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FOR THE WEEK ENDING MARCH 26, 1861.

Reported Officially for the Scientific American.

\* \* Pamphlets giving full particulars of the mode of applying for patents, under the new law which went into force March 4, 1861, specifying 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.

765.—C. F. Anderson and Sylvester Davis, of Claremont N. H., for an Improvement in Water Elevators:

We claim having the flexible girdling brake, H, attached to the shifting lever, I, which operates the sliding windlass, B, when the said lever has both a lateral and longitudinal movement, and when said parts are otherwise constructed and arranged to operate with each other in the manner shown and described.

The arrangement of the adjusting hook, J, with the girdling strap in the manner shown and described.

The arrangement of the partition, O, and rear aperture, h', with the curb, A', windlass and brake, in the manner and for the purpose shown and described.

[This invention relates to an improved water-elevating device designed for domestic purposes, and has for its object the ready elevation of the water and the discharging of the same automatically from the bucket, and also has for its object the gradual lowering of the bucket in such a manner that the same will be checked automatically and allowed to descend with a moderate speed, and the bucket thereby prevented from being injured. The invention has further for its object the preventing of the accumulation of ice on the windlass or parts pertaining thereto, a contingency which would prevent the proper action of the brake.]

766.—A. M. Asay and J. L. Asay, of Philadelphia, Pa., for an Improvement in Artificial Teeth:

We claim, first, So constructing molds for artificial teeth that by the use of movable pieces, B B, and supplementary pieces, C' C', blocks of teeth any required depth of gum may be formed in the same mold. Second, The use of a movable piece, B, with its projection, m, for the purpose of forming a depression of any required form in the base of the block.

Third, The combination of the base, A, and cap, D, of the mold with the movable pieces, B, supplementary pieces, C' C', guide rods, x, and pins, e, the whole being arranged substantially as and for the purpose set forth.

767.—H. H. Ballard and H. McClure, of Mount Pleasant, Ohio, for an Improved Plow:

We claim, first, The combination of the curved pieces, C C, with the frame, A, and colter, substantially as set forth, whereby the colter and mole can be raised and turned over above the frame, and there securely held for transportation or storage.

Second, We claim the combination of lever, E, and curved pieces, C C, with the frame, A, and colter, D, and mole, substantially as set forth, whereby the point of the mole can be raised by lever, E, at the will of the driver.

Third, We claim the fins or compressors, e, e, in combination with the mole and colter, when arranged in relation thereto as and for the purposes set forth.

Fourth, We claim forming the sides of the front of the mole parallel in combination with providing the middle of the mole with conveying pins, as set forth.

768.—Leon Pierre Barre, of Paris, France, for an Improvement in Steam Boilers:

I claim, first, The fitting or fixing the tubes of tubular steam boilers by means of small flanged tubes with collars by means of cement for producing a steam and water-tight joint between the said boiler tubes and the end plates of tubular steam boilers, as described and represented in Figs. 1 to 4 of the annexed drawing.

Second, The construction and employment of a mandrel for facilitating the cleaning of tubes in tubular boilers, as described and represented in Figs. 5 and 6 of the annexed drawing.

769.—A. H. Black and C. R. Black, of Indianapolis, Ind., for an Improvement in Hygrometers:

We claim as an improved article of manufacture, a hygrometer which has its stem made of the order of grasses, "stipa," with two or more indices thereto attached and otherwise constructed as shown and described.

770.—John Blue, of Covert, N. Y., for an Improvement in Harvesters:

I claim the attaching of the finger bar, U, to a plate or frame, R, which has its front end connected by a joint to a plate, B, the back part of which is attached to the axle, C, the joint connection of the frame, R, and plate, B, being attached to the back part of the draught pole, A, and at any point in front of the axle to operate as and for the purpose specified.

[The object of this invention is to obtain a one-wheel harvester which will admit, as the machine passes along, of having its finger-bar and sickle capable of adjusting themselves parallel to the inequalities of surface over which they pass, and thereby enable the sickle to work as close to the surface of the ground as may be desired without coming in contact therewith, the front or cutting edge of the sickle being elevated and depressed to suit the surface of the ground, and without being at all affected by the vertical movement of the driving wheel produced by the inequalities of surface over which the machine passes. The invention has further for its object the ready adjustment of the finger-bar and sickle by the device to gage the height of the cut of the sickle, and also a ready means for throwing the sickle-driving mechanism in and out of gear with the driving wheel, as well as the proper adjustment of the seats under all positions of the finger-bar and sickle.]

771.—M. E. Bollinger, of Littlestown, Pa., for an Improvement in Oscillating Engines:

I claim, first, Suspending an oscillating cylinder by a single shaft or trunnion on its upper side, as set forth.

Second, The trunnion or hollow shaft, B, containing at its respective ends the induction port, f, and the exhaust port, e, and applied to the cylinder, A, in the manner and for the purposes set forth.

Third, The combination of the segment rack, G, with the pinion, I, for rotating the trunnion, B, in the manner and for the purposes explained.

Fourth, The spring, K, or its described equivalent applied to the cylinder, A, to equalize its motion, as set forth.

[This invention consists, first, in suspending the cylinder of an oscillating engine from a continuous trunnion journaled in its upper side; second, in a new and improved construction of trunnion and valves; third, in a device serving the combined purposes of stopping and starting, reversing and cut-off gear; and, fourth, in the use of a spring or other device to equalize the motion of the cylinder.]

772.—Samuel Boorn, of Lowell, Mass., for an Improvement in Pickers for Looms:

I claim my improved movable shuttle box picker, as made with its head, A, notched with respect to its shuttle cushion, B, substantially in the manner and for the purpose as described.

773.—E. S. Boynton, of Alexandria, Va., for an Improvement in Iron Masts, Steeples, &c.:

I claim the constructing of masts and spars and such perpendicular structures as require height and stability by means of flat bars of wrought iron or steel, made continuous by riveting the ends of the bars together, and winding them spirally around from the bottom to the top of the structure, one portion winding around in one direction, and the other portion winding around in the reverse direction, so as to form spiral or diagonal braces throughout the structure secured together at the points of intersection, and relying on said continuous braces for their support without the aid of longitudinal or circular ribs or any internal framing, substantially as described.

774.—Felix Brunon, of Philadelphia, Pa., for an Improved Register for Omnibuses, &c.:

I claim, first, One or more levers, H, each having a spring dog, a, or its equivalent, in combination with a graduated ratchet wheel or wheels E, the screwed spindle, F, and graduated bar, G, the whole being arranged and operating substantially as and for the purpose set forth.

Second, I claim the pin, f, with its cut away or eccentric end in combination with the lever, H, a spring dog, a, and the ratchet wheel, E, the whole being arranged substantially as set forth for the purpose specified.

775.—O. H. Burdett, of Moorfield, Ohio, for an Improvement in Removing Saw-dust as it is Formed:

I claim the arrangement for or in connection with the mill and its saw of an upwardly inclining dust spout, E, and dust carrier or endless belt, F, operating to catch and convey the saw dust in the manner described, when the same is combined or the spout provided at its delivery end with a branch conductor or conductors, K, arranged between the upper and lower lengths of the carrier belt, essentially as and for the purpose or purposes set forth.

776.—Ebenezer Cate, of Franklin, N. H., for an Improved Device for Forming Horseshoes:

I claim as an improved article of manufacture, the portable device described, the parts being constructed, arranged and combined in relation to each as set forth, whereby the same tool or device used to form the iron into shape also answers the further and additional purpose of a forming block or pattern to give the desired curvature and shape to the shoe.

777.—Ebenezer Cate, of Franklin, N. H., for an Improvement in Formation of Horseshoe Iron:

I claim as an improved article of manufacture, iron or other suitable metal rolled or fabricated into the form substantially as shown in Fig. 1, as and for the purposes stated.

778.—T. W. Chatfield, of Utica, N. Y., for an Improved Refrigerator:

I claim the arrangement of the ice-box, E, cold air chamber, H, air-pipes, F F, chamber, C, air chamber, A A A, substantially in the manner and for the purpose described.

779.—Suspended.

780.—G. M. Cooper, of Litchfield, Mich., for an Improvement in Press for Packing Wool:

I claim the two adjacent vertical fixed sides, C and D, two adjacent hinged and movable sides, E and F, supporting and guide rods, K, lined top, H, sliding yoke, L, and piston, P, the whole being combined and operating together in the manner set forth.

781.—B. F. Cowan, of Memphis, Tenn., for an Improvement in Fire-places:

I claim, first, The arrangement of a grate, A, with an air-space, B, in the manner described, at the back thereof, and a passage, C, communicating with the outside of the apartment or house in which the grate is situated as and for the purposes set forth.

Second, The combination with the above-mentioned grate, A, air-space, B, and air passage, C, of the form of radiator, D, shown as and for the purposes set forth.

782.—Rowland Cromelieu, of New York City, for an Improvement in Railroads:

I claim constructing railroads with three or more tracks on the center rail of which the driving wheels of the engine, placed perpendicular, run with smooth wheels and smooth rails on the level portion of the track, and cogged wheels and rack rails on the inclines working on the central rail track, while the side wheels of the rolling machinery are double flanged, and also the driving wheels, with short independent axles, the whole constructed, combined and arranged substantially as described.

783.—G. N. Cummings, of Meriden, Conn., for an Improvement in Stilts:

I claim constructing the still iron, B B', as described, and securing the same to the staff of the still, by means of a metal ring, C, and wedge projection, D.

[The object of this invention is to secure the footstand or bracket of a boy's walking stilt to the staff of the stilt in a firm and rigid manner, and to make the fastening in such a manner that the footstand can be easily adjusted up or down on the staff, and secured thereon at any desirable height from the ground.]

784.—E. S. Dawson and A. Weeks, of Syracuse, N. Y., for an Improved Omnibus Register:

We claim the arrangement of vibrating frame, H, with ratchet, r s2 and l, and arms, v v and w, friction springs, p p p, in combination with drums, t and D, wheel, e, all constructed and operating to produce a numerical series by revolving wheels, substantially as and for the purposes specified.

[This invention relates to an improvement in registers for city cars, omnibuses, &c., for registering the number of passengers entering the same. The object of this invention is to furnish city cars, omnibuses, &c., with a registering apparatus, which is placed under the control of the driver or conductor, who is instructed to register the entrance of each passenger; said register is to be provided with an alarm, which will serve as a tell-tale to the passengers in the conveyance, and it is also to be placed in a prominent situation where it can be seen and read by the passengers.]

785.—Alexander Dick, of Buffalo, N. Y., for an Improved Bread Slicer:

I claim the arrangement of the slide, B B, the wheel, X, the finger, Y, the lever, Z, the spring, S, the thumb-screw, T, the wire, U, the slot, W, the tooth, D, and the peg, F, substantially as and for the purpose specified.

786.—Milton Dilts, of Columbia City, Ind., for an Improvement in Water Wheels:

I claim the arrangement of the adjustable slides, D, with the peculiarly-formed buckets, C, in the manner and for the purposes shown and described.

[This invention relates to an improvement in that class of horizontal water wheels which receive the water at their center and discharge it at their periphery. The invention consists in a peculiar form of the buckets of the wheel, in connection with adjustable plates and with or without a conical deflector, whereby the discharge of the water from the wheel may be regulated according to the supply, and the best effect obtained under varying heads without an unnecessary expenditure of water.]

787.—John S. Elliott, of Philadelphia, Pa., for an Improvement in Gearing for Gas Meters:

I claim the application to gas meters the gearing described, the same being constructed and arranged to operate in combination with the

openings in the face plate, substantially in the manner described and for the purpose specified.

788.—J. W. Evans, of New York City, for an Improvement in Railroad Car Springs:

I claim the arrangement and use of a concave dish-shaped cup, F, provided with a projecting lip, w, and annular recesses, m, in combination with a series of annular steel disks placed loosely upon a ferrule, E, the whole being arranged in the manner and for the purpose specified.

789.—J. W. Evans, of New York City, for an Improvement in Cushion Springs:

I claim, first, Grading the diameters of circular corrugated dish-plates, in combination with the grading of the thicknesses of the plates, in the manner as described, and for the purpose of obtaining the necessary strength and stiffness.

Second, I claim the arrangement and combination of all the parts, as described, in the manner and for the purpose substantially as set forth.

790.—Thomas Evans, of Watkins, N. Y., for an Improvement in Valves:

I claim the combination and arrangement of the elastic hinge, e, and parts, f, g, or their equivalents, with the metallic rim, A, substantially as set forth.

I also claim, in combination therewith, the metallic counter-lining, h, of the flap, substantially as described.

791.—Z. Feagan, of Palmyra, Mo., for an Improvement in Hemp Carts:

I claim a cart constructed with the thills pivoted at F, as set forth, and held in position when loaded by bar, D', in combination with the windlass, G, and binding cord, c, all being arranged as and for the purposes specified.

[This invention is intended more especially for handling shocks of hemp from the field to the machinery which is to break it and prepare it for market. Many hemp growers employ at this day the common hand brakes, because they are portable and can readily be moved about from place to place to the shocks of hemp, instead of taking the hemp to the machine. This invention consists in a cart of a novel construction, whereby the shocks of hemp can be moved about without disarranging or tangling the stalks; said cart is so constructed that it can be placed against the standing shocks, and these shocks secured to the cart before they are upset; then, again, in unloading the cart, the shock can be placed in a standing position before it is detached from the cart, thereby enabling it to take the shocks of hemp to the machine instead of the machine to the hemp.]

792.—P. G. Gardiner, of New York City, for an Improvement in Cotton Presses:

I claim the arrangement and combination of the right and left screws, S S', pivoted nuts, o, o, and friction rollers, P P', resting on suitable ways, R R', attached to the frame, J, when operating levers, N N', in the manner and for the purpose substantially as described and set forth.

793.—A. A. Gibson, of Worcester, Mass., for an Improvement in Skates:

I claim, as an improved article of manufacture, a skate that has its runner jointed in the peculiar manner shown and described, and otherwise made as set forth.

794.—A. Giraudat, of New York City, for an Improvement in Windmills:

I claim the arrangement of radially sliding hinged sails, A A1 A2 A3, in combination with swinging weights, d, E, constructed and operating in the manner and for the purpose set forth.

[This invention consists in the arrangement of radially sliding hinged sails in combination with swinging weights suspended from the ends of the arms in such a manner that, by the action of the centrifugal force of said weights, the wings are moved towards the center of the wheel whenever the force of the wind exceeds a certain point, and that the speed of the windwheel is thereby regulated.]

795.—Ralph Graham, of Brooklyn, N. Y., for an Improvement in Facets:

I claim the combination of the plug, d, spring, h, and stem, e, in substantially the manner and for the purposes set forth.

796.—Horace Gray and W. A. Berry, of Grosse Isle, Mich., for an Improvement in Farm Gates:

We claim the arrangement of lever, E, with pawls, G and H, the ratchet wheel, B, the spring, I, and catch, M, and its concomitant parts, all as set forth.

797.—Joseph Gray, of Raymond, Miss., for an Improvement in Envelopes:

I claim, as an improved article of manufacture, a mail or package envelope composed of an envelop, A, bands, C, and address card, D, arranged as shown and described.

[The object of this invention is to supersede the ordinary paper envelopes which are used by postmasters for enclosing a plurality of letters addressed to one place, and which are distributed by the postmaster of the office where they are received.]

798.—J. A. Gridley, of Southampton, Mass., for an Improvement in Aerometric Balance:

I claim a barometer composed of a balance beam having one of its two arms composed wholly or principally of wood, and the other principally or wholly of metal, a suitable support for such beam, and a scale upon which the degree of oscillation of the said beam can be indicated, substantially as set forth.

799.—H. F. Hart, of Brooklyn, N. Y., for an Improved Apparatus for Indicating the Position of the Water in Steam Boilers:

I claim, first, The application and combination of two or more hollow vessels, as A B, of any size or shape, so placed and arranged in an instrument that, when it is attached to the boiler, as specified, one of the said vessels will be higher than the other or others, and higher than the usual water level in the boiler, and one of the said vessels will be lower than the other or others and lower than the usual water level in the boiler, each vessel connected with the other by means of tubes, C C C, or their equivalents, in such manner as to secure a continuous passage for water or steam through the said vessels and connections; the whole instrument suspended and turning on the pivot, P, or its equivalent, operating as and for the purpose of detecting high and low water in boilers, substantially as described.

Second, I claim, in combination with the above, the governing weight, H, of any size or shape, attached to the instrument at any place, as and for the purpose set forth, operating and controlling the range of water, substantially as specified, and changing the balancing power of the instrument.

800.—Dennis Hayes, of New York City, for an Improvement in Pumps:

I claim the placing of the valves, K L, in conical or taper plugs, G H, which are fixed in the water passages, B C, substantially as and for the purpose set forth.

I further claim the combination of the double valve, K, with the single valve, L, and the conical plugs, G H, arranged for joint operation as and for the purpose set forth.

[The object of this invention is to simplify and economize in the construction of double-acting or force pumps, and at the same time render the valves very accessible, so that they may be readily repaired and kept in working order, and only two of them required in the construction of the pump.]

801.—W. C. Hicks, of Boston, Mass., for an Improvement in Sewing Machines:

I claim the method, substantially as described, of raising or lowering and adjusting the feed wheel, in relation to the sewing table, by combining with it, or the shaft or stud which carries it, an eccentric or screw under operation by a hand lever, or its equivalent, essentially as shown and described, whereby the adjustment may be effected whether while the machine is operating or at rest, for the purposes set forth.

802.—W. B. Hopkins, of Oakfield, N. Y., for an Improved Churn :  
I claim the beaters, j and k, the latter provided with spiral arms, n, n, constructed and operating substantially in the manner and for the purposes shown and described.

803.—T. D. Ingersoll, of Monroe, Mich., for an Improved Culinary Boiler :  
I claim, first, A draught aperture or passage, B, applied to a covered culinary vessel, A, when used in connection with pendants or stirrers, D, attached to the cover, C, substantially as and for the purpose set forth.  
Second, The tube, E, placed in the cover, C, and provided with a stopper, F, when used in connection with the draught aperture or passage, B, for the purpose set forth.  
[The object of this invention is to prevent smoke and steam escaping from the contents of culinary vessels into the cooking apartment during the operation of cooking; and also to preserve the flavor of the substances being cooked and to retain the juices of succulent articles of food, while the cooking operation is greatly expedited.]

804.—Michael Johnston, of South Boston, Mass., for an Improvement in Cigar Holders :  
I claim the cigar holder constructed of parts, g, b, c, d and a, arranged as and for the purposes described and shown.  
[The object of this invention and improvement in cigar holders is to obtain a means whereby the smoke will be cooled during its passage through the holder to the mouth, and also to furnish a receptacle for condensing the smoke and retaining the oil of tobacco which is usually drawn into the mouth, producing an unpleasant taste and destroying the flavor of the cigar. This invention consist in so constructing the holder that the smoke will be drawn from the cigar through a small tube into a metallic globe, and from thence through the main stem which is held in the mouth.]

805.—Eugene Lefaucheux, of Paris, France, for an Improvement in Firearms :  
In combination with a fixed barrel, I claim the movable breech piece and hammer, constructed and arranged as to turn on one and the same axis, substantially as described and shown.

806.—W. H. Locke, of Canton, Pa., for an Improvement in Scrolls of Water Wheels :  
I claim casting the joint consisting of the ear piece, m, opening, l, and pillar, n, entire with the divisions of the scroll, as set forth.

807.—S. H. Long, U. S. A., of Alton, Ill., for an Improved Dredging Machine :  
I claim, first, The construction and operation of a scraper for opening channels across bars, &c., substantially as described.  
I also claim the application and use of such a scraper with a steam tug or tow boat for dragging it across the bar in the direction in which the channel is to be made, substantially as set forth and explained.

808.—J. B. Lyons, of Baltimore, Md., for an Improved Stump Extractor, &c. :  
I claim, first, The combination of the double bow truck frame, A, mounted on oblique conical wheels, B, with the holding device formed of the screw, H, nut, J, and chain, K, all being arranged for joint operation, substantially as and for the purpose set forth.  
Second, The combination of the screw, H, nut, J, gearing, L, O, and the drum, Q, with chain or rope, h, attached, arranged and applied to the truck to operate as and for the purpose specified.  
[See engraving on page 160 of the present volume of the SCIENTIFIC AMERICAN.]

809.—W. H. Main, of Liverpool, Ohio, for an Improvement in Rotary Harrows :  
I claim the arrangement of the levers, J and K, crossbar, G, rods, E, braces, F, arms, D, harrow, H, and the whole being constructed, operated and operating as and for the purpose described.

810.—J. E. Malloy, of New York City, for an Improvement in the Preparation of Fiber for the Manufacture of Paper :  
I claim the process of separating fiber from fiber-yielding plants, as set forth, consisting of the separate and successive steps of combing, rubbing and washing the plants in cold water; the whole forming one continuous operation performed while the fiber is fresh and plant undecomposed, as set forth.

811.—C. A. McEvoy, of Richmond, Va., for an Improvement in the Mode of Loading Fire-arms :  
I claim, first, The combination of a cartridge with a tubular cartridge protector, A, open at both ends, so that, in loading the gun, the charge can be pushed through and detached from the said cartridge protector, substantially as set forth.  
Second, A charge receptacle provided with a series of incisions and rolled up so as to form a top rim, C, and a closed bottom, D, substantially in the manner and for the purposes set forth.  
Third, The combination of the cartridge and tubular protector described with a circular recess, F, in the muzzle end of the gun, substantially as and for the purposes set forth.

812.—Archibald McGuffie, of Rochester, N. Y., for an Improvement in Railroad Chairs :  
I claim dividing the chair into two wedge-shaped sections, A and B, provided respectively with the groove or hook, h, and wedge, d, the whole operating in the manner and for the purpose substantially as described.

813.—J. L. McPherson and J. S. Harbison, of Sacramento, Cal., for an Improvement in Wind Wheels :  
We claim the arrangement of two concentric wind wheels, A, C, one within the other, the shaft, E, of the smaller wheel revolving within the hollow shaft, D, of the larger wheel, in combination with a spiral cam, L, strap, R, and spiral spring, Q, substantially as and for the purposes set forth.  
[The subject of this invention is an ingenious and effective device applied to wind wheels, to automatically regulate the length of stroke in a pump or other object to which motion is applied, in accordance with the force of the wind.]

814.—Robert McNie, of New York City, for an Improvement in Lithographic Presses :  
I claim, first, The arrangement of the ratchet, K, pawl, L, lever, M, reciprocating rod, T, in carriage, P, arm, V, levers, W, X, upright, q, and the notched flanch, r, or its equivalent, for the purpose of forming an automatic inking device, as and for the purpose set forth.  
Second, The pendant arm, P', attached to the shaft, d', bar, G', provided with shoulders, f', and attached to arm, F, in connection with the lever, H, and belt shifter, G, all being arranged as shown, for automatically shifting the belt, as set forth.

815.—Hiram Moore, of Fon du Lac, Wis., for an Improvement in Seed Drills :  
I claim, first, The combination of a hinged drill bar, a series of rigid shank-trailing drills, and a corresponding series of springs to connect the shank and bar, so that by turning the latter the drills may be pressed with more or less force into the surface of the ground (as the ground is harder or softer, or a deeper or shallower furrow is required), or may be lifted above the surface, substantially as described.  
Second, I claim a series of trailing drills having rigid shanks connected to a bi-gid drill bar by springs that will resist lateral flexure to maintain the relative distances of the drills apart, while free to flex upward and downward to enable the drills severally to conform to uneven surfaces, substantially as described.  
Third, I claim a curved spring at the upper ends of the drill shanks, as shown at R, in combination with the springs, substantially as and for the purposes set forth.  
Fourth, I claim a lever, in combination with the hinged drill bar and a series of trailing drills connected to the bar by springs, the arrangement of these parts being such that, by turning the lever, all the drills will be simultaneously forced into the earth or raised therefrom, and when forced into the earth, the shank of each drill throughout its entire length will still be left free to play up and down to the extent which the elasticity of the spring will permit, to allow the drill to pass over obstructions and to conform to inequalities of the surface, substantially as described.  
Fifth, I claim arranging the mouths of the conduits on the drill shanks as shown, so that by turning the lever, the line of the axis of motion of the hinged drill bar, so that raising and lowering the drills will change as little as may be to the positions of the mouths of the conduits on the

drill shanks, relative to the positions of the lower ends of the hopper supports, substantially as described.

Sixth, I claim the combination of a removable driving shaft with a series of seeding cylinders, having independent bearings, whereby said shaft can, at pleasure, be removed to allow any of said cylinders to be taken out for repairs without displacing the rest, substantially as described.

Seventh, I claim a series of helical gear, having teeth of varying numbers and pitch, in combination with a shifting pinion, for purposes substantially as described.

816.—John Murdock, of New York City, for an Improvement in Bank Notes :  
I claim a bank note in which all of the printing, engraving and writing are embodied in the form of a numeral, designating the denomination of the note, substantially as described, for the purpose specified.

817.—Asahel Osborn, of Morris, N. Y., for an Improved Quilting Frame :  
I claim the combination of the rolls, E, arms, B, slides, C, with the frame, A, substantially as and for the purpose specified.

818.—J. H. Patterson, of Schaghticoke, N. Y., for an Improvement in Drying Paste Boards :  
I claim the facilitating of the curing or drying of wet paper or paste board sheets, in the manufacture of the same, by placing or inclosing the sheets in frames constructed substantially as set forth.

819.—Thomas Phillips, of Ann Arbor, Mich., for an Improved Arrangement of Carriage Springs :  
I claim the combination and arrangement of the compound lever spring, the rollers attached to the spring, and the two standards, as described, for the purpose set forth.

820.—W. G. Reed, of Chelsea, Mass., for an improvement in Metallic Roofing :  
I claim the tubular rafters, C, when constructed of two longitudinal parts, a, a, provided with flanges, b, b, and used in connection with plates, D, the edges or sides of which are secured between the flanges, b, and bent so as to form gutters, d, d, within the rafters, to operate as and for the purpose set forth.  
[This invention consists in the employment of tubular metallic rafters, tie beams, stringers and braces, so constructed and arranged as to effect the desired end.]

821.—W. C. Rentgen and P. H. Humes, of Keokuk, Iowa, for an Improved Fan Attachment to Threshing Machines :  
We claim a fan arrangement, consisting of a fan placed in a proper case, to which there is a suitable induction and ejection passage, the whole constituting a single trunk extending from the front to the rear of the machine, and so arranged that the draft at the orifice of the induction passage shall be vertical, or nearly so, substantially in the manner described.  
[The object of this invention is to prevent dust being blown from threshing machines into the face of the feeder or attendant while feeding the machine, a result due to the blast generated by the rotation of the beaters. The invention consists in placing a fan, which is inclosed within a suitable case or box, directly over the cylinder or beater box, and so arranged as to draw in the dust as it is ejected from the beater box, and force it in a direction from the feeder or attendant.]

822.—C. H. Reynolds, of New York City, for an Improved Wrench :  
I claim the collar, B, having a longitudinal play or movement on the cylindrical part, b, of the shank, A, provided with the screw thread, c, and fitted in the nut, e, of the sliding jaw, E, in connection with the pivoted handle, F, arranged in relation with the collar B, to operate as and for the purpose set forth.  
[This invention has for its object the facilitating of the adjustment of the wrench to the nut, and also the obtaining of a firm hold of the jaws of the wrench on the nut, so as to effectually prevent the slipping of the former on the latter. The invention consists in operating the movable or sliding jaw of the wrench by means of a rotating screw collar, which is allowed a certain degree of longitudinal play on the wrench, and is used in connection with a handle secured to the shank of the wrench by a joint or pin, and so arranged as to perform the function of a lever and act upon the screw collar and movable or sliding jaw, so as to cause the nut to be firmly grasped between the jaws as the wrench is turned.]

823.—G. C. Robinson, of Boston, Mass., for an Improvement in Apparatuses for Drying Salt. Ante-dated Oct. 8, 1860 :  
I claim, first, The revolving platen, a, in combination with the teeth or scrapers, j, or their equivalents, constructed and arranged substantially as described.  
Second, The discharging scrapers, p, for the purposes set forth.  
Third, The supplementary scraper or lever, r, arranged in my machine, substantially as described.  
Fourth, Packing the outer periphery of the revolving platen of my rotary salt-dryer with sand or other incombustible powder, substantially as described and for the purposes set forth.

824.—Martin Roe, of Townsend, Ohio, for an Improvement in Sugar Mills :  
I claim the crushing bar, P, operated as set forth, in combination with the apron, Q, and rollers, H, K, when operating conjointly in the manner and for the purpose described.

825.—N. G. Ross, of Cincinnati, Ohio, for an Improvement in Sewing Machines :  
I claim the obliquely-slotted looper, J, adapted to traverse, when in action, a fulcrum, c, its lower end receiving a circular motion from a crank, I, and its upper end the described combined rocking and up and down motion, so as to enter the upper loop at its widest part, and to shed its own loop near the cloth, in the manner and for the objects stated.

826.—J. S. Shailer and G. F. Folsom, of Roxbury, Mass., for an Improvement in Water Meters :  
We claim the described arrangement of the induction chamber, B, the two float chambers, C, C', the ejection chamber, E, the chambered valve, F, and its ports, the two floats, D, D', and the valve-tripping apparatus, the whole operating together in manner and under circumstances substantially as specified.

827.—Minard Snell, of Medina, N. Y., for an Improvement in Stave Machines :  
I claim the centering dogs, h, h', spur wheel, P, and wormshaft, J, in combination with the pivoted arms, k, k, and adjusting rod, H, the same being arranged on the sliding head blocks, G, G', and constructed substantially as set forth, for the purpose described.  
[This invention relates to certain improvements in circular sawmills for sawing round logs into boards, staves, &c., wherein two circular saws are employed, one cutting at right angles to the other, thereby sawing a board or stave from the log of the proper width and thickness at one and the same operation. The object of the present invention is to secure logs or sections of logs, of various lengths and diameters, between two adjustable centers or dogs, which have their bearings on the head blocks of the carriage, and are so constructed and arranged that a log may be rotated and also adjusted laterally up to the saws.]

828.—Richard Solis, of New Brunswick, N. J., for an Improvement in Machinery for Making Elastic Shirred Goods :  
I claim the combination of the circumferential grooves, i, and longitudinal or other crimping grooves, j, in roller, B, when used in connection with the roller, C, to operate substantially as and for the purpose set forth.

829.—John Stevens and Francis Stevens, of New York City, for an Improvement in Hemmers and Folders :  
We claim, first, The combination with the plaiters, 8 9 10 and 11 12 and 13, of the feed rollers, 18 and 22, by which the cloth is drawn forward and plaited, as set forth.

Second, The combination with the plaiters, 8 9 10 and 11 12 and 13, of a hemmer, 1 2, constructed and operating substantially as set forth.

Third, The combination of a stretching, smoothing or straightening edge, 6, with the hemmer, 1 2, as set forth.

Fourth, The combination of a stretching, smoothing or straightening edge, 6, with the plaiters, 8 9 10 and 11 12 and 13, as described.

Fifth, The construction, arrangement and operation of the plaiters, 8 9 10 and 11 12 and 13, as set forth.

830.—H. A. Stone, of Battle Creek, Mich., for an Improvement in Pressing Cheese :  
I claim the perforated cylinder, A, in connection with the perforated heads, B, B, provided with legs, d, d, d, operating substantially as described, and for the purpose set forth.

831.—T. F. Taft, of Worcester, Mass., assignor to himself and A. P. Brown, of same place, and Wm. M. Page, of St. Louis, Mo., for an Improved Shear and Punch :  
I claim, as an improved article of manufacture, a combined shear and punch, in which the parts, A, B, C, D and F', are all cast in one piece, in combination with coring out the parts, C and D, substantially as described.

832.—Robert Taylor, of New York City, for an Improvement in Canal Lock Gates :  
I claim, first, A circular face gate for canal locks, the face of which is smooth and attached to side pieces or arms radiating from the journals or axle inserted in the side of the water way or sides of the lock, when used in combination with a similarly curved breast wall, which forms the lower part of the gate substantially as described.  
Second, The combination in combination with such a gate, a wicket leaf, hinged or hung thereto, and operating in the manner and for the purpose described and represented.

833.—I. P. Tice, of Baltimore, Md., for an Improved Machine for Turning Oval Frames :  
I claim the giving of the bed, H, of an oval lathe, a vibratory movement simultaneously with its rotating and sliding movements, so as to admit of a rotary cutter or a stationary chisel, having, at all points of the rotation of the work, R, a position at right angles with the face thereof, substantially as described.

834.—A. G. Tompkins, of New York City, for an Improved Screw Propeller :  
I claim constructing the propeller with a flaring-edged felloe or continuous rim, a, supported upon separate spokes or arms, e, that radiate from the driving shaft, b, all in the manner and for the purpose shown and described.  
[This invention relates to an improvement in what is generally known as the screw propeller, and has for its object the obviating of friction and consequent loss of power attending the working of the ordinary submerged screw propeller.]

835.—Mathew Trimble, of Princeton, Ill., for an Improvement in Corn Shellers :  
I claim the arrangement of hopper, A, in combination with cylinder, B, pulley, C, trough, D, standard, e, spikes, f, g, shaft, h, cover, P, F, bearers, j, i, boxes, d, d, caps, f, f, substantially as shown and described.

836.—Arthur Wadsworth, of New York City, for an Improved Method of Operating the Second Hand in Stop Watches :  
I claim the manner of operating the intermediate wheel, F, by means of a lever, I, in combination with a spring, J, when arranged for the purpose substantially as specified.

837.—Roswell Wakeman, of Port Deposit, Md., for an Improvement in Presses :  
I claim the arrangement of the double top doors, being secured by a cross bar held at the ends under yokes or stirrups, in combination with springs, sliding rods, pulleys and windlasses, operating on both ends of the moving platform, substantially as described and for the purposes set forth.

838.—P. D. Wesson, of Providence, R. I., for an Improved Steam Trap :  
I claim the use or employment of the tubes, A, B, valve rod, C, and valve, J, when arranged and operating substantially as described, and for the purpose set forth.

839.—Martha Willis, of Rochester, N. Y., for an Improvement in Obstetrical Bandages :  
I claim the arrangement of the open hip spaces and elastic hip bands, d, d, and the prime and auxiliary elastic straps, h, b and j, for obstetrical bandages and supporters, substantially in the manner and for the purposes specified.

840.—T. H. Willson, of Harrisburg, Pa., for an Improvement in Blowers :  
I claim, first, The employment of the blower wheel as constructed, composed of a series of wings or arms, D, cast in the form represented and being secured together by means of the devices described, all as and for the purpose set forth.  
Second, In combination with the subject of the first claim, I claim the fan case, constructed in the manner and shape represented.

841.—Ross Winans and Thomas Winans, of Baltimore, Md., for an Improved Steering Apparatus for Navigable Vessels :  
We claim the combination of a vessel having a spindle-formed bottom, two rudders located below the bottom thereof, at opposite sides of the longitudinal center, and mechanism to impart opposite movements to the rudders, substantially as described.

842.—Ross Winans and Thomas Winans, of Baltimore, Md., for an Improvement in Stuffing Boxes :  
We claim a stuffing box consisting of a combination of radiating sockets with independent compressors, substantially as described.

843.—Jesse Young, of Franklin Furnace, Ohio, for an Improvement in the Packing of Pistons for Steam Engines :  
I claim the application of spiral springs for holding metallic packing against the surface of the cylinder, in the manner substantially as described.

844.—O. C. Evans (assignor to himself and L. D. Towsley) of New York City, for an Improvement in Fastenings of Metallic Bands for Cotton Tubes :  
I claim the combination of the slots, s, s, in the plate, A, with the angular tongues, t, t, t, more or less as described and for the purposes set forth.

845.—A. H. Knapp, of Newton Center, N. H., assignor to himself and G. W. Tisdale, of Walpole, Mass., for an Improvement in Scissors :  
I claim the combination of the guide slot, C, and pivot, D, with the curved slot, F, and pin, G, for producing any regular or irregular drawing cut desired, substantially in the manner and for the purposes specified.  
I also claim the bush sleeves, f, f, applied to and in combination with the screw pivot, D, pin, G, and the slots, C, F, substantially as and for the purposes set forth.

846.—W. A. N. Long (assignor to J. B. Bland), of Fishersville, N. H., for an Improved Bed Foundation :  
I claim the described bed foundation made of the basket springs, slat supporters, and conical bearers, constructed, arranged and combined together and with the cross rails and slats of a bedstead, substantially in the manner specified.

847.—J. W. Nye, of Fairfield, Vt., assignor to himself and G. W. Ball, of St. Albans, Vt., for an Improvement in Dumping Wagons :  
I claim the improved dumping wagon as constructed with the divisional partitions, G, G', G', G', arranged and combined and so as to operate as described, with hinged bottom or platforms, H, H', H', H', applied to the wagon body, A, and disposed therein and with respect to one another, substantially as specified.

848.—S. J. Olmst d., of Binghamton, N. Y., assignor to John Ellis, of Detroit, Mich., for an Improved Gate Hinge :  
I claim the special arrangement of the rack, P, the pinion, N, and adjustable arms, F, in combination with a gate, in the manner and for the purpose substantially as set forth.

CHANGE IN THE PATENT LAWS.

NEW ARRANGEMENTS—PATENTS GRANTED FOR SEVENTEEN YEARS.

The new Patent Laws, recently enacted by Congress, are now in full force, and promise to be of great benefit to all parties who are concerned in new inventions.

The duration of patents granted under the new act is prolonged to SEVENTEEN years, and the government fee required on filing an application for a patent is reduced from \$30 down to \$15. Other changes in the fees are also made as follows:—

Table listing patent fees: On filing each caveat \$10, On filing each application for a Patent, except for a design \$15, On issuing each original Patent \$20, etc.

The law abolishes discrimination in fees required of foreigners, except in reference to such countries as discriminate against citizens of the United States—thus allowing English, French, Belgian, Austrian, Russian, Spanish, and all other foreigners except the Canadians, to enjoy all the privileges of our patent system (except in cases of designs) on the above terms.

Messrs. MUNN & CO. are very extensively engaged in the preparation and securing of Patents in the various European countries. For the transaction of this business they have Offices at Nos. 66 Chancery Lane London; 29 Boulevard St. Martin, Paris; and 26 Rue des Eperonniers, Brussels.

A pamphlet of information concerning the proper course to be pursued in obtaining patents through their Agency, the requirements of the Patent Office, &c., may be had gratis upon application at the Principal Office, or either of the Branches. They also furnish a Circular of Information about Foreign Patents.

Consultation may be had with the firm, between nine and four o'clock, daily, at their PRINCIPAL OFFICE, No. 37 PARK-ROW, NEW YORK. We have also a BRANCH OFFICE in the CITY OF WASHINGTON, on the CORNER OF F AND SEVENTH-STREETS, opposite the United States Patent Office.

MUNN & CO., Publishers, No. 37 Park-row, New York.

Money Received

At the Scientific American Office on account of Patent Office business, for the week ending Saturday, March 30, 1861:—

- E. S. H., of Mass., \$20; P. T., of N. Y., \$15; J. S. G., of Maine, \$30; J. H. I., of Ill., \$10; N. M., of Ohio, \$10; J. E. M., of Pa., \$15; S. G. S., of Mass., \$25; J. S. P., of Conn., \$30; G. W. R., of N. Y., \$100; S. & E., of N. Y., \$15; H. B., of Conn., \$35; J. A. M., of Mo., \$10; E. G., of Mass., \$15; J. D., of Ohio, \$40; A. E. K., of Pa., \$15; J. A. R., of Pa., \$10; N. A. B., of N. Y., \$15; E. R. W., of Iowa, \$15; A. H. T., of N. J., \$30; G. C., of N. H., \$15; W. A., of N. Y., \$40; J. A. G., of Mass., \$25; A. D., of N. H., \$25; M. D., of Ind., \$25; L. F. M., of N. Y., \$25; A. J. S., of Mass., \$25; R. W., of Vt., \$15; W. M., of Mass., \$15; G. B., Jr., of N. Y., \$15; V. D., Jr., of Va., \$10; G. M., of Ill., \$15; N. E. D., of Ill., \$30; G. W. R., of N. Y., \$100; S. & E., of N. J., \$15; S. C. D., of Conn., \$15; E. D. M., of Conn., \$30; R. G., of Conn., \$15; G. H., of Md., \$15; G. K., of N. Y., \$100; G. S., of N. Y., \$30; W. F. S., of N. Y., \$15; E. H. C., of Mich., \$15; I. C. C., of Mich., \$55; R. S., of N. J., \$65; M. N., of Mass., \$15; W. M., of Ill., \$10; C. H. F., of N. Y., \$15; B. S., of N. Y., \$25; J. H., of Ind., \$15; J. L., of N. Y., \$25; H. E. W., of N. Y., \$15; W. G., of Mass., \$25; J. S. S., of N. Y., \$40; P. M., of Ind., \$15; W. C., of Iowa, \$15; J. B., of Ill., \$30; E. W. B., of L. I., \$40; N. R. M., of N. Y., \$10; A. H. F., of Ill., \$30; J. C. & C. N. M., of Ill., \$30; P. C., of N. Y., \$15; R. H., of N. Y., \$15; M. A. W., of Cal., \$20; S. P., of N. Y., \$15; C. S., of N. Y., \$15; D. & R., of N. Y., \$10; W. C. B., of N. H., \$50; W. & S., of Ohio, \$10; J. B. D., of Mass., \$25; J. P., Jr., of N. H., \$25; G. & S., of Ohio, \$15; B. & D., of N. J., \$25; G. P. W., of N. Y., \$25; W. C. C., of Wis., \$10; N. C., of N. Y., \$15; A. H. & C. R. B., of Ind., \$25; F. W. S., of N. Y., \$25; J. C. B., of Conn., \$25; P. A., of N. Y., \$130; R. S., of N. J., \$25; M. D. W., of Ind., \$30; C. W., of Iowa, \$25; M. S. G., of Wis., \$30; J. McD., of N. Y., \$30; H. T. C., of Conn., \$25; S. D. C., of Iowa, \$30; C. W. C., of N. Y., \$35; A. B., of N. J., \$15; C. C., of Ind., \$20; N. C. S., of Conn., \$25; J. W., of Ind., \$15; P. C., of N. Y., \$130; O. G. B., of N. Y., \$25.

Specifications, drawings and models belonging to parties with the following initials have been forwarded to the Patent Office during the week ending March 30, 1861:—

- [The patents on these cases, when issued, will be granted for seventeen years under the new Patent Law.] S. & B., of Va.; H. T. C., of Conn.; J. S. G., of Maine; N. C. S., of Conn.; R. W. & D. D., of N. Y.; B. & D., of N. J.; W. & S., of Ohio; R. T., of N. Y.; G. P. W., of N. Y.; W. A., of N. Y.; W. M., of N. Y.; C. W., of Iowa; B. S., of N. Y.; J. H. J., of Ill.; S. & E., of N. J.; B. & H., of N. Y.; M. & B., of Conn.; S. E. C., of Mass.; J. N. J., Jr., of N. H.; H. S., Jr., of N. Y. (two cases); J. K. H., of Ind. (two cases); E. W. B., of N. Y.; R. R., of N. Y.; N. R. M., of N. Y.; V. D., Jr., of Va.; J. R. R., of Mass. (two cases); J. A. M., of Mo.; B. I., of Mass.; J. B. D., of Mass.; D. R., of N. Y.; E. S. H., of Mass.; J. S. S., of N. Y.; G. S., of N. Y.; W. C. C., of Wis.; J. D., of Ohio; S. G. S., of Mass.; O. G. B., of N. Y.

THE GREAT WONDER OF THE AGE.—SEAMLESS HOSIERY.—Manufacturers of hosiery are requested to examine the new machine for the manufacture of perfect hosiery with calf, heel, foot and toe at one and the same operation. This invention having been fully completed and in practical operation, the proprietors of the patents are now prepared to grant licenses to a limited number of manufacturers to manufacture under their patents. The licenses will be issued upon such terms as to insure great economy of time and money, besides giving an article far superior to any other in the market. Address, for information, the President of the McNary Knitting Machine Company, No. 25 William-street, New York.

HAYDEN SANDERS & CO., NO. 306 PEARL STREET, New York, Manufacturers of Brass Work for Steam, Gas and Water.

849.—Edward Roberts (assignor to Code, Hopper & Gratz) of Philadelphia, Pa., for an Improved Time Tell Table:

I claim, first, The detachable graduated disk, F, applied to the works of the clock, substantially as set forth, in combination with the lid, B, its openings, b and a, and the pointer, x, or its equivalent, when the said openings and pointer are arranged in respect to each other and to the disk as and for the purpose described.

Second, I claim the spring lever, I, with its adjustable pin, K, in combination with the adjustable graduated disk and the lid, B, and its openings, b and a.

850.—D. H. Thayer (assignor to himself and S. A. Baker), of Lansing, N. Y., for an Improvement in the Cutting Apparatus of Harvesters:

I claim the arrangement of the cutters, e, and cutter bar, C, with the supporting projections, f, knife-edged backward-opening recesses, b, space between projections and fingers and finger bar, A, in the manner and for the purpose shown and described.

[The object of this invention is to prevent the choking or clogging of the sickle, a contingency of frequent occurrence in all grain and grass harvesters.]

851.—Godfried Weiland (assignor to himself and Francis Fisher), of Buffalo, N. Y., for an Improved Straw Carrier for Threshing Machines:

I claim the arrangement of the lever, F, and spring, J, within the carrying apron, in connection with the cam, M, for operating the same for the purposes and substantially as described.

851.—J. B. Wilson (assignor to J. F. Bodine), of Williamson, N. J., for an Improvement in Stoppers for Sealing Cans and Jars:

I claim the combination of the two clamping disks, A B, expanding segments, D, and elastic ring, E, constructed, arranged and operating together in the manner and for the purpose set forth.

[This improved stopper consists of two metallic disks clamping an india-rubbing between their peripheries, and a set of metallic segments between the said disks, which segments are expanded radially within the ring by means of a conical screw plug, simultaneously with the clamping action. The advantages are that the lower disk, being impermeate, constitutes an airtight center for the stopper, avoiding the necessity of a web of gum or other ductile substance; the ring is confined in position by the clamping disks, and the metallic segments employed to expand the ring cannot be forced into actual contact with the neck of the jar, so as to endanger fracture.]

853.—James Higgins and T. S. Whitworth, of Salford, England, for an Improvement in Spinning Machines. Patented in England October 13, 1860:

We claim, first, Giving support to a stationary tube or "bolster" through which the spindle passes, by a sliding bearing attached to the coping rail.

Second, So arranging the spindles and their tubes or bolsters that they may oscillate separately upon joints or other apparatus for the purpose of adjusting themselves to a slitting bearing.

Third, Connecting the spindle to the spinning by which it is driven so that it may be withdrawn therefrom without disturbing top bearings or other parts requiring re-adjustment.

854.—Luther Atwood, of New York City, for an Improvement in the Manufacture of Hydro-carbon Oils:

I claim the direct application of ice or ice and salt to the condensation of hydro-carbon oil vapors, substantially as described and substantially for the purpose set forth.

Also claim bringing the vapors by a descending current in contact with the surface of the ice or ice and salt, substantially as described.

855.—G. W. Blake (assignor to himself and L. W. Blake), of East Pepperell, Mass., for an Improved Belt Fastening:

I claim the employment of the double-headed studs, a, in combination with the belt ends, in the manner and for the purposes shown and described.

[This invention consists in the employment of a suitable number of short double-headed flat studs which are introduced through slits cut lengthwise through the ends of the two sections of belting, said studs being so formed that their heads will readily enter the slits in the ends of the belt, after which they will connect the ends securely by giving the studs a slight turn.

RE-ISSUES.

51.—The Merrill Patent Fire-arm Manufacturing Company (assignees of J. H. Merrill), of Baltimore, Md., for an Improvement in Fire-arms. Patented July 20, 1858:

We claim the combination of a barrel that opens out at its top, and an open chamber behind it for receiving a cartridge, with a breech pin or plug and two levers for actuating and holding it locked, substantially as described.

52.—The Merrill Patent Fire-arm Manufacturing Company (assignees of J. H. Merrill), of Baltimore, Md., for an Improvement in Fire-arms. Patented July 20, 1858:

We claim, in combination with a barrel that opens out at its top, a long, open, sweeping chamber in rear of it, for the purpose of easily dropping in the cartridge and the ready cleansing of the bore of the gun from the rear, substantially as represented.

53.—The Merrill Patent Fire-arm Manufacturing Company (assignees of J. H. Merrill), of Baltimore, Md., for an Improvement in Fire-arms. Patented July 20, 1858:

We claim, in combination with the levers by which the breech pin or plug is actuated, a guiding mechanism, substantially as described, by which said levers and plug are controlled in their movements, to prevent binding, chafing, or bruising, as set forth.

54.—The Merrill Patent Fire-arm Manufacturing Company (assignees of J. H. Merrill), of Baltimore, Md., for an Improvement in Fire-arms. Patented July 20, 1858:

We claim, in converting what is known as the "Jenk's gun" from a loose powder and ball loader to a cartridge loader, by closing up the opening through which that gun was loaded, cutting away and opening out in rear of the barrel so as to load at the rear end of the bore, and allowing the lever, toggle, and piston to come far enough back to admit a cartridge to be dropped in behind the bore, and thence run up into the chamber, as set forth.

55.—E. E. Everitt, of Philadelphia, Pa., for an Improved Bedstead Fastening. Patented March 29, 1859:

I claim the combination of the tapering wedge-formed head or tenon 1, with the tapering mortise, 1, one being attached to the post and the other to the rail of a bedstead, when the said tenon is less than the mortise, and when both are constructed and arranged in respect to each other, substantially as set forth, for the double purpose of readily tightening the rail to the post, when the joint has become loose through shrinkage, and of forming a coupling capable of self-adjustment laterally, as specified.

I further claim one or more ribs, e, in combination with the plugs, A and A', when these are constructed substantially as described.

56.—W. O. Hickok, of Harrisburg, Pa., for an Improvement in Mills for Grinding Apples. Patented November 20, 1855:

I claim the application of breakers, d, along between the parallel rows of the teeth, b b, in each of the cylinders, A A'; and this I claim whether the said breakers be formed as the plain or serrated, continuous, longitudinal ridges, d, shown in the drawings, or as a series of isolated or distinct small teeth between the said rows of the larger teeth b, as described; and whether the helical ribs, c, be used or not; the said teeth or breakers operating together substantially in the manner described and for the purpose specified.

57.—W. F. Ketchum, of Buffalo, N. Y., for an Improvement in Track Clearers for Harvesters. Patented May 17, 1853:

I claim, first, A track clearer or scraper placed near the outer end of the finger bar and behind the divider, at an acute angle with the finger bar, arranged in relation to the same so as to sweep the grass inward as it falls over the finger bar, and with cutters supported and guided near their outer ends wholly by stationary supports or guides, so that

the mechanism for the operation of the cutting apparatus will not clog or obstruct the action of said track clearer or scraper, substantially as described.

Second, Placing the lower surfaces of the rear of the divider and front end of the track clearer close together and substantially on a level with the under surface of the cutter bar, substantially as described.

Third, And in combination therewith I claim connecting the track clearer at its front end by a vertically-yielding joint placed near its lower surface, substantially as set forth.

Fourth, The combination of the divider with a track clearer connected at the rear thereof, and standing at an acute angle with the cutter bar, while the lower edge of the track clearer is on or near the ground and its upper edge rises gradually backward from the upper surface of the divider, substantially as set forth.

Fifth, The short divider in combination with a track clearer attached close to its rear and at an acute angle with the finger bar, as set forth.

Sixth, I claim placing the front end of the inclined track clearer close to the rear of the divider, at or near its outer side and beyond its extreme cutting point, so that the grass shall fall over the cutters and finger bar inside of the track clearer, in condition to be swept inward, substantially as described.

EXTENSION.

H. R. Dunham, of New York City, for an Improvement in Connecting Side Pipes with the Steam Chests. Patented March 20, 1847. Extended March 19, 1861:

I claim the application of a plate of flexible metal in a steam pipe between two flanges of different diameters, the yielding of which plate shall give sufficient room for the expansion of the pipe, thereby avoiding the necessity of using stuffing boxes or the ordinary copper hemispherical ring joints for side pipes of steam engines.

DESIGN.

A. C. Barstow, of Providence, R. I., for a Design for Stoves.

NOTE.—In the above list of patents, THIRTY of the number were procured through the Scientific American Patent Agency.



A. M. H., of N. H.—As there is some doubt on our mind respecting the novelty of your stump puller, we would advise you to send us on a fee of \$5, and have a preliminary examination made at the Patent Office.

J. C., of S. C.—We have never seen the secret to which you refer for extracting gold from iron pyrites and oily plumbago. If we come across it, we will publish it for your benefit.

J. P. R., of ————Silliman's Journal is a very learned work, and dry, except to those who are purely scientific. It is published at New Haven, Conn.

G. F., of Pa.—Your design for fountains is a pretty idea, and would be patentable. We are not acquainted with any person who has engaged practically in the propagation of fish; but we think Mr. Luther Tucker, of Albany, N. Y., can give the information desired.

C. W. J., of N. Y.—The most adventurous balloonist in our country has assured us that there is always danger, and never certainty, in balloon voyages. We advise you to avoid the subject, although yours is a sketch of the new balloon is quite novel in one feature.

F. M., of Ohio.—If you communicate with Col. H. Ruttan, Coburg, C. W., you will obtain all the information desired respecting his method of ventilating railroad cars. Monsiere's gas burner is not on sale in this city.

J. B., of N. Y.—Address J. Tagliabue, No. 3 North William-street, this city, respecting the manufacture of barometers such as you desire.

A. F., of N. Y.—We cannot inform you where you can learn the light rifle drill, but you can acquire the information from any of the officers at the West Point Academy.

J. E. S., of N. Y.—By giving canvas a primary coating of size, the paint will not run upon it. If required for a transparency, give it a primary coating of white varnish; then put on the paint which should contain considerable turpentine to make it dry quickly, or use commandry's, which can be purchased in all paint stores.

E. C. B., of N. Y.—Bourne's "Catechism of the Steam Engine" will be of great advantage to you. You can obtain it of Mr. J. Wiley, bookseller, this city.

O. H. B., of Mich.—The lever, inclined plane, wedge, screw and pulley have been called the five mechanical powers.

Wm. A. C., of N. Y.—The power to be got from a race-way with a fall of one foot in forty, without obstructing the flow of the water, to throw it back upon the wheels at the upper end of the race, would be too small to be of any practical value.

J. D., of Mass.—We suppose West Point school is the best one for teaching engineering in this country. Perhaps, though, the new practical departments at Cambridge and New Haven are just as good.

W. H. W., of Mass.—You will find the subject of water wheels running faster by night than by day fully discussed in Vol. I, new series, SCIENTIFIC AMERICAN. It is all a delusion.

E. A. B., of Conn.—If you have two feet fall and plenty of water, an undershot wheel will drive your two turning lathes and a circular saw. You would be obliged to stop in high water.

J. T., of Wis.—Your questions are very pertinent, but they would open the whole subject of expansion, and we have decided to let this matter rest until Isherwood makes his report of the experiments at Erie.

G. B., of N. Y.—We might have continued the argument on vegetable physiology, but your poetry is too much for us. We close our mouths, and have nothing more to say.

G. W. T., of Del.—Chester's form of Smee's battery is one of the best for producing magnetism. You can make magnets with Grove's battery. The greater the number of batteries, and the more whorls of the helix, the better.

G. W. D., of Maine.—Organ pipes, of any size or kind desired, may be procured of George Jardine & Son, No. 100 White street, this city.

H. N. B., of N. Y.—We find the sticks of wood which you send us very good electric; probably because they are so dry and full of resin.