

RECENT AMERICAN PATENTS.

The following are some of the most important improvements for which Letters Patent were issued from the United States Patent Office last week; the claims may be found in the official list:—

Foot Bellows.—This invention relates to a new and improved foot bellows for blowing and kindling fires, operating blow-pipes, etc. The invention consists in the employment or use of two bellows and a wind-chamber arranged in such a manner that the operator, by standing on the device, may, in connection with his weight, operate it with but a moderate effort and eject a continuous blast from the nozzle. Henry Neumeyer, Macungie, Lehigh county, Pa., is the inventor.

Press.—This invention consists in the employment or use of one or more worms secured to a longitudinally adjustable horizontal shaft and gearing in a corresponding number of worm wheels secured to vertical arbors, each of which carries a worm gearing in a toothed rack which rises from the follower of the press, and also a bevel pinion gearing in a wheel mounted on a horizontal longitudinally adjustable shaft, in such a manner that either of the two horizontal shafts can be thrown in gear with the rack or racks rising from the follower, and the motion of the follower and the power acting on the same can be graduated to be quick and less powerful at the beginning of the operation and slow and very powerful towards the end of the operation, or after the material has been compressed to a certain degree by the quick motion. Joseph P. White, 418 Greenwich street, New York City, is the inventor, and he has assigned one-half of his right to Thomas Gannon, 25 Old Slip, New York.

Machine for finishing Nuts.—The object of this invention is to finish nuts as the same are received from the blacksmith, from the nut-machine, or from the foundry, by reaming out the holes to the proper size, forcing the nuts through dies so that the sides of the same are rendered flat and bright, smoothing off the upper and lower surfaces, and finally tapping the nuts, which are shifted from one reamer or punch to the other by the automatic action of the machine in such a manner that the operator or attendant has nothing else to do but to feed in the rough and unfinished nuts, which, when finished by the machine, are deposited in a suitable receptacle ready for immediate use. Frank P. Pflieger and Wm. Schollhorn, New Haven, Conn., are the inventors.

Water Closet Cock.—This invention relates first, to an improved arrangement of parts whereby the construction of compression valves and faucets is simplified, and an article produced not so liable to derangement or injury from wear; second, to an improved arrangement of a solid-headed valve and a solid-headed actuating rod, presenting no external joint or connection that could be tampered with, nor any internal joint that can become deranged and cause the valve to leak; third, to an improved method of packing a valve rod, whereby a simple, cheap, and effective substitute for a stuffing-box is obtained; and fourth, to the arrangement of a grate or strainer operating in connection with the supply chamber and valve in such a manner that chips and foreign substances are effectually excluded from passing through or obstructing the operation of the valve. John Broughton, 41 Centre street, New York, is the inventor.

Paraffine in the Oil Wells.

Paraffine was discovered about 1830, and by two separate chemists at the same time. Christison, of Edinburgh, found it in Rangoon petroleum. In appearance and in substance it resembles the spermaceti of the whale, and the white wax of the bee or certain plants. It is called paraffine from *parum affinis*, having so little affinity for other bodies. This substance stops up many of the veins of oil in the wells at Oil Creek, for it is a substance held usually in solution and in large quantities in the petroleum, the hydro-carbon oils being its natural solvents. When oil stands, and especially in cool weather, it remains with the heavier oil at the bottom.

In this way some of the most valuable and productive wells have been for a time choked up. Neither acids nor alkalis have effect upon it. Heat melts it at a temperature of 112 degrees, and cold solidifies it.

As the heat of the earth is supposed to increase as we descend, the temperature of the oil is favorably affected by this circumstance, and the deeper the well the better for holding the paraffine in solution. But it is not until we get the thermometer up to 112 degrees that paraffine always melts, and thus it occurs that portions of it form on the inside of the tubes and those veins in the sand rock through which it passes. Another circumstance considerably adds to this tendency. We all know that as the condensation of gases increases their temperature, so their expansion diminishes it, and whenever there is a large and sudden escape of those hydro-carbon gases, which are among the best indications of oil there, there is a lowering of the thermometer proportionably great. Hence, in all flowing wells, in proportion to their energy and the escape of gas, the oil when it reaches the surface is intensely cold, often it is almost freezing, owing entirely to the liberation and expansion of these gases. The effect of this must be an increased tendency to make deposits of this paraffine along the passages through which the oil passes, and there are many instances in which they become so obstructed that the oil ceases to flow. Many suppose in these cases that the oil is exhausted, when the real cause may be in any of these instances simply an obstruction in the passages. In such case a new well used to be considered the only remedy, but now various other methods are resorted to. Often new tubing in the well is sufficient to set matters straight, but where that fails by connecting the mouth of the tubing with the boiler of the engine, steam is forced down and partly by the pressure and probably still more by the heat, the paraffine is melted like wax by a temperature over 112 degrees.

Not long since a well that had flowed at the rate of a hundred barrels a day, and had finally given out, was by this process so far restored as suddenly to flow sixty barrels, bringing up with the oil through the tubing, immense quantities of paraffine and obstructing materials that had been loosened from their hold below in the underground chambers by the vapor bath. In other cases air forced down by an air-pump, has, by the mechanical pressure, effected much the same sort of relief. Steam cools and condenses to some extent before it reaches the point of action. But condensed air does not. Which on the whole will prove most efficient, time and experience must decide.

Every month new methods are being adopted, and some fresh knowledge is gained, and what will be ultimately reached in the way of injections it is hard to say. But as by the stomach pump we are able not only to draw off the contents of the stomach, but to inject medicines and wash out that great and vital organ, so shall we become increasingly able, as it were, to wash out the bowels of the earth, cleanse the cavities of these oil wells, and by enabling them to cast off their contents, restore their full tone and action to them. Perhaps we shall learn before long that full half the value of nearly every man's farm lies below the surface in the shape of mines, springs of fresh water or salt, oil or mineral manures; and the days will come when artesian wells will be bored, and the strata duly registered, to enhance the value of almost every lot.—*Philadelphia Ledger.*

FRENCH COMPOSITION FOR REMOVING INCrustATIONS.—M. Dulrue, of France, has brought forward some compositions for preventing and removing incrustations. These compositions consist entirely of vegetable matters, and are prepared by dissolving or infusing in hot water the bark of the oak and pine, as well as the leaves of the sumach tree ground and reduced to the state of a coarse powder. This infusion is concentrated to a density of about ten degrees Beaume, and to it is added a quantity, say from fifteen to thirty per cent, of cream of tartar and spirits of turpentine. In employing this liquid to prevent incrustation in steam boilers, a quantity of it is introduced from time to time, the quantity required varying according to the capacity of the boiler. Three pints of the liquid are generally sufficient for every thousand pints of water in the boiler for each ten days.

Mr. T. BONAR, 124 Nassau street, has sent us a lithograph of the Japanese corvette *Fusiyama*, which is very spiritedly executed.



ISSUED FROM THE UNITED STATES PATENT-OFFICE

FOR THE WEEK ENDING OCTOBER 25, 1864.

Reported Officially for the Scientific American.

37 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.

44,776.—Machine for Cleaning Peat.—Edward H. Asacroft, Lynn, Mass.:

I claim the arrangement or combination of rotary perforated drums or cylinders, to operate, together as separators, substantially as set forth.

I also claim combining with the separating cylinders the clearers, f, operating in the manner substantially as set forth.

44,777.—Balance Steam Valves.—R. P. Baillie, Detroit, Mich.:

I claim the arrangement of the two seats, B B, on the opposite sides of the valve chest, A, to operate in connection with the double valve, C, in the manner and for the purpose substantially as herein shown and described.

[This invention consists in a steam chest being provided with two seats on its sides, one opposite the other, and arranged in combination with a double, D, valve in such a manner that each valve works on one of the seats, and the two valves combined are perfectly balanced and allowed to act just as easy under a pressure of a hundred or more pounds as they do in the open atmosphere.]

44,778.—Diagram for Teaching Penmanship.—Isaac Bat s, Poughkeepsie, N. Y.

I claim the employment or use in teaching penmanship of a diagram representing the correct position of the arm, hand and pen, substantially such as herein shown and described, and for the purpose set forth.

[This invention consists in the employment or use in teaching penmanship of a diagram representing the correct position of the arm, hand and pen in such a manner that the student is enabled, by placing the diagram on the table and his arm over it, to find at once and without further instruction the most approved position for writing.]

44,779.—Clothes Wringer.—Eben Blakeman and Joseph R. Gill, Charleston, Ill.

We claim, first, Holding in the main parts of the frame of the wringer together by means of the rods, a, which sustain the springs, e, and the rods, d, and the grooves in the roller shafts substantially as described.

Second, The combination of the friction wheel, D, its hanging journal box, g, and top piece, G, with the friction wheels, A, and D', and the pressure roller, C, substantially as described.

Third, The gear, k, and shaft, S, in connection with the lower friction wheel, D, as set forth.

[The general object of this improvement is to produce a wringer which shall be more convenient for use than those now made, as well as cheaper in its construction, less liable to give way under the strain to which such articles are usually subjected, and which shall be self-adjusting while in operation.]

44,780.—Scythe Fastenings.—Alexander Boyden, East Foxboro', Mass.

I claim the combination of the movable bearer or wedged plate, G, or its equivalent with the scythe-holder, A, and the confining clamp, B, thereof.

I also claim the combination of the adjuster, D, with the ribs, e, e, or their mechanical equivalents with the scythe-holder, A, and its clamp, B, provided with screws and nuts, and applied to such holder substantially as specified, the said holder, A, having a slot, l, made in it in manner and for the purpose hereinbefore specified.

44,781.—Metal Shirt Bosoms.—O. G. Brady, New York, N. Y.

I claim a shirt bosom of metal constructed substantially as above described.

[An illustration and description of this invention will shortly appear in the SCIENTIFIC AMERICAN.]

44,782.—Apparatus for Raising Water, &c.—Abel Brear, Saugatuck, Conn.:

I claim the arrangement of the inlet and outlet openings of the chamber, A, and the mouth of the elbow-shaped nozzle, D, all in line with each other and in upright position, substantially as herein specified.

44,783.—Water-Closet Cocks.—John Broughton, New York, N. Y.:

I claim, first, The arrangement of the solid valve, e, and solid headed valve-rod, g, connected together substantially as shown, and supported by and working in the tubular bearing of the nipple or neck, n, in combination with the supply and discharge chambers and the elastic valve-seat, K, all constructed and operating substantially as described.

Second, Forming an annular groove upon that part of the valve-rod, g, which slides within the neck of the chamber, B, and filling the same with cork or other elastic material, substantially as and for the purpose above described, and thus dispensing with a cover on the end of the neck.

Third, The arrangement of a grate or strainer upon the valve stem below the valve, and moving within the supply chamber above the induction pipe, substantially as described.

44,784.—Combined Gun and Pistol Bayonet.—Robt. K. Colvin, Lancaster, Pa.:

First, I claim the arrangement and combination of two triggers to operate a gun, and a revolving pistol, separately or together, as herein described.

Second, I also claim the arrangement and combination of the gun, pistol and bayonet, when arranged and combined as herein described.

44,785.—Plaster and Seed-Sower Combined.—George S. Conklin, Goshen, N. Y.

First, I claim the combination of the rotary shaft, H h, sieve, G, and rectangular and triangular apertures, e, f, the whole being employed to sift the seed and plaster, crush the latter, and separate straw and trash, in the manner and for the purpose set forth.

Second, I claim the shaft, J, in combination with the triangular apertures, d', l, substantially as and for the purpose specified.

[The object of this invention is to provide more effectual means for depositing mixed plaster and seed, and the invention consists chiefly in the use of a shaft having projections to crush the plaster

into small particles, and an additional rotating shaft carrying agitator brushes to insure the unretarded flow of the plaster and seed.]

44,786.—Harness Buckle.—L. D. Cowles, Armada, Mich. I claim the frame, A, in connection with the stirrup, C, and the lever frame, B, provided with the eccentric, c, c, all arranged to operate in the manner substantially as and for the purpose herein set forth.

[This invention consists in using in connection with the frame or body of the buckle a stirrup and cam-lever frame, arranged in such a manner that the strap may be very readily taken up and let out, and a buckle obtained without any drilling or riveting whatever.]

44,787.—Buckles for Harnesses, &c.—L. D. Cowles, Armada, Mich. I claim the stirrup, C, and lever frame, D, provided with the cams, E E, in combination with the frame or body, A, provided with the lips, B, having flanges, a, at their outer ends, all being arranged substantially as and for the purpose set forth.

[This invention consists in the employment or use of a stirrup and a lever frame provided with eccentrics, and attached to the frame or body of the buckle, all being arranged in such a manner that the leather or strap may be firmly secured, and also readily taken up or let out as occasion may require, no holes being required to be made in the leather or strap, as is the case with the ordinary tongue buckle, and which greatly weakens the strap.]

44,788.—Horse Hay-Forks.—John Crandell, Iilon, N. Y. I claim a horse hay-fork constructed of the tines, A A', A', formed together at the proper distance apart by means of the collars, F, bar, B, and set screws, C, with two of the tines, A', formed with bars, B, at the rear, bent or curved upward, and connected to a head, C, substantially as set forth.

[This invention relates to a new and improved horse hay-fork for elevating hay in barns and depositing it in mows. The object of the invention is to obtain a simple device for the purpose specified, one which may be cheaply constructed, be strong and durable, and operated or manipulated with the greatest facility.]

44,789.—Water Elevators.—Jonathan Dearborn, Seabrook, N. H. I claim the improved chain and its sprocket wheel as constructed in manner and to operate as specified, the chain under such construction having an arch or curved brace to each link as explained, and the wheel being made with recesses or spaces between its chain link bearings, and for the reception of such arches or braces of such links as described.

I also claim the combination of the circular wheel, D, with the chain constructed with arches or braces to its links, and with the sprocket wheel made so as to support the links at their junctions, and with recesses or spaces for receiving the link arches in manner as specified.

I also claim the application of each bucket to the claims by means of a rod running through the bucket and supported in bearings applied to the chains as described.

I also claim the arrangement and combination of the sinkers, s, s, with the bucket, the chains, the bucket rods and the sprocket wheels as described.

44,790.—Force Pumps.—Joseph De Long, Upper Sandusky, Ohio. First, I claim the arrangement of the single double-acting valve, d, with the intermediately perforated cylinder, A, solid piston A', and valve chamber, C, the whole constructed and operating substantially in the manner described.

Second, the arrangement of the removable scsaw seat, e, constructed with a passage through it, with the poppet valve, d, and the perforated cylinder, A, substantially in the manner and for the purpose described.

44,791.—Hand Cards.—Edgar S. Ells, Fairhaven, Vt., and George F. Ells, Troy, N. Y. We claim, first, A card having a wooden handle, A, fastened in a mortise or recess, d, in a wooden stock, B, by means of the wire teeth, C, of the card, substantially as herein described.

And we also claim a hand card having the projecting ends of its wire teeth brushed smooth and rounding, substantially as herein described.

44,792.—Pumps.—A. V. & A. F. Fletcher, Athol, Mass. I claim the construction and application of the fulcrum post substantially as set forth.

We also claim the combination of the rings, t, q, plate, s, cylinder, a, base, c, and pipe, d, when constructed and arranged to operate together substantially as set forth.

44,793.—Bracing and Fastening Spiral Springs for Mattresses.—Orlando Fuller, San Francisco, Cal. I claim the employment or rise of a supporting web adjusted by the means and in the manner set forth, at or near the centers of the springs, and the attachment thereto of the upper coils of the springs in the manner and for the purposes set forth.

44,794.—Hose Couplings.—A. M. George, Nashua, N. H. I claim the hose coupling constructed and operating substantially as within described.

[This invention consists in making hose couplings so that they can be fixed and unfixed instantaneously, and yet be secure from accidental unlocking; and further, that they will not become unserviceable by reason of ice in winter, or by collections of sediment about their joints, and that the locking device shall not require skill in operating it.]

44,795.—Hay Presses.—Gilbert Gibbs, Sugar Branch, Ind. I claim, first, In combination with the beater, D, a removable platen or follower, K, when employed in permanently compressing the bale after it has been packed or temporarily compressed by the beater substantially as specified.

Second, in the construction of the platen, K, the catches, g, h, joined bars, g', h', bar, l, pin, s, in combination with the notched pieces, h'', substantially as and for the purposes specified.

Third, I claim operating the platen for permanently compressing the bale by means of the cam or eccentric levers, H, acting upon friction rollers, n, and shoulders, o, or their equivalents carried by side pieces, h'', which draw upon the follower or platen substantially in the manner described.

Fourth, closing the door, I, by the action of the beater, D, in its ascent, and releasing the same to be opened again in its descent, in combination with any appropriate mechanism for the purpose substantially as herein described.

44,796.—Clothes Wringer.—Reuben Gipson, Shelby, Ohio I claim the adjustable arms, H H and L L, and gear s I J K, in combination with the rollers, B and C, when operating conjointly as and for the purpose substantially as set forth.

44,797.—Filters.—Lyman A. Gouch, Yonkers, N. Y. I claim the cylinder, A, constructed as described in combination with the filtering media, D, screws, e, bolts, f, and perforated plates, C, for the purpose set forth.

44,798.—Breach-Loading Fire-Arms.—Henry Hammond, Providence, R. I. First, I claim the method substantially as described of constructing the breach block, E, with an oblique or helical rear surface, and connecting the same with the stock or frame, so that in opening and closing the breach block by rotation it will be withdrawn laterally and obliquely backward, as herein described.

Second, The oblique or spiral-faced stationary cam or recoil piece, F, in combination with the oblique groove, b, in the pin, C, and the pin, c, in the hub of the breach piece, when constructed and arranged as herein specified.

44,799.—Fruit Ladder.—James Hannan, South Lyon, Mich. I claim, first, The adjustable rounds, f, f', with the catches, f', f', or their equivalents, in combination with the adjustable table, F, for the purpose set forth.

Second, I claim coupling or combining the sections, B and H, Fig 4 (either two or more sections) forming a combined, adjustable, and extension ladder, in the manner and for the purpose set forth.

44,800.—Coal-oil Lamp.—Harvey J. Harwood, Utica, N. Y. I claim, first, The spiral ventilator, as constructed and described. Second, The arrangement of the additional sliding tube, as described, so as to be detached readily to change the lamp by the removal of the outer tube, as set forth.

Third, The arrangement of the curtain chamber in combination with the spiral ventilator, to secure the lamp against dripping oil when turned upon the side.

44,801.—Seeding Machine.—Henry K. Horton, Campton, Ill. I claim the combination and arrangement of the seed-coverer, O, and the hinged frames, U and C, when constructed and operating substantially as herein specified.

44,802.—Weather Strip.—W. R. S. Hunter, Blackberry Station, Ill. I claim a device to be used as a weather strip for the bottom of doors, when constructed with two vertical shoulders, d and e, shutting against each other beneath a horizontal projecting shelter, l, and provided with a water channel, g, to catch and convey away any water that may pass through the joint between D and E, substantially as described.

44,803.—Bracket and Chandelier Lamp.—James Ives, Mount Carmel, Conn. I claim, first, Making the lamp adjustable while its cone or chimney seat is stationary, substantially as and for the purpose set forth. Second, A stationary stopple for the filling hole of a movable lamp. Third, A stationary cone or chimney base, substantially as and for the purpose set forth. Fourth, A movable lamp, substantially as and for the purpose set forth. Fifth, A hinged support for the lamp, substantially as and for the purpose set forth. Sixth, The combination of the stationary bracket hinged lever support with lamp attached and a spring, substantially as and for the purpose set forth.

44,804.—Washing Machine.—Josee Johnson, New York City I claim in connection with a pounder, B, the employment of a roller, E, arranged as described, with or without guiding links, so as to operate in combination with the pounder, substantially in the manner and for the purpose herein set forth.

44,805.—Horse Hay-fork.—L. G. Kniffen, Worcester, Mass. I claim the handle, B, cast with a recess, c, at its lower part, and with a hood projection, f, and attached to the central tine, A', of a three-tine fork, as described, in connection with the catch, C, and spring, g, all arranged to form a new and improved horse hay-fork, as described.

[This invention relates to an improvement in that class of horse hay-forks which are constructed wholly of metal, and it consists in combining a handle and catch of novel construction with the tines of the fork, in such a manner that several advantages are obtained over the ordinary forks now used. A premature or casual tripping of the fork being prevented, and a very simple, cheap, and durable fork obtained, and one which may be manipulated with the greatest facility.]

44,806.—Machine for Cutting Soap.—Ross Johnson, Urbana, Md. I claim, first, Arranging the wire cutters in a single frame, C, and in planes at right angles to each other, so that during the act of making one cut, the wires for making the succeeding cut will be brought in their proper position for this purpose, substantially as described. Second, The vertically movable wire frame, C, in combination with the horizontally reciprocating frame, B, substantially as described. Third, Mounting the cutter carrying frame upon a carriage which is adapted to enclose or partly enclose the mass of soap to be cut while the latter remains upon the floor or blocks, substantially as described. Fourth, A vertically movable frame, C, horizontally reciprocating frame, B, and a movable carriage, A A', all combined and operating substantially as described. Fifth, Cutting "frames" of soap into bars by means of machinery without the necessity of removing the "frame," or soap from the blocks upon which they are left standing after being molded, substantially as described.

44,807.—Machine for Boring Wagon Hubs.—Jacob Kritch, Rochester, N. Y. I claim the combination of the adjustable revolving hub-head or socket, H, capable of being set at any angle laterally, and the non-revolving feeding cutter-shaft, B, the whole so arranged as to cut a tapering hole, substantially as herein described.

I also claim the arrangement of the adjustable revolving hub-head or socket, H, disk, K, ring, L, and centering screws and nuts, f, g, for centering and sustaining the hub while being bored, substantially as herein set forth.

I also claim the threading cutter, D, provided with the angular cutting points, m, m', for producing the threads on the inside of the hub, substantially as described.

44,808.—Power Loom for Weaving Hair Cloth.—Isaac Lindsley, Pawtucket, R. I. I claim, first, Controlling the operations of the selecting mechanism by means of a detector constructed and operating substantially as described. Second, I claim the mode of operation substantially as specified by which in case the selecting instrument fails to select and present a length of welt to the instrument that places it in the open shed during the period allotted thereto, its selecting function is in consequence thereafter suspended during any determined number of picks and resumed with the reopening of the proper shed, and so continues to suspend and resume its function automatically until a length of welt is selected and inserted in the proper shed, and to do so repeatedly as often as such contingency occurs.

44,809.—Blowing Apparatus.—P. W. Mackenzie, Jersey City, N. J. I claim the combination of the hollow axle, J, and the straight shaft, C, with the fans, B, and the drum, D, substantially as and for the purpose set forth.

44,810.—Corn Planter.—Robert McCorkell, Warsaw, Minn. Ante-dated Oct. 22, 1864. I claim, first, The device or manner of moving the movable seat by the lever, v, operated by the foot when used in corn planters, as specified. Second, The hinged beam, H, the tubular tooth, C, the oblique rotary cutter, b, the reversed share and adjustable roller, k, arranged as and for the purpose set forth. Third, The levers, M M and m, with the connecting rod, o, for the purpose of elevating or depressing the beams, H H, with their use for that purpose, as set forth and described.

44,811.—Machine for Mangling Beefsteak and other Meats.—Robert McCorkell, Warsaw, Minn. Ante-dated Oct. 18, 1864. I claim, first, The construction of rollers having ridges and depressions as described and arranged in relation to each other in such a manner that the ridges and depressions shall come opposite to or bear upon each other, for the purpose specified. Second, The handle, H, and bar, G, with the levers, F, F, and hooks, k, for the purpose set forth substantially as described.

44,812.—Coal or Heating Stove.—Josiah V. Meigs, Washington, D. C. I claim, first, A jacket or sleeve surrounding and sliding upon a stove leaving a central opening substantially as described for the purpose of rendering it an air-tight, or an open stove at will, as set forth. Second, The combination of the hinged pawls, L L', with the ratchets and stove, substantially as and for the purpose set forth.

44,813.—Faucet.—Andrew J. Morse, Melrose, Mass. I claim the improved cock, as constructed with a chamber surrounding the conduit through the same, or arranged in juxtaposition therewith.

44,814.—Foot Bellows.—Henry Neumeyer, Macungie, Pa. I claim the two bellows, B B, in combination with the wind chamber, F, and arranged and applied to the central board or plate, A, and provided with the necessary valves, to operate substantially as and for the purpose herein set forth.

44,815.—Hook and Eye.—H. Nickolds, Providence, R. I. I claim a hook, A, made substantially as shown as a new article of manufacture.

44,816.—Coal Stove.—Sanford E. Parsons, Wilkesbarre, Pa. I claim, first, Providing the passage for the removal of cinders from the stove with a door which constitutes a part of the fire-wall, e, and also a part of the outer wall of the fire-pot, substantially as described. Second, Hinging one of the fire-bricks of the lining, e, to the wall of the stove, substantially as described.

44,817.—Process for Purifying Coal and Ores.—Benjamin F. Penniman, New York City I claim the process substantially as described of mixing coal or other mineral with acid and alkaline agents consisting of caustic soda, carbonate of soda, nitric acid and borax and subjecting them to the action of steam, in the manner and for the purpose specified.

44,818.—Machine for Finishing Nuts.—Frank P. Fifeghar & Wm. Schollhorn, New Haven, Conn. We claim, first, The successive use of a reamer, D, punch or punches, E E', milling tools, F F', and tops, G G', in a machine for finishing nuts, constructed and operating in the manner and for the purpose substantially as herein shown and described. Second, The use of milling tools, F F', arranged substantially as herein specified, for the purpose of cleaning off the faces of a nut. Third, The steps, e, in the channel, C, arranged substantially as and for the purpose set forth. Fourth, The reversing gear, I P J, clutch, K, and switch lever, L', or their equivalents arranged in combination with the wheels, b E E' h, which impart motion to the various tools, in the manner and for the purpose substantially as herein specified. Fifth, The adjustable shoulders, L', applied in combination with the switch lever, L', and with the reversing gear, substantially as and for the purpose herein described. Sixth, The automatically reciprocating rod, p', and finger bar, g', applied in combination with the channel, C, and tools, D E E' F F' G G', in the manner and for the purpose substantially as described. Seventh, The arm, p3, and inclined plane, r, in combination with the reciprocating rod, p', finger bar, g', and channel, C, constructed and operating substantially as and for the purpose set forth.

44,819.—Machine for Crushing Ores.—John T. Plass, New York City I claim, first, The globular or nearly globular pestle, h, setting into the mortar, i, and moved by the shaft, g, and arm, f, in combination with the adjustable spring, p, whereby said pestle is pressed to its work with the desired force, as set forth. Second, I claim a stationary wheel, l, and pinion, k, on the shaft, g, in combination with the pestle, h, and mortar, i, to communicate to said pestle the movements specified. Third, I claim the circular basin, g, and rollers, r, in combination with the pestle, h, and mortar, i, for the purposes and as specified.

44,820.—Washing and Scouring Machine.—Wm. Price, Cincinnati, Ohio I claim, first, The arrangement and combination of the presser feeding rollers, and a high speed revolving brush, the same acting upon the material as it slowly passes over a compensating roller, in the manner as and for the purpose specified and in combination with the above. Second, I claim the construction of the double-feeding compensating journal boxes, applied for the purposes herein set forth.

44,821.—Roofs.—Joseph Rodefer, Cincinnati, Ohio I claim the mode of constructing a roof with slates or tiles secured upon a concrete or mortar bed, B, by means of gutters, C, and luting, F, in the manner set forth.

44,822.—Mode of Securing Bits in Braces.—C. B. Rose, Sunderland, Mass. I claim a fastening for securing bits in braces, composed of a sliding bolt or latch, C, operated by a key, D, arranged in the manner substantially as herein shown and described. [This invention relates to a new and improved mode of securing bits in joiners' braces, and it consists in placing a sliding bolt or catch in the end of the brace and operating the same by means of a key; all being arranged in such a manner that the bit may be firmly secured in the brace and released therefrom by a positive movement of the bolt or catch, all springs being avoided, and a very simple and durable fastening obtained for the purpose specified.]

44,823.—Mode of Securing Bits in Braces.—C. B. Rose, Sunderland, Mass. I claim the sliding bolt or latch, C, in combination with the collar, D, provided with the two cams or eccentric grooves, d, d', all being arranged and applied to the end, A, of the brace to operate in the manner substantially as and for the purpose set forth.

[This invention relates to a new and improved fastening for securing bits in braces, and it consists in the employment or use of a sliding bolt or latch in connection with a double cam formed within a collar which is fitted on the end of the brace and arranged so as to operate on the bolt or latch to secure the shank of the bit in the brace and release it therefrom by simply turning the collar.]

44,824.—Revolving Hand-rake.—Samuel C. Rundlett, Portland, Maine I claim the revolving rake, A, in combination with the arms, B B', connected by the cross-bar, C, the springs, G G, lever, D, spring, E, and the lip, g, g, on the head, a, and with or without the guide, F, the arrangement to operate in the manner substantially as and for the purpose set forth.

[This invention relates to a new and improved revolving hay rake designed for manual operation, or to be drawn along by hand. The object of the invention is to obtain a simple device for the purpose specified, and one which may be operated with facility and without great exertion or labor.]

44,825.—Smut Mill.—John Russell, Cumberland, Md. I claim the combination of the conical or hemispherical toothed beater, I, the corrugated rubbers, H H H, the short internal perforated cylinders, O O, and the long external perforated casing cylinder, N, with the fan, G, and suction pipe, S, when the top of the annular space between the internal and external cylinders is closed by the flat ring, a, or by any other suitable device, and the perforations in the casing cylinder are all formed at points above the said flat ring, a, all for the purpose of directing and controlling the passage of the artificially created currents of air through the machine, in the manner herein set forth.

44,826.—Carriage.—Blaney E. Sampson, Boston, Mass. I claim the application or combination of one or more auxiliary seats, movable bars or rests, C, with a carriage seat, substantially in manner and so as to operate as and for the purpose specified. I also claim the combination of such an auxiliary bar or seat, C, with the main seat and either or both the arm rests thereof. I also claim the arrangement and application of such an auxiliary seat, C, with the arm rest of the main seat so as to be capable of being moved relatively thereto, and into either position with respect to the seat, substantially as herein before described. I also claim the construction of one or more of such auxiliary seats or movable bars, C, with one or more recesses or equivalents for receiving a part of another bar or a projection from such bar in manner and for the purpose set forth.

44,827.—Gun Lock.—Cornelius W. Scott, Constantina, Ohio I claim, first, The combination of the coiled or spiral spring, m, the stiffening and guiding rod, l, the adjusting nut, n, and the tumbler, w, as described, that is to say; in such a manner that the pressure of the spring and the consequent force of the blow of the hammer may be readily and properly adjusted, while at the same time the spring is kept from being thrown injuriously out of line by the pressure thrown upon it, substantially as and for the purpose set forth.

Second, The combination of the arms, p and r, of the toggle joint, o, the tumbler, w, and the trigger, x, as described, that is to say, one of the arms of the toggle joint being connected to the tumbler, w, and the other to a support independent of the trigger, and the trigger being so arranged with relation to the toggle joint as to operate directly to move the bearing which connects the two parts of the latter, to the opposite side of the line from that which it naturally occupies when the gun stands at full cock, and thus allow the hammer to fall, substantially as and for the purpose set forth.

44,828.—Cotton Picker.—Hennell Stevens, Memphis, Tenn.:

I claim, first, The fingers, A, arranged as shown to form an inclined surface, and provided with notches, a, at their upper parts, substantially as and for the purpose specified.

Second, The shield, E, in connection with the fingers, A, and picker, B, arranged to operate substantially as and for the purpose set forth.

Third, I claim the picker, B, placed at such a distance from the fingers, A, that the urpie balls may pass beneath it without being touched, while those in which the cotton protrudes are entangled and the cotton extracted from them.

Fourth, The comb, G, in connection with the picker, B, shield, E, fingers, A, and receptacle, C, all arranged to operate as set forth.

44,829.—Hydraulic Pump.—Edwin Squire, Cold Springs, N. Y.:

I claim, first, The levers, F, G, I, and links, g, l, in combination with the hand lever, h, and supply and waste valves, D, E, constructed and operating in the manner and for the purpose substantially as herein shown and described.

Second, The combination of the supply valves, D, D', and waste valves, E, E', with oscillating levers, F, G, I, and hand levers, h, h', constructed and operating in the manner and for the purpose substantially as herein specified.

[This invention consists in the arrangement of two oscillating levers and suitable connecting rods in combination with the waste valve and supply valve of a hydraulic press or other similar machine, and with a suitable hand lever in such a manner that by one and the same motion of said hand lever the waste valve is closed when the supply valve is opened, and vice versa, and the construction of the press thereby simplified and its operation facilitated. The invention consists also in combining two sets of waste and supply valves with suitable levers, in such a manner that two presses can be operated simultaneously by the motion of one and the same hand lever, one press being made to discharge, while the other takes water and vice versa, and each press being made to operate without interfering in the least with the continuous operation of the other.]

44,830.—Slide Valve for Steam Engines.—D. F. Walker, Potosi, Mo.:

I claim a valve, B, provided with a stud, d, and cap, f, and operating in combination with the steam chest, A, in the manner and for the purpose substantially as herein shown and described.

44,831.—Roofs of Churches.—Shepherd S. Woodcock, Somerville, Mass., and George F. Meacham, Watertown, Mass.:

We claim supporting the roof of a building by means of trusses, B, steamed and held in place by wind braces, b, d, in the manner substantially as set forth.

44,832.—Scrubber and Mop.—Wm. S. Bullen (assignor to himself and Wm. O. McIntire), Indianapolis, Ind.:

I claim the combination of scrubber, D, and mop cloth, E, in one and the same machine, i. e., the mop-head, A, with a deep groove in the under side, and compressor rod, B, operated by thumb-screws, C, firmly clamping and holding in place the mop cloth, E, and scrubbing rubber, D, constituting thereby a combined mop and scrubber in one machine.

44,833.—Parlor and Cooking Stove.—David B. Cox and John T. Davy (assignors to David B. Cox and Harvey Church), Troy, N. Y.:

We claim, first, The flue-pipes, G and H (more or less) passing through from the top of the oven to the bottom of the same, in combination with the oven space, J, having fire-chamber and ash space directly over the oven, as described and set forth.

Second, We claim the hook or fulcrum, F, attached to or cast on the stove, in combination with the shaking grate, D, operating in the manner and for the purposes set forth.

44,834.—Driving Wheel of Harvesters.—Daniel L. Emerson, Rockford, Ill., assignor to Mary Manney, Winnebago county, Ill.:

I claim a harvester driving wheel constructed with a tubular rim, substantially as set forth.

I also claim the combination of the tubular rim of the wheel with the cog teeth of the main driving wheel, in such a manner that said rim forms the base of said teeth, substantially as set forth.

44,835.—Furnace.—Samuel E. Foster (assignor to himself and Henry F. Cogshall), Fitchburg, Mass.:

I claim in the air-heating furnace or fire-drum and the surrounding air-heating chamber having the fuel throat arranged within the top of the air chamber and with respect to the fuel opening of the top of the fire drum, substantially as specified, and the ash-pit or fire-drum provided with an air induction pipe and a valve thereto, as explained, the described arrangement of the grate with respect to the doorway or throat of the ash-pit or chamber.

And I also claim the construction of each grate bar with a bottom projection, f, having a length so much less than the distance between the supporting bars as may be necessary to allow of the grate bar being moved longitudinally back and forth on its supports sufficiently for the purpose of causing the ashes to be discharged from the fire-drum and between the grate bars.

44,836.—Churn.—Moses Neal (assignor to Neal & Finck), Kalamazoo, Mich.:

I claim the combination of the dashers with the cup-shaped detachable beaters, constructed, arranged, and operating substantially as described and represented.

[In this churn currents and counter-currents are produced which causes the cream to collide and surge in such a manner that the churning is rapidly effected.]

44,837.—Construction of Monitor Vessels.—Samuel Parr (assignor to himself, James A. Fox, and John A. Robertson), Boston, Mass.:

I claim the improved monitor or armored vessel as made with the combination of the transverse strengthening partitions with the opposite layers of wood, the cork and iron arranged together, substantially as specified.

44,838.—Machine for making Horse Shoes.—Charles H. Perkins (assignor to the Union Horse Shoe Company), Providence, R. I.:

I claim the combination of a series of punches with a die, constructed as herein described, operating substantially as and for the purposes specified.

44,839.—Machine for making Horse Shoes.—Charles H. Perkins (assignor to the Union Horse Shoe Company), Providence, R. I.:

I claim the combination of the compound feeding roller and cutter, C, C', and the friction roller, A, substantially as described for the purposes specified.

44,840.—Machine for making Horse Shoes.—Charles H. Perkins (assignor to the Union Horse Shoe Company), Providence, R. I.:

I claim the method of thickening the ends of horse shoe blanks by the combination of the dies, C and C', when constructed and operated in the manner substantially as described for the purpose specified.

44,841.—Hoop Skirt.—Julius Waterman, New York City, assignor to himself and Joseph Mayer, Brooklyn, N. Y.:

I claim the introduction of the clasps that unite the ends of the

skirt hoops or springs within the pockets formed in the woven tape, substantially as and for the purposes specified.

And in combination therewith I claim the spangles or small clasps introduced near the edges of the tape on each side of the clasp that holds the ends of the wires together, as and for the purposes specified.

44,842.—Press.—Joseph P. White (assignor to himself and Thomas Gannon), New York City:

I claim the worms, E, toothed racks, D, with or without bevel gears, c, d, in combination with the worms, g, and worm wheels, h, and with the follower, C, of a press-box, constructed and operating substantially as and for the purpose set forth.

44,843.—Injector for the Hair.—Austin A. Smith, Seneca Falls, N. Y.:

I claim, first, Forming the elastic rim, A, with its sides, a, a, so situated and formed that compressing the sides will gradually close the vacuum chamber, from the angle of the periphery, inward toward the center, so as to expel all the fluid, substantially as set forth.

Second, I also claim constructing the vacuum bulb with rigid sides or plates, B, B, in combination with the elastic ring, A, substantially in the manner and for the purposes described.

Third, I also claim in combination with the flexible vacuum bulb, A, B, the series of distributing tubes, D, so constructed as to inject a fluid beneath the hair in small jets, substantially as set forth.

Fourth, I also claim the hollow nozzle or tube, D, formed with the education orifice, d, on the under concave side thereof, to prevent the same from becoming obstructed, and to direct the fluid downward upon the scalp, and to prevent scratching or tearing, substantially as set forth.

Fifth, I also claim making the neck or base to which the tubes, D, are attached flexible, so as to render them capable of bending separately or together, to adjust themselves to the form of the head, in whatever position they may be applied, substantially as set forth.

RE-ISSUES.

1,798.—Pressure Bell.—Wm. L. Bradley, Nathaniel L. Bradley, and Walter Hubbard, West Meriden, Conn., assignees by mesne-assignments of Jason Barton, Middle Haddam, Conn. Patented April 8, 1856:

We claim the combination and arrangement of the bell, striking instrument arranged to swing in a plane, substantially as set forth, with the plane of the rim of the bell, and piston extending through the axis of the bell, these three operating substantially as set forth.

We also claim the combination of the bell, striking instrument, piston, and curved stand, whereby the striking instrument is permitted to swing across the bell in a plane substantially at right angles with the plane of the rim of the bell, substantially as set forth.

We also claim the combination of the bell, striking instrument, piston, and stand, substantially as described, so that the piston strikes another part of the apparatus before the hammer strikes the bell, in a plane substantially at right angles with the plane of the rim of the bell, substantially as set forth.

1,799.—Apparatus for manufacturing Cube Sugar.—Gustavus Finken, Brooklyn, N. Y. Patented Aug. 20, 1861. Re-issued Feb. 4, 1862:

I claim the formation of the cubes, blocks, or lumps from the granular sugar in the manufacture of what I have herein specified as embraced by the term "cube sugar," by means of machinery composed of an endless or rotating series of molds fitted with compressing and discharging pistons, and having applied in combination therewith a cam or cams, or their equivalent, for operating the pistons one or more at a time in regular succession throughout the whole of the series, substantially as herein described.

1,800.—Straw-cutter.—Warren Gale, Chicopee Falls, Mass. Patented Sept. 12, 1854. Re-issued April 3, 1860:

I claim, first, Connecting the cutting and the pressure cylinders of cutters for hay, straw, or other substances, by gearing or its equivalent, in such a manner that the knife or each of the knives upon one cylinder shall at every revolution be caused to come into actual contact with the other cylinder or with some part of the other cylinder, at any desired point to which the parts may be adjusted.

Second, The employment in a straw or other cutter of a revolving cutting cylinder, having one or more knives, in combination with a pressure cylinder having one or more radial flanges, arms, or projections, in such a manner that the feed is caught between the two, drawn forward and cut off by the pressure between the knife on one cylinder and the flange on the other.

Third, Forming those parts of the pressure cylinder against which the knife or knives are made to cut, in sections or strips, separate from the body of the cylinder, substantially as and for the purpose specified.

Fourth, Combining with the feed-box of a straw or other cutter an adjustable throat, having a mode of operation, substantially as set forth.

Fifth, Combining, substantially as set forth, an automatically operating throat, with the cutting cylinder of a straw or other cutter, in such a manner as to diminish the number of knives heretofore employed in ordinary cutters.

1,801.—Knitting Machine.—Moses Marshall, W. Aldrich, and L. B. Tyng (assignees of said Moses Marshall), Lowell, Mass. Patented March 15, 1853:

I claim, first, Forming the stitches alternately on each side of the needle rests by two sets of needles placed at an angle to each other, and operating one needle at a time, substantially as described.

Second, The two plates or rests, e and f, or their equivalents, so arranged as to support the two sets of needles, and allow the fabric knit to pass between them, substantially as described.

Third, Connecting the cam boxes, i, i, which actuate the opposite sets of needles, by means of the arm, l, l, or its equivalent, so as to give the proper alternate and relative movements to said sets of needles, substantially as described.

Fourth, Connecting the feeder, which carries the thread, with the arm which connects the cam-boxes, substantially as and for the purpose specified.

Fifth, Two sets of single and independent needles crossing at an angle to each other, and those of each set moving in direct or parallel lines, and the two sets operating alternately on each side of said angle, substantially as and for the purpose specified.

1,802.—Revolving Fire-arm.—Rollin White, Springfield, Mass. Patented April 13, 1858:

I claim combining with a fixed barrel a many-chambered rotating cylinder, the chambers of which are made of a cylindrical form to within a short distance of the front end, and there formed with a contraction of less caliber than the diameter of the barrel, when such contracted front end is free to move longitudinally from the breech, substantially as and for the purpose specified.

And I also claim in combination with the chambers formed with a contraction at the front end, substantially as specified, the making of the cylinder in two or more parts, so connected that they shall rotate together and be free to separate longitudinally, substantially as and for the purpose specified.

And I also claim the combination of a fixed barrel, a rotating cylinder having a series of chambers extended entirely through it, so placed and rotated that the several chambers may in succession be brought in line with the barrel, and a rotating breech plate to close up the rear end of the chambers of the cylinder, and which is separable from, although it rotates with, the cylinder, substantially as and for the purpose specified.

EXTENSION.

Making Paraffine Oil.—James Young, Manchester, England. Patented March 23, 1852. Ante-dated Oct. 7, 1850:

I claim the obtaining of paraffine oil, or an oil containing paraffine, and paraffine, from bituminous coals, by treating them in manner herein-before described.

TO OUR READERS.

INVARIABLE RULE.—It is an established rule of this office to stop sending the paper when the time for which it was pre-paid has expired.

MODELS are required to accompany applications for Patents under the new law, the same as formerly, except on design patents, when two good drawings are all that are required to accompany the petition, specification and oath, except the Government fee.

PATENTS
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MESSES. MUNN & CO.—I take pleasure in stating that, while I held the office of Commissioner of Patents, MORE THAN ONE-FOURTH OF ALL THE BUSINESS OF THE OFFICE CAME THROUGH YOUR HANDS. I have no doubt that the public confidence thus indicated has been fully deserved, as I have always observed, in all your intercourse with the office, a marked degree of promptness, skill, and fidelity to the interests of your employers. Yours very truly, CHAS. MASON.

Judge Mason was succeeded by that eminent patriot and statesman, Hon. Joseph Holt, whose administration of the Patent Office was so distinguished that, upon the death of Gov. Brown, he was appointed to the office of Postmaster-General of the United States. Soon after entering upon his new duties, in March, 1859, he addressed to us the following very gratifying letter:

MESSES. MUNN & CO.—It affords me much pleasure to bear testimony to the able and efficient manner in which you discharged your duties as Solicitors of Patents, while I had the honor of holding the office of Commissioner. Your business was very large, and you sustained (and I doubt not justly deserved) the reputation of energetic, marked ability, and uncompromising fidelity in performing your professional engagements. Very respectfully, your obedient servant, J. HOLT

Hon. Wm. D. Bishop, late Member of Congress from Connecticut, succeeded Mr. Holt as Commissioner of Patents. Upon resigning the office he wrote to us as follows:

MESSES. MUNN & CO.—It gives me much pleasure to say that, during the time of my holding the office of Commissioner of Patents, a very large proportion of the business of inventors before the Patent Office was transacted through your agency; and that I have ever found you faithful and devoted to the interests of your clients, as well as eminently qualified to perform the duties of Patent Attorneys with skill and accuracy. Very respectfully, your obedient servant, WM. D. BISHOP.

THE EXAMINATION OF INVENTIONS.

Persons having conceived an idea which they think may be patentable, are advised to make a sketch or model of their invention, and submit it to us, with a full description, for advice. The points of novelty are carefully examined, and a written reply, corresponding with the facts, is promptly sent, free of charge. Address MUNN & CO., No. 37 Park Row, New York.

As an evidence of the confidence reposed in their Agency by inventors throughout the country, Messrs. MUNN & CO. would state that they have acted as agents for more than TWENTY THOUSAND inventors! In fact, the publishers of this paper have become identified with the whole brotherhood of inventors and patentees, at home and abroad. Thousands of inventors for whom they have taken out patents have addressed to them most flattering testimonials for the services rendered them; and the wealth which has inured to the individuals whose patents were secured through this office, and afterwards illustrated in the SCIENTIFIC AMERICAN, would amount to many millions of dollars! Messrs. MUNN & CO. would state that they never had a more efficient corps of Draughtsmen and Specification Writers than those employed at present in their extensive offices, and that they are prepared to attend to patent business of all kinds in the quickest time and on the most liberal terms.

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The service which Messrs. MUNN & CO. render gratuitously upon examining an invention does not extend to a search at the Patent Office, to see if a like invention has been presented there; but is an opinion based upon what knowledge they may acquire of a similar invention from the records in their Home Office. But for a fee of \$5, accompanied with a model, or drawing and description, they have a special search made at the United States Patent Office, and a report setting forth the prospects of obtaining a patent, &c., made up and mailed to the inventor, with a pamphlet, giving instructions for further proceedings. These preliminary examinations are made through the Branch Office of Messrs. MUNN & CO., corner of F. and Seventh streets, Washington, by experienced and competent persons. Many thousands of such examinations have been made through this office, and it is a very wise course for every inventor to pursue. Address MUNN & CO., No. 37 Park Row, New York.

HOW TO MAKE AN APPLICATION FOR A PATENT.

Every applicant for a patent must furnish a model of his invention if susceptible of one; or, if the invention is a chemical production, he must furnish samples of the ingredients of which his composition consists, for the Patent Office. These should be securely packed, the inventor's name marked on them, and sent, with the Government fees, by express. The express charge should be pre-paid. Small models from a distance can often be sent cheaper by mail. The safest way to remit money is by a draft on New York, payable to the order of Messrs. MUNN & CO. Persons who live in remote parts of the country can usually purchase drafts from their merchants on their New York correspondents; but, if not convenient to do so, there is but little risk in sending bank bills by mail, having the letter registered by the postmaster. Address MUNN & CO., No. 37 Park Row, New York.

Patents are now granted for SEVENTEEN years, and the Government fee required on filing an application for a patent is \$15. Other changes in the fees are also made as follows:—

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

Laws, enacted by Congress on the 2d of March, 1861.