

boy can turn out from fifty to one hundred gross a day. Surely, the old cork-cutter of the past is ambitious of being a fossil—he longs to be one atom in the strata which we are constantly burying and leaving, in our upward march of earth! But, if "Young America" is bright in invention, and can dash out a cork, has not this great country (head of the machine-making world) a new branch of trade brought to it, in the shape of the new cork-cutting machine? By no means. There is conservatism also in the trade of engine-making. The patentee of the machine finds that he can carry the iron from England to America, have the machines made in America—and they do not accept low wages there—and bring it back to England cheaper than he can have it made in England. Now why is this? The reason is as plain as the cork from your bottle of champagne. In the making of the machine, a machine is used; in that prior machine there is a certain shaft, which shaft, in England, is formed turner-wise, by hand, in America it is done by machinery. There they make the machines to make the machines that make the machines of the cork-cutter."

Explosion in a Coal Mine.—An explosion of gas in a coal mine occurred in the early part of March at Burraden, Northumberland, by which 73 men and boys came to a ghastly and untimely end. About 120 men were employed in the mine, which was of immense extent, one passage in it being more than a mile in length. The gradual accumulation of the gas had been perceived for more than six weeks, and several of the men had left the mine from fear of an accident. A slight preliminary explosion gave warning to a portion of the hands, a few of whom escaped in consequence. The principal explosion was of tremendous force, destroying the machinery and wagons, and instantly killing the larger portion of the persons employed.

REMARKABLE DISCOVERY AT ROME.

The *Detroit Advertiser* (of March 24th) publishes a private letter, written by Lewis Cass, Jr., to Rev. Mr. Duffield, of Detroit. From this letter we make the following extracts:—

"In the progress of the excavations on the Palatin, where stood the house-of-gold of the Cæsars, a fragment of an arch, covered with inscription and delineations, was brought to view. Further explorations in the same direction resulted in the exposure of a room, on the walls of which was found a sketch, cut or engraved with a sharp-pointed instrument, of a crucifix, together with the figure of a man in the attitude of prayer, standing near it. The announcement of this discovery created great interest. By order of the Pope, the design was removed from its position, happily without injury, and confided to the care of Monsignore Macchi, who invited me to inspect it, and by whose permission I procured a copy to be made, which is herewith enclosed. It is needless to say that this event has elicited elaborate speculations. Notwithstanding a general discrepancy, the conflicting views concur, with scarcely an exception, in the conclusion that the aim of the sketch was to cast ridicule on the worship of the Christians. It presents the outlines of a cross, on which is a human figure bearing the head of an ass. A tunic envelops the waist, and the arms and legs are partially covered with bandages. To the left, with one hand raised in the posture of adoration, as depicted on ancient monuments, appears the form of a man, while below is seen the following inscription, 'Alexander adores God.' The execution of the engraving, as you will perceive from the *fac simile*, of which the scale is one-fourth smaller than the original, indicates an entire ignorance of art, being stiff and hard, without ease or grace whatever. Satisfactory evidence refers the date of it to the reign of Septimus Severus. There were numerous Christians in his court, one of whom, it is supposed, of the name of Alexander, was thus exposed to ridicule by his pagan associate or companion.

"Familiar as you are with the early history of our religion, it is unnecessary to recall to your recollection the existence of the legend, current throughout the Roman dominion in the days of the empire, that the Christians worshiped a divinity whose head differed in no respect from that of an ass. In Africa, then filled with rich and splendid cities, this was the popular belief. It was inculcated in the Magian school of Asia, from the sands of Parthia to the Pisidian forests, and levelled at the con-

verts to the strange faith in the streets of Nartheodes, Amida and Mardin-on-the-Hill. The later Gnostics in particular, more especially the sects of Bardesanes, omitted no occasion to disseminate this calumny, accompanied with every epithet of contempt and detestation. At Orla it was proclaimed from the throne in the sounds of trumpets, followed by a decree prohibiting the use of arms and the Arabic language to the worshipers of the God of Nazareth, and requiring them thenceforth to wear girdles of leather in token of their obnoxious creed. We meet with it in the writings of Tacitus, a bitter and relentless enemy to the Christians, whom he styles outcasts of the human race. It is also alluded to in the pages of the contemporary fathers, by whom it was repelled with vehement and irrepressible indignation. The origin of this monstrous invention is lost to us. There can be little doubt, however, that it had its foundation in the hatred with which the disciples of the pure and spiritual doctrine were invariably regarded by the idolatrous nations among whom they lived. But whatever the source, the first mention of this calumny occurs in the records relating to the period intervening between the years 120 and 250 of our era, subsequent to which epoch all trace of it disappears. Precisely during the same period the room in which the design was found was constructed. The palace of the Cæsars on the Palatin, as you are aware, was the growth of successive reigns. That part of it which embraces the chamber in question was built by Hadrian, as the bricks of which it is chiefly composed attest. They are impressed with the names and titles of the Consuls Pactus and Apronicanus. This coincidence—the prevalence of the legend in the years already mentioned, and during that period only, and the erection within the same time of the wall on which the drawing is traced—establishes satisfactorily the purpose of the sketch, as well as the date of its execution. Still more conclusive, perhaps, is the manner in which the figure upon the cross is presented to view. It is delineated with drapery, while it was the invariable practice in executions of this nature—a mode of punishment very common among the Romans—to expose the victim or criminal in a state of nakedness. The discrepancy finds its sole warrant in the tradition that our Lord was put to death with a garment about his loins, and its admission in a work emanating from the hands of a pagan whom we cannot suppose to have been influenced by any sentiments of awe or respect, and whose experience would never have suggested such a departure from the uniform custom, indicates clearly a caricature, of which the first requisite is uniformity to its prototype. Finally, the words, 'Alexander adores God,' admit of no other interpretation; nothing in history, legendary or monumental, tending to the idea that the symbol of a crucified being was ever regarded as an object of veneration by any other sect than the followers of Christianity."

LITERARY MONOMANIA AND DISHONESTY.—The foreign papers report that recently, at Leipsic, a case of singular monomania led to a most deplorable result. Dr. Lindner, a professor of theology at the University of that town, was tried for the purloining of manuscripts from the Academical Library, and sentenced to six years' penal imprisonment. The unfortunate man had allowed himself to become the slave of a paramount passion for old parchment. To know a fine, rotten, and worm-eaten codex to be within his reach, yet not in his possession, was too much for the moral strength of this *savant*, otherwise of irreproachable character. Beginning with the abstraction of one or two remarkably fine pages from some manuscript or other, he gradually proceeded to entire volumes, and, during a space of four years, despoiled the library of a great number of priceless rarities. This, though it might have eventually brought about his expulsion from the University, would have scarcely subjected the bibliomaniac to the penalties of the criminal law. But, with a looseness of principle which the jury found it impossible to overlook, Dr. Lindner occasionally bargained away his ill-gotten treasures for others, receiving the difference in money whenever there was a disparity in the value of the manuscripts exchanged. But for the great liberty granted to German professors in the use of public libraries, his criminal proceedings must have been discovered long ago, as his dishonesty was certainly not greater than his folly and want of the most ordinary caution.



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

[Reported Officially for the SCIENTIFIC AMERICAN.]

* * Pamphlets giving full particulars of the mode of applying for patents, size of model required, and much other information useful to inventors, may be had gratis by addressing MUNN & CO., Publishers of the SCIENTIFIC AMERICAN, New York.

27,675.—John R. Albertson, of East Deer township, Pa., for an Improvement in Garden Hoes:

I claim shank, b, shoulder, c, dovetail, d, washer, e, blade, a, with the opening, A; the whole being constructed and arranged as and for the purpose set forth.

27,676.—Edward H. Anderson, of Easton, Md., for an Improvement in Vapor Burners:

I claim the original arrangement of the apparatus set forth, and the new and useful adaptation of them to the purpose of producing a light which will be economical in cost, and which will be entirely exempt from the danger attending many other gas lamps.

I also claim the invention of a new and useful mode of procuring light by the combination of atmospheric air and heat, by means of my original adaptation of the jet holes, N N, in the upper end of the conducting pipe, A, acting upon the under surface of the chamber, D; the blow-pipe principle of the jets producing the requisite heat to manufacture the gas as required for the support of the flame, and which combination enables me to raise the flame above the entire apparatus, thus rendering it clear of all obstructions; all constructed and operating as set forth.

27,677.—Edward Armstrong, of Pittsburgh, Pa., for an Improvement in Governor Valves of Steam Engines:

I claim dividing the valve-chamber of governor valves into two compartments, by means of the division plate, c, provided with valves, j and i, constructed, arranged and operated in the manner described and for the purpose set forth.

27,678.—A. Merritt Asay and J. Lambert Asay, of Philadelphia, Pa., for an Improvement in the Method of Fastening Artificial Teeth:

We claim fastening artificial teeth to a metallic plate by interposing between the said teeth and plate a strip of vulcanizable gum and vulcanizing or hardening the same; the teeth having been adjusted to the plate, as set forth.

We also claim packing with gum the interstices between the teeth and plate or between the teeth themselves, when secured to the plate by riveting or any other of the usual modes, and vulcanizing or hardening the packing after it has been adjusted, as specified.

27,679.—Geo. K. Babcock, of Utica, N. Y., for an Improvement in Measuring Faucets:

I claim connecting to the slide or valve of a faucet, a scale beam or weighing device, arranged to operate as shown, or in any equivalent way, so that the substance to be drawn may be measured by its weight.

I further claim the combination of the scale beam, I, pawl or catch, H, arm, F, lever, D, and valve rod, C, with its valve, B, fitted within the tube, A; all arranged for joint operation substantially as and for the purpose set forth.

27,680.—John Bailey and John Decamp, of Cincinnati, Ohio, for an Improved Spring Bed Bottom:

We claim the arrangement of the side rails, A, transverse rails, B, springs, B d d', slats, C, and straps, E; the whole being constructed and combined in the manner and for the purposes set forth.

27,681.—W. M. Baker, of Walpole, Ind., for an Improved Refrigerator:

I claim the arrangement of a sheet, B, of canvas or other fibrous material, in combination with the grooved and perforated or slotted side, a, b, of the case, A, and with the reservoir, C, or its equivalent, constructed and operating substantially in the manner and for the purpose specified.

[This refrigerator belongs to that class in which the evaporation of water or other fluid is employed for the purpose of cooling articles kept within it: and the invention consists in the arrangement of a piece of canvas or other fibrous fabric over the corrugated or slotted inclined sides of the case that incloses the articles to be kept cool, in combination with a perforated reservoir on the top, and with a receptacle on the bottom, in such a manner that water or other fluid poured into the reservoir on the top is spread by the canvas or other fibrous fabric over an extended surface, where it is rapidly evaporated by the influence of the air that is allowed on both sides of the same, and that by such rapid evaporation, a pretty low temperature is effected and maintained in the interior of the case.]

27,682.—L. B. Batcheller, of Rochester, N. Y., for an Improvement in Machines for Manufacturing Barrel Heads:

I claim the combination and arrangement of the passive disk, C, with the clamping disk, C', hollow cam shaft, G, and foot lever, L, together with the cord, J, for actuating the saw table, U, simultaneously with the clamping of the staves, and the pawl and lever, P, operating conjointly, substantially as and for the purposes set forth.

I further claim the application of the lugs or hooks, k, k, to the clamping disk, C', for the purpose of sustaining the staves while being supplied to the disks, substantially in the manner set forth.

27,683.—H. N. Bill and J. C. Bill, of Willimantic, Conn., for an Improvement in Scales:

We claim, first, The combination of the weighted lever, D D', dependent rod, E, vibrating rod, F, perpendicular scale rod, G, and swinging arms, J, arranged and combined substantially as described and represented.

Second, We claim the slotted index hand, L, hung on an isolated center from the fulcrum of the weighted lever, D, in the manner and for the purposes set forth.

[This invention consists in the employment of a gravitating lever, in lieu of a spring or movable weights that are at present in use, and in hanging this lever in a novel manner so as to be effected by the scale beam or a weight placed in the scale pan, and thus register the exact weight of any article placed on the scale beam. It also consists in a novel manner of hanging the registering index hand, so as to compensate for the diminished arc the short arm of the gravitating lever makes as the lever approaches a horizontal line.]

27,684.—Richard F. Bond, of Cambridge, Mass., for an Improved Construction of Clock Weights:

I claim the improved clock weight described, having a groove around its circumference for the reception of the cord, as set forth, for the purpose specified.

27,685.—Francis B. Bowman, of Waltham, Mass., for an Improvement in Scissors:

I claim making the clasp spring, with the separate pivots applied to it, and to enter the joint holes of the separate blades, as specified. I also claim the arrangement of the clasp spring with respect to the blades and their handles, as specified.

27,686.—Edward Brown, of Waterbury, Conn., for an Improved Curtain Fixture:

I claim the disk wheel, D, attached to the journal, A, of the shade roller, A, in connection with the clamp, constructed substantially as shown, and connected with the cord, E, which is wound on the journal, A, of the shade roller; all being arranged to operate as and for the purpose set forth.

[This invention relates to an improvement for raising and lowering the shades, whereby the shade may be adjusted with greater facility and more expediency than by any of the means hitherto used for the purpose. The invention consists in having a cord wound around the shaft of the shade roller, and having a circular disk attached to the roller shaft; the disk being used in connection with a clamp, which is actuated or adjusted by the manipulation of the cord, so as to admit of the shade being wound-up or lowered and retained at any desired height. This patent has been assigned to the Waterbury Hook and Eye Company.]

27,687.—John Brown, of New York City, and Charles R. Ellis, of Brooklyn, N. Y., for an Improved Means of Regulating the Draft to the Fire in Warming Apparatuses:

We claim regulating the amount of air draft admitted to the fire in hot water and other warming apparatuses, by causing the overflow of water induced by ebullition to pass into a suitable vessel and regulate the draft passing through the fire, or the supply of cold air above the fire, or both, by the float and dampers, or any suitable device, as specified.

We also claim opening the draft to the fire after ebullition ceases by the withdrawal of the water from the overflow vessel into the warming apparatus through the siphon, or its equivalent, substantially as set forth.

27,688.—William G. Brown and Frederick McKee, of Birmingham, Pa., for an Improvement in the Manufacture of Iron:

We claim, first, Carrying the steam to the pipe, G, in which it is to be superheated through a pipe, L, smaller in bore than the bore of the pipe, G, substantially in the manner and for the purpose set forth.

And we also claim so arranging the pipe, G, with regard to the furnace, as that, while it is heated by the fire in the furnace, and shall let its heated steam through or over the burning products therein, it shall be duly protected from the intensity of said fire, substantially as set forth.

27,689.—Jesse Burroughs, of Ridgway, Pa., for an Improvement in the Purification of Coal and Ores:

I claim preparing coal for burning and ore for smelting, by steaming it with a liquid composition of water, salt, niter, potash and lime, in the proportions substantially as set forth.

27,690.—Tyrannus P. Butterfield, of Indianapolis, Ind., for an Improved Device for Tilting the Bolt in Shingle Machines:

I claim the oblong plate, J, in combination with the spring catch, K, for the purpose of operating the table, G, when used in connection with the knife frame, substantially as set forth.

27,691.—Pietro Cinquini, of West Meriden, Conn., for an Improvement in Files:

I claim constructing a file with longitudinal grooves and a transverse cut, combining with said grooves to form teeth, substantially as described.

27,692.—Elizur E. Clark, of New Haven, Conn., for an Improvement in Apparatus for Building Concrete Walls:

I claim, first, The combinations of the frames and sheeting boards with the braced uprights or inverted T's, when combined with each other and with the walls and floor timbers, in the manner described, and for the purpose stated.

Second, The cores shown in Figs. 4 to 21, inclusive, made as described, either whole or in separate parts; said cores being provided at suitable intervals either with core points to form recesses in the wall for the reception of the binders or with notches to fit upon the binders, and allow their lower edges to extend down between the said binders to meet that part of the wall which is already built, substantially as set forth.

Third, The combination of the rebated corner stays or guides, O, with the sheeting boards as described, for the purpose stated.

Fourth, The combination with the frames, A B, and sheeting boards, E, of the lining plates, D, of wood or metal, when placed inside of the sheeting boards to facilitate the raising of the frames as stated.

Fifth, The combination of the cleats, P P', and boarding, Q Q', with the frames which support the sheeting boards, for the purpose of forming string courses, water tables, and other continuous projections, as stated.

Sixth, The combination of the covering piece, S, and the fillet, R, with the perforation in the sheeting boards, for the purpose of forming window sills, caps, &c., as stated.

Seventh, So constructing the frames which hold the sheeting boards that of the connection of the two sides shall be made entirely above the work, so that the concrete boxes may be raised by simply loosening the bolts which hold them together, and without any connection through the wall, as stated.

27,693.—P. J. Clark (assignor to S. S. Clark), of West Meriden, Conn., for an Improvement in Cigar and Match Cases:

I claim forming a box or case by means of an outer shell furnished with guides, loops or slides, and two heads united by strips or ribs, the said strips or ribs passing through the guides, and the guides and heads limiting the extent to which the box may be opened and its contents raised up, to be easily taken hold of, as represented.

27,694.—P. S. Clinger, of Conestoga Center, Pa., for an Improvement in Hand Cultivators:

I claim the arrangement of the hinged head piece or bar, A, cultivating teeth, B, roller, C, handle, D, and check plate, E, substantially as and for the purposes set forth.

27,695.—Ezra Coleman, of New York City, for an Improvement in Attaching the Grinding Surfaces of Quartz Mills:

In combination with the hollow shell, A, provided at its end with suitable shaft bearings, the shaft, G, and detachable grinding surfaces, E and F, I claim the longitudinally-acting screws, I I', and the radially-acting and concentrically-adjusting screws, F F' and H H'; the whole arranged, constructed and operated substantially as and for the purpose set forth.

27,696.—John Cook, of Buffalo, N. Y., for an Improvement in Lathes:

I claim placing the tool, N, in a sliding box, M, operated by the shift, O, screw rods, G G', and bar, F, for the purpose of readily adjusting the turning tool with the stick and permitting the tool to be operated by the pattern, as described.

27,697.—J. C. Cooke, of Middletown, Conn., for an Improvement in Welding Wrought Iron:

I claim the portable welding apparatus constructed and operating upon the principles described, wherein the heating and hammering or rolling operations are suitably combined and placed under the control of the operator, substantially as set forth.

27,698.—John P. Cooper, of Finleyville, Pa., for an Improvement in Machines for Overcoming the Dead Points of the Crank:

I claim, first, The use of the shifting tooth, d, springs, e and i, and stops, f and f', when used in connection with the wheel, c, rack, b, and slide, a, as described and for the purpose set forth.

Second, The combination and arrangement of the wheel, c, rack, b, and slide, a, as described and for the purpose set forth.

27,699.—William Cooper, of Mount Gilead, Ohio, for an Improvement in Dirt-loading Apparatuses for Excavators:

I claim the combination of the square shaft, A, with the sliding pulley, C, band, E, pulley, X, and plow, B, the several parts being arranged together substantially in the manner and for the purpose specified.

27,700.—John H. Crane, of Charlestown, Mass., for an Improved Spring Bed:

I claim the combination and arrangement, substantially as specified, of the spring, b, slats, f, and adjustable frame, a, e.

27,701.—Daniel Deshon, 2d, of Somerset, Pa., for an Improved Churn:

I claim the combination and arrangement of the racks or breakers, i, vessel, a, pedestal or chair, h, with the rockers, b, with projections, f, and notches, g, in the rocker ways; the whole being combined arranged, constructed and operated in the manner described and for the purpose set forth.

27,702.—J. V. Dinsmore, of Auburn, Maine, for an Improvement in Metallic Heels for Boots and Shoes:

I claim securing heels to boots and shoes solidly, in all weather and climates and uses, by clamping the sole by the heel, A, and drawing it thereon continuously by screw, g, and spring, C, acting upon the plate, B, or its equivalent, substantially in the manner and for the purposes fully set forth and described.

27,703.—W. B. Dorsay, of Decatur, Ill., for an Improvement in Cultivators:

I claim so combining the hinged beams, C D, of a cultivator with the treadles, H I, as that the driver on his seat may raise either of the two central cultivator hoes, F, separately, or all the hoes simultaneously, when constructed and arranged substantially in the manner and for the purposes described.

And I also claim, in combination with the pairs of hoes so hung and operated, the shields, L L', for protecting the young plants from the soils, earth or soil turned up by the hoes, substantially as set forth.

27,704.—Frank Douglas, of Norwich, Conn., for an Improvement in Steam Engines:

I claim the plate, E, in combination with the valve, G, the spring, F, and the bar, A; the whole constructed to operate substantially as set forth.

[An engraving and description of this invention will shortly appear in our columns.]

27,705.—Nathaniel Drake, of Newton, N. J., for an Improvement in Corn-shellers:

I claim the arrangement and combination of the oblique-acting adjustable spring, E, set screw, K, plate, L, and adjustable guard chain, J, as and for the purposes shown and described.

[This invention relates to an improvement in the old and well-known class of corn-shellers in which the corn is shelled by means of toothed wheels and a pressure plate or bar, the latter part of the device serving to keep the ears in proper position while being acted upon by the wheels. The object of the above invention is to render this pressure plate or bar capable of yielding or giving to the ears, in such a manner that it will keep both large and small ears properly presented to the wheels, so that both will be perfectly shelled, and at the same time be allowed to yield to large ears without offering such a great resistance as in the machines hitherto constructed.]

27,706.—Asahel K. Eaton, of Kings county, N. Y., for an Improvement in Vulcanizing Caoutchouc:

I claim the new method of applying heat to india-rubber or allied gums, when the same are ready for being vulcanized, by the employment of a saline bath, as set forth.

27,707.—A. K. Eaton, of New York City, for an Improvement in the Manufacture of Steel:

I claim the conversion of cast iron in its solid form into steel, and the simultaneous purification of the same by treatment with the hydrates or carbonates of soda and potash, either alone or combined substantially as described.

27,708.—Daniel D. Farnham, of Johnstown Center, Wis., for an Improvement in Well Buckets:

I claim hanging the buckets by chains, D, when the bailes are attached to the ends of the buckets below, and in front of the succeeding chain, in combination with the holding pins, h, and hooked arm, c, as described and represented.

[This invention consists in giving to the well buckets a peculiar shape, in connection with a novel mode of hanging them, whereby they will more readily enter the water, and emerge therefrom; and it also consists in arranging on the end of each bucket a suitable pivoted hook which will attach itself to the cross bar of the bail as the buckets descend and turn the bucket while in the water, and keep it in the desired position for holding water while it is being elevated, and thus prevent it from casually upsetting before it reaches the discharge point in the curb.]

27,709.—Moses French, of Leesville, Ind., for an Improved Millstone Bush:

I claim the employment, in combination with the box, A, and spindle, B, of the adjustable plungers, F, and oil channels, I, substantially as and for the purpose set forth and described.

[The object of this invention is to obtain a bush for millstones that will be self-adjustable, or in other words, one that will compensate automatically for the wear of the wedges and at the same time afford facility for the ready lubrication of the spindle. The invention consists in the employment of wedges arranged in a peculiar way with springs, whereby a perfect bearing on the spindle is obtained, wear being compensated for, and using in connection with the above parts oil chambers provided with plungers, and arranged in such relation with the wedges and spindles as to afford a facile mode of lubrication.]

27,710.—Robert George, of Mineral Point, Wis., for an Improvement in Metallurgic Operations Applicable to certain Ores of Zinc, Lead, Iron, Cobalt and Nickel:

I claim the peculiar combination and arrangement of the several parts of the furnace, as described, with the application of steam for de-sulphurizing sulphuret of zinc (blende black-jack) and sulphurous ores, sulphates and sulphurets of iron, nickel, cobalt, copper and lead, as described and for the purpose set forth.

27,711.—Harvey Guild, of New Orleans, La., for an Improvement in Siphons attached to Gas Retorts:

I claim the annular siphon composed of a n upright cup, A, with a flaring or funnel-like mouth and central tube, a, and a movable inverted cup, D, provided with projections, c c', by which it is enabled to be supported by the flaring or funnel-like mouth of the cup, A, as described.

[This invention consists in a siphon of annular form, constructed in a novel and simple manner, which enables it to be taken a art very conveniently for cleaning or for any other purpose.]

27,712.—Albert Gummer, of Indianapolis, Ind., for an Improvement in Automatic Grain Scales:

I claim the arrangement of the double box beam, with its vertical stem, T T', for moving the horizontal slide valve, the two side rods, L L' and J J', with their sliding weights, C C' and D D', and the inclined planes, M M' and N, for checking the said weights, as described.

27,713.—James F. Gyles, of Gilmer Township, Ill., for an Improvement in Seeding Machines:

I claim, first, The stud and angular slot or bayonet catch, b, Fig. 1, when combined with the revolving arms of a rotary seed sower, in the manner set forth.

Second, The combination of the transverse partition, h, Fig. 3, and the inclined partition, g, Fig. 3, in manner and for the purpose specified.

27,714.—John C. Hall, of Fayette, Miss., for an Improvement in Buckles:

I claim the combination of the ends of the belt, band or hoop, f g, with a frame, A, and bar, B, in the manner and for the purpose substantially as shown and described.

[The object of this invention is to obtain a buckle or fastening which may be attached, without stitching or sewing, to the ends of the band, belt or strap it is to connect, and not only form a secure and permanent fastening, but also one which will readily admit of the band, belt or strap being taken up or shortened as occasion may require.]

27,715.—Joshua Hathaway, of Marietta, Ga., for an Improvement in Devices for Converting Reciprocating into Rotary Motion:

I claim the arrangement and combination of the reciprocating sliding rod, G, rotary flanged wheels, A A', shaft, B, independent pulleys, C C', and hinged bars, D, constructed and operating substantially in the manner and for the purpose specified.

[An engraving and full description of this invention will be found on another page.]

27,716.—Theodore Augustus Helwig, of Minersville, Pa., for an Improvement in the Manufacture of Prussian Blue:

I claim the application of mine water, containing sulphates of iron and free sulphuric acid, in the manufacture of Prussian blue, or any other native mineral water containing iron, and which will produce the intended effect.

27,717.—Joseph C. Henderson, of Albany, N. Y., for an Improvement in Cooking Stoves:

I claim, first, The ash tube, t, combined with the opening or openings, l l', into the oven, as specified, whereby I am enabled to convey ashes from the box, s, to the front hearth, f, in stoves having a descending front draft entering the oven, in the manner and for the purposes set forth.

Second, I claim the air space formed between the plates, n and o, combined with the air space, 3, when the air passes in at the opening, 2, for the purposes and as set forth.

Third, I claim admitting air to the fire from the space, 2, by the opening, 4, between the lower end of the plate, p, and the grate, r, as and for the purposes specified.

27,718.—Samuel B. Hopkins and Edward H. Anderson, of Easton, Md., for an Improvement in Vapor Burners:

We claim the original arrangement and combination of parts, as above set forth, viz., the attachment of the burner, B, the circular convex plate, C, and the circular, D, all as set forth, forming a distinct apparatus, capable of being attached to the ordinary slide, A, of a single tube fluid lamp, by which a light equal to that given by four ordinary tubes combined is obtained, with one-third the amount of oil, all operating and constructed as set forth.

27,719.—John E. Kelly, of New York City, for an Improvement in Riding Saddles:

I claim the application of a brake to a saddle, so constructed and arranged as to operate substantially as set forth and for the purposes and uses specified.

27,720.—Adam Humberger, of Somerset, Ohio, for an Improvement in Corn Harvesters:

I claim, first, The sectional platform, P, arranged upon the frame, and pivoted as described, in combination with the rear-end gate, for operation in the manner and for the purpose specified.

Second, The arrangement of the spring guards, D and H, and knife, K, in combination with the cutting apparatus, as constructed and applied and operating together in the manner and for the purpose specified.

27,721.—Charles B. Hoard, of Watertown, N. Y., for an Improved Means of Winding the Spring of Clocks by Currents of Air:

I claim winding the spring of a clock, or other time-piece, by connecting it with an air wheel or motor, so constructed and arranged as to be actuated by currents of air.

27,722.—Christian Kramer, of Alleghany, Pa., for an Improved Sausage-stuffer:

I claim the arrangement of the gatherer, n, and feed-piece, o, in the hopper, b, wheels, m, and vertical screw, l, arranged, constructed and operated as described and for the purpose set forth.

27,723.—James Letort and H. S. Matthews, of Wytheville, Va., for an Improvement in Breech-loading Fire-arms:

We claim the combination and arrangement of the compensating slotted sliding lever guard, g h J K, with the jointed or hinged trigger, in the sliding lifting connecting rod, O P, the slotted stock, b b' X X', sliding, shifting, lifting or jointed barrel, d d' y y', and breech-loading gun or fire-arm, substantially as set forth and described, or in any equivalent manner, whereby the several offices or functions are performed, as set forth at one and the same time, through the operation or agency of the guard of a gun.

27,724.—Peter Low, of Cincinnati, Ohio, for an Improvement in Furnaces:

I claim, first, Id combination with the air-heating chamber, Q, the fire-pot, A, flues, J, gas chamber, I, cylinder, K', and smoke-pipe, K, the whole being constructed and arranged in relation to each other, substantially as set forth.

Second, I claim the arrangement of the ventilating pipe, T, gas chamber, I, and smoke pipe, K, said ventilating pipe, T, which leads from the floor of the apartments to be ventilated, being made to pass through the inner space, Q, of the furnace above the gas chamber, I, and along side and in close proximity to the smoke pipe, and thence into the chimney, for the purpose of carrying off the vitiated air from the apartments, as specified.

27,725.—Geo. W. Lane, of Boston, Mass., for an Improved Apparatus for Testing Hollow Floats for Steam Boilers:

I claim the said float-testing apparatus, to operate in manner and constructed substantially as described, and either with or without either or both the steam and water pipes, G and I, furnished with stopcocks, M N, as specified.

27,726.—Thomas Lewis, of Malden, Mass., for an Improved Sugar-holder and Distributor:

I claim the combination of a receptacle, a, with a spring, k, and pocket, e, when the latter is arranged substantially as and for the purpose specified.

27,727.—C. B. Mallory, of Fredonia, N. Y., for an Improvement in Straw-cutters:

I claim the arrangement of the cylinder, N, and teeth, g, when they are operated from the same crank in the following manner, to wit, the latter being operated directly from the crank, h, and the former

operated from said crank through the medium of the cross bar, f, rack, M, pinion, F, ratchet, G, and pawl, r, substantially as described. I further claim the suspending of the rack, M, to the shaft, l, of the cylinder, N, by means of the support, j, and connecting the platform, O, to the cylinder, substantially as described, so as to admit of the rising and falling adjusting movement of the cylinder without interfering with the diving mechanism thereof.

[The object of this invention is to obtain a positive automatic feed attachment, so arranged as to insure an even or regular feed of the whole mass to be cut within the feed-box, the feeding device being capable of adjusting itself to the varying thickness of the layer within the feed-box without at all affecting the perfect operation of the feeding device.]

27,728.—Samuel W. Marsh, of Washington, D. C., for an Improved Compound Lock and Label Sheath: I claim the construction of a compound lock and safety label sheath, or label case and label, as represented in the drawings, Figs. 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, and substantially as set forth and described.

27,729.—William D. Mason, of Jarrett's Depot, Va., for an Improvement in Machines for Sowing Fertilizers: I claim the arrangement of the screw, S, hopper, H, with its offset, O, and inclined plane, F, gear wheels, C, C', driving wheels, W, and frame, F, as set forth, the discharge taking place under the offset of the hopper, as described.

27,730.—Thomas J. Mayall, of Roxbury, Mass., for an Improvement in Machines for making Rubber Belting: I claim, first, The new mode described of forming a series of machine belts or bands at one operation, the same consisting in rolling the india-rubber or gutta-percha into two or more sheets, sufficiently wide to form two or more belts at a time, and upon the surface of fabric that compose the inner body of the belts, and then nipping the said sheets together and drawing them around the edges of the belts by the mechanical devices described, so as to completely encase the inner body of the belts, substantially as set forth.

Second, The peculiar-shaped formers, b, h, operating as described, to unite the two sheets of india-rubber or gutta-percha, and also to form the edges of the belts, as described.

Third, The cutters, i, l, so arranged and operated as to run at different speeds and produce a shear cut upon the rubber or gutta-percha, substantially as described.

27,731.—Edward Maynard, of Brooklyn, N. Y., for an Improvement in Carriage Springs: I claim the double-curved or ring-shaped spring, c, formed with separated leaves, as set forth, and connected at the center part to the axle by means of the curved chair clip, or its equivalent, and by eyes at the ends to the bolts, l, or body loops, substantially as and for the purposes specified.

I also claim the chair clip, d, to which the spring is firmly bolted, and which is attached to the axle by the two clip pieces, 3, 3, whereby the axle is not injured by both bolts for the springs, and the weight is distributed on said axle, as specified.

27,732.—Oscar F. Morrill, of Boston, Mass., for an Improvement in Vapor Burners: I claim my improved arrangement of the tubular rotary cut-off and its elevating spring, with reference to the jet tube and the screw cap, such cut-off being provided, or not, as circumstances may require, with a device for moving it both laterally and longitudinally, and such device being arranged at its lower part, substantially as described.

27,733.—John D. Murphy, of Baltimore, Md., for an Improvement in Wheels for Flying Artillery Carriages: I claim, first, The combination of the solid hub, C, with the spokes, B, substantially as set forth.

Second, I claim the combination and arrangement of the flange, D, or its equivalent, with the hub, C, substantially as set forth.

27,734.—Thos. M. Mullen, of Philadelphia, Pa., for an Improvement in the Framing of Railroad Cars: I claim the longitudinal beam, C, composed of two strips, a and a', with intervening packing pieces, b, in combination with the diagonal braces, M and M', the whole being constructed and arranged in respect to the king bolt, substantially as and for the purpose set forth.

27,735.—Edmund Munson, of Utica, N. Y., for an Improvement in Grinding Mills: I claim, first, The arrangement of the driver, M, relatively as shown, with the apex of the spindle, F, to cause the apex of the spindle and the bearing surfaces of the arms, v, v, of the driver to be in one and the same plane, and thereby admit of a universal adjusting movement of the runner, C, to preserve the parallelism of the two stones, as set forth.

Second, The collar, I, attached to the spindle, F, perforated with holes, l, in combination with the tube, k, attached to and placed centrally within the box, J, the perforations or holes, l, being above the bearings, h, and below the top of the tube, k, to operate as and for the purpose specified.

27,736.—Julius Pollock, of Morrisania, N. Y., for an Improvement in Ventilators for Hats: I claim, in combination with a hollow inflated cushion, the employment of tubes or corrugations for the passage of air, and so placed in the hat as to fit in the cavities of the head over the temples, as described, and for the purpose set forth.

27,737.—Ruel Rawson, of Quincy, Mich., for an Improvement in Car Couplings: I claim the arrow-headed bars, B, springs, d, standard, S, and casing, A, in combination with the guard bar, G, arranged and operating substantially as set forth.

27,738.—Harvey Rice, of Concord, N. H., for an Improvement in Railroad Axle Boxes: I claim the combination of the inner packing applied to the axle at the smallest part of the conical surface, substantially as described, in combination with the axle, having the said conical surface and the box with its outer packing, substantially as and for the purpose specified.

27,739.—Cornelius J. Rooney and David Renshaw, of New York City, for an Improved Pen Stand: We claim the pen stand or pen rest, as described, made by arranging the series of converging or conical and open-bottomed cups, 5, 5, over the series of cups, 6, 6, one or both of these series of cups being so attached as to be readily removable to facilitate the cleaning of the lower cups, substantially as and for the purpose set forth.

27,740.—Alonzo R. Root, of Canton, Mo., for an Improvement in Seeding Machines: I claim, first, The construction and arrangement of the inner cylindrical distributing device, E, with the outer cylindrical case, D, G, flap valve, L, axle, A, and cut-off, I, substantially as and for the purposes set forth.

Second, Combining the double spiral spring, N, valve, L, pivot, k, and flap, M, in the manner described and for the purposes set forth.

Third, Arranging the revolving weed cutter, T, in front of each plow, the shaft of which has its bearing in the front part of the plow in such a manner that the cutter rod may also serve to lift the plow over obstructions, all as described and for the purposes set forth.

27,741.—James K. Ross, of Lebanon, Ohio, for an Improvement in Fire-places: I claim the arrangement in the rear of an open fire-place, C, of a heated chamber, F, vaporizing apparatus, J, K, and registered communications, G, N, L, M, M', with both the external and the internal air, as and for the purposes set forth.

27,742.—Solomon N. Sanford, of Cleveland, Ohio, for an Improvement in Apparatuses for Starting City Railroad Cars: I claim, first, The use of the spring, V, when attached to notch, R, in order to release itself under high tension, thus checking the running gear without breaking the spring, substantially as set forth.

Second, I claim the arrangement of the drum, D, provided with the two independently revolving heads, C and C', in combination with the spring, V, and axle, X, all operating together with the dogs, T and U, substantially as set forth for the purposes specified.

Third, I claim the peculiar arrangement of the friction clutches, E and F, arms, G, ratchet bar, H, pinion, I, and shaft, K, in combination with the drum, D, spring, V, and axle, X, substantially as described for the purpose set forth.

27,743.—Thomas Snowdon, of Pittsburgh, Pa., for an Improved Feed-water Arrangement for Steam Boilers: I claim locating a feed-water pipe within the steam space of the boiler, and having one end of said pipe communicate with the feed pump or doctor, and the other end dip down into the water space, as and for the purposes set forth.

27,744.—Jeremiah Stever, of Bristol, Conn., for an Improvement in Portable Stamping Machines for Crushing Stones, &c.: I claim the combination and arrangement of the carriages, S, P, Q, R, boiler, T, oscillating engine, U, V, W, pulleys, H, J, G, gearing, K, L, M, N, O, and stamping device, E, A, B, C, F, in the manner and for the purposes set forth.

27,745.—David H. Smith and E. E. Smith, of Glenn Spring, S. C., for an Improvement in Plows: We claim the arrangement of the moldboard, A, a reversible cutter, C, wedges, i, inclined and slotted foot, B, standard, E, with shoulder, Z, and screw, H, and the brace, J, with inclined screw-threaded ends, I, I, the whole substantially as and for the purposes set forth.

27,746.—H. G. Smith, of Muscatine, Iowa, for an Improved Metal Head for Brooms: I claim forming the broom and brush head of two parts, A, A, constructed as shown, and connected by the lips, b, c, and keys, d, substantially as and for the purpose set forth.

[The object of this invention is to obtain a simple and efficient cast iron head for holding a broom or brush, and serving as a means to connect the same to a proper handle. The invention consists in the employment or use of the cast iron plates connected together by keys and lips and forming sockets—one to receive a handle and another to receive the broom or brush.]

27,747.—Joseph Smith, of New York City, for an Improved Curtain Fixture: I claim the combination of the hooked pawl, with its grooved pulley, H, spring, J, and ratchet wheel, P, arranged and operated with one cord, so as to raise, lower, or stop the curtain at any desired point, as described and represented.

[This invention consists in applying to the end of the curtain roller a ratchet wheel, and in combining with this wheel a peculiar shaped pawl that is pivoted to the window frame over the ratchet wheel, said pawl carrying on one end a grooved pulley over which the roller cord passes. A spring is applied to the pawl for keeping it in gear with the ratchet wheel. The operation is simply to draw on the cord, until the pawl is disengaged from the wheel, when the curtain may be rolled up or drawn at pleasure.]

27,748.—S. P. Sweeney, of Columbia, Texas, for an Improvement in Cotton Seed Planters: I claim, first, The adjustable, oscillating, planting apparatus, A, constructed and operated as described.

Second, The combination of the stirrer, h, and agitator, A, as described.

Third, The arrangement of coverer, D, driving wheel, W, hopper, H, cutters, C, C, stock, P, and opener, O, as and for the purposes set forth.

27,749.—A. W. Tanner and O. P. Gorton, of Paw Paw, Mich., for an Improved Window Curtain Fixture: We claim, first, The employment of the wheel, d, when the same shall be constructed and used, substantially as and for the purpose specified.

Second, We claim the spools, a, pulleys, b, b, and cords, m and n, in combination with a wheel, d, the whole being constructed and arranged substantially as and for the purpose set forth.

27,750.—T. R. Taylor, of Cleveland, Ohio, for an Improved Horse-shoe Machine: I claim, first, The combination of a reciprocating male die, N, a reciprocating female die, G, and a pair of reversed, reciprocating, and swinging jaws, R, R, the whole arranged and operating in relation to each other, substantially as described.

Second, The combination of the projections, 10, 10, on the male die, and the recesses, 11, 11, in the female die, operating together, substantially as described, to produce the heel calks on the shoe.

Third, The combination of the recesses, r, r, in the swinging jaws, R, R, and the recess, f, in the female die, O, said recesses operating in conjunction with the other parts of the jaws and female die, as described, to produce the toe calk.

Fourth, Effecting the closing of the swinging jaws, R, R, by their descent into an opening, v, v, in the bed-plate of the machine, substantially as described.

Fifth, The attachment of the movable cutter, U, to a slide, U', arranged and operated by the mandrel of the male die, N, substantially as specified.

[This invention consists in a novel system of dies, and in certain means of operating the same to forge a shoe with front and back calks by a continuous operation. Drawings would be necessary to explain the invention fully.]

27,751.—A. L. O. Wall, Geo. Roberts, and M. S. Carter, of Decatur, Ill., for an Improvement in Mole Plows: We claim the ovoid-shaped mole, in combination with the scooping flanges, substantially as described for the purposes set forth.

27,752.—P. L. Weimer, of Lebanon, Pa., for an Improvement in Governor Valves of Steam Engines: I claim the combination and arrangement of a self-adjustable cut-off valve by means of the shaft, S, and arm, T, latching into the latches, H, and adjusted by the governor attached to the arm, W, operating the shaft, by means of an eccentric, X, working in the frame, R, in such manner that when the engine slightly changes its speed, the shaft, with its arms, T, will be moved from or towards the latches, H, substantially as more fully described.

27,753.—J. W. Wetmore, of Erie, Pa., for a Legislative Voting Register: I claim, first, Arranging the names of the voters in a series of blocks or types, each of which moves independently of the others, and is under the exclusive control of the voting member himself, for the purpose set forth.

Second, The combination of the printing mechanism with the balloting mechanism, when the two are arranged in such manner as to be operated simultaneously by the same mechanism, for the purpose set forth.

Third, Constructing the ballot boxes of such capacity as to contain but one ballot ball at a time, when the same are provided with doors, escape of slides, or valves, at top and bottom, to prevent the entrance of more than one ballot ball at each vote.

Fourth, Constructing the ballot-boxes with an entrance door, slide or valve, under the control of the speaker, or other proper officer, and an exit door, slide, or valve, operated by and under the exclusive control of each voter, for the purpose described.

Fifth, An automatic counting or registering apparatus, operated by clockwork, or its equivalent, to indicate optically the number of votes cast.

Sixth, The combination of the balloting mechanism with the counting or registering mechanism, when arranged in such manner that the latter is operated by the passage of the ballot balls from their boxes into some suitable receptacle for the purpose described.

Seventh, The combination of a printing mechanism, a balloting mechanism, and a counting or registering mechanism, when the same are arranged for joint operation, in such manner that each one serves as a check, whereby to ascertain the accuracy of the operation of the others.

27,754.—W. W. Williams, of Elizabeth City, N. C., for an Improvement in Sowing Machines: I claim the arrangement of hoppers, H, box A, partition, P, frame, C, straps, R, and wheel, W, placed on an ordinary or common cart, operating as described and for the purposes set forth.

27,755.—L. W. Boynton, of New York City, assignor to himself and Durham & Booth, of New Haven, Conn., for an Improvement in Attaching Thills to Vehicles: I claim the use of the hook and eye, in combination with the flanged plate and rubber, when the pressure of the rubber against the eye is regulated by means of the flanged plate, with its screw bolt, and the whole is constructed and made to operate substantially as described.

27,756.—Chas. Deidrich and Wm. T. Slocum (assignors to J. T. Mason & Co.) of Philadelphia, Pa., for an Improved Machine for Making Metal Caps for Boxes: We claim, first, The shooter conductor, S, with its bent tongue, Z, its inclined side, vertical chamber, and opening, x, the whole being constructed as substantially as set forth and arranged in respect to the die, f, of the punch, e, and the die, q, of the rod, q, as specified.

Second, I claim the rod, Q, and its die, q, with the central opening for the rod, t, the whole being arranged in respect to the vertical chamber, the shoot, S, and its opening, x, and operating as and for the purpose set forth.

27,757.—Geo. Fetter (assignor to himself, Edw. Jones, and J. P. Cowley), of Philadelphia, Pa., for an Improvement in Cutting Apparatus for Harvesters: I claim, first, Arranging the vibrating knives upon separate inclined planes, so formed on the cutter bar that the said knives may underlap and overlap each other in the manner specified.

Second, I claim the driving bars, C and D, with their respective projections, or equivalents thereto, in combination with the inclined knives and their forked shanks, the whole being arranged and operating substantially in the manner and for the purposes set forth.

27,758.—F. G. Johnson, of Bellwood, Sag Harbor, N. Y., assignor to himself and D. F. Tompkins, of Newark, N. J., for an Improved Wind Machine for Pumping Water: I claim the wind surface, A, h, in combination with the vane, b, connecting arm, k, f, rod, c, and weight, g, the whole constructed and operated in the manner and for the purposes set forth.

27,759.—Alex. McElroy and R. B. McElroy (assignor to R. B. McElroy), of Waupun, Wis., for an Improvement in Seeding Machines: We claim the arrangement of the deflecting boards, G' and H, the rod, N, and the seed hopper, provided at its bottom with the vibrating agitator, V, and seed slide, E, in which are cavities, o, and openings, e, the whole being used substantially as and for the purpose specified for scattering the seed broadcast.

27,760.—John McMurtry, of Fayette county, Ky., assignor to G. B. Kinkad, of Lexington, Ky., for an Improvement in Operating Hoisting Wheels: I claim—The removing the pinion, g, entirely out of gear with the spur wheel, f, on the roller shaft, so as to permit the spur wheel, f, to turn freely, and at the same time, at will, either to let the pinion, g, rest between the gearing of the fast and slow motion or cause it to pass immediately in gear with the fast or return it to the slow motion, substantially as described and for the purposes set forth.

27,761.—Thomas Newlove (assignor to himself, James Bowley, and T. Lynch, Jr.), of Chicago, Ill., for an Improvement in Sewing Machines: I claim the combination of the sheathed guide lever, l, with the straight looper, n', substantially in the manner described, and for the purpose of securing a positive forward and back as well as a positive lateral movement to the looper.

27,762.—John Stevens (assignor to H. Brind), of New York City, for an Improvement in Mechanism for Threading Sewing Machine Needles: I claim, first, The combination and arrangement of the perforated piece, 3, provided with a set screw, or other convenient means of attaching it to the needle with the arm, 6, jointed to the piece, 3, as described and shown, in such a manner as to furnish a ready and convenient means of securing the accurate adjustment longitudinally with the needle, to cause the hook, 7, to enter the eye of the needle, as set forth.

Second, The combination with the arm, 6, containing the hook, 7, of the flanges, 8, 8, to secure the proper lateral adjustment of the hook, substantially as set forth.

Third, The combination with the folding arm, 6, and with the needle-beam, of the spring, 9, substantially as and for the purpose set forth.

27,763.—Wm. Thomas (assignor to himself and Wm. Webb), of New York City, for an Improvement in Machines for Molding Candles: I claim, first, The pouring pan fitted with holes so formed as to enclose in combination with the wickholders, the top of each mold, as described.

Second, I claim the arrangement of the wickholders upon slides, so as to be capable of shifting the wicks to one side of the molds for facilitating the free entrance of the tallow, as described.

Third, I claim the supporting frame, operating in combination with the discharging apparatus, and with the wickholders for raising and supporting the candles after they are discharged, as described.

27,764.—G. W. N. Yost (assignor to G. W. N. Yost & Co.), of Yellow Springs, Ohio, for an Improvement in Corn Planters: I claim the arrangement of the cams, G, slides, F, and crank pin, H, in connection with the radial arms, C, in the manner and for the purposes substantially as described.

RE-ISSUES.

Warren Gale, of Chicopee Falls, Mass., for an Improvement in Straw-cutters. Patented Sept. 12, 1854: I claim, first, The arranging of the flange or flanges on one cylinder, so that they will meet the knife or knives on the other cylinder, as the two cylinders rotate, substantially in the manner described; and this I claim whether the flange is or is not made of, or armed on its face with, soft material.

Second, I also claim, in combination with the flanged cylinder, the throat, placed in such relative position to said cylinders as to nearly meet the latter at a desired point in their revolution; thus assisting to give a long cut if said throat be expanded, and a shorter cut when the throat is contracted, substantially as described.

Abraham R. Hurst, of Chambersburg, Pa., for an Improvement in Manure Excavators. Patented Aug. 29, 1854: I claim, first, The employment of the hinged pitchfork or rake, having an oblong slot, e, and a stop notch, g, in its handle, E, in combination with the curved hinged locking bar, F, and a draft bar, B, substantially as and for the purposes set forth.

Second, The combination of the devices mentioned above with a sled or carriage, A, substantially as and for the purposes set forth.

Robert Marcher, of New York City, for an Improvement in Machines for Enameling Moldings. Patented July 26, 1859:

I claim the combination of the mechanism, or the equivalent thereof, for propelling the molding with the plate, the edge of which is formed the reverse of the molding, to strike off the surplus enameling and to rub it down, and with the bed or gage which sustains the molding in its proper relations to the said plate, substantially as and for the purpose specified.

I also claim, in combination with the combination above claimed, the employment of the side plates at the sides of the molding, substantially as and for the purpose specified.

And I also claim, in combination with the parts enumerated as claimed in combination in the second of the above claims, the employment of the other of the plates specified as having its lower edge of the reverse form of the molding, substantially as and for the purpose specified.

And finally, I claim making each of the said end plates and each of the said side plates, or all of them, self-adapting by yielding pressure, substantially as described, when combined with the mechanism, or its equivalent, for feeding the molding, and with the bed or gage, substantially as and for the purpose specified.

George K. Snow, of Watertown, Mass., for an Improvement in Machines for Folding Paper. Patented Oct. 16, 1850:

I claim, first, A slotted plate, B, table or contrivance, for receiving and supporting the sheet; second, two parallel planes or plates, L M, extending at right angles from such support, and so arranged that there shall be one of the said plates on each side of the slot, P, of the first element or support of the sheet; third, a striking and folding frame or plate, D, so arranged and operated as to press the paper against the middle or other proper part of it, force it downward through the slot and between the two parallel plates; the said parallel plates operating to complete the fold and hold the sheet of paper during the return or retrograde movement of the striking frame or plate.

And, in combination with the above, I also claim a second striking and folding plate, N, arranged at right angles to the said two parallel plates, and made as to pass or operate through them or their slots, and directly after the said retrograde movement of the first one, as to press against the sheet of paper and force it through one of the said slots, and thereby once more, or a second time, fold it.

I also claim, in combination with such second combination of mechanism, a third striking and folding plate, R, and slotted parallel folding plate, S, and friction rollers, P, Q, or equivalent contrivances; the same being for supporting the twice-folded sheet of paper, folding it a third time, and subsequently discharging it; such discharge taking place in consequence of the return or retrograde movement of the striking or doubling plate, as described.

I also claim the combination of one or more registerpoints or registering apparatus with the sheet-receiving table or platform, and an apparatus for producing one or more folds in the sheet.

I also claim a combination composed not only of machinery for folding sheets of paper, but machinery for receiving and piling or packing such sheets in a regular pile or pack.

I also claim the combination of mechanism which is applied to the striking plate and its rollers or folding contrivances, and used for packing the sheets; the said mechanism consisting of the stationary plate, T, and the spring plate, U, or plate and its spring, or other proper equivalents, which permit the recession of the plate in proportion as the pack of sheets increases in size; the whole being arranged and made to operate substantially in the manner as specified.

I also claim the combination of one or more edge gages, C C1 C2, with the sheet-receiving platform and an apparatus for folding paper, substantially as described.

Wm. Wharton, Jr., of Philadelphia, Pa., for an Improvement in Dispensing with Switches on Railroads. Patented Dec. 13, 1859:

I claim the employment, in connection with the sidings or turnouts on railways, of supplementary inclined and elevated rails, in combination with car wheels, so constructed as regards the said inclined rails, which are so arranged as regards the rails of the siding or turnout, that the wheels may be elevated above, and free from, the control of the rails of one track and be placed under the control of those of another track, as set forth.

ADDITIONAL IMPROVEMENTS.

Robert Cartwright, of Ithaca, N. Y., for an Improvement in Canal Boat Propellers. Patented July 19, 1859:

I claim the arrangement of the shaft, F, to the bed plate, R, being made detachable by means of the strap, J, so that the apparatus, as described in the patent to which this is an additional improvement, with the exception of the bed plate, may be taken out or put in its place without docking the boat.

James Emerson, of Boston, Mass., for an Improvement in Ship's Windlasses. Patented Aug. 28, 1855:

I claim, first, The ratchets, N and O, when made substantially as described and shown by the drawings for the purpose of controlling the gears, L and M, of my windlass.

Second, I claim combining the lever and screw for working the friction bands on my windlass, for the purpose and in the manner described.

H. P. Gatchell (assignor to E. J. Bates), of Ravenna, Ohio, for an Improvement in Coffee Pots. Patented Nov. 22, 1859:

I claim the special arrangement of the inclined planes or sections of screws, H and K, the bail, L, and the filtering cup for the purpose specified.

EXTENSIONS.

Alva B. Taylor, of New York City, for an Improvement in Checking the Momentum of Printing Presses. Patent April 4, 1846:

I claim the method described of arresting the momentum of the carriage which carries the form of type in printing presses, by means of plungers that compress air in cylinders only towards the end of the motions of the carriage, as described.

Joshua H. Butterworth, of Dover, N. J., for an Improvement in Door Locks. Patented April 11, 1846:

I claim the arrangement of the circular plate for elevating the tumblers into notches in the main bolt and raising and lowering the levers, Z Z, which act upon the movable talon, in combination with the movable talon and the preventive stop or flying tumbler, also set forth.

Thomas J. Wells, of New York City, for an Improvement in Sawmills. Patented April 11, 1846:

I claim the combination of the sliders with eccentric clamps, slightly pressed together, and so formed upon their faces that, however the thickness of the stuff may vary, the line, drawn as a radius from the face of the clamp at the point of contact with the stuff, shall always make nearly the same angle with the face of the material and the direction of the feed.

DESIGNS.

Samuel Armitage, of St. Louis, Mo., for a Design for a Trade-mark for Neuralgic Pills.

Samuel Boyd, of New York City, for a Design for Andirons. (2 cases.)

James C. Karr, of Williamson county, Tenn., for a Design for Coffins.

George W. Smith, of Hartford, Conn., for a Design for Ice Pitchers.

Theodore W. Lillagore (assignor to Savery & Co.), of Philadelphia, Pa., for a Design for Fire-dogs. (6 cases.)

David McNair, of Roxbury, Mass., assignor to the Roxbury Carpet Company, of Boston, Mass., for a Design for Carpets.

Charles Muller (assignor to John Mathews), of New York City, for a Design for Water-coolers.

Francis J. Pierce, of Lowell, Mass., assignor to the Roxbury Carpet Company, of Boston, Mass., for a Design for Carpets.

Joseph Rosenthal (assignor to Joseph Reckendorfer), of New York City, for a Design for Trade-marks for Lead Pencils.

Joseph Rosenthal (assignor to Joseph Reckendorfer), of New York City, for a Design for Stamping on Lead Pencils.

Notes & Queries.

P. M., of N. Y.—A high pressure steam engine is one which works with steam without condensing. The pressure carried in such engines varies from 20 to 100 lbs; the most common pressure is about 40 lbs.

A. N., of N. H.—Ivory and ebony, for the keys of pianofortes, are polished with fine emery paper, and then rubbed up with whiting in the same manner that any hard unvarnished wood is polished.

T. S. B., of La.—The back volumes of the SCIENTIFIC AMERICAN are the source to which we can direct attention for illustrations and descriptions of sawing and shingle machines, and all other kinds of machines for working in wood.

A. E. D., of La.—The best work on electro-magnetism applied to telegraphing, &c., published in our language, is Shaffner's. The publishers in this city are Pudney & Russell, No. 70 John-street.

L. R., of Pa.—Partridge & Bros., Cliff-street, this city, are wholesale dealers in chemicals.

H. G. S., of N. Y.—Come to this city and you will see one of the English cast-steel bells. When cast steel is melted and poured into a mold, it does not become pig iron—it is still cast steel. A broken steel bell may be sold for scrap steel; it is more valuable than pig iron certainly.

T. R. C., of N. Y.—It would take the space of a whole column to answer all your inquiries. We advise you to get Bourne's "Treatise on Propellers" and give it a thorough perusal. The subject of propellers is, as you say, one of great commercial interest, but it is not new. We have a great number of engineers and others who are perfectly familiar with it.

D. D., of N. Y.—A "unit of heat" means the mechanical energy required to raise the temperature of water one degree from 39° Fah. It means 772 pounds lifted one foot, and is called Joule's Equivalent, who found it by experiments on friction.

C. S., of Ga.—You will certainly raise more steam with a boiler 1 foot in diameter, 12 feet long and having 47 return 2-inch flues, than with your old 22-inch flue boiler. You may use your old engine and pump. We would advise you to ~~use the steam~~ slightly in carrying it from the boiler to the cylinder. It will save both fuel and feed water.

J. E. T., of N. Y.—The upper portion of a wagon wheel does move faster horizontally than the bottom.

L. W. A., of Texas.—In lithographing in colors, each color is printed from a separate stone; each stone being made of the full size of the print, and the color placed on it in the proper places.

H. C. P., of N. Y.—As your article on dialing would require an engraving to illustrate, we shall be obliged to pass it, at all events, for the present, as our artists are very much hurried just now.

I. S. B., of Pa.—A very thin coat of copal varnish applied to a clean iron pattern, and dried thoroughly in an oven, will endure for a long time, and prevent the pattern from rusting when used in a damp mold.

S. H. W., of N. Y.—Your alleged improvement in fire-escapes is not new. The same thing was patented in 1849.

J. A. A., of N. J.—If you boil cotton or linen cloth for half an hour in a weak solution of sumac and alum, or sumac and the sulphate of copper, then dry it thoroughly, it will endure four times longer when exposed to the weather than if it was unprepared.

E. B., of Md.—We are not aware of any experiments having been made to manufacture cast steel type. The nature of the metal, owing to its shrinking in the mold, would prevent it from having a fine-shaped edge.

J. W. M., of Mass.—The experiments with water wheels at Philadelphia are not quite complete; we shall present the report of them as soon as possible. Your water wheel is original, and if you can prove that it has advantages, a patent can be secured; but we do not think it is quite so good as some others which are more simple. Some of the wheels at Philadelphia gave considerably more than 80 per cent of power.

B. F. B., of Pa.—It would be practicable to fill the space between the plastering and siding of houses with sawdust or tan bark. In order to get the full benefit from it, great care should be taken to keep it dry, even from moisture soaking up from the bottom.

A. G., of Mass.—The motion of the planet Jupiter is westward in relation to the sun, but not in relation to the fixed stars; it is, however, as well as Saturn, nearly stationary, and this, of course, brings it at a given hour about one degree further west every night. The motions of the exterior planets are the same, not in a year, but in periods of time which are longer than a year.

C. M., of Mass.—Would it not be better to fill a vault with some disinfecting substance, such as charcoal dust, rather than attempt the difficult, if not impossible, task of making it airtight? The charcoal, when fully impregnated, would be very valuable for manure.

W. P. De S., of —.—Your article on the "Helicoidal Surface and its Development" is too purely mathematical for our columns. You had better send it to the "Mathematical Monthly," published by Ivison & Phinney, of this city.

J. W. P., of C. E.—We do not know where you can procure a tobacco-cutting machine; but presume an advertisement for it in our paper would attract the attention of some one who could furnish you.

C. H. W., of Mass.—Byrne's "Metal-workers' Assistant" will give you all the information regarding alloys of metals. It is published by H. C. Baird, Philadelphia.

O. S., of Conn.—New belts should be stretched before they are put on the pulleys; and when they become slack by running, they should be taken up, or else a friction pulley put on to make them "taut."

C. B. B., of Wis.—With the utmost care, it is scarcely possible to apply any varnish to a pencil drawing without soiling it. A weak solution of isinglass, however, is the best that is known to us. We have never seen gold leaf gilding successfully imitated by any varnish.

J. A. G., of Ohio.—There is no American work published on gas-lighting. Parnell's book on this subject was published several years since in London, and is a very good treatise. The subscription price of the "London Journal of Gas-lighting" is 18s. sterling per annum. It is published at No. 11 Bolt-court, Fleet-street, London.

J. C., of Ohio.—The triple or three-faced iron rail is an old invention. It was patented in England in 1846, and has frequently been shown to us since.

W. B. O., of Cal.—We do not believe a good egg-hatching machine can be obtained. We do not know of a single one in use.

Money Received

At the Scientific American Office on account of Patent Office business, for the week ending Saturday, April 7, 1860:—

J. D., of N. Y., \$30; J. A., of Pa., \$25; J. B., of N. Y., \$30; J. R. B., of Ky., \$35; F. T., of Ill., \$30; S. M., of Va., \$25; D. S., of N. Y., \$30; A. B., of N. Y., \$100; D. A., of Ohio, \$25; R. L. U., of N. Y., \$10; B. H., of Conn., \$30; J. J., of Ill., \$25; E. B. C., of Fla., \$25; W. B., of Ohio, \$30; J. S., of N. Y., \$30; M. B. T., of Mass., \$30; H. M. W., of Conn., \$20; J. S., of N. Y., \$28; C. T. P., of N. Y., \$58; S. W. B., of N. Y., \$60; I. W. K., of Cal., \$30; W. J. McC., of N. Y., \$10; P. B., of N. Y., \$30; H. A. M., of Ill., \$35; N. C., of Ga., \$25; E. D., of Mass., \$25; J. W. H., of Ill., \$30; W. J. A., of Tenn., \$25; S. F. B., of Mass., \$50; N. A. P., of Tenn., \$30; S. A. G., of N. Y., \$30; J. A. McL., of Ky., \$10; L. H. F., of Pa., \$30; A. W., of Conn., \$30; A. K. T., of Mich., \$25; H. A. M., of Ohio, \$25; L. H., of Conn., \$30; H. W. A., of N. Y., \$60; A. T. J., of Conn., \$28; L. S. C., of N. Y., \$58; D. H., of Mass., \$30; C. E. S., of Wis., \$15; J. S., of R. I., \$25; S. K., of Cal., \$30; W. R. S., of Wis., \$55; R. W., of Ill., \$25; I. C., of Iowa, \$25; L. O. C., of N. Y., \$55; J. P. W., of Ky., \$25; J. M. C., of S. C., \$20; S. S., of Mass., \$25; W. H. C., of Ill., \$30; N. H. G., of Conn., \$25; W. A. H., of R. I., \$30; N. P., of N. Y., \$30; A. C. K., of N. Y., \$30; C. B. M., of Ill., \$30; C. G. & H. M. P., of Mass., \$10; G. S., of Mass., \$35; G. & W., of Tenn., \$55; J. P., of N. Y., \$25; T. M., of N. Y., \$15; O. L. B., of Ga., \$25; W. & K., of Iowa, \$30; E. L. G., of Conn., \$30; D. S. B., of N. Y., \$25; A. W., of N. Y., \$25; H. W., of Ohio, \$45; C. B., of Ill., \$64; J. A. S., of Wis., \$10; J. J. McD., of Ill., \$50; S. B. Jr., of N. Y., \$25; J. H. H., of Vt., \$32; J. G. Sr., of R. I., \$35; A. H. H., of Ga., \$10; R. C. B., of N. Y., \$40; M. B., of Pa., \$30; R. P. A., of N. Y., \$28; M. C., of N. Y., \$30; C. M., of N. Y., \$30.

Specifications, drawings and models belonging to parties with the following initials have been forwarded to the Patent Office during the week ending Saturday, April 7, 1860:—

D. H., of Mass.; J. J., of N. Y.; S. M., of Va.; N. C., of Ga.; F. T., of Ill.; J. P. W., of Ky.; J. E. E., of Pa.; S. S., of Mass.; A. K. T., of Mich.; W. B., of Ohio; F. F. S., of Ill.; P. & C., of N. Y.; C. E. S., of Wis.; C. A. B., of Vt.; F. & D., of Mass.; H. A. M., of Ill.; W. D., Jr., of Pa.; W. J. A., of Tenn.; S. F. B., of Mass. (2 cases); E. B. C., of Fla.; H. E. & B., of N. J.; H. & M., of Ohio; J. H., of Mass.; J. A., of Pa.; J. W. K., of Cal.; J. S., of R. I.; I. C., of Iowa; R. W., of Ill.; C. G. S., of N. C.; D. A., of Ohio; J. S., of N. Y.; A. W., of Conn.; J. J., of Ill.; J. A. McC., of Ky.; H. W. A., of N. Y.; L. S. C., of N. Y.; L. O. C., of N. Y.; J. G. Sr., of R. I.; J. W. C., Jr., of Ill.; S. B., Jr., of N. Y.; C. F. B., of R. I. (2 cases); H. & J., of Ohio; S. & O., of Wis.; O. L. R., of Ga.; C. E. G., of Minn.; R. P. A., of N. Y.; M. C., of N. Y.; A. W., of N. Y.; C. M., of N. Y.; S. W. B., of N. Y. (2 cases); A. C., of N. Y.

Literary Notices.

CASSELL'S ILLUSTRATED FAMILY BIBLE.—We announced, a few weeks ago, the commencement of the publication of this famous work in the United States. Four parts only have been issued, but the demand has risen—so we are told—to 80,000 copies per number; in London the edition is said to be 300,000 copies. The parts already issued here sustain most fully the highly valuable character which the work presented to us on viewing the first number. The illustrations are profuse, and many of them are taken from paintings by the most celebrated masters, drawn and engraved in a superior style of art. Objection is sometimes made to subscriptions to serials, because, in not a few instances, the publishers have failed to complete the work, or carry it on in the style of the beginning. But no person who is at all acquainted with the immense resources of Mr. John Cassell's great publishing house in London, or with his world-wide reputation for vigorously carrying forward whatever enterprises his hands find to do, will be deterred, by reasons like those stated, from obtaining early possession of the numbers of this wonderfully cheap, but truly magnificent edition of the Bible.

THE GOLD FIELDS OF ST. DOMINGO. By W. S. Courtney, Esq. Anson P. Norton, publisher, No. 114 Nassau-street, this city.—This little book is very likely destined to change the fate of numbers of people, by luring them to the promising gold mines of the negro republic. It is very interesting, and is made intelligible by a map.

TREATISE ON PHOTOGRAPHY. By Charles Waldack, Cincinnati.—A cheap and complete elementary treatise, by a practical chemist and photographer.

HYGIENIC AND LITERARY MAGAZINE. M. A. Malmby, editor and proprietor, Atlanta, Ga.—This new monthly is devoted to literature and that other subject on which all human happiness and well-being depends—obedience to the laws of health.

WEISSENBORN'S AMERICAN ENGINEERING, published in Fulton-street, this city, is the best and most recent work on the steam engine suitable for Americans.