



ISSUED FROM THE UNITED STATES PATENT OFFICE FOR THE WEEK ENDING JULY 3, 1860.

[Reported Officially for the SCIENTIFIC AMERICAN.]

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**28,949.—Calvin Adams, of Pittsburgh, Pa., for an Improvement in Door Locks:**

I claim, in combination with a mortise or rim lock, a bolt having the incline, a, and vertical part, b, on its end, for the purpose of adapting said locks to either a right-hand or to a left-hand door, substantially as described.

**28,950.—Stephen Albro, of Buffalo, N. Y., for an Improved Bed Cord:**

I claim the formation of common rope cords with detached loops or reaches, to be used as bed cords, in combination with the metallic swivels, a, and catches, d and e, by which they are attached to bedsteads, substantially as described.

**28,951.—Ethan Allen, of Worcester, Mass., for an Improvement in Revolving Fire-arms:**

I claim providing the recoil plate of revolving fire-arms with a projection in the form of an inclined plane, so that the cylinder will be free to revolve at the first minute movement of the hammer, substantially in the manner and for the purpose set forth and described.

**28,952.—I. S. Arnold, of South Milan, Ind., for an Improvement in Hay Presses:**

I claim the combination with the grooved pressing chamber and follower, of the slatted top or side door, O, end door, M, and notched slide, N, substantially as specified, or the equivalents of these devices, whereby the bale may be hooped while in the press without opening the press for the purpose.

Also combining with the follower, mechanism for raising the ends of the hoops in the press without opening the latter, to secure the action of the follower upon the hoops, substantially as specified.

Likewise the arrangement of the doors, F O and M, essentially as shown and described.

And lastly, the combination with the follower, of the clutch, a, conical pulley, J, rope or chain, I, and sweep, L, substantially as specified and for the purposes set forth.

**28,953.—Alexander Asboth, of New York City, for an Improved Composition for Roofing and Cement:**

I claim the mode described of making a concrete by the mixture of gravel, powdered brick, oil and litharge.

**28,954.—Wm. Austin, of Philadelphia, Pa., for an Improvement in Attaching Water Pipes to Buildings:**

I claim the described method of attaching water pipes to buildings, whereby any one joint may be removed or replaced without either injuring the wall or disturbing the remainder of the joints, the whole being constructed and operating substantially as set forth.

**28,955.—C. H. Baker, of Red Wing, Minn., for an Improvement in Steam Land Carriages:**

I claim, first, The arrangement of means set forth, for connecting the engine frame to the frame or body of the carriage.

Second, The arrangement of means, as set forth, for allowing the inside wheel to accommodate itself to the movements of the carriage in turning.

**28,956.—W. R. Bennett and Charles Stover, of Boston, Mass., for an Improved Mode of Polishing Varnish:**

We claim the described mode of polishing japanned and varnished ware, whereby we are enabled to give a better polish with less labor than can be given in any other known matter.

**28,957.—W. Birkbeck, of Jersey City, N. J., for an Improvement in Steam Engines:**

I claim operating the secondary valve, V, by the excess of pressure in the newly open port, f or f', over that which is acting in the cylinder to complete the stroke of the piston, substantially in the manner set forth.

I also claim, in connection therewith, so constructing and arranging the valves, ports and passages, that the piston, or equivalents, V V, which are moved in the chamber, a, by such excess of pressure, are themselves puppet valves for the exhaust, and make a tight contact with the seats, w w', substantially as and for the purposes set forth.

**28,958.—J. S. Blood and J. W. Miller, of Newport, N. H., for an Improved Socket for Fence Posts:**

We claim the socket, A, for the reception of the fence posts, constructed substantially as described.

**28,959.—Ezekiel Booth, of Troy, N. Y., for an Improvement in Sewing Machines:**

I claim causing the spreader, c, to spread the loop of the looper thread by a mechanism that is independent of the mechanism that operates said looper, and whilst said looper remains stationary and after the needle has cleared the same, substantially in the manner and for the purpose described.

**28,960.—W. E. Boulger, of Janesville, Wis., for an Improvement in Machines for Cutting Fats:**

I claim, first, The combination of the rotary serrated knives, C, and stationary knife, D, constructed and arranged substantially as and for the purposes explained.

Second, The arrangement of the beater, I K, in the described relation to the rotary knives, C, and stationary knives, H, acting to re-cut the fat and also preserve the knives, C, from clogging, as set forth.

Third, The vertical sliding plate, F, and springs, a, in combination with the knife, D, substantially as and for the purposes set forth.

**28,961.—C. A. Boynton, of Hyde Park, Vt., for an Improved Clothes-frame:**

I claim a clothes-dryer composed of two hubs, A C, arms, B, braces, E, ropes, c, legs, J, and rod, F, arranged and constructed as shown and described.

[This invention consists in arranging a series of radial arms jointed to a hub in such a manner that they will open and close, and in bracing and strengthening said arms by a second series of radial jointed braces, which are connected to a second hub placed above the first hub, through both of which hubs passes a rod to which is attached an elevating cord that passes up and over a pulley attached to the ceiling of a room, or to a suitable frame planted out of doors; said frame to be furnished with a suitable number of cords passing around the same and through holes in the radial arms; the clothes to be dried are hung on the cords and the force of the wind keeps the frame in motion.]

**28,962.—J. F. and I. W. Bristow, of Vevay, Ind., for an Improved Machine for Jointing Staves:**

We claim the guides, F F', stops, O, cross-head, M', vertical piece, M, and spring, N, arranged substantially as and for the purposes set forth.

We also claim the vibrating lever, H, links, I, stops, J, bolt, L, and springs, L', for operating frame, P, and clamping the stave, substantially as described.

We also claim the groove, V, in the knife, U, to act as a guide, and prevent it becoming dull, by passing over the guides, F and F', as set forth.

**28,963.—T. A. Bryan, of Queenstown, Md., for an Improved Dredging Apparatus:**

I claim the arrangement of the vertical drum, A, with the cable, P, the pulley float, N, the bucket, B, and the mud receptacle, C, substantially in the manner and for the purposes set forth.

**28,964.—R. P. Buttes, of Mansfield, Pa., for an Improved Wrench:**

I claim, first, Constructing the die with a transverse groove across the face for the purpose of holding a straight bar-crotch wrench, for the purpose set forth.

Second, Constructing the handle of the wrench with an open space or recess at the end above the die seat, in combination with a die open at the side, whereby the same die is available both as a socket and crotch die.

Third, The combination of the projecting flange on the die with the pawl, when so arranged as to project over this flange and hold the die to the ratchet handle.

**28,965.—Angus Campbell, of Jersey City, N. J., for an Improved Apparatus for Working Anchors:**

I claim, first, The plate, f, hinged to the rolling block, d, for the purposes and as specified.

Second, I claim the chain, g, attached at one end to the rolling block, d, and at the other end taking the pin, s, for holding the anchor in place, or disconnecting by the self-acting movement in casting anchor, as set forth.

Third, I claim the slide, 6, and T-shaped end, 7, to the chain, i, for liberating the ring of the anchor when the slide, 6, is allowed to move, as set forth.

Fourth, I claim the combination of the stopper, k, and rolling block, d, by means of the chain, l, whereby both ends of the anchor can be simultaneously liberated, as described and shown.

Fifth, I claim the chain, m, and wheel, n, in combination with the rolling block, d, and acting in the manner and for the purposes set forth.

**28,966.—C. W. Chapman, of Hartford, Conn., for an Improved Ice-breaker:**

I claim the arrangement of the cylinder, A, draw, B, and toothed disk, D, in combination, for the purpose and in the manner set forth and described.

**28,967.—L. S. Chichester, of New York City, for an Improved Lemon-squeezer:**

I claim the combination of cap, E, cone, C, and cup, A, substantially as and for the purpose described.

[The object of this invention is to obtain a simple, economical and durable implement, whereby lemons may be squeezed for domestic purposes with much less power and with far greater facility than by the ordinary squeezers in general use.]

**28,968.—Council Clark, of Andersonville, Ga., for an Improvement in Cultivators:**

I claim the arrangement of the arched brace, c c', in combination with the plow beam, d, standard, a, and runner, j, in the manner and for the purposes set forth.

[This invention consists in providing the plow beam with an inverted arched brace for supporting the standard, and for supporting a runner which forms the rows for cotton seed and grain. This is a simple but good plow stock, as it serves for supporting every variety of tool that is used for cultivating the soil.]

**28,969.—A. B. Cooley, of Philadelphia, Pa., for an Improvement in Dumping Railroad Cars:**

I claim the body, A, of the car, having at or near the opposite ends the wheels, b b, turning on permanent axles, and any convenient number of doors, D, carrying wheels, h h, in combination with rails, H and H', and I and I', so constructed and arranged that, as the car traverses the said rails, the doors may be self-opening and self-closing, as set forth, for the purpose specified.

**28,970.—N. B. Cooper, of Gratis, Ohio, for an Improved Churn:**

I claim the described mechanism for operating a churn-dasher, the same consisting of the following parts: base, E, upright, E, block, hand lever, F, pivoted bar, d, links, e, f and springs, k, l, as combined and arranged in relation to each other, for the purposes specified.

**28,971.—L. E. Cushman and J. S. French, of North Bloomfield, Cal., for an Improvement in Rock Drills:**

We claim, first, The arrangement of the swinging weight, C, drill rod, F, ratchet, G, and the pawl, H, attached to rock shaft, E, in combination with the adjusting frames, a, b, c, operated substantially as and for the purpose set forth.

Second, The handle, D, when attached to the weight, C, by means of the joints and segment bar, to admit of the lateral adjustment of the handle as specified.

[This invention consists in the employment or use of a swinging weight arranged with a drill and automatic turning or rotating device, all being placed on a mounted and adjustable frame, and so arranged that the drill may be made to operate at any desired angle as the nature of the case may require, and the power or strength of the operator (if the machine be operated manually) be applied in the most advantageous manner to the machine, the latter also being capable of being readily removed from place to place, and adjusted to its work.]

**28,972.—Henry Dalton, of New York, N. Y., for an Improvement in Trusses:**

I claim a truss, combining the belt, A, slide, C, hinge, E, and set screws, h h, when the same shall be arranged and operated as herein described, and for the purpose specified.

**28,973.—Charles Disston, of Philadelphia, Pa. for an Improved Potato-parer:**

I claim the method herein described of adjusting the blade to the guard, by means of the milled ferrule, in combination with the nut B, on the shank of the blade, substantially, as set forth.

**28,974.—Celestino Dominguez, of San Francisco, Cal. for an Improvement in Quartz-crushing Apparatus:**

I claim combining a crushing apparatus with a pulverizing apparatus, when constructed and operated as herein set forth.

I also claim in combination with a pulverizing apparatus, constructed and operated as described, an amalgamating wheel, T, having a metal bottom, l, and working on a metallic plate, m, in the manner and for the purpose herein set forth.

**28,975.—Timothy Drake, of Windsor, Conn. for an Improved Machine for Sawing Boards into required Lengths:**

I claim the combination and arrangement of the vibrating circular saw frame, C, and its saw, D, with the swinging feed roller frame, F, and its roller, g, the gauge head, H, with an opening in the table, as represented, to allow the cut boards to fall after they have been sawed off—all operating in the manner and for the purposes herein set forth.

**28,976.—John Dykeinan, of Greenbush, N. Y., for an Improved Variable Exhaust for Locomotive Engines:**

I claim the arrangement of the conical nozzle, C C, with the exhaust pipes, B B, as constructed, in such a manner that four steam passages may be employed when necessary, or only two may be used, and the steam concentrated in said nozzles, thereby, diminishing or increasing the draught of the fire, as is herein fully set forth.

**28,977.—A. H. Enholm, of St. Louis, Mo., for a Burglar Alarm:**

I claim the described arrangement of the spring, F, the hammer, D, and the trigger, Y, within the shell or frame, A, constructed as described.

I also claim the combination of the barrel, C, with the described arrangement of spring, F, hammer, D, and trigger, Y, within the frame or shell, A, for the purpose specified.

**28,978.—Richard J. Gatling, of Indianapolis, Ind., for an Improvement in Cotton Cultivators:**

I claim, first, A rotary cutter head, provided with hoes or cutters capable of being adjusted to vary the depth of their cut, as well as to escape or pass over obstructions that may be in their path, substantially as herein shown and described.

Second, The employment of two adjustable plow-shares or scrapers, capable of scraping or cultivating both sides of the rows of cotton or other plants, by once passing over the ground, when arranged and constructed substantially as set forth.

**28,979.—Daniel G. Gerard, of Patchogue, N. Y., for an Improved Center-board for Vessels:**

I claim the arrangement and combination with a centre-board, C, in the manner herein shown and specified, of the lateral rollers, a, projecting through upon each side of the board, C, the longitudinal and rollers, b b, lifting shaft, G, driving shaft, I, and gear wheels—all as set forth, and for the purposes specified.

[This invention is an improved mode of hanging and operating center-boards for large or small sailing vessels, whereby the board may be raised or depressed, as occasion may require, by the helmsman from his post at the stern of the vessel, and the board is made so as present a greater or less superficial area to the water.]

**28,980.—John Griffin, of Louisville, Ky., for an Improvement in Cotton-pickers:**

I claim, first, The arrangement of the cylinder, F, chamber, C, valve chest, B, and exhaust receiver, G, in connection with the picker tube, A, and cup, B, substantially as and for the purpose set forth.

Second, The arrangement of the picker tube, A, with the condensed air chamber, C, valve chest, D, and pipe, O, communicating with the cup, B, and valve chest, as and for the purpose specified.

Third, Attaching the cotton-conducting tube or tubes, N, to the carriage, by means of the tube, Q, suspended or hung on trunnions, N N', and the hollow stem, R, fitted within the tube, Q, and secured therein by the springs, S S, substantially as described.

Fourth, The combination of the flexible and open tubes, N, for the purpose specified.

[This invention relates to certain improvements in a machine for picking or harvesting cotton, for which Letters Patent were granted to this inventor, bearing date March 8th, 1859, and November 23d, 1859. The object of the invention and improvement is to save or economize in power and render the device generally more practical than either of the devices previously patented.]

**28,981.—Wm. Griffin, of Bennettsville, S. C., for an Improvement in Plows:**

I claim in connection with a mould board and landside, in one piece, and united to the standard, E, by a strap and key, the arrangement of the two braces, J K, as herein described and represented, for holding the several parts to the beam, as set forth.

**28,982.—W. S. Harrison, of Carson's Landing, Miss., for an Improvement in Adjusting Tire on Wheels:**

I claim the metal felly, B, lips, c c, at the ends of the tire, C, the screw rod, D, and cap, E, arranged and applied to the wheel, substantially as and for the purpose set forth.

**28,983.—Wm. Hathaway, of Providence, R. I., assignor to himself and David H. Tilson, of same place, for an Improved Clothes Frame:**

I claim the combination of the cross-bars of the frame with a hinge collar so arranged that the end of the bar pivoted to the collar extends beyond the joint pivot towards the centre of the collar, and bears against the under side of the arms and is supported by them from drooping, substantially as described, for the purpose set forth.

[The object of this invention is to adjust or secure the tie on the wheel in such a manner that it may be tightened and relaxed at pleasure to compensate for any shrinkage or swelling of the wheel. The invention consists in the employment or use of a metal sectional felly in connection with a screw rod, cap and lips on the tire.]

**28,984.—Jeremiah Heath, of Providence, R. I., for an Improvement in Skates:**

I claim the runner made in two parts, A A', and united by a slip joint, in combination with the elastic steel sole plate, B, the whole arranged and operating upon the principle set forth.

**28,985.—A. T. Howard, of Hartford, Vt., for an Improvement in Odometers:**

I claim, first, The cam-shaped tooth, g, constructed and combined with a toothed wheel, in the manner described, to impart an intermittent motion to the said wheel, and prevent its rotation at other times.

Second, The combination and arrangement of the plate, D, eccentric pawl, E, and ratchet wheel, G, for the purposes set forth.

**28,986.—W. W. Hurlbut, of Muscatine, Iowa, and J. B. Hurlbut, of Chicago, Ill., for an Improved Machine for Sawing Staves:**

We claim, first, The arrangement of the saws and manner of adjusting them to any required angle, to cut a plane-faced stave for barrels of larger or smaller diameter.

Second, The stave cut straight from each outer edge to the center, forming any required angle, in the manner as above described, or its equivalent.

**28,987.—B. A. Jenkins, of Whitewater, Wis., for an Improvement in Machines for Wind-rowing Sugar Cane:**

I claim the combination in the manner described of two furrow plows, H H, arranged to turn furrows in opposite directions with a cane-windrowing machine, constructed and operating substantially as described for the purpose specified.

[This very novel machine cuts the cane, places it in continuous lines in the hollows between the rows, and turns up a bank of earth against each side of the rows. The cane must be thus cut at certain seasons to guard it against frost: It must be placed in windrows with the butts covered by the tops and leaves of the cane, and have the sides compacted together by the furrows of earth bearing up against it, to keep it cool and avoid fermentation and souring. This preservative process has always heretofore been performed by hand at great expense, which this machine will greatly reduce, and also obviate the inconvenience arising from the hurrying of the grinding operation, and prevent the immense losses which are often incurred from the effect of sudden frost.]

28,988.—A. B. Johnson and M. H. Vaughan, of Clarks-ville, Ark., and J. Stinnett, of Shelby county, Tenn., for an Improvement in Detaching Horses from Vehicles:

We claim attaching the pole or thills of a carriage to the front axle by means of the lugs, h, which fit into triangular recesses of the brackets, F, the latter being secured to the front axle, substantially in the manner described.

We also claim, in combination with the thills, K, lugs, h, brackets, F, bolts, K, and rock shaft, G, the lever, L, for operating the bolt, E, substantially in the manner described.

We also claim giving the lever, L, by which the rockshaft, G, is operated, a curved shape, so as to embrace the hub of the wheel when operated, and to arrest the motion of the carriage, when the horses are detached therefrom, substantially in the manner described.

28,989.—Wm. Joslin, of Cleveland, Ohio, for an Improvement in Mills:

I claim, first, The dividing the runner and reversing the motion of the separate parts, as described.

Second, The introduction of air through the unbroken space between the upper runner, B, and lower runner, A, from the fans, N N N N, in the upper runner, B, as specified.

Third, The self-regulating feeding and hopper bottom for regulating the feed of the grain, as set forth.

28,990.—C. F. Langford, of Fall River, Mass., for an Improvement in Railroad Brakes:

I claim hinging the levers, D, which support the brake rubbers, to the ends of the pedestal brace, B, when constructed and operated substantially as described.

28,991.—Z. W. Lee and E. D. Lee, of Blakeley, Ga., for an Improvement in Cotton Bale Ties:

We claim the tie plate, C D, constructed, applied and operating as described for the purpose set forth.

28,992.—James Martin, of Florence, Ala., for an Improvement in Water Wheels:

I claim in center-vent water wheels, the combination of the horizontal sluices D, vertical pipes, E E, and chutes C C, when arranged relatively with the buckets of the wheel, the whole constructed and operated in the manner and for the purpose set forth.

[This invention is a novel arrangement of parts, whereby a full head of water may be brought to act upon all the buckets of a center-vent wheel; at the same time the water will have a free discharge, and will not be crowded back against the bucket, as is the case with turbine wheels generally. The issues or influx of water is brought in such a relation to the buckets as to suit the different velocities of the wheel under different heads of water, and the water will act upon the buckets with greater effective force or impact.]

28,993.—J. S. McCurdy, of Brooklyn, N. Y., for an Improvement in Sewing Machines:

I claim driving the needle of a sewing machine by means of a wrist pin, or its equivalent, attached to a gear or wheel which is caused to roll round a stationary gear, wheel or circle of a similar diameter, and so to give the said wrist pin, or equivalent, an epicycloidal movement, substantially as described.

[This invention consists in driving the needle of a sewing machine by means of a pin, wrist, or its equivalent, attached to a gear or wheel which is caused to roll round a stationary gear, wheel, or circle, of similar circumference, and so to give the said pin an epicycloidal movement, by which it is caused to give the needle a rapid motion during that part of its movement which takes place while it is out of the cloth or other material being sewed, but to produce the necessary retardation of its movement while in the material, to allow time for the entrance of the shuttle or looper into the loop of the needle thread.]

28,994.—N. L. McFarlan, of Syracuse, N. Y., for an Improvement in Attaching Sash Stops to Windows:

I claim said self-adjusting window spring and stop-fastener.

28,995.—C. S. Moore, of Alexandria, Va., for an Improved Mode of Connecting Car Bodies with Trucks:

I claim securing the trucks of a car, locomotive, or tender, to the body or frame by means of the connections described, so that whilst the trucks have the usual play on the body or between the rails, they will, in case of the breaking of the wheels, or axles, or both, be held parallel, or nearly so, to the body or frame, and thus prevent the car, locomotive or tender, from being thrown off the track, substantially as described.

28,996.—Hugo Mueller, of New York City, for an Improvement in Sewing Machines:

I claim the so connecting of the needle arm of a sewing machine with the driving shaft thereof, as that the said arm or the needle bar which it drives may be instantly stopped or started, whilst the shaft runs continuously and at full speed, substantially in the manner and for the purpose described.

28,997.—F. W. Niehaus, of Boston, Mass., for a Piano-forte Action:

I claim arranging not only the support bar, D, and the fulcrum of the lever, B, between the back catch, F, and the fly, E, but the regulator cam, d, on the back of the supporting bar and its adjusting screw, f, in such bar, in manner as specified.

I also claim applying or arranging the back draft strap to K, the back catch, F, and the loaded arm, I, as described.

I also claim the arrangement of the damper lever relatively to the hammer and its back rest block—that is, placing it between the head and tail block of the hammer, and so as to pass under the back rest bar, as specified.

28,988.—J. B. Morris, of Berryville, Va., for an Improvement in Tuning Pianos:

I claim the manner or mode of tuning pianos, harps, and other similar instruments by means of a grooved pulley, h, h, in the end of an adjusting tightening screw and draft pin, e e f f, by combining and arranging said devices with a continuous string, k k k k, passing around the pulley, h h, so that the point of contact and draught in the center or middle of the string, instead of at the extremities, and by which means the pressure or strain of the string is divided upon the center or middle, and at both extremities where hitched; thus giving an equality of draught throughout both parallel lengths, k k k, and through all of which the parallel lengths, k k k, are readily and most perfectly put in unison, or tuned to the required degree of unison or pitch, or slackened as desired, substantially in the manner as set forth and described.

28,999.—T. J. Penny and Wm. B. Botsford, of Wooster, Ohio, for an Improvement in Sewing Machines:

We claim the combination of the wiper, J, the rising and falling upright rockshaft, J', the shaft, J 2 rod, L, and inclined plane, i, with the needle lever, D E, and feeding slide, I, substantially as described, to produce the necessary movements of the feeding slide by means of the needle lever.

[This invention consists in a simple mode of operating the feed mechanism through the agency of the needle lever.]

29,000.—Wm. Phelps, of Sycamore, Ill., for an Improvement in Transmitting Motion to Machinery:

I claim the combination of the disks, B C, and D, and rollers, G and H, operating substantially as and for the purposes set forth.

29,001.—Wm. Phelps, of Sycamore, Ill., for an Improvement in Car Axles:

I claim the swiveled axle, A B, disk plates, D and E, yoke, G, and rollers, H, constructed and combined substantially as and for the purposes set forth.

29,002.—B. L. Phillips, of Providence, R. I., for an Improvement in Machines for Engraving Copper Cylinders:

I claim, first, Making the carriage of the graver-supporter in two parts, D and C, and hinging them together as set forth, for the purpose specified.

Second, Connecting the carriage, D C, with the shaft, X, by means of metallic bands as set forth, for the purpose described.

Third, The shoe, P, upon the end of the graver arm, as applied to machinery for engraving cylinders.

29,003.—Carey Pitts, of Troy, N. Y., for an Improved Sawing Machine:

I claim raising a saw or saw gate by a positive motion and against the action of a spring, which spring, when the raising mechanism ceases to act, brings down the saw into the stuff to be cut, with a quick jerk or motion, substantially in the manner described and represented.

29,004.—D. R. Prindle, of East Bethany, N. Y., for a Combined Pressure and Vacuum Valve for Steam Boilers:

I claim the construction, arrangement and combination of parts, substantially as described, so as to produce a combined expansion and vacuum valve entirely unattached, except by its weight and simple contact, to the boiler or vessel in which it is used, and consequently portable and transferable for the conveniences and purposes specified.

29,005.—Veitus Radsprinter and W. H. Moss, of New Richmond, Ohio, for an Improved Lubricating Compound:

We claim the preparation of a homogeneous lubricating compound of the ingredients, in the proportions and in the manner substantially as set forth, for application as a lubricator to all surfaces subject to friction.

29,006.—F. J. Rice and G. W. Hayward, of Providence, R. I., for an Improvement in Rollers for Pressing Dough:

We claim, as a new article of manufacture, a hand roller covered with vulcanized rubber or gutta-percha, and furnished with handles, B, for the purpose of rolling dough against cutters in making candies or confectionary, as set forth and explained.

29,007.—E. S. Ritchie, of Brookline, Mass., for an Improved Mechanism for Stopping and Starting City Railroad Cars:

I claim the combination of the following elements or their mechanical equivalents, adapted and arranged together as explained, viz:—

1. The spring, F.
2. The two separate barrel-heads connected respectively with the ends of the spring, F.
3. The two clutch gears or ratchets, I I'.
4. The two clutches, H I, and—
5. The two friction brakes of the two heads, c d—such combination being applied to the wheel axle, and so as to operate substantially in manner and for the purpose as described.

I also claim the combination of mechanism applied to both ends of the carriage, to the brakes and the clutches, and for operating the brakes and clutches from either end of the carriage as specified.

29,008.—H. H. Robertson, of Kingston, Mo., for a Fly Trap:

I claim the employment of the vertical suspension standard in combination with a case having an opaque funnel-shaped fly entrance passage at its top and tubular opaque fly entrance passage at its bottom, substantially as and for the purposes set forth.

[This trap has four glass sides; a central standard, on which sweets attractive to flies are placed, projects up from the bottom of the trap. The top of the trap is shaped like a funnel and extends down into the chamber formed by the glass sides. Entrance passages for the flies are formed in the bottom and top of the trap. The trap is hung up by a cord, and the flies pass down the standard and up through tubes at the bottom. The light through the glass sides attracts the flies, and after they have satisfied their hunger, to escape, they fly in the direction of the light, but this flight of fancy seals their fate, for they never find an exit after they leave the central standard. This is an ingenious and useful article.]

29,009.—Charles Rose, of Allentown, Pa., for an Improved Device for Straining Scroll Saws:

I claim the combination of the lever, link, hook, thumb, nut and mottle iron, substantially as described, for the purpose of making a convenient and effective connecting and disconnecting device for the saws of scroll-sawing machines and for straining them up in the gate as set forth.

29,010.—John Ruof, Anthony Heupel and Frank Leuty, of Lancaster, Pa., for an Improvement in Grinding Mills:

We claim the two plates, E F, arranged and operating as described when their dress is laid off in spiral eccentric grooves, c c' c'', as described and represented for the purpose set forth.

[This invention consists in a novel means of setting and adjusting the shaft of the lower runner in grinding mills, so that the shaft may always be kept running in a close journal box and in good working order.]

29,011.—Francis Schwalm, of Joliet, Ill., for an Improvement in Rock-drilling Machines:

I claim the clamp bars, I I', when attached to the boxes, J, which are formed of two laterally-sliding parts, c d, fitted on conical or taper uprights, A, and operated through the medium of the rods, H H, and arms, L L G, substantially as and for the purpose set forth.

I further claim the adjustable bar, P, one or more, when applied to the bars, I I', substantially as shown, to admit of the simultaneous employment of drills of varying diameters.

29,012.—Frederick Seidle and Samuel Eberly, of Mechanicsburgh, Pa., for an Improvement in Horse Rakes:

I claim the combination of the rocking frame supporting the rake with a spring pressure bar extending across the rake teeth and bearing upon them, back of their rear support on the frame.

29,013.—J. G. Shafer, of Fulton county, Pa., for an Improvement in Mill Bushes:

I claim the combination of the follower, F, the pawls, p, and ratchet, R, to form a mill bush which will tighten itself by the operation of gravity, substantially in the manner described.

29,014.—Gideon Sibley, of Troy, N. Y., for an Improved Machine for Turning Cylinders:

I claim, first, The spiral cutter, E, varied in the form of its surface and edges according to the form to be cut upon the block, as described.

Second, The spiral cutter, E, in combination with the several pairs of swiftees, a a', arranged and operating substantially as described.

Third, The mode of rotating and holding the cylinder bearing the spindle, a a', &c., by means of a crank wheel, O, and cam, i, the

atch arm, 2 and latch, 12, stop rod, d, and the ratchet wheel, I, arranged and operating substantially as described.

Fourth, The compressing arch, Y, constructed and operating in combination with the spindle, a a', &c., substantially as described.

29,015.—G. S. G. Spencer, of Boston, Mass., for an Improvement in Apparatus for Distilling Sea-water:

I claim the arrangement of the receptacle, B, in combination with the boiler, A, and condenser, C, in the manner substantially as and for the purposes set forth.

29,016.—G. R. Stevens, of Clarksville, Mo., for an Improvement in Shoeing Horses:

I claim the combination of the sliding rest, b, with a swinging frame, e a c, guide or rollers, d d, and arched guideway, g, for the purpose of constructing an adjustable rest for a horse's foot while being shod, substantially as set forth.

29,017.—A. J. Sweeney, of Wheeling, Va., for an Improvement in Molds for Glass Goblets:

I claim the combination of the block, D, with the piece, K, or its equivalent and with the piece, E E' operating as above described and for the purpose set forth.

29,018.—Phil Tompert and John Coyle, of Louisville, Ky., for an Improved Apparatus for Rendering Fats:

We claim, as an improved article of manufacture, a tub, A, arranged with a kettle, C, and steam pipe, E, with the perforated branches, c, and a cold water pipe, F, and faucets, e and f, as and for the purposes set forth and described.

[This invention consists in surrounding the kettle with a steam jacket by which the steam is conducted through a pipe terminating in two bent branches perforated with holes of different sizes, for the purpose of causing the steam to heat all parts of the kettle with equal intensity, and which steam jacket communicates through a suitable pipe with a cold water reservoir, and which is further provided with a series of faucets for the purpose of regulating the heat, and to draw off the cold water and also the steam or the hot water.]

29,019.—A. P. Torrence, of Oxford, Ga., for an Improved Machine for Felling Trees:

I claim the two levers B D, provided respectively with the cutter, A, and rollers, C E, and connected by the bars, F, substantially as and for the purpose set forth.

[This invention relates to an improvement on a tree-felling and guiding machine for which Letters Patent were granted to this inventor, bearing date Dec. 3, 1893. The object of the invention is to simplify the patented device above alluded to without in the least detracting from its utility.]

29,020.—Horace Trumbull, of Jersey City, N. J., for an Improvement in the Manufacture of Glass:

I claim the substitution of the oxyd of zinc for the oxyd of lead in the composition of ordinary flint glass, substantially in the manner and for the purpose fully set forth.

29,021.—S. T. Vallett, of Providence, R. I., for an Improved Washing Machine:

I claim the arrangement in the interior of the tub or box, A, of the central slatted clothes chamber, D, in combination with the revolving fans, F, constructed and operating as and for the purposes specified.

[This invention consists in arranging in the interior of a tub or box a central slatted clothes chamber, in combination with two fans revolving in opposite directions, for the purpose of agitating the water and forcing it through the clothes, thereby cleaning the same in a quick and easy manner and without the least injury to the fabric.]

29,022.—I. W. Van Houten, of Philadelphia, Pa., for an Improvement in Car Couplings:

I claim, first, Reducing the lower end of the coupling pin, D, and forming a collar, e, on the same, the part reduced and the collar being so arranged in respect to the upper opening, i, of the buffer piece, that the pin is rendered self-retaining in an elevated position in the said opening, as set forth.

Second, Forming on the pin an enlargement with upper and lower bevels—the said enlargement being arranged in respect to the larger lower opening and smaller upper opening of the buffer block, as and for the purpose set forth.

29,023.—C. J. Van Oeckelen, of New York City, for an Improvement in Melodeons:

I claim the combination of the support, B, uprights, D D, and melodeon, A, when the same shall be arranged and operated as described and for the purpose as set forth.

29,024.—W. M. Wallace, of Cameron, Ill., for an Improvement in Portable Fences:

I claim a portable fence in which the posts, A B and C, are combined with the rails, D E F, as described and shown and for the purposes set forth.

29,025.—Jerome Wheelock, of Worcester, Mass., for an Improvement in Centrifugal Governors for Steam Engines:

I claim the hold-fasts, F F, and the springs, G G, constructed and operating in the manner as set forth and described.

29,026.—William Wilmington, of Toledo, Ohio, for an Improvement in Harvesting Machines:

I claim the combination of the contracting hinged platform, the rotary reciprocating rakes, O O', and short threshing cylinder, when the parts are arranged and operated jointly with the harvesting and winnowing apparatus in the manner and for the purpose specified.

29,027.—J. C. Wilson, of Cedar Hill, Texas, for an Improvement in Gang Plows:

I claim the arrangement of the plow frame upon the wagon frame as and for the purpose described.

29,028.—E. A. Wood, of Utica, N. Y., for an Improvement in Boiler-feeders for Steam Engines:

I claim the arrangement of the float, L, cylinder, N, and piston, O, constructed and operating as described, in combination. Also, the said float, cylinder and piston constructed and operating as described, in combination with the alarm whistle.

29,029.—Hjalmar Wynblad, of West Hoboken, N. J., for an Improved Mousing Hook:

I claim, as a new article of manufacture, the projection, p, on the hook, the ring, r, having a recess or notch, n, on the inner periphery, and the spring, s, arranged substantially as and for the purpose specified.

29,030.—Christian Yost, of Intercourse, Pa., for an Improved Machine for Pointing Fence Rails:

I claim the traversing carriage, I I, combined with the pivoted and grooved bars, K K, and sliding swivel jaws, M M, constructed, arranged and operating in the manner set forth.

29,031.—C. W. Baldwin, of Boston, Mass., assignor to himself and Henry Messer, of same place, and Luther Aiken, of Malden, Mass., for an Improved Fastening for Garments:

I claim the new article of manufacture for fastening garments, described, to wit: a garment fastening consisting of one, two or more link hooks fastened to a plate substantially as described.

29,032.—N. S. Bean and J. G. Collins (assignors to the Amoskeag Manufacturing Company), of Manchester, N. H., for an Improved Steam Boiler:

We claim the described relative arrangement of parts in a vertical boiler having five tubes—the same consisting of an enlarged fire-box and dome, contracted waist and submerged smoke box, substantially as set forth.

29,033.—S. A. Briggs (assignor to himself and C. G. Crowell), of Philadelphia, Pa., for an Improvement in Corn and Cob Mills:

I claim the application of the spiral propeller vanes, g, g, around the cylinder of the rotary crusher, A, when the same are arranged in relation to the arms, h, h, substantially as and for the purpose specified.

I also claim the application of the stops, n, n, in combination with the grooves, j, j, and ridges, m, m, on the disks, B' and C', substantially in the manner and for the purpose set forth and described.

29,034.—Arnold De Witt (assignor to himself, John Wiarda and J. H. N. De Witt), of Brooklyn, N. Y., for an Improvement in Windmills:

I claim the employment of a series of revolving fans, A, with gear wheels, d, arranged around a stationary cog wheel, e, in a rotary frame, B, together with an adjustable scroll, D, substantially in the manner and for the purpose specified.

[This invention consists in arranging in a rotary frame a series of fans to which a rotary motion is imparted by a stationary cog wheel in the center of said revolving frame, and gearing into corresponding cog wheels on the ends of the rotary fans—the whole being inclosed in a round or polygonal scroll with a spout to conduct the wind to the fans in such a manner that a light, simple and powerful windmill is produced.]

29,035.—John First (assignor to himself and Isaac Frost), of New York City, for an Improvement in Sewing Machines:

I claim the combination and arrangement of the crook, G, lever, D, radius bar, E, crank or lever, G, and connection, H, for the purpose of giving the proper periods of rest and motion to the needle of a sewing machine, substantially as described.

29,036.—I. M. Gattman (assignor to himself and H. G. Steibel), of Cincinnati, Ohio, for an Improvement in Brick Machines:

I claim, first, The plunger, H, slide, I, and lateral slides, J, J', arranged and operating in combination substantially as and for the purpose set forth.

Second, The shafts, b and c, upright angles, bevel wheels, E, F, and cams, f, f', g, g', or their equivalents, in connection with plunger, H, slide, I, and lateral slides, J, J', arranged and operating substantially as and for the purpose set forth.

29,037.—S. H. Jones, of Jamaica Plains, Mass., assignor to H. W. Smith, of West Newton, Mass., and S. D. Smith, of West Roxbury, Mass., for an Improvement in Melodeons:

I claim, with a single set of bass and treble reeds and two swell valves therefor, arranging one swell valve at the back of the reed board and the other swell valve at the front thereof, substantially as and for the purpose described.

Also, arranging the two sets of the treble and bass reeds relatively to the line of range of valve pins and with respect to each other as specified.

29,038.—G. A. Keene (assignor to himself and S. D. Woodbury), of Lynn, Mass., for an Improved Combined Bed and Chair:

I claim the combination and arrangement of a bedstead, extension bed or couch and chair, substantially as specified.

29,039.—Lester Patee (assignor to himself and A. H. Ryan), of Peoria, Ill., for an Improvement in Soldering Irons:

I claim the use of a heating center of wrought or cast iron for soldering, in connection with a movable, lined, copper, cap when the latter is constructed with a spiral spring, as set forth, for the purpose of keeping the cap and center in contact under varying temperatures.

29,040.—E. W. Rowe (assignor to himself and J. T. Hardy), of Brewer, Maine, for an Improvement in Drain Tiles:

I claim the tongue, c, and groove, d, arranged on opposite sides of, and in combination with, the tile, substantially as and for the purpose specified.

I also claim molding or forming the clay or plastic drain tile above described with the tenon recess and the tenon for side connections, in the manner and for the purpose set forth.

29,041.—H. W. Smith, of Boston, Mass., assignor to himself and S. D. Smith, of West Roxbury, Mass., for an Improvement in Harmoniums:

I claim, when two sets of valves are employed with a supplementary lever to be operated by the key as described, constructing that part of the key frame which supports the key separate from that which supports the supplementary lever, and hinging or applying the two together so as to enable the key and its supporting part of the said key frame to be raised or moved in such manner as to enable access to be had to the inner reed-holders as occasion may require.

29,042.—H. A. Wills (assignor to A. W. Kingsland), of Keeseville, N. Y., for an Improvement in Machines for Making Horse-shoes:

I claim the arrangement of the movable front substantially as described, when the same is used in combination with the shaping die or mold, E, on the surface of the rotary cylinder, B', for the purpose set forth.

Also, The arrangement of the stationary cam, i, crank, h, spring, j, and front, f, in combination with the shaping die or mold, E, constructed and operating as and for the purpose specified.

[This invention consists in arranging the shaping die or mold of a cylinder machine with a movable front which, when thrown forward, bends the iron to the required shape and holds it in the proper position until the swaging die grips it, and then, being thrown back, allows the iron to spread. It also consists in the employment of a crank-shaft which is subjected to the action of a spring, and the bent end of which sweeps over a stationary die which is rigidly attached to the side of the frame which forms the bearings for the cylinders, so that, at the proper intervals, said front is drawn in and the iron set free.]

RE-ISSUES.

James Albro, of Elizabeth, N. J., for an Improvement in Printing Oilcloth. Patented June 7, 1859:

I claim forming ornamental figured surfaces on oilcloths by raising, at right angles with each other, by means of properly prepared blocks, parallel ridges or surfaces, b, d, substantially as described, to form, by the action or reflection of light, and with or without a plurality of colors, the damask ground and figure, it being understood that I claim the privilege of having either the ground or figure, one only if desired, composed of dots or broken lines, in order to obtain a similar effect.

James Albro, of Elizabeth, N. J., for an Improvement in Printing Oilcloth. Patented June 7, 1859:

I claim, as a new article of manufacture, an oilcloth with an ornamental figured surface, produced by means of raised lines or ridges, those forming the ground being at right angles to those forming the figure, substantially as described.

Douglas Bly, of Rochester, N. Y., for an Improvement in Artificial Legs. Patented May 17, 1859:

I claim, first, Curving or deflecting the jointed extremities of the legs, J, so as to bring their axes of motion back of their line of direction, substantially as and for the purposes set forth.

Second, I claim the cord, T, and spring, X, acting upon the parts, D and L, substantially in the manner and for the purpose set forth.

Third, I claim the combination of the non-elastic tendon, F, with the india-rubber spring, E, in such a manner that the required effect is derived from the compression and expansion of the material, and not from its elongations and contractions, substantially as set forth.

Fourth, I claim the use of the block, A, with its longitudinal and transverse axes, for producing the direct or antero-posterior lateral and diagonal motions of the ankle joint in walking, while retaining the foot in its proper relative position to the leg, substantially as described.

Fifth, I claim providing the ends of the cords, F, with the enlargements and with the conical socket fastenings, G, to receive the same, substantially as described, in order to apply adjusting screws, for the purposes specified.

Sixth, I claim the manner of constructing the bearing portions of the knee joint, consisting of the upper and lower bearing blocks, N, N, each of which forms the quarter of a circle more or less corresponding with the axial bolt, the one being fixed in position and the other adjustable by means of the screws, a, a, to admit of adjusting the parts together to prevent looseness and noise, and to reduce and regulate the friction, substantially as and for the purpose set forth.

Reuben Jane, of Otego, N. Y., for an Improvement in Attaching Paddle Wheels to Canal Boats. Patented Nov. 24, 1857:

I claim, first, The bow wheels, B, the connecting rods, K, the rudder, L, the operating lever, O, constructed and arranged substantially as and for the purposes described.

Second, I claim the wheels, B, constructed with twisted floats, in combination with the preceding.

Third, I claim the arrangement of the vertical slotted shaft, N, supporting the wheels, B, and gear-wheel, G, in combination with the preceding, the whole operating as described and set forth.

J. B. Palser and Gardner Howland, of Fort Edward, N. Y., for an Improvement in Apparatuses for the Manufacture of Paper Pulp. Patented June 21, 1859:

We claim, first, Having the pipe, p, which passes through the hollow journal of the boiler divided by a partition, s, so that the steam may find exit through one compartment of the pipe and the contents of the boiler through the other compartment, as set forth.

Second, The employment of the perforated diaphragm, p', when arranged substantially as described, to protect the pipes, h, h', s', and strain the liquids from the "stock," as and for the purposes set forth.

Third, The arrangement of the boilers, J, J', with the surrounding envelope, substantially as shown and described, so that the resultant action of the boiling may be evaporated, and also employed to cool down the boilers and surrounding envelope, as set forth.

Fourth, The arrangement of the basin, g, g, below the boiler, to receive the falling liquid, as and for the purposes described.

Fifth, We claim the injection of the steam arising from the boiling of the alkaline and other contents of boiler, J', into the boiler, J, and vice versa, substantially as and for the purposes shown and described.

Sixth, We claim the arrangement of the warming chamber, s, between the two boilers, and the combination therewith of the pipes, T, V, W, as and for the purposes described.

Seventh, We claim the arrangement and combination of the boilers, J, J', furnace, A, and doors, D, D', E, E', F, F', so as to apply the furnace heat to either or both boilers at pleasure, substantially as shown and described.

Eighth, We claim the combination of the cylindrical-bottomed vats, K, K', having the chimneys, N, N, passing through them with the boilers, J, J', as and for the purposes described.

J. B. Palser and Gardner Howland, of Fort Edward, N. Y., for an Improvement in the Manufacture of Paper Pulp. Patented June 21, 1859:

We claim the destruction or carbonization of the gummy, resinous, and other matters from which the fiber is to be set free, without injury to the fiber itself, by the process described.

H. Baldwin, Jr., of Washington, D. C., assignee of J. E. Neisen, of Buffalo, N. Y., for an Improvement in Harvesters and Binders. Patented Aug. 27, 1853:

I claim, first, In combination with the cutting apparatus, the endless apron, C, having an intermittent motion for the purpose of carrying the cut grain to the binding hooks at intervals, and in proper quantity, to form a sheaf, substantially as described.

Second, The binding hooks, D, or their equivalents, for gathering the cut grain in bundles or sheaves, arranged and operating substantially as described.

Third, The combination of the endless intermittently moving apron, C, with the binding hooks, D, substantially as described.

Fourth, The combination of the discharging roller, Z, with the apparatus for gathering and compressing the cut grain into sheaves, substantially as described.

H. Baldwin, Jr., of Washington, D. C., assignee of J. E. Neisen, of Buffalo, N. Y., for an Improvement in Harvesters and Binders. Patented Aug. 27, 1853:

I claim, first, Constructing the blade of the cutter of a reaping or mowing machine with a projection or rib, e, or its equivalent for the purpose of strengthening it, substantially as described.

Second, The combination of a scolloped cutter, having the projections or ribs, e, or their equivalents, on its blade, with the slotted finger, through which the blade, with its projections, is arranged to play, substantially in the manner and for the purposes described.

Third, The combination of the angular projections or ribs, e, or their equivalents, on the blade, with corresponding angular shoulders in the slot of the finger, substantially as described, the shoulders and projections being so arranged that the angles of one will vibrate set those of the other, in such near proximity as to facilitate the detachment and discharge of clogging matter, substantially as described.

EXTENSIONS.

Norman Sheldon and Jane Cary, of Chili, N. Y., executors of Daniel Cary (deceased), late of Clarkson, N. Y., for an Improvement in Horse-powers. Patented June 27, 1846:

I claim the special arrangement and combination of the gearing, as set forth, said gearing consisting of the single large wheel, A, driving two pinions, C, C, on the shafts of the two horizontal wheels, E, which horizontal wheels gear into two pinions, J, J, on the line shaft, there being a bridge, G, to admit of the passage of the line shaft; the whole arrangement being substantially the same with that represented and made known.

W. D. Dutcher, of Milford, Mass., for an Improvement in Looms. Patented June 27, 1846; re-issued April 21, 1857:

I claim supporting the wag-staff at its lower end, so that it may slide longitudinally in connection with supporting it other respects by a joint link, or its equivalent, applied so as to cause that part of the staff which strikes the shuttle to move in a line parallel or about parallel to the race-beam, as specified.

And I also claim connecting the lower end of the two staffs below their fulcrum, by means of a spring having an intermittent action for drawing them back, in combination with the application of a positive motion above for driving the shuttle, whereby the returning staff aids in arresting the momentum of the shuttle, substantially as described.

John McMullen, of Baltimore, Md., for an Improvement in Netting Machines. Patented June 27, 1846:

I claim, first, The forming of a true fisherman's or weaver's knot in netting, woven in a loom, by bearing a regular warp from the yarn to the cloth-beam, and the forming of loops thereon of the nature of those described, through which loops a thread of filling is thrown by a shuttle, these operations being effected under an arrangement of parts substantially the same with that set forth.

I claim the combination of parts, as made known, for giving motion to the thread-conductors, so as to wind the threads of warp, beamed as described, around the teeth, n, n', and o, in such manner as to constitute a loop such as is represented in Fig. 13, leaving a middle thread, c', to be carried up by the forked teeth. I do not claim the use of thread-conductors for winding threads around teeth, they having been used in other manners and for other purposes; but I limit my claim in this particular to the arrangement and combination of parts, by which I form simultaneously, a series of loops of the particular kind described, for producing the so-called fisherman's knot.

I claim the employment of the bearers and forked teeth, r, r', which are made to raise the thread, c', and then to open out, so as to leave spaces between the threads, a'' and c'', through which a thread of filling is to be thrown by a shuttle.

I claim the employment of the reed, as described, with its hooked teeth, as combined with my machine, for drawing up the thread of filling against the teeth, o, to assist by its respective movements, made known, in the regular formation of the knots.

I claim the taking-up of the warp that is liberated in the drawing up or tying of the knots, whether the same be effected by the action of the weight, P, operating on a pulley, Q, and the other parts concerned in giving the reversed motion to the yarn-beam at the proper time, or by the aid of a ratchet or other analogous device, made to raise or depress the warp between the yarn-beam and the thread-conductors, or in any other way that is substantially the same, producing a like effect by analogous means; and I do hereby declare that I do not intend, by the foregoing claim, to limit myself to the particular form of the respective parts described, or to the particular position of the angles of the meshes, but to vary these as I may think expedient, whilst I do not depart from the general principle upon which my machine is made to operate, as set forth.

DESIGNS.

H. C. Foster, of Worcester, Mass., for a Design for Spoon Handles.

S. H. Ransom, of Albany, N. Y., for a Design for a Cooking Stove (2 cases).

S. H. Ransom, of Albany, N. Y., for a Design for a Parlor Stove.

Isaac De Zouche (assignor to Bridge, Beach & Co), of St Louis, Mo., for a Design for a Stove.

Garretson Smith and Henry Brown (assignors to Abbott and Noble), of Philadelphia, Pa., for a Design for a Cook's Stove (2 cases).

G. Smith and H. Brown (assignors to Liebrandt & McDowell), of Philadelphia, Pa., for a Design for a Cooking Stove (2 cases).

G. Smith and H. Brown (assignors to Abbott & Brown), of Philadelphia, Pa., for a Design for a Cook's Stove.

G. Smith and H. Brown (assignors to Cox, Whiteman & Cox), of Philadelphia, Pa., for a Design for a Cook's Stove.



CORRESPONDENTS sending communications for publication in our columns are requested to avoid writing on both sides of a sheet of paper. This fault, though common to persons accustomed to writing for the press, gives great trouble to the printer (especially in long articles), and, when combined with illegibility of handwriting, often causes interesting contributions to be regretfully consigned to our waste-paper basket.

L. D., of Mass.—We have heard of steel and iron having been deposited by the electrotype process, but have never seen a single sample of such electro-plate, and we very much doubt if it can be done. This opinion is based upon the fact that steels are alloy—not a pure metal.

G. P., of Mass.—There is no way known to us for preserving currants with their exact natural color and taste, but they can be preserved for pies and other purposes, without injury to their quality, by placing them in glass or stone-ware jars filled to the top with hot sugar sirup. The sirup is made with one pound of white sugar to a pint of water, and is poured on boiling hot, and the jars sealed up tight when the air bubbles cease to rise from the sirup. Peaches and plums may also be preserved in the same manner.

C. L., of Ind.—Boxes made of zinc, for containing water in refrigerators, are dangerous contrivances, because, as you state, the water decomposes the metal and forms the oxyd of zinc, an injurious salt if taken into the human stomach. Neither water nor milk should ever be kept in zinc or lead vessels. Some years ago, zinc milk-basins were employed in some of the large dairies in England, and they led to several cases of poisoning by the metal being decomposed by the lactic acid in the milk, thus forming a poisonous salt.

G. W. R., of Miss.—Your plan of carrying the heat from your furnaces over the top of the boiler, so as to save fuel, will accomplish the object, but we are adverse to advising you to do so, because the heat may be too high above the water-line, and the boiler thereby injured and rendered unsafe. You should use two or three fire-brides under the boiler, and thus retain the heat for a longer time in contact with the water surface.

G. H. J., of N. Y.—Mr. Colburn, in his able essay on boiler explosions, discards the idea that explosions are ever caused by superheated steam generating a great quantity of common steam from water suddenly thrown among it. He reasons correctly on this head, because superheated steam contains such a small excess of specific heat.