

MECHANICS' AND INVENTORS' GUIDE.

We have lately published a new and convenient volume, of 108 pages, upon Mechanics' Patents and Inventions, which promises to be of much value to all who are of a scientific or inventive turn of mind. Although the proportions of this book are not equal to Webster's dictionary, still we venture to say that so large an amount of valuable information has seldom been collected within so small a compass.

The book contains all the patent laws in full, except repealed or salary sections; the principal official rules and directions for conducting business at the Patent Office; 112 engravings of the best mechanical movements, with descriptions, of great value to mechanics and inventors who study the best construction for machinery; a chapter upon the steam engine, with an engraving of the common condensing engine, with letters of reference and nomenclature of all the parts; instruction in practical geometry; table of the effects of heat upon bodies; table of the pressure and temperature of steam; of the electrical conducting power of various substances; forms for assignment of patents; instructions how to obtain patents and caveats; practical directions and best methods for selling patents; hints upon the value of patents; how to invent; information upon the rights of inventors, patentees, assignees, partners and employers; advice as to foreign patents, extensions, reissues, infringements, together with a variety of other highly useful scientific and mechanical facts and calculations, the whole abundantly illustrated with engravings. Price only 25 cents. Address Munn & Co., 37 Park Row, N. Y.

THE "WINOOSKI" AND "ALGONQUIN."

These two vessels, which have been so long written and talked of, are about commencing their trial for economy of power. It is hardly necessary to recite again all the conditions under which they are to be run—this matter has been alluded to in previous numbers of this journal—suffice it to say, that on Friday last the preliminary trials of the engines took place; that is, the five-hour runs to get ready, and immediately thereafter the ninety-six hour trial was to be entered upon. At the time of our visit the *Algonquin* was turning her wheels vigorously, while the *Winooski*, the naval vessel, was lying still, steam not having been raised. Mr. Dickerson deserves commendation for the energy he displays in looking after his interests; he runs his own engine, aided by others, and takes off his coat and goes at it with a will. The boilers on the *Algonquin* work admirably. The fires were started at 10:18 A. M., and steam started at 10:37; one boiler was cold, the other had water at 120° in it; 1,100 pounds of wood, and 2,000 pounds of coal were consumed in so doing. At 11:45 the engine was started with 45 pounds pressure, and, when we left, was making 16 turns per minute, with 60 pounds of steam, cutting off at points between half stroke (4 feet 4½ inches) and ten inches. We shall publish the results in our next issue.

PASS THEM AROUND.

We have received a number of letters from correspondents in various parts of the country, inclosing a printed puffing circular of "Morton's No-ink Pens," purporting to have been patented in June, 1865, and alleged to be a perfect substitute for ink, and requesting people to remit. The circular contains a strong recommendation, pretended to be quoted from the SCIENTIFIC AMERICAN. C. V. Morton & Co., No. 21 John street, Jersey City, N. J., is one name under which the humbug is conducted.

In reply to our several correspondents, we have to say that no such patent has been granted, nor have we given any such recommendation. On inquiry in Jersey City, that no such firm or place of business was to be found. We further ascertained that the police were on the watch for the scamps, which has caused them to depart from Jersey City. When we last heard of them, their victims were directed to address them at Tarrytown, N. Y.

We hope the postmasters at places where these fellows have been or may be operating will take the necessary steps for their arrest. They have swindled hundreds of people.



ISSUED FROM THE UNITED STATES PATENT-OFFICE FOR THE WEEK ENDING SEPTEMBER 19, 1865. 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.

49,959.—Breach-loading Fire-arm.—E. S. Allin, Springfield, Mass.:

I claim, first, the combination of a solid recoil block, A, with a piston, U, and rack, m, the first tooth, s, of which is hung on a spring, j, of unusual position, for the purpose described.

Second, Revolving the front end of the recoil block at c', and forming a corresponding bevel, c, on the barrel, as and for the purpose described.

Third, The projection, X, in combination with the lever, f, and hammer, V, substantially in the manner and for the purpose described.

49,960.—Cut-off for Water Conductors.—James Ash, Sterling, Ill.:

I claim the adjustable tube, B, applied in combination with the conductor, A, and discharge pipes, D D', substantially in the manner and for the purpose set forth.

[This invention relates to certain improvements in conductors of water in buildings, and its object is to change the direction of the current from one outlet to another with little trouble or loss of time.]

49,961.—Steam Gage.—Chas. Barnes, Cincinnati, Ohio:

I claim the provision in a steam gage of two or more springs, G H, of unequal tension, arranged and operating in the manner and for the purpose set forth.

49,962.—Mowing Machine.—L. M. Batty, Canton, Ohio:

First, I claim the sliding shifter, L, in combination with the hand lever, d, and the intermitting lever, d', the pinions, k and k', the double clutch, l, and the shaft, z, as herein described, for the purposes set forth.

Second, I claim the swivel-jointed stay rod, E, the upright guide rod, N, with the set bolt and nut, n, and the shoe, H, in combination with the swivel joint, v, when operating as and for the purposes set forth.

Third, I claim the cam lever, F, with the standard and flexible joint, as herein set forth.

Fourth, I claim the arrangement of the outer shoe, J, block, T, and set screw, z', for raising and lowering the shoe independently of the cutter guard, substantially as set forth.

Fifth, I claim the coiled supporting spring, e, with the set screw, f, in combination with the frame, B, as herein described, for the purpose set forth.

49,963.—Harvesting Machine.—L. M. Batty, Canton, Ohio:

First, I claim the seat irons, E, with the set bolts, F, when used as described, for the purposes set forth.

Second, I claim the arrangement of the bevel cogs, G, in combination with the driving wheels, H and H', shafts, I and J, the pinion, K, and clutch, K', the double spur wheel, L, pinion, M or M', and the crank shaft, N, all connected and operated substantially as set forth.

Third, I claim the hand lever, o, with the spring, together with the shifting rod, A, the coiled springs, R and R', in combination with the pinion, K, and clutch, K', when operating conjointly, as described.

Fourth, I claim the arrangement of drag bar, T, with the filling, r, the hook, V, the pin, W, the hanging irons, S and S', the swivel, U, the runner, A, the standard, g, with the slots, g and p', and flange, j, the set screw, W', and slot, d', the ring, Z, the bolt, Z', the shoe, G', the bed roll, a, the bolts, b, in combination with the finger beam, c, and the lever, d, as set forth, when operating as described.

Fifth, I claim supporting the reel post, e, and carriage, n, by the standard, K fastened by a wedge, v, as described.

Sixth, I claim the segment lever, p', the rack, y', and the plate, r, in combination with the reel carriage, n, and reel post, e', in the manner and for the purpose set forth.

Seventh, I claim the arrangement of the folding arms of the reel, in connection with the tubular shaft, substantially as described.

Eighth, I claim the springs, v, in combination with the folding arms, S' and arm holders, u, in the manner and for the purpose set forth.

49,964.—Rake Attachment to Harvesters.—L. M. Batty, Canton, Ohio:

First, The wrought-iron carriage, E, with its pin, h, and box, i, as and for the purpose set forth.

Second, I claim the arrangement of the crooked arm, D D, in combination with the peculiar guides, L and I, for operating the rake, substantially as set forth.

49,965.—Machine for Beveling Picture Frames.—Otis T. Bedell, New York City:

First, I claim the use of mechanism, substantially as herein described, for the purpose of beveling the edges of photographic picture frames by machinery, in contradistinction to performing the labor by hand.

Second, The combination of one or more knives, F, secured to a carriage, E, with the self-acting clamp, H, constructed and operating substantially as and for the purpose set forth.

Third, The vertical knives or cutters, J, in combination with the inclined knife or knives, F, and clamp, H, constructed and operating substantially as and for the purpose specified.

[The object of this invention is a machine intended to bevel off the edges of pasteboard frames, such as are generally inserted in photographic album leaves. These frames are equal in thickness to two photographic cards of that class generally made for the purpose of inserting in photographic albums, and the opening or openings in them are cut out large enough to take in such cards. In order to be able to remove the cards, it is necessary to have one of the ends (generally the lower end) beveled off for if the edge is left square, and the card or cards inserted into the frame, they can only be removed with great difficulty.]

49,966.—Shipping and Unshipping Hind Boards to Freight Wagons.—Fred'k W. Bishop, West Haven, Conn. Antedated Aug. 31, 1865:

I claim the combination of the spring bolts, c and d, with the strap or loop bands, C and D, when the whole is constructed, arranged and fitted to produce the result substantially as herein described.

49,967.—Feeding Device for Sewing Machines.—James Bolton and Jerome B. Secor, Chicago, Ill.:

We claim, first, The combination of the turning feeding foot or dog and the turning feed guide, for the purpose of changing the direction of the feed of the material to be sown from one line to another at right angles therewith, substantially as described.

We also claim, in combination with a turning feeding foot or dog the studs or arms, b, by arranged at right angles to each other, so that whether the feeding be longitudinally or laterally of the machine the said foot shall be in working condition with the rod, G, that gives it part of its feeding movement, substantially as described.

We also claim, in combination with a turning feeding foot or dog, the pivoted, slotted and oscillating carrier, M, for giving said foot or dog a part of its feed movement in any of its positions, substantially as described.

We also claim, in combination with a turning feed and the oscillating carrier, the stud or post, u, for guiding and directing the feeding foot, and allowing it to rise and fall thereon, substantially as described.

We also claim the pivoted and adjustable link, L, interposed between the rods, e and f, for the purpose of regulating the extent as well as the time of the motion of the carrier, M, substantially as described.

49,968.—Corder for Sewing Machines.—J. W. Brady, Baltimore, Md.:

I claim the corder, E F G H I, substantially as described and represented, and adapted to feed the cord underneath the main fold and into the angle formed between it and the secondary fold.

Second, I claim the combination of the devices, substantially as described, by which the corder shank is moved vertically, laterally, or backward and forward, according to the requirements of this work.

49,969.—Apparatus for Packing Rubber for Dental Purposes.—F. C. Brown, Palmyra, N. Y.:

I claim the combination of the piston, B, barrel, A, flask, G, heated bath, H, with the accessories, substantially as described, forming an apparatus for injecting rubber into molds.

I claim the combination of the flask, G, piston, B, barrel, A, and indicator wire, r, substantially as described and represented.

[The object of this invention is an apparatus intended to force rubber around the teeth in making artificial dentures.]

49,970.—Binding Attachment to Reaping Machines.—Jacob Behel, Rockford, Ill.:

I claim, first, The arrangement of the cog-wheel that transmits motion to the ring carrier of a binding apparatus upon the axle of one of the wheels, which holds the ring carrier in its place, substantially as set forth.

Second, The combination, in the same binding apparatus, of a ring carrier and a vibrating tenon arm to control the compressing strap, substantially as set forth.

Third, The combination of the ring carrier of a binding apparatus with a strap holder, of suitable size and form to seize and hold the knotted end of a rope-compressing strap, substantially as set forth.

Fourth, The combination of the detachable strap holder with an escapement, which permits the compressing strap to relax its grasp upon the grain and subsequently to be withdrawn from the shear, substantially as set forth.

Fifth, The combination of the twining cord holder with the ring carrier, substantially as set forth.

Sixth, The combination of the twining cord holder and ring carrier with the grooved case, substantially as set forth.

Seventh, I claim the combination of the cord spool and its friction apparatus with a swinging frame and cord guides, substantially as set forth, so that the tension is relaxed by drawing the twining material from the spool.

Eighth, The combination of the proving frame of the tying bill with the fixed framework of the binding apparatus by toggle-jointed links, substantially as set forth.

Ninth, The combination of the slotted plate for holding the cord band with the guide plate for guiding it into the slot of the said plate, substantially as set forth.

Tenth, The combination with the cord holder of a movable projector, substantially as set forth.

Eleventh, The combination of the tying bill and movable knife, substantially as set forth.

Twelfth, The combination of the knife and the instrument for transmitting motion to the escapement of the compressing strap holder, substantially as set forth.

Thirteenth, The combination of a pair of spring dogs upon the ring carrier with a yielding strap upon the framework of the binding apparatus, substantially as set forth.

49,971.—Cork Machine.—Harris Boardman, Lancaster, Pa.:

First, I claim a chamber, C H I, made adjustable in itself, independently from the adjustability of the bed plate, A, operated substantially in the manner and for the purpose set forth.

Second, I claim the construction and operation of the spindles or graspers, V W, and their appliances, arranged and in combination with the cradle, Y, operating jointly, substantially in the manner and for the purposes set forth.

Third, I claim the employment of a tumbler, K o o, hanger, or its equivalent, substantially applied in the manner and for the purpose shown and described.

Fourth, I claim the raising and dropping of the knife, E, for the purpose of giving the finishing cut to the cork, actuated substantially in the manner specified.

49,972.—Coal-mining Machine.—E. K. Bruce and Jno. M. Bruce, Liberty, Pa.:

First, I claim the combination of the frame, B, shafts, E F, bevel gears, G, I, drum spindles, C, truck, A, toothed rack, I, and feed shaft, L, all constructed and arranged substantially as and for the purpose specified.

Second, The application to the drills of spiral flanges with gradually increasing pitch, substantially as and for the purpose described.

[This invention relates to a machine which consists of a series of horizontal drills laying parallel with each other, and rotating simultaneously by suitable gearing in the rear of the frame which forms their bearings. The frame moves back and forth, in suitable ways, in the side timbers of a truck, so that the frame can be fed toward or from the bed of coal to be excavated, while the truck rests on wheels, and can be moved in a direction at right angles to the motion of the drill frame.]

49,973.—Machine for Sowing Plaster.—Alpheus Bugbee, Elkhart, Ind.:

I claim the shape and construction of the double forks and stirrers, E, when arranged and combined with the slides, D, and operated as herein described and for the purposes set forth.

I also claim the shield, R, as arranged and combined with the stirrers, E, for the purposes set forth.

49,974.—Sorghum Evaporator.—Ransom Bullard, Litchfield, Mich.:

I claim the combination and arrangement of the slow evaporating section or compartment, b b, of the evaporating pan, the direct flue chamber, g, and the side flues, k k, extending through the brick work, so as to communicate the heat to the evaporating pan through the medium of a slow conductor, substantially as and for the purpose herein specified.

I also claim the described method of constructing and uniting the sections of the evaporating pan, A, substantially as described.

49,975.—Amalgamating Apparatus.—W. H. Butler, Chicago, Ill.:

I claim feeding the quartz into the amalgamating vessel by a forced feed, and holding it immersed or submerged therein by pressure, while it is thoroughly stirred and mixed with the amalgam, using therefor an apparatus constructed and operating substantially as herein described and represented.

49,976.—Harvester Rake.—Wm. J. and Rhutson Case, Pittstown, N. J.:

First, We claim the vibrating upright shaft, D, with rake, J, attached to it, as shown, in connection with the rope, e, connected to the bar I, and pulley, M, on shaft, N, all arranged either with or without the spring, F, to operate in the manner substantially as and for the purpose set forth.

Second, The arrangement of the wheel, H, provided at its upper surface with teeth, e, and the ledge, p, in connection with the pair pinion, o, and shaft, N, for the purpose specified.

[This invention relates to a new and improved automatic raking device for harvesters, and it consists in a novel means employed for operating the rake, and in a peculiar arrangement of the same, whereby the cut grain may be raked from the platform without materially increasing the draught of the machine, and without interfering with the other working parts thereof.]

49,977.—Washing Compound.—R. W. Chappell, Chicago, Ill.:

I claim a washing compound, composed of the herein-described ingredients, in the proportions substantially as herein described and specified.

49,978.—Implements for Contracting the Barrels of Watch Main Springs.—Andrew S. Clackner, Rochester, N. Y.:

First, I claim constructing the barrels of watch main springs by forcing the same within a circular tapering cavity by means of a plunger or other equivalent device.

Second, I claim, in combination with a circular tapering cavity, as above set forth, a follower, constructed substantially as described.

49,979.—Oil Can.—Benjamin Clark, New York City:

I claim an oil can, having a spring, B, and a lined elastic diaphragm, protected by a guard, A, all substantially as shown and described.

49,980.—Knitting Machine.—Wm. W. Clay, Philadelphia, Pa.:

First, I claim the combination of the hooked carriers, F, the cams herein described, or their equivalents for operating the said carriers and the self-acting needles, whether the latter are arranged to operate in parallel grooves, in conjunction with a reciprocating thread carrier, or in radial grooves, in conjunction with a rotating thread carrier, all substantially as described.

Second, The bed plate, A, its opening, a, and grooves, h, with the inclined edges, x, adapted for the reception and operation of the needles, D, and carrier, F, substantially as specified.

Third, The combination of the said movable cams with the pattern wheels when the latter are operated by the machine, through the medium of the devices herein described, or the equivalent to the same, for the purpose specified.

49,981.—Planing Machine.—Jeremiah Close, Brooklyn, N. Y.:

I claim the relative arrangement of the adjustable feed rollers, the form of guide, E, with the cutter head, B, and cutters, c, c, when operated for the purposes substantially as described.

49,982.—Hinge.—Jeremiah Close and Ira Buckman, Jr., Brooklyn, N. Y.:

In a hinge composed of three leaves and two pintles, we claim operating the two outer leaves by a power located within a cavity or cavities in said central leaf, substantially as described.

We claim a hinge, formed with three leaves and two pintles, as described, the springs or springs of which are located in a cavity or cavities, formed in the central leaf, in combination with the wrench or forked spring holder, E, the collar, P, the grooved pulley, D, the wrench or capstan, N, the chain, C, and smaller grooved pulley, D, on the shaft of the outside leaf, B, substantially as and for the purposes herein set forth.

49,983.—Lubricating Compound for Journal Boxes, &c.—Hall Colby, New York City:

First, I claim the use of a lubricator composed of asbestos and plumbeo mingled with a liquid so as to be capable of being applied to journal boxes and other rubbing surfaces in the manner substantially as hereinbefore described.

Second, The use of a fabric made from asbestos, and without any combustible substance incorporated therewith, to be interposed between rubbing surfaces, and saturated with the lubricator above described, in order to produce an anti-friction surface for the journals of heavy machinery and other like purposes, substantially as described.

49,984.—Lamp.—M. H. Collins, Chelsea, Mass.:

I claim the improved lamp as not only constructed with its cone or reflector, E, and its chimney rest, D, and chimney, arranged with respect to each other, as described, but as having the said reflector provided with peripheral springs, or the same, and the slits, h, h, and the said chimney, D, made concave, and provided with an annular groove or ridges at bottom for supporting the chimney, the whole being substantially as described and represented.

49,985.—Weeding Hoe.—Charles Crofut, Weston, Conn.:

I claim the adjustable arrangement of the serrated rib, E, and stem, D, with the plumb, F, and key, G, in the manner and for the purpose substantially as herein described.

49,986.—Umbrella.—Wm. Damerel, Brooklyn, N. Y.:

First, I claim an umbrella and parasol so securing on the stick the crown piece or other device to which the upper ends of the ribs of such articles are attached as that the said crown piece and the parts attached to it shall be capable of rotating on the stick, substantially as described.

Second, I also claim, in combination with the crown piece, D, the collar, G, G, with the longitudinal flanges, a, a, and a cap, E, for inclosing the upper edge of the covering, C, and confining it to the crown piece, substantially as described.

49,987.—Ferrule for Boiler Tubes.—Geo. W. Durall, Norfolk, Va.:

I claim a screw or screws, B, in combination with a cylinder in one or more parts, for the purposes specified, substantially as described.

49,988.—Spinning Machine.—James Eaton, Boston, Mass.:

I claim a cylindrical spindle, either solid or tubular, of a male or other spinning frame, provided with a helical tip, as herein set forth.

I also claim the cylindrical tube or bobbin, either with or without the ferrule or band, R, in combination with a spindle having a helical tip.

I also claim the combination of the cylindrical tube or bobbin, O, with a cylinder having a helical tip, or its equivalent, substantially as herein described and for the purpose specified.

49,989.—Decarbonizing Clay Retort.—G. W. Edge, Jersey City, N. J.:

I claim the use of a mixture of steam and air, produced by means substantially such as herein described, or any other equivalent means, and injected into a retort, for the purpose of decarbonization, as set forth.

49,990.—Clutch or Rope Holder.—C. A. Emery, Springfield, Mass.:

I claim the device constructed, arranged and operating substantially as shown and explained and for the purpose specified.

49,991.—Lock.—Jacob Euteneur, Peoria, Ill.:

First, I claim the two arms, H, H, attached to the hub, G, provided with a pivoted bar, K, and connected with the latch, G, as shown, in combination with the two bell hammers, M, M, bell, N, and lever, L, the rods, J, M, of the hammers being attached to arbors, g, l, provided with projections, f, h, and all arranged substantially as and for the purpose specified.

Second, The plate or key-hole guard, Q, in combination with the rod or bar, R, arranged and applied to the lock, substantially as and for the purpose set forth.

49,992.—Sleeping Car.—Ben Field, Albion, N. Y., and G. M. Pullman, Chicago, Ill.:

We claim, First, Constructing a car seat, with back and seat cushions hinged together, and disconnected with said seat, so that the back cushion may be placed on the seat, and the seat cushion extended to meet the seat cushion of the opposite chair, in the manner and for the purpose herein set forth.

Second, The berth, A, connected to the side of the car by hinges, B, and supported by jointed suspenders, C, so as to be turned up into an inclined position during the day, and lowered to a horizontal position at night, all as herein described and for the purposes set forth.

49,993.—Lamp Chimney.—J. G. Floyd, Keokuk, Iowa:

I claim the within-described new article of manufacture, to wit, a lamp chimney, with a hole or holes in its sides or parietes thereof, as set forth and described, or when constructed with any other holes in its sides, designed for the same purpose.

49,994.—Cartridge Retractor for Breech-loading Firearms.—G. P. and G. F. Foster, Mohawk, N. Y.:

First, I claim the expelling pin, P, in combination with the spring, Q, and screw, R, operating substantially in the manner described.

Second, The screw, R, actuated to free the expelling pin by impingement upon a projection during the vibration of the breech block.

Third, The expelling pin, P, retracted in the upward vibration of the breech block, and reset by the spring screw, substantially as described.

49,995.—Method of Treating Oil Wells for the Removal of Paraffine.—J. Fraser, Buffalo, N. Y.:

I claim the employment of carbonic oxide for treating petroleum

wells to remove obstructions, composed of paraffine and other solids, substantially as set forth.

49,996.—Bottle Stopper.—Charles Goldthwait, South Weymouth, Mass.:

I claim a metallic mounting for bottle corks, composed of a cap, D, and plate, E, and either with a metal plate, b, or a wax covering, c, all arranged and applied substantially as and for the purpose herein set forth.

[This invention relates to a new and improved mounting or metal attachment for cork stoppers for bottles, whereby the corks are rendered extremely durable, capable of being readily drawn from the bottles, and enabled to stop the bottles much tighter than usual.]

49,997.—Combined Seed Sower and Stalk Cutter.—B. A. Grant, Mount Pleasant, Iowa:

First, I claim the combination and arrangement of the crank, M, provided with the lever, N, the slide bar, L, the rods, J, J, and the plow standards, F, F, when all constructed and operating substantially as set forth.

Second, The combination and arrangement of the lever, R, arm, S, the connecting bow, T, and beams, D, D, when constructed substantially as herein specified and described.

Third, The combination and arrangement of the beams, D, D, with the corn-stalk cutter, U, when constructed and operating substantially as herein set forth.

49,998.—Sugar Cane Mill.—James Harris, Janesville, Wis.:

First, I claim the combination of the sliding box, K, bolt, b, spring, a, and yoke, J, with the nut, e, for the purpose of making the mill either rigid or elastic at pleasure, substantially as set forth.

Second, Securing and adjusting the spring attachment of a roller bearing by means of the yoke, L, and set screw, d, substantially as set forth.

49,999.—Extension Lever Jack.—W. H. Hartman, Fostoria, Ohio:

I claim the dogs, h and g, spring, f, band, e, stirrup, e, in combination with the lever, E, and standard, C, when constructed, arranged and operating as and for the purpose substantially as set forth.

50,000.—Manufacture of Candles from Paraffine.—Chas. Havard, New York City:

I claim a new and improved process for making candles or blocks from the paraffine of petroleum, as herein described, using for that purpose the aforesaid ingredients or composition of matter, or any other substantially the same, and which will produce the intended effect.

50,001.—Rock-drilling Machine.—Robert Hood, Dayton, Ohio:

First, I claim the use of a spiral lifter, B, in combination with one or more drills or drill rods, constructed and operating substantially as and for the purposes described.

Second, The cam grooves, l, and sleeves, j, with arms, k, and tappers, i, in combination with the spiral lifter, B, constructed and operating substantially as and for the purposes set forth.

50,002.—Chimney Cap.—William Henry Horton, Jersey City, N. J.:

I claim the inner cap, A, closed at the apex and open at the sides, and the outer cap, B, open at the top and bottom, while its sides cover the apertures in the inner cap, substantially as and for the purpose herein specified.

50,003.—Wind Wheel.—John A. Hubbard, West Moulton, Me.:

I claim, First, A wind wheel provided with oblique buckets, b, in connection with a vane, D, having a shield, E, attached and arranged to operate in the manner substantially as and for the purpose set forth.

Second, The gate, F, and wind wheel, C, constructed, arranged and operating in the manner substantially as and for the purpose set forth.

Third, The supplementary wind wheel, L, combined and arranged with the shaft, J, and with the cone, M, having the weight, N, attached and connected with the gate, F, substantially as and for the purpose specified.

50,004.—Fog Alarm.—George Hull, Wallingford, Conn.:

I claim the combination of a coil of tubing, C, and one or more whistles, E, when constructed and arranged in the manner described, so as to sound a prolonged alarm, for the purpose specified.

50,005.—Gate Post.—G. O. Hutson, Iowa City, Iowa:

I claim the combination of the gate post provided with shoulders or grooves, the bearers attached to the lower portion of the gate, and the band which forms the upper support, substantially as described and represented.

50,006.—Compound for Destroying Vermin.—J. Burrows Hyde, New York City:

I claim a mixture of extract of tobacco and petroleum, for the purposes set forth.

50,007.—Saddle Stirrup.—Andrew Ivion, Femme Osage, Mo.:

I claim, First, A stirrup made in two separate parts, hinged together at the bottom, as described, in the foregoing specification.

Second, The several parts of the stirrup, viz, the side pieces, A, and A, the bottom piece, B, the spring, h, and the lugs, W and X, or their equivalents, when constructed and arranged as and for the purpose set forth.

50,008.—Shoe Lacing.—Timothy J. Kelleher, Boston, Mass.:

I claim the above described improved arrangement of the studs and the lacing with respect to the two flaps of the opening.

I also claim the combination and arrangement of the flaps and the studs with the two flaps, or the same and the lacing of the said opening, as explained.

50,009.—Churn.—Elisha Kenney, Livermore, Me.:

I claim, First, The arrangement herein described of the gear mechanism in reference to the dasher, in combination with the adjuster guide, substantially as set forth.

Second, The construction, arrangement and operation of the reciprocating dasher of churns, as described—that is to say, forming the ends of level faces or inclined planes, in combination with apertures, substantially as set forth.

50,010.—Car Coupling.—John Lacey and George Watkins, Bristol, Wis. Antedated Sept. 10, 1865:

First, We claim the hook, B, arranged in respect to the drawhead, A, and operating substantially as and for the purposes set forth and shown.

Second, We claim the employment of two hooks, B, B, combined and arranged with the drawheads, A, A, substantially as and for the purposes delineated and set forth.

Third, We claim the combination and arrangement of the drawheads, A, A, the hooks, B, B, slots, C, rods, D, and blocks, E, as and for the purposes shown and described.

50,011.—Instrument for Opening Sealed and other Cans.—Samuel D. Lecompte, Leavenworth City, Kansas:

I claim an instrument for opening fruit and other sealed cans, constructed substantially as herein shown and described.

[This invention consists in the construction of a simple and easily operated instrument for opening that class of cans used for putting up fruits, preserves, etc., the same consisting of a bar provided with a suitable knife, which is adjustable, and one end pointed and bent in such a manner that a fulcrum will be provided in which to turn the instrument after the said end has been thrust through the top of the can.]

50,012.—Stop Motion for Knitting Machines.—Mark Lee, Needham, Mass.:

I claim the improved stop motion composed of the upright stand, A, the bars, E, E, with the yarn scraper, P, the dropper or bar, H, and the bar, K, together with their appendages, constructed, arranged and combined so as to be used in connection with any loom or machine for making knitted cloth, substantially as herein specified.

50,013.—Mode of Supplying Railway Trains with Water.—Lewis H. Lezbit, Washington, D. C.:

I claim the arrangement and combination of the sliding gate, D, with its grooved posts, C, lever, G, spring, J, and pump rod, K, the whole being attached to a railway, and operated by the passage of the cars, as herein described and for the purposes set forth.

50,014.—Artificial Hand.—Oliver Lindsay and Isaac Vance, Washington, Pa.:

We claim the steel ligatures, slide bar and ratchet, or series, in combination with the artificial finger joints, enabling the hand to operate as desired, and also the socket, as above described.

50,015.—Lubricating Compound.—Isaac Losslei, Philadelphia, Pa.:

I claim a lubricating compound consisting of the combination of the ingredients herein described, in the proportions substantially as specified.

50,016.—Weather Strip for Doors.—Isaac F. A. Lynch, Roxbury, Mass.:

I claim the improved weather strip as made with the strip of elastic material or india rubber, c, c, to project in opposite directions from the lower and rear sides of the holder, substantially in manner as described.

And in combination with the elastic strip, c, c, to project from the rear part of the holder, as described, I claim the rebate, d, made in the holder, and arranged with reference to the said elastic strip, substantially as specified.

50,017.—Trace Buckle.—David F. Maine, Mansfield, Ohio:

First, I claim the use of a vise, constructed substantially as described, and for the purposes mentioned above.

Second, I claim the cam and spring, constructed and used substantially as above described.

50,018.—Cultivator.—Abraham J. Manny, Freeport, Ill.:

First, I claim the employment of the lever, E, the bar, G, and the yoke, F, or its equivalent, for the purpose of giving direction to the machine from the seat, as is herein fully set forth.

Second, Attaching the plow beams to the hounds or side-pieces, A, in such a manner that the said beams can be brought closer together or separated by moving them forward or backward, as is herein represented.

Third, The combination of the triangular frame, with the devices for changing the direction of the machine, as and for the purpose specified.

Fourth, The combination of the levers, G and H, with the plow beams, as and for the purpose herein specified.

50,019.—Lamp.—Charles F. Martine, Dorchester, Mass. Antedated Sept. 10, 1865:

I claim the perforated cylinder, E, with its flange or ring, c, in combination with a non-conducting base or support, b, to which the perforated cylinder is attached, operating substantially as set forth, for the purpose specified.

50,020.—Rock Drill.—John M. May, Janesville, Wis.:

I claim, First, Covering the face of broken pulleys used to hit and set iron drills, and for other similar purposes, with leather, india-rubber, or other suitable slightly elastic material, substantially as and for the purposes described.

Second, A non-elastic or rigid bar faced with leather rubber, or other suitable elastic material, on its sides next to metallic pulleys, when used with metallic-faced pulleys, substantially as and for the purposes described.

Third, A hollow bar to receive the spindle of a drill, when the hollow bar is operated between broken pulleys, the hollow bar and spindle serving as a swivel to allow the drill and spindle to be revolved horizontally at the same time it is operated vertically as a drilling process.

Fourth, A gripe or vise connected by a swivel to the operating mechanism of a drill, when the vise is constructed substantially as and for the purposes described.

Fifth, The general arrangement of the pulleys, B, B', bar, L, shafts, C, C, guides, S, S and R, when combined and operated substantially as and for the purposes described.

Sixth, Elastic washer, m, of rubber, or its equivalent, between the top of bar, n, and washer, m, in Fig. 4, when used as and for the purposes described.

50,021.—Screw Driver.—James S. McCurdy, Bridgeport, Conn.:

I claim, as a new article of manufacture, the screw driver as constructed and shown, in combination with a blade, having two or more points pivoted into such handle, substantially as herein described.

50,022.—Construction of Cans.—Henry W. Millar, Utica, N. Y.:

I claim constructing the bottom and securing the same to the body of the can in the manner shown and described.

[This invention consists in constructing a bottom for a can, pail or other metallic vessel, in a conical form, or in the form of a frustrum of a cone, its apex or point extending upward into the cone, so as to strengthen the resisting power of the bottom, and, also, where it may be desirable, to afford a better opportunity for drawing off the entire contents of the can by faucet or the like.]

50,023.—Grate Bar Supporter.—W. F. Morgan and F. C. Bartlett, New York City. Antedated Sept. 6, 1865:

We claim, in combination with a grate bar or fagot of bars of any convenient form, the application of the truss bar, a, with the space, c, intervening between it and the main bars, B, and with the loops, X, or their equivalents, supporting the truss bar, a, in such manner that the expansion and contraction of the latter shall be allowed by sliding one upon the other, substantially as herein set forth.

50,024.—Spinning Jack.—H. L. Moulton, Camden, N. J.:

First, I claim the sliding bars, R and R', constructed and arranged in respect to each other substantially as described, and provided with such appliances that they shall be simultaneously elevated as the carriage approaches the limit of its inward movement, while one of the bars is at liberty to be depressed after the carriage has commenced its outward movement, without disturbing the other bar, all substantially as and for the purpose herein set forth.

Second, The combination of the bars, R and R', their wheels, Q and Q', operated by the worms, i, or their equivalents, and having adjustable pins, X' and X', together with the spring rods, V and V', the whole being arranged, constructed and operated substantially as and for the purpose herein described.

Third, The vertical bar, R, in combination with the clutch, c, on the driving shaft, and the device herein described, or their equivalent, through the medium of which the bar, R, is caused to operate the said clutch.

Fourth, The combination of the clutch, c, on the driving shaft, with the system of delivering rollers, and the intermediate system of gearing described, or its equivalent, whereby a positive motion and certain starting and stopping of the delivering rollers are effected.

50,025.—Flour Sifter.—James Myers, Jr., New York City:

I claim a sieve for family use, constructed in the form of a semi sphere and provided with an oscillating frame, the lower part of which has a curved rod corresponding with the curvature of the sieve and having upon it a series of spheres or balls, all arranged substantially as shown and described.

50,026.—Boot Heel.—Erastus Niwhall, Lynn, Mass.:

I claim the construction of a heel, for boots or shoes, of vulcanized rubber, or its compounds, or other vulcanizable material, with a core of wood, substantially as and for the purpose specified.

50,027.—Fruit Jar.—P. Pallissard, St. Anne, Ill.:

I claim the hooked straps, f, catching under the flange, g, of the bottle, and perforated to receive the notched bridge piece, d, as herein described.

Second, The lateral openings, a' b', arranged in relation to the vertical openings, a, b, in the corner, in the manner and for the purposes herein specified.

[This invention relates particularly to the means of filling the jar and of closing down its top. The top is provided with two openings, passing clear through it, one being intended to introduce the liquid with which the jar is to be filled, and the other to let the air escape from the interior of said jar. A bridge bar—the notched end of which catch is slotted hook straps, and which is provided with a suitable set screw—serves to press the top down upon the neck of the jar. The hook straps catch under the band which encircles the neck, and they are easily removed and attached to jars of different size and diameter.]

50,028.—Bolt Machine.—Hugh M. Phillips, Indianapolis, Ind.:

First, I claim the bolt anvil, as described, when operating in connection with the gage block, G, substantially as and for the purposes set forth.

Second, The die rest, K, operating in connection with the die, B, to prevent the same from opening while the head is being formed, substantially as set forth.

50,029.—Apparatus for Carbureting Air.—E. A. Pond and M. S. Richardson, Rutland, Vt.:

First, In machines for generating illuminating gas by charging atmospheric air or hydrogen with the vapor of hydro-carbon fluids, we claim the employment of a vaporizer composed of pipe or tube, coated spirally, or otherwise, as and for the purposes hereinbefore set forth.

Second, In machines for generating illuminating gas by charging atmospheric air or hydrogen with the vapor of hydro-carbon fluids, we claim in combination with the tubular vaporizer, as described, a supply reservoir to maintain said vaporizer constantly filled, substantially as herein set forth.

Third, In machines for generating illuminating gas by charging atmospheric air or hydrogen with the vapor of hydro-carbon fluids, we claim the employment of an elastic or flexible air diaphragm air-pump constructed and arranged for operation substantially as herein set forth.

Fourth, In machines for generating illuminating gas by charging atmospheric air or hydrogen with the vapor of hydro-carbon fluids, we claim the employment, in combination with an air or gas pump, of a clock work, or other spring-power mechanism, arranged to operate the said pump, substantially as and for the purpose set forth.

Fifth, In machines for generating illuminating gas by charging atmospheric air or hydrogen with the vapor of hydro-carbon fluids, we claim the combination of the following elements:—

First, A flexible or elastic diaphragm pump, or other pump, operating without the use of water or other liquid.

Second, A tubular vaporizer, substantially as herein described; and,

Third, A spring-power mechanism to operate the pump, substantially as described.

50,030.—Gaiter Boots.—Thomas Powell, Richland, Ind.:

I claim the employment or use in gaiters or shoes of a double-folding gore, B, stitched by the side of a vertical cut or slit made in the upper leather from the top downward, at the rear of the gaiter or shoe, and either with or without the horizontal cut, substantially as and for the purpose set forth.

50,031.—Snow Plow.—E. A. Putnam, Oakfield, Wis.:

I claim, First, The application to a car truck or railroad car of plows, arranged in such a manner that they may swing or work on trucks on a shaft, and by means of springs, or their equivalents, be kept to their work, and still allowed to pass over obstructions, substantially as set forth.

Second, The bars, B, provided with inclined surfaces and having the springs and plows attached to them in such a manner that the plows may be raised by moving or sliding the bars, and without meeting with any resistance from the springs, substantially as described.

Third, Operating the sliding bars, B, through the medium of the cranks and slotted plates, substantially as set forth.

[This invention relates to a new and improved plow for removing the snow from the inner sides of the rails, where the flanges of the wheels run. The invention consists in applying plows to a car truck in such a manner that they will be held down to their work with sufficient pressure to remove the snow, and at the same time be allowed to yield or give to obstructions, such, for instance, as a road-crossing or a switch track.]

50,032.—Barber's Chair and Stool.—Henry Remick, Portsmouth, N. H.:

I claim, First, The chair, A, constructed with folding legs and with receptacles, substantially as above described.

Second, I also claim the stool, P, constructed substantially as above described.

Third, I also claim the combination of the chair, A, and stool, P, substantially as above shown.

Fourth, I also claim the rests for the feet, W, constructed with an upholstered and a barred side, substantially as shown.

50,033.—Feed-water Apparatus.—G. Adolph Riedel, Philadelphia, Pa. Antedated May 11, 1865:

I claim, First, The vertical reciprocating receiver, C, constructed, arranged and operating substantially as described and for the purpose set forth.

Second, The combination of the rod, I, with the receiver, for the purpose of opening and closing the communication between the feed pipe and the pump or injector, substantially as described.

50,034.—Automatic Boiler Feeder.—G. Adolph Riedel, Philadelphia, Pa. Antedated July 26, 1865:

I claim, First, The oscillating receiver, H, for opening and closing the communication between the feed-pipe and boiler, combined and arranged with the valves, C and L, substantially upon the principle and in the manner above set forth.

Second, The receiver, M, constructed substantially as described, and combined and arranged with the receiver, H, and valve, L, as and for the purposes above set forth.

50,035.—Automatic Boiler Feeder.—G. Adolph Riedel, Philadelphia, Pa. Antedated, May 11, 1865:

I claim the combination and arrangement of the receiver, C, with the valves, B, pipes, B', and levers, K, K', with reference to the feed-pipe and boiler substantially upon the principle and in the manner herein set forth.

50,036.—Machine for Manufacturing Sheet Lead.—John Robertson, Brooklyn, N. Y.:

I claim the arrangement of the water cylinder, the ram, the adjustable dies, and the supporting and adjusting nut of the central bolt which holds the dies together, substantially as herein described, whereby provision is made for forcing out the lead in a downward direction, and convenience is afforded for adjusting the dies to regulate the thickness.

50,037.—Compass.—Paul Roessler, New Haven, Conn.:

I claim a reversible socket, presenting at one end a steel point and at the other a pencil, substantially as and for the purposes specified.

50,038.—Cigar Wrapper.—Christopher E. Roffee, Barrington, R. I.:

I claim making an artificial wrapper for cigars by covering the common brown paper of commerce with a coating of paste made from tobacco, in the manner substantially as described.

50,039.—Composition for Refining and Hardening Steel.—Henry Rescoe, New York City:

I claim, First, The use of a composition, consisting of chlorate of potash and carbonate of soda, for hardening and refining steel.

Second, The use of borax, in connection with either chlorate of potash or carbonate of soda, or both combined.

[This invention relates to a composition which will render common steel fit for good tools—which will restore steel that has been destroyed by overheating, and which prevents steel from cracking in hardening.]

50,040.—Fleece Folder.—Charles W. Rudgers, Brecksville, Ohio:

I claim the hinged head block, D, and adjustable follower, H, in combination with the leaves, C, strap, F, and spring, B, or its equivalent, operating as and for the purpose set forth.

50,041.—Hand Loom.—John Seaman and Wm. Y. Henderson, Andover, N. Y.:

We claim, First, The levers, t, and cam disks, a2 a2', in combination with the lay, L, and with the shutter of a loom, constructed and operating substantially as herein described.

Second, The method herein described of producing the motion of the head ends of the shuttle by the action of the batten, as and for the purpose set forth.

50,042.—Piano Stool.—George A. Sherlock, New York City:

I claim arranging the seat of a piano-forte stool upon its body in substantially the manner described and for the purpose specified.

I also claim, in combination with the above, the use of the guards, r, for the purpose explained.

[This invention consists in so arranging the seat of a pianoforte stool upon its body portion that it can be readily adjusted and set at any desired height from the floor, so as to adapt it to the varying heights of persons using it.]

50,043.—Graduating Boot and Shoe Patterns.—Nathaniel Silvester, Boston, Mass.:

I claim, First, The steps or gradations, constructed and arranged substantially as described, for the purpose of graduating boot and shoe patterns.

Second, The combination and arrangement of the arms, A, B, graduated scale, C, and graduations, a, b, c, d, e, f, or their equivalents, substantially as set forth and for the purpose described.

50,044.—Spinning Jack.—Augustus and George Simpson, Woonsocket Falls, R. I.:

We claim the disk wheel, C, and tappet, F, in combination with a spring latch, G, or their equivalents, arranged to operate substantially as described, for the purposes specified.

50,045.—Auger Handle.—D. Y. Smith, Joliet, Ill.:

I claim, in combination with the auger shank and head, and the handle and slotted turning band, the cam swell or ledge margining the slot, a, so as to compensate for, and take up, all the wear between the shank and socket, and the auger always tightly to its handle, substantially as described.

50,046.—Means of Attaching Sheer Poles to Standing Rigging.—Edward Smith, New York City:

I claim the attachment of the sheer pole to the lower part of each of the sockets, B, B, which receive the shrouds, by means of two links, C, C, one in each side of the socket, the said links being attached to the said socket by means of the pins, c, c, which connect the said socket with the dead eye, all substantially as herein described.

50,047.—Baling Apparatus for Packing Tobacco.—I. H. Stone, St. Louis, Mo.:

First, I claim the retaining bars, E, and keys, x, for the purpose of holding the case together so it can be removed from the press as soon as the pressing operation is performed.

Second, I claim the employment of the T-lever, M, and the hinged props, L, in connection with the posts, L', and hooks, i, and plate, P, as and for the purpose set forth.

Third, I claim the joint bolts, b, when constructed and used as and for the purpose herein described.

50,048.—Breech-loading Fire-arm.—T. L. Sturtevant, Boston, Mass.:

I claim the combination for elevating the barrel, and operating the cartridge-shell discharger, in manner as described, the same consisting of the lever, D, the spring, h, the stud, i, and the spring latch, k, the whole being arranged together substantially as set forth.

50,049.—Lubricating Compound.—David C. Taylor, Goshen, N. Y.:

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

[This invention relates to a compound which may be used to advantage for journals or bearings of any desired description, and which is particularly intended to prevent said bearings from running hot.]

50,050.—Snow Shovel.—D. N. Thayer, Mayville, N. Y.:

First, I claim a snow shovel, which is provided with a guard, C, extending transversely across its palm, and also a handle, e, or its equivalent, substantially as described.

Second, In a shovel, in which the handle and blade are on a straight line, and in the same piece, I claim the hand protector, d, applied to the guard, C, substantially as and for the purpose described.

50,051.—Car Brake.—W. W. Todd and John Vandercar, Brooklyn, N. Y.:

We claim the segmental cogged plates, A, A', operated by the foot, at either or both ends of the car at the same time, by means of levers, 1, 2, 3, 4, arranged in the manner and for the purpose substantially as described and shown in the drawings.

50,052.—Cultivator.—J. P. Tostevin, Racine, Wis.:

First, I claim the combination and arrangement of the tongue, A, when extending back and joined to the cross piece, C, substantially as shown, the bolts, J, J, the set screw, K, and frame, B, when constructed and operating substantially as and for the purposes set forth.

Second, The combination and arrangement of the cross piece, C, provided with the slot, a, the 'bolt, H, plow standard, E, provided with the slot, b, base, F, and rod, D, when operating substantially as described.

Third, The combination and arrangement of the cogged sectors, N and O, with the wheel and frame of the cultivator, when operating substantially as herein specified.

Fourth, The combination and arrangement of the lever, L, slide rod, U, notched standard, R, shaft, X, and sector, N, when constructed and operating substantially as and for the purposes herein set forth.

50,053.—Valve of Steam Engine.—C. W. Tremain, Memphis, Tenn.:

First, I claim the cylindrical steam chest, H, with grooves or pipes, A, partly encircling it, the same forming steam passages to the cylinder, substantially as described.

Second, I also claim, in combination with the grooves, A, the projections, B, which cover them, said projections forming seats for the valves or rings, R, and being perforated with numerous diagonal holes for the passage of steam, substantially as described.

Third, I also claim in cylindrical valve case, A, which reciprocating motions in their chests, making openings throughout their length, to permit steam or other fluids to pass to that end of the chest which is furthest from the induction passage, I, substantially as described.

50,054.—Flour Sifter.—L. W. Turner, Meriden, Conn.:

I claim, as a new article of manufacture, a flour sifter, composed of a suitable case, a conical sieve and a revolving frame, when the frame is composed of spirally fitted blades, and a brush or brushes, and the whole is fitted for use, substantially as herein described.

50,055.—Beer Cooler.—Francis Uhrland, Buffalo, N. Y.:

First, I claim a beer cooler, with an adjustable cover, substantially as and for the purposes herein described.

Second, I claim the main tube, E, and the cover, A, in combination with tubes or pipes, D, D, D, heads, B and C, substantially as and for the purposes herein set forth.

50,056.—Beer Cooler.—Gardner Waters, Cincinnati, Ohio:

I claim the cooling of beer or other liquids, by passing the same continuously through a cooling medium, or vice versa, the cooling medium through the beer, by means of the rotating lantern cylinder, B, or its equivalent, and the outer case, A, combined and arranged for the purpose, substantially as herein specified.

50,057.—Shoe.—Fitch Weed, Middleboro, Mass.:

I claim a shoe, as made with the back piece, e, inverted between and sewed to each of the quarters, a, of the upper, and running from the top down to the heel of the sole, substantially as hereinbefore specified.

50,058.—Instrument for Canceling Postage and Revenue Stamps.—C. S. Wells, Chicopee, Mass.:

I claim the tube, D, provided with a spiral groove or slot, d, and having a cutter, e, at its lower end, in combination with the rod, C, provided with a lateral pin, c, fitted in the groove or slot, d, of the tube, D, the above parts being within a case, A, which constitute a gage resting firmly on the paper and remaining stationary, while the cutter turns within it, and all arranged in connection with a spring, E, to operate in manner substantially as and for the purpose herein set forth.

50,059.—Trunk.—J. H. Whitfield, Buffalo, N. Y. Antedated Sept. 15, 1865:

I claim a double trunk, opening front and back, with the cot opening in front, the cot having double bars, D and E, of wood and iron, stays, I, at their joints, and folding legs, L, with hooked stays, M, and the lid, B, as a rest or place for the pillow, and shelter for the head, when arranged and combined as herein described, and for the purposes set forth.

50,060.—Horse Rake.—H. C. Whitney, Coxsack, N. Y.:

I claim the combination of the revolving rake head, g, lever, k, forks, l, and projections or cams, i, with the arms, f, and levers, s, substantially as specified.

50,061.—Air Engine.—Stephen Wilcox, Jr., Westerley, R. I. Antedated Sept. 9, 1865:

First, I claim automatically regulating the proportions of air passing over and under the valve, by the variation in the pressure of the air, substantially in the manner and for the purpose herein set forth.

Second, I claim causing the induction valve, I, to act as a variable throttle valve while maintaining a uniform or nearly uniform point of cut-off, substantially in the manner and for the purpose herein set forth.

Third, I claim mounting the safety valve, o, on the compressing piston, a2, of a hot-air engine, substantially as and for the purpose herein set forth.

Fourth, I claim constructing the cylinder, A, or pump, fa', or both, of sheet metal, in the manner and for the purpose herein set forth.

Fifth, I claim in connection with the last, the ventilated jacket or protection, A3, constructed and arranged substantially in the manner herein set forth.

Sixth, I claim the within-described arrangement of the bonnet, Q, and the valves, F and G, with their seats and passages cast on the cylinder, and arranged substantially in the manner and for the purposes herein set forth.

50,062.—Hot-air Engine.—Stephen Wilcox, Jr., Westerley, R. I.:

First, I claim the pipe, 3, connecting the interior of the furnace, B, with the upper portion of the reservoir, 1, for the purposes herein set forth.

Second, I claim the loaded piston, t, in combination with the cock, 4, adapted to regulate the area of the orifice in the cock, 4, through which the petroleum flows from the reservoir, 1, to the furnace, B, according to the fluctuations of pressure obtaining in the furnace, B, substantially as and for the purpose herein set forth.

Third, I claim the arrangement of the heat-conducting spurs, 13, burner, 9, and evaporator, 12, substantially as and for the purposes herein set forth.

Fourth, I claim connecting and combining the fly ball or equivalent speed governor, R, with the piston, 11, or its equivalent, for controlling the passage of hydro-carbon vapor into the furnace of an air engine, substantially as and for the purpose herein specified.

Fifth, I claim, in combination with an air engine adapted for the use of hydro-carbon vapor in the manner substantially as specified, the jet-holes, 10, and one or more pistons or stops, 11, arranged immediately adjacent thereto, so as to jet with the full velocity, even when partly closed, all substantially as and for the purposes herein set forth.

Sixth, I claim the employment in an air engine of an elevated reservoir, 1, evaporating device, 12, and a regulating device, 11, acting on the hydro-carbon after its change to the vaporous form, the several parts being arranged to operate together substantially in the manner and for the purposes described.

Seventh, I claim the arrangement of the vapor burner, 9, metallic globe, 14, fresh-air passages, 20, and jets, 10, relatively to each other and to the evaporating pan, 12, or its equivalent, adapted to receive heat from the metallic globe, 14, substantially in the manner and for the purposes herein set forth.

50,063.—Bottle Stopper.—J. A. and G. E. Woodbury, East Cambridge, Mass.:

First, We claim the hinged disk, B, provided with the packing, e, and hasp, C, or their equivalents, in combination with the wire, F, applied to the mouth and neck of a bottle, substantially as and for the purpose described.

Second, The fixed ring or seat, M, provided with lugs, n, n, projection, b, and packing, e, and being to the disk, B, substantially as set forth and for the purpose described.

Third, Forming of the twisted ends, h, of the wire, F, a catch for the hasp, C, substantially as described.

50,064.—Seat for Water Closets.—Eber Woodruff, Chicago, Ill.:

First, I claim the combination and arrangement of the hinged seat, D, and pivoted cover, C, C, when operating substantially as and for the purposes specified.

Second, The combination and arrangement of the hinged seat, D, and pivoted cover, C, C, and wedge shape pieces, I and J, when arranged and operated substantially as and for the purposes herein described.

50,065.—Seed Planter.—Alpheus Bugbee (assignor to himself and Andrew J. Foster), Elkhart, Ind.:

First, I claim the construction and combination of the spurs, F, with the carriage axle or single shaft, B, to operate the seeding slide and agitate the grain, as herein described.

Second, I also claim suspending the teeth, C, at their backside to the rear ends of the arms, I, as described.

Third, I also claim the arrangement, construction and combination of the plates, U, with their vibrating bar, W, operating in a slotted V-shaped hopper, S, as herein described, for the purpose of sowing grass seeds.

50,066.—Harvester Rake.—Wm. F. Cochrane (assignor to himself, B. F. Warder and J. C. Child), Springfield, Ohio:

First, I claim the combination of the goose-neck or arched rake arm, having both a vertical and a horizontal turning movement on its pivot with the guide slot and switch latch, substantially in the manner and for the purposes specified.

Second, The combination of the guide slot, the switch and the goose-necked vibrating sweep rake with the mechanism for driving said rake, when arranged and operating substantially as and for the purposes set forth.

Third, The combination of the rake head, swivel ring and adjusting washers, arranged and operating as described.

50,067.—Paint Brush.—Samuel P. Faught, Foxboro, Mass., assignor to himself and William T. Cook, Boston, Mass.:

I claim the double socket, A, provided with a partition, a, in combination with the conical wedge, D, and screw, e, substantially as set forth.

50,068.—Paint Compound.—Darwin P. Flinn, Geneva, N. Y., assignor to Wm. S. Miller, New York City:

I claim a paint composed of oxide of zinc, lime, resin, linseed oil and milk, in about the proportions herein specified.

50,069.—Heat Radiator for Stove Pipes.—N. F. Goodrich, Meriden, Conn., assignor to himself and Isaac L. Holmes, Haydensville, Mass.:

I claim the central pipe, C, provided with a damper, D, in combination with the pipes, B, and chambers, A, A, all arranged substantially as and for the purpose specified.

[This invention relates to a new and useful improvement in a heat radiator for stove pipes, and is a good, simple and economical device for the purpose.]

50,070.—Brick Machine.—Isaac Gregg (assignor to Isaac Gregg, Jr.), Philadelphia, Pa.:

First, I claim starting the pistons or followers of the molds, together with their contained bricks, separately or in succession, by means of the inclined, B, B', or their equivalents, acting upon the stems, a, of the said pistons, substantially in the manner described, for the purpose of saving power and relieving the lifting levers of the said pistons from the great strain consequent upon their starting, and lifting, as heretofore, the whole of one set of the pistons, and bricks, at one operation.

Second, I claim periodically changing the direction of the current of clay in the hopper from the set of filled molds to the set of empty ones under the hopper by means of the moving partition, c, or its equivalent, operating substantially in the manner described, for the purposes specified.

Third, I claim the arrangement of the steam-heating chambers, D, D, in combination with the plates, d2 d2', near the ends of the hopper, C, substantially as and for the purposes described.

Fourth, I claim giving the described alternating motions forward and backward to the two lubricating sweeps or mold clearers, E, E', by means of the divided rock shafts, M, M', and pinions, m2, m2', or their equivalents, arranged to operate the said sweeps or mold clearers, as and for the purpose described.

Fifth, I also claim controlling or stopping the machine at will, by means of the apparatus consisting of the hand wheel, I, rollers, K and L, ratchet wheel, K', pawl, K2, treadle, N, and cord, P, supported in a suitable frame, J, and connected with the friction roller, G, by means of the cords, B, B', or their equivalents, so as to operate substantially as described and set forth.

50,071.—Cooking Stove.—Marcus L. Horton, Claremont, N. H., assignor to Sidney Smith, Greenfield, Mass.:

I claim the open space, D, and apparatus and register, A, as a

range and in combination, operating as described and for the purposes set forth.

50,072.—Cooking Stove.—Marcus L. Horton, Claremont, N. H., assignor to Sidney Smith, Greenfield, Mass.:

I claim the E, with cap, A, and improved flue, C, as arranged and in combination, operating as described and for the purposes set forth.

50,073.—Coal Stove.—Zebulon Hunt, Hudson, N. Y., assignor to himself and Wm. J. Miller:

First, I claim the double flue, D D, in combination with the circular hot-air chamber or flue, F, when both are constructed and arranged in manner and for the purpose set forth.

Second, I also claim the bridge flue, H, in combination with the circular flue, G, when arranged substantially as and for the purpose set forth.

50,074.—Machine for Shaping Crimping Forms.—J. H. Jellison (assignor to C. and J. R. Pierce & Co.), Milford, Mass.:

I claim the combination and arrangement of the rotary cutter wheel, A, and its shaft, with the mechanism, substantially as described, for moving such cutter head vertically, either slowly or suddenly, as may be required, the whole being applied to a table, as explained.

I also claim the combination of the rotary cutter wheel, its shaft, the mechanism for moving the wheel, and the two carriers, E and F, made substantially as specified.

50,075.—Gas Burner.—Hugh L. McAvoy (assignor to himself and E. S. Hutchinson), Baltimore, Md.:

I claim the gas burner provided, as described, with three or more parallel or nearly parallel slits.

50,076.—Apparatus for Carbureting Air.—Hugh L. McAvoy (assignor to himself and E. S. Hutchinson), Baltimore, Md.:

I claim, first, the described gearing and shafting by which the motor shaft, O, is connected with the forcing wheel shaft, F, through a point in the side of the chamber above the fluid level.

Second, the air pipe, E, which supplies the air to wheel from the chamber in which the regulator operates.

Third, the described form of regulator, inclosing an air space between a cylinder and conical frustrum, and whose sectional area of displacement is increased as it sinks in the fluid.

Fourth, the automatic valve, A, in combination with the chamber, A, pipe, C, and supply pipe, R.

Fifth, the valve, I, suspended from the regulator and controlling the lower orifice of the pipe, H, which supplies carbureted air to the regulator.

Sixth, the reservoir, Y, situated above the gas-generating chamber, and communicating therewith by the pipe, Z, guarded by the valve float in the chamber, D.

Seventh, the combination of the upper reservoir, Y, chamber, A, and regulator, B C, with the lower chamber, D, and air-forcing wheel, E, communicating with each other by the passages for fluid, air and carbureted air, substantially as described.

50,077.—Apparatus for Purifying Kaolin, Etc.—Thomas Moore, Cornwall, Conn., assignor to John Ellerby, New York City:

First, I claim passing the mineral to be dressed, in connection with a current or currents of water or other suitable liquid, through a drag or strainer, or their equivalents, having a series of one or more flood gates arranged in such a manner as to be opened and closed at pleasure, by means of which gates the said passage of the water with the mineral can be regulated according as may be necessary, substantially as herein described.

Second, delivering the mineral, after having been dressed, in any proper manner, to one or more suitable receivers or tanks at or near the bottom thereof, substantially as and for the purpose specified.

Third, removing the clay from the receivers of the cleansing or dressing apparatus, through any suitable opening or openings in the bottom of the same, substantially as set forth.

50,078.—Rocking Horse.—Leven C. Percival (assignor to himself and E. H. Deemer), Philadelphia, Pa.:

First, I claim the hobby horse constructed substantially as described, that is, supported underneath by a pivoted attachment to a standard erected on the wheeled platform, the hind feet attached to the crank on the rear axle, while the forward parts are left free, substantially as described.

Second, the guiding bridle line connecting from the bit to a place near the pivotal point of the horse, and from thence with the forward axle, as described.

Third, the use of the swinging frame, x x, for lifting the platform, arranged as described, and for the purpose specified.

[This invention relates to a novel arrangement of a rocking horse, by the rocking movement of which its carriage is propelled, and consists principally in the steering devices for guiding the carriage in any desired direction, and also in the use of frames connected in such manner to the carriage that its wheels can be lifted from the ground, and thus the propulsion of the carriage prevented as the horse is rocked.]

50,079.—Leather Roller.—D. H. Priest (assignor to himself and B. S. Harrington), Boston, Mass.:

I claim, first, so applying the adjustable table as to allow it to rise and fall automatically with the various depths of skin about the roller or shaft.

Second, I claim the combination of the toggles and the levers with the adjustable bed, provided with a feeding roller and the winding roller or shaft.

50,080.—Cotton Gin.—Francois Durand (assignor to E. P. H. Gondolin), Paris, France:

I claim, first, the combined operation and arrangement of the two ginning rollers, I and J, of the same diameter, of which is provided with series of inclined annular or endless elliptical corrugations or grooves, situated parallel to each other and the surface of the other roller, it being smooth, the said corrugated or grooved roller acting in combination with the smooth ginning roller, P, provided with a slip of parchment, substantially in the manner and for the purposes set forth.

Second, in combination with the rollers, I, J, the general arrangement and combination of the parts, acting in concert therewith, substantially as described and illustrated in the annexed drawings, and for the purposes set forth.

50,081.—Process of Collecting Spirit During the Refining of Sugar.—Francis Reid, Liverpool, Eng. Antedated June 21, 1865:

I claim solely the collecting and saving of such spirit or alcohol as may be generated, and through the process of boiling or refining raw sugars, concrete, melado and molasses, substantially in the manner and for the purposes hereinbefore described and set forth.

50,082.—Manufacture of Gun Cotton.—J. J. Revy, Vienna, Austria:

I claim an explosive compound, made substantially in the manner and for the purposes described.

50,083.—Manufacture of Gun Cotton.—J. J. Revy, No. 28 Grosvenor Street, Eaton Square, Eng.:

I claim, first, the preparing the cotton for use, in the manufacture of gun cotton, by washing it in an alkaline solution.

Second, the process of dipping or steeping the cotton, as hereinbefore set forth, in small and regular quantities of the cotton being dipped, one after the other, in a dripping vessel containing a considerable quantity of acid, the contents of which are, after each operation, brought back to the proper strength by the addition of fresh acid, to compensate for that removed by the portion of cotton last dipped.

Third, the general arrangement of the apparatus hereinbefore described and shown in the annexed drawings.

Fourth, the separating the acid from the exterior of the gun cotton fiber by saturating the cotton with water and then again extracting this water by means of a centrifugal machine. Also the separation of the acid from the interior of the gun-cotton fiber by arranging the cotton in layers on suitable perforated shelves and causing water to filter or percolate through it.

Fifth, the treating gun cotton with water glass by means of a centrifugal machine, as hereinbefore described.

Sixth, the employment for treating gun cotton, of water-glass solution, in a cool, in place of in a boiling, state, as heretofore.

50,084.—Mode of Making Bars, Shafts, and Other Articles Composed of Iron and Steel.—Charles Sanderson, Sheffield, Eng.:

I claim the manufacture of railway bars, shafts, girders, ship plates, boiler and bridge plates, and other articles, from masses of wrought iron and cast steel, or of wrought iron and homogeneous iron or steel (made by and known as the Bessemer or pneumatic process), and the uniting of large masses of the above metals, in which the combination is effected, in the manner herein described.

50,085.—Apparatus for Preserving Beer and Other Liquids.—Thomas Byrne, New York City:

I claim, first, the preservation of liquids or liquors on draught, substantially as and for the purpose herein set forth.

Second, the application of a flexible vessel for containing, and from which to serve, liquors on draught, substantially as described.

50,086.—Chimney Cap.—E. Hinkley and G. W. Crowell, Cleveland, Ohio:

We claim the cap, A, the standard, D, and link, B, in combination with the plate, C, the several parts being constructed and arranged as and for the purpose herein set forth.

REISSUE.

2,073.—Manufacture of Iron.—John D. Williams, Alleghany City, Pa. Patented Aug. 8, 1865. Antedated July 9, 1865:

I claim the use of the ingredients herein named, and their equivalents, and the mode of using them, and the manner of operating the furnace, substantially as described, and for the purpose set forth.

DESIGNS.

2,173.—Bust of Abraham Lincoln.—Henry Manger, Philadelphia, Pa.:

2,174.—Carpet Pattern.—Elemir J. Ney (assignor to the Lowell Manufacturing Company), Lowell, Mass.

2,175.—Carpet Pattern.—Elemir J. Ney (assignor to the Lowell Manufacturing Company), Lowell, Mass.

2,176.—Carpet Pattern.—Elemir J. Ney (assignor to the Lowell Manufacturing Company), Lowell, Mass.

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 seventeen 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.

Messrs. MUNN & CO.—I take pleasure in stating that, while I held the office of Commissioner of Patents, MORE THAN ONE-FOURTH OF ALL THE BUSINESS OF THE OFFICE CAME THROUGH YOUR HANDS. I have no doubt that the public confidence thus indicated has been fully deserved, as I have always observed, in all your intercourse with the office, a marked degree of promptness, skill, and fidelity to the interests of your employers.

[See Judge Holt's letter on another page.] Hon. Wm. D. Bishop, late Member of Congress from Connecticut, succeeded Mr. Holt as Commissioner of Patents. Upon resigning the office he wrote to us as follows:

Messrs. MUNN & CO.—It gives me much pleasure to say that, during the time of my holding the office of Commissioner of Patents, a very large proportion of the business of inventors before the Patent Office was transacted through your agency; and that 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 with skill and accuracy. Very respectfully, your obedient servant, Wm. D. Bishop.

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

PRELIMINARY EXAMINATIONS AT THE PATENT OFFICE. The service which Messrs. MUNN & CO. render gratuitously upon examining an invention does not extend to a search at the Patent Office, to see if a like invention has been presented there; but is an opinion based upon what knowledge they may acquire of a similar invention from the records in their Home Office.

But for a fee of \$5 accompanied with a model, or drawing and description, they have a special search made at the United States Patent Office, and a report setting forth the prospects of obtaining a patent, etc., made up and mailed to the inventor, with a pamphlet, giving instructions for further proceedings. These preliminary examinations are made through the Branch Office of Messrs. MUNN & CO. corner of and Seventh streets, Washington, by experienced and competent persons. Many thousands of such examinations have been made through this office, and it is a very wise course for every inventor to pursue.

The Patent Laws, enacted by Congress on the 2d of March, 1861, are now in full force and prove to be of great benefit to all parties who are concerned in new inventions. The law abolishes discrimination in fees required of foreigners, excepting natives of such countries as discriminate against citizens of the United States—thus allowing Austrian, French, Belgian, English, Russian, Spanish and all other foreigners, except the Canadians, to enjoy all the privileges of our patent system (except in cases of designs) on the above terms. Foreigners cannot secure their inventions by filing a caveat; to citizens only is this privilege accorded.

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

INVITATION TO INVENTORS. Inventors who come to New York should not fail to pay a visit to the extensive offices of MUNN & CO. They will find a large collection of models (several hundred) of various inventions, which will afford them much interest. The whole establishment is one of great interest to inventors, and is undoubtedly the most spacious and best arranged in the world.

UNCLAIMED MODELS. Parties sending models to this office on which they decide not to apply for Letters Patent and which they wish preserved, will please to order them returned as early as possible. We cannot engage to retain models more than one year after their receipt, owing to their vast accumulation, and our lack of storage room. Parties, therefore, who wish to preserve their models should order them returned within one year after sending them to us, to insure their obtaining them. In case an application has been made for a patent the model is in deposit at the Patent office, and cannot be withdrawn.

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

FOREIGN PATENTS. Messrs. MUNN & CO., are very extensively engaged in the preparation and securing of patents in the various European countries. For the transaction of this business they have offices at Nos. 66 Chancery Lane, London; 29 Boulevard St. Martin, Paris; and 26 Rue des Eperonniers, Brussels. They think they can safely say that THREE-FOURTHS of all the European Patents secured to American citizens are procured through their agency. Inventors will do well to bear in mind that the English law does not limit the issue of patents to inventors. Any one can take out a patent there.

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

SEARCHES OF THE RECORDS. Having access to all the official records at Washington, pertaining to the sale and transfer of patents, MESSRS. MUNN & CO., are at all times ready to make examinations as to titles, ownership, or assignment of patents. Fees moderate.

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

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

REJECTED APPLICATIONS. Messrs. MUNN & CO. are prepared to undertake the investigation and prosecution of rejected cases, on reasonable terms. The close proximity of their Washington Agency to the Patent Office affords them rare opportunities for the examination and comparison of references, models, drawings, documents, &c. Their success in the prosecution of rejected cases has been very great. The principal portion of their charge is generally left dependent upon the final result. All persons having rejected cases which they desire to have prosecuted, are invited to correspond with MUNN & CO., on the subject giving a brief history of the case, inclosing the official letters, etc.

MUNN & CO. wish it to be distinctly understood that they do not speculate or traffic in patents, under any circumstances; but that they devote their whole time and energies to the interests of their clients. Patents are now granted for SEVENTEEN years, and the Government fee required on filing an application for a patent is \$15. Other changes in the fees are also made as follows:—

Table with 2 columns: Description of service and Fee. Includes items like 'On filing each caveat', 'On filing each application for a Patent', 'On issuing each original Patent', etc.

EXTENSION OF PATENTS. Many valuable patents are annually expiring which might readily be extended, and if extended, might prove the source of wealth to their fortunate possessors. Messrs. MUNN & CO. are persuaded that very many patents are suffered to expire without any effort of extension, owing to want of proper information on the part of the patentees, their relatives or assigns, as to the law and the mode of procedure in order to obtain a renewed grant. Some of the most valuable grants now existing are extended patents. Patentees, or, if deceased, their heirs, may apply for the extension of patents, but should give ninety days' notice of their intention.

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

Back Numbers and Volumes of the "Scientific American." VOLUMES IV., VII., XI. AND XII., (NEW SERIES) complete (bound) may be had at this office and from periodical dealers. Price, bound, \$3 00 per volume, by mail, \$3 75 which includes postage. Every mechanic, inventor or artisan in the United States should have a complete set of this publication for reference. Subscribers should not fail to preserve their numbers for binding. VOLS. I., II., III., V., VI., VIII., IX. and X., are out of print and cannot be supplied.