

WRENCH—George C. Taft, of Worcester, Mass.: I claim the screw-threaded rosette, a, with its hole, o, in combination with the stationary guide rod, b, rack, n, traversing male screw, f, and sliding jaw, g, h, with its female screw, p, substantially as and for the purposes set forth.

GRINDING MILLS—George Todd, of St. Louis, Mo.: I claim securing the ears, f, of the rim, i, of the stationary stone, A, between a double series of upper and lower springs, m, n, and k, l, whose elasticity is governed and controlled by the series of adjusting screws, n, n, substantially in the manner and for the purpose set forth.

PENHOLDERS—Alfred R. Turner, of Malden, Mass.: I claim a penholder constructed with the cover, h, turning on a pivot or fulcrum, and acted upon by the bent spring, e, substantially as described. And I also claim, in combination with the above, the sliding piece, f, as set forth.

LAMP WICKS—John B. Wortendyke, of Godwinsville, N. J.: I claim, as an improved article of manufacture, a lamp wick composed of strands that have received a preparatory twist in one direction, are then spun in the contrary direction with and coiled upon a thread, c, and are then twisted together, all as shown and described.

[This wick is produced by laying and twisting together a number of strands composed of loose yarns and fine threads, spun in such a manner that all the fibers of the yarn are caused to have in the wick a direction corresponding exactly or nearly with the spiral direction of the strands, and, though kept in a compact state by the fine threads being coiled round them, permit so free a capillary action as to imbibe the melted tallow, oil, or other material, more rapidly than wicks spun or twisted in other ways.]

MACHINES FOR CUTTING AND FOLDING WADDING AND PAPER—John Wood, of Brooklyn, N. Y.: I claim, first, The receiving box, V, provided with two compartments and fly-boards, d', connected with racks, c, and with ratchets, h', actuated by the arms, k, and cam, j, in connection with the wheel, X, and adjustable pinion, Oxx, substantially as and for the purpose set forth.

Second, Operating the knife gate, D, and plate, F, by means of the screw, O, provided with the sector racks, J, which gear into the racks, k, of gate, D, and bar, so that the knife and plate will be actuated or made to perform their respective functions alternately, as described.

Third, The arrangement of gearing, G, I, K, R, as shown and described, when used in connection with the lever, O, for the purpose of operating the several parts automatically, as and for the purpose set forth.

[Endless feed aprons, a folding plate and rollers, a fly and receiving box are employed in this invention, which is designed for cutting and folding wadding paper or any textile or pliant substance which is manufactured in continuous sheets or rolls, and which require to be cut into pieces and folded for after use.]

REFRIGERATOR—Abraham Yost, of New York City: I claim the combination and arrangement of compartments, D and K, dampers, b and j, and escape tubes, L, substantially as and for the purposes set forth.

[The air is admitted around a tight metallic box, which contains the ice, and is conducted through the refrigerator; by this means a very good refrigerator is obtained and the ice economically used.]

CONSTRUCTION OF RAILROADS—John Young, of West Galway, N. Y.: I would remark that I do not claim placing a rail on a saddle as this device is well known, many examples of which may be referred to; and I therefore disclaim such combination other than my own.

But I claim constructing a rail and saddle, as described, whereby I am enabled to securely hold and render solid the joints or ends of rails during the passage of cars, substantially as described.

I also claim combining with said rail and saddle, as described, the straining arch, E, key, D, and strip, F, for the purpose set forth and specified.

RESTORING WASTE RUBBER—Francis Baschnagel, of Westham, Mass., assignor to the Beverly Rubber Company, of Beverly, Mass.: I claim the described process, to wit, restoring waste vulcanized rubber by reducing the same, by grinding or otherwise, to a finely divided state, and then submitting the same in a suitable vessel to the direct action of steam.

SOFA BE-SEATER—K. Borden, (assignor to Peter Schneider), of New York City: I claim, first, Constructing a sofa bedstead with an interior drawer, which may be pulled and united with the sofa seat, so as to form one bed or couch by the application of ways or grooves, a, to the inside of the sofa frame, substantially as described.

Second, The horizontal rods, F, of the sofa frame in combination with the stay, E, of the interior drawer for the purpose of more securely guiding the said drawer, substantially as described.

Third, Providing the drawer with two back pins, o, o, in the manner and for the purpose substantially as described.

STEAM VALVES—Harry H. Everts, (assignor to himself and Phineas E. Merrihew), of Chicago, Ill.: I claim the arrangement of the ports, cavities and passages in the valves, substantially as herein described, in combination with a corresponding arrangement of the ports in the seat, whereby a single valve is made to perform its functions for two cylinders of the engine, as set forth.

[This is an excellent arrangement of a valve, whereby one is made to perform the functions of two.]

HINGE—Levi T. Howell, of Burlington, N. J., assignor to himself and D. Witt C. Taylor, of Philadelphia, Pa.: I do not desire to confine myself to any particular form of hinge or to any particular mode of securing the same, nor do I claim, broadly, a hinge with notches and projections to render it self-locking.

But I claim the projection, i, on one half of the hinge, said projection being inclined on one side and abrupt on the other, in combination with the spring bolt, D, and its notch, e, when the said bolt is so fitted to the other half of the hinge as to have a limited vertical, but no turning movement therein, and when the whole of the parts are arranged for joint action, substantially as and for the purpose set forth.

HOSE POWER—Clark Lane, (assignor to Owens, Lane, Dyer & Co.), of Hamilton, Ohio: I claim the construction and adaptation of the stay rods, F, G, with the hooked stand plates, I, I, and racks, D, E, on the sweep, C, or their equivalents, in combination as set forth.

REGULATOR FOR TIME-KEEPERS—Ralph S. Merrihew, (assignor to himself and John M. Harper), of Philadelphia, Pa.: I claim the application to watches, and such time-pieces as have their vibrations governed by a balance and hair spring, of a compound regulator composed of two or more movable segments, constructed and operating substantially as described.

I also claim the combination of said compound regulator with a greater or lesser scale, the former fixed and the latter movable, but having a fixed indicator and capable of being operated either in concert with, or independently of each other, substantially as described.

SEEDING MACHINES—George W. Richardson, of Grayville, Ill., assignor to himself and John P. Williams, of White County, Ill.: I claim the arrangement of the cam wheel, H, and lever, F, with the seed slide, X, and vibratory bar, E, of the harrow, D, D, when the whole are constructed for operation conjointly in the manner and for the purpose set forth.

JOINT FOR GAS AND WATER-PIPES—James E. Quinn, (assignor to John M. Johnston), of Chicago, Ill.: I claim the arrangement of the rings, e and f, on pipe, d, in combination with the opening, c, in the socket, b, forming the cement chamber, h, h, for the purpose of joining pipes air and water-tight by using cement in place of lead commonly used, the whole arranged substantially as set forth.

[This is a very simple and yet effective method of uniting the joints of pipes by cement. The invention consists in providing a groove and shoulder at the junction of two sections of pipe or tubing for receiving and confining the cement. The cement is poured into this groove, and against the shoulder, from the outside of the pipe; and when the groove and the hole through which the cement is poured are filled, it is impossible almost to open the joint, and the cement is kept from exposure to the moisture. The use of lead solder is wholly dispensed with.]

BED-BOTTOM—Lennard E. Tinkham, (assignor to himself and Charles Ryan), of Lawrence, Mass.: I claim the combination of S-formed springs, arranged so as to receive the movable rivet and retain the slats in place, with bars, B, and stirrups, a, b, when the same are arranged substantially for the purposes and in the manner specified.

[There is no room in the joints of this bed-bottom for vermin, and yet it is so constructed that the slats can be readily removed and replaced, and the side rails require no mortising.]

EGG BEATER—John L. Nicolai, (assignor to himself, S. E. Knott and R. F. Farrell), of Chicago: I claim, first, The within-described beaters, C, arranged with diverging fingers, F, which are attached to disks, E, to operate substantially as and for the purpose set forth. Second, The arrangement of a series of beaters, constructed as described, on rotary shafts, C, so that the several beaters can be operated, substantially as and for the purpose specified.

[The beaters in this invention are arranged in one frame, so that they can all be operated together and many eggs in different vessels be beaten simultaneously.]

RE-ISSUES.

GRAIN HARVESTERS—Thomas D. Burrall, of Geneva, N. Y.: Patented April 5, 1885. I claim, first, The additional apron to convert the usual rear discharge into a side discharge of the cut grain, substantially as described.

I also claim the combination of the curved supports and the adjustable journal bearings, in connection with the relative positions of the cogs in the mitre gearing, and at the same time allow of raising and depressing the driving wheel, substantially as described.

I also claim the notches in the back corners of each knife to prevent clogging or lodgment of fine grass in the cavities of the guards, said notches effecting a good purpose and not weakening the cutter, as represented.

GRAIN HARVESTERS—Thomas D. Burrall, of Geneva, N. Y.: Patented April 5, 1885. I claim the location of the rake's seat with regard to the drive-wheel and platform, as described, and for the purpose set forth.

I also claim in combination with a rake's seat located as described, extending the rear of the platform far enough back to allow the rake from his seat to turn the grain upon the platform, and rake it off in an arc of a circle by a circular sweep or quarter-turn movement of his rake substantially as described.

ARRANGEMENT OF BUCKETS OF PADDLE-WHEELS—Matthew A. Crooker, of New York, N. Y.: Patented October 28, 1856. I claim arranging the floats or buckets of a paddle-wheel upon its arms or the equivalent thereof, whereby the buckets shall be continuously in creasing and diminishing their depth in the water as the said wheel revolves, as and for the purposes set forth.

MACHINES FOR PEGGING BOOTS AND SHOES—John James Greenough, of New York, N. Y.: Patented January 17, 1854—Re-issued July 4, 1854—Re-re-issued April 26, 1859. I claim driving the pegs into boots and shoes automatically, by means of a peg-driver operated up and down by a positive mechanical movement whether impelled by a cam, eccentric, or crank, or other equivalent, substantially as and for the purposes specified.

MACHINES FOR PEGGING BOOTS AND SHOES—John James Greenough, of New York, N. Y.: Patented January 17, 1854—Re-issued July 4, 1854—Re-re-issued April 26, 1859. I claim the moving of the sole of the shoe along by means of theawl that forms the hole in which the peg is inserted, in combination with the peg-driver, whether the peg-driver be or be not employed to perform the additional function of presenting the peg, whereby each hole made by theawl is brought in succession in line for inserting the peg before theawl is withdrawn as set forth.

MACHINES FOR PEGGING BOOTS AND SHOES—John James Greenough, of New York, N. Y.: Patented January 17, 1854—Re-issued July 4, 1854—Re-re-issued April 26, 1859. I claim cutting off shoe pegs from a strip of peg wood or other material, by means of a lateral or side cut, that will cut straight across, substantially as and for the purposes set forth, when combined with suitable ways in which the strip slides, and machinery for driving the pegs as specified.

I also claim the combination of the endles feed with a cutter for severing the pegs in a shoe-pegging machine as specified.

MACHINES FOR PEGGING BOOTS AND SHOES—John James Greenough, of New York, N. Y.: Patented January 17, 1854—Re-issued July 4, 1854—Re-re-issued April 26, 1859. I claim connecting the last with a horizontal slide or plate capable of presenting the shoe or boot, substantially as described, so that the shoe or boot attached thereto may be turned and moved in any direction, in a horizontal or inclined course, in combination with a mechanism, substantially such as described, which tends constantly to force it upward against a rest or guide, but which will permit it to yield downward as described, but this combination I claim only when combined with the pegging mechanism described, or any equivalent thereof.

And I also claim as an automatic means of moving and guiding the last to present it to the pegging apparatus, in the required line of pegging, the guide groove, guide and pinion and curved neck, substantially as described in combination with the mechanism above described, or the equivalent thereof, which permit the last to be moved in any desired direction as set forth.

MACHINES FOR PEGGING BOOTS AND SHOES—John James Greenough, of New York, N. Y.: Patented January 17, 1854—Re-issued July 4, 1854—Re-re-issued April 26, 1859. I claim the combination of the universal movement carriage and lateralawl-movement for properly presenting the shoe to receive the pegs in succession as specified.

I also claim the combination of the mechanism for the cutting and feeding of the pegs as herein described or any equivalent thereof, with the automatic peg-driver as described.

I also claim the combination of the following elements or their mechanical equivalents, namely: the peg-former, the peg-feeder, the peg-driver, and the mechanism for moving the shoe, described, thus constituting an automatic machine for pegging shoes as set forth.

MACHINES FOR PEGGING BOOTS AND SHOES—John James Greenough, of New York, N. Y.: Patented January 17, 1854—Re-issued July 4, 1854—Re-re-issued April

26, 1859. I claim the pegging of boots and shoes with nails or pegs of drawn wire, substantially as described. I also claim driving the pegs by means of the cutting nippers, said nippers cutting off the peg after it is driven substantially as specified.

TAILOR'S SHEARS—Rochus Heinisch, of Newark, N. J.: Patented July 13, 1858. I claim the oblique rectangular slot, C, in the elongated shank of the lower blade, A, in combination with the fulcrum, D, and a lever connecting with two portions of the shears behind the fulcrum, the whole constructed and operating substantially as and for the purposes described.

MACHINE FOR MAKING PAPER BAGS AND ENVELOPES—North American Paper Bag and Envelope Manufacturing Company, of Philadelphia, Pa., assignees of J. A. Smith, of Clinton, and S. E. Pettie, of Foxborough, Mass.: Patented May 1, 1856. We claim, first, The bar, B, to relieve the end of the under sheet of the weight of the pile, partially or wholly.

Second, The friction bar, I, to separate the under sheet.

Third, The guide-bar, L, in connection with the bar, I, to hold the sheet in place for the jaws.

Fourth, The lifter, M, to relieve the sheet from the weight of the pile.

Fifth, The feeding from the bottom of the pile.

Sixth, The combination of the weight bar, friction bar, guide bar and lifter, constituting a feeding apparatus.

Seventh, The jaws to place the paper in position.

Eighth, In combination with machinery for making bags from paper of any size, we claim a former of the shape and dimensions required by the nature of the work or of the arms of a wheel, and used in the manufacture of paper boxes, such an arrangement having been employed in the box machine of Louis Koch, patented 13th March, 1855.

Ninth, The pasters and side folders.

Tenth, The combination of the table, the bar, B, the side folders and pasters, all constructed as set forth, or any other substantially the same.

SEWING MACHINES—Emeline M. Stedman, of Vienna, N. J., (executrix of George W. Stedman, deceased): Patented December 12, 1854. I claim, as the invention of Geo. W. Stedman, deceased, first, The tube described, receiving thread in the manner specified and acting in combination with the needle, so that each forms a series of loops, each of which loops receives one and is received by the next one of the other series as set forth.

Second, I claim the auxiliary plate carrying the guide for the looping-tube, and secured to the bed-plate substantially in the manner specified, so as to be adjustable to any desired position relatively with the needle, for the purposes set forth.

Third, I claim a reciprocating tube or equivalent device co-operating with an eye pointed needle to concatenate or form the stitch, and produce sewing essentially as specified, combining with and receiving its motion from one end of a lever, the fulcrum of which is at or near the bed or table of the machine while the other end carries the said needle substantially as described.

Fourth, I claim feeding the cloth by means of a needle which is made to pass through the same in a position with respect to its length, diagonal to its line of movement as specified, in combination with a spring to throw the needle into position to feed the cloth the next stitch, and the screw or its equivalent to determine and regulate the length of the stitch, substantially as specified.

GRAIN AND GRASS HARVESTERS—Eliakim B. Forbush, of Buffalo, N. Y.: Patented April 17, 1855. I claim, first, The arrangement and connection of the rear cross timber, X, in relation to the main frame in the manner and for the purposes specified. Second, The peculiar construction and arrangement of the gear frame, B, in relation to the main frame driving wheel and gearing in the manner and for the purpose specified.

Third, The gear key, D, in combination with the gearingshaft constructed and arranged and operated substantially in the manner described for the purpose specified.

Fourth, The locks, n and r, s, in the clamp as and for the purpose set forth.

Fifth, The track-clearer, M, m, provided with the arms, y, j, arranged in relation to each other, and socket-piece, m, to operate in the manner and for the purposes substantially described.

Sixth, A recess, I, X, made in the outside shoe in rear of the outsidecutter-bar as and for the purpose specified.

Seventh, The second angle at c, r, formed by the bearings of the guard finger substantially as described.

DESIGNS.

COOK STOVES—Sherman S. Jewitt and Francis H. Root, of Buffalo, N. Y.

TEA-POT, &c.—G. W. Smith, of Hartford, Conn.

ADDITIONAL IMPROVEMENTS.

MACHINE FOR PACKING WOOL—Charles Carlisle, of Woodstock, Vt.: Patented October 6, 1857. I claim forming either or both of the leaves B, B, of my improved wool packing machine of two or more connected longitudinal sections, when the said joined leaves are so arranged as to open or wind, which parts of said machine substantially in the manner and for the purpose set forth.

CORN-SHELLERS—Williams Wells, of Boston, Mass.: Patented January 4, 1859. I claim the guide, B, in combination with the weighted or spring presser, C, made movable and adjustable with reference to the centre of the disk, A, in the manner and for the purpose set forth.

EXTENSIONS.

WOODEN BRIDGES—George W. Thayer, of Springfield, Mass.: Patented April 22, 1845. I claim the combination of one or more series of iron screw rods, b, b, &c., with the suspension posts and chords or string pieces of a truss, in the manner and so as to operate substantially as specified.

I do not claim the combining with the posts, braces, and strings of a truss, a series of supplementary braces, k, k, &c.

But I claim the arrangement of such a series of braces upon the outer sides of the truss, so that they shall extend above and below the chords thereof and be confined to the truss, substantially as described.

MACHINES FOR MAKING MATCH SPLINTS AND ARRANGING THEM IN THE DIPPING FRAMES—Asa Fessenden, of Templeton, and Luke S. Knight, of Barre, Mass.: Patented April 26, 1846. We claim the combination with the series of cutters, o, of the passages, e, e, &c., leading from the cutters, whether there be one or more series of said cutters and passages, the whole being for the purpose of making match splints from a block or blocks, as described.

Also the combination with the aforesaid cutters and passages of one or more dipping frames, arranged and operating with respect to them, substantially as described.

Also our improved manner of making the dipping frames, viz., in sections of separate pieces or plates, h, h, as described.

Also the combination of mechanism by which each of the blocks of wood is held down upon the carriage, B, and progressively forced forward against the board, F, the said mechanism being applied to the carriage, B, and board, F, and constructed and operating together substantially as set forth.

Also the combination of machinery by which the

dipping frames are progressively moved forward, the said machinery being connected with and intervening between the carriage, B, and the said dipping frames, and operating substantially in the manner as explained.

INVENTIONS EXAMINED at the Patent Office, and advice given as to the patentability of inventions, before the expense of an application is incurred. This service is carefully performed by Editors of this Journal, through their Branch Office at Washington, for the small fee of \$5. A sketch and description of the invention only are wanted to enable them to make the examination. Address MUNN & COMPANY, No. 37 Park-row, New York.

Speed of Circular Saws.

Messrs. Editors:—As there is a wide difference of opinion among lumbermen regarding the speed of circular saws, it is a matter of very great importance to those engaged in running saw-mills to know the best speed, under all circumstances, at which such saws should be run. Some sawyers allege that their saws work well only when run at a high speed, while others as confidently assert that they do better at a comparatively low speed. It is thus that mill-men themselves differ in opinion, and there are no settled principles prevailing among them on this subject.

When it is recollected that success in sawing depends entirely on the performance of the saw, the importance of ascertaining the proper speed at which it should be run is a question of no small magnitude. Being interested in the lumbering business, I am desirous to obtain reliable information on this point—will the SCIENTIFIC AMERICAN enlighten me? S. E. P.

[Our correspondent will find some useful information on the speed of circular saws on page 128 of the present volume of the SCIENTIFIC AMERICAN; but there are so many collateral questions connected with the "best speed of saws," that it is not possible to lay down a precise rule for all cases. Thus, different kinds of timber require different velocities of the saw; and the set, the temper, and hang of the saw in its journal-boxes must all be taken into consideration. A 56-inch circular saw may be safely run at the rate of 4,600 feet per minute, and a smaller one at a still higher velocity.

LONG AND SHORT DAYS.—At Berlin and London the longest day has sixteen hours and a half; at Stockholm, the longest day has eighteen hours and a half; at Hamburg, the longest day has seventeen hours, and the shortest seven; at St. Petersburg, the longest day has nineteen, and the shortest five hours; at Tornea, in Finland, the longest day has twenty-one hours and a half, and the shortest two hours and a half; at Wandershus, in Norway, the day lasts from the 21st of May to the 22d of July, without interruption; and at Spitzbergen, the longest day is three months and a half.

PICKLED EGGS.—At the season of the year when eggs are plentiful, boil some four or six dozen in a capacious saucepan, until they become quite hard. Then, after carefully removing the shells, lay them in large-mouthed jars, and pour over them scalding vinegar, well seasoned with whole pepper, allspice, a few races of ginger, and a few cloves of garlic. When cold, bung down closely, and in a month they are fit for use. Where eggs are plentiful, the above pickle is by no means expensive.

A GREAT REFORM.—The Dispatch says that an order has been issued by the Postmaster-General, Mr. Holt, prohibiting all clerks leaving their duties for the purpose of "taking a drink" during office hours, under a penalty of dismissal; thus showing the determination on his part that the "sweets of office" shall not be mingled with bitters of any kind. The Postmaster-General is right, and shows his estimate of an unfuddled brain in the performance of government duty.

THE learned, after many contests, have at length acknowledged that the numeral figures, 1, 2, etc., are of Indian origin, and not Arabian, as is commonly supposed.