same to rings, E, on the nuts, D, in the manner substantially as set forth.

I further claim the combination of the rim or tire, A, spokes, B, hub, C, nuts, D, rings, E, and plates, F, with the nuts, C, U, all arranged substantially as and for the purpose specified.

50,426.—Machine for Folding Paper Collars.—Emil Vossnack (assignor to himself and G. A. Goldsmith & Co.), New York City:

First, I claim the employment in a folding machine of the knife, B, and a hard bed, A, with the shallow and rounded groove, a, so combined to form the fold in the material, C, and condense the material on the exterior of the fold against the hard bed, substantially in the manner and for the purpose herein set forth.

Second, The combination of the free-falling knife, B, with the elevating and holding cams, e, e, and with a grooved bed, A, a, or its equivalent, adapted to compress and round the bend or fold in a paper collar or analogous weak material, all operating together substantially in the manner and for the purpose herein set forth.

50,427.—Pedestal for Railroad Cars.—I. P. Wendell and Stephen Ustick (assignors to I. P. Wendell), Philadelphia, Pa.:

First, We claim the extension plates, B and B', constructed and arranged in relation to the arms, a, a, of the pedestal, and the journal box between the same, for the purpose of taking up the wear occasioned by the sliding of the said box, substantially in the manner hereinbefore described.

Second, Combining the adjusting conically pointed screws, C, C, with the arms, a, of the pedestal, and the extension plates, B and B', in conjunction with the screw, D, they being arranged and operating substantially in the manner and for the purpose set forth.

Third, The combination of the cushion straps, E, with the arms, a, of the pedestal, and the extension plate, B and B', substantially as described and for the purpose specified.

50,428.—Self-feeding Plugging Tool for Dentists.—Maximilian Burchardt, Berlin, Prussia:

I claim a self-feeding plugging tool for dentists, made substantially as herein shown and described.

Also, the cavity, a, extending throughout the entire length of the tool, and operating in combination with the tongue, l, and with the plugging material, substantially as and for the purpose set forth.

50,429.—Gas Burner.—V. Dubourg, Paris, residing in the city of Frankfort-on-the-Main, Germany:

First, I claim the combination of the tube or chimney, a, of clay or analogous non-conducting material, and the upwardly projecting metal rim, f, arranged and operating as described.

Second, While disclaiming the general idea of applying a grate to a gas burner to equalize the pressure, I claim the particular combination of the perforated and reticulated diaphragms, constructed and operating as specified.

50,430.—Perpetual Almanac.—William Gibson, Lanark, Scotland, assignor to Henry Baxter and John A. Fitch, Highgate, Vt.:

I claim the combination and arrangement of the perforated and unperforated disks, the ring and the slider, the whole being applied to a supporting standard or frame, and being made and marked substantially as described.

And in combination with the disks, the ring-supporting frame and slider, I claim the detachable piece, H, carrying the said box and the slider, the whole being substantially as and for the purpose specified.

50,431.—Gas Burner.—Ferdinand Kup, Frankfort-on-the-Main, Germany:

I claim an adjustable jacket or casing applied to a gas burner, substantially as and for the purpose set forth.

[The object of this invention is to arrange a gas burner so that it allows of regulating at will the supply of atmospheric air required for imparting to the flame the greatest possible illuminating power.]

50,432.—Breech-loading Fire-arm.—Westley Richards, Birmingham, England. Patented in England Sept. 11, 1862:

First, I claim the self-acting spring catch mounted on the tang of the breech-plate or on the top of the stock, and taking into a notch in a projection from the upper part of the barrels, or into a notch in the upper part of the barrels themselves, in substantially as described and independently of the position of the thump-piece or lever which actuates the said catch.

Second, The thump-piece, mounted on the tang of the breech-plate or on the top of the stock, and actuating a spring catch, substantially as described, and independent of the position of the said catch, whether it be over or under the barrel.

Third, The self-acting spring catch, in combination with its thump-piece, both mounted on the tang of the breech-plate, substantially as described.

Fourth, The inclined projection from the upper part of the barrels, entering a corresponding inclined recess in the breech-plate, so as to hold the two together, substantially as described.

Fifth, The making the axes on which the barrels turn in one solid piece with the body, substantially as described.

50,433.—Rifling Fire-arm.—A. Trauth, Chemnitz, Saxony:

I claim the production of rifle grooves with a trapezoidal cross section tapering through the chamber of the barrel to a parallel direction, thence diminishing in depth and width to about the middle of the length of the barrel, more or less, and finally passing on with uniform depth and width to the muzzle, substantially as and for the purpose described.

50,434.—Ventilating Apparatus for Steam Vessels, Etc.—John G. Woodward, St. John, N. B.:

First, I claim a ventilating casing around or contiguous to the smoke-pipe funnel, substantially as set forth, so that the ventilating current of air may be induced by the heat of the smoke-pipe, as set forth.

Second, I claim extending the ventilating casing above the top of the smoke-pipe or funnel to increase the rapidity of the escape of the products of combustion, said casing comprising, as set forth, a claim a partition or heat extending from the top of the furnace, at a short distance from the same, in combination with the ventilating casing around the smoke-pipe, as specified.

Fourth, I claim inclosing the boiler in a casing made of sheet metal a short distance from said boiler, leaving an air space, as set forth, said casing being removable in sections, as specified.

50,435.—Apparatus for Receiving and Distributing Mails on Railroad Cars.—Augustus Jordan, Washington, D. C.:

I claim, First, The shutter, B, opening and closing upon a horizontal axis, parallel with the direction of the car's movement, substantially as described.

Second, In combination with the shutter, B, the shelf, H, and partition, I, substantially as and for the purpose set forth.

Third, In combination with the shutter, B, the pinion, C, and rack, D, substantially as described.

Fourth, In combination with the partition, I, the set nut J, substantially as described and for the purpose set forth.

Fifth, Giving an automatic movement to the part or parts by which mails or packages are received into or delivered from railroad cars, when in motion, by the stationary cam or camber rail, G, placed beside the railroad track rail, as described, in combination with the rod, E, and roller, F.

REISSUES.

2,083.—Corn Sheller.—Thomas D. Burrall, Geneva, N. Y. Patented Dec. 6, 1845. Extended:

I claim, First, The opening, d, in combination with the plate or disk, c, and the sheller, substantially as and for the purpose described.

Second, The open space between the lower edge of the sheller and the plate or disk, c, in combination with said plate or disk, and the sheller, substantially as and for the purpose described.

2,084.—Forming and Punching Articles of Irregular Form.—Levi Dodge, Waterford, N. Y. Patented March 12, 1851.

I claim as my improvement in the manufacture of axes and other articles of iron, punching the same when the part to be punched is inclosed in conforming dies made to open and close in the manner herein set forth.

Second, I claim the combination of a punch with swinging matrices, constructed and arranged relatively to each other substantially as herein shown and described.

Third, In combination with a punch and movable dies for punching and shaping articles of iron by their simultaneous action or pressure on the sides of said articles as described, I claim the employment of cams, or the equivalents thereof, to actuate automatically the dies to open and close, substantially in the manner and for the purpose set forth.

2,085.—Tobacco Pipe.—Abijah Fessenden, Boston, Mass. Patented Nov. 29, 1864:

I claim dividing the bowl of the tobacco pipe into three or more chambers, substantially as and for the purposes described.

2,086.—Obtaining Fibers from Waste Felted Fabrics.—American Water-proof Cloth Company, assignee by mesne assignments of J. F. Greene. Patented April 12, 1859:

I claim subjecting the felts to be disintegrated to the successive and combined action of steam and picking, substantially as described, the steam having the effect either to unfelt or to loosen the hold which the fibers have on each other in felted fabrics that they can be drawn apart of sufficient length to be advantageously employed in the manufacture of felts or other fabrics.

Second, Also subjecting the felts which are to be disintegrated to the action of steam, for the purpose of loosening the fibers preparatory to the action of the machinery, as hereinbefore described.

Third, Also the application of salsoda or other equivalent chemical agent, in solution with heat, for the purpose of extracting the glue, mastic cement, or gums from the felts, in the manner hereinbefore described.

2,087.—Stone-cutting Machine.—George J. Wardwell, Rutland, Vt., assignor to the Steam Stone-cutter Company, New York City. Patented Nov. 10, 1865:

First, I claim a stone-cutting channeling machine, which is constructed to move upon a track, and provided with reciprocating cutters, which are supported in standards, arranged on the outside of the frame and outside of the said track, substantially as described.

Second, The combination of two or more cutters in gangs connected together by means of the vibrating beam, M, which are adapted to slide freely between standard guides, R, R, that are supported on one side of the frame of the machine, substantially as described.

Third, Providing for reversing the removable cutters, S, by bringing the outside standard, R, so that it can be opened or closed at pleasure, substantially as described.

Fourth, The combination of the vibrating beam, M, and reciprocating cutters, S, connected in such manner that the said beam operates upon the cutters in its ascending stroke, as well as in its descending stroke, substantially as described.

Fifth, The combination of a spring, w, vibrating beam, M, and reciprocating cutters, S, substantially as described.

Sixth, The serrated cutter stems, in combination with the serrated head clamp, T, substantially in the manner described.

Seventh, The application of packing blocks, c', to the head and foot clamps, T, U, substantially as described.

Eighth, The standards, R, arranged on the outside of a portable frame, A, substantially as and for the purposes specified.

2,088.—Stone-cutting Machine.—George J. Wardwell, Rutland, Vt., assignor to the Steam Stone-cutter Company of New York. Patented Nov. 10, 1865:

First, I claim giving a forward or backward movement to the stone-cutting machine at pleasure, and simultaneously with the forward stroke of the reciprocating cutters, S, and confining said machine positively in position upon its track during the descending stroke of the said cutters, substantially in the manner described.

Second, The double-acting rod arm, g', connecting rod, v', vibrating lever, r', combined and operating together in the manner described.

Third, Accelerating the descent of the cutters, S, by means of a spring, W, applied to the beam, M, substantially as described.

Fourth, Connecting the cutters, S, to the beam, M, or its equivalent, by means of straps, g, f, substantially in the manner described.

Fifth, The clamps, T, U, constructed and applied to the cutters, S, substantially as described, and adapted to receive the guides on the standards, R, substantially as described.

Sixth, Securing the cutters together rigidly by means of clamps or clasps, which receive teeth or projections formed on said cutters, substantially as described.

DESIGNS.

2,177, 2,178.—Hat.—D. K. Albright, Philadelphia, Pa., and L. H. DeLange, Bordentown, N. J. (Two cases.)

2,179.—Trade Mark.—John Ames, Lansingburgh, N. Y.

2,180.—Frame of a Sewing Machine.—Joseph W. Bartlett, New York City.

2,181.—Trade Mark.—James P. Baxter, Portland, Me.

2,182.—Sun Dial.—N. Carroll, Philadelphia, Pa.

2,183.—Stock of a Cistern or Well Pump.—Leonard Egleston (assignor to Rumsey & Co.), Seneca Falls, N. Y.

2,184.—Copying Press.—Robert Hoe, Jr., New York City.

2,185, 2,186.—Cook Stove.—Henry S. Hubbell and Alfred S. Hubbell, Buffalo, N. Y. (Two cases.)

2,187, 2,188.—Parlor Stove.—Henry S. Hubbell and Alfred S. Hubbell, Buffalo, N. Y.

2,189.—Movement Frame of a Clock.—Laporte Hubbell, Bristol, Conn.

2,190.—Clock Front.—G. S. Lovell, Philadelphia, Pa.

2,191.—Trade Mark.—Augustus C. Mueller, St. Louis, Mo., assignor to Heller & Teibrock, Mascoutah, Ill.

2,192.—Carpet Pattern.—Francis J. Peirce (assignor to the Roxbury Carpet Company, Roxbury, Mass.)

2,193.—Floor Oil-cloth.—Albert E. Powers, Lansingburgh, N. Y.

2,194.—Bust of Gen. Grant.—Louis Rebisso, Buffalo, N. Y.

2,195.—Group of Statuary.—John Rogers, New York City.

2,196.—Plates of a Cook Stove.—Isaac A. Sheppard, Philadelphia, Pa.

2,197.—Reed Organ Case.—J. L. Treat (assignor to Treat, Lindsley & Co.), New Haven, Conn.

2,198.—Cook Stove.—Nicholas S. Vedder, Troy, N. Y., assignor to Tibbals, Shirk & Whitehead, Chicago, Ill.

2,199.—Trade Mark.—A. H. Wirz, Philadelphia, Pa.

2,200.—Coach Lamp.—Chas. B. Wood, New York City.

PATENTS

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CHAS. MASON

[See Judge Holt's letter on another page.]

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