of Buffalo, N. Y., is the inventor of this improvement.

Bone-black Oven.—This invention consists in the arrangement within a rotating circular retort, of a continuous flange running spirally around its inner surface from end to end, or along any portion of its length, whereby a gradual and regular movement of the bone-black from one end to the other is obtained, by the rotary motion of the retort about its axis without giving it any inclination from a horizontal position. It also consists in the arrangement of a drying retort or cylinder in the same oven or casing with, and in such relation to and connection with the revivifying retort, that it may be heated by the waste heat from the same fire by which the latter retort is heated, for the purpose of drying the washed bone-black preparatory to re burning, and that the dried bone-black may be delivered continuously from it to the re-burning or revivifying retort. It further consists in a novel mode of connecting the revolving, revivifying retort with the coolers or other receptacles into which the revivified bone-black is discharged. Gustavus Finken, of New York city, is the inventor of this apparatus.

Horse Pitchfork.—This invention relates to a new and improved horse pitchfork, such as is used for elevating by means of a horse or other draught animal, hay and grain into mows. The invention consists in the employment of two pairs of hooks provided with arms, those of each pair crossing each other and fitted on a rod, the ends of the arms of each pair of hooks being connected by a crossbar, and the latter having a rope attached to or connected with them, in such a manner that when the loaded fork is raised by means of the rope aforesaid, the hooks will be made to grasp and firmly hold its load, and the hooks, by a simple contrivance readily released at any time, to discharge the load. Silas L Gates, of Verona, N. Y., is the inventor of this improved pitchfork.

Tailor's Shears.—This invention consists in having the lower blade of tailors' shears formed with a recess or shoulder, in such a manner that the cutting edge of said blade can be brought down in line, or nearly so, with the pivot connecting the two blades, without unduly weakening said blade, and that by this construction of the shears a draw cut is produced, enabling the operator to work the shears with the greatest ease, and to have the full benefit of the cutting edge from heel to point. Herman Wendt, of New York city, is the inventor of this improvement. For further information address Henry Seymour, 32 Beekman street, New York.

Rocket.—This invention is more especially designed for signal rockets for military and other operations. It consists, first, in the application to or within a rocket, of a roman candle, for the purpose of discharging stars of the same or different colors, one after the other, and thereby enabling a greater variety of and more distinct signals to be produced. It consists, secondly, in making the stars of the roman candle with cavities in their upper ends, containing charges of gunpowder or other suitable explosive substance, for the purpose of driving out the balls from the case and igniting them at the same time. It consists, thirdly, in so combining a balloon with a rocket as to make it keep suspended for a time, or retard the descent of a roman candle or other firework discharged from the rocket, for the purpose of making a signal, whereby such firework is rendered visible for a longer period, and the signal enabled to be better understood than if it descended quickly. It consists, fourthly, in the novel construction and arrangement of a series of divergent spiral passages in the bottom of a rocket, for the purpose of obtaining its rotary motion by the escape of the gases eliminated in the combustion of the charge, and thereby dispensing with the stick heretofore commonly used to guide and steady the flight of the rocket. George H. Felt, of New York city, is the inventor of this improvement.

THE Woonsocket, R. I. *Patriot* says that no town in Rhode Island is improving more rapidly than Burrillville. This is especially true of its manufactures, and these stimulate and advance its agricultural industry. Nearly all its mills are for the product of woolen fabrics; and the success of this branch, for a few years past, has overshadowed almost every other business in New England.

ISSUED FROM THE UNITED STATES PATENT-OFFICE

FOR THE WEEK ENDING AUGUST 25, 1863.

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.

39,620.—Mode of Combining Cider Mill, Corn Sheller, and Fodder Cutter.—James P. Adams, Chester, Ill. Ante-dated Feb. 9, 1863:

I claim the wheel, F, provided at one side with a beveled surface, having radial and tangential rows of teeth, b b', and at the opposite side with knives or cutters, H H, in combination with the reversible hopper, G, leger blade or cutter, I, and feed rollers, J J, operated from the shaft, B, as shown, all arranged as and for the purposes herein set forth.

[This invention consists in combining a wheel, provided with cutters and a beveled toothed side, with a reversible hopper and feed rollers; all arranged in such a manner that corn may be shelled from the ear, apples cut or ground, for manufacturing cider, and straw, stalks, hay, &c., cut for fodder.]

39,621.—Drain Tile Mold.—John J. Alvord, Tecumseh, Mich.:

I claim the sewer and file head for the purposes set forth and described.

39,622.—Beehive.—J. H. Andrews, Almont, Mich.:

I claim, first, A hive provided with a partition, D, having holes, d, made in it; in combination with the boxes, E E, provided with holes, e, in their bottoms and openings, j, in their sides, in line with openings, i, in the sides of the hive, all arranged substantially as and for the purpose set forth.

Second, The manner of securing the back part of the lid or cover, K, and bottom board, B, to the hive, A, as shown and described, to wit: by having said parts provided respectively with cleats, o d, having pins, b p, driven in them which fit into the back of the hive.

[The object of this invention is to obtain a bee-hive of simple construction, which will admit, by a simple manipulation, of colonies of bees being increased without permitting them to swarm; the hive at the same time admitting of two different colonies working in it in separate compartments, and also affording facilities for the removal of old comb when necessary.]

39,623.—Wringing Machine.—Francis Arnold, Haddam, Conn. Ante-dated Nov. 18, 1862:

I claim the vibratory roller frame, m, with proper fastenings for holding it in place, substantially in the manner as and for the purpose described.

39,624.—Tidal Valve for Draining Land.—E. T. Bainbridge, Louisville, Ky.:

I claim the combination of the flume with the valve, constructed, arranged and operating, substantially in the manner described for the purpose set sorth.

39,625.—Retort for Refining Zinc.—William Blake, Boston, Mass.:

I claim an improved retort, consisting of an ordinary retort, A, and a trap or ceaspool as specified, or its equivalent, applied either to the entrance or exit passage of the retort, or to each of them, and so as to operate substantially as and for the purpose hereinbefore specified.

39,626.—Sawing Machine.—Isaac W. Bowers, Ovid Center, Mich.:

I claim, first, The vertical and horizontal saws, D F, when used in combination with a reciprocating frame, L, having upright frames, N N', attached to it in which a log, R, is suspended, and the frame, L, operated through the medium of the racks, M M, pinions m m, belts, g g', and lever, J, all arranged as and for the purpose herein set forth.

Second, Suspending the log, R, between the upright frames, N N', by means of the center points or pins, i', attached to the slides, Q Q, which are moved or adjusted through the medium of the racks, b', pinions, c', arms, h', and plates, e', substantially as shown and described to admit of the lateral adjustment of the log, R.

Third, Placing the slides, Q Q, on vertically adjustable bars, O, in the frames, N N', the bars, O, being raised and lowered by means of the racks, s, and pinions, t, as described, when the parts above named are used in combination with the saws, D F, and the frames, N N', are attached to a reciprocating frame, L, all arranged to operate as and for the purpose herein set forth.

Fourth, The pawls, S S, attached to the ends of the frame, L, when used in connection with the saws, D F, and bed pieces, l l, as and for the purpose herein specified.

39,627.—Washing Machine.—Isaac W. Bowers, Ovid Center, Mich.:

I claim the suds-box, A provided with rounded ends, and with rollers, C, as described in combination with the rubber, D, provided with rollers, i, fitted between side strips, d d, having rounded ends and also provided with a perforated top board, f, all arranged as and for the purpose set forth.

39,628.—Cracker-Cutting Machine.—E. O. Brinkerhoff, New York City:

I claim, first, The cross-head, H, with cutters, G, attached in connection with the cross-head, I, the springs, J, and fixed or permanent cross-bar, E, all arranged to operate as and for the purpose specified.

Second, The connecting of the rod, P, to the arm, N, through the medium of the tube, O, and nuts, h h, fitted on a screw or rod, P, substantially as and for the purpose set forth.

[This invention relates to an improvement in the cutting apparatus of cracker machines, whereby the same is made to cut in a more uniform manner than heretofore, without subjecting any of the working parts of the machine to undue strain, and at the same time compensating for any unevenness in the sheet of dough and ensuring a perfect clean cut at all times.]

39,629.—Machine for upsetting Tires.—Ira D. Card, Danville, Cal.:

I claim, first, The adjustable fulcrum head, G, with the self-acting wedge, F, constructed and operating as described.

Second, I claim constructing the jaws, H H, of the walls of the groove in the manner and for the purpose of operating substantially as described.

39,630.—Grain Dryer.—Louis S. Chichester, New York City:

I claim first, A series of centrifugal drying tables in combination with the stationary intervening funnels for receiving the grain as scattered from the table and returning it to the next table below, substantially as specified.

Second, I claim the central hot-air tube, g, and its openings, i, in combination with the said centrifugal tables and funnels, for the purposes and as specified.

Third, I claim the escape apertures, l, for regulating the escape of the heated air and vapors, in combination with said centrifugal tables and funnels as specified.

39,631.—Truss-Pads.—Henry J. Childs, New York City:

I claim forming the truss pad or pads of brushes for the purposes and as set forth.

39,632.—Painter's Panel.—Albert G. Collins, Washington, D. C.:

I claim the application of canvas to pasteboard as herein above described for the purpose set forth.

39,633.—Harvester Cutter-Bar Connection.—Geo. W. D. Culp, Allensville, Ind., and W. J., Keeney, Florence, Ind.:

I claim, first, Connecting a pitman, B, to a cutter-bar, A, by means of a single conical or conoidal journal, b, passing through a corresponding socket, a, in the heel of the cutter-bar, and confined by an adjustable plate, C, as herein shown and described, so as to employ the entire strength of the projection on the heel of the bar, and admit of tightening up the cone or journal for the whole extent of its length.

Second, Constructing the said point, cone or conoidal journal with a shoulder or collar, h', to constitute a bearing for the confining plate, I, substantially as herein described.

Third, Connecting the pitman to the crank or fly wheel, by means of a rocking box, substantially as set forth.

[The principal object of this invention is to compensate for the wear of the crank pin and rod, by the use of an adjustable conical journal, which may be set up in its socket so as to keep the parts constantly tight until worn out.]

39,634.—Washing Machine.—Samuel Davis, Providence, R. I.:

I claim the combination of the inner suds reservoir holders, R R, and centralizers, T T, with the lever standards, p j, applied to the outer suds reservoir, the whole being substantially and for the purpose or objects hereinbefore specified.

I also claim the improved arrangement of the connection, V W, of the operative levers, g F, with respect to them and their fulcra, o l.

39,635.—Distilling Apparatus.—Henry G. Dayton, Maysville, Ky.:

I claim, first, The combination of the boiler, B, and double still, K, both constructed, arranged and operating in the manner and for the purpose specified.

Second, The single still, L, constructed substantially as described, and heated by a central steam pipe and surrounding jacket, as specified.

Third, The described combination of the single still, L, with the boiler, B, of the double still, K, whereby the steam after heating the double still may be employed for heating the single still, as explained.

Fourth, The combination of the wash boiler, H, with the furnace, C, and boiler, B, constructed and arranged substantially as and for the purpose specified.

[In this apparatus beer in process of distillation is preserved from contact with any metallic surface exposed to direct fire heat. The results are entire freedom from scorching, absence of injurious metallic oxidation, great uniformity of action and saving of fuel.

39,636.—Signal Rocket.—George H. Felt, New York City. Ante-dated July 29, 1863:

I claim, first, The combination of the Roman candle with the rocket, substantially as and for the purpose herein specified.

Second, The construction of the stars of the Roman candle with cup-like concavities for the reception of the charges, e, of gunpowder, by which they are to be discharged from the case of the candle, substantially as and for the purpose herein specified.

Third, The combination of a balloon with a rocket substantially as and for the purpose herein specified.

Fourth, I claim the plug, J, with the central passage, t, and spiral tubes or passages, u u, combined as and for the purpose herein specified.

39,637.—Apparatus for Revivifying Bone Black.—Gustavus Finken, New York City:

I claim, first, The arrangement of a flange or flanges, b, on the interior surface of a revolving retort in spiral or screw-like form, substantially as and for the purpose herein specified.

Second, The arrangement of the drying retort or cylinder, B, in the same oven with the revivifying retort, A, in such manner as to be heated by the waste heat from the fire by which the latter retort is heated.

Third, Combining the revolving retort, A, with the coolers, K K, or other receptacles by means of a stationary head, L, and one or more pipes, J J, and sliding connecting sleeves or couplings, f f, substantially as herein described.

39,638.—Revivifying Bone Black.—Joseph Forest, New York City:

I claim drying bone black by forcing heated air through it substantially as described.

And in combination with the heated air forced through the bone black, I claim applying heat to the vessel containing it (the bone black) at the same time.

I also claim the apparatus described for the purpose specified.

39,639.—Plow.—William Frank, St. Louis, Mo.:

I claim the standards, C, brace, D, lower and top bars, E G, and guide, H, all combined and applied to the beam, A, as shown for the purpose specified.

I further claim the securing of the mold-board, I, to the standards, C, and bar, E, by means of the hook, d, and screw bolt, e, and the swivel screw brace, J, substantially as and for the purpose specified.

[The object of this invention is to obtain a plow which may be readily adjusted for plowing deep or shallow, as may be required, and also readily adjusted so as to take more or less land, that is to say, to turn a furrow slice of greater or less width, and at the same time be capable of having different shares and mold-boards attached to it to suit different kinds of work.]

39,640.—Boiler Furnace.—Alexander Friedmann and F. Emile d'Erlanger, Paris, France. Patented in France, June 10, 1862:

We claim the application, substantially as herein set forth and shown in the drawing, to the fire boxes of steam boiler furnaces of an inner mantel in metal, so arranged as to form an inclined diaphragm or reverberating chamber in and by which are effected the heating of the air required for the combustion of the smoke and the distribution of this air over the ignited surface of the fuel on the grate.

39,641.—Horse Hay Fork.—Silas L. Gates, Verona, N. Y.:

I claim the two pair of hooks, A A A' A', fitted on the rod, B, as shown, in combination with the fixed roller, D, loose or detachable roller, F, rope, E, hook H, and lever, I, all arranged and combined to form a new and improved horse pitch fork substantially as set forth.

39,642.—Revolving Fire-Arm.—M. F. Geraghty, Jersey City, N. Y.:

I claim the employment of the locking ring, D, constructed, arranged, combined and operating in conjunction with the rear portion of the cylinder, C, and the cartridge case, E, as herein shown and described.

[This invention relates to revolving fire arms for the use of metallic cartridges, inserted in the chambers from in front of the cylinder. Its object is to provide for securing such cartridges in the chambers in such manner that they can neither drop out in front nor move forward therein, and thereby interfere with the revolution of the cylinder, and to this end it consists in the construction of the cylinder of two or more pieces, one of which is movable about the axis, independent of the main body of the cylinder, and constructed to enter grooves provided in the cartridge for its reception.]

39,643.—Closing Fruit Cans.—N. S. Gilbert, Lockport, N. Y.:

I claim the ring of india-rubber, or elastic material, secured by ce-

ment, or otherwise, to the interior of the stopple or cap in the described combination with the tapering neck, B, and shoulder, b, substantially as and for the purposes specified.

39,644.—Manufacture of Bungs.—Lyman Gray, Pittsburg, Pa.:

I claim the method of centering and turning bungs out of small blocks of wood, in the manner as herein set forth.

I also claim the guide box, M, with its opening, P, in combination with the spindle, R, for the purpose hereinbefore stated.

I also claim the lever, L, combined with the sliding spindle, R, by means of the clutch, G, in the manner as herein shown and set forth.

39,645.—Revolving Fire-Arm.—Henry Gross, Tiffin, Ohio:

I claim the cylinder, C, in combination with the tubular recoil plate, B, when the said cylinder is so constructed as to shield the end of the re coil plate substantially as and for the purposes specified.

39,646.—Breech-Loading Fire-Arm.—Henry Gross, Tiffin, Ohio:

I claim, first, The adaptation of a swinging breech piece which has a conical or curved protuberance on its front end and a lever-guard formed on its under-side, to so operate that it will swing unchangingly on its axis within a given space, to a certain extent, and will then move forward so as to close the breech of the barrel with the protuberance and the metal around it, substantially in the manner described.

Second, I claim the segment breech-piece, D, formed on the lever-guard, G, and having a curved protuberance on its front end, when the curved surfaces, d d′, are formed on the segment, D, and the solid metallic portion, B, of the stock, so as to be in the relation shown to the axis of the gun barrel, and so that they, as the lever-guard, G, is drawn back to its place, will cause the breech-piece protuberance, F, to be forced in nearly a straight line and firmly locked in its seats, ff′, without the aid of an auxiliary curved wedge, or other auxiliary appliance, substantially as herein described.

Third, The combination of the slot, e, pin, g, segment, D, lever-guard, G, curved protuberance, F, curve seat, f f′, and curved surface, d d′, all applied and operating substantially as and for the purpose set forth.

Fourth, The arrangement of the one spring latch, J, with respect to the lever-guard, G, and the spring bolt, N, so that the one action of the hand to operate the guard, will release both, the guard and the bolt, substantially as described.

39,647.—Head Block for Saw Mills.—Gebhard Hagenmeyer, Big River, Cal.:

I claim the arrangement and combination of the journals, H and B, working in connection with the parts, D E F and G, and operating in the manner described and set forth.

39,648.—Regulator for Grinding Mills.—A. B. Hamaker, Salunga, Pa. Ante-dated Aug. 14, 1863.

I claim, first, The governors, A′ P, provided with slides, e p, arranged as shown for the purpose of regulating their action, in combination with the sliding sleeve, H, with the wheels, I I′, attached and the friction wheels, L U, or equivalent gearing for the purpose of regulating the space between the mill stones, and also for regulating the feeding of the grain to the same, as herein described, either governor with its concomitant parts being used separately or both combined.

Second, The fluted cylinder, B*, and sliding tube, A*, placed in the hopper, C*, in connection with the lever, W, or its equivalent operated from the governor, P, substantially as shown for the purpose of feeding the grain to or between the stones as set forth.

Third, The combination of the friction wheel, L, with the sliding pinion, N, arranged respectively with springs, M i, and provided with inclined surfaces, j k, to operate in connection with the wheels, I I′, on the sleeve, H, as and for the purpose set forth.

[This invention relates to a new and improved automatic device for grinding mills, the same consisting of a combination of parts for regulating the speed of the stones, the feed or supply of grain to the same and the adjusting of the stones, so as to regulate the space between them, in order that the grain may be ground of the required degree of fineness, and also for regulating the power by which the stones are driven.

39,649.—Stave Machine.—Thomas Hanvey, Elma, N. Y.:

I claim the combination of the box, A, and knife, K, as arranged in the frame, B, with the rollers, R R, whereby the staves are passed directly from the slicing machine to the pressing and forming rollers, thus securing greater perfection in the shape of the stave, and greater compactness in the material than can otherwise be obtained.

39,650.—Churn.—A. H. Hart, Stockbridge, Wis.:

I claim the slide, g, provided with the oblique grooves, i i, and operated by the lever, h, in combination with the dashers, E E, the whole constructed, arranged and operating in the manner and for the purposes herein set forth.

39,651.—Harness and Trace Buckle.—Henry Hise, Ottowa, Ill.:

I claim the combination and arrangement of the arm, C, provided with the rivet-hole, r, the tongue, c, and spring, E, with the frame, A, the slot, a, the crossbar, B, stop, b, and the lever, D, when all are ranged, and operate as and for the purposes herein shown and described.

39,652.—Railroad Car Seats.—Stephen Briggs Holden, Meadville, Pa.,

I claim the car seat supported on the supports, D D D D, in combination with the spring, E E, when the same are constructed as described, or any other construction, substantially the same, and which will produce the same results.

39,653.—Recovering Waste Alkalies.—Gardner Howland, Brunswick, N. Y.:

I claim the use of the supernatant alkaline liquor, resulting from the treatment of alkaline lyes with lime, after such lyes have been used in the reduction of crude vegetable fiber.

39,654.—Measure Faucet.—Gilbert Hubbard, Sandisfield, Mass.:

I claim the chamber, A, communicating with the tubes, B C, and provided with the rotating sliding piston, E, and valve, I, all arranged to operate as and for the purpose herein set forth.

I further claim the wheels, F G, in combination with the rotating sliding piston, E, and valve I, placed within the chamber, A, the wheel, F, being provided with a single tooth, c, which engages with the wheel G, and the latter provided with an index, g, which comes in contact with a stop, h, at the side of the chamber, A, all being arranged substantially as and for the purpose specified.

[This invention consists in the employment or use of a rotating sliding piston placed within a chamber which is in communication with the tabie of the faucet; the piston being fitted within a head provided with a valve and having at one end of it, outside of the chamber, a wheel provided with a tooth which engages with a toothed index wheel, all being arranged in such a manner that liquids may be drawn by measurement from a cask or reservoir, the flow of the liquor ceasing when the desired quantity is drawn.]

39,655.—Hay-loader.—William L. Hubbell, Brooklyn, N. Y.:

I claim, first, The diagonal rakes, n, and o, fitted as specified in combination with the rake, i, and elevating apron, e, as set forth.

Second, I claim the vibrating rake or sweep, r, fitted with swinging prongs substantially as specified in combination with the diagonal rakes, n and o, to gather the hay toward the center as set forth.

39,656.—Washing Machine.—Alonzo W. Ingalls, Buchanan, Mich.:

I claim the combination of the vibratory brush, a a, plane washboard, b b, and springs, k k, for holding the brush away from the wash board, substantially as and for the purpose herein specified.

I also claim the clothes holder, d d, with its springs, e e, in combination with the wash-board and rubber, or brush, as herein set forth.

39,657.—Ring Spinning Frame.—Welcome Jenckes, Manchester, N. H.:

I claim providing for the adjustment of the rings in the rail of a ring spinning frame by making the holes in the rail for the reception of the said rings larger than the exteriors of the portions of the rings which are received within them and applying adjusting screws in combination with the holes and rings, substantially as and for the purpose herein specified.

39,658.—Stitch for Sewing Machines.—R. H. Jewett, Versailles, Ill. Ante-dated March 1, 1863:

I claim the stitch produced with two threads, by passing one thread through the cloth or other material to be sewed from one side thereof in a series of loops and enchaining the other thread on the opposite side of the said material in a series of loops, in such manner that each of the latter passes through one of the protruding loops of the first thread and receives the succeeding loop of its own series as herein specified.

[This invention consists in a stitch of novel character produced with two threads, by passing one thread through the cloth or other material to be sewed from one side thereof in a series of loops, and enchaining the other thread on the opposite side of the said material, in a series of loops, in such manner that each of the latter passes through one of the protruding loops of the first thread and receives the succeeding loop of its own series, such stitch being very strong and possessing great elasticity.]

39,659.—Snap Hook.—Oliver S. Judd, New Britain, Conn.:

I claim, first, Casting or forming the open eye for the joint pivot in combination with the loop, B, and hook, A, substantially in the manner and for the purpose described.

Second, I claim the employment of the spring, E, in combination with the hook, A, and latch, C, when fitted into properly formed recess inside of said hook and latch, in the manner and for the purpose substantially as described.

39,660.—Beehive.—Walter M. Lee, Rosindale, Wis.:

I claim, first, The combination of the comb guides as braces, a, with the sharp edge on the under-side of the comb-bar, A′, substantially in the manner and for the purposes set forth.

Second, I also claim the arrangement, in combination with the hive, of the bottom board, D, riding on wedges, P, and supported by buttons behind, substantially in the manner and for the purposes specified.

39,661.—Collapsible Boat.—C. F. Lichtner, Chicago, Ill.:

I claim, first, Providing the inner keel, B, with the adjustable or folding wings, b b, arranged and operating substantially as and for the purposes herein delineated and described.

Second, I claim the combination of the flexible covering, H, the keel, A, the longitudinal ribs, a, and transverse ribs, C, with the folding wings, b b, arranged and operating substantially as and for the purposes herein specified and shown.

Third, I claim the combination and arrangement of the folding wings, b b, with the inner keel, B, the transverse ribs, C, the standard, D, cross bar, E, and seat, F, constructed and operating substantially as and for the purposes herein shown and set forth.

39,662.—Elastic Syringe.—H. D. Lockwood, Charleston, Mass.:

I claim the metallic sockets, B B, fitted in the ends of the elastic bulb, A, and secured therein, by subjecting the bulb and sockets to a high heat during the process of vulcanizing or otherwise; in connection with the chambers, c, tubular screens, b, and tubes, C, all arranged substantially as shown, to form joints or connections between the suction and force tubes, D, and bulb, A, of an elastic syringe.

[This invention relates to an improvement in that class of syringes in which an elastic bulb is employed to serve as a pump or as a suction and force device. The object of the invention is to obtain a more durable connection than hitherto of the suction and force tubes to the bulb, so that the joints which form said connection will not be liable to work loose and leak by the compression and expansion of the bulb.]

39,663.—Chair for Invalids.—George A. Mansfield, Melrose, Mass. Ante-dated Dec. 21, 1861:

I claim the dorsal snpporter, a, constructed with, or applied to, the back of a chair, substantially as described, and specifically for the objects and purposes set forth.

39,664.—Pianoforte.—Lorenzo Matt, Boston, Mass.:

I claim a sounding board, partially insulated from the case and supported by one or more springs, arranged under its free end, the whole being substantially as hereinbefore specified.

39,665.—Water-proof Mittens for Divers.—Frederick J. Merryman, Boston, Mass.:

I claim the improved manufacture of water-proof mitten, as made with the water-proof and elastic sleeve or wrist extension, C, to so close on and fit to the arm of a diver as to prevent water from gaining access to the interior of the said mitten or glove while being worn, and submerged.

39,666.—Clothes-wringer.—B. D. Morrell, Lisbon, N. H. Ante-dated Dec. 19, 1862:

I claim in combination with the frame of the clothes-wringer, the plates, L, with pins, q q, passing through and capable of moving freely in the projections, k, of the frame, the said plates being arranged in respect to the projections, n, and set screw, M, and operating substantially as and for the purpose herein set forth.

39,667.—Military Cap.—Sarah Mossman, Cleveland, Ohio. Ante-dated July 20, 1862:

I claim, first, Making the cover in two parts so as to be buttoned over the cap, or folded up so as to form a band around the cap, as above described.

Second, The combination of the cape with the cover and cap, as set forth.

39,668.—Coal Sifter.—Robert C. Nichols, Roxbury, Mass.:

I claim the combination of a sifter or screen, g, and pan, h, when arranged and made to operate together, in the manner and for the purpose substantially as described.

I also claim making the journals, d, with the flat surfaces as set forth, for the purpose of keeping the pan in position, and imparting the jarring motion to the sieve as above specified.

39,669.—Auger Stock.—Samuel C. Norcross, Norway, Maine:

I claim my improved auger stock having its aperture for the handle, A, its body, B, its groove, C, and ferule or ring, E, its key, D, and its projection and notch or holder, G, its oblique socket, I, constructed and arranged in relation to each other, and so as to operate together as set forth.

39,670.—Snap Hook.—Norman North, Middletown, Conn.:

I claim as an improved article of manufacture the arrangement of the spring, d, fitted and secured in a recess in the outside of the heel of the hook, a, for the purpose of operating the latch, b, substantially in the manner and for the purpose described.

39,671.—Oil Press Mat.—Hassall Nutt, Brooklyn, N. Y.:

I claim the employment or use in the manufacture of oil press mats of the movable central clamp, A, screw clamps, C, frames, B, and rods, a, all combined and operating in the manner and for the purpose substantially as herein shown and described.

[This invention consists in the employment or use of two or more screw clamps in combination with movable frames, and with a central clamp which serves to hold the pins or rods which form the guides for the strands composing the mat, in such a manner that the strands can be gradually and firmly compressed, and a cheap, durable, and well finished mat can be produced with comparatively little labor or exertion.]

39,672.—Tree Protector.—Henry L. Ordway, Ipswich, Mass.:

I claim, first, Providing the disk, C, with the ring or collar, B B′, substantially as set forth and for the purpose described.

Second, I claim a flexible cloth or bag, in combination with a tree protector consisting of a disk, C, and ring or collar, B B′, substantially as and for the purpose described.

39,673.—Apparatus for Cooling the Teeth.—Edward Oudry, Pittsburgh, Pa.:

I claim, first, The arrangement of one or more mouth-pieces, H H′, at the ends of double channeled flexible pipes, F F′, in combination with a refrigerating chamber and pump, constructed and operating substantially as and for the purpose specified.

Second, The arrangement of a partition, i, in each mouth-piece, in combination with two channels, h h, pipes, F F′, and refrigerating chamber, B, all constructed and operating in the manner and for the purpose substantially as shown and described.

Third, The flat tube, D D′, in combination with the refrigerator chamber, B, pump, C, or its equivalent, pipes, F F′, and mouth-pieces, H H′, all as and for the purpose set forth.

Fourth, The thermometer, G, applied in combination with the mouth-pieces, H H′, pipes, F F′, and pump, C, or its equivalent, in the manner and for the purpose described.

[The object of this invention is an apparatus by which a freezing mixture or a cooling medium either in a liquid or gaseous state can be applied to the teeth or any other part of the body in a convenient and expeditious manner.]

39,674.—Nozzle.—Charles Oyston, Little Falls, N. Y.:

I claim the arrangement of a series of divergers, B, or their equivalents connected to each other and to the nozzle, A, by suitable mechanism, substantially in the manner and for the purpose specified.

[The invention consists in the arrangement of a series of wedge-shaped divergers, in combination with a nozzle, in such a manner, and connecting them by suitable mechanism in such a way that they may be projected into the stream emanating from the nozzle, so as to divide it up, or withdraw so as to let it pass free, at the will of the operator.]

39,675.—Hub Machine.—J. B. Ripsom, East Kendall, N. Y.:

I claim clamping and sustaining the wheel in place, by means of the adjustable bars, E, connected with the ring, D, or its equivalent, the adjustable connections, G, and the block, C, arranged, combined and operating substantially as herein set forth.

I also claim in combination with the connections, G, arranged as described, and the block, C, the projections, k k, provided with notches, p p, and shoulders, q q, and the cross-heads, o o, of the screw shanks, for the purpose of retaining said connections in place, at any inclination, substantially as herein specified.

I also claim the combination of the ring, D, independent center, H, and adjusting screws, r r r, or equivalent, relatively to the shaft, B, and the wheel, for the purpose of perfectly centering the latter, substantially as herein described.

In combination with the screw shaft, B, provided with the cutters, K L, and the center, H, I also claim the removable nut, v, for the purpose of easily removing the cutters from the bore, substantially as herein set forth.

I also claim the special arrangement and combination of the whole machine, as herein set forth.

39,676.—Adjustment of Fishing Nets.—William Randolph, Bloomington, Ill.:

I claim, first, The standard, C, constructed and applied as herein shown and described for securing the net in position,

Second, The combination of the anchors, D, chains or cords, E, buoys, F, and winches, G, arranged and operating substantially as set forth.

39,677.—Carriage Seat.—Andrew J. Ritter, Rahway, N. J. Ante-dated June 12, 1862:

I claim, first, Dividing and jointing the seat rail, A, and converting the front part of the seat rail, A, into a movable brace, for the purpose of supporting and working the seat board, C, as heretofore set forth.

Second, The combination of the movable front rail, A, with the fall or seat board, C, and the supporting legs, I I, attached to the under-side of the fall or seat board, C, as and for the purpose herein set forth and described.

39,678.—Powder Injector.—Dwight Russell, M.D., Milford, Mass.:

I claim the new or improved powder injector, as made of an elastic bulb, a flexible probe of the kind described, and a jet and powder-holding thimble or cap, or its equivalent, the whole being substantially as hereinbefore specified.

39,679.—Combination of Bureau and Trunk.—A. V. Rider, New York City:

I claim a trunk and bureau, combined and arranged with catches substantially as shown, so that when the bureau is elevated or raised from the trunk, the former will be supported on the latter by the automatic action of the catches, and the catches be capable of being drawn in or freed from the trunk, as the bureau is grasped to be lowered into the former, as herein described.

[The object of this invention is to combine a bureau and a trunk in such a manner that the bureau when not required for use may be enclosed within the trunk, and the former, when required for use, be capable of being elevated and sustained by the trunk so as to answer the same purpose as an ordinary bureau, while the trunk itself may be made available as a receptacle for clothing or other articles.]

39,680.—Machine for breaking and cleaning Flax, &c.—Gelston Sanford & James F. Mallory, New York City:

We claim making the peripheries of the second pair of rollers travel faster than the first pair, when both pairs of rollers have a reciprocating rotary motion on their axes, substantially as and for the purpose set forth.

We also claim imparting to one or both of the rollers of a pair, a longitudinal reciprocating motion, substantially as described, in combination with a reciprocating rotary motion, substantially such as described, and for the purpose set forth.

We also claim the combination of a pair of toothed rollers having a reciprocating rotary motion, and a longitudinal, reciprocating motion, substantially as described, with a pair of fluted rollers having a reciprocating rotary motion, substantially as described.

And we also claim making the circumferential grooves of the pair of toothed rollers of greater depth than the longitudinal grooves, substantially as and for the purpose specified.

39,681.—Bobbin or Spool.—Benjamin Saunders, Nashua, N. H.:

I claim the improved bobbin or spool, as provided with or having combined with it either a yarn hitching groove, a, or the same and a gage guide, b, the whole being substantially as and for the purpose described.

39,682.—Combined Time and Percussion Fuse for Shells.—John P. Schenkl, Boston, Mass.:

I claim the combination of the band or tape, f2, with the wrench-pin, E, and the rotator, C, and to operate in the manner therewith, and for the purpose or purposes, substantially as hereinbefore specified.

I also claim the combination and arrangement of the notch or recess, t2, with the rotator, C, and the tape or band, f2, applied to it and the wrench pin, E, as specified.

I also claim the rotator as made with the outlet, m, arranged so as to open out of its side or sides in manner and for the purpose described.

I also claim the fuse case as not only constructed with a helical range of holes but with a powder chamber arranged either on the outer surface of such fuse case or in a groove thereof, and with respect to the range of holes and for the purpose of igniting the main or bursting charge of a shell as specified.

39,683.—Mode of unloading Canal Boats.—Thomas Sharp, Chicago, Ill.:

I claim, first, The arrangement of the movable end, a, and swinging bulkhead, b, in combination with the boat, A, constructed and operating in the manner and for the purpose substantially as described.

Second, The truck, B, with an inclined platform, D, in combination with the boat, A, when said truck is placed within the lock of a canal upon suitable guide rails connected with an inclined plane, so that when the water is drawn from the lock, the boat shall rest on the truck and be placed in a convenient position for unloading.

[The object of this invention is a canal boat so constructed and combined with a trunk that a cargo of coal or any other cargo in bulk can be unloaded without the use of the shovel or ordinary manual labor.]

39,684.—Treating Pyritous and other Sulphur Ores.—Matthias W. Sinding, Linlehammer, Norway. Patented in England Oct. 13, 1855:

I claim the process herein described for treating pyritous ores so as to obtain as useful products, sulphur, sulphuretted hydrogen and copper.

39,685.—Manufacture of beer from Malt and Indian Meal.—Joseph Singer, Chicago, Ill.:

I claim the within described process of making beer from ground

corn and barley-malt mixed together in one tub in the relative proportions, and at the temperatures described.

39,686.—Cultivator.—N. E. Smith, Springdale, Iowa:

I claim the draught pole, B, pivoted to the front bar, A, of the machine as shown at a, with its back end resting on the back bar, A′, and having the driver's seat, D, attached to it, substantially as and for the purpose herein set forth,

[The object of this invention is to obtain a corn cultivator of simple construction, which will admit of being readily turned by the driver, and manipulated generally with the greatest facility.]

39,687.—Mounting Ordnance.—Moses Stoddard, Buffalo, N. Y.:

I claim, first, Leveling the gun with reference to ranging its sights in a vertical plane, without regard to the position of the carriage, substantially as herein described.

Second, The combination and arrangement of appropriate mechanism, with a gun and gun carriage, by which the gun may be elevated, leveled and moved right or left by one person while in the act of sighting substantially as herein described.

39,688.—Condenser.—George Stump, New York City:

I claim having the chambers, A B, made separate and independent of each other, and of the tube sheets, C, as and for the purpose herein shown and described.

[This invention consists in the arrangement of one or more ranges of C-shaped tubes in combination with the steam receiving and with the discharge chamber of a condenser or heater, and with a suitable tank containing the condensing water or the liquid to be heated, in such a manner that a comparatively large condensing or heating surface is obtained, and each tube can expand or contract independent of the others by its inherent elasticity, thus obviating the principal difficulty of ordinary tubular condensers or heaters, in which by the expansion and construction of the tubes the joints become leaky and a constant source of trouble and expense.

39,689.—Portable Observatory and Signal Tower.—Eli Tanner, Bowmansville, N. Y. Ante-dated July 10, 1862:

I claim the method of combining the base, the braces and the extension shaft, so as to be separate, or readily separable, for the purpose of readily putting up, and taking down, and packing for transportation, substantially as described.

I also claim the method of arranging and combining the parallel timbers composing the successive sections of the extension shaft, substantially as herein set forth.

I also claim the arrangement and combination of the single rope, m, and the sheaves in the upper and lower ends of the sections, E G H, for the purpose of raising and sustaining said sections, in succession, substantially as herein specified.

I also claim the combination and arrangement of the cross-head, P, rope, i, and windlasses, M M, or their equivalents, substantially as and for the purpose herein specified.

39,690.—Wind Wheel.—James Tomlinson, Racine, Wis.:

I claim the arrangement of the shield, D, in combination with the wheel, A, weighted lever, E, and vane, F, constructed and operating as and for the purpose shown and described.

[This invention consists in the arrangement of a movable shield, in combination with a mandrel, and with the vane, and connected to the same by suitable rods, in such a manner that, by the action of the vane on the shield, more or less of the fans of the wind wheel are covered up or protected against or exposed to the action of the wind, and the power of the wheel is thus rendered self-regulating, according to the greater or smaller force of the wind.]

39,691.—Pipe Coupling.—John F. Ward, Phillipsburg, N. Y.:

I claim the end of the pipe, A′, with its hands, i, and recesses, p p, or their equivalents, and packing, B, when applied to the spherical interior of the socket, a, of an adjacent pipe, A, substantially as and for the purpose herein set forth.

39,692.—Whiffle-tree.—J. D. Weaver, Penfield, N. Y.:

I claim the construction of whiffle-trees, and the attachment of the tugs, g, thereto, substantially in the manner and for the purposes herein set forth.

39,693.—Tailor's Shears.—Hermann Wendt, Elizabeth, N. J.:

I claim tailor's shears the lower blade, A, of which, is formed with a shoulder or recess, b, as and for the purpose shown and described.

39,694.—Making Barrels.—Phillip Werum, Berlin, Ohio:

I claim, first, Cutting the staves from the bolts prepared as herein described, by sawing first into plank whose thickness shall equal the width of the stave, and then cutting them in the opposite direction of the grain, as set forth.

Second, I claim the clamp frame, Fig. 1, for holding the stave in the required position while joining and beveling the edges, as specified.

Third, I claim the expanding drum, centering and holding the barrel while being turned in the lathe, and cutting the chine, as herein set forth.

39,695.—Machine for Splitting Leather.—Horace Wing, Buffalo, N. Y.:

I claim, first, The employment, for adjusting the gage roller, D, at a proper distance from the plane of the edge of the splitting knife of a pair of eccentrics or cams, F F, attached to the same shaft, and arranged to operate one upon each of the journal-boxes of the rollers, substantially in the manner and for the purpose herein specified.

Second, Making the standards or housings, E E, which contain the roller journal-boxes adjustable to bring the roller more or less over the edge of the knife, substantially as and for the purpose herein specified.

39,696.—Barrel Dressing Machine.—Louis Wirthlin, St. Louis, Mo.:

I claim, first, The adjustable clamping levers, g g′, and bilge ring, F, in combination with the spindle, B, substantially as and for the purposes described.

Second, The longitudinally-adjustable rod, D, cross head, D′, arms D2 D2 E E, rock-shaft, E′, and hand lever, E2, combined with the hollow spindle, B, and adjustable clamping levers, substantially as and for the purposes described.

Third, The adjustable blocks, i i i, applied to the clamps, g′ g′ g′, substantially as described.

Fourth, The combination of howeling knife, n2, with a pivoted plate, H′, and a slide, H, substantially as described.

Fifth, The combination of crozing knives, p p′, with a transversely sliding block, J, and lever handle, T, and slide, H, substantially as described.

Sixth, The combination of sliding bed, H, pivoted slide rest, G′, and false bed, G2, all operating substantially as described.

Seventh, Combining with the sliding bed, H, and howeling knife, n2, a blast-pipe, S′, arranged and operating substantially as and for the purposes described.

Eighth, The gage block, r, in combination with the crozing knives, p p′, and the sliding bed, H, substantially as described.

Ninth, In a machine for howeling kegs, &c., I claim making the howeling knife both longitudinally and transversely adjustable, substantially as and for the purposes described.

39,697.—Call Bell.—Nathaniel L. Bradly (assignor to himself, Walter Hubbard and William L. Bradly), West Meriden, Conn.:

I claim the combination of the bell with a clapper suspended in an ornamental stand (without a cup beneath the bell) and with a piston extending upward through the bell; the said combination being and operating substantially as set forth.

I also claim the combination of the piston of the striking mechanism with the striking instrument by means of a connection) permitting play and with the piston guide, in such manner that the upper end of the said guide forms the stop for the piston, and prevents the striking instrument from being held in contact with the bell of the piston; the said combination being and operating substantially as described.

I also claim the combination of a heavy clapper suspended in the center of the bell, with the piston extending upward through the bell; the combination being and operating substantially as set forth.

39,698.—Glass Press.—William Otis Davis (assignor to James B. Lyon and W. O. Davis), Pittsburgh, Pa.:

I claim placing the fulcrum of the lever below the bed plate of the press when power is applied to the piston rod, at or near its upper extremity, for the purpose of diminishing the angle of deflection from the perpendicular of the connecting rods, and thus preventing any material lateral strain on the piston rod, and enabling the length of stroke of the piston rod and plunger to be increased, without interfering with the perpendicularity of this motion.

The arrangement of a counterbalance consisting of a weight placed under the bed plate of the press, and connected by chains and pulleys with the moving parts of the press, so as to raise them when the pressure on the lever is withdrawn.

39,699.—Body Loop for Carriages.—Chauncey H. Guard, of Troy, N. Y., assignor to David A. Burr, of Washington, D. C. Ante-dated Aug. 19, 1863:

I claim the use of a metallic bi-angulate clasping socket, C, in combination with a body-loop, B, a metallic compressing clamp, D, and a screw-bolt, E, when arranged substantially in the manner herein set forth.

I also claim the arrangement of the beveled faces of the lower edges of the sides, a a, of the clamping socket, C, in combination with the beveled edges of the embracing flanges, b b, of the clamp, D, when said socket, C, and clamp, D, are combined with a screw bolt, E, substantially in the manner and for the purpose herein set forth.

39,700.—Attaching Revolving Tips to Hose Nozzles.—H. B. Morrison (assignor to C. H. Morrison) Leroy, N. Y.:

I claim the securing of the tip, C, to the nozzle, A, by means of a ring, B, cut or divided at any point or formed of two more parts, and fitted in a recess, c, in the end of a nozzle, A, and having a screw thread cut on its outer side, upon which the inner or lower end of the tip, C, is screwed, substantially as herein set forth.

39,701.—Machine-made Ruffle.—Abby H. Price (assignor to the Magic Ruffle Company), New York City:

I claim the within-described puff ruffle as a new article of manufacture, the same having two equal parts, A A′, folded together, as described, and held in a gathered condition by a single series of machine stitches, substantially in the manner and for the purpose herein set forth.

39,702.—Envelope Machine.—George H. Reay, New York City, assignor to Louis Negbaur, Brooklyn, N. Y.:

I claim, first, The employment of the slide, E, in combination with the rising and falling lifters, F, constructed and operating in the manner and for the purpose substantially as herein specified.

Second, The arrangement of the table, C, over the conveyor, H, substantially in the manner herein described, so that the blanks are held even and in place by the table while being carried by the conveyor to the creasing box.

Third, The slotted lifters, F, in combination with the bar, c*, in the table, C, as and for the purpose herein specified.

Fourth, Feeding the blanks under the table which supports the gum box, instead of over it.

Fifth, The weights, c2, on the front edge of the table, in combination with the conveyor, H, applied and operating substantially as and for the purpose set forth.

Sixth, The balance weight, h3*, in combination with the conveyor, H, applied and operating in the manner and for the purpose herein specified.

Seventh, Arranging the fingers, K, in such relation to the plunger, J, that they hold the flaps of the envelope which have been creased by being passed through the box, I, until the plunger descends again and completes the envelope, by pressing, as set forth.

Eighth, The arrangement of hinge joints, k3, in the shanks of the folding fingers, K, in the manner and for the purpose substantially as described.

Ninth, The cam, m, and roller, m*, or its equivalent, in combination with the plunger, J, constructed and operating substantially as and for the purpose specified.

Tenth, Passing the plunger, J, below the lower creasing edge, i*, of the box, I, in the manner specified, so as to push the finished envelope clear off the box, and leaving the creased envelope below the lower edge of the box, to prevent the same from going back with the plunger.

Eleventh, The ribs or ledges, j′′, on the face of the plunger, as and for the purpose described.

39,703.—Cultivator.—Samuel Rockafellow (assignor to himself and Joshua W. Hoops), Muscatine, Iowa:

First, I claim the combination of the cords, c c, with the draught-pole, E, pivoted at its rear end to the cross-bar, A′, and the foot levers, I I, arranged, constructed and operating as and for the purposes herein delineated and set forth.

Second, I claim the combination of the levers, F, and the rods, H, with the curved handle, G, when constructed, arranged and operating as herein set forth and described.

Third, I claim the combination and arrangement of the beams, D D, adjustable at their front ends, with the rods, H, the levers, F, and curved handle, G, as and for the purposes herein set forth and shown.

39,704.—Pencil and Sponge-holder for cleaning Slates, &c.—John L. Rowe, New York City, assignor to Franklin C. Brownell, Brooklyn, N. Y.:

I claim the clamping slate pencil-holder in combination with the cup at the upper end, receiving a piece of sponge or similar cleaning material, the whole forming a new article of manufacture, as specified.

39,705.—Eyeleting Machine.—Joseph F. Sargent (assignor to himself and Elmer Townsend), Boston, Mass.:

First, I claim the employment of nippers, forceps or fingers to grasp or surround each eyelet successively, and to convey it from the end of the chute to the place where it is set or riveted, in contradistinction to entering each eyelet with a pointed feeder, or to pushing it from behind.

Second, I also claim the rotating hopper arranged to operate on the eyelets, substantially as described.

Third, I also claim making the hopper adjustable to different heights of eyelets.

Fourth, I also claim the chute adjustable to different diameters of eyelets, as set forth.

Fifth, I also claim the combination of an adjustable hopper with an adjustable chute, constructed substantially as specified.

Sixth, I also claim constructing the punch bed of a cylinder, and adjustable piston.

Seventh, I also claim making the piston in sections, substantially as described.

Eighth, I also claim the mechanism for imparting motion to the fingers or forceps, arranged and operated substantially as set forth.

39,706.—Clothes' Dryer.—A. F. Saunders, Chelsea, Mass., assignor to himself and C. B. Rasford, Malden, Mass.:

I claim the arrangement of hanging frames, lever arms and supporting legs, operating together substantially as described and for the purposes specified.

39,707.—Breech-loading Fire-arm.—C. E. Sneider (assignor to himself and Thomas Poultney), Baltimore, Md.:

I claim, first, The recess, m, in the lever, F, and wedge, H, attached to the same, in combination with the hook-shaped lug, e, and shoulder h, when arranged to operate in the manner specified.

Second, The lever, F, having an eccentric or cam, b, formed on one end, and attached to the barrel by a lug, d, and pin, g, in combination with the pin, i, when arranged to operate in the manner specified.

Third, The wedge, H, and hook-shaped lug, e i, in combination with the hinged cap, a, and breech-piece, I, when arranged in the manner described.

39,708.—Construction of Ships of War.—Augustus Walker, Buffalo, N. Y. Ante-dated May 23, 1863:

I claim, first, The combination of the central longitudinal truss framing or arch and double concave bottom, constructed substantially as herein described.

Second, The doubly-arched prow or ram, D3, constructed and supported as described.

Third, The ventilating tubes, I′ I′′, closeable by the stanchions, J J, substantially as described.

Fourth, The casing, H, constructed with a circular arch, h, for sustaining the turret, G, substantially as specified.

Fifth, In connection with a vessel of the above construction, I claim the sliding pilot-houses, K K, elevated and sustained in any way, substantially as described.

Sixth, The described position and means of working the anchors.

[This invention involves several radical improvements in marine architecture. Its leading objects are to combine strength and seaworthiness with a high rate of speed, to protect the screw propeller from injury, and to afford ample accommodation and free ventilation for the crew, as well as complete protection from an enemy's shots

Full engravings and a description of this important invention will shortly appear in our columns.]

RE-ISSUES.

1,526.—Wood Saw-frame.—James Haynes, Hollis, Maine, Patented Aug. 9, 1859:

I claim a wood saw-frame as made, with a wooden top cross-bar, E, tenoned or firmly fastened in the frame, and combined with the central or bottom wooden bar, D, the wooden front and handle cars, F G, the saw blade, and a straining mechanism, separate from such top bar, or employed and to operate substantially as described.

I also claim the improved straining mechanism, substantially as described, the same consisting of the inclined plane, the rack and strainer or lever arranged and combined with the saw blade and its frame, as specified.

1,527.—Guide and Support for Scroll Saws.—John Richards, Columbus, Ohio. Patented May 27, 1862:

I claim, first, Running the upper portion of a web or scroll saw above the table, in a groove of an anti-friction guide and support, substantially as and for the purpose described.

Second, Operating, practically, an unstrained web or scroll saw, by combining with such saw mills, an upper anti-friction guide, which supports the back of the saw blade, and also sustains the saw blade at its sides or faces, substantially as set forth.

Third, The use of anti-friction guides as a substitute for straining devices, in combination with web or scroll saw blades, the guide to be raised and lowered to suit the thickness of the stuff, substantially as set forth.

Fourth, An anti-friction guide which is adjustable so as to accommodate different thicknesses of saw blades, and to compensate for wear, in combination with the upper portion of a web saw blade, substantially as set forth.

Fifth, The combination of the anti-friction saw support and guide, or the equivalent thereof, with an adjustable guard, or its equivalent, substantially as and for the purpose set forth.

1,528.—Revolving Fire-arm.—Ebenezer H. Plant, of New Haven, Conn., Henry Reynolds, of Springfield, Mass., and Amzi P. Plant and Alfred Hotchkiss, of Southington, Conn., assignees of Willard C. Ellis and John N. White, of Springfield, Mass. Patented July 12, 1859:

I claim the construction of the rear portions of the chambers of the cylinder of a revolver with openings through which the hammer may strike the cartridges, but otherwise closed or partly closed to prevent the cartridge from slipping through, whereby the loading at the front with a metallic cartridge carrying its own priming, and the firing of such cartridge by the blow of the hammer upon its shell, as herein specified, are provided for, without the employment or arrangement of an abutment to press up against the rear end of the cartridge case, all as set forth.

1,529.—Metallic Cartridge.—Ebenezer H. Plant, of New Haven, Conn., Henry Reynolds, of Springfield, Mass. and Amzi P. Plant and Alfred Hotchkiss, of Southington, Conn., assignees of Willard C. Ellis and John N. White, of Springfield, Mass. Patented July 12, 1859:

We claim the hollow flange, b, projecting from the rear of the shell in a backward direction parallel or nearly, with the length of the cartridge, substantially as and for the purpose herein specified.

EXTENSION.

Fire-proof Safe.—Edward Hall and Joseph L. Hall, Cincinnati, Ohio. Patented Aug. 21, 1849. Re-issued Dec. 18, 1849. Again re-issued March 6, 1849:

We claim, first, The employment of hydraulic cement, in whole or in part, as forming the insulating medium or admixture used between the outer and inner cases of safes and chests, when said inner cases are formed of iron, or other suitable metal, substantially as herein described for the purposes set forth.

Second, Joining the outer and inner metallic cases of safes and chests, by means of the door frame, C, and flanges, b, or their equivalents, when said hydraulic cement, in whole or in part, is used as the insulating medium between said metallic cases, as herein described, and also by means of the anchors or bolts, d, extending from the outer and inner cases into the space between said cases, substantially as and for the purposes set forth.