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\* 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.

30,525.—G. S. Bosworth, of Troy, N. Y., for an Improvement in Molding Cast Iron Wheels:

I claim forming a mold by means of a flask consisting of three parts, to wit, a cope, a novel, or drag, and cheeks or chill, the two former being open to ram up the sand to form the mold on face patterns which can be printed back, the mold being formed in the manner and by the means set forth, and the thickness and weight of the wheel being determined by the depth of the cheeks which can be varied in the same sized wheel and with the same pattern and same cope and novel.

30,526.—Z. B. Brown, of Simsbury, Conn., for an Improvement in Seeding Hoes:

I claim the seed-box, d, hoe handle, b, and seed slide, e, the latter being provided with the adjustable plate, f, and spring, k, and arranged at right angles to said box and handle for operation, conjointly in the manner and for the purpose described.

30,527.—W. A. Coe, of Greensboro', N. C., for an Improved Peach Parer:

I claim, first, The peculiar arrangement of the two prongs, A, B, of a peach paring and slicing machine, and crank, C, in combination with a lever, F, hinged at one end at I, and hung to an oblique rack H, by a link, G, all constructed substantially as and for the purposes set forth. Second, A curved and elastic slicing knife, P, P', and curved guide rods, R, R', R'', in combination with a reciprocating stirrup, M, M', constructed and operating substantially as set forth.

30,528.—H. Collier, of Smithville, Ark., for an Improved Machine for Delineating the Course of Rivers:

I claim delineating the course of rivers or other courses by means of a "plotter," rotating at a speed corresponding with that of the boat or other object upon which it is carried, and making upon a sheet which is held in position corresponding with the points of the compass, substantially as and for the purposes set forth.

30,529.—J. A. Cowdery, of North Middletown, Ky., and G. W. Cowdery, of Great Bend, Ohio, for an Improvement in Straw-cutters:

I claim, first, The combination of the cam, M, lever, N, and fork O, constructed and arranged as described for the purposes set forth. Second, The combination of the lever, Y, with its spurs, e and d, with the fork, o, and spring pawl, e, as and for the purpose set forth. Third, The combination with the top, W, of the lever, Y, and its spring, i, arranged and operating as described.

30,530.—Elliot Dickerman, of Richmond, Va., for an Improved Clothes-dryer:

I claim the employment in clothes-dryers of the arms, P, and clothes lines, K, in combination with the arms, D, and clothes lines, J, and with suitable stops on D, substantially as specified.

30,531.—R. B. Donaldson, of Washington, D. C., for an Improved Door Spring:

I claim the arrangement of the respective parts of said apparatus which enables its actuating spring to exert its power upon a door through the medium of the axle, a, the lever, c, and the cord or chain, d, substantially in the manner set forth.

30,532.—Henry Evans, Jr., of Baltimore, Md., for an Improved Machine for Bonding Sheet Metal:

I claim a bed and hinged frame provided with crooves or shoulders, H, for the bent edges of thin, in combination with two levers hinged to said bed, for bonding the sheet of metal, as described.

30,533.—Lewis Evans, of Morgantown, Va., for an Improved Flask for Casting Packing around Cannon Bells:

I claim, first, The use of the flasks, A, B, connected together by a vertical hinge, and having semi-cylindrical shoulders, c, recesses, L, L', formed on their inner faces, in combination with cast iron pistons, which have circumferential and longitudinal grooves, J, J', formed in them, and with or without the bar, D, and pins, F, F', all substantially as and for the purposes set forth.

30,534.—Wm. Heppenstall, of Springfield, Mass., for an Improvement in Skirts:

I claim, as a new article of manufacture, a skirt constructed substantially as described.

30,535.—Eugene Mack, of the United States Navy, for an Improved Machine for Stretching the Straps of Ships' Blocks:

I claim the fid wedge, screw and ratchet on the fid, when combined and arranged substantially as and for the purpose specified.

30,536.—J. W. Lyon, of Brooklyn, N. Y., for an Improved Machine for Finishing Gas Fittings:

I claim, first, Interpolate between the jaws and the body of the chuck spindles or joints, substantially as described, whereby the jaws may be turned on axes at right angles to the axis of the spindle and chuck, for the purpose of presenting different parts of the fitting, clamped between them to the action of the cutting tools, substantially in the manner and for the purposes described. Second, In combination with the jaws of the chuck, the adjusting screws, substantially as described. Third, In combination with the jaws of the chuck, the mechanism whereby they are clamped and locked together on the fitting at one operation, to wit, the cams, levers, and rack-sliding bars, substantially as described. Fourth, In combination with the cams operating the jaws of the chuck, a collar wrench not removable from the chuck and spindle, substantially as described. Fifth, In combination with the jaws of the chuck, the indices and self-acting detents, substantially as described. Sixth, In combination with the indices and detents, the locking cams or wedges, substantially as described, and when in connection with the chuck and jaws, substantially as described and set forth. Seventh, The chuck constructed substantially as described and containing the improvements specified in the first, second, third, fifth, and sixth claims.

Eighth, The combination of a friction brake directly with the chuck, substantially as described.

Ninth, The combination of the brake chuck and clutch shifter, or its equivalent, when so arranged as to communicate motion to the chuck spindle when the brake is released from the chuck, substantially as described.

Tenth, The sliding carriage and series of mandrels, in combination with the spindle and chuck, substantially as described.

Eleventh, The division plate, self-acting cam and releasing lever, in combination with the sliding carriage, substantially as described.

Twelfth, The latch bolts in the mandrel bearings, in combination with the mandrels, substantially as described.

Thirteenth, Constructing the sliding carriage mandrels in two parts, arranged and combined together substantially as and for the purposes described.

Fourteenth, The combination of the adjustable drill with the adjustable facing tool constituting the cutting tool, k, substantially as described.

Fifteenth, Alternating taps or dies with cutting tools, in combination with two or more pairs of parallel mandrels arranged in combination with a chuck, substantially as described.

Sixteenth, The driver, in combination with the sliding carriage and mandrels, substantially as described.

Seventeenth, In combination with the driver and spindle through which it slides, the pulley, brake and clutch shifter, substantially as described.

Eighteenth, In combination with the mandrel socket of the driver, the spring latch and releasing cam, substantially as described.

Nineteenth, The employment of an adjustable friction plate, in combination with the chuck and tap or die to hold the fitting against the action of the tap or die by a yielding pressure sufficient for the purpose of cutting the screw thread, but yielding to prevent stripping the thread or breaking the tap when required, substantially as described.

Twentieth, And finally, I claim combining together in one machine a series of parallel mandrels, carrying cutting tools, driver, sliding carriage and chuck, substantially as described, and arranged so as to operate substantially in the manner and for the purposes set forth.

30,537.—Edward Maynard, of Washington, D. C., for an Improvement in Breech-loading Fire Arms:

I claim the employment of a solid headed hinged cone seat, B, for closing the lateral opening between the mouth of the chamber of the barrel and the solid head at the after end of said opening, when the proportions of the said cone seat and the lateral opening which receives the same are such that a thin-sided metallic cartridge (either loaded or unloaded) can be readily placed within the chamber of the barrel when the cone seat is in its open position, and then be securely retained in said chamber by throwing the cone seat into its closed position, substantially as set forth. When the mouth of a chamber of a breech-loading fire arm is closed by the head of a hinged block, B, which forms the cone seat of said arm, I also claim the placing of a thin-sided metallic cap within the said chamber for the purpose of forming a tight joint between it and the said hinged block, substantially as set forth. I also claim giving the bottom of the thin-sided chamber cup, f, of my improved fire arm such a degree of thickness and strength that either a laterally projecting arm or a looped tongue or cord may be combined therewith, of such a size and shape as shall enable the said cup to be readily withdrawn from the chamber of the barrel, substantially as set forth.

When the lateral opening between the mouth of the chamber of the barrel and the solid head at the after end of said opening is closed by a properly proportioned hinged cone seat, I also claim so proportioning the hinges of said cone seat that the recoil thereof, at the instant of firing the arm, will be wholly exerted against the solid head opposite the after end of said cone seat.

30,538.—H. L. Pierce, of Millport, N. Y., for an Improvement in Smtt Machines:

I claim the adjustable metallic scouring rods, R, R', R'', notched or grooved, in combination with the cylinder, D, and cap, M, constructed and operating substantially as described.

30,539.—C. A. McEvoy, of Richmond, Va., for an Improved Sabre-bayonet Fastening:

I claim, first, Fastening a sabre or other bayonet to the muzzle end of a rifle by a lock located in the rear of the handle of said bayonet, substantially as and for the purposes set forth. Second, The arrangement of a stationary and slotted plate, F, movable and slotted disk, L, and spring stop, M, all located in the rear end of the handle of a bayonet, in combination with a T-shaped projection, B, C, near the muzzle end of a rifle, substantially as and for the purposes set forth.

30,540.—John Outram, of Elmira, N. Y., for an Improvement in Machines for Cleaning Grain:

I claim, first, The arrangement of blast and suction fans on a horizontal shaft, in connection with separating chamber, F, and pipes, E, D and G, as described and shown. Second, The movable double acting deflector, I, in the pipe, G, constructed and operating in the manner described and shown, for the purpose of dividing and directing the currents of air upward and downward.

30,541.—John Parsons, of Cleveland, Ohio, for an Improvement in Brick Machines:

I claim, first, The wheel, B, fitted with cams, e, e', and studs, d, d', in combination with lever, G, rack, e, hub, f, friction wheel, I, substantially as described and for the purposes set forth. Second, I claim the escape door, F, z, with slide, a, formed hollow at the back part, inclined planes, x, x', spring, w, latch, n, guide, n', substantially as described and for the purposes set forth. Third, I claim the arrangement of the parts of the driver, 4, viz: the plates, 6, 7 and 8, the regulating screws and pinch nuts, in connection with the guide rods, 15, 16, guides, 14, 16, operated substantially as described and for the purposes set forth; but I do not claim as my invention the rack, 10, nor the spur wheel which operates it on the shaft under the mud box, 14.

Fourth, I claim the arrangement of the bevel wheel, y, pinion wheel, z, in combination with rollers, m, m', band, o, string, n, or its equivalent, the mold table, l, and driver, p, substantially as described and for the purposes set forth.

30,542.—W. H. Peckham, of Hoboken, N. J., for an Improved Hael for Boots and Shoes:

I claim the hollow metallic heel formed with the cavity, 4, and connected to the boot or shoe by the nut, e, in the manner specified.

30,543.—Robert Pilson, of Lanrel, Md., for an Improvement in Machines for Dressing Warp:

I claim the combination of the sectional warp beams, c, d, d', reeks or guides, e, g, the distributing cylinder, e, e', and square rollers, f, f', the brushes, h, h', the copper metal comblike guide rack, K, K', the upper metal harness, m, m', the lease rods, z, z', the driving drums, N, O, J', the loom beam, T, U, the guiding, controlling cylinder, X, and fan, Y, when so arranged relative to each other as shown, forming one individual machine, and through all of which intermediate auxiliary cones and cone gearing are dispensed with, and all undue drag, strain and tension of the threads of the warp are prevented and the several improved results in the manufacture of cotton fabrics heretofore recited are attained, substantially as set forth and described.

30,544.—J. M. Pitte, of Samter, S. C., for an Improvement in Fences:

I claim the combination and arrangement of the short and long stop battens and braces with the semi dovetail which are formed in reverse positions on the upper and lower rails of the panels, substantially as and for the purposes set forth.

[This invention consists in providing reverse semi dovetails upon each end of the top and bottom rails of the panels, and having the said dovetails interlock in a straight line. The panels are prevented from lateral, longitudinal and vertical movement by means of long and short battens and a triangular brace. This is a very simple and ingenious fence, and, as the panels, after being constructed separately, can be set up and locked together without the aid of nails, keys, clamps or other detachable fastenings, it is very useful and convenient.]

30,545.—E. M. Roxford, of Indianapolis, Ind., for an Improvement in the Manufacture of Square Pans of Sheet Metal:

I claim the adjustable arrangement of plates, C and D, for raising and folding the metal overlapping them, which at the same time compress the slack in the corners, and in connection with plate, H, bends the compressed slack against the sides; the whole constructed and operating as set forth.

30,546.—W. H. Racey, of St. Augustine, Fla., for an Improvement in Lamps:

I claim the employment or use of the perforated plates, F, F', placed in relation with the cap, c, wick tube, E, and inner deflector, D, to operate as and for the purpose set forth.

[The object of this invention is to supply the flame with the necessary amount of oxygen to support a perfect combustion, with or without the aid of the usual glass chimney, and at the same time have the flame very persistent, so that it will not be materially affected while the lamp is being moved through the air in any direction.]

30,547.—D. R. Pratt, of Worcester, Mass., for an Improvement in Bearings for Railroad Cars:

I claim, first, The employment of the inclosed circular plates, E, E', or the quadrantal boxes, F, F', constant and used as and for the purpose specified.

Second, In combination with the inclosed plates and boxes, I claim the balls and rollers, I, and L, as and for the purpose specified. Third, The use of the division plate, d, in the manner and for the purpose specified.

30,548.—Silas Stevens, of Worcester, Mass., for an Improved Tool Holder:

I claim the arrangement of the adjustable head, c, tool, D, and rod, B, with the hollow bar, A, screw, f, and nut, e, as and for the purposes shown and described.

[The object of this invention is to economize the material or stock used in the construction of turning and planing tools, and also to facilitate the construction of the same as well as the keeping of them in proper working order.]

30,549.—Wm. Watts, of Newark, N. J., for an Improvement in Hangers and Boxes for Shafting:

I claim a box adjusted and supported in an open bottomed hanger (said hanger having the flanges, c, o) by means of the bolts, g, g', the bolt, E, and sliding caps, f, f', substantially in the manner and for the purposes described.

30,550.—H. E. Woodford, of Watertown, N. Y., for an Improvement in Valves for Steam Engines:

I claim the employment of valves, C, that have an increasing radius from one end to the other and that are adjustable with their axes of motion, in combination with cylinder, A, and chest, B, when said valves are constructed and arranged to operate in the manner substantially as shown and described.

30,551.—Josee Johnson, of New York City, assignor to himself and John Ward, Jr., of Brooklyn, N. Y., for an Improved Clothes Dryer:

I claim the arrangement of the clothes, A, h, arms, C, D, joints, e, lines, G, H, and tension cord, J, in the manner substantially as described, so as to produce the effects set forth.

30,552.—C. W. Shedd, of Addison, Ala., assignor to himself and R. Jamieson, Jr., of Tuscaloosa, Ala., for an Improvement in Grinding Mills:

I claim, first, The arrangement of the plate, J, tubes, M, tube, K, sleeve, L, provided with nut, r, and the cutter disk, H, essentially as and for the purpose set forth.

Second, The rollers, o, o', in the cutter disk, H, when used in connection with the cutters, I, and the plate, J, provided with the tubes, M, for the purpose specified.

[This invention relates to an improved mill of that class which is designed for grinding corn and cobs in the husk. The invention consists in a novel and improved arrangement of a cutting and primary crushing device, together with an improved means for properly presenting the ears to the cutters; the above parts being used in connection with grinding stones, and all so arranged that the desired work may be expeditiously and thoroughly performed.]

30,553.—S. S. Turner (assignor to himself and O. F. Vinton), of Westborough, Mass., for an Improved Machine for Splitting Leather:

I claim my improved welt splitting machine as constructed with a rotary circular knife, the shaft, e, shaft, f, and conical feel rollers arranged with respect to each other and so as to operate therewith substantially as specified.

30,554.—S. S. Hogle, of Cleveland, Ohio, for an Improvement in Rotary Harrows:

I claim combining two or more harrow toothed wheels or frames with a draught frame or with a draught beam, in such a manner as to cause the forward movement of said draught frame or beam to impart positive rotary movements to the said harrow toothed wheels or frames, substantially as set forth.

NEW BOOKS AND PERIODICALS RECEIVED.

CROSBY, NICHOLS, LEE & Co., of Boston, Mass., have just published the works of Charles Lamb in four elegant volumes; price \$1 25 per volume. The paper and printing are worthy of the publishers. There have been writers of more brilliant wit than Lamb; his books do not make you roar with laughter, but in reading them you find the corners of your mouth drawing up with a pleasant smile, and he holds you pervaded with a most delicious enjoyment. His writings are suffused with the very best and highest kind of humor—original, deep, refined, pure and exquisitely delicate. Our readers are aware that Charles Lamb had a sister who was subject to paroxysms of insanity, in one of which she killed her mother. On the occurrence of this tragedy, Charles, who was affectionately attached to this sister, gave up all hopes of marriage, and consecrated his life in uncomplaining silence to the care of the invalid. With his moderate salary as clerk in the service of the East India Company, he was obliged to practice the greatest self-sacrifice and economy, and with a constant dread of the recurrence of the paroxysms in the disease of his honored sister, he led a life of quiet heroism as noble as has ever adorned humanity. And it was this life that was sparkling from beginning to end with the inimitable flashes of his wit. His victimisms which have found their way into the papers are those of the most palpable character; but even in these there is a certain depth which is peculiar to Lamb. For instance, when at a dinner party the company were disturbed by the persistent turbulence of a troop of children, Lamb, in his stinging way, offered a toast: "To the memory of that much abused potentate, the good king, Herod!" We like "The Essays of Elia" the best of all his writings, and suggest to our readers as a good specimen, "A Dissertation upon Roast Pig."

LESSONS AND PRACTICAL NOTES ON STEAM; The Steam Engine, Propellers, &c., &c., for young Marine Engineers, Students and others. By the late W. H. King, U. S. N.; revised by Chief Engineer J. W. King, U. S. N. 168 pages. New York: Frederick A. Brady, No. 24 Ann-street. The above is the title of a book which we can heartily recommend, especially to those who like to learn without hard study. The practical and useful facts about steam are here given without any trifling of theory or high mathematics. This is one of a class of books which it always pleases us to commend.

BLACKWOOD'S MAGAZINE, re-published by Leonard Scott & Co., New York. The number of this renowned periodical for this month contains a highly scientific article on the status of man on earth before the historic period of Father Adam.