

ESCUTCHEON FOR KEY-HOLE—Edmund Field, of Greenwich, Conn. I do not claim the broad idea of joining metallic or other bars by means of hinges or pivots, as this is everywhere well known.

But a key-hole drop made in two parts, pivoted together has never before been known. It is a new article of manufacture, possessing virtues and advantages not seen in any other article of the kind.

I claim the key-hole drop, C, composed of two parts, b, c, pivoted together.

[Many of our best locks are fitted so that the face of the key-hole is recessed or sunk some quarter inch or more below the general plane of the surface of the door or chest. This construction is stronger and more elegant than to have the key-hole flush, but it does not admit of an escutcheon in the usual form, as there is not room within the recess for such to be turned aside. This simple invention provides a hinge in the escutcheon, and thus completely surmounts the difficulty.]

COILING STEEL SPRINGS—Perry G. Gardiner, of New York City. I claim, first, the cone mandrel, c, d, constructed of two pieces, so that the spiral cone mandrel, e, fits off and upon the straight part of the mandrel, the straight part having the slot or groove, and being an eccentric, so that one edge of the slot will be lower than the other, and gradually rising round to the other edge or side of the mandrel, as above described.

Second, the construction and arrangement of the sliding frame, T, for carrying or feeding up the steel plate upon the cone mandrel, and having attached to it the table, Q, self-adjustable to any required inclination, for supporting and holding the steel plate while being drawn in upon the mandrel, and sustaining the adjustable rollers, n, n, with their adjustment, to suit any required thickness of the steel plate.

Third, the arrangement of the loose or sliding pressure roller, U, and the lateral motion upon the axle, b, by means of the arms, V, V', attached to the sliding frame, T, and the simultaneous graduated downward movement to press and guide the steel plate upon the spiral cone.

Fourth, the combination of the sliding frame, T, and the parts attached to it, and the pressure roller, U, and the intermediate guide plate, B, with the cone mandrel, c, d, arranged and operating in a direct motion, or reversed, as described.

Fifth, the arrangement by which the wheel, G, is thrown in and out of gear, so as to connect or disconnect the shaft, L, with the shaft, S', by which connection or disconnection may be made by hand or by the operation of the machine itself, at the proper moment, in the manner and by the means above specified.

SHEARING STEEL PLATES—Perry G. Gardiner, of New York City. I claim the arrangement of the movable bracket plate, M, so as to adjust the lower steel cutter, q, to the upper steel cutter, a, f, as required, the adjustable stop or guide plate, F, m', and the guide bars, q and r, upon the tables attached to M, and the eccentric lever, S, the whole combined, arranged, and operating in connection with the shears, in the manner and for the purposes above described.

LUBRICATORS FOR STEAM ENGINE CYLINDERS—John Henwood, of New York City. I claim the piston, B, having the oil cup attached by a hollow stem, and provided with a valve, j, working in an oil cylinder, C, that is provided with an arrangement of passages, e, f, f', substantially such as described, leading to the steam cylinder, valve chest, or other part to be lubricated, and with a cock, having an arrangement of passages, e, f, f', k, to correspond with said passages from the oil cylinder, the whole operating substantially as specified.

[This is, in effect, a very simple and easily worked pump for the important purpose of injecting oil to any part when opposed by pressure. The small piston is raised by hand, and the small cylinder fills very naturally with oil, after which, by turning a cock, the pressure of the steam or other fluid is made to act above the piston, and thus to aid in forcing the oil to the place desired.]

NIPPLES—Wm. Cleveland Hicks, of New Haven, Conn. I claim my improved nipples (two or more prongs with or without hooks, for withdrawing loaded balls or cartridges from breech-loading fire-arms, as described) for the purpose of lifting percussion and discharging loaded balls or cartridges.

And secondly, my method of using one, two, or more nipples, or prongs, with hooks as described, to withdraw cartridges or loaded balls from breech-loading fire-arms, by causing said hooks to indent or spring the rim of a cap or primer, as described, and by catching hold of said rim, to withdraw the loaded ball or cartridge by the act of drawing back the nipples, all substantially as described and specified.

ENAMELING CAST IRON—Geo. W. Holley, of Niagara, N. Y. I claim the process of covering the skeleton or core plate and core rods, in the manner described, with the compound or composition with which it is proposed to coat or cover the iron, and then pouring the melted iron on or around said compound or composition, and melting or softening the same so that it will adhere to the surface of the iron as it becomes cold.

The same process may be used for coating or covering copper, brass, and other metals.

FIRE-PROOF STONE—Phos. Hodgson, of Brooklyn, N. Y. I claim the useful manufacture of a fire-proof artificial stone composed of felspar, mica, and quartz, and the other substances or materials described, in the manner and for the purpose set forth.

[This is a readily molded stone, intended as a substitute for plaster and stucco work, for architectural ornaments. The material is pulverized granite, sulphates of lime, zinc, and iron, also starch and tannin, peculiarly wetted and mixed, and allowed to stand a few minutes in an oiled mold. We shall recur to this again.]

WOODEN CHAIR SEATS—Edwin, Artemas, & Cheney Kilburn, of Burlington, Vt. We do not claim a wheel having its periphery or face coated with sand or emery, for such wheels have been previously used for polishing.

But we claim shaping or hollowing out the faces or upper sides of chair seats by means of a grinding or cutting wheel, D, when said wheel has a convex face or periphery coated with sand, emery, or other suitable substance, and using in conjunction with said wheel, the screw, f, or its equivalent, with the circular plate or disk, h, attached, substantially as described.

[This invention presents increased facilities for what is one of the most important of our wooden-ware manufactures. The screw alluded to urges the chair-seat properly against the wheel. The whole is much simpler than the machines heretofore in use for the purpose, and the surfaces produced require no sand-papering.]

HYDRAULIC JACK—Geo. Lindsay, of New York City. I do not claim the device or arrangements of the pumps or working parts, or the safety and lowering valve.

Nor do I claim the device or arrangements of the piston rod, H, or of the ram, D.

But I claim the arrangement of them all combined as constituting the specific whole machine, as shown and set forth.

[The great merit of this over the admirable jack pumps before in use, is its ability to serve either as means of directly forcing apart or of as directly and conveniently drawing together. Hooks are provided for this latter end, and a new implement is thus produced of great practical value in many situations.]

CARRIAGE SPRINGS—Chas. A. McElroy, of Delaware, Ohio. I claim the springs, o, pivoted as described, and struts, n, all arranged and operated in the manner and for the purposes set forth.

STEAM SPADES—G. M. Ramsay, of New York City. I claim the alternate spades, J, in combination with the double crank shafts, I, constructed, arranged and operating substantially in the manner and for the purpose set forth.

GUARD FOR BREASTPINS—J. M. Ross, of Springfield, Mass. I claim the additional guard, g, h, as applied in the manner and for the purposes substantially as set forth.

CUTTING SCREWS—Thompson Newbury, of Taunton, Mass. I claim the jointed elevator passing through the bottom of the feed pan, substantially as set forth.

I claim the vibrating slotted guide piece, fixed to the carrier shaft, operated by arm, M, and pin, n, as set forth.

I claim giving the threading tool, for the purpose of pointing the blank, a motion independent of and slower than that required to effect the threading, substantially as set forth.

I claim the catch wheel, C', with its pawl and stop, in combination with the leader worm, T, as set forth.

BENDING SHEET METAL—Daniel Newton, of Southington, Conn. I claim the application to double seaming machines, of a roller, containing an angular groove, in which the seam runs in the first revolution, substantially as described.

CARPENTERS' PLANE—Oldin Nichols, of Lowell, Mass. I claim connecting the cap, D, to the plane iron, C, by the hook-headed bolt, E, with two nuts, F and G, thereon, to hold them together, and then securing the iron to the plane stock, A, by a cam shaft, H, operating upon this same hook-headed bolt, which is so adjustable as to be lengthened or shortened, that any desired pressure may always be had to firmly hold the iron to the stock, by turning the cam shaft, and still allow the plane iron to be moved in or out of the plane, to cut a thick or thin shaving without further tightening or loosening it; these parts being arranged and operated in the manner and for the purposes fully set forth.

I also claim the plate, g, secured to the plane stock, and intervening between the surface, e, of the hook, E, and the surface, e, of the cam shaft, H, to prevent wear of the hook and cam, and also to prevent the hook, E, and plane iron, C, from sliding back, when the cam shaft, H, is turned to tighten the iron to the plane stock, essentially in the manner and for the purposes fully set forth.

I also claim the application of a single handle, B, to answer for and be secured to a whole set or any number of plane stocks, either in the lower or elevated position, and changeable from one position to another, or from one plane to another, instantly, and be secured firmly thereto, by means of the hook, K, and cam, L, or their mechanical equivalents, arranged and operated essentially in the manner and for the purposes fully set forth.

PREVENTING DUST, ETC., FROM ENTERING THE WINDOWS OF RAILROAD CARS—Philip M. Pyfer, of Baltimore, Md. I claim the arrangement of rotary fans, D, D, or their equivalent, upon the outside of the body of the car, when employed in conjunction with the windows thereof, substantially in the manner and for the purposes set forth.

VALVE GEAR OF DIRECT ACTION STEAM ENGINES—J. P. Ross, of Lewisburgh, Pa. I claim the elastic lever, I, applied as described, substantially as described, in combination with the oscillating yoke, H, the traveler, P, and the roller, r, or its equivalent, for the purposes set forth.

[By direct action engines in this claim is meant those which have no crank motion or balance wheel, but reciprocate directly, as in many pumping and blowing engines, and in some saw mills. The elastic lever and yoke give just sufficient lead, and yet ensure a full opening to the valve. This is an improvement in the engine illustrated in page 44 of the present volume.]

FLUID GATES OR FAUCETS—J. W. Smith, of Hartford, Conn. I claim the slide, A, guided, secured and made adjustable, as described, by the screw pin, D, and nut, a, having a guiding flange, d, to travel within guide strips, f, when the same are used in connection with an operating lever, E, loosely connected by recess, g, with said slide, for the more convenient removal of the parts and retention of the slide in case of breakage of the lever, and for the more free and independent operation of the parts, and so that the one bolt, D, holds the slide, without the necessity of a second bolt, e, as described.

I also claim, in the combination of the lever, E, and slide, A, or therewith, the fulcrums, i and k, at different distances from the center of the slide and slotted arm, h, for operating in the manner and for the purposes substantially as set forth.

CHUCK FOR WATCHMAKERS' LATHE—Wm. Stephens, of Richmond, Ind. I am aware that a chuck has been invented to be used in connection with cement for holding the shaft and wheel; but these chucks will only allow concentric pivots to be turned. I would remark that by my improvement the ends of shafts may be drilled, either concentrically or eccentrically, to allow pivots to be fitted in the ends of the shaft, in case the former pivots of a shaft are broken off. This cannot be done in the usual lathe, nor by any tool used by watchmakers.

I do not claim, separately, the sliding or adjustable jaws, D, D, for they have been previously used in chucks, but I claim the sliding or adjustable jaws, D, in combination with the sliding or adjustable centers, or rollers, C, arranged substantially as described for the purpose set forth.

[This is a valuable improvement in the facilities for this fine branch of work, but cannot well be further explained without the aid of drawings. This chuck is particularly adapted to the watchmaker's lathe by the same inventor illustrated on page 233, vol. 10.]

TABLE GAUGE FOR CIRCULAR SAWING MACHINES—M. B. Tidey, of Ithaca, N. Y. I claim the construction of a portable saw gauge for the purpose and in the way substantially as set forth.

SUPPORTING THE TONGUES OF COACHES—Z. B. Wakeman, of Beloit, Wis. I desire the use of the brace or braces, or their equivalent, attached to the reach, (or perch) of a wagon or other carriage, in combination with a spiral spring, or coil spring, applied to the tongue of a wagon or other carriage, and pressing against the reach, for the purpose of giving direction and steadiness to the tongue, by checking its motion sidewise, keeping it in a straight line with the reach, (or perch,) while it supports it, and also preserves the set of axle in its true position, as set forth in the specification.

But I do not claim a patent for raising or sustaining the tongue, in itself, as this has been done before in various ways; but I claim the arrangement and combination of parts as set forth for the purpose of giving direction and steadiness to the tongue while it supports it.

Nor do I claim said parts, or any other arrangement or combination of parts, not used or described in this specification.

BOMB FOR KILLING WHALES—N. Scholfield and Wm. W. Wright, of Norwich, Conn. Assignors to N. Scholfield aforesaid. We are aware that their use has been applied to bombs, by placing inserted in a pipe, and molten metal after being discharged from the gun, either by the action of an compass and hold it tightly, and other modes of fastening the fuse have been adopted; but we do not claim the mode here referred to, or any heretofore used, nor do we claim the application of metallic wings or feathers to govern the direction of a projectile. We claim—

First, inserting the end of the fuse through a short holding pipe, of the same diameter as the fuse, and forcing by compressing the same, and the drawing or forcing this within the end of the fuse pipe having a conical enlargement at its rear end.

Second, enlarging the end of the fuse cord, by winding it with twine, or its equivalent, so that it cannot be drawn through the pipe, and inserting it in the fuse pipe, either with or without the stemmer pipe, a, and putting gypsum, brimstone or wax around it, within the nut, A, to hold it securely.

Third, We claim the application of the sliding collar, h, on a projectile carrying a cylindrical metallic plate covering the projectile, and either slit, to form wings, k, or unslit as a cylindrical case, or so constructed that the said collar, with the case, or wings, shall slide to the rear, after being discharged from the gun, either by the action of a spring, or the resistance of the air to guide its direction.

Fourth, We claim so constructing and applying these wings, k, that they may coincide with the cylindrical surface of the projectile while in the gun, and that their rear ends may be thrown up therefrom, by their elasticity, after being discharged, so as to stand in positions diverging from that surface, in the rear, substantially as described.

GRAIN CRADLES—S. D. Warren, of Lebanon, Ala. I am aware that the fingers of cradles have been "gathered." I do not, therefore, claim the principle of so doing; but I claim the combination of the standards, C, D, E, fingers H, and seed A, when so made and united, so that by the bar G, said fingers may be gathered or adjusted as set forth, and for the purposes explained.

CIRCULAR SAWING MACHINE—G. P. S. Wardwell, of Lake Village, N. H. I claim the arrangement of two or more saws or cutters in a swinging frame, so that either saw or cutter may be brought into a suitable position for action, while at the same time the other or others shall be removed from the way, in the manner specified, or in any equivalent manner; and this I claim, whether or not a central or axial saw, or cutter, is combined therewith, or with a single swinging saw or cutter.

HOOP-POLE SPLITTING KNIFE—Carver Washburn, of Bridgewater, Mass. I claim the improvement of applying a knife to the feed rollers, or the latter to the former, by means substantially as described, so that one may be made to approach towards and recede from the other, essentially in manner and for the purpose as specified.

STAMPING FIGURES IN CARPENTERS' SQUARES—Heman Whipple, of Shafsbury, Vt. I claim, first, the arrangement of a series of chase bars, joined at one side of the machine, and substantially as specified, whereby the square, and with the hand wheel, h, rack, or rucks, j, and pawl i, for regulating the relative positions of the anvil and chase bars, substantially as and for the purposes specified.

Second, I claim the arrangement of the levers, s, a, and m, by which the bars, z, a, m, and slot v, and pin e, for the purposes and substantially as specified, whereby the one motion of the lever, a (by the treadle t,) first turns the bar, z, around to confine the chase bar, c, and then gives the requisite compression of the chase bar at both ends on to the square or plate on the anvil, to retain the same firmly, while the chases are being separately struck into said square, as specified.

SELF-REGULATING WIND WHEEL—A. P. Wilson, of Salem, Ill. I do not claim, broadly, the application of weights to adjustable sails, whereby the sails, by the action of the wind, are adjusted, so as to present a greater or less surface to it, according to its velocity, for weights to be arranged and arranged in various ways for effecting the purpose.

But I claim constructing the sails of two parts, E, F, attached, or fitted to inclined frames, which are secured to the arms, C, D, the upper parts, F, of the sails, being hinged to their frames, a, and having weights, G, and cords, d, attached, substantially as shown and described for the purpose set forth.

[This appears to be one of the most simple and effective of the many devices for regulating windmills, and one which involves very little mechanism.]

LUBRICATING GAS COCKS—C. H. Johnson, of Boston, Mass. Assignor to himself and J. G. Hamblin, of same place. I do not confine my invention to making the stud, m, in the present form, in manner above set forth, as it may be otherwise constructed, so as to move into or out of the opening, o.

I claim, when the tapering plug of the faucet or stop cock is drawn into the tular seat, by the action of the spring, f, as specified, combining with the seat tube, a, an entrance passage, k, and groove, l, and a movable stop, arranged substantially in the manner and for the purpose as specified, or, in other words, so as to enable a person to expeditiously lubricate the stop cock, without the necessity of entirely removing its plug from its seat tube.

SECOND ANCHOR SHACKLE—G. Gilmour, of Chelsea, Mass. Assignor to himself and H. R. Olinkard, of same place. I do not claim a hoisting block made with a pawl and tripping lever, so applied to the pawl as to enable a person to elevate the latter out of engagement with a chain, when passing around the shear of the block.

But I claim my new improved anchor shackle, as made with a spring pawl, D, and trigger, or latching apparatus, E, F, g, h, i, arranged with reference to the roller, B, and made to operate substantially as described.

I also claim making the pawl forked, or with a recess, so as to enable it to straddle the chain as described.

RE-ISSUES. CARDING ENGINES—A. D. Shattuck, of Grafton, Mass. Patented Sept. 29, 1856. I claim, first, the application to carding engines of two or more variable cylinders, arranged and operated in the manner substantially as set forth, for the purpose of preventing the filling up of the main cylinder.

Second, The use of a doffer in combination with strippers or cleaners, arranged and operating in the manner substantially as described, for the purpose of preventing the filling up of the main cylinder, and producing an uniform sheet.

SAW MILLS—Wm. P. Wood and Saml. DeVaughan, of Washington, D. C., assignors of G. W. Hedge, of Brooklyn, N. Y., assignors of Lemuel Hedge, of New York City. Patented May 2, 1849. We claim the means above described to regulate the deflection of the saw blade when at work, that is to say, the application of the feed rollers to the back of the saw blade, for the purposes set forth.

We also claim the driving power to the lower pulley, b, when the saw is designed to work in its downward motion, substantially as set forth.

DESIGNS. COOKING STOVES—Allen Comstock, of Quincy, Ill. STOVE DOORS—M. C. Burleigh, of Great Falls, N. Y.

[Pleasing effect on the eye is the whole object of this design. It involves a central ornament within an annular bead and radial corrugations on the face or panel of the door, with various beads around the edges of the panel.]

FLOOR OIL CLOTHS—James Hutchinson, of Lansingburgh, N. Y., Assignor to J. E. Whipple and S. E. Haskell, of same place.

Bending Steamed Wood.

MESSRS. EDITORS—In late numbers of your journal I have noticed frequent mention of machinery for bending timber. The principle which effects the purpose (and without the application of this principle timber cannot be successfully bent) as has been described, consists of an end pressure to prevent the separation of the fibres on the outer surface while in the act of bending. This principle is not new. We have had it in successful operation for several years, and can bend any kind or quantity of wood we ever tried after being properly steamed. On my machine we have bent poplar timber taken from near the heart of an old tree, and every mechanic knows this to be the most obstinate of timber to bend, to form near half of a circle, whose diameter was twelve inches, the stuff bent being inch and a half square, and after being dressed hardly any mechanic would discover that it was not the natural growth. This machine has been exhibited at the Mechanic's Institute and State Fair, with timber that was bent upon it, and elicited the admiration of all who saw it. The machine I speak of is used at the Tennessee Plow Factory, in Nashville. The device is not patented, but is public property, and for the benefit of your readers interested in bending timber, I will briefly describe it.

My machine has an iron form of the shape

desired to make the inner curve of the timber when bent, and an iron lever, with one end made thin and pliant, to bend with little resistance. This lever has a hook on the end, to attach it to the form, across the end of the timber, and a shoulder on the other end, outside of which is a nut, to screw the shoulder up against the end of the timber. When the timber is properly steamed, it is placed on the form; the lever is hooked on the end, and screwed up close against the other end, and then pressed down to its position. In the middle of the lever is a joint similar to a strap joint, with a long mortise through, to receive a key. Sometimes as the bending proceeds it is necessary to drive the key in and make the lever shorter between the shoulder, in order to effect a perfect bend; and again in bending timber that is very tough it will so strongly resist a compression of the fibre—or if the growths are large it has the same effect—that the nut on the end of the lever must be unscrewed when the timber is partly bent, to admit of stretching a little; this will secure a perfect bend, and obviate the tendency of the fibres to kink on the inside of the curve. This key and nut on the lever gives the operator entire control of the timber, and enables him to manage every piece as circumstances may require.

THOMAS SHARP. Nashville, Tenn., March, 1857.

Proper Pressure to Blow-Off Boilers. MESSRS. EDITORS—Will you be so kind as to inform me if it makes any difference how high the pressure of steam is in a boiler when blown off, if the fire is first withdrawn so as not to injure the boiler? I find nothing on the subject in any books that I have on the steam engine. C. A. C.

Yes. It makes a great difference in the incrustation of a boiler whether water is discharged hot or cold. If water is calcareous, it tends as soon as boiled down a little to deposit a crust on the whole interior. It happens that hot water, instead of as might be naturally supposed holding a larger quantity of these earthly particles, does not hold as much as cold, and hence arises the difference in effects in blowing off at different pressures, and consequently at different temperatures. If the water be blown out of a boiler at full pressure, it only carries out with it the particles then undeposited, (except, of course, a certain quantity of mud stirred up mechanically); but, if allowed to cool before it is withdrawn, the cold water will dissolve a part of the scale. Wiessenborn's valuable preventer of incrustation is based on the superior tendency of heated water to deposit, and the fact of this tendency is well known to chemists, and to many engineers, though not to all. The engineers of the propellers running between this city and Philadelphia keep their boilers perfectly clean, by taking care to draw out their water cold at the end of each trip, and replace it by new, while if they experimentally or carelessly once blow it off under pressure, they coat the whole interior with a thin white limy scale. The steamers plying between this port and Fall River do not lie long enough at either end to so cool their boilers complete, but do so as far as possible, even by pumping in cold water before blowing off; and as a general rule it may be said always cool down your boiler, and let the water flow out softly if you can, in preference to blowing it out under steam.

Balancing Slide Valves. It is a question of some interest whether Mr. Worthington, or any one else, claims to have a patent on the use, in every way, of a balance piston working in a cylinder, and connected to a slide valve, so as to partly annihilate the effect of the pressure thereon. It is in common use, and has been for several years. The locomotive, "Iron Duke," in the London Exhibition, 1851, had her valves thus balanced. D. D. Owen, the slate geologist, reports the existence of great deposits of brown Hematite ore in Kentucky, which yield an average of from 62 to 66 per cent of pure iron. Cunningham's Self-Reefing Topsails, an invention by which the sail is rolled up by revolving the yard, is in successful use on a number of English vessels.