

## NEW INVENTIONS.

**Coffin.**—The object of this invention is to so construct a coffin that the bust and head of the body can be seen without bending over the coffin, as is necessary with coffins and burial cases as at present constructed. The invention consists in cutting out from one or both sides of a coffin, near the head part thereof, a portion of the sides of the coffin, deep enough to expose the bust and head of the body to a person looking toward the side of the coffin; and in securing pieces, corresponding to such cut-out pieces, to the lid of the coffin, so that, when the same is closed, the coffin will present the appearance of an ordinary coffin; and it consists in the combination with such coffin of a glass set in the lid thereof, which, when the lid is open, will rest over the plate on the coffin, and when closed will permit a view of the face of the corpse. Julian A. Fogg, of Salem, Mass., is the inventor.

**Boring Machine.**—This invention relates to a new and improved machine for boring blind slats, and also for boring articles for mortising, and any article which requires to be bored at certain distances apart, or for spacing articles for other purposes. The invention consists in a new and improved means for spacing or regulating the distance between the holes, so that the wood may be bored as accurately as may be required. This means consists of a scroll cam with a curved rack fitted therein, and arranged with a dog-toothed wheel and a sliding rack, whereby the stick or wood to be bored may, with the greatest facility, be adjusted or moved relatively with the auger or bit, so that the work may be done in an accurate and perfect manner. Josiah H. Gibbs, of Grand Rapids, Mich., is the inventor.

**Grab.**—The object of this invention is to facilitate the recovery of pipes, drills, reamers, and other tools, and other objects, from oil and other wells, and from other places difficult of access, and also to facilitate the raising or lifting of bodies from a lower to a higher elevation. It consists in a pair of jaws connected to a shank or sinker by means of links or straps, in such a way that the jaws are allowed a little motion, endwise, away from the shank when any weight is attached to them, as when they have grabbed any heavy object. Besides this connection, they are connected by a cam joint, which operates, when they are moving apart, to close the jaws and make them seize any object which is between them. The implement is also provided with adjustable guides, which enable the operator to center it and make it descend along the axial line of a well or other place where it is used, and also to make it descend in a diagonal or inclined position, so as, in the latter case, to seize any object which may be leaning against the walls of a well. D. F. Mellen, of 438 Fourth avenue, New York City, is the inventor.

**Thread Cutter for Sewing Machines.**—The object of this invention is to provide in the table of a sewing machine, or directly connected therewith, a means for cutting off the thread at the end of a seam by pushing the work forward. It consists in forming a cutting edge or a cutter on the under side of the table, which presents itself in or across the slot through which the needle works, so that when the loop is brought against it, the thread will be severed and be left in readiness for beginning a new seam. Henry W. Dennis and John Baker, of Hopkinton, Mass., are the inventors.

**Machine for Polishing the Heels of Boots and Shoes.**—This invention is designed to obviate a difficulty hitherto attending the polishing of boot and shoe heels on the last by machinery. This difficulty consists in keeping the bottoms of the heels in contact with the guard or test which preserves the edges of the heels, preventing them from being rounded or pressed out of shape under the action of the polishing wheel, said difficulty being caused by the last having its center of motion out of line with the center of the heel, or not at right angles therewith, the hole in the last which receives the stud of the rotating arm, being bored in front of the center of the heel and slightly inclined toward the toe, in order to prevent splitting. The invention consists in having the stud or studs which enter the last arranged in such a manner that they, and consequently the last, may rise and fall, and thereby compensate for the

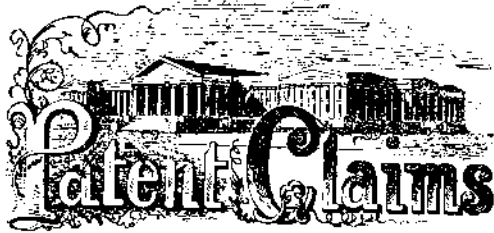
oblique attachment of the last to the rotating arm of the device. S. D. Tripp, of Lynn, Mass., is the inventor.

## PATENT-OFFICE DECISIONS.

Application for patent for improvement in Bolt Blanks.

**Elisha Foote for the Board.**—The third section of the Patent Act of 1861 provides that no appeal shall be allowed to the Examiners-in-Chief, except in interference cases, until after the application shall have been twice rejected. The object of this provision was to give the party an opportunity to answer or explain the references on which the Examiner founded his decision, and to give the Examiner the benefit of such explanations and arguments before finally rejecting an application. In this case the first letters of the Examiner only suggested amendments of the specification which he deemed necessary to properly present the case for examination. They cannot be regarded as decisions upon the merits. Upon the case as amended and finally presented to the Examiner there has been but one rejection. The arguments that have been addressed to us and the explanations of the references given should have been addressed to the Examiner. Possibly they might have changed his decision. At all events there must be a second rejection before the case can be appealed.

The appeal in this case is consequently dismissed.



ISSUED FROM THE U. S. PATENT OFFICE

FOR THE WEEK ENDING FEBRUARY 6, 1866.

Reported Officially for the Scientific American.

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.

52,377.—Pump.—W. A. Barnes, Decatur, Ill.:

First, I claim the combination and arrangement of the pump cylinder, A, and chamber, D, with the box, C, divided into two compartments, a, a', which communicate respectively one with the cylinder, A, and the other with chamber, D, and provided at its ends with the boxes, E, E', which communicate with the compartments, a, a', by means of the valves, F, substantially as described. Second, As combined and arranged with the above, I claim the taper or conical ganges, G, G', of the boxes, E, E', for the purpose of facilitating the adjustment of the tubing or pipes to the pump, as set forth.

[This invention has for its object the attaching of tubing to submerged pumps with greater facility than hitherto, so that the pump may be placed at any point within the well, and the tubing attached both above and below, without any difficulty whatever. The invention has further for its object a novel arrangement of partitions and valves, whereby the pump will be rendered double acting, by an extremely simple means.]

52,378.—Cloth-measuring Machine.—James J. Benham, New London, Conn.:

First, I claim the two cylinders, B, E, in combination with the dials, M, N, ratchet, J, pawl, I, eccentric, G, and indexes, b, f, all arranged substantially as and for the purpose set forth. Second, The roller, R, and flat board, V, fitted in frames, O, O, when arranged in relation to and used in combination with the cylinders, B, E, substantially as and for the purpose specified.

[This invention relates to a new and improved machine for measuring cloths, carpeting, ribbons, and dry goods generally. The object of the invention is to obtain a device for the purpose specified which will be simple in construction, measure accurately and with rapidity.]

52,379.—Fruit Jar.—Edwin Bennett, Philadelphia, Pa.:

I claim a fruit-preserving vessel having its stopper, c, secured airtight by means of screw threads, c', c', acting in combination with an elastic band, D, secured around between the stopper and the inner sides of the mouth or neck of the vessel, substantially as described.

I also claim the use of a pierced, elastic plug, E, in combination with a stopper, C, substantially as and for the purpose described.

52,380.—Steam Gage.—Chas. Bourgeois, Buffalo, N. Y.:

I claim the combination of the lamp, D, with a steam gage and transparent index plate, B, and the reby internally light the gage, and make the figures of the index plate visible, substantially in the manner and for the purpose set.

52,381.—Boot-blackening Ottoman.—David B. Boynton, Boston, Mass.:

First, I claim the combination of the cam, M, with the foot rest, K, and with the ottoman, for raising and lowering said foot rest, substantially as described.

Second, The combination of the foot rest, K, cam, M, brush drawer, G, vibrating receptacle, L, and scraper, V, with the ottoman, substantially as described and for the purposes set forth.

[The object of this invention is to furnish a convenient apparatus for blacking boots and shoes, and a convenient receptacle for the blacking implements, which, when closed, shall be, to all appearances, an ordinary ottoman, and it consists in combining with an ottoman the various articles necessary in cleaning and blacking boots and shoes.]

52,382.—Machine for Winding Cord into a Series of United Skeins.—Edward Brown, South Otselic, N. Y.:

First, I claim the arrangement of the fixed and movable standards, b and g, and connected gearing, together with the loop-end crank arms, d' and g', on and between which the skein is hung and cross wound, all operating together substantially in the manner described.

Second, The revolving box, t, having adjustable projecting arms, a, a', operating as and for the purpose specified.

52,383.—Wind Wheel.—Benj. F. Burnett and Thos. Van-devoort, Phelps, N. Y.:

First, We claim the balls, E, E, or their equivalents, attached to the movable sections of the stationary sails, in combination with the spring, or its equivalent, for the purpose of regulating the revolving motion of wind wheels with stationary sails, the whole constructed and operating substantially in the manner and for the purpose above described.

Second, In an apparatus for utilizing the power of the wind by means of wind wheels, we claim the pitman, K, placed centrally in the post, by which the wind wheel is supported, in combination with the lever, X, working through an aperture in the said post, substantially in the manner and for the purpose described.

Third, In an apparatus for utilizing the power of the wind by the use of a wind wheel, we claim the above-described mode of connecting the pitman, K, with the lever, X, that is to say, by passing the pitman through the lever and then, by means of a flange above and below the lever, enabling the wind wheel to revolve around on its vertical shaft and carrying with it the pitman, without interfering with the harmonious action of the machinery, substantially as above described.

Fourth, In an apparatus for utilizing the power of the wind by means of a wind wheel, we claim the combination of the lever, L, and the slide, m, constructed and operating substantially in the manner and for the purpose above set forth.

52,384.—Corn Harvester.—T. Butterworth, Shelbyville, Mo.:

First, I claim the combination of the obliquely-set knives with the reels revolving on the inclined shafts, and provided with the angular arms, as described.

Second, I claim the combination of the master wheel, F, tooth, m, toothed wheel, O, n, o, lever, Q, pawls, L, and ratchet M, for tripping the catcher to discharge its load, as described.

Third, I claim the armed catcher, K, in combination with the ratchet, M, triggers, L, L, and lever or other equivalent tripping device, for the intermittent dropping of the gathered corn.

[This improvement relates to a machine drawn by an animal that walks between the rows of corn. The stalks are cut by stationary knives, so arranged on the machine as to come in contact with the corn as the machine progresses, the corn being drawn over toward the knives by revolving reels, and received upon arms which are tripped when bunches of sufficient size have accumulated, in order to properly deposit the bunches. The machine is designed to gather up the down and tangled stalks, and cut them off in a proper manner.]

52,385.—Mode of Detaching Tow Lines.—John H. Carr, Palo Alto, and Edward Andrews, Pottsville, Pa.:

We claim the combination and arrangement of the plates, A, A, tow iron, C, lever, B, and spring, E, held together by the post, F, and pivots, 1 and 2, substantially as described.

52,386.—Artificial Stone.—Antonis Caradey, Philadelphia, Pa.:

First, I claim an artificial stone made from gypsum by calcining the same and subjecting it to the action of a chemical bath, substantially as herein described.

Second, Imparting to the gypsum the appearance of veined marble or fancy stones, by introducing coloring matter into the bath, as set forth.

52,387.—Binding Guide for Sewing Machines.—Wm. J. Chaplin, Dowagiac, Mich.:

I claim the binder in one piece, cut from a single metallic plate and formed as set forth, in combination with the adjustable binding guide, the whole being adjustable on the bed plate of a sewing machine, substantially as described.

52,388.—Sash Fastening.—Chas. B. Clark, New Haven Conn.:

I claim the rack, B, and the arms, C, C', provided with the rollers, D, D, having their peripheries partially toothed, when said parts are used in combination with a single lever, E, arranged substantially as shown, to operate either arm, C, or C', as set forth.

52,389.—Shank Laster.—Orrin R. Clark and Frelon H. Slyter, Marengo, Ill.:

I claim the handle or lever, A, A, strap, C, jaws, D, D, and eccentric, E, in combination, arranged and operated in the manner and for the purpose set forth.

52,390.—Skeleton Skirt.—Augustus J. Colby, New York City:

I claim a hoop skirt made of a series of springs arranged at a vertical inclination to the central vertical axis or direction of the length of the skirt, substantially in the manner described and for the purposes specified.

52,391.—Manufacture of Blacking.—G. W. Corey, Port Jervis, N. Y.:

I claim the composition for water-proof blacking made up of the ingredients in the manner and of the quantities as herein recited.

52,392.—Chain Hook or Cable Stopper.—Edward Davidson, Providence, R. I.:

I claim the construction of the swinging jaws, c, c, of the chain hook with the holding cap or clasp, B, having a prong, f, arranged together substantially as and for the purpose described.

52,393.—Bolt-heading Machines.—L. L. Davis, Laconia, N. H.:

First, I claim constructing one or more grooves, channels, or dies in the upper faces of the standards, A and B, herein described, or either of them, for the purposes and in the manner substantially as set forth.

Second, The combination with the bolt-heading machine herein described of an adjusting scale, substantially as set forth.

52,394.—Boot Crimp.—Nathan Day, Ithaca, Ohio.

First, I claim the arrangement of the jointed and lipged crimping board, D, E, N, N', and stretcher, J, K, L, M, for the purpose set forth.

Second, The described combination of horse, A, jointed clamp, B, C, B', C', jointed crimping board, D, E, loop, I, treadle, H, and pin, G, for the purpose explained.

52,395.—Harvesting Machine.—Nicholas A. Dederer, Greene, N. Y.:

First, I claim in a reaping machine an auxiliary wheel running upon the ground and swinging by an arm from a pivot, and communicating motion to an auxiliary driving shaft whenever the machine is moving directly to the front, and automatically disengaging itself from the shaft when the machine is being turned, by means of a clutch upon the end of the shaft, substantially as and for the purpose set forth.

Second, The combination of the wheel, B, with its attachments, C, L and H, the clutch, D, and ratchet and pinion, E, F, substantially as and for the purpose set forth.

52,396.—Harvester Rake.—Nicholas A. Dederer, Greene, N. Y.:

First, I claim the combination of the cams, L, M, toggle, G, and pitman, H, with the vibrating rake arm, substantially as described.

Second, The combination of the vibrating rake, the slatted platform, and the compressing and dumping cradle, arranged and operating substantially in the manner described, for the purpose set forth.

Third, The combination of the sweep rake and dumping cradle with the hinged shield, substantially as and for the purpose described.

Fourth, The dumping cradle, arranged and operating as described.

52,397.—Artificial Fuel.—Alfred de Lentilhac, Tamaqua, Pa.:

I claim an artificial fuel composed of fine coal dust, vegetable gluten, and coal tar, pressed into bricks or blocks, dried, then placed in hermetically sealed iron boxes, and baked or coked in a hot oven, substantially as and for the purpose described.

52,398.—Thread Cutter for Sewing Machines.—Henry W. Dennis and John Baker, Hopkinton, Mass.:

I claim a stationary knife or cutter with its edge laying across the needle throat in the table of a sewing machine, so that it will intercept and sever the thread by simply pushing the work toward it, substantially as described.

52,399.—Chimney Holder and Fastening.—R. H. Dewey, Pittsfield, Mass.:

I claim the combination of the sliding hooks, f, with the ring or

plate, n, arranged together and operating substantially in the manner described and for the purpose specified.

This invention relates to a novel chimney holder for coal-oil and other lamps, the object of which is to enable the holder to be readily adjusted to the varying sizes of the chimneys.]

52,400.—Shoulder Brace.—F. Durand, Seymour, Conn.: I claim an improved article of manufacture the shoulder brace, h m n o, constructed as herein specified, so as to be adapted for use either separately as a brace or connected by the lacing cord to a corset or bodice.

This invention consists in making the bodice of such a length that when worn it shall not extend quite to the hips, and of such a form as to fit closely about the person, it being made smaller at the bottom than at the top, and laced behind and either buttoned or looped in front; and also in a peculiar manner of attaching shoulder straps or braces to the bodice, for the purpose of keeping the chest upright and expanded, the shoulders back, and the form erect, the importance of which, so far as regards health, is well known.]

52,401.—Gang Plow.—A. P. Durant, Atlanta, Ill.: First, I claim uniting the two plows, M N, to a single beam, G, where said beam is arranged between the frame, C C', and hung on a pivot to the front end thereof, and forward of the axle-tree, substantially as shown and described. Second, the two levers, S S', when united together in the manner described, and connected to the rear end of the plow beam, G, for the purpose of keeping said beam from twisting or the plows from slewing or creeling out of their proper path, and for the purpose of raising them out of the ground, as set forth.

52,402.—Evaporator.—John H. Elward, Polo, Ill.: First, I claim the method described for boiling cane juice, by applying the heat at two levels in the liquid, substantially as set forth. Second, The evaporating pan, constructed, arranged, and operating substantially in the manner set forth. Third, The combination of the pan with the boiler, when constructed, arranged, and operating substantially in the manner described.

52,403.—Paper Clamp.—Adolph Faber, Washington, D. C.: I claim as a new and improved clamp the combination of the open slides, a, with the inclined planes, a and b, or a alone, substantially as alleged.

52,404.—Rocking Chair and Fan.—George Fleig, Philadelphia, Pa.: I claim the chair, a, the bow rod, E, the fan, F, and the chords or straps, e c' d', arranged and operating substantially as herein specified and described.

52,405.—Coffin.—Julian A. Fogg, Salem Mass.: First, I claim cutting out of a coffin, a portion of the sides at the head part thereof deep enough to exhibit the bust and head of the corpse substantially as specified. Second, I claim the pieces, D, so arranged that they will close the space cut out at the sides of the coffin, substantially as described. Third, I claim the use in combination with a coffin so constructed of a glass, E set in the lid in such manner that when the lid is open, the inscription on the plate can be read, and that when the lid is closed the face of the body can be seen, substantially as specified.

52,406.—Locomotive.—W. N. Forney, Baltimore, Md.: First, I claim the combination, and only the combination of a fuel-bin, or water tank with a depressed or inclined fire box in locomotives operating in the manner and for the purposes herein above substantially set forth. Second, I claim the combination and only the combination of these three elements, first a locomotive having all the weight of the engine and boiler upon the driving wheels, second, a guiding or leading truck or tender for carrying the water or fuel, or both, or so much of them as is not carried as above shown, and third, a rigid frame for supporting the locomotive and tender, all arranged and operating substantially as above set forth.

52,407.—Plows.—Joseph Fowler, Rahway, N. J.: I claim the plate, c, extending from the beam to the blade, d, in combination with the movable or adjustable mold board, f, attached to said plate, c, at any desired height, as and for the purposes set forth.

52,408.—Washing Machine.—Titus D. Gail, of Newport, Ill.: I claim the rotating and revolving corrugated cones journaled at their apexes by the headed pins in recessed slots in the post and at their bases in pivoted links as described in combination with the corrugated bed, the whole being arranged and operated substantially as described and represented.

52,409.—Machine for Boring Blinds.—Josiah H. Gibbs, Grand Rapids, Mich.: I claim the cam, P, formed of a spiral groove made in the side of a wheel, in combination with the rack, Q, fitted in said groove, the toothed wheel, N, arm, R, connected with the rack, Q, and the sliding rack, M, all arranged in connection with an auger or bit or other tool to operate in the manner substantially as and for the purpose set forth.

52,410.—Coupling.—J. Harris, Green Lake, Wis.: I claim the link, B, attached to the drawhead, A, in connection with the drop or coupling pins, foot lever or treadle, E, and catch bar, H, all arranged and combined to operate substantially in the manner as and for the purposes herein set forth.

52,411.—Lightning Rod.—Louis J. Hawley, Baltimore, Md.: I claim the lightning rod constructed as described and represented, consisting of a central copper strip, inclosed between lap joints, iron side pieces the points of connection being provided with interspersed zinc plates. I also claim the supplementary conductor formed by the points of the prolonged wire band, D, D, as described and represented.

52,412.—Camp Stool.—Charles G. Herbert, New York City: I claim the extension legs formed of pipes containing sliding rods or tubes in combination with the cross bar, that connects the legs and keeps them extended, as and for the purposes set forth, and in combination with such legs and cross bar, I claim the cross rails and seat fitted substantially as specified.

52,413.—Corn Planter.—Thomas M. Hill, Eaton, Ohio: First, I claim the described arrangement of the hinged arms, H I, and the spring lever, O, which latter operates the slides in the seeder, substantially as described. Second, The arrangement of the slides, P Q R, lever, O, and cylinder, K, operating substantially as described and represented.

52,414.—Elastic Shield for Trunks.—J. A. and H. A. House, Bridgeport, Conn.: We claim the vulcanized rubber or gutta-percha, package guard above described, constructed and operating substantially in the manner set forth.

52,415.—Bolt Screwing and Nut Tapping Machine.—William W. Hubbard, Philadelphia, Pa.: First, I claim the revolving plate, F, with its rotating spindles, L L', in combination with the within described cutting and feeding devices or their equivalents, the whole operating substantially as specified. Second, I claim the carriers, N, with their jaws, m m, in combination with the cam, p, lever, Q, and plate, R, the whole being arranged and operating substantially as and for the purposes described. Third, I claim the cam plate T, and its weight, q, or its equivalent in combination with the revolving plate, F, and its carriers, N, N'.

52,416.—Reclining Chair.—George Hunzinger, New York City: First, I claim the cross bar, e, at the junction of the seat and back in combination with the folding or X legs, the ends of said cross bar, occupying grooves or mortises in said legs, as and for the purposes specified. Second, I claim the arms, k, in combination with the folding X legs, c and d, and the back frame, h, said arms extending from the upper ends of the legs, d, to the back frame, h, substantially as and for the purposes set forth.

52,417.—Billiard Register.—R. H. Ingersoll, Washington, D. C.: First, I claim the combination of the claw, H, wheel, I, and pronged plate, K, as and for the purpose described. Second, I claim the combination of the pronged plate, K, rack, L, pinion, M, and figured dial, O, operating as described. Third, I claim the combination of the spring slide, u, pawls, v v', wheels, I, I', and springs, w w', substantially as described and represented. Fourth, I claim the lever, Y, in its combination with the arms, f f', wheels, I, I', and pawls, z. Fifth, I claim the described combination of the wheels, I, I', lug, K notch, l, incline, g, and pin, h. Sixth, I claim the slide, N, spring, p, prong, e, lever, Y, and arms, f f', operating substantially as described and represented.

52,418.—Method of Printing on Glass, Porcelain, Etc.—Ebenezer C. Jayne, Philadelphia, Pa.: First, I claim transferring letters or other characters, from a sheet of printed or painted paper, other material superimposed upon glass or porcelain or other material, directly to the surface of said glass or other material, by rubbing or rolling pressure applied progressively in lines singly or in a series, circular, straight or otherwise, or in one or more continuous line or lines, spiral or otherwise, in such manner and so close one line to another, as to force consecutively, every portion of the printed or printed character in close contact with said glass, porcelain or other material. Second, In the process or operation of transferring by pressure, printed or painted characters from sheets of paper or other material to the surface of glass, porcelain or other material, I claim the employment of a yielding presser, or a series of yielding pressers in combination with a yielding bed, substantially as set forth. Third, I claim a holding device, substantially as and for the purpose set forth. Fourth, I claim the combination of a revolving shaft or spindle, F, screw rod, m, guide bar, l, and clutch, operating substantially as described. Fifth, I claim a pressing device, in which one or more yielding pins or rollers are used, substantially as described. Sixth, I claim the combination of a revolving shaft, F, screw rod, m, guide bar, l, and a clutch with a pressing device and a holding device, substantially as described.

52,419.—Tobacco Pipe.—Paul Jeanne, Brooklyn, N. Y.: I claim a tobacco pipe of any material or form made in two parts hinged together at the bottom of the bowl and secured by bands at its top and heel, the seam being made, smoke and air tight by packing, the whole being constructed substantially as described and for the purposes set forth. [The object of this invention is to furnish a pipe which may be readily and thoroughly cleaned and as often as desired, and it consists in packing the seam of the hinged parts of the bowl with cork or its equivalent, so as to make the bowl smoke and air tight.]

52,420.—Caster for Furniture.—Thos. M. Kane and Conrad Brown, Goshen, N. Y.: We claim the construction of the divided cylinder, B, with springs, C, when constructed, arranged and combined as herein described, and for the purposes set forth.

52,421.—Cultivator.—Alford Lamb, Skaneateles, N. Y.: First, The arrangement for attaching the shafts to the beam by means of the swivel, F, and gage, G, for regulating the depth of the cut as set forth. Second, The arrangement of the frame, E, D C, and standards, A B H, with the frame, k, and handles, all constructed and combined substantially as and for the purposes set forth.

52,422.—Wheel and Axle.—Thomas A. Lane, Cincinnati, Ohio: First, A carriage wheel provided with curved and elastic metallic spokes, D, substantially as described rigidly united to a spindle or shaft to be coupled to, but to revolve independently of the shaft of the corresponding wheel. Second, A wheel whose spokes consist of yielding metallic plates, coinciding in form with a circular or other simple arc.

52,423.—Clothes Wringer.—Joel Lee, Galesburg, Ill.: I claim the arrangement of levers, B B, hooks and links, G G, follower, F, guides and bearings, H H, with the pinion, E, the crown wheels, G, G, and rubber rolls, C C.

52,424.—Manufacture of Sugar.—T. Lespes, Cold Spring, N. Y.: First, I claim the within described process of extracting the juice from cane or other plant containing sugar, by cutting the same up into short pieces and boiling these pieces, in suitable macerators, substantially in the manner and for the purpose set forth. Second, Using the pieces of cane during the macerating process as filtering medium, as and for the purpose described. Third, The arrangement of the trough, F, in combination with the car, d, macerators, H, and elevator, E, constructed and operating substantially as and for the purpose set forth. Fourth, The pans, I O, made entirely of wood, and provided with inclined troughs, J, substantially as and for the purpose described. Fifth, The curved pans, L L', in combination with the pans, I O, and their inclined troughs, J, constructed and operating substantially as and for the purpose set forth. Sixth, The decolorizing column, N, constructed and operating substantially as and for the purpose described.

52,425.—Well Borer.—Russell R. Lewis, New York City: First, Automatically controlling the bite of the borer by the gravity of the tube when acting by an intermittent blow, substantially in the manner herein set forth. Second, The cam plates or ratchet teeth on the top of the reamer and the bottom of the tube, substantially as and for the purpose set forth.

52,426.—Spring Bed Bottom.—Thomas Linfoot, Cincinnati, Ohio: I claim the arrangement of dovetailed rails, A A', a cross slats, D, helical springs, E, sliding head, F, and helical springs, G, in the described combination with the slats, I, whose ends occupy mortises in the rail, B, and sliding head, F, respectively as set forth.

52,427.—Hoop Skirt.—Leon Lobenstein, New York City: I claim a skeleton skirt for ladies, formed with wire or chain connections between the springs or loops of the skirt, as and for the purposes set forth.

52,428.—Potato Digger.—Albert Marcellus, Pittsford, N. Y.: First, I claim the ground wheels, e, of potato diggers, when constructed substantially as and for the purposes set forth. Second, The combination of the ground wheels, C, with the double board plow, B, they being so arranged, relatively, that the wheels shall receive the furrows from the plow, and for the purposes set forth.

52,429.—Cultivator.—A. S. Markham, Bushwell, Ill.: I claim the securing of the pendents, J, on the rod, K, by means of bolts, l, passing through any of a series of holes in plates, N N, attached to the draught pole, substantially as shown and described. [This invention relates to a new and improved cultivator of that class designed for cultivating crops grown in hills or drills, and in a novel arrangement of parts whereby the adjusting or removing of the plows are placed under the complete control of the operator, and the plows rendered capable of being operated with the greatest facility.]

52,430.—Heel Cutter.—Oliver H. and John A. Marston, Center Sandwich, N. Y.: We claim the arrangement of the knife, I, on the movable carrier, H, with the cutting edge of the knife, placed in a straight line with the axis of the heel rest post, B, and the journal, b, on which the carrier turns, the same insuring to the knife during its passage around the heel rest the best working positions for cutting the heel or leather to conform to the same. We also claim the arrangement of the elastic or rubber belt, F, the lever, D, the carrier, H, the knife, I, the heel rest, A, and its post, B.

52,431.—Pump.—Sylvester G. Mason and Calvin B. Gill, Rochester, N. Y.: We claim the combination of the piston, consisting of the rim, d, chamber, f, and partitions, g, g, and the valve consisting of the hollow axis or bearing, i, and wings, k k, operating substantially in the manner and for the purpose herein set forth. We also claim the special construction of the piston, consisting of the rim, d, chamber, f, and inclined partitions, g, g, arranged and operating substantially as described. We also claim a piston having partitions, g, g, situated respectively on opposite sides, and inclining in opposite directions, with induction ports, h h', in the opposite angles, above and below, for the purpose of admitting water at the opposite strokes, and balancing the piston, substantially as described. We also claim the special construction of the valve consisting of the hollow axis or bearing, i, and wings, k k, and provided with the induction ports, l l', substantially as and for the purpose set forth. We also claim securing the valve, D, in its chamber, f, by providing the removable bottom, G, with the dovetailed edges, m m, fitting in corresponding notches, n n, of the rim, as herein specified.

52,432.—Machine for Making Paper Boxes.—Charles A. Maxfield, New York City: First, I claim mounting the box supporter, h, in the sliding pipe sustained in the swinging frame, b, for the purpose of allowing the box to be placed upon or removed from the supporter, h, substantially as specified. Second, I claim the folding guide, 4, in combination with the supporter, b, rollers r and q, for the purpose and as specified. Third, I claim the roller, 12, and guide or folder, s, in combination with the box supporter, h, and roller, r, substantially as and for the purposes set forth.

52,433.—Bolt-heading Machine.—John W. McDermott, New York City: First, I claim the combination of the jaws, P', or their equivalent with the dies, D, and the stop or pin, D', substantially as described and for the purposes set forth. Second, The combination of the pawl, A', and ratchet wheel, b, with the wheel, S, cog-wheels, B' C' L and K, and shaft, M, and the die wheel, C, substantially as described, for the purpose of giving intermittent rotary motion to the wheels, C and T. Third, The combination of the lever, J, with the cam-like projection, k, and the roller, 12, and guide or folder, s, for the purpose of heading the bolts from the bolt holder, E', substantially as described. Fourth, The combination of the spring, R, with the jaws, P', and the dies, D, substantially as described and for the purpose set forth. Fifth, The combination of the jaws, P', or their equivalent, with the dies, D, and bolt holders, E', for the purpose of centering the heads of the bolts, substantially as described. Sixth, The die wheel, C, and the crank, S', formed on the shaft, B, of the driving wheel, A, as set forth.

52,434.—Sawing Machine.—Andrew McFarland, St. Johnsbury, Vt.: I claim the inclined elevator, W, with its pin, i, and spring, X, constructed and arranged substantially as described, in combination with the saw or blade, b, or its equivalent, on the side thereof, for the purpose herein set forth. I also claim the arrangement and combination of the catch notch, e, and stop, d, or their equivalents, for holding up the pulley frame, H, connected by means of the spring levers, a, b, or their equivalents with the log carriage in such a manner that the log will, at the proper time, automatically release the pulley frame, and allow it to descend as herein specified. I also claim the notch, V, or its equivalent in the upper edge of the saw beam, in combination with the pin, slotted girt, L, connecting bar, J, vibrating lever, M, feed arm, N, and ratchet wheel, O, on the shaft, P, of the winding-up pulley, substantially as described, whereby the log carriage is drawn along by the reciprocations of the saw beam, when elevated, substantially as herein set forth. I also claim the roller, k, inclined or tapering outward, and arranged in the frame lower than the roller, m, substantially as and for the purpose herein set forth.

52,435.—Machine for Varnishing and Lining Percussion Caps.—Wm. A. McIntyre, Troy, N. Y.: First, I claim the employment of the punch, D, cutter plate, E, and feed rollers, F F', all arranged and actuated by the means and in the manner, substantially as herein described, in combination with a feeding device, J, as herein shown, or any other equivalent device for that purpose, and operating in connection with the same for the purpose of lining percussion caps with tin foil or its substitute, in the manner as herein set forth. Second, in combination with a machine for lining percussion caps with tin foil or its substitute, I claim the employment of a varnishing apparatus, the said apparatus being constructed and operating together with said lining machine, so as to automatically and consecutively varnish and line the said caps, in the manner substantially as herein described.

52,436.—Refrigerator.—James McKelvey, Buffalo, N. Y.: First, I claim the combination with the case, A, and ice chambers, c c, of the openings, a' and a2, the latter being located so as to cause the air from the ice chambers to pass first to the center of the chamber containing the article to be kept cool, and be then diffused throughout the same, as described. Second, The combination of the case, A, ice chambers, C, discharge pipes, e, troughs, d, and wires, D, the whole being constructed and arranged to operate in the manner and for the purpose herein set forth.

52,437.—Grab for Oil and other Wells.—Dustin F. Melten, New York City: First, I claim in implements for seizing and raising tubing, drills and other articles from oil wells and other places, the use of adjustable bolts, E, for guiding the implement in a vertical or in an angular direction, substantially as and for the purpose set forth. Second, I also claim in combination the grab, A, having angular arms, B B, above the pivot of its jaws, the legs, G, G, and the cam, C, on the shaft of the implement, substantially as and for the purpose set forth, so that the grab is opened by means of the legs, G, and the angular arms are rising between the legs, G, and the cam, and closed when the arms are descending. Third, I also claim the slotted straps, F, in combination with the jaws of the grab, substantially as shown and described.

52,438.—Eave Trough.—Thomas C. Moore, Marion, Ind.: I claim the combination in an eaves trough of a finished cornice, A, B, on one side, and a guard sheet, D, on the other, when both are made of continuous metal, and the guard sheet is placed upon the sheeting of the roof, its upper edge covered by the shingles or other material, and secured substantially as described, for the purpose of having an ornamental eaves trough.

52,439.—Whip Socket.—Charles B. Morehouse, New-castle, Ind.: I claim the screw penetrating the ring from the outside, and the construction of the rings and their clamps, in combination with their metal bottom and elastic top, as herein described and for the purposes set forth. [The object of this invention is to couple the thills or poles to the axle of a carriage securely, and in such a way as to avoid rattling, and which shall at the same time be neater in appearance, less liable to get out of order, and require less metal than the carriage clips commonly in use; and it consists in forming the clip with a chamber, in which is placed an anti-rattler, one end of which presses against the connecting bolt, and which is held up to its work, and the wear of the parts counteracted by a rubber spring carefully protected from the weather.]

52,441.—Washing Machine and Wringer.—Wm. H. Nichols, Chatham, Conn.: I claim the rollers, C C', provided with cog wheels, b b', in their axles, in combination with an adjustable lever, F, which is provided with cog wheels, c c', intended to operate in connection with the cog wheels, b b', substantially in the manner and for the purpose set forth. [This invention consists in the arrangement of two corrugated or rough-surface rollers, in combination with four cog wheels of differ-

52,431.—Pump.—Sylvester G. Mason and Calvin B. Gill, Rochester, N. Y.: We claim the combination of the piston, consisting of the rim, d, chamber, f, and partitions, g, g, and the valve consisting of the hollow axis or bearing, i, and wings, k k, operating substantially in the manner and for the purpose herein set forth. We also claim the special construction of the piston, consisting of the rim, d, chamber, f, and inclined partitions, g, g, arranged and operating substantially as described. We also claim a piston having partitions, g, g, situated respectively on opposite sides, and inclining in opposite directions, with induction ports, h h', in the opposite angles, above and below, for the purpose of admitting water at the opposite strokes, and balancing the piston, substantially as described. We also claim the special construction of the valve consisting of the hollow axis or bearing, i, and wings, k k, and provided with the induction ports, l l', substantially as and for the purpose set forth. We also claim securing the valve, D, in its chamber, f, by providing the removable bottom, G, with the dovetailed edges, m m, fitting in corresponding notches, n n, of the rim, as herein specified.

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52,433.—Bolt-heading Machine.—John W. McDermott, New York City: First, I claim the combination of the jaws, P', or their equivalent with the dies, D, and the stop or pin, D', substantially as described and for the purposes set forth. Second, The combination of the pawl, A', and ratchet wheel, b, with the wheel, S, cog-wheels, B' C' L and K, and shaft, M, and the die wheel, C, substantially as described, for the purpose of giving intermittent rotary motion to the wheels, C and T. Third, The combination of the lever, J, with the cam-like projection, k, and the roller, 12, and guide or folder, s, for the purpose of heading the bolts from the bolt holder, E', substantially as described. Fourth, The combination of the spring, R, with the jaws, P', and the dies, D, substantially as described and for the purpose set forth. Fifth, The combination of the jaws, P', or their equivalent, with the dies, D, and bolt holders, E', for the purpose of centering the heads of the bolts, substantially as described. Sixth, The die wheel, C, and the crank, S', formed on the shaft, B, of the driving wheel, A, as set forth.

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52,438.—Eave Trough.—Thomas C. Moore, Marion, Ind.: I claim the combination in an eaves trough of a finished cornice, A, B, on one side, and a guard sheet, D, on the other, when both are made of continuous metal, and the guard sheet is placed upon the sheeting of the roof, its upper edge covered by the shingles or other material, and secured substantially as described, for the purpose of having an ornamental eaves trough.

52,439.—Whip Socket.—Charles B. Morehouse, New-castle, Ind.: I claim the screw penetrating the ring from the outside, and the construction of the rings and their clamps, in combination with their metal bottom and elastic top, as herein described and for the purposes set forth. [The object of this invention is to couple the thills or poles to the axle of a carriage securely, and in such a way as to avoid rattling, and which shall at the same time be neater in appearance, less liable to get out of order, and require less metal than the carriage clips commonly in use; and it consists in forming the clip with a chamber, in which is placed an anti-rattler, one end of which presses against the connecting bolt, and which is held up to its work, and the wear of the parts counteracted by a rubber spring carefully protected from the weather.]

52,441.—Washing Machine and Wringer.—Wm. H. Nichols, Chatham, Conn.: I claim the rollers, C C', provided with cog wheels, b b', in their axles, in combination with an adjustable lever, F, which is provided with cog wheels, c c', intended to operate in connection with the cog wheels, b b', substantially in the manner and for the purpose set forth. [This invention consists in the arrangement of two corrugated or rough-surface rollers, in combination with four cog wheels of differ-

ent diameters, two of which are mounted on the axis of the rollers, and two on studs secured in an adjustable lever in such a manner that when the lever is made to close up toward the rollers said rollers are geared together by the intermediate cog wheels mounted on the lever, and one roller is made to revolve considerably further than the other, thereby producing a rubbing as well as a squeezing action on clothes passing through between them; and, by turning said lever back, the two rollers are thrown out of gear with each other, and in this state they serve simply as pressing rollers or wringers.]

**52,442.—Blind Fastening.**—Charles A. Palmer, Newburgh, N. Y.:

I claim the combination with the hook-fastening catch, a, of a window blind, of the holding plates, f and h, or their equivalents, inserted within the window sill, under the sash frame, and arranged and operating substantially in the manner described and for the purpose specified.

[This invention consists in inserting within that portion of the sill of the window frame against which the lower rail of the sash frame comes in contact when the window is shut, and below its surface, a staple of such a shape for the hook upon the blind to interlock with, that, when the blinds closed and its hook fastening interlocked therewith, and the window closed and locked, it will be impossible to unfasten the blind except the window be first unlocked and sufficiently raised to allow the hook to be disengaged from said staple.]

**52,443.—Bradawl Handle.**—Henry L. Parker, Hartford, Conn.:

I claim forming a slit, i, across the shank, a', in combination with the latch, n, and handle, a, substantially as and for the purpose described.

**52,444.—Ratchet Wrench.**—William Pirsson, Newark, N. J.:

First, in combination with the ratchet and pawl arranged in a cavity in one side of the stock, I claim the lip on the pawl, substantially as and for the purpose herein specified.

Second, The stop, a, in the ratchet socket, substantially as and for the purpose herein specified.

**52,445.—Seeding Machine.**—John B. Pitts, Salem, Ind.:

First, I claim the arrangement and combination of the hopper, D, and seed-dropper cylinder, C, supporting and driving drum, B, and the gang of plows, the latter being applied to the frame, A, in rear of the roller, B, and the whole operating substantially as described.

**52,446.—Pump.**—Hearan Reed, New York City:

I claim a new article of manufacture, consisting of a pump, comprising the water chamber, A, as shown, the two-pump cylinder, K, K, secured and arranged within said chamber, as shown, and the air chamber, H, made, arranged, and secured over said water chamber and said pump cylinders, as shown and described.

**52,447.—Forging Apparatus.**—Alfred Rix, San Francisco, Cal.:

First, I claim connecting the handle of the hammer to the arm, or its equivalent, and so adjusting the length of said handle and arranging the several parts, that the hammer, when retracted, shall rest upon a support fixed upon the opposite end or intermediate portion of the arm, or its equivalent, which lies within or nearly within the plane projected, of the axis of movement of the hammer, and the axis of rotation of the arm, substantially as described.

Second, I claim the guide, D, constructed and used, substantially in the manner and for the purpose specified.

[An illustration and description of this invention was published in No. 10, Vol. XIII, SCIENTIFIC AMERICAN.]

**52,448.—Packing for Deep Wells.**—John H. Robinson and David A. Strong, Washington, D. C.:

First, We claim the tubes, B and E, forming a telescopic joint in combination with the flexible packing, substantially as described.

Second, In combination with a telescopic joint, the conical enlargement, A, slots, F, and screws or pins, D, substantially as described.

Third, The cone, A, and flexible packing, G, arranged and operating substantially as described, for forming a packing both for the well and the tube.

**52,449.—Meat and Vegetable Chopping Machine.**—H. W. Russell, Stoughton, Mass.:

I claim the arrangement of the gear wheel, R, shaft, D, crank, E, pinion, F, reciprocating knife, I, in combination with the pinion, N, shaft, B, rotating plate, L, and vessel, K, operated from the same driving wheel, H, in the manner as herein described.

[The object of this invention is to provide a chopping machine for family use. It consists, in general terms, in a vertically reciprocating knife, which works through the cover of a vessel which has rotary motion in a horizontal plane. The same power which drives the knife gives rotary motion to the vessel; the latter contains the meat or vegetables to be cut, and as it revolves its contents are exposed at a different place to the action of the knife, which always descends in the same plane.]

**52,450.—Process for Hardening Files.**—John Russell, Sing Sing, N. Y.:

I claim passing a galvanic current through or into the solution in which files or other articles of steel are to be hardened, substantially as and for the purpose described.

**52,451.—Suspended.**

**52,452.—Steam Gage Cock.**—John C. Schaefer, Philadelphia, Pa.:

I claim the packing valve, C, the shank, I, and the socket, o, in the stem, n, substantially as herein specified and described.

**52,453.—Ruler.**—G. W. Schramm, New York City:

I claim a ruler formed by the union of two substances, one flexible and elastic and the other flexible, or one more flexible and elastic than the other, such as the substances well known as hard and soft vulcanized india-rubber, substantially as and for the purpose specified.

**52,454.—Lubricating Vertical Shaft.**—John F. Schuffenecker, St. Louis, Mo.:

First, I claim an upright permanent toe, l, nuts, m, m, key, p, and the pan, k, with the oil hole or slot, i, and cup, j, as shown, and for the purpose herein described.

Second, oiling the pan and toe from above by the lubricator, A, tube, i, with the vent hole, d, shutter, c, secured by the screw, a, and nut, b, or its equivalent.

**52,455.—Connecting rod Joint.**—Thomas Shaw, Philadelphia, Pa.:

I claim constructing connecting-rod joints in the manner described.

**52,456.—Amalgamating Gold and Silver.**—George B. Simpson, Washington, D. C.:

First, I claim the rotating closed vessel, A, in combination with the interior coil, C, or its equivalent.

Second, I claim the vessel, A, with removable end, E, and interior coil, C.

Third, The closed vessel, A, in combination with suitable devices for lifting the same, to and from the fire, substantially as described.

Fourth, The amalgamation of gold and other precious metals, by immersing finely pulverized ore in heated mercury by means of a rotating vessel and internal agitator or stirrer, substantially as described.

**52,457.—Gas-Jet Cigar Lighter.**—George B. Snow and Theodore G. Lewis, Buffalo, N. Y. Ante-dated Jan. 23, 1866:

First, I claim the arrangement and combination of the inclined valve chamber with the governing valve, when operating in the manner and for the purposes set forth.

Second, The adjusting screw, e, arranged and operating in the manner and for the purposes substantially as described.

Third, The opening and closing hood or shield, g, operating in the manner and for the purposes substantially as described.

**52,458.—Horse Rake.**—Thomas Stewart, Pittsburgh, Pa.:

First, I claim the sliding rods, Q, Q', one or both, provided with lips, d, d', at their outer ends, and connected at their inner ends to a lever, R, and also connected to the hinged frame, H, to which the rake teeth, J, are attached, and all arranged to operate substantially as and for the purpose set forth.

Second, The combination of the rake teeth, J, with the hinged frame, H, and fingers, F, all arranged to operate substantially as for the purpose herein specified.

[This invention relates to a mode of raising the rake so that it may discharge its load. The rake is of that class which is constructed of wire teeth, and it is arranged in such a manner as to be varied by the wheels. The invention also relates to a novel arrangement of the rake, and clears or discharges, whereby the proper discharge of the load from the rake is insured.]

**52,459.—Water Motor.**—Henry B. Stiles, New Haven, Conn.:

I claim the combination of two or more valves, L, with their cams, N, when constructed and arranged to operate, within a cylinder, substantially as and for the purpose specified.

**52,460.—Pipe Damper.**—William W. St. John, St. Louis, Mo.:

First, I claim the combination of the segmental plates, A, A, with the end pieces, B, B, the plates, C, C, and the scraper, D, as and for the purpose set forth.

Second, I claim the scraper, D, for the purpose of removing the accumulated soot from a stovepipe damper.

**52,461.—Graduated Bottle.**—George W. Stoeckel, Pittsburgh, Pa.:

I claim a molded or pressed graduated bottle made substantially as herein described.

**52,462.—Corn Cultivator.**—Joseph S. Stuke, Sugar Grove, Ohio:

I claim the combination and arrangement of the plows or cultivators, cross bar, axle and frame when made adjustable, as and for the purposes set forth.

**52,463.—Mode of Sinking Wells.**—James Suggett, Cortland, N. Y.:

First, I claim the armor cap, c, with shoulder, H, and thimble, d, for the purpose described.

Second, In combination with cap, c, thimble, d, and shoulder, H, I claim the pump tube, a, for the purpose of driving said tube directly into the earth, substantially as set forth.

**52,464.—Process for Preparing and Tanning Hides.**—B. F. Taber, Buffalo, N. Y.:

First, In the process of preparing hides, I claim the use of aqua calcis, or in a solution of lime in water, as a soak for hides preparatory to liming or sweating, or both.

Second, I claim the use of heated water for sweating hides either in connection with or without liming, or in connection with the use of aqua calcis.

Third, I claim the use of heated water administered to hides while motion in a drum or cylinder, for the purpose of removing the hair, cleansing them from lime, etc.

Fourth, I claim baiting (or abating) the lime from hides by the use of warm water and fowl dung, or other articles used as a bait administered to them while in motion in a drum or cylinder.

Fifth, I claim the use of aqua calcis (or a solution of lime in water), as a soak for hides, after they have been otherwise prepared for the tan.

**52,465.—Putting up Caustic Alkali.**—T. Chalkley Taylor, Philadelphia, Pa. Antedated Jan. 26, 1866:

I claim the putting up of caustic soda or potassa in cases which are originally left open at both ends and afterward closed by cement, substantially in the manner above described.

**52,466.—Putting up and Preserving Caustic Potassa and Soda.**—T. Chalkley Taylor, Philadelphia, Pa. Antedated Jan. 28, 1866:

I claim the above-described method of fitting a case with caustic soda or potassa, in such a manner as to avoid the danger of melting the solder which holds the case together and thus securing the box from injury.

**52,467.—Churn.**—Daniel E. Teal, Norwich, N. Y.:

I claim the arrangement by which the milk or cream is made to perform a circuit through different apartments and through screens, as described, by which all parts of the milk or cream are agitated and subjected to the necessary amount of friction, and brought into contact with the necessary amount of each circuit of the milk or cream.

The screen keeping the butter first formed from passing through the churn unnecessarily.

**52,468.—Canteen and Lunch Box.**—Kathrin Thoman, Cleveland, Ohio:

I claim the arrangement of the chamber, D, with its cover and the recessed depression, A', in combination with the heater or case, A, and screw, C, constructed as and for the purposes set forth.

**52,469.—Door Fastener.**—George E. Thompson, New Haven, Conn.:

I claim the combination of the notched plates, A, B and C, with the vibrating bar, D, all constructed and arranged substantially in the manner and for the purpose set forth.

**52,470.—Heel-polishing Machine.**—S. D. Tripp, Lynn, Mass.:

I claim the attaching of the stud, l, which enter the hole or holes in the last, A\*, to a sleeve, g, connected to a pendent or swinging plate, G, all arranged in such a manner as to admit of the last, and consequently the heel of the boot or shoe rising or falling to admit of the proper adjustment of the heel of the polishing wheel and guard or rest, substantially as herein shown and described.

I further claim the springs, e, e, attached to the shaft, F, in combination with the pendent or swinging plate, G, substantially as and for the purpose specified.

I further claim the combination of the shaft, F, pendent or swinging plate, G, sleeve, g, polishing wheel, D, and guard or rest, e, substantially as and for the purpose set forth.

**52,471.—Corn Planter.**—A. J. Van Boekel, Uniontown, N. J.:

I claim the attachment to and combination with a common plow of an additional plow share and mold board in front of the plow share and mold board of the plow, as commonly used, and an intervening corn-dropping mechanism, the mold boards being secured or faced toward each other, and their line of travel being such that the wings of the mold boards are nearly in line with each other, so that the furrow turned by the front or attached share and mold board is immediately turned back by the plow share and mold board, thereby covering the corn dropped behind the furrow opener, the whole constructed and arranged substantially as hereinbefore described.

**52,472.—Peat Machine.**—T. J. Wells, New York City:

First, I claim mashing and grinding peat and breaking up its air and water cells between smooth cylinders whose peripheries move at different velocities, substantially as described.

Second, I also claim the cylinders, H, H', whose peripheries are made to move at different velocities in combination with a series of fixed or revolving knives or both, for breaking up crude peat before it is delivered to the action of said cylinders, substantially as described and shown.

Third, I also claim the cylinders, H, H', whose peripheries move at different velocities in combination with a series of fixed or revolving knives or both, and with an elevating apparatus for delivering crude peat to the action of the knives and of the cylinders, substantially as shown.

Fourth, I also claim cylinders, H, H', constructed and operating substantially as described, in combination with the molding cylinders, E, E, substantially as shown and described.

Fifth, I also claim in combination the cylinder, G, armed with knives or arms, as described, the hopper, D, above it, and the cylinders, H, H', substantially as described.

Sixth, I also claim mixing coal dust or other fire-concentrated combustible material with crude peat while its lumps are being broken up by means of a hopper, D, for containing such coal dust or other material, and of a system of revolving knives or arms below the hopper, substantially as described.

**52,473.—Blind Splint Machine.**—J. A. Welsh, Xenia, Ohio:

First, I claim the sliding block, E, provided with the roller, e, arranged and operating as shown and described.

Second, the spring, a, and set screw, b, in combination with the movable block, E, and roller, e, arranged and operating in the manner and for the purpose set forth.

**52,474.—Steam Engine.**—Norman W. Wheeler, Brooklyn, N. Y.:

I claim the combination of two vertical or nearly vertical working cylinders, a, a, with a connecting entablature, c, c, in such a manner that the cylinders and entablature will constitute the principal frame of the engine, when so arranged that the upper cylinder heads, d, d, will pass into their places through the entablature, substantially as and for the purposes described.]

**52,475.—Valve Gear for Steam Engines.**—Norman W. Wheeler, Brooklyn, N. Y.:

I claim the combination of the eccentric, b, cheek pieces, c, c, pin, d, and clutch, g, or their mechanical equivalents, constructed and combined with the main shaft and together, substantially as and for the purpose described.

**52,476.—Still for Distilling Salt Water.**—Norman W. Wheeler, Brooklyn, N. Y. Antedated Dec. 26, 1865:

First, I claim the combination of the vessel, a, steam jacket, b, b, trap, e, and sea cock, y, or their equivalents, substantially as described.

Second, I claim the combination of the valve, n, vessel, a, jacket, b, b, and sea cock, y, or their equivalents, substantially as described.

Third, I claim the combination of the cooling jacket, z, or its equivalent, upon the pipe, e, e, in combination with an automatic still, substantially as described.

**52,477.—Method of Delivering Liquid Gases.**—Norman W. Wheeler, Brooklyn, N. Y.:

I claim relieving liquids of free gases or air, while they are under pressure, by means of the liquid trap, f, or its equivalent, when the trap is combined with the pump, c, substantially as and for the purposes described.

**52,478.—Saw Rebate Plane.**—Daniel D. Whitker, Hudson, N. Y.:

I claim combining and arranging the adjustable saw, A, with the adjustable gauge rest, C, substantially in the manner and for the purpose herein set forth.

**52,479.—Nail Machine.**—Wm. Wickersham, Boston, Mass.:

First, I claim placing some of the cutters a little in advance of the others, in the direction of their cutting movement, so that some of the nails shall be cut a little before the others for the purpose of relieving the strain upon the machine, substantially as described.

Second, The series of recesses in the cutter stock formed substantially as shown, to determine the position of the cutters in the stock, or the employment of equivalent means to accomplish the same purpose, substantially as described.

Third, I claim the method herein described of confining the cutters in the stock.

Fourth, I claim the employment, in combination with the shifting frame and carriage, of pinners and clamps, for the purpose of holding the sheet and presenting it to the cutters, substantially as described.

Fifth, I claim the employment, in combination with the sliding frame, K, of the stops, L, L', or other equivalent device, for arresting the movement of the frame at the same fixed point in either direction, substantially as described.

Sixth, I claim the employment, in combination with the frame, K, and carriage, L, or their equivalents, of the fixed and yielding guides, S and S', or their equivalents, to guide the sheet of metal laterally, as it is moved forward, substantially as described.

**52,480.—Lamp.**—Charles Wilhelm, Philadelphia, Pa.:

I claim the spring, E, when fastened to the body of the lamp, and arranged in combination with the notched ring, B, substantially in the manner and for the purpose described.

**52,481.—Sounding Telegraph.**—Elsha Wilson, New Haven, Conn.:

First, I claim controlling either continuous or intermittent air, gas or vapor sounding for telegraphic purposes, without stopping the flow of air, gas or vapor, by which the sound is produced.

Second, I claim a pallet or tongue, v, v', or any substantially equivalent device adapted to intercept, regulate, or control the vibrations of air, gas or vapor, against the edge of the lip, u, in order to vary or suppress the sound, substantially as explained.

Third, I claim the employment of continuous sound from air gas or vapor sounding instruments, for telegraphic signals, by transition from one tone or pitch, key or pulsation to another, either at the main or at any secondary sounding office, substantially as above set forth.

**52,482.—Furrowing Machine.**—John J. Wilson, Abingdon, Ill.:

I claim a furrowing or marking device composed of a plurality of wheels placed on an angle and arranged with a draft pole and driver's seat, substantially as herein shown and described.

[This invention relates to a device for furrowing or marking land for the planting of corn and other seeds in check rows. It consists in having an axle provided with three wheels placed at equal distances apart, the axle having a draft pole connected to it and a proper framing formed to support a driver's seat; three furrows may be made simultaneously, and the work of furrowing or marking land for the purpose specified greatly expedited.]

**52,483.—Bending Wood.**—William C. Wright, Trenton, N. J.:

I claim the arrangement of the flexible plate, b, clamps, c, c, bolts, d, d, and rivets, ff, with the forming frame, a, as and for the purpose explained.

**52,484.—Safe.**—Linus Yale, Jr., Shelburne Falls, Mass. Antedated Dec. 9, 1865:

I claim the angular plates or sections of hard metal, consisting of corner pieces and edge or filling pieces when constructed, arranged and applied to the exterior of the inner wrought iron portion of the walls of a safe, substantially in the manner and for the purposes hereinbefore described.

**52,485.—Pump.**—Levi Beemer, Libertyville, N. J., assignor to himself and J. H. Williamson, Branchville, N. J.:

I claim the combination of the two pump cylinders, B, B', with the pistons, F, E, and valves and the yoke, G, arranged to operate substantially in the manner as and for the purposes set forth.

[This invention relates to a new and improved pump in which the suction or lift and the force pump are combined, and by which almost all of the water in a well or reservoir may be drawn. The invention is designed for what is commonly termed a submerged pump, the cylinders being placed near the bottom of the well or reservoir.]

**52,486.—Coal-ashes Lifter.**—John W. Cambell, New York City, assignor to himself and Walter Joralemon, Newark, N. J.:

I claim constructing and combining the sieve and ash box, substantially in the manner and for the purpose herein above set forth, as an article of manufacture.

**52,487.—Wrench.**—John C. Connor, Williamsburgh, N. Y., assignor to T. J. Hennessy, New York City:

I claim the stationary jaw, A, with its fixed longitudinal slotted tube, C, in combination with the screw shaft, F, screwing into the movable jaw, L, and encased within and by the said tube with its handle, I, said jaw, L, moving in and being guided by the said slotted tube, substantially as herein described and for the purpose specified.

[This invention relates to that class of wrenches in which a stationary and a movable jaw are used, and it consists in a novel construction and arrangement of such jaws, with regard to each other, whereby the efficiency and convenience of the wrench is increased.]

**52,488.—Folding Chair.**—Isaac M. Dann, New Haven, Conn., assignor to the New Haven Folding Chair Company:

I claim the use in a folding chair of the character herein do

scribed of a curved or bowed back round for the seat whether the same be placed between or in rear of the front legs of the chair, as and for the purposes herein set forth.

52,489.—Machine for Felting Hat Bodies.—Cyprien Faure (assignor to himself and C. Francis Bates), New York City:

I claim the box, A, with the longitudinally slotted table, A', in combination with the longitudinally slotted plank, B, and with a suitable roller or rollers, the whole constructed and operating substantially as and for the purpose described.

[The object of this invention is to produce a machine which performs the operation of felting hats in imitation of the ordinary hand process.]

52,490.—Method of Treating Gold Ores.—Halvor Halvorson, North Cambridge, Mass., assignors to himself and Wm. T. Eustis, assignors to themselves and Levi L. Cushing, Jr.

I claim the treatment of gold and silver bearing pyritous ores in the manner and for the purposes herein described.

52,491.—Curriers' Scourer.—John Hankey (assignors to himself and Henry Muller), North Cambridge, Mass.:

I claim the improved curriers' scourer as made with the metallic socket piece combined and arranged with the handle and the stone, and with the handle provided with the adjusting screws, and the recesses for reception of their heads, substantially as described.

52,492.—Sash Locks.—James Hollingsworth (assignors to C. M. Henderson), Chicago, Ill.:

I claim, First, The application of the plate, B B', to a plate, A, having a projecting rim, a, for the purpose of forming a space between the surface of said plate and the jaws to receive the pins, h, and spring, g, substantially as described.

Second, The stud, b, in combination with the cup shaped plate, A, and jaws, B B', substantially as described.

52,493.—Machine for Reducing or Pointing Wires.—Orrin L. Hopson, and Eli J. Manville, Waterbury, and Heeman P. Brooks, Walcottville, Conn., assignors to Orrin L. Hopson, Waterbury, and Heenan P. Brooks, Walcottville, Conn.:

I claim, First, a series of toggle blocks, k, mounted substantially as specified, in combination with the die, l, shaft, b, and law, e, substantially as and for the purpose set forth.

Second, We claim the combination of the blocks m, and screws, l, with the toggle blocks, k, and die, l, as and for the purposes specified.

Third, We claim the spring n, fitted as specified in combination with the toggle blocks, k, and die, l, as specified.

Fourth, We claim the jaw, d, on the center, e, carrying half the divided die, l, at one end in combination with its adjusting screw, g, applied to the opposite end of the jaw, d, as and for the purposes specified.

Fifth, We claim the cylinder or pin, o, in combination with the jaw, d, and toggle or cam blocks, k, for the purposes and as specified.

52,494.—Bolt Heading Machine.—Lancelot Kirkup, Brooklyn, N. Y., assignor by mesne assignment to The Bolt Head and Spike Co., New York City:

We claim—First, The arrangement of two die carrying disks, one on either end of the frame, B, in combination with suitable punchers, H, with a yoke, I, and eccentric, n, or their equivalents, constructed and operating substantially as and for the purpose specified.

Second, The troughs, L, in combination with the die carrying disks, A, arranged substantially as and for the purpose specified.

52,495.—Hay and Cotton Press.—Marquis D. Moore, (assignor to himself and Samuel Bromburg, Brooklyn, N. Y.):

I claim the toggle levers, constructed as herein described and conical windlasses in combination with the two inclined extensions or end pieces c, c, as and for the purposes herein specified.

52,496.—Rotary Plow.—David Myers (assignors to himself and Wm. H. Kretsinger), Chicago, Ill.:

I claim the employment of a series of rings in combination with the revolving cylinder, F, and shovels, a, arranged and operating substantially as and for the purposes herein shown and described.

52,497.—Door Guard.—Noah C. Perry and George S. Gladding, Chester, Conn., assignors to Jeremy W. Bliss, Hartford Conn.

We claim a new and useful article of manufacture a door guard, substantially in the manner as and for the purpose described.

52,498.—Heel-polishing Machine.—James M. Thompson, Stoneham, Mass., and L. D. Tripp, Lynn, Mass., assignor to S. D. Tripp:

First, We claim the loose disk, D, placed at one end of the rotating polishing shaft, C, in connection, with the gage, E, substantially as and for the purpose specified.

Second, In connection with the polishing shaft, C, the frame or bar, G, suspended by a spring, H, from an upright, A, or other fixture, and provided with a rotating disk, J, in which a sliding plate, K, is fitted, having the boot or shoe attached substantially as and for the purpose set forth.

Third, The supplemental shaft, F, in combination with the polishing shaft, C, and the frame or bar, G, provided with the disk, J, containing the sliding plate, K, substantially as and for the purpose specified.

[The object of this invention is to obtain a new and useful device for polishing the edges of the soles of boots and shoes, one which may be manipulated with the greatest facility, and perform its work in an expeditious and perfect manner, and be capable of being adjusted to operate upon soles of greater or less thickness.]

52,499.—Heel-polishing Machine.—James M. Thompson, Stoneham, Mass., and S. D. Tripp, Lynn, Mass., assignors to S. D. Tripp:

We claim the revolving block, D, placed loosely on the driving shaft, C, and provided with polishing stones or wheels, E E', driven from such shaft, all arranged substantially as and for the purpose herein set forth.

[This invention relates to a new and improved mode of arranging the polishing stones or wheels of a heel-polishing machine, whereby either of the stones or wheels—two being used—may, by a very simple manipulation, be placed or adjusted in the necessary position to have the heel of the boot or shoe applied to it.]

52,500.—Planter and Seeder.—Horace H. Webster (assignor to himself and Sylvester Davis), Claremont, N. H.:

First, I claim the combination of a corn planter and seed drill, substantially as herein described.

Second, My device for raising the plows and covers from the ground and lowering them thereto, substantially as set forth.

Third, The valves, Y, notched wheels, V, and cog wheels, E, constructed, combined and arranged substantially as described.

52,501.—Car Brake.—W. E. Wilcox (assignor to himself and Luther Moses), Cleveland, Ohio:

First, I claim the arrangement of a steam cylinder with the horse couplings and friction wheels, when arranged and combined in the manner herein specified and for the purposes set forth.

Second, I also claim the construction of the horse couplings, when arranged and combined with car brakes operated by straw, as herein described and for the purposes set forth.

Third, I also claim the friction wheels to be placed between or on either side of the car wheels, as herein described and for the purposes set forth.

52,502.—Machine for Welding the Ends of Railroad Rails.—Hugh Baines, Manchester, Eng., residing temporarily in Canada:

I claim the means herein set forth for applying steel braces to the ends of rails and railway points, that is to say, the devices desig-

nated by the figures 1, 2, 3, and the plunger or die, S, the said devices being operated substantially as shown.

52,503.—Mode of Securing Photographic Pictures on Ceramic Ware, Etc.—J. B. Obernutter, Munich, Kingdom of Bavaria:

I claim the herein-described process of producing photographic pictures on ceramic articles, including glass, to be burnt in as set forth.

52,504.—Combined Sword and Pistol.—August Rauh, Solingen, Westphalia, Prussia:

I claim the combination with the sword blade and its handle of a many-chambered rotating cylinder and fixed barrel, when the base pin for the cylinder is formed of the blade stock and the several parts are arranged and operated as hereinbefore described.

Second, I also claim the constructing and arranging the breech plate, n, so as to constitute also a hammer supporter during the loading operations, substantially as described.

52,505.—Self-winding Watch.—F. Robert Theurer (assignor to Charles Aubens & Co.), Chaux de Fonds, Switzerland:

I claim actuating the winding mechanism of the watch by the movement of the cover, substantially as herein set forth.

52,506.—Flax-spinning Machine.—Levi Skeels, Worthington, Ohio:

I claim—First, The arrangement of vibratory slit holder, F, notched feeder, G, spring finger, H, and stud, for detaching and feeding for ward the flax, substantially as set forth.

Second, In combination with the above-claimed feeding mechanism, I claim the clamp, J, J', constructed and operating as set forth.

Third, The described arrangement of clamp, J, J', and yielding rest, L, for the purpose explained.

Fourth, The gear, K, K', formed and arranged to wind evenly upon the bobbin as set forth.

52,507.—Shingle Mill.—Thos. H. Cox, Nashville, Tenn.:

First, I claim the combination of the saw, B, rising and falling bed, M, pitman, L, and crank wheel, I, as and for the purposes specified.

Second, The combination and relative arrangement of the shafts, R, R, pinions, Q, Q, slides, N, N, racks, i, i, ratchet toothed wheels, T, T, and fixed pawls, V, V, for setting the bolt, as explained.

Third, In combination with the before-named shafts, R, R, pinions, Q, Q, and racks, i, i, I further claim the eccentric, S, and slotted plates, K, I, arranged to operate as and for the purposes set forth.

Fourth, I also claim the combination of the lever, O, spring, P, toothed segment, a, sliding toothed dog, b, and fixed dog, h, arranged to operate as and for the purposes specified.

52,508.—Tweezer.—Even Kooms, Funkstown, Md.:

First, I claim the cup or dish-shaped first iron or tweezer, constructed in the manner described, for the purpose of allowing the cinders to flow away from the air-discharge openings and for the purpose of preventing the same from flowing out against the brickwork, substantially as described.

Second, I also claim the use of the conical weighted plug, constructed as and for the purposes herein described.

REISSUES.

2,166.—Self-mousing Hook.—The Middletown Tool Company, Middletown, Conn., assignees by mesne assignments of J. R. Henshaw. Patented Oct. 26, 1858:

We claim locating the spring of a snap hook, substantially as shown and described, so as to act upon points intermediate between the hinge and hook proper, in combination with forming recesses for holding the spring, as set forth.

2,167.—Tool.—The Washoe Tool Company, New York City, assignees of H. L. Lowman. Patented June 6, 1865:

We claim an elliptical socket the opposite sides of which are parallel to each other, and elongated in the line of its axis, in combination with one or more projecting arms or breechings by curved lines into the socketed head, substantially as described and represented.

DESIGNS.

2,259 to 2,262.—Fabric Trimming.—Thomas Merry (assignor to Samuel Needham), Philadelphia, Pa. Four patents.



N. H. B., of Me.—Iron is converted into steel by absorbing from 1 to 1 1/2 per cent of carbon. The iron is placed in an air-tight vessel along with a little pulverized charcoal, and kept at a white heat for a long time—from 2 1/2 hours to 3 days.

R. O., of Mass.—The United States \$10 gold piece weighs 258 grains, 900 parts in 1,000 being gold. A grain is the same in Troy and avoirdupois weight—480 grains make an ounce Troy, and 437 1/2 an ounce avoirdupois.

C. E. P. can receive an answer to his inquiry calling for a coating for the inside of wooden pipes—impervious, without smell or taste—by addressing John S. Lipps, No. 28 Joralemon street, Brooklyn.

J. H. W., of Pa.—The experiments at Fairmount Waterworks took place in 1860. No doubt Mr. Birkenbine, Chief Engineer of water works, will give you all the information. The challenge referred to is all we know of the matter. We have no information respecting Gardisall's Technical Dictionary.

McJ. G., of Ohio.—Why will not red lead answer to protect your iron hoops from rust? It is the cheapest and simplest substance we know of.

W. M. C., of R. I.—The subject of cone pulleys has been fully treated of in the SCIENTIFIC AMERICAN. In Vol. II, new series, page 38, and in Vol. XI, page 69, you will find the information sought.

J. G. C.—The milling is done by a tool sold in all tool stores. It consists of a small steel wheel cut with the teeth and set in a jaw. When held against the work the wheel revolves and leaves the indentations which constitute the milling.

C. C. M., of Ill.—Any good force pump will raise water 345 feet. The larger you have your pipe the less friction will there be from the water passing through it; and in so long a pipe the friction consumes a large proportion of the power.

B. & Co., of Tenn.—We should not give an opinion in regard to the best lime kiln without a practical trial; and this we are not prepared to make.

J. F. D., of Pa.—The pressure on the top and bottom of a boiler is not the same, it being greatest at the bottom, by reason of the weight of the water.

S. R.—Shafting running at right angles by belts is not new. Many examples can be seen in this city.

H. M. C.—Patents are granted in England to the first applicant, who need not be the inventor.

O. S., of Ohio.—In filling a barometer tube with mercury there is considerable difficulty in obtaining a perfect vacuum. A small portion of pure mercury is boiled in the tube, and when this is cooled another portion is added and boiled; and so on until the tube is full. When the tube is filled it is inverted in a vessel of pure mercury.

D. C. L., of La.—Beeswax is bleached by exposing it in thin sheets to the sun, wind, and rain, frequently changing the surface thus exposed by remelting the wax and again reducing it to thin flakes.

S. D. E. says:—"A strange phenomenon took place here last week. An artist took a picture of a child (an ambrotype), and when he developed it there appeared in the background the head of a youth about sixteen years old. He cannot account for it, as he says the plate was a new one, never used before. I think he must be mistaken. I think he redeveloped the outlines of an old picture. Will you please let me know how it could or did occur. I want to clear up some superstitious notions in this place. Anything but superstition for me." ANS.—Your theory is correct. The plate was an old one, not absolutely clean when used. The redevelopment of an old picture in this way some times occurs in photography.

J. C. W. asks:—"How much ought a man to get for the exclusive right of a patent on perpetual motion, if he should be fortunate enough to invent it?" As much as he can.

J. F. B., of Ohio.—Iron is a better conductor of electricity than water.

R. F. W., of N. Y.—The specimen which you sent is quartz.

H. B. H.—The Patent Office Report for 1851 was not illustrated.

PATENT OFFICE.

PATENTS GRANTED FOR SEVENTEEN YEARS. MUNN & COMPANY.

In connection with the publication of the SCIENTIFIC AMERICAN have acted as Solicitors and Attorneys for procuring "Letters Patent" for new inventions in the United States and in all foreign countries during the past twenty years. Statistics show that nearly ONE-HALF of all the applications made for patents in the United States are solicited through this office; while nearly THREE-FOURTHS of all the patents taken in foreign countries are procured through the same source. It is almost needless to add that, after some twenty years' experience in preparing specifications and drawings for the United States Patent Office, the proprietors of the SCIENTIFIC AMERICAN are perfectly conversant with the preparation of applications in the best manner, and the transaction of all business before the Patent Office.

Judge Mason, formerly Commissioner of Patents, says, in a letter addressed to us:—"In all your intercourse with the office, I always observed a marked degree of promptness, skill, and fidelity to the interests of your clients."

Ex-Commissioner Holt says:—"Your business was very large, and you sustained and justly deserved the reputation of marked ability and uncompromising fidelity to the interests of your clients."

Ex-Commissioner Bishop says:—"I have ever found you faithful and devoted to the interests of your clients, as well as eminently qualified to perform the duties of Patent Attorneys."

EXAMINATIONS.—If an inventor wishes our opinion in regard to the probable novelty of his invention, he has only to send us a pencil or pen-and-ink sketch of it, together with a description of its operation. For an opinion, without examination at the Patent Office, we make no charge, but if a

PRELIMINARY EXAMINATION AT THE PATENT OFFICE is desired, we charge the small fee of \$5. This examination involves a personal search at the Patent Office of all models belonging to the class, and will generally determine the question of novelty in advance of an application for a patent. Up to this time we have conducted over ELEVEN THOUSAND Preliminary Examinations, thus showing a more intimate knowledge of inventions at the Patent Office than can be possessed by any other person or firm.

If an inventor decides to apply for a patent, he should proceed at once to send us by express, charges prepaid, a model not over one foot in size, and substantially made. He should also attach his name and residence to the model.

PATENTS ARE GRANTED FOR SEVENTEEN YEARS, the following being a schedule of fees:—

On filing each caveat.....	\$10
On filing each application for a Patent, except for a design.....	\$16
On issuing each original Patent.....	\$20
On appeal to Commissioner of Patents.....	\$30
On application for Reissue.....	\$30
On application for Extension of Patent.....	\$50
On granting the extension.....	\$60
On filing a Disclaimer.....	\$10
On filing application for Design (three and a half years).....	\$10
On filing application for Design (seven years).....	\$16
On filing application for Design (fourteen years).....	\$30

In addition to which there are some small revenue stamp taxes Canadians have to pay \$500.

FOREIGN PATENTS.—Messrs. MUNN & CO. have had more experience than any other solicitors in this country in procuring foreign patents, and have old established agents in London, Paris, Brussels, Berlin, Vienna, and other large cities. Foreign business should never be intrusted to other than experienced agents.

Messrs. MUNN & CO. give special attention to the preparation of Caveats, and to the prosecution of the EXTENSION OF PATENTS, REISSUE OF DEFECTIVE PATENTS, REJECTED CLAIMS, INTERFERENCES, and DISCLAIMERS. They also prepare ASSIGNMENTS, LICENSES, AGREEMENTS, and CONTRACTS, in reference to Patents, and will advise patentees when their rights are infringed in reference to bringing suits against INFRINGERS. In connection with a Patent Lawyer of eminent ability, they prepare and conduct cases in the United States Courts. Indeed, there is no branch of Patent business which MUNN & CO. are not prepared to undertake.

If an inventor wishes to apply for a patent, all he has to do is to write to us freely for advice and instruction, and he will receive prompt attention. If his invention contains any patentable features, he can depend upon getting his Letters Patent. All communications considered confidential. Send models and fees addressed to

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