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**37,728.—Manufacture of Carpet Lining.—S. M. Allen, Boston, Mass. :**

I claim the improvement in the manufacture of fabrics for underlaying carpets, &c., the same consisting in permanently combining with or forming upon soft sheets of felt of any desired thickness a smooth and compact facing of paper or other similar surface, substantially in the mode hereinabove described.

**37,729.—Fence.—B. F. Allison, West Dayton, Iowa :**

I claim, first, The arrangement of the double-shouldered recess, d, and recesses, d', in the clamp, D, in combination with mortises, f, in the end battens, a, and with secondary battens, a', and keys, h, all constructed and operating substantially in the manner and for the purpose shown and described.  
Second, The employment of use of a clamp, E, with central recess, e, in combination with mortises, g, in the end battens, and with secondary battens and keys, i, all as and for the purpose specified.  
[The object of this invention is to produce a light and durable fence which can be easily put up or taken down, and it relates to an improvement in that class of fences the panels of which are arranged in a zig-zag line, and which are commonly termed worm fences.]

**37,730.—Churn.—Charles L. Bottom, Dansville, N. Y. :**

I claim, first, The use of the angular dasher B, as seen in Fig. 1, and its various modifications, as shown in Figs. 2 and 3, with or without the adjustable rod, f, substantially as set forth and for the purpose described.  
Second, I claim the use of the angular dasher, B, with its modifications in combination with the rod, f, the adjustable standard or fulcrum, C, the lever, C', and the churn, A, substantially as described.

**37,731.—Feed-water Heater for Steam Boilers.—Richard C. Bristol, Chicago, Ill. :**

I claim, first, The combination of plates perforated to a greater or less extent over their surface, with shell or case of feed-water heaters of steam generators or boilers, for the purpose set forth.  
Second, The combination of the bent tube, or its equivalent, with a feed-water heater of steam generators or boilers, for the purpose set forth.  
Third, The combination of the well-bent tube and feed-water heater of a steam generator or steam boiler, substantially as and for the purpose set forth.

**37,732.—Elevating Mill-stones.—A. M. Bruckart, Brunnersville, Pa. :**

I claim the screw, H, provided at its lower end with two oppositely projecting hooks, c, c', bevel wheel, f, pinion, G, and winch, J, in combination with the metal cap, f, stud shaft, g, horizontal arm, A, and hooks, d, d', when the whole is arranged to operate in the manner and for the purpose specified.  
[The object of this invention is to obtain a simple device to facilitate the operation and to lessen the time and labor necessary to the handling of millstones preparatory to the operation of re-dressing or re-sharpening their cutting surfaces. The invention consists in a certain combination of parts whereby the above-mentioned results are effected in a most satisfactory manner.]

**37,733.—Water Wheel.—N. F. Burnham, York, Pa. :**

I claim the ring, D, provided with the flange, I, and arranged in relation with the opening, h, the scroll and rib, f, of the wheel, to operate as and for the purpose herein set forth.  
[This invention relates to an improvement in that class of water wheels which are placed on a vertical shaft; are enclosed within a scroll and discharge the water at the center, and which are commonly termed center-discharge wheels. The object of the invention is to afford a free or unobstructed passage of the water through the wheel, so as to avoid or prevent all re-action, and also to prevent the wearing of the bottom of the scroll and consequent leakage by the action of the wheel.]

**37,734.—Calash or Folding Top for Carriages, &c.—Ira Cogswell, Jr., Earlville, Ill. :**

I claim the combination of the inclined arms, E E, hooks, K, and folding bars, F F, with the bars, I J, bows, G G', G'' G''', and seat, B, all in the manner herein shown and described.  
[This invention consists in constructing the top of a carriage in such a manner that it may, when not required for use, be folded down compactly, and be entirely out of the way so as not to interfere in the least with the view of the occupant of the seat, and also be capable of being unfolded or raised to a greater or less degree, as occasion may require.]

**37,735.—Cellular or Tubular Boiler for Evaporating Pans.—D. M. Cook, Mansfield, Ohio :**

I claim, first, A cellular or tubular boiler, substantially as described, adapted for application to a shallow evaporating pan, substantially as described and for the purpose set forth.  
Second, The combination of a boiler with deep cells or tubes, a furnace and a shallow evaporating pan, substantially in the manner described.  
Third, Constructing the cellular or tubular boiler with cooling or extending sides, and also applying it to the front of a furnace, substantially in the manner and for the purpose set forth.

**37,736.—Evaporating Pan with Cellular Boiler.—D. M. Cook, Mansfield, Ohio :**

I claim, first, A cellular boiler and a shallow evaporating pan united substantially in the manner and for the purpose described.  
Second, The arrangement of the directors, d d', in combination with the cellular boiler and shallow evaporating pan, substantially as and for the purpose described.

**37,737.—Evaporating Pan with Tubular Boiler.—D. M. Cook, Mansfield, Ohio :**

I claim, first, A shallow evaporating pan constructed with a deep boiler, when the boiler is divided into cells, d d', of tubes which form flame flues, substantially as herein described.  
Second, The arrangement of the directors, d e, with respect to the combined boiler and shallow evaporating pan, substantially as and for the purpose described.

**37,738.—Support for Artificial Legs.—Phylander Daniels, Le Roy, N. Y. :**

I claim the shoulder saddle, C, provided with friction rollers, c, c', over which passes the strap, D, secured at its ends to the artificial limb, for the purpose of suitably supporting the same and allowing

the free and easy motions of the body, arranged, combined and operating substantially as herein set forth.

**37,739.—Clothes-dryer.—Daniel M. Devoe, New York City :**

I claim the arrangement of the semi-circular slotted case, A, provided with springs, e, on top, and with a continuous stop, b, or its equivalent, on the bottom, in combination with a series of radial folding bars, b, all constructed and operating in the manner and for the purpose shown and described.

[This invention consists in the arrangement of a semicircular-slotted case provided with springs or spring-catches on top, and with a continuous semicircular stop, or with a series of stops at the bottom, in combination with a series of radial folding bars in such a manner that, when said bars are turned up, they are perfectly protected against dust or other impurities, and they are retained by the spring-catches and prevented from turning down spontaneously, and that one or more of said bars can be turned down and used for drying clothes whenever it may be desired.]

**37,740.—Plow.—James M. Dick, Buffalo, N. Y. :**

I claim the combination of the curved iron beam, F, attached to the handle, E, as shown and described, with the mould board, D, and the share, A, as cutting part of the plow, when the whole are constructed and arranged as herein described and set forth.

**37,741.—Beehive.—James Donnel, Davenport, Iowa :**

I claim the drawer, C, made in the manner described and arranged in relation to the hive and comb frame, as set forth, so as to ventilate the bottom of the same, exclude the light therefrom and catch the refuse from the hive.

**37,742.—Pack Saddle.—Jacob Dunton, Philadelphia, Pa. :**

I claim, first, A pack saddle consisting of two disconnected bars or pads, C C', attached respectively to two cases or panniers, A A', connected at the bottom, substantially as herein described and for the purposes set forth.  
Second, The combination of the two panniers or cases, A A, connecting links, B B', and upper case, A', when the whole are constructed and arranged in the manner herein shown and described, so that the connecting links of the lower cases shall serve to prevent longitudinal displacement of the upper one, as explained.  
Third, The pockets, D D', in the described combination with the cases or panniers, A A', and bars, C C', for the purpose explained.

[The leading feature of novelty in this invention is the application of a pad or saddle bar to a pannier or cases of any suitable form adapted to be slung in pairs across an animal's back.]

**37,743.—Cotton Gin.—Francois Durand, Paris, France. Patented in France July 18, 1862 :**

I claim, first, In combination with the feeding rolls and brush, the carrying and crushing rolls, I I', for taking the cotton from the feed rolls to the brush, and at the same time crushing the seed therein, substantially as described.  
Second, I claim, in combination with the traversing and rotating carrying rolls, I I', the intermittently-feeding rolls, ff, so that while the rolls, I I', are not receiving cotton, the feed rolls shall be in a state of rest, substantially as described.

Third, I claim, in combination with the traversing and rotating rolls, I I, the drum, k, and revolving beaters or blades, l, made and operating together substantially as described and for the purpose set forth.

**37,744.—Stock Pump.—Warren A. Durrin, Milledgeville, Ill. :**

I claim the combination of the inclined endless apron, A A, and frame, B B, in connection with the governor, D D, and brakes, E E and S, and the pitman, F, when applied to operate a pump, as and in the manner delineated and specified.

**37,745.—Apparatus for Cooking with Gas.—Warren L. Fish, Newark, N. J. :**

I claim, first, The herein-described gas-heating and cooking apparatus, the same consisting essentially in the combination of a cylinder, or its equivalent, closed at the bottom by a perforated plate, and surrounding one or more jets of gas, as shown, with a chimney arranged to operate substantially in the manner and for the purposes set forth.  
Second, In combination with the cylinder surrounding the flame or flames, provided at the bottom and chimney, I claim the making of the cylinder of a transparent material, or providing it with one or more windows, substantially in the manner and for the purposes set forth.  
Third, I also claim, in combination with the cylinder surrounding one or more flames, and closed at the bottom by a perforated plate, as described, of a heating vessel with a central flue, so shaped as to constitute the chimney to operate substantially as and for the purposes set forth.

**37,746.—Composition for Lubricating Wagon Axles, &c.—James P. Gay, Cincinnati, Ohio :**

I claim the improved wagon tar herein described, consisting of the ingredients specified, combined substantially in the manner and in the proportions herein stated.

**37,747.—Bung Socket and Plug for Barrels.—Stephen J. Geoghegan and William Ulmer, New York City :**

We claim the socket, A, and plug D d', adapted to apply to the stave C, and to sink even with the exterior surface thereof, substantially as and with the effect herein set forth.

**37,748.—Suspended.**

**37,749.—Mode of operating Weather Strips.—James B. Gray, Hudson, Wis. :**

I claim the combination of the eccentric, g (whether used on one or the other, or both jambs of the doorway), with the strips, c and s, by means of the rod or wire, k, substantially as and for the purposes set forth.  
Second, I also claim the washer, m, in combination with the eccentric, g, made, constructed and used as and for the purposes herein set forth.

**37,750.—Gang Plow.—Jacob Haege, Shiloh, Ill. :**

I claim, first, The attaching of the plow beam to the axle, A, by means of the stirrup or loop, Q, pin, S, and chains, d' d', and bar, T, and wooden pin, e', in combination with the lever or treadle, J, all arranged as shown, whereby the plow or plows may be readily raised above the surface of the ground when necessary, and the beam allowed to become detached from the axle or carriage when the former comes in contact with any obstruction which may lie in their path.  
Second, The rotary cutters, I, when placed on a screw-rod or shaft, H, and secured thereon by jam nuts, i, and said shaft hung in the arms, G G, substantially as and for the purpose specified.  
Third, The combination of the bar, Z, cutter, B', when applied to the subsoil plow, A, and used in connection with a gang plow for the purpose set forth.

[This invention relates to an improved gang plow designed more especially for western or prairie use. The invention consists in an improvement in attaching the plow beams to the moving gear or carriage whereby the plow, when necessary, may be readily elevated by the driver above the surface of the ground, and the plow rendered capable of being detached from the carriage in case of the plow coming in contact with an obstruction of any kind, thereby preventing the breaking of any of the parts, or the causing of them to be subjected to any undue strain.]

**37,751.—Sugar Evaporator.—Robert Hamilton, Franklin, Ind. :**

I claim, first, The arrangement of first and final boiling pans, B C C D and F, chimneys G and H, and damper, I, substantially as and for the purposes set forth.  
Second, The described arrangement of hinged and removable final boiling pan, F, and supporting rack, M.

**37,752.—Portable Book-case.—Ezra Haskell, Canton, Mass. :**

I claim the series of removable shelves, C D, &c., composed of pieces, b c d, which, when two shelves are placed together form a box as represented in Fig. 6, in combination with the folding sides, A B, substantially as described.

**37,753.—Seeding Machine.—George D. Haworth, Decatur, Ill. :**

I claim the scrapers, P P, when attached to a sliding bar, O, arranged

as shown, to admit of the scrapers being passed laterally over the surfaces of the wheels, C, when necessary, and not be in contact with the latter when not desired for use, as herein set forth.

[This invention consists in the employment of a rotary coultter arranged with a nose-piece on the furrow shares in such a manner that weeds and other obstructions which may be in the path of the furrow shares may be readily passed over and not allowed to collect around the shares, and prevent the discharge of seed therefrom. The invention further consists in the employment or use of scrapers applied to the machine and arranged in such a manner that the wheels on which the machine is mounted may be readily cleaned and the scrapers applied to the wheels only when necessary.]

**37,754.—Corn Planter.—C. W. S. Heaton, Belleville, Ill. :**

I claim, first, The employment of two alternating slide valves, in connection with separate channels, substantially as and for the purpose set forth.  
Second, The arrangement of the holes in the valves and the arrangement of the tubes, on a rhomb instead of a square, for the purpose set forth.

Third, The combination of the tooth or share, two valves and a series of tubes or channels, substantially as and for the purpose set forth.

Fourth, The employment of weight boxes in connection with a cover, the whole constructed substantially as and for the purpose described.

Fifth, The arrangement of the devices above claimed in connection with the frame, A, a goose-neck lever, slotted rockshaft, all constructed and operating substantially as and for the purpose described.

**37,755.—Board Measure.—Austin D. Hoffman, Bellville, Mich. :**

I claim the dial wheel, B, having several circles differently graduated, in combination with the indices, E, and several scales or scales of figures, all arranged to measure different lengths of lumber, substantially in the manner and for the purpose set forth.

**37,756.—Percussion Fuse for Shells.—B. B. Hotchkiss, Sharon, Conn. :**

I claim a percussion hammer or striker constructed substantially as herein described, having a hard exterior and a soft interior and base, for the purpose specified.

**37,757.—Driving Power for Spinners.—M. G. Hubbard and A. J. Smith, Syracuse, N. Y. :**

We claim the construction and arrangement of the parts in such manner as to increase the pressure on the shaft, C, by its own resistance and the driving power operating together, for the purposes substantially as set forth.

**37,758.—Gold-miners' Washing Pan.—Thomas Kendall, Sen., San Francisco, Cal. :**

I claim the pocket, e, as formed and made by pans, A and D, and coupling, G, with its parts, F and O, and packing, v, with screw, Z, in combination, as constructed and arranged and substantially described therein.

**37,759.—Apparatus for determining the Form and Size of the Head and adapting the Hat thereto.—J. F. Klein, Trenton, N. J. :**

I claim a composition constructed substantially as described, to wit, so that it can be used to take the form and size of the head, and then put into a hat to shape it (the hat) to fit the head.

**37,760.—Fancy Looms.—L. J. Knowles, Warren, Mass. :**

I claim operating the heddles by means of cranks capable of being turned independently of each other to the opposite extremes of their throws, as indicated by the pattern chain, or its equivalent, substantially as described.

I also claim operating movable shuttle-boxes by means of cranks arranged as to be turned independently of each other from one extreme of their throws to the other, under the direction of a pattern chain or its equivalent.

I also claim the rotating lifter and depresser cylinders, operating as set forth, for the purpose described.

I also claim the crank wheels, c c', constructed and operating substantially as described for the purpose specified.

I also claim the gear, k, and segmental gear wheel, h, in combination with a rotary lifter and depresser cylinder, for the purpose set forth.

I also claim the cam, s, upon the shaft of the wheel, k, in combination with the ledge, r, upon the segmental gear, h, for the purpose described.

I also claim loosening up the harness cords by means of the vibrating guide rolls, or their equivalents, for the purpose described.

I also claim connecting the drop box with the mechanism by which it is operated by means of a cord and pulley, substantially as described.

**37,761.—Pie Stamp.—Herbert Marshall, Dracont, Mass. :**

I claim the combination and arrangement of the revolving handle, A, with the crimping wheel, C, and curved lever guide, E, in the manner hereinbefore described and represented in the accompanying drawings.

**37,762.—Clothes Frame.—J. P. Mayhugh, Leitersburgh, Md. :**

I claim, first, The use of downwardly-folding arms in combination with yielding hinges, f, operating in the manner described, to adapt the arms to fold within a smaller space.  
Second, The combination of the slides, E, with the side plates, C, and arms, F, substantially as and for the purposes set forth.

Third, The general combination of the center post, A, side plates, C C', and downwardly-folding arms, F F', when constructed, arranged and operating in the manner and for the purposes specified.  
[The peculiar features of this invention are, that it affords, when in use, a large area for hanging clothes, without being elevated to an inconvenient height at any part, and, when not in use, folds into a very compact form.]

**37,763.—Puzzle.—J. U. Mueller, Detroit, Mich. :**

I claim the employment or use, in a puzzle, of two different sets of triangles, A B, which are of such a shape that two sides of each triangle of one set are equal to two sides of each triangle of the other set, and the three angles of each triangle are different from each other, and the angles of the triangles of one set are different from those of the other set, substantially as and for the purpose herein shown and described.

[This invention relates to that class of toys in which, by means of several pieces of wood of different colors and different shapes, a variety of figures or designs can be formed.]

**37,764.—Breech-loading Fire-arm.—Charles Perley, New York City :**

I claim the swinging breech or chamber, d, in combination with the tapering sleeve, g, and breech supporter, b, substantially as and for the purposes specified.  
And in combination with the foregoing, I claim the adjusting screw, l, hemispherical or conical projection, m, and the inclined lug, k, for the purposes and as set forth.

**37,765.—End-thrust Bearing.—Charles Perley, New York City :**

I claim the collar, d, and balls, i, arranged and applied as set forth, to take the end thrust of the propeller shaft, as specified.

**37,766.—Traveling Battery.—Charles Perley, New York City :**

I claim the traveling battery specified, provided with the V-shaped end, g, and inclines, e', as set forth.  
I also claim the arrangement of the movable platform sections, h, h, as and for the purposes specified.  
And I claim providing the movable platform sections, h h, with the rails, k, k', for the purpose and as set forth.

**37,767.—Hose Coupling.—Charles Perley, New York City :**

I claim a hose coupling having the hinged clasp, c, d, fitted with the screw, f, and receiving the flanges, 1, 2, in the manner and for the purposes set forth.

**37,768.—Steering Apparatus.—Charles Perley, New York City :**

I claim the arrangement of the horizontal shaft, g, pinion, k, and wheel, f, within and sustained by the casing, c, as and for the purposes set forth.  
I also claim the horizontal wheel, f, in combination with the rudd-

derstock, when fitted substantially as specified, so that the rudder is free to work endwise without disturbing or altering the position of the wheel, f, as set forth.

37,769.—Ram for the destruction of the Enemy's Ships.—Charles Perley, New York City :

I claim, first, The stop-cock or cocks, d and e, applied at the end of the vessel below the water line in combination with the movable ram, a, for the purposes and as specified.  
Second, I claim the circular cutting edge and the cannon applied to and combined with the movable ram, in the manner specified, so that said cannon can be loaded when the ram is drawn into the vessel, or a new cutting edge substituted, as specified.  
Third, I claim the ram fitted to slide in the opening in the vessel through which it is projected, in combination with the weighted box, h, contained in the vessel, but not attached thereto, for the purposes and as specified.

37,770.—Closing Doors.—Charles Perley, New York City :

I claim the saddle piece, f, receiving the weight cord, in combination with the rollers, e, e', and acting to close the door, in the manner and as specified.

37,771.—Discharging Explosive Shells from Balloons.—Charley Perley, New York City :

I claim the employment of a divided basket or receptacle, sustained by a gas bag, and carrying the bomb or other article to be dropped by the opening of said basket, as set forth.  
I also claim the employment of the hinge pin, e, and barrel, f, to disconnect the halves of the basket by firing out the said pin, e, as set forth.  
And I claim a bomb shell, or its equivalent, attached to and conveyed by a gas bag, in combination with automatic means for disconnecting the said bomb at a given time, as set forth.

37,772.—Ventilator.—T. T. Prosser, of Fond du Lac, Wis. :

I claim a ventilator constructed by cutting out suitable orifices in a pane of glass or other transparent substance and applying thereon a suitable disk of a similar transparent material, in the manner substantially as set forth.

37,773.—Combination of Globe and Chimney for Lamps.—E. B. Requa, Jersey City, N. J. :

I claim the combined globe and chimney composed of the oblate spheroidal part, a, and the conical neck, b, so arranged that it may be applied to the burner and have the relative position to the jacket and cone thereof and to the flame, as herein set forth.  
I also claim having one side, f, of the part, a, of the globe and chimney ground, and the other side, g, plain or unground, as specified.  
A further claim, forming the upper part of the neck, b, of the globe and chimney with a circumferential sunken portion, a', but this I only claim when used with the particular form of globe and chimney, as herein described.

37,774.—Button.—P. E. Richardiere, Paris, France :

I claim a button having formed, in its interior, one or more bars or partitions, over which the thread passes, substantially as herein described, to secure it to the cloth or other material without being exposed on the face of the button.

[This invention consists in a button having formed in its interior one or more bars or partitions over which the thread, by which it is attached to a garment or other article, passes without being exposed on the front of the button. This button may be made of porcelain, horn, india-rubber or any material which is plastic under some conditions and capable of being molded or shaped, or it might be made of metal in one piece or of two soldered or otherwise secured together.]

37,775.—Cultivator.—E. H. Sawyers, West Grove, Iowa :

I claim the main frame, C, guide rod, f, metallic support, J, levers, H, I, rods, a, a plow frame, F, and spindle, i, the whole combined and arranged to operate in the manner and for the purpose specified.  
[This invention relates to an improved machine for cultivating those crops which are grown in hills or drills, such as corn, potatoes and the like, and it consists in a novel arrangement of devices whereby the most perfect control over the plows is afforded the driver, enabling him to guide the machine so as to follow the sinuosities of the rows and to cultivate with equal facility and efficiency on both sides of straight or crooked rows.]

37,776.—Seedling Machine.—U. H. Shockley, Litchfield, Ill. :

I claim the combination, in the manner herein shown and described, of the shaft, I, toggle, H, the seed slides, G, G', and lever, A', with the shaft, D, hoppers, C, supporting wheel, B, pulleys, e, c, c', and frame, A, all as herein set forth.

[This invention consists in operating the seed-distributing apparatus by a rotary movement only, whereby an exceedingly simple and efficient device is obtained for sowing seed either in drills, hills, or check-rows.]

37,777.—Shirt Stud and Sleeve Button.—Henry Simon, Providence, R. I. :

I claim the improved stud or button described, composed of a shell of sheet metal with a backing of enamel, the whole article being substantially as specified.

37,778.—Cooking Stove.—D. L. Stiles, Rochester, N. Y. :

I claim the flue plates, b b and d, d', joined at the bottom but diverging toward the outer corners at the top of the oven, so that the heated air, in equal columns, is concentrated at those corners as it rises, in combination with the interior flue plates, f, f', and movable division plates, b, b, in elevated oven stoves, for the purpose of equalizing the heat throughout the same, substantially as set forth.

I claim the arrangement of the loose perforated tumbles, k, in combination with the stationary heated air tube, i, substantially as and for the purposes shown and described.

37,779.—Mosquito Frame.—L. S. Thompsen, Brooklyn, N. Y. :

I claim an expanding mosquito frame formed of bars fitted so as to be increased or decreased in length to fit the window, and receiving the netting or gauze, and in combination therewith I claim the joint at the angles for the purposes specified.

37,780.—Revolving Shelf.—Silas Vernoy and Nicholas Overfield, Meshoppa, Pa. :

I claim the post, A, notched or recessed, as shown, and having the side strips or boards, c, secured to it, in combination with the slats, B, B', all arranged as shown, to form a new and improved article of manufacture, for the purpose specified.

37,781.—Draught Regulator.—Henry C. Turner, Boston, Mass. :

I claim the combination of the register, D, the damper, E, and the division plate or partition, G, operating as set forth, for the purpose described.

37,782.—Sight for Fire-arms.—James Warner, Springfield, Mass. :

I claim the combination of the screwed joint pin, the slit, b, in the case, A, and the slit, g, in the leaf, B, substantially as herein described, whereby the screwing-up of the pin is caused to tighten all parts of the joint.

37,783.—Hook for Fastening Garments.—G. A. Watkins, Springfield, Vt. :

I claim a fastening for india-rubber and other blankets and garments designed for military and army use, composed of a hook and an eyelet attached permanently to the shank, a, substantially as herein shown and described.

[This invention consists in attaching a hook to the blanket or garment by means of an eyelet, whereby a simple and efficient fastening is obtained.]

37,784.—Sleeve Button.—Wm. H. Wilson, Providence, R. I. :

I claim the combination of the two posts, a, b, the bar, B, moving in a plane parallel with the head of the button, the elastic arm, C, and the projection, f, the whole operating substantially as herein specified.

[This invention consists in a certain novel arrangement of a bar in

combination with two projections on the back of the head of the button, and certain means of fastening the said bar, whereby it is made to secure the button in the waistband without the necessity for having the edges overlap each other, and provision is made for inserting a glass in the back of the button if desired.]

37,785.—Money Safe for Travelers.—J. A. Engelhard (assignor to himself and George Hartman), St. Louis, Mo. :

I claim the safe, A, with its pockets, B, D, E, and straps, g k or m, n, all being constructed and arranged substantially as and for the purposes specified and represented, as a new article of manufacture.

37,786.—Hydrant Valve.—J. W. Guernsey, Tioga, Pa., assignor to himself and H. A. Guernsey, Wellsborough, Pa. :

I claim the employment of the double-way cap, E, constructed as set forth, in combination with the perforated disk valve, J, stem, H, and chamber, A, all in the manner herein shown and described.

37,787.—Coupling Head for Railroad Cars.—Robert M. Hughes, Oxford, Pa., assignor to J. A. Blake and H. Wood, Philadelphia, Pa. :

I claim, first, The combination of the coupling head, A, and link, D, when the latter is permanently connected to the former by the hooked projection, i, and pin, m, or their equivalents, and when the head is so formed in respect to the link as to allow the same to be raised or lowered the whole being constructed substantially as and for the purpose herein set forth.  
Second, In combination with the said coupling head, A, and link, D, I claim the catch lever, B, hung to the head and arranged and operating substantially as and for the purpose specified.

37,788.—Ice Calk.—Daniel Krauser (assignor to himself, H. P. Stichter and L. C. Thompson), Pottsville, Pa. :

I claim the heel frame, A, in combination with the flat plate, C, when the latter is so attached to the former and arranged in such relation therewith as to admit of being placed directly beneath the heel when the spurs or points, f, are required for use, and admit of being turned over into the hollow of the sole when not required for use, substantially as shown and described.

[This invention consists in having a series of spurs attached to a plate, which is connected by a joint toe frame or clamp so constructed that it may be readily attached to the heel of a boot or shoe, said frame or clamp having a spring attached to it and all so arranged that the plate which is provided with the spurs will be capable of being turned over on the heel, and the spurs serve as footholds, and the plate, when the spurs are not required to serve the above office, be capable of being turned over in the hollow of the sole, so that the spurs will be entirely out of the way. For information respecting this invention address the assignees, Messrs. Stichter & Thompson, Pottsville, Pa.]

37,789.—Cultivator.—P. B. & L. C. Reynolds (assignor to themselves and Clark G. Reynolds), Prophetstown, Ill. :

I claim, first, The arrangement upon adjustable beams, B C, of two or more pairs of perforated lever adjusting plates, H H', for the purpose of adjusting two or more pairs of shovelstocks, G1 G2 t, in the manner and for the purpose described.  
Second, The arrangement of the bent sustaining bars, F F', side beams, B C, and slots, b c s, in the manner and for the purpose described.

Third, The arrangement of the frame, A B C D E, swingle tree, I, draft rods, J J, adjustable hangers, K K', perforated lever adjusting plates, H H H H', swiveling square or flat top standards, G1 G2, bent sustaining bars, F F', and slots, b c s, the whole constructed and operating together in the manner and for the purposes described.

37,790.—Machine for Planishing Paper.—John F. Schuyler (assignor to Wm. E. Lockwood), Philadelphia, Pa. :

I claim the use of the smooth planishing roller, E, in combination with the pressure roller, D, when a number of small longitudinal ridges are formed on the latter roller as set forth for the purpose specified.

I claim the auxiliary pressure roller, K, of the form described in combination with the upper and lower rollers, D and E, for the purpose specified.

37,791.—Device for Feeding Paper to Cutting Machines.—John F. Schuyler (assignor to Wm. E. Lockwood), Philadelphia, Pa. :

I claim the clamp composed of plates, D and E, the cam lever, G, or its equivalent and the pawl, F, the whole being constructed substantially as set forth, and operating in conjunction with a rack, B, as specified.

37,792.—Apparatus for Bending and Folding Paper Collars and other articles of apparel.—John F. Schuyler (assignor to Wm. E. Lockwood), Philadelphia, Pa. :

I claim, first, A trough, Y, to which steam is admitted, in combination with the endless traversing tapes, x, x, the whole being arranged and operating substantially as set forth for the purpose specified.

Second, The roof, W, with its lining, y, of oiled silk or its equivalent, when arranged in respect to the trough, Y, and endless tapes, x, substantially as and for the purpose set forth.

Third, I claim the registering arms, T, or their equivalents, when arranged in respect to and operating in conjunction with the endless tapes, substantially as set forth for the purpose specified.

Fourth, The combination of the bar, n, shaft, E, with its pulleys; the endless tapes, x, x, and adjusting ledge, 7, the whole being arranged and operating substantially as set forth for the purpose specified.

Fifth, I claim the reciprocating blade, J, adjustable ledge, 7, folding rolls, F and G, and table, 4, the whole being arranged and operating as and for the purpose herein set forth.

37,793.—Grinding Mill.—Amos H. Searfoss (assignor to Anna Marie Hyde), Newark, N. J. :

I claim constructing a vertical mill with its bed stone secured, and held to the frame work in the manner described; combined with a feeding screw, and feeding apparatus arranged, constructed, and operated as described.

37,794.—Steam Gage.—Thomas Shaw (assignor to himself and Philip F. Justice), Philadelphia, Pa. :

I claim an apparatus when arranged substantially as set forth and for the purpose specified.

37,795.—Steam Boiler.—Samuel Steinmetz (assignor to Andrew Riersen), Chicago, Ill. :

I claim, first, A steam boiler, constructed with a known portion, D, of its exterior surface or shell, more yielding, than the remainder, for the purpose of carrying off any excessive pressure which can possibly occur, the said yielding portion being held and controlled substantially as herein explained so as to be automatically released when raised from its seat and thus prevent disastrous consequences from an explosion.

Third, The combination of the yielding head, D, levers, II I2 I3 I4, spring hooks, J1 J2 J3 J4, and returning spring, H, all constructed, arranged, and operating substantially as herein shown and described.

[This invention does not take the place of the common safety valve, but effectually prevents explosion in the event of an increase of pressure too great or sudden for the safety valve to relieve.]

37,796.—Grinding Mill.—Awsbent H. Wagner (assignor to himself and Chas. Kaestner), Chicago, Ill. :

I claim the peculiar construction of the vibrating frame, M, having four bearings by which means the stationary stone, I, can adjust itself vertically and horizontally to the running stone.

I claim the pivots, J J, grooves, K K', for holding the stone, I, when combined with my device for holding and shaking the shoe, R, and the floats or agitators, V V', arranged and operating as described.

37,797.—Snow-scraper.—Joel Hood, Milwaukee, Wis. :

I claim, first, The combination of the scraper, E, having a tongue or projection, f, with the standard, A, attached to a frame, B, by a pin, C, and springs, M M, and I, and connecting rods, O O, as and for the purpose herein set forth.

Second, I claim the stirrup, L, in combination with the devices or means recited in the above first claim, as herein described.

RE-ISSUES.

1,415.—Yellow Metal Nail or Spike.—Samuel L. Crocker, Taunton, Mass. Patented April 17, 1849. Re-issued Aug. 1, 1854 :

I claim the new article of manufacture herein above described, viz: a yellow metal nail or spike, made by the combined processes of heating the metal to redness, and in such state cutting and heading it in a nail machine and subsequently treating it substantially as described; meaning by the term yellow metal, a metal composed of copper and zinc, in the proportions in which they are usually combined in the manufacture of the well-known "Muntz sheathing metal."

1,416.—Burning Fluid.—Levi L. Hill, New York City. Patented June 16, 1858 :

I claim, first, The use of caoutchoucine for imparting greater volatility, as well as greater stability to my compounds. I wish to be distinctly understood as claiming the use of caoutchoucine only in combination with the liquids herein described.

Second, I claim as my invention the liquids herein described as Nubian Oil, A B C D, having the composition and properties set forth, to be used singly or in such relative proportions and admixture as may appear necessary to accomplish the purposes set forth.

Third, I claim passing a current of atmospheric air over or through the described mixtures or their equivalents of hydro-carbons, fluid and more or less volatile or rendered so, by the mixture or by the application of heat and using the mixture of air and the vapors of the hydro-carbon for producing light or heat or both.

1,417.—Carbureting Air.—Levi L. Hill, New York City. Patented Dec. 20, 1859 :

I claim, first, Charging air with hydro-carbon vapor by means of an apparatus composed of a vaporizing vessel, bellows or blower, air receiver, induction and ejection pipe, in combination with an independent air pipe substantially as shown and described.

Second, Combining a current of atmospheric air direct from a bellows or blower and capable of being regulated as to pressure and quantity, with another current of air that has been passed over or through a more or less volatile hydro-carbon fluid and utilizing by combustion the mixture of air and hydro-carbon vapors thus formed for generating light or heat or both.

1,418.—Pans for Evaporating and Purifying Saccharine Juice.—Cornelius Jacobs, Columbus, Ohio. Patented Aug. 6, 1861 :

I claim, first, An evaporating pan with transverse partitions operating substantially as described.  
Second, Making the partitions adjustable substantially as and for the purpose described.

Third, The specified construction of the lower edge of the partitions for the purpose set forth.

Fourth, The adjustable sirup-discharger in combination with an evaporating pan, substantially as set forth.

1,419.—Inkstand.—Orlando K. Jadwin, Carbondale, Pa., Patented Nov. 23, 1858 :

I claim, first, Supplying ink to the pen-cup of an inkstand solely by means of the pressure of the bottom of a plunger upon the ink to be applied in said cup.

Second, I claim a loosely fitting plunger, c, in combination with a well or chamber, b, substantially as and for the purpose set forth.

Third, In an inkstand the pen cup of which is charged by the pressure of the bottom of a plunger upon the ink to be supplied to said cup, I claim forming the bottom of such plunger with a cavity substantially as and for the purpose set forth.

Fourth, I claim so applying an ink or pen-cup to the plunger of a fountain-inkstand that when the pen-cup is charged with ink, the ink will remain therein, though the plunger be elevated out of the bowl of the inkstand.

1,420 (A).—Car Spring.—Richard Vose, New York City. Patented March 11, 1862 :

I claim the combination or interposition of a packing of elastic gum or its equivalent between the coils of a spiral or helical metallic spring substantially in the manner and for the purpose herein set forth.

1,421 (B).—Car Spring.—Richard Vose, New York City. Patented March 11, 1862 :

I claim the use of longitudinally indented, grooved, or channeled, metallic rods or bars, when formed into spiral or helical springs, of substantially the shape herein represented and described.

1,422.—Cotton Gin.—Mary Jane Brown, Brooklyn, N. Y., administratrix of the estate of Hiram W. Brown, deceased, late of Melville, N. J., and assignor to herself and Jeremiah Johnson, Jr., and Franklin H. Lummus, Brooklyn, N. Y., and Theodore Bourne, New York City, the assignees of said decedent. Patented March 23, 1858 :

I claim, first, The arrangement of the pressure plate and of the stripping plate in their relation to the grating of the feed-board, substantially in the manner and for the purposes set forth.

Second, The employment in combination with the roller, B, stripping plate, L, and pressure plate, F, of the yielding or vibrating feed board, having its grating formed of alternate sets of rods, o, o, and n, in the manner and for the purpose substantially as described.

DESIGN.

1,721.—Pistol Handle.—Daniel Moore, Brooklyn, N. Y. :

EXTENSIONS.

Carding Engine.—Jephtha Dyson, Philadelphia, Pa. Patented Feb. 20, 1849 :

I claim the cylinder, A, surrounded or clothed with a spiral fillet of metal teeth, in form of wire; or with teeth of metal of the form and description mentioned and described in the 4th specification as arranged and employed in the 3d and 4th specifications, in combination with the main cylinder, C, and with the cylinder, B, as well as the main cylinder only, to strip and clear the latter by a self-acting contrivance whilst the carding engine is in operation.

I also claim the cylinder, B, in combination with the cylinder, A, and the main cylinder, C, as applied to receive stripings from the former and to deliver them to the latter.

Machinery for Separating Flour from Bran.—Issachar Frost & James Monroe, Albion, Mich. Letters Patent dated Feb. 27, 1849. Re-issued March 13, 1855; again re-issued May 11, 1858, and also again re-issued Feb. 25, 1862 :

First, We claim as our invention, the combination of the essential features hereinbefore severally described and severally numbered 1, 2, 3, and 4, or their equivalents, substantially as they are described, and for the purposes specified in the several numbers.

Second, We also claim the combination of the essential features hereinbefore severally described and severally numbered 1, 2, and 5, or their equivalents substantially as they are described; the purpose of the combination being substantially as set forth in number 5.

Third, We also claim the combination of the essential features hereinbefore severally described and severally numbered 1, 2, and 6, or their equivalents, substantially as they are described; the purpose of the combination being substantially as set forth in number 6.

Fourth, We also claim the combination of the essential features hereinbefore severally described, and severally numbered 1, 2, 6, and 7, or their equivalents substantially as they are described; the purpose of the combination being substantially as set forth.

Fifth, We also claim the combination of the essential features hereinbefore severally described and severally numbered 1, 2, 4, 5, 6, and 7, or their equivalents substantially as specified; the purposes of the combination being substantially as severally set forth.

Back Numbers and Volumes of the Scientific American

VOLUMES I, II, III, IV, V, AND VII. (NEW SERIES) complete (bound or unbound) may be had at this office and from periodical dealers. Price, bound, \$2 25 per volume, by mail, \$3—which include postage. Price, in sheets, \$1 50. Every mechanic, inventor or artisan in the United States should have a complete set of this publication for reference. Subscribers should not fail to preserve their numbers for binding. Nearly all the numbers of VOL. VI. are out of print and cannot be supplied.

IMPORTANT TO INVENTORS.

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MESSRS. MUNN & CO., PROPRIETORS OF THE SCIENTIFIC AMERICAN, continue to solicit patents in the United States and all foreign countries, on the most reasonable terms.



They also attend to various other departments of business pertaining to patents, such as Extensions, Appeals before the United States Court. Interferences, Opinions relative to Infringements, &c. The long experience Messrs. MUNN & Co. have had in preparing Specifications and Drawings, has rendered them perfectly conversant with the mode of doing business at the

United States Patent Office, and with the greater part of the inventions which have been patented. Information concerning the patentability of inventions is freely given, without charge, on sending a model or drawing and description to this office.

THE EXAMINATION OF INVENTIONS.

Persons having conceived an idea which they think may be patentable, are advised to make a sketch or model of their invention, and submit it to us, with a full description, for advice. The points of novelty are carefully examined, and a written reply, corresponding with the facts, is promptly sent free of charge. Address MUNN & CO., No. 37 Park Row, New York.

PRELIMINARY EXAMINATIONS AT THE PATENT OFFICE.

The service we render gratuitously upon examining an invention does not extend to a search at the Patent Office, to see if a like invention has been presented there, but is an opinion based upon what knowledge we may acquire of a similar invention from the records in our Home Office. But for a fee of \$5, accompanied with a model or drawing and description, we have a special search made at the United States Patent Office, and a report setting forth the prospects of obtaining a patent, &c., made up and mailed to the inventor, with a pamphlet, giving instructions for further proceedings. These preliminary examinations are made through our Branch Office, corner of F and Seventh streets, Washington, by experienced and competent persons. Many thousands such examinations have been made through this office. Address MUNN & CO., No. 37 Park Row, New York.

HOW TO MAKE AN APPLICATION FOR A PATENT.

Every applicant for a patent must furnish a model of his invention if susceptible of one; or, if the invention is a chemical production, he must furnish samples of the ingredients of which his composition consists, for the Patent Office. These should be securely packed, the inventor's name marked on them and sent, with the Government fees, by express. The express charge should be pre-paid. Small models from a distance can often be sent cheaper by mail. The safest way to remit money is by draft on New York, payable to the order of MUNN & CO. Persons who live in remote parts of the country can usually purchase drafts from their merchants on their New York correspondents; but, if not convenient to do so, there is but little risk in sending bank-bills by mail, having the letter registered by the postmaster. Address MUNN & CO., No. 37 Park Row, New York.

The revised Patent Laws, enacted by Congress on the 2d of March, 1861, are now in full force, and prove 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 fees for patent applications: On filing each caveat, \$10; On filing each application for a Patent, except for a design, \$15; On issuing each original Patent, \$20; On appeal to Commissioner of Patents, \$20; On application for Re-issuance, \$30; On application for Extension of Patent, \$50; On granting the Extension, \$50; On filing a Disclaimer, \$10; On filing application for Design, three and a half years, \$10; On filing application for Design, seven years, \$15; On filing application for design, fourteen years, \$30.

The law abolishes discrimination in fees required of foreigners, excepting natives of such countries as discriminate against citizens of the United States—thus allowing Austrian, French, Belgian, English, Russian, Spanish and all other foreigners except the Canadians, to enjoy all the privileges of our patent system (but in cases of designs) on the above terms. Foreigners cannot secure their inventions by filing a caveat; to citizens only is this privilege accorded.

During the last seventeen years, the business of procuring Patents for new inventions in the United States and all foreign countries has been conducted by Messrs. MUNN & CO., in connection with the publication of the SCIENTIFIC AMERICAN; and as an evidence of the confidence reposed in our Agency by the inventors throughout the country, we would state that we have acted as agents for at least TWENTY THOUSAND inventors! In fact, the publishers of this paper have become identified with the whole brotherhood of inventors and patentees at home and abroad. Thousands of inventors for whom we have taken out patents have addressed to us most flattering testimonials for the services we have rendered them, and the wealth which has inured to the inventors whose patents were secured through this office, and afterward illustrated in the SCIENTIFIC AMERICAN, would amount to many millions of dollars! We would state that we never had a more efficient corps of Draughtsmen and Specification Writers than are employed at present in our extensive offices, and we are prepared to attend to patent business of all kinds in the quickest time and on the most liberal terms.

CAVEATS.

Persons desiring to file a caveat can have the papers prepared in the shortest time by sending a sketch and description of the invention. The Government fee for a caveat, under the new law, is \$10. A pamphlet of advice regarding applications for patents and caveats, printed in English and German, is furnished gratis on application by mail. Address MUNN & CO., No. 37 Park Row, New York.

ASSIGNMENTS OF PATENTS.

Assignments of patents, and agreements between patentees and manufacturers are carefully prepared and placed upon the records at the Patent Office. Address MUNN & CO., at the Scientific American Patent Agency, No. 37 Park Row New York.

It would require many columns to detail all the ways in which inventors or patentees may be served at our offices. We cordially invite all who have anything to do with Patent property or inventions to call at our extensive offices, No. 37 Park Row, New York, where any questions regarding the rights of patentees will be cheerfully answered.

Communications and remittances by mail, and models by express (prepaid), should be addressed to MUNN & CO., No. 37 Park Row, New York.

REJECTED APPLICATIONS.

We are prepared to undertake the investigation and prosecution of rejected cases on reasonable terms. The close proximity of our Washington Agency to the Patent Office affords us rare opportunities for the examination and comparison of references, models, drawings, documents, &c. Our success in the prosecution of rejected cases has been very great. The principal portion of our charge is generally left dependent upon the final result.

All persons having rejected cases which they desire to have prosecuted are invited to correspond with us on the subject, giving a brief story of the case, inclosing the official letters, &c.

FOREIGN PATENTS.

We are very extensively engaged in the preparation and securing of patents in the various European countries. For the transaction of this business we have offices at Nos. 66 Chancery Lane, London; 29 Boulevard St. Martin, Paris; and 26 Rue des Eperonniers, Brussels. We think we can safely say that three-fourths of all the European Patents secured to American citizens are procured through the Scientific American Patent Agency, No. 37 Park Row, New York. Inventors will do well to bear in mind that the English law does not limit the issue of patents to inventors. Any one can take out a patent there.

Circulars of information concerning the proper course to be pursued in obtaining patents in foreign countries through our Agency, the requirements of different Government Patent Offices, &c., may be had gratis upon application at our principal office, No. 37 Park Row, New York, or any of our branch offices.



L. K., of N. Y.—In referring to articles which have appeared in the SCIENTIFIC AMERICAN, it would save us much trouble if correspondents would mention the pages instead of the dates. Your article is well written, but of no general interest to our class of readers.

C. B. R., of Mass.—Colonel Bissel, who has charge of the engineering operations for cutting the canal to isolate Vicksburgh, is a practical engineer, and is well acquainted with excavating machines. If they can be applied to his purpose, he will, we think, not fail to make the application.

J. F., of Ohio.—The chloride of calcium is made by dissolving marble in muriatic acid, then evaporating the free liquid and fusing the solid product. It is a white crystalline substance, and absorbs water rapidly from the atmosphere. It is employed to dry gases and abstract water from alcohol. It must be kept in a sealed bottle or it will become quite damp.

M. P. H., of N. H.—Molds made of common clay will remain plastic for a considerable length of time after being formed and they may be hardened almost like stone by heat. They require to be dried slowly or they will crack. A little glycerine mixed with clay or with chalk, used for molds, will keep them soft for a long period. By referring to our prospectus in another column you will notice the subscription price of the SCIENTIFIC AMERICAN.

J. S., of Ill.—Glass tubes only are suitable for barometers. They may be of any diameter, provided they are smooth and equal in the size of bore. Crude mercury will not answer for filling them. The method of purifying mercury for barometers is described in most treatises on chemistry. Neither tin, copper or zinc will answer for the bulbs of thermometers, as the mercury will amalgamate with these metals.

J. B., of Pa.—The way to make a good lubricating oil for clocks and fine machinery is to mix common sweet or sperm oil with its own weight of alcohol in a vial, agitate it occasionally for a few hours, allow it to settle and use the clear. Pure glycerine will not congeal in cold weather, and we think it is the best lubricator you can use.

H. S. R., of C. E.—We cannot give you more information respecting the "photographic camera" than is obtained in the advertisement to which you refer.

S. L. P., of Mich.—The volume of D. Kirkaldy, containing an account of his experiments with iron and steel, is not reprinted in this country.

R. S., of Mo.—The enamel gloss upon shirt collars and bosoms is the result of practical skill. The linen must be well starched, then a clean iron, hard pressure and friction upon the cloth, will produce the gloss.

W. E., of N. B.—Machinery for scutching and preparing flax for spinning to make cloth, is not manufactured in this vicinity. The best machinery for preparing spinning flax, that we have seen, was made at the works of Sir Peter Fairbairn, Leeds, England. The plant which you have sent us is the common milk-weed. Its fiber is beautiful, but very weak. It may be rendered suitable for some fabrics; a practical test alone can decide such a question.

C. E. K., of Mo.—The principal ingredient in potter's clay is silica. The common kinds consist of about 60 parts of silica, 30 of alumina, 1 of iron and 1 of lime. The iron and lime are impurities. In making pottery the clay is ground, then molded or spun upon a potter's lathe, then carefully dried and afterwards baked in a kiln heated to a very high temperature.

T. R. H., of Mass.—We have seen frictional gearing successfully applied to as small machines as hay-cutters.

R. H., of Md.—Address Mr. F. Storer, chemist, Cambridge, Mass., respecting his experiments with alloys.

O. L., of N. H.—We dont know what kind of sand you use in molding your castings, therefore cannot say whether it is good or not; if the castings are rough, the facing you use is not suitable; fine flour, charcoal and black lead, are used by molders for this purpose. If your patterns don't draw, the draft must be bad, or perhaps there is some glue about them that, by getting damp, causes the sand to adhere. Finely-sifted loam is the best material for molding smooth castings.

F. C. W., of Wis.—Your engine will work up to about 20 horse-power. You will require fifteen square feet of heating surface for every horse-power. If your boiler contains that amount you will have enough. If not, not. From the dimensions you have sent us, your boiler appears large enough to drive two such engines as you describe. You say nothing about the pressure you intend to work at, and have, consequently, omitted the most important item of the whole matter.

A. E. T. Jr., of Ohio.—The composition for priming percussion caps consists of fulminating mercury, 3 parts, by weight; chlorate of potash, 5 parts; powdered glass, 1 part. This powder is very dangerous. Another fulminate for percussion caps consists of the chlorate of potash, 6 parts; sulphur, 3 parts; powdered glass, 1 part; charcoal, 1 part. You will find a very full description of the mode of making percussion caps on page 392, Vol. IV (new series) of the SCIENTIFIC AMERICAN.

A. W. B., of N. Y.—Nitric acid is employed to etch steel plates for engraving. Those parts of the plate not to be etched are covered with a varnish made of resin and wax. Mechanical drawing is taught in the Cooper Institute.

C. A. B., of Mass.—A ball fired vertically will descend with the same force with which it was projected, minus that which is absorbed by the resistance of the atmosphere.

E. B., of Mass.—Steel wire is used for clock bells. Apart from the "surroundings" of wire bells in clocks, the wire itself would make miserable music.

A. S., of N. Y.—Hard india-rubber is polished like the fine metals. No oil is used in the polishing operations, as it tends to soften the india-rubber.

W. M. F., of N. J.—On page 384, Vol. VI of the SCIENTIFIC AMERICAN, you will find a description of a projectile on the same principle as yours. We do not think you could obtain any patent on your invention.

S. C., of N. Y.—Fire-clay tiles are manufactured at several works near this city, but we know not where tiles similar to those used in England for malt-kilns are made.

Z. T. W., of R. I.—Your sketch represents a coil of pipe heated by steam placed in a vessel for "trying lard." You inquire if a patent can be obtained for the improvement. This mode of heating boilers by steam is at least half a century old, and is not therefore patentable. Try again.

G. T. C., of Mich.—All our soda ash is imported. You state that the manufacture of this substance may be rendered a profitable business in a salt country, like that where you reside. This depends on the cost of sulphuric acid, which is required in its manufacture. At present soda ash could be manufactured at less cost near the sea-board than in the interior of the country.

Money Received

At the Scientific American Office, on account of Patent Office business, from Wednesday, February 25, to Wednesday March 4, 1863:—

- G. S., of Mass.; C. D., of N. Y.; \$28; B. & H., of N. Y., \$20; J. M. Y., of N. Y., \$20; T. J. P., of Ohio, \$20; A. C. F., of N. Y., \$15; J. W. D., of Conn., \$44; D. D., of N. Y., \$15; J. W. S., of N. Y., \$20; G. R., of Ky., \$20; A. B. T., of N. Y., \$16; E. R., of Ill., \$16; E. K. B., of Conn., \$25; O. C. S., of Mass., \$22; H. B. S., of Ill., \$25; G. A. T., of Wis., \$26; E. E., of Ill., \$25; J. P., Jr., of Cal., \$50; W. J. S., of Ohio, \$15; M. & B., of Ohio, \$45; T. I. E., of Ind., \$20; A. B., of N. Y., \$30; F. W. R., of N. Y., \$12; H. C., of Ohio, \$20; K. P. K., of Vt., \$20; H. M., of N. Y., \$15; E. S., of N. Y., \$20; T. & N., of N. Y., \$30; J. E. T., of Pa., \$44; J. H. V., of Mass., \$20; H. T., of N. J., \$15; A. C., of Vt., \$26; J. W., of Mass., \$30; C. R. S., of N. H., \$25; G. J., of N. Y., \$16; J. B., of Ill., \$16; P. L., of N. J., \$16; J. C. K., of Mass., \$26; A. T. W., of Ind., \$25; M. B. W., of Conn., \$16; L. G. K., of Conn., \$25; B. D. S., of N. Y., \$16; R. G., of N. Y., \$26; W. W., of N. J., \$20; P. M., of Germany, \$20; G. B. R., of Mich., \$65; L. D., of N. Y., \$15; P. R., of N. Y., \$20; H. & D., of N. Y., \$16; W. & L., of N. Y., \$14; N. F. B., of Pa., \$30; A. W., of La., \$10; J. D. B., of Vt., \$20; J. B. S., of Conn., \$16; J. H. R., of Mich., \$15; C. H. G., of C. E., \$25; T. H. A., of Ill., \$44; J. I. C., of Wis., \$15; C. A., of Cal., \$50; J. A. G., of Iowa, \$16; J. W. B., of Ill., \$15; W. K. M., of Wis., \$16; M. D. H., of N. Y., \$25; S. and P., of N. Y., \$25; H. B. M., of N. Y., \$12; W. W., of Cal., \$20; J. B., of Ind., \$25; J. H., of Ill., \$16; J. B., of Ill., \$30; H. K. H., of N. J., \$16; L. M. Van S., of N. J., \$16; J. H. F., of Mass., \$25; C. O., of N. Y., \$16; N. P. B., of N. Y., \$16; R. P., of Wis., \$16; R. B., of Pa., \$15; S. M. S., of Iowa, \$25; W. B. A., of Ohio, \$25; J. H., of Ohio, \$25; R. G., of Ind., \$25; H. B., of Iowa, \$25; J. N. N., of Iowa, \$20; J. T., of Wis., \$16; R. W. S., of Mass., \$16; J. B., of Iowa, \$30; G. H., of Mass., \$16; C. A. W., of N. Y., \$25; J. H., of Cal., \$25; D. G. H., of Mass., \$36.

Persons having remitted money to this office will please to examine the above list to see that their initials appear in it, and if they have not received an acknowledgment by mail, and their initials are not to be found in this list, they will please notify us immediately, and inform us the amount, and how it was sent, whether by mail or express.

Specifications and drawings and models belonging to parties with the following initials have been forwarded to the Patent Office from Wednesday, February 25, to Wednesday, March 4, 1863:—

- G. S., of Mass.; A. B., of N. Y.; R. G., of N. Y.; C. D., of N. Y.; F. W. R., of N. Y.; J. W. D., of Conn.; J. E. T., of Pa.; J. H., of Cal.; J. W., of Mass.; E. K. B., of Conn.; C. H. G., of C. E.; S. C. K., of Mass.; A. T. W., of Ind.; L. G. K., of Conn.; H. B., of Iowa; J. H., of Ohio; R. G. of Ind.; W. B. A., of Ohio; W. W., of Cal.; J. M. S., of Iowa; S. and P., of N. Y.; J. H. F., of Mass.; W. W. W., of Conn.; M. D. H., of N. Y.; J. B., of Ind.; C. A. W., of N. J.; C. R. S., of N. H.; H. B. M., of N. Y.