tion relating to it may be obtained of Charles Atkinson, of Moline, Ill., or Joseph Atkinson, of Newbury, Vt.

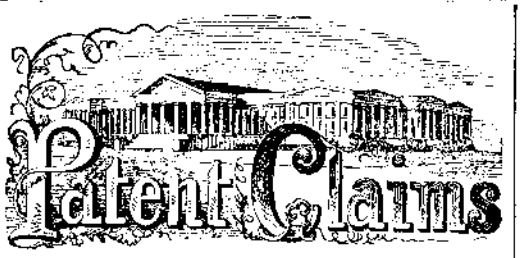
Pulley Block.—The ordinary tackle or purchase blocks have their pulleys so arranged that they will turn as freely as possible on their axis, both in raising and lowering articles which are suspended to them. This free turning of the pulleys is of course an advantage in raising the articles, but in lowering them it is a decided disadvantage, as the operators have not sufficient control over the descent of the articles, owing to an insufficiency of friction, and frequently a great deal of time and labor is expended in lowering articles to the desired spot, and also in keeping them in a proper line of ascent. To obviate this difficulty is the object of this invention, which consists in arranging with the pulleys, ratchets, pawls and side flanges, in such a manner that, in lowering suspended articles, the pulleys will be subjected to a requisite degree of friction to give the operator full control over the tackle blocks in lowering the articles. J. J. Doyle, of No. 371 Eighth street, New York, is the inventor of this improvement, half of which has been assigned to C. L. Perkins, of No. 54 Exchange Place, New York.

Valve Chest.—The main obstacle which has heretofore presented itself to the successful use of piston valves for the induction and eduction of steam engines has been the unequal expansion of the cylindrical bearings or seats in which such valves work, which has caused the valves either to bind during a portion of their stroke, or else to fit too loosely during another portion thereof; but for this difficulty, such valves, owing to the simple manner in which they can be "balanced," would have been more generally adopted. The object of this invention is to provide for the equal expansion of the cylindrical bearing or seat throughout its whole length, and to this end it consists in a certain arrangement of a steam jacket surrounding or partly surrounding the whole length of the bearing or seat, and communicating with both ends thereof, in such a manner that the steam will heat the said bearing or seat equally throughout the whole length. T. S. Davis, Jersey City, N. J., is the inventor of this improvement.

Door Lock.—The object of this invention is to combine a bar with a lock in such a manner that the bar, which is at the inner side of the door, may be opened by means of the lock from the outer side of the door, the bar being so arranged as to extend entirely across the door, and serve as a far more secure and efficient fastening than the ordinary lock bolts, and more so than the bars and bolts which are adjusted from the inner side of the door, as the bar in this improvement cannot be raised or operated upon by cutting through the door, but only through the medium of the lock. A. Clabaugh, of Atlanta, Pa., is the inventor of this improvement.

Solar-time Globe.—The object of this invention is to arrange a terrestrial globe in such relation to a dial plate and index, that the culminating time of the sun, and consequently the true solar time and also the clock or mean time, can be observed simultaneously at any moment. The invention consists in the arrangement of a terrestrial globe on a horizontal axis, in combination with a revolving annular dial incircling the globe, and adjustable by means of set screws and with a stationary index or pointer, in such a manner that, by the index, the culminating time of the sun on any part of the globe can be observed, and at the same time the clock or mean time can be read off for a certain location for which the dial has been adjusted. T. R. Timby, of Saratoga Springs, N. Y., is the inventor of this improvement.

Sad-iron and Heater.—This invention relates to an improvement in sad-irons or flat-irons as they are frequently termed, and consists in constructing the side with a shell or case in which a sliding or adjustable heater is placed, arranged in such a manner that the iron may be applied to a coal-oil lamp, made to serve as a draught chimney for the same, and be heated very expeditiously, a cold iron being applied to the lamp as a heated one is removed, an order that the lamp may always be provided with a chimney, and a heated iron be always at command during the process of ironing. O. W. Preston and C. Barry, of Corning, N. Y., are the inventors of this improvement.



ISSUED FROM THE UNITED STATES PATENT OFFICE

FOR THE WEEK ENDING JUNE 30, 1863.

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*** Pamphlets containing the Patent Laws and full particulars of the mode of applying for Letters Patent, 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.

39,107.—Device for operating Churns.—Henry C. Addis, Springfield, Ill.:

I claim the combination of the spring, L, and treadle, I, with the rock-shaft, D, weighted pendulum, F, adjustable arm, C, adjustable pivoted dasher-rod, B, and churn, A, all in the manner and for the purpose herein shown and described.

[The object of this invention is to obtain a means whereby reciprocating churns, that is to say, those which are provided with rising and falling dashers, may be operated with greater facility than by the ordinary application of the hands to the dash-rod.]

39,108.—Potato Digger.—Theodore Baker, Stillwater, N. Y. Ante-dated July 2, 1862:

I claim the arrangement of the flaring bars, E, and the spiral arms, L, attached to the shaft, F, constructed and operated as and for the purpose specified.

39,109.—Metallic Cartridge.—William Bakewell, Pittsburgh, Pa.:

I claim the use of metallic cartridges so constructed that that portion of the case which enters the charge chamber or breech of the fire-arm (whether tapering or having its sides parallel to its axis), shall be of such shape that a cross section at right angles to its axis will be an ellipse, triangle, square, or other curved or polygonal figure, the perimeter of which will be less than the circumference of a circumscribed circle, so that the cartridge fitting closely in the charge chamber when the piece is loaded, shall, by the expansive force of the discharge, have its longest diameter reduced sufficiently to loosen it when the piece is fired, substantially as herein before described.

39,110.—Shingle Machine.—Joseph Beaudreau, Fond du Lac, Wis.:

I claim, first, The endless chain carriage constructed of segment formed links, h1 h2, cross-bars or ties, h3, the latter at each end, projecting beyond the links, and forming guides, h4, which travel in ways m, and thereby support the bolts, as they are successively fed to the saw, in a proper position to have a shingle cut from the underside of each bolt; in combination with the tilting table, n, and horizontally revolving circular saw, c, when the whole is arranged to operate in the manner and for the purpose specified.

Second, The tilting table, n, and triangular shaft, n4, in combination with the spring, s, and arm, n6, or their equivalents; when arranged to operate in the manner and for the purpose specified.

Third, The pins, a, projecting from the under side of the endless chain carriage, in combination with the gear or toothed wheel, n5, and triangular shaft, n4, when arranged to operate in the manner and for the purpose specified.

Fourth, The worm or screw, d′, and helical spring, d2, in combination with the beveled toothed cog-wheel, c, and shaft, f, when arranged to operate in the manner and for the purpose specified.

[This machine is of that class in which the shingles are cut from bolts by horizontally revolving circular saws, a number of bolts being fed successively to the saws by an endless chain belt. This invention consists in certain novel devices, whereby the machine is made to automatically adjust itself so as to cut the shingles, tip and butt alternately from each side of the bolts. It also consists in a novel device whereby the saws are protected against injury when brought in contact with a hard or knotty place in the bolt.]

39,111.—Composition for sealing Preserve Jars.—Jesse Beckley, Cincinnati, Ohio:

I claim the composition for sealing preserve jars, composed and compounded as set forth.

39,112.—Projectile for Rifled Ordnance.—Alfred Berney, Jersey City:

I claim the combination with the polygonal extension, b, of the depression, a a, notches, d d, and the hollow conical packing ring, B, formed with a shoulder, e, all the parts being constructed, arranged, and combined to operate together in the manner herein shown and described.

[The object of this invention is to obtain a simple mode of combining a packing ring with an elongated projectile which shall both compel it both to transmit to the projectile the rotary motion which it acquires in passing along the rifle grooves of the gun, and to remain securely attached to the projectile during the flight of the latter. It has been proposed to combine the ring with the projectile by constructing the interior of the ring of polygonal form and constructing the projectile with a polygonal projection on its base to fit the so-constructed ring but while this may have provided for the rotary motion of the projectile it has afforded no adequate provision for preventing the ring from flying off after the discharge of the projectile from the gun. This invention consists in making the front portion or portions of one or more of the sides of such polygonal projection with inward inclination, giving the said projection the character of a dove-tail by which the ring is prevented from flying off; also in providing notches or recesses in the shoulder formed upon the projectile in front of the said projection, into which portions of the ring may be driven by the action of the gases diminated by the firing of the charge of the gun and thereby made to aid the ring in transmitting rotary motion to the projectile.]

39,113.—Machine for cutting Thin Timber.—Benjamin F. Betts, Tonawanda, N. Y.:

I claim the combination and arrangement of the sliding box with oblique motion, thereby giving by movement of the block a drawing cut to the knife, in combination with the diagonal position of the knife attached to the immovable bed-plate; and the arrangement of eccentrics for elevating or depressing the movable bed-plate.

39,114.—Instrument for indicating the Depth of Water in Cisterns.—H. L. Brevoor, Brooklyn, N. Y.:

I claim the arrangement of the flexible diaphragms, b b b′, to form an expanding chamber within the box, A, and in combination with a spring, i, substantially as herein specified.

[This invention relates to instruments for indicating the depth of the bilge water in a ship or other vessel, or of the water in a tank or other reservoir by the agency of the pressure of the column of such water acting through the medium of air. In carrying out the invention there is used a series of flexible, sectional, or annular diaphragms such as are used in the bilge and leakage indicator which constitutes the subject matter of setters.]

39,115.—Tea Pot.—Alexander M. Bristol, Detroit, Mich.:

I claim as an improved article of manufacture a tea-pot and water-urn, arranged and combined in the manner substantially as set forth.

[This invention consists in having a vessel composed of two separate compartments, one for tea and the other for hot water, and having each compartment provided with a spout, whereby both tea and hot water may be obtained from the same vessel and the tea kept at a proper warm temperature by the hot water, which receives its heat from a lamp underneath the vessel.]

39,116.—Mosquito Bar.—Asa L. Carrier, Washington, D. C.:

I claim, first, A portable insect shield so constructed as to be operated from the outside, substantially as described by means of levers, A and B.

Second, Levers, A′, constructed and operating as described, in combination with levers, B.

Third, Levers, B, constructed and operating as described, for the purposes set forth.

Fourth, The clasp, C, constructed and operating as described for the purposes set forth.

Fifth, The braces, D, constructed and operating as described, in combination with tension cords 1 and 2.

39,117.—Lock.—Andrew Clabaugh, Altoona, Pa.:

I claim the disk, C, provided with the spring, g, the slide, D, tumbler, F, and slide, B, all arranged and combined to operate in connection with the bolt, H, as and for the purpose specified.

I further claim the semi-circular slide or guard, K, when combined and arranged with the disk, C, slide, D, tumbler, F, and slide, B, for the purpose specified.

39,118.—Mole Plow.—Stillman A. Clemens, Rockford, Ill.:

I claim, first, The mole, a, attached near its forward end by a pivot pin near to the front edge of the lower end of a cutter bar, b, substantially as described and for the purposes specified.

Second, A cutter bar, b, attached to a mole plow beam, h, by the herein described or an equivalent mode which allows free pendulous and hinge movements to the cutter-bar, substantially as described and for the specified purposes.

39,119.—Machine for preparing Tow from Tangled Flax Straw.—George F. Clemons, Springfield, Mass.:

I claim, first, The breaking rollers, K, cylinder, H, constructed with concave ends, i, and having holes, k, made in it as shown and provided with teeth, h, and wings, i, and the open endless apron, J, when all are combined and arranged to operate as and for the purpose herein set forth.

Second, The side-pieces or strips, g g, placed over the endless apron, F, for the purpose of reducing the width of the same, when said side strips or pieces are used in connection or combination with the cylinders, D, H, concaves, E I, breaking rollers, C C′ K, and endless apron, J, for the purpose herein set forth.

[This invention consists in a combination and arrangement of breaking rollers, toothed cylinders and concaves, and discharging and feed aprons, one of the toothed cylinders being so constructed as to serve as a fan or blower, whereby the desired work, to-wit the preparing of tow from tangled flax, may be accomplished in a rapid and thorough manner.]

39,120.—Breech-loading Fire-arm.—John Webster Cochran, New York City:

I claim, first, The safety guard or guide, i, in connection with the recoil block, b, as set forth.

Second, I claim the arm, j, attached to the hammer, f, for throwing it back to half-cock by coming in contact with another lever or spring, j′, when opening the breech by throwing the recoil block down as described.

39,121.—Hooks and Eyes for Connecting Cords.—Abiel Codding, Jr., North Attleboro', Mass.:

I claim the improved socketed hook and eye, having the socket tubes, a, thereof provided with serrations, teeth, or prongs, arranged in the manner and for the purpose as specified.

39,122.—Seed Planter.—Edward Cox, Point Pleasant, Ohio:

I claim the arrangement of the slide, H, and spring, J, with the pulleys, E G, belt, I, seed cups, h, concave, F, box, D, spout, K, gate, M, and seed hopper, L, all in the manner herein shown and described.

[This invention consists in a novel seed-distributing device composed of an elevator formed of cups attached to an endless band or chain having a tension spring connected with it in such a manner that the belt or chain will always be kept in a proper state and made to operate perfectly.]

39,123.—Locomotive Boiler.—Benjamin Crawford, Pittsburgh, Pa.:

I claim, first, The arrangement of the super-heating tubes, c c, in line with the flues, a a, when the chamber which contains the tubes, c c, is constructed with a vertical diaphragm, g, and the whole enclosed by the case, E, of the boiler, substantially as and for the purpose set forth.

Second, The combination of heads, d d′, flues, c c, steam pipes, D G, and diaphragm, g, arranged and operating substantially as herein described and for the purpose set forth.

39,124.—Plumb, Level and Square.—D. G. Davison, E. Pullen, Prospect Plains, N. J., and J. S. Davison, Cranberry, N. J.:

We claim the mode of combining a plumb, level and square together, by means of forming that part of the square wherein the plumb is hung hollow or like a case, with an opening on either side at the lower part so that the plumb can be easily seen and brought to an exact perpendicular by means of marks or other indications as above set forth and as shown in the various figures, or when the aforesaid combination is attained by other means, substantially the same as those herein arranged and described.

39,125.—Valve Chest for Steam Engines.—Thomas S. Davis, Jersey City, N. J.:

I claim the arrangement of the open-ended valve cylinder, B, within the casing, A, in such manner that a steam jacket or space, a, is formed between them, which surrounds or nearly surrounds the whole length of the said cylinder and which communicates with the said cylinder at the ends thereof, for the induction of the steam thereinto, substantially as and for the purposes herein specified.

39,126.—Corset.—Horace H. Dayton, Worcester, Mass.:

I claim a corset combining the adjustable shoulder-straps, D, body, A, and extensor, J, or the equivalent thereof, substantially as shown and described.

39,127.—Cooking Stove.—William S. Deisher, Hamburg, Pa.:

I claim, first, The flues, H H, provided with openings, H′ and i, in combination with the air-heating space, J, and flue, L, when arranged in the manner and for the purposes specified.

Second, The combination of the flues, H and L, with the openings, b and s′, valves, M S, and oven, C, when arranged in the manner and for the purpose specified.

[This invention consists in a novel arrangement of passages or flues in a cooking stove, whereby, without detracting in the least from the efficiency of the stove for cooking purposes, a large amount of heating surface is obtained which may be used for heating air and this air used for warming the apartments of the building in which the stove is placed.]

39,128.—Hay Elevator.—James M. Dick, Buffalo, N. Y.:

I claim, first, The employment of the screw, B, in the manner and for the purpose herein described and set forth.

Second, I claim the bolt, D, in combination with the flange, E, and screw, B, when used for the purpose herein specified.

Third, I claim the hook, L, in combination with the handle, A, and screw, B, when used as herein set forth.

39,129.—Coal Oil Heater.—H. W. Dopp, Buffalo, N. Y.:

I claim, first, The adjustable small disk, a, in combination with the perforated distributing plate, A, for the purpose as set forth.

Second, I claim the mode of vaporizing coal oil of any gravity, or other hydro-carbon liquids for heating and cooking purposes, by means of a retort without wicking or packing of any kind or form, so arranged that the supply of oil enters into the retort below the point of vaporization as described.

Third, I claim the combination of retort, C, and draw-off valve, H, for the purpose described.

39,130.—Tackle or Purchase Block.—John James Doyle, New York City:

I claim the employment or use in tackle blocks of ratchets, E, and pawls, F, arranged and combined with pulleys, D, and either with or without the flanges, G, to operate as herein set forth.

39,131.—Spring Catch for Lamps.—Daniel A. Draper, East Cambridge, Mass.:

I claim the construction of the spring catch, and its application or arrangement, relatively to the deflector holder and the wick-tube, the whole being substantially as above described.

39,132.—Clod-crusher and Harrow.—George W. Dubuisson, Jerusalem South, N. Y.:

I claim the combination of the clod-crusher, A, and harrow, C, connected by hinges or joints, D, and arranged substantially as herein shown and described.

39,133.—Riding Stirrup and Hood.—Robert Nelson Eagle, Washington, D. C.:

I claim, first, A stirrup frame of wood bent as described, with arms close together at their upper ends in combination with a cap strap or band, applied to the inside or outside or both inside and outside of the frame to sustain the means of suspension, substantially as set forth.

Second, A toe-piece or hood of leather or analagous material, stamped or prepared by dies in proper form, adapted to fit within or on the outside of the frame, or partially within and partially on the outside, substantially as set forth.

[This is an improvement on the army stirrup in common use. By the improvement an article is produced possessing much greater strength and durability, and an improved appearance at a reduced cost.]

39,134.—Egg-beater.—Timothy Earle, Smithfield, R. I.:

I claim the use of a series of cutting edges, a a a a, when attached to a frame, A, which is capable of being rotated, substantially as described for the purposes specified.

39,135.—Manufacture of Alkaline Silicates.—Thomas Elkinton, Philadelphia, Pa.:

I claim manufacturing silicate of soda by permitting a supply of the ingredients of which it is composed to fall on to the bed of a furnace, down which as well as down other beds if required, the fused silicate flows in a continuous stream to the outlet opening, and while taking its course is subjected to the direct heat of the furnace as described.

39,136.—Breech loading Fire-arm.—William H. Elliott, Plattsburgh, N. Y. Ante-dated Jan., 23, 1863:

I claim, first, The use of the sliding breech, d, lever, h, and link, g, when these devices are arranged and employed substantially as herein specified in relation to each other, and to the rest of the arm.

Second, The use of the sliding breech, d, lever, h, and link, g, when these devices are arranged and employed substantially as specified in relation to each other, and when the sliding breech moves back and forward upon shoulders or guides which are so curved as to conform to the shape of the arm, as set forth.

39,137.—Braiding Machine.—Henry Fletcher, Providence, R. I.:

I claim the combination of the switch cam, C, of the racer with one or more pins, D D, or the equivalent thereof, raised on the race plate, the same being arranged so as to operate substantially in the manner and for the purpose as herein before specified.

39,138.—Braiding Machine.—Joseph Fletcher, Providence, R. I.:

I claim an improvement in the braiding machine, the same consisting in having the racers and driving wheels or gears and the supports of the racer so constructed, that the weight of the racer shall be borne on each of the said driving gears, while in the act of being driven by such gears.

And I also claim the combination of the recessed plate, D, or its equivalent, with the racer base, b, and the driving wheel or gear, C, on which such plate is affixed, such plate being for the purpose, and to operate in manner substantially as herein before explained.

39,139.—Fabric for Roofing.—Joseph J. Fuller, Brooklyn, N. Y.:

I claim preparing sheets of roofing paper, with the water-proofing compound set forth in the manner specified.

39,140.—Ventilating Railroad Cars.—Charles Dana Gibson, New York City:

I claim the arrangement of a shaft, C, provided with right-and-left-handed screw-wheels, N and M, in the water-tank of a locomotive tender, above the level of the water, in combination with suitable openings in the sides of the tender, and with an escape pipe, P, on the top of the tender, and operated in the manner and for the purpose as described and set forth.

39,141.—Wringing Machine.—Heman Glass, Honeoye Falls, N. Y.:

I claim the standards, A A, provided with the straight and bevelled opening, c c, the curved clamp, G, connected with the cross support, b, by the guide pins, g g, and elastic strips, h h, and the tightening screws, i i, the whole arranged, combined and operating substantially as and for the purpose herein set forth.

39,142.—Beehive.—John A. Gruver, West Union, Iowa:

I claim a bee-house or bee-palace provided at its sides with horizontal shelves, e e, and flaps or doors, E, to receive the spare honey boxes, I, and also provided with horizontal internal ledges, d, to support the hives, a door, D, at each end, and an inverted pyramidal lower part, a, with a flap, H; the house or palace being supported by as uitable framing, A, all constructed and arranged as and for the purpose set forth.

39,143.—Hame-tug.—Levi Hall, Henrietta, Mich.:

I claim, first, By making hame-tugs for harnesses in two separate parts except the forward end where the hame rivets on, so as to admit the trace between the two pieces of the hame-tug.

Second, By fastening the trace to the hame-tug by two bolts or thumb-screws, in the manner herein described and represented by the drawings.

39,144.—Shoe Fastening.—E. C. Harrington, Fair Plains, Mich.:

I claim the elastic detachable bands, D, as applied to the shoe substantially as described.

39,145.—Balance.—Sandy Harris, Philadelphia, Pa.:

I claim the manner, mode and means, substantially as set forth and described, of arranging, moving, and denoting the movements of the weight to and from the fulcrum or knife-heads, for weighing purposes, or for testing the pressure of steam, and whether used in this or any other form of balance.

39,146.—Grain Separator and Cleaner.—David W. Harshbarger, Myersburgh, Pa.:

I claim the arrangement and combination of the concave and convex hulling stones, I I', spindle, G, adjusting beam, L, cam-wheel, d, rock lever, D, vibrating screen, C, and conveyer, H, in such a manner that the grain is screened and conveyed to the stones, and said stones are adjusted without affecting the action of the screen, substantially as herein set forth.

I also claim the fan beater, N, revolving in the chamber, M, the perforated bottom, m, compartments, n o p, and the auxiliary exhaust fan, P, the two fan chambers being connected by the passages, q r, the whole arranged, combined, and operating substantially as and for the purposes specified.

I also claim the specific arrangement of the whole machine, whereby a draft is produced between the stones and through the grain, from the time of its ingress to its exit, substantially as herein described.

39,147.—Device for preserving Postage Stamps.—James P. Herron, Washington, D. C.:

I claim to preserve postage stamps, &c., after being damp or wet from adhering and drying together or to surfaces injuring them or rendering them useless, as specified and set forth.

39,148.—Bill and Currency Holder.—George B. Isham, Burlington, Vt.:

I claim the arrangement of the trap doors, B, provided with cross-shaped projections, k, in combination with slots, l, in the rear walls of the several compartments of the tray, A, constructed and operating as and for the purpose herein shown and described.

And I also claim the arrangement of the hooks, m, on the front walls of the several compartments in combination with springs, m, and with the handles, j, of the trap doors, B, constructed and operating in the manner and for the purpose substantially as specified.

[The object of this invention is a compact, simple and cheap device for holding in different compartments and separate from each other letters, bills and currency of the various denominations in such a position, that such bills or letters can be readily put in or taken out either singly or in quantities of two or more and that the same when put in, are held in place by suitable weights and protected against being blown off. An engraving and description of this invention has been published in No. 29, Vol. VIII., of the Scientific American.]

39,149.—Skate.—Luman F. Johnson, Buffalo, N. Y.:

I claim, first, The application and use of a lifting screw shaft, F, placed between the skate runner and wood for the purposes and substantially as set forth.

Second, I also claim the metal disk, C, having an undercut dove-tail notch in combination with a runner bent at both ends and fitted in said notch, as a means of fastening the runner to the wood, substantially as described.

39,150.—Combined Knapsack, Tent and Litter.—Louis Joubert, Paris, France:

I claim the arrangement of the knapsack, A, with straps, h h' k k', poles, E E', cross-bars, F, with hinged legs, e, straps, f, and canvas, D, all combined and operating in the manner and for the purpose substantially as herein shown and described.

[The object of this invention is to combine all the elements necessary to make a litter or one-half of a tent with a knapsack, in such a manner that the same can be conveniently carried by a soldier, giving him the opportunity to provide the means for carrying a wounded or sick comrade from the battle-field, or to shelter himself against the sudden changes of the weather.]

39,151.—Bit Stock.—Samuel U. King, Windsor, Vt.:

I claim the improved bit-stock, as having the shank and handle pivoted together as described, and combined with a chambered sleeve made and applied to both in manner and so as to operate therewith substantially as specified.

39,152.—Carpet Bag Frame.—Samuel Lagowitz, Newark, N. J.:

I claim having the cover, B, made of elastic wood and attached to one of the wooden jaws, A, by stays, all as herein shown and described.

[This invention consists in a frame for carpet bags made of wood in such a manner that a cheaper frame is produced than the ordinary iron frame, and a frame which is less liable to get out of order, which is stronger, more durable, easier to transport and easier to manufacture.]

39,153.—Lamp Wick.—E. B. Larcher, New York City:

I claim for the wicks of lamps, the holder containing asbestus, substantially as described, in combination with common wicking extending down into the reservoir of the lamp, substantially as and for the purpose specified.

39,154.—Lamp.—A. B. Latta, Cincinnati, Ohio:

First, I claim the connection of a common burner with the inverted metallic chimney, C, by means of solder, so as, when used with a single metallic cone, to make a conductor of heat from the flame to the air inside the chimney, thereby rarefying the air and producing an upward current therein.

Second, I also claim the combination of the inverted chimney, C, with the oil chamber, G, when used with a single metallic cone, so as to direct the current of air passing between the inverted chimney, C, and the oil chamber, G, against the flame on all sides, thereby sustaining the flame without the aid of a glass chimney or other appliances.

39,155.—Sap Spile.—J. M. Le Count, Hartford, Wis., and G. R. Boynton, Chicago, Ill.:

We claim, first, A machine for forming sap spiles from sheet metal, when constructed in a similar manner and for the purposes herein described.

Second, We claim the combination of the several parts of said machine, when constructed in like manner and for the purposes hereinbefore described.

39,156.—Boot and Shoe.—G. W. Ludlow, Elizabeth, N. J.:

I claim the application of a spring, b, to the back seam of a boot or shoe, in the manner and for the purpose substantially as shown and described.

[An engraving and description of this invention was published in No. 24, Vol. IX. (new series), Scientific American.]

39,157.—Oil Can.—John Mayher, East Hampton, Mass.:

I claim, first, Taking the air in at the bottom of the can, A, instead of at the top, as specified.

Second, The arrangement of the conical reservoir, D, with the tube, F, in combination with the air tube, E, extending up through the bottom of the can, A, as and for the purpose shown and described.

[This invention consists in the arrangement of an air passage extending from the bottom of an oil can up near to its top, in such a manner that free access to said passage can be had at all times without taking the oil can to pieces, and that the same can be prevented from stopping up; the invention consists also in the arrangement of a reservoir on the inside of the bottom of the can and surrounding the air tube leading through the bottom, in combination with a tube extending from the top of the reservoir to the top of the can, in such a manner that the oil which may find its way into the upper tube collects at the bottom of the reservoir, and is not permitted to leak out at the bottom of the can through the air passage.]

39,158.—Baling Press.—D. L. Miller, Madison, N. J.:

First, I claim the ropes or chains, C, and the cones, G G, on the shafts, F F, in combination with the driving shaft, J, worm wheels, H H, and screws, I I, all arranged substantially as and for the purpose herein set forth.

Second, Having the driving shaft, J, fitted in rods, K K, which are connected to cranks on a shaft, L, substantially as shown, for the purpose of throwing the screws, I I, in and out of gear with the wheels, H H, as herein specified.

[This invention consists in operating the follower of the press by means of right and left screws formed on a driving shaft and gearing in worm wheels which are fitted on shafts placed at the ends of the press box, said shafts being provided with conical pulleys to receive the chains or ropes which draw up the follower, and the driving shaft being fitted in adjustable bearings, all being arranged in such a manner as to admit of the desired work being rapidly done and in an efficient and proper manner.]

39,159.—Gas Apparatus for Domestic Use.—Wm. Mills, and O. H. Burdett, New Athens, Ohio:

We claim, first, The arrangement of the concaves, E, or their equivalent, forming a zig-zag or winding passage in the interior of the purifier, constructed and operating in the manner and for the purpose substantially as described.

Second, The arrangement of a lime chamber in the movable lid, F, of the purifier in combination with the flexible tube, I, constructed and operating as and for the purposes set forth.

[The object of this invention is to produce a gas apparatus capable of supplying a dwelling house with gas, and so simple and cheap in its construction and operation that it can readily be put up and operated in every house.]

39,160.—Folding Guide for Sewing Machines.—John Morrison, Birmingham, England. Patented in England Sept. 30, 1858:

I claim the improvement in or addition to sewing machines hereinbefore described and illustrated in the accompanying drawing, that is to say, an instrument or apparatus constructed and operating as herein described, so as to regulate the width of the fold, and to be attached to or used in connection with sewing machines, for the purpose of folding or doubling the edge or edges of the fabric or material to be sewed, substantially as herein described, the said instrument or apparatus consisting essentially of the two guiding plates, h i, and of two plates or strips, a b, of sheet metal or one plate folded, as herein described and the levers, n or 1; the said plates or strips, h i, being situated parallel or nearly so to one another, and the said plates or strips, a b, being twisted into a screw-like form and either or both grooved or plain on their inner or opposed surfaces.

39,161.—Automatic Sounding Apparatus.—H. M. Naglee, U.S.A., San Francisco, Cal.:

I claim the within-described self-sounding apparatus composed of a rod or its equivalent hung to the side of the vessel and permitted to traverse the bed of the river or harbor, substantially as set forth, for the purpose specified.

39,162.—Apparatus for detecting and exploding Submarine Torpedoes.—H. M. Naglee, U.S.A., San Francisco, Cal.:

I claim, first, Searching for and exploding torpedoes by means of a raft, A, or other suitable object permitted to float with the tide or current from a vessel at anchor, and having the appliances herein described or their equivalent, to be operated from the deck of the said vessel, the said appliances being such as to cut or to catch, seize or become entangled with the discharging cords of the torpedoes, as herein set forth.

Second, The lever, B, its plates, H, and pawls, i, or other similar appliances, the whole being attached to the raft, A, or other floating object, and the lever being controlled by a cord or rope, G, communicating with the vessel, M, all substantially as set forth for the purpose specified.

39,163.—Mode of lacing Boots.—Robert Newton, Philadelphia, Pa.:

I claim securing boots and shoes by laces passing through holes in the leg and through a tongue, when the latter is formed and arranged in respect to the boot or shoe, as described for the purpose specified.

39,164.—Guide for Scroll Saws.—George Niderkorn and John Dubernet, New York City:

We claim the arrangement of the horizontal adjustable slotted guide, g, in the box, e, attached to the vertically-adjustable square rod, c, in combination with the endless band saw, A, constructed and operating in the manner and for the purpose herein shown and described.

[This invention relates to an improvement in that class of scroll saws in which the saw blade forms an endless band stretched over two pulleys to which a rapid rotary motion is imparted by steam or other suitable power.]

39,165.—Bridle Bit.—J. H. J. O'Neill, New Haven, Conn. Ante-dated May 15, 1863:

First, I claim the open adjusting rings described, when the same are used in combination with the bridle bits, in the manner and for the purposes substantially as herein set forth.

Second, I claim the combination and arrangement described of the bar, B, gag, A, thimbles, N N, and levers, P P, constructed and operating substantially in the manner and for the purpose as herein set forth and described.

39,166.—Apparatus for pasting and mounting Photographs, &c.—M. Ormsbee, New York City:

I claim, first, Covering the pasting and rolling-down or pressing rollers with rubber or its equivalent, substantially as and for the purpose described.

I also claim the arranging of the pasting and pressing-down rollers, in different planes with regard to the handle, substantially as described.

I also claim the combination of the paste reservoir, pasting and pressing rolls, frame and handle, for the purpose of pasting and pressing or rubbing down with one instrument, substantially as described.

39,167.—Balancing and ventilating Mill-stones.—S. N. Page, Salona, Pa.:

I claim, first, The weights, F, provided with set screws, c, and fitted to slide on a circular way, E, which is supported in a position concentric with the stone by flanches or wings, b, projecting from the circumference of the same, as and for the purpose specified.

Second, The flanches or wings, b, projecting from the runner stone in combination with the inclined partition, J, box, I, fender, k, and opening j, when constructed and arranged to operate in the manner and for the purpose specified.

[The nature of this invention consists in providing the runner stone with a number of weights capable of being adjusted so as to balance the stone and cause its face, as it rotates, to preserve its exact parallelism with the face of the bed stone. It also consists in a novel device for oscillating the "run of stone."]

39,168.—Furnace.—Bernard Palazot, Bordeaux, France:

I claim the improved combination of the vaulting or plate, C, with the air entry, A, and register, B, applied to boiler and other furnaces, the whole constructed and arranged in manner and for the purpose substantially as herein specified and shown in the figures of the annexed drawing.

39,169.—Device for drawing-off and skimming Oils, &c. Israel Peck, Southhold, N. Y., and W. H. H. Glover, New York City:

We claim the combination of the floats, B B B D, with the saucer, A, and pipe, C, substantially in the manner and for the purpose herein shown and described.

39,170.—Traveling Kitchen.—Morris Pinner, New York City:

I claim the construction of a locomotive cooking apparatus by connecting a steam generator or cooking range, boilers and steam pipes with movable frames, constructed substantially as above set forth, which frames contain and hold the boilers in place, while the vehicle containing the whole apparatus is in motion.

39,171.—Sad-iron.—O. W. Preston, Jr., and Charles Barry, Corning, N. Y.:

We claim the iron, D, composed of a shell, c, and a sliding or adjustable heater, f, fitted within it and arranged substantially as shown so as to serve while being heated as a draught chimney for the lamp, as set forth.

39,172.—Steam Trap.—W. L. Ray, North Adams, Mass.:

I claim the plunger or valve, E, weight, G', and stop, J, combined with each other and with the expanding pipe, B, and box, A, or its equivalent, to operate substantially as and for the purpose herein specified.

[This invention consists in a novel mode of combining a valve, a weight, expanding pipe and a stop, in a steam trap, whereby it is rendered very simple and durable and of very certain operation.]

39,173.—Chuck for turning Staves.—Francis Robbins, Acton, Mass.:

I claim the heads, F and G, in combination with the shaft, C, and nuts, b, or their equivalents, arranged and operating in the manner substantially as set forth for the purpose specified.

39,174.—Improvement in the Quality and Ornamentation of Metals.—William Rose, Halesowen, England. Patented in England August 31, 1858:

I claim for the purposes of ornamentation and strength, the piling or combining of metals into a billet, so that the lamina of the metal of some of the bars shall be at right angles to that of some of the other bars in the pile, for the purpose of giving the mass, when worked, a checkered appearance throughout, as herein more fully set forth and specified.

39,175.—Life Preserver.—Socrates Scholfield, Norwich, Conn.:

I claim the combination of a floating valve, F, with the pipe, E, or its equivalent, substantially as described.

I also claim the combination of a floating valve, F, with the pipes, C C', or their equivalent, substantially as described.

39,176.—Condenser for Steam Engines.—T. E. Sickels, Kennett Square, Pa. :

I claim the combination and arrangement in a condensing steam engine of an air pump and surface condenser with a blower to force a current of air through the condenser to effect the condensation of the steam and to heat the air, substantially as set forth.

39,177.—Attaching Hubs to Wagons.—A. E. Smith, Bronxville, N. Y. :

I claim the use of the ledge, M, formed on the inside of the screw cap, L, in combination with the revolving linch pin, K, and axle, A, for the purpose hereinbefore set forth.

39,178.—Hand-stamping Press.—S. J. Smith, New York City :

I claim, first, The combination of a swinging stamp with the inking table and impression bed, when said inking table is elevated above the impression bed for the purposes specified.

Second, I claim two arms swinging on one gudgeon and carrying different stamps, substantially as specified, in combination with inking and impression tables, so placed that either stamp can be inked and impressed, as set forth.

Third, I claim the adjustable inking table, l, formed as a shallow-flat cup setting upon the arm, c, as and for the purposes specified.

Fourth, I claim the shallow cup and cloth pad, forming the inking table, in combination with a stamp fitted upon an arm and gudgeon to swing from such inking cup to the impression table, as set forth.

39,179.—Sabot for Projectiles.—C. W. Stafford, Burlington, Iowa :

I claim, first, A sabot constructed with a conical shell, C, to form an abutment between the disk, A, and the rear of a spherical or other shot.

Second, A sabot constructed with a disk, A, flange, B, conical disk, C, rings, E E′ E″ E‴, and band, G, substantially as described, for use in connection with a sub-caliber shot or shell.

[The objects of this invention are to reduce the strain upon the gun and improve the accuracy and range of the shot. The sabot is adapted to receive the full force of the explosion on an area larger than that of the shot, guide the latter in an accurately central position through the bore and separate from it at the instant of leaving the gun.]

39,180.—Projectile.—C. W. Stafford, Burlington, Iowa :

I claim, first, An elongated shot, A, guided and supported within the bore by a hollow spheroidal band, C, which may continue with it in its flight, and by a sabot, D, which, after receiving the full explosive force of the charge will separate from the shot by atmospheric resistance, substantially as explained.

Second, The detachable conical-faced sabot, D, and expansible packing disk or cup, E, constructed as described, in combination with the sub-caliber bolt, A, for the purposes specified.

[The leading objects of this invention are to impart accuracy, range and high velocity to a sub caliber projectile for the purpose of penetrating opposing bodies, mail-clad or otherwise, and destroying them by explosive or incendiary agents]

39,181.—Slide Valve for Steam Engines.—A. J. Stevens, San Francisco, Cal. Ante-dated April 29, 1863 :

I claim, first, The connected puppet valves, g g′, applied in combination with separate chambers, e e′, and in relation to the main valve, substantially as and for the purpose herein specified.

Second, The follower, C, combined with the valve by means of an internal gland, E, and otherwise applied, as herein specified, to serve not only for the protection of the back of the valve from the pressure of steam but as a means of communication between the anti-compression valve chest and the exhaust pipe or atmosphere, as herein set forth.

39,182.—Sugar Cane-crushing Mill.—Isaac Straub, Cincinnati, Ohio :

I claim the arrangement of projections, G G′, on the under side of the top plate, A, and on the upper side of the bottom plate, A′, and so that the ends of the rollers for only a small portion of their extent, and immediately at the point where the crushing is performed, shall abut against them, all substantially in the manner and for the purpose described.

39,183.—Solar-time Globe.—Theodore R. Timby, Saratoga Springs, N. Y. :

I claim the arrangement of the toothed ring, D, and adjustable dial, C, revolving once in twenty-four hours, in combination with the globe, A, secured to the revolving ring and adjustable in the same and with the stationary index, F, all constructed and operating in the manner and for the purpose substantially as shown and described.

39,184.—Currency and Stamp Box.—L. L. Tower, Cambridgeport, Mass. :

I claim my combined stamp and currency box, having its parts, A and B, provided respectively with receptacles and retainers, constructed and arranged substantially in the manner and for the purposes set forth.

39,185.—Composition for Lubricating.—James Turner, New York City :

I claim a lubricating compound made of the ingredients herein specified, mixed together in the manner and about in the proportion set forth.

Also, the use of sawdust in combination with fatty substances and alkaline lye or lime water, as and for the purpose specified.

[This invention consists in mixing together paraffine or the heavy oil contained in petroleum and saponified red oil or the residuum from the fat, or other material used in the manufacture of candles, with lime water or other alkaline lye, and sawdust, in such a manner that by the sawdust the lubricating qualities of the fats are retained and a compound is produced which can be used with great advantage and economy for lubricating axles and heavy gearing.]

39,186.—Harvester.—Thomas and Israel W. Ward, Lane Depot, Ill. :

We claim the two frames, A I, connected together by the hinges or joints, d, as shown, in connection with the draught bar, D, connected at its front end to the frame, A, by hinges or joints, b b, the two frames having arms, U Y, attached to them, which are connected by cords, V Z, to the shaft, X, and tube, W, all arranged substantially as and for the purpose specified.

We further claim the tubular joints or pintles, d, for connecting the two frames, A I, in combination, with the pitman, J, for driving the sickle, K, when arranged as shown, to admit of the adjustment of the two frames without interfering with the sickle-driving mechanism.

[This invention consists in a novel and useful combination of two frames and a draught bar, arranged in such a manner that the sickle and platform may be raised and lowered to any desired length, according to the length of cut required, and the sickle always kept in a proper horizontal position, and at the same time a very simple, economical and efficient harvester obtained.]

39,187.—Carding Engine.—John C. Whitin, Northbridge, Mass. :

I claim combining the self-stripper of Wellman with the cylinder stripper of Cambrill and Burgee, essentially as above described.

39,188.—Row-lock.—W. H. Willard, Cleveland, Ohio :

I claim the herein-described construction of a row-lock, consisting of the plate, A, thole pins, D, plates, F, and springs, G, the several parts being arranged and operating substantially as and for the purpose specified.

39,189.—Casting Boxes for Carriage Axles.—Samuel Williamson, Cincinnati, Ohio :

I claim the cast-iron flask, H H, gate, A, in combination with the sand core, C, attached to the chill, E, operating in the manner and for the purpose substantially as set forth.

39,190.—Self-lubricating Bolster for Spinning Machines.—M. P. Wilmarth, Smithfield, R. I. :

I claim the arrangement of the cap, C, with the absorbent, E, and annular recess, c, or their equivalents, substantially as described for the purpose specified.

39,191.—Photographic Printing Frame.—Michael Witt, Columbus, Ohio :

I claim the application of the self-adjusting spring-cushion to the two flaps or backs of the frame, arranged and operated for the purpose set forth and shown, or any other arrangement substantially the same for the accomplishment of the same end.

39,192.—Fishing Tackle for Deep-sea Fishing.—William Woodbury, Gloucester, Mass. Ante-dated October 2, 1862 :

I claim introducing the spring, g, or its equivalent, into the length of the fishing line in the neighborhood of the hook, substantially in the manner and for the purpose specified.

39,193.—Centering Anvils.—John Adt (assignor to himself and Elisha Turner), Waterbury, Conn. :

I claim the center punch, b, in combination with the cap, c, blocks, g, and scroll, f, as and for the purpose specified.

39,194.—Dredging and Excavating Machine.—Charles Atkinson, Moline, Ill., and Joseph Atkinson, Newbury, Vt., executors of William Atkinson, deceased, late of Brooklyn, N. Y. :

We claim, first, The employment, in combination with what has been herein termed the suction dredging boat, or with any other boat or carriage, of a system of reciprocating spade cutters, F F, operating substantially as and for the purpose herein specified.

Second, The employment, in combination with the suction dredging boat, or any other boat or carriage, of a system of reciprocating and rotating spade cutters, I, applied to operate substantially as and for the purpose herein set forth.

Third, The employment, in combination with the suction dredging boat, or any other boat, of a system of reciprocating and rotating chisel-pointed cutters, K, applied and operating substantially as and for the purpose herein set forth.

Fourth, The employment, in combination with the suction dredging boat, or other boat or carriage, of a rotary boring tool, L, applied and operating substantially as and for the purpose herein described.

Fifth, The cylindrical casing, M, applied in combination with a screw-like construction of the tool, L′, to form a pump, substantially as herein specified.

Sixth, The employment in combination with the suction dredging boat, or any other boat or carriage, of a rotary boring tool or system of cutters, P′, arranged in a swinging carriage, Q, substantially as and for the purpose herein specified.

Seventh, The employment, in combination with the suction dredging boat, or any other boat or carriage, of a cutter cylinder carrying a series of cutters, S S, and operating substantially as and for the purpose herein specified.

Eighth, The employment, in combination with the suction dredging boat, or any other boat or carriage, of a chopping, cutting or raking blade, X, applied and operating substantially as and for the purpose herein set forth.

39,195.—Coal-oil Lamp.—Louis Bader (assignor to himself and C. F. Elwert), Philadelphia, Pa. :

I claim the burner composed of cases inclosing chambers, J K L and M, arranged in respect to each other and to the wick, and communicating with each other, substantially as described for the purpose specified.

39,196.—Machine for manufacturing Lozenges.—Oliver R. Chase, Birmingham, England, assignor to Chase & Company, Boston, Mass. :

I claim the combination and arrangement of the extra-delivery apron, G, with the main-delivery apron, F, or carrier of the reducing and sugaring apparatus, and with mechanism for stamping the lozenges from the paste, the object of the said delivering apron, when used as set forth with the main delivery apron or carrier, and the apparatus for reducing the paste and sugaring it on both sides, being to enable the sheet of paste to be seen on both of its sides before passing to the cutters.

I also claim the combination and arrangement of the delivery apron, G, the cutter board, H, the series of cutters, L, and the lozenge-discharging apron, N, the same not only enabling the sheet of paste to drop vertically and fall by its own weight preparatory to and after being cut, but causing the cutters to discharge the lozenges on a discharging apron or boards placed thereon, in manner as set forth.

I also claim the arrangement and combination of the surface-charging apron, I, with the cutter board, H, the delivery apron, G, the series of cutters, L, and the lozenge-discharging apron, N, arranged as specified.

I also claim the arrangement and combination of the comb plate, O, with the cutters, L, and their stamping board, H, or device for supporting the paste while it is being stamped.

39,197.—Circular Loom.—William Darker (assignor to J. B. Thompson), Philadelphia, Pa. :

I claim, first, The employment for acting upon the warp threads in a circular loom to produce an open shed for the introduction of the weft, of a series of leaders, D D, applied and operating substantially as herein specified.

Second, The employment, for passing the weft thread or threads through the open sheds of the warp in a circular loom, of a carrier, G, supported by a surrounding series of grooved pulleys, G G, which serve both to sustain it in its proper position and to give it rotary motion, substantially as and for the purpose herein specified.

Third, The cam, K, attached to the carrier, C, and operating through the agency of levers, L L, and wires, k k, or their equivalents, to produce the operation of the leaders, D D, substantially as and for the purpose herein specified.

[The principal features of this invention consist of certain novel means of opening the sheds of the circularly-arranged warp and in a novel device for carrying the filling through the open sheds]

39,198.—Breech-loading Fire-arm.—Jarvis Davis (assignor to Patrick Smith), Buffalo, N. Y. :

I claim the hooked bar, G, operated by the hammer, substantially as described, in combination with the block, G′, and hinged abutment, C, so that the hooked bar is thrown out of engagement with the cartridge when the hinged abutment is closed, substantially as set forth.

39,199.—Composition for dyeing the Covers of Railroad Seats, &c.—A. A. Grandelle (assignor to Thomas Brown), New York City :

I claim the composition of matter herein described for dyeing cushions and other articles, prepared and employed in the manner herein set forth.

[The principal object of this invention is to re-dye the cushions of railroad car seats with aniline colors without ripping them open and taking them to pieces.]

39,200.—Washing Machine.—B. S. Hill, Wattsburg, Pa., assignor to himself and Sterling Doolittle, Amity township, Erie Co., Pa. :

I claim the combination of the pounders, F B and B, and the inclined plane, G, substantially as set forth for the purpose specified.

39,201.—Roller for Wringing Machines.—H. W. Holly and A. F. Smith (assignors to A. F. Smith), Norwich, Conn. :

We claim, first, In the construction of soft and elastic rolls the employment of soft pieces, C C, hard pieces, B B, and the splined or equivalent shaft, A A′, arranged to operate together in the manner and for the purpose herein set forth.

Second, We claim, in connection with the yielding pieces or disks, C C, and hard pieces, B, arranged as specified, the employment of the projections, b b′, or either of them, arranged substantially as and for the purpose herein set forth.

Third, We claim the combination of the tightly fitted covering, G, with disks of soft material, C, and suitable means of confining the same, substantially as and for the purpose set forth.

Fourth, We claim the spurred plates or wheels at one or both ends of the roll, as represented by E e, arranged as represented relatively to the open plate, D, covering, G, and pin, H, or their respective equivalents, for the purpose herein set forth.

39,202.—Composition for Paint.—Josiah Miller, Moore Township, Pa.: assignor to Harrison Trumber, Hokendauqua, Pa., and W. C. Kleppinger, Alba township, Pa. :

I claim a paint mixture prepared substantially as hereinbefore set forth.

39,203.—Door Lock and Latch.—W. T. Munger (assignor to Thomas Kennedy), Branford, Conn. :

I claim the combination of the horseshoe, E, latch bolt, D, and cam, H, or its equivalent, substantially as herein specified.

Second, I claim the combination described of the latch bolt, D, and cam, H, for the purpose substantially as herein specified.

39,204.—Composition in preparing Paints.—Eliza M. Seabury, Brooklyn, N. Y., administratrix of Jacob Seabury, deceased :

I claim the pigments herein described composed of a combination of the ingredients specified as and for the purposes set forth.

39,205.—Churn.—R. W. Whitney (assignor to himself and A. G. Neally), South Berwick, Maine :

I claim the improved churn as not only constructed with the lever, C, and the curved arm, D, arranged relatively to the reservoir, A, and the dasher, E, as specified, but as having the strut, F, combined and arranged with the curved arm, D, and the dasher, E, so as to operate substantially as described.

RE-ISSUES.

1,509.—Sheet-metal Spoon.—Florian Grosjean, New York City. Patented Jan. 28, 1862 :

I claim stamping or swaging spoons, of single pieces of sheet-metal with a middle corrugation or raised ridge, extending along the narrow or weaker part of the handle, and prolonged into the bowl of the spoon, so as to give full strength to the junction of the bowl and handle, either leaving the handle flat on both sides, or with a bead around the middle corrugation, substantially as and for the purposes herein specified.

1,510.—Artificial Leg.—Douglas Bly, Rochester, N. Y., assignee of R. H. Nicholas and Douglas Bly. Patented July 28, 1857 :

I claim a universal joint in connection with two parts, A B, of an artificial leg, substantially as and for the purpose herein set forth.

Also, two tendons, t t, and their springs, s s, or their equivalents, in combination with two parts, A B, of an artificial leg, for the purpose of holding the said parts properly together, and keeping the articulating surfaces of the joint in constant co-aptation, substantially as herein specified.

DESIGNS.

1,796 to 1,799.—Blind Binding (3 cases).—H. W. Hensel, Philadelphia, Pa.

1,800 to 1,802.—Plate of a Cook's Stove (4 cases).—S. B. Ransom, Albany, N. Y.

1,803.—Plate of a Stove.—Garrettson Smith & Henry Brown, Philadelphia, Pa., assignors to Marsh & Sisler, Lawrenceville, Pa.

EXTENSION.

Regulator for Self-acting Mules.—E. C. Sawyer, Salem, Mass. Patented July 3, 1849 :

I claim the regulator constructed and made to operate substantially as above described, the same consisting of the combination of the weighted centrifugal lever, e, the lever pawl or click, h, the ratchet wheel, k, its cam, l, and the lever, n, applied together and to the main driving shaft, A, and the slide, U, of the hoist cam, essentially as above specified.

And as auxiliary to the above, I claim the second centrifugal weighted lever, r′, and the ring, t, and retractive spring in combination therewith, the same being for the purpose above explained.

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On granting the Extension	$50
On filing a Disclaimer	$10
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On filing application for Design, seven years	$15
On filing application for design, fourteen years	$30

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TO OUR READERS.

RECEIPTS.—When money is paid at the office for subscriptions, a receipt for it will always be given; but when subscribers remit their money by mail, they may consider the arrival of the first paper a *bona-fide* acknowledgment of our reception of their funds.

PATENT CLAIMS.—Persons desiring the claim of any invention which has been patented within thirty years, can obtain a copy by addressing a note to this office, stating the name of the patentee and date of patent, when known, and inclosing $1 as fee for copying. We can also furnish a sketch of any patented machine issued since 1853, to accompany the claim, on receipt of $2. Address MUNN & CO., Patent Solicitors, No. 37 Park Row, New York.

Models are required to accompany applications for Patents under the new law, the same as formerly, except on design patents when two good drawings are all that are required to accompany the petition, specification and oath, except the Gover nme nt fee.

INVARIABLE RULE.—It is an established rule of this office to stop sending the paper when the time for which it was pre-paid has expired.

NEW PAMPHLETS IN GERMAN.—We have just issued a revised edition of our pamphlet of *Instructions to Inventors*, containing a digest of the fees required under the new Patent Law, &c., printed in the German language, which persons can have gratis upon application at this office. Address MUNN & CO.,
No. 37 Park-row, New York.

Notes and Queries

J. H. P., of N. Y.—You state your case so that it is difficult to decide. You say, "the steam pipe enters the boiler just below the crown sheet, so there is plenty of steam space." Do you not mean the *shell* of the boiler? The crown sheet is the top of the fire-box. The trouble you refer to is caused by the water following the steam passing through the main pipe. The water in the boiler is raised by the steam and carried over with it, and of course, shows itself at the upper gage. When the steam is shut off, the water which is left subsides, and is, consequently, far below the water-line. You blow the steam off too fast; let it go more slowly and you will, probably, have no trouble. The feed pump is not large enough to supply the demand; steam condenses in the main pipe because it is cold, and water passes over with the steam, causing a double consumption of water and fuel.

S. Q., of Canada West.—Boilers are liable to foam when they are new, when their steam space is too confined, and when their water is foul. An injector is a most efficient substitute for a feed-pump. Messrs. Sellers, of Philadelphia, manufacture Giffard's injectors.

C. M. H., of Wis.—We have never seen experiments made with the turbine wheel to which you refer, and cannot tell how much water it discharges when running free; but in all likelihood it discharges like some other wheels, more than when driving a full train of machinery and running at a lower velocity.

L. K. W., of Iowa.—Governors for marine engines have been successfully introduced. If you have anything valuable in that line you had better send us a sketch and description of it for examination. We shall send you, by mail, a copy of our pamphlet of advice about patent matters.

E. B., of Mo.—If the parties to whom you refer manufactured your invention within the limits of the United States, you can recover damages from them, as it is an infringement to make a patented invention without the patentees consent.

H. L. S., of Ill.—It would have been very easy for you to try the experiment, whether two magnets placed twelve inches apart "will move together." They will not. A magnet will not draw the iron ball to it from a distance of twelve inches.

J. C. J., of N. Y.—Feathers may be dyed a scarlet color by boiling them in a clean tin vessel with some water, ground cochineal, a little cream-of-tartar, and a few drops of the muriate of tin. Put these ingredients into the vessel, and, when boiling, place the feathers therein, and boil for fifteen minutes; then take them out and wash them in cold water. This color is permanent, and one ounce of cochineal will dye one pound of feathers, which should be washed in soap before being dyed. Feathers may also be dyed yellow by boiling them in a strong decoction of quercitron and a few drops of the muriate of tin. These colors are suitable for the feathers of hooks intended for fishing.

R. A. R., of L. I.—The turret plates of the *Tecumseh* were not "bent near the deck" in the engagement at Charleston (as we have been informed), so as to prevent the turrets from revolving.

W. M., of N. Y.—A diamond does not neutralize the magnetism of a magnet. Whoever told you to the contrary is mistaken. If you place a piece of steel in the inside of a glass tube, and apply a magnet on the outside, the steel will be attracted.

S. B. C., of Pa.—When two cisterns are placed at different levels below a spring or fountain head, and the water is conveyed to them by a branch pipe, the overflow will be by the waste pipe of the lower cistern. Water always seeks the lowest level.

F. W. E., of N. Y.—There is no reliable way of ascertaining the quantity of air that passes through your register into the chimney, without first finding out its velocity. This could be done with an aerometer, for measuring the force of air currents. By multiplying the velocity of the air, in feet, per second, into the area of the register in square feet, the quantity which passes through in a second will be given in cubic feet.

S. W., of N. J.—The mode which you propose for protecting the steam pipe of your engine, by enclosing it in a wooden box filled with saw-dust, to prevent the condensation of steam, will answer very well. Plaster-of-Paris, however, is superior to the saw-dust as a safe non-conductor; so is common plaster mortar that is mixed with hair.

H. M., of Canada West.—The powder ignited in a gun exerts the same amount of pressure upon the breech that it does upon the bullet. You should make an experiment to test the question of securing the harness traces of the horse in drawing a load so as to exercise his power most advantageously.

J. C. A., of N. Y.—Sixteen years ago we saw a small boat propelled by the reaction of water on the East river, in this city. The water was forced through a tube passing out at the stern of the boat. The principle is old, having been first suggested and tried by James Rumsey about 1786. It is an inferior system to the paddle and screw, and we advise you to spend no money in making experiments with it.

J. McD., of Maine.—Your ideas respecting the construction of screw steamers with iron frames, an inside skin of iron plate, and an outside planking of wood are good. Such vessels could be sheathed with copper and thus be free from the fouling so common to iron-plated vessels.

J. R., of Vt.—Charcoal and clean sand are about the best substances you can use for filter beds. The charcoal should be fine, but not reduced to powder, and the beds about one foot in depth.

H. K., of N. Y.—Lead pipes tinned inside for conveying water are of old date, and have been used to some extent in this city. If the tin becomes detached, in small spots, from the lead, a galvanic action ensues, and the lead is decomposed more rapidly than if it had not been coated with the tin. Such pipes, therefore, have not been approved.

W. McT., of Pa.—The magnetic oxide of iron has been used for purifying water. When broken into small pieces and arranged in a layer of a few inches in depth, muddy water was rendered clear by being passed through it. You can easily make an experiment with it and satisfy yourself.

M. A. W., of L. I.—A blower would greatly increase the draft of your chimney. As you find it difficult to apply it to the several furnaces of your boilers, it may answer every purpose to apply it direct to the chimney, if not, branch pipes must be connected with the furnaces. The exhaust steam from the cylinder of your engine would also increase the draft of your boilers.

J. B., of Ill.—By case-hardening the slots in the shanks of your reaper blades they will wear three times longer.

H. W. L., of Wis.—In manufacturing shot for fowling pieces a small quantity of arsenic is mixed with the lead, otherwise it will not drop with facility through the sieves.

T. B., of Ohio.—The velocity of a falling body is ascertained by multiplying the square root of the hight by 8, which is the co-efficient for the action of gravity in falling one foot. Thus a body having fallen 16 feet has a velocity of 32 feet—the square root of 16 being 4, which, multiplied by 8, gives 32. This rule will enable you to calculate the velocity of water at the foot of falls of any hight.

W. W. V., of N. J.—The sulphate of lead is formed with solutions of alum and the acetate of lead. Dissolve one pound of alum in two gallons of hot water, and one pound of the acetate of lead in an equal quantity of water, and mix them together, when double decomposition will be effected, and the acetate of alum and sulphate of lead will be formed. This solution is used for rendering cloth water-proof. Immerse the cloth in the clear liquor after the sediment has settled; take it out and dry it in a warm room, and it will shed water like the back of a duck.

A. J. H., of N. Y.—Your communication upon "The Science of Projectiles" may be very excellent, but the penmanship is so wretched that we could not get through with more than five lines of it.

J. T. F., of Mass.—Locomotive boilers could be made just as efficient and strong without steam domes as with them.

H. O. W., of N. Y.—The most permanent red color on wool is obtained from madder. Aniline and cochineal reds are more beautiful, but they do not stand washing with soap and exposure to sunlight like madder red.

J. T. of Pa.—The prussiate of potash answers well for case-hardening small articles; but the old method of operation—with bone-dust, pieces of hoofs, and leather—is superior for large articles.

RATES OF ADVERTISING.

Twenty-five Cents per line for each and every insertion, payable in advance. To enable all to understand how to calculate the amount they must send when they wish advertisements published, we will explain that ten words average one line. Engravings will not be admitted into our advertising columns, and, as heretofore, the publishers reserve to themselves the right to reject any advertisement they may deem objectionable.