

bination of one atom of hydrogen with one atom of oxygen; the atom of oxygen weighing eight times more than the atom of hydrogen. But how many of these atoms it takes to make a pound nobody knows. They are too small to be seen or to be weighed singly.

A unit of heat is the quantity of heat required to raise the temperature of 1 pound of water 1 degree.

Mr. Williams contrives to put all three of these phrases into a single sentence, and to employ each in a sense different from that which general use has assigned to it—a sense peculiar to Mr. Williams, which he does not explain, and which we suspect must be very vague in his own mind.

"The quantities of heat inherent in water in each of its three states are, in the general opinion of chemists, as follows, viz.: the latent heat of ice, 40°, that of liquid, 140°, and that of vapor, 1,000°. The first two are supposed to be ascertained by certain physical tests; the last, however, can only be received as an approximation to what cannot be determined with certainty.

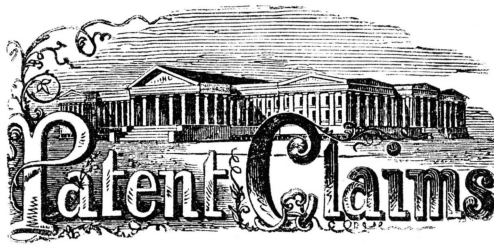
"If, then, the maximum heat contained in ice be 40° latent and 82° sensible, the inference would be that each atom of the crystallized mass, on receiving an additional unit of heat, would have its statical conditions altered; that, losing its crystallized form, it would separate from the mass, and become part of a fluid or liquid body."

Using words in their ordinary signification, there is no latent heat in ice, and if an atom of ice should receive an additional unit of heat it would become part, not of a liquid body but of a gas, it would be steam superheated; or, more probably, it would be decomposed into the two atoms, one of oxygen and the other of hydrogen, of which it was formed.

NEW YORK MARKETS.

[WEEK ENDING JUNE 30, 1864.]

Ashes—Pot, \$12; pearl, \$14 per 100 lbs.
 Beans—68c. to 70c. per lb.
 Bread—Pilot, navy, crackers, 4½c. to 8c. per lb.
 Candles—Adamantine, stearine and sperm, 29c. to 55c. per lb.
 Cement—Rosendale, \$1 50 per barrel.
 Coffee—Java, 49c. to 50c. per lb.; Rio, 43c.; St. Domingo, 38c. to 40c.
 Copper—American ingot, 46½c. to 50c. per lb.; bolts, 60c.; Sheathing, 62c.
 Cordage—Manilla, 23c. per lb.; Russia—tarred, 22c.; American, 17c.
 Cotton—Ordinary, \$1 12 per lb.; Middling, \$1 46; Fair, \$1 56.
 Domestic Goods.—Sheetings, brown standard, 62c. per yard; Shirtings, brown, 7-8, standard, 45c.; Prints, Merrimack 33c.; Prints, other 27c. to 32c.; Flannels, 50c. to 90c.
 Dyewoods, Duty Free.—Fustic, \$52 50 to \$55 per tun; Logwood, \$30 to \$62 50; Lima Wood, \$175.
 Feathers—78c. to 80c. per lb.
 Furs.—Otter, \$4 to \$10 skins; Lynx, \$3 to \$5; Muskrat, 25c. to 40c.
 Flax—16c. to 22c. per lb.
 Flour and Meal—\$8 50 to \$11 20 per barrel; Rye Meal, \$7 25 to \$8 25; Corn Meal, \$7 50 to \$8.
 Grain.—Wheat, \$2 10 to \$2 40 per bushel; Rye, \$1 80; Barley, \$1 35 to \$1 50; Oats, 91c. to 98c.; Corn, \$1 52 to \$1 60; Peas, \$1 45 to \$1 60.
 Beans, \$2 67 to \$2 90.
 Hay—\$1 35 per 100 lbs.
 Hemp.—American (dressed), \$275 to \$315 per tun; Russian, \$400; Jute, \$310 to \$320.
 Hides.—City Slaughter, 13½c. to 14c.; other varieties range from 15c. to 36c.
 Honey.—\$1 30 to \$1 60 per gallon.
 Hops.—18c. to 30c. per lb.
 India Rubber.—40c. to 98c. per lb.
 Indigo.—Bengal, \$2 to \$2 60 per lb.; others, \$1 20 to \$2 30.
 Iron.—Scotch pig, \$70 to \$72 50 per tun; American, \$62 50 to \$63; Bar—Swedes —; English, \$190 to \$200; Sheet—Russia, —; English, 9c. to 11½c.
 Lead.—American, \$14 50 to \$14 75 per 100 lbs.; English — Pipe, 19½c.
 Leather.—Oak-tanned, 49c. to 59c. per lb.; Hemlock, 27c. to 51c.
 Lime.—\$1 35 to \$1 80 per barrel.
 Lumber.—Spruce, \$21 to \$23 per 1,000 feet; White Oak, \$35 to \$40; White Oak Staves, \$120 to \$200; Mahogany crotches, 80c. to \$1 50 per foot; Rosewood, 4c. to 12c. per lb.
 Molasses.—75c. to \$1 15 per gallon.
 Nails.—Cut, \$7 50 per 100 lbs.; Wrought, 35c. to 41c. per lb.
 Oils.—Linseed, \$1 58 to \$1 60 per gallon; Sperm, \$2 01 to \$2 25; Petroleum, crude, 47c.; refined, 76½c. to 90c.; Naphtha, 36½c. to 90c.
 Provisions.—Beef, mess, \$15 to \$16 per barrel; Pork, mess, \$40 to \$43 25; Butter, 28c. to 42c. per lb.; Cheese, 13c. to 20c.
 Rice.—\$8 75 to \$12 per 100 lbs.
 Salt.—Turk's Island, 60c. per bushel; Liverpool fine, \$4 50 per sack.
 Salt peter.—20c. to 25c. per lb.
 Spelter.—15½c. to 15¾c. per lb.
 Steel.—English, 16c. to 42c. per lb.; German, 15c. to 23c.; American cast, 25c. to 30c.; American spring, 16c. to 19c.
 Sugar.—Brown, 18c. to 23c. per lb.
 Tea.—65c. to \$1 65 per lb.
 Tallow.—American, 16½c. to 16¾c. per lb.
 Tin.—Banca, 70c. per lb.; English, 60c.; plates, \$19 to \$25 per box.
 Tobacco.—Leaf, 12½c. to 30c. per lb.; Cuba fillers, 60c. to 85c.; United States wrappers, 25c. to 65c.; Manufactured, 55c. to 70c.
 Wool.—American Saxony fleece, 95c. to \$1 00 per lb.; Merino, 90c. to 95c.; California, 20c. to 48c.; Foreign, 25c. to 60c.
 Zinc.—25c. per lb.



ISSUED FROM THE UNITED STATES PATENT OFFICE FOR THE WEEK ENDING JUNE 28, 1864.

Reported Officially for the Scientific American.

43,276.—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.

43,276.—Wheel Vehicle.—Rodney W. & Samuel Ackley, Lima, Mich.:

I claim the screws, s, the nuts, o, the rods, t, and the rest, d, the whole constructed, arranged, and operated in the manner and for the purpose substantially as herein set forth.

43,277.—Washing Machine.—Joseph Adams, Janesville, Ill.:

I claim the employment or use of a double-inclined board, B, in connection with the two rollers, F, F', arranged with the yielding bars, E, E', lever frame, D, uprights, d, d', and bar, G, or their equivalents, to operate in the manner substantially as and for the purpose set forth.

In combination with the above I also claim the slats, c, at the ends of the suds-box, A, as and for the purpose specified.

[This invention consists in the employment of pressure rollers connected with a lever frame in a novel manner, and used in connection with a double inclined clothes-board fitted in a proper suds-box, having cleats secured to the inner surfaces of its ends; the lever frame being arranged in connection with upright guides, and all so arranged that the clothes are acted upon in the most favorable manner for their perfect cleansing from dirt, both the rubbing and squeezing operations being gone through with in the washing process.]

43,278.—Kiln for annealing Glass.—Thos. B. Atterbury, Pittsburgh, Pa.:

I claim, first, A leer or kiln for annealing glassware constructed with a depressed arch, having inlets and outlets for the glass combined with the endless closed carriage and circular railway, substantially as described.

Second, Depressing the circular arch at or near the chimney, E, substantially in the manner and for the purposes described.

Third, A leer for annealing glassware which is so constructed that the ware is subjected to an incense but nearly uniform heating process in passing through one portion of the annealing chamber of the leer, and is then subjected to a gradually cooling process in leaving the point where the chimney-flue is located, substantially as described.

43,279.—Washing Roller.—James E. Atwood, Trenton, N. J.:

I claim the arrangement and combination of the handle, A, and rollers, D, D', with the end pieces, B, B', also the arrangement of the shaft, C, all substantially as described for the purposes set forth.

43,280.—Self-acting Felt-guide for Paper-making Machines.—Theodore Baker, Stillwater, N. Y.:

I claim the cam, A, and journal box, B, when used in connection with the guide roll, C, as a self-acting guide for felt cloths, and wire cloths, of paper-making machinery, in its passage over the rolls, in the manner described and for the purpose specified.

43,281.—Tool for riving Splints.—Wm. Baker, East Templeton, Mass.:

I claim, first, The wedge-shaped knife, B, with an oblique or square cutting edge, and made adjustable in the stock, A, substantially in the manner and for the purpose specified.

Second, The adjustable face or sole, C, in combination with the stock, A, and knife, B, constructed and operating in the manner and for the purpose substantially as herein specified.

[This invention relates to an improvement in that class of tools which are used for the purpose of making splints for baskets, chair-bottoms, and other articles.]

43,282.—Rake for Harvesters.—John Baldwin, St. Paris, Ohio:

I claim, first, The crank-wheel, G, connected with the toothed wheel, H, by means of the clutch, b, the swinging arm, N, pitman, O', and shaft, P, to which the rake is attached, all being arranged as shown, to communicate a reciprocating motion to the rake, as set forth.

Second, The bent lever, R, in connection with the segment ledge, V, spring, I, and shaft, P, with the rake pivoted to the latter, and all arranged to operate in the manner substantially as and for the purpose specified.

Third, The placing of the rake-head, U, in a tube, T, having a longitudinal slot, p, in its under side, substantially as and for the purpose set forth.

[This invention relates to a new and improved raking device, such as are commonly termed "automatic," for harvesters, and it consists in a novel means employed for operating the rake, as well as in a novel construction of the rake itself, whereby the cut grain may be raked from the platform in a perfect manner, the gavels being laid or deposited evenly on the ground, to facilitate the binding operations. The invention also consists in the employment or use of a roller placed over the rake, and arranged in such a manner as to prevent the rake, when on the platform, from interfering with the cut grain being properly laid or deposited thereon.]

43,283.—Fire Escape.—A. T. Ballentine, New York City:

I claim, first, The combination of a sliding ladder with an outside shutter, which is made to contain it when folded, and a main shutter, substantially as shown.

Second, Locking the sliding ladder, when folded in its case, by means of the stump, D, constructed and operating substantially as shown.

Third, The sill, C, and its sliding platform, constructed substantially as shown.

Fourth, The system of toggle joints, s and u, to move the sliding platform out, substantially as described.

Fifth, The false hinge, O, and its shank, q, operated by means of the outside shutter, substantially as described.

[This invention consists of a ladder combined with one leaf of a window shutter so as to be concealed within it, being slid up within it by means of a wrench, and allowed to slide down to the ground whenever a catch is released. The catch or locking apparatus is connected to a false window-sill in such a way as to draw it out and make it project from the sill as soon as the ladder is released from the shutter, and thus furnish a platform from which to reach the ladder.]

43,284.—Breech-loading Fire-arm.—Fordyce Beals, New Haven, Conn.:

I claim, first, The combination and arrangement described of the lever, L, and spring lever, P, for the purpose specified.

Second, The combination and arrangement described of the lever, L, hook, O, and hammer, for the purpose specified.

43,285.—Sewing Machine.—Franklin H. Brown, Chicago, Ill. Ante-dated June 18, 1864:

I claim, first, The combination and arrangement of the feed bar, F, the eccentric, m, the fulcrum, v, and the lever, G, slide, I, and dove-tailed race, H, arranged and operating substantially as shown and described.

Second, I claim the combination and arrangement of the shuttle-carrier, A, sliding upon the pin, x, the wheel, C, and face plate, E, operating as and for the purpose specified.

43,286.—Clamp for Clothes-wringers.—J. D. Burdick, Ashway, R. I.:

I claim the combination of the wringer frame, A, screw-clamp, a, B, C, and hinge, D, when the said hinge extends from top to bottom of the clamp frame, and the various parts are constructed, arranged, and employed in the manner herein shown and described.

[This invention relates to an improvement in fastenings for securing clothes-wringers to wash-tubs or wash-trays. The invention is more especially designed as an improvement on the fastening of the "Eureka Clothes-wringer," so called, and which was patented by D. W. Swift, Jan. 28th, 1862.]

43,287.—Bottom of Wash-boilers.—Charles Burnham, Springfield, Mass.:

I claim, as an article of manufacture, a bottom for boilers, made of sheet metal and corrugated but with a plain margin or lip surrounding the corrugations, as herein-before set forth.

43,288.—Corn Plow.—L. H. Castor, Eddington, Ill.:

I claim, first, Moving the standards, i, i, of the plows, I, laterally by means of the bail-shaped bar, J, bent levers, K, K, and treadles, L, L, all arranged substantially as herein set forth.

Second, The combination of the bars, C, C, frame, D, driver's seat, E, rock shaft, F, links, d, d, and levers, G, c, all constructed, arranged, and employed, substantially as described, for raising the plows when required.

[This invention relates to a new and improved means for adjusting or moving the plows laterally, so that the same may be made to conform to the sinuosities of the rows of corn to prevent the plants being plowed out of the ground while the implement is being drawn along; and the invention also relates to an improved means for raising the plows out of the ground when desired, and also to an improved draught attachment by which the draught is equalized.]

43,289.—Braiding Attachment for Sewing Machines.—Horace H. Chittenden, New Haven, Conn.:

I claim, first, The spindle, a, with one or more fingers, b, c, and guide, f, when the same are made to operate in combination with the needle of sewing machines and its operative mechanism, substantially as and for the purpose specified.

Second, The combination and arrangement described of the spindle, a, segmental guide, f, and yoke, i, or its equivalent, substantially in the manner and for the purpose herein set forth.

Third, The lever, 7, pins, 10 and 11, and dogs, 14 and 15, when the screws are combined and arranged to operate together, substantially in the manner specified.

Fourth, The lever, 7, and slide, 4, in combination with the fingers, b, c, substantially in the manner and for the purpose described.

43,290.—Washing Machine.—C. A. Clark, Pulaski, Iowa:

I claim the combination of the box, A, lever, C, rod, D, plunger, E, perforated bottom, G, spigot, I, vertical strips, L, and hook, J, constructed, arranged, and operating in the manner and for the purpose specified.

43,291.—Elevating and transporting Device.—E. B. Coffin, Olneysville, R. I.:

I claim the curved bar or beam, E, mounted on wheels and provided with a windlass composed of the shafts, O, H, connected by the gearing, M, N, and operated through the medium of the gears, J, J, crank, K, and pawl, L, in connection with the brake or strap, W, attached to the foot lever, Y, and the pawl, R, and lever, S, or their equivalents, all arranged to operate substantially as and for the purpose specified.

[This invention relates to a new and improved implement or device for elevating and transporting articles from place to place, and is more especially designed for building stone walls, in which large stones are employed; the stones being elevated by the device from the ground and carried in a suspended state to the wall in course of construction and deposited thereon.]

43,292.—Mode of preventing the Potato Rot.—Christopher Corey, Lima, Ind.:

I claim the invention of counteracting and remedying, in the tubers themselves, the potato rot, as a specific disease, caused primarily by insects and animalcules, and secondly by the infectious fluid and gases of the potatoes thus affected, by the direct destruction of the former, and by the timely regulation or removal of the latter, substantially as herein set forth.

43,293.—Horse-shoe.—George Custer, Monroe, Mich.:

I claim a horse shoe constructed in the specific manner herein represented and described.

43,294.—Stop-motion for Knitting Machines.—Joseph Dalton, Brooklyn, N. Y.:

I claim furnishing the bobbin of a knitting machine with a movable piece, b, applied to operate substantially as herein described, for the purpose of unlocking the stop motion when the yarn gives out.

43,295.—Boot and Shoe.—George W. Day, Charlestown, Mass.:

I claim, as a new article of manufacture, a boot or shoe, having a construction substantially as specified.

43,296.—Safe.—Thomas Dolan, Albany, N. Y.:

I claim the casting of the shell of a fire-proof safe door with an offset or chamber, A, to receive the lock, C, substantially as and for the purpose herein set forth.

43,297.—Window-sash Fastening.—John P. Ellis, Flushing, N. Y.:

I claim the combination of the hinged plate, F, and slide, G, with the spring catch, B, substantially in the manner herein shown and described.

I also claim the combination of the plates, F, and slides, G, one or more of each, with the frame, E, all constructed and operating substantially in the manner herein shown and described.

I further claim the employment of a yielding holding surface, F, or its equivalent, with the holding catch, B, substantially in the manner herein shown and described.

[This is an improved spring sash-fastener by which the window may be set and locked in any desired position, without the need of employing the hand to press or operate a spring bolt. Both hands are thus at liberty to move the window, which may be said to lock itself. The superior convenience of the improvement must be obvious.]

43,298.—Gun Carriage.—John Ericsson, New York City:

I claim, first, Providing for the working of a gun carriage by securing two of its trucks firmly to a revolving axle, and combining the said axle with a system of toothed gearing attached to the carriage, substantially as herein specified.

Second, The employment for producing the friction necessary to check the recoil of a gun carriage, or hold it securely in any position, of a system of metal plates and a system of interposed timbers, the one attached to the carriage and the other to the bed or platform upon which it works, substantially as herein described.

Third, The compressor composed of two levers, M, M', and a screw shaft, P, with collars, Q, Q, and a nut, N, applied and operating in combination with the check plates, K, K, and friction timbers, L, L, substantially as herein specified.

[The object of this invention is to enable a heavy gun to be worked by few hands, and to reduce the recoil in such degree as to permit the gun to be worked in a turret or within a limited space.]

43,299.—Apparatus for exhibiting Photographs.—Wm. Henry Fay, Chester, Mass.:

I claim, first, The cover, D, having one or more openings, I, in combination with the rotary picture-holder, C, when they serve to

form the whole or a part of the top of a table or other similar article of furniture, substantially in the manner and for the purpose herein set forth.

Second, The combination of cover, D, rotary picture-holder, C, stationary spring, F, and spring slide, G, substantially in the manner and for the purpose described.

43,300.—Saddle Stirrup.—John Fichter, Newark, N. J.: I claim a saddle stirrup combined with a hood and legging, in the manner substantially as herein shown and described, so that the stirrup may be used separately as an ordinary riding stirrup, or converted into a military and Mexican stirrup, as set forth.

[This invention consists in constructing the stirrup in such a manner that it may, with the greatest facility, be converted into a military, Mexican, or ordinary stirrup, as required, and still possess, when adjusted in any one of the forms specified, advantages over the several kinds of stirrups especially constructed for these several purposes.]

43,301.—Steam Boiler.—L. B. Flanders, Philadelphia, Pa.: I claim, first, The deflectors, I, arranged in respect to the inner tubular casing of the boilers, substantially as and for the purpose set forth.

Second, The plate, f, arranged in respect to the deflectors, I, the tubular casing, and exit opening, y, as and for the purpose described.

43,302.—Brace or Bit Stock.—D. P. Foster, Shelburne Falls, Mass.: I claim, first, Making the stem or body of a brace of a tube, substantially as shown.

Second, I claim securing the bit to the brace by means of the cap, o, chuck, F, and nut, G, as shown and described.

43,303.—Lantern.—Henry A. Fox, Cincinnati, Ohio: I claim, first, The provision in a lantern of the formed or curved base, A, B, adapted to catch and retain the waste oil and prevent spilling, as herein explained.

Second, The curved base, A, B, in the described combination with the detachable reservoir, F, G.

43,304.—Quartz-crusher.—David Gay & John H. Purkiss, Long Bar, Cal.: I claim the attachment of the water wheel to the side of the crushing wheel, substantially in the manner herein shown and described, so that the water wheel will drive and travel with the crusher wheel, all as set forth.

We also claim the combination with the water wheels of the water conducting aprons, substantially as herein shown and described.

43,305.—Lubricator.—Thomas W. Godwin, Portsmouth, Va.: I claim, first, The double-valved piston, E, in combination with the tube or cylinder, C, O.

Second, The manner of supplying the reservoir, A, with the lubricating oil by the action of the piston, F, in combination with the cylinder, C, C, and the orifices, E, E, E, as set forth and described.

43,306.—Breech-loading Ordnance.—Wm. F. Goodwin, Powhatan, Ohio: I claim, first, In combination with the lugs or projections, B, B, having bearing surfaces perpendicular or nearly so to the axis of the bore, the solid oblong breech block, C, having flanges, c, concentric with the axis, and otherwise constructed and applied as herein shown and described, so that by turning the block after its insertion its ends will occupy the concavities of the lugs, B, B, and the entire strength of the block will be employed to resist the explosion.

Second, I claim the combination of the slotted shank, C', and slotted sleeve, D', of the hinged arm, D, adapted in the manner described to permit the ready insertion of the primers.

Third, In combination with the shank, C', of the block, C, I claim the screw cap, C, and for facilitating the removal of the burnt primers, as explained.

[This invention relates to a swinging yoke or breech-piece of novel and improved construction, and to a gun so formed as to adapt a swinging yoke or breech-piece, formed in one piece, to be applied and secured without employing trunnions, as a means of attachment. Also to a breech plug of peculiar construction and to novel devices for adapting the same to be more readily inserted or removed.]

43,307.—Machine for loading Hay.—James T. Hall & Isaac Pierce, Holland Patent, N. Y.: We claim, first, The hinged bars, I, constructed as described, and provided with the tines, F, in combination with the tines, T, in combination with the spring dogs, S, arranged and operating as and for the purpose shown and described.

Second, The clearing rods, O, arranged as shown and described, and operating in combination with the hay elevating devices, in the manner and for the purpose specified.

43,308.—Bridle.—Samuel B. Hartman, Millersville, Pa.: I claim the application of the strap, C, to common bridles, in the manner and for the purpose specified.

43,309.—Tack-hammer and Carpet-stretcher.—Alonzo Hicks, Factoryville, N. Y.: I claim the combined tack-hammer and carpet-stretcher, made as specified.

43,310.—Cement-pipe Machine.—E. T. Jewett, St. Albans Bay, Vt.: I claim the beveled-faced jaws, A, A', when constructed and operated in the manner specified.

I also claim the combination of the jaws, A, A', with the rods, I, toggles, J, and levers, K, K, substantially as herein shown and described.

I also claim the combination of the horizontally moving mandrel, B, with the jaws, A, A', substantially in the manner and for the purpose herein shown and described.

I also claim the combination of the toggle and lever, F, with the mandrel, B, substantially as herein shown and described.

[We cannot well convey a fair idea of this machine without an engraving. Suffice to say, that it is apparently a very effective device for the purpose of making all kinds of pipes, of clay, cement, or other plaster material, can be easily constructed, and conveniently operated.]

43,311.—Lathe Attachment for turning Tapers on Bars.—C. Jillson, Worcester, Mass.: I claim, first, The combination of the stock, A, tool-holder, B, eye, h, and cutters or chisels, d, operating together as and for the purpose described.

Second, I also claim in combination with the stock and with the tool-holder, the buttons, k, l, for allowing the latter to be moved in the former by a gage or pattern, substantially as described.

Third, I also claim in combination with a revolving shank or spindle, a head stock attached thereto, but not turning with it, and a pattern or gage upon said head-stock for the purpose of controlling the chisels or cutters and declining their working distance from the center of the article being tapered, substantially as described.

43,312.—Lantern.—Charles Jones, Brooklyn, N. Y.: I claim the arrangement and combination of the two pieces of sheet metal, a and b, bent and secured together as described to form the top and rim of a four-sided lantern, including the draft protectors, substantially as described.

The pyramidal lantern body or chimney made of separate panes of glass fitted to each other and framed together by the top and bottom rims and the guards and without corner sash-bars, substantially as described.

The hooked ends of the guards in combination with the top rim and panes of glass, substantially as described.

In combination with the base or bottom rim of the lantern the step or rebate on the edges of the lamp, substantially as described.

43,313.—Heat Regulator.—Smith M. Kellogg, Battle Creek, Mich.: I claim the dampers, e, e, having supporting edges, i, i, thereon, in combination with the pipe, b, provided with the slouiders, y, y', outer pipe, a, and damper, d, the whole operating substantially in the manner and for the purpose set forth.

43,314.—Stove.—W. B. Kimball, Peterboro', N. H.: I claim a stove composed of soap-stone panels set in metal frames and recessed at bottom as herein described, to receive the ashes and cause the lower edges of the stone to be exposed to as intense heat as the center part.

[This invention consists in constructing the stove with an iron or metal frame filled in or provided with stone panels, and having the stove provided with sliding doors also constructed of iron frames filled in with stone. The invention is designed for a combined open and close stove and to burn either wood or coal.]

43,315.—Scaffolding, and elevating the same.—Philetus Knapp, Woodford, Vt.: I claim, first, The combination of the upper slide, platform and lower slide, with their attachments and connections for moving or holding on the shaft or mast, substantially as herein described.

Second, I also claim the attaching and detaching of the sections of the shaft or mast, in combination with the upper and lower slides as herein described and represented.

Third, I also claim in combination with the platform and its slide, the letting out and taking up of the guys by mechanical means, substantially as herein described and represented.

43,316.—Car Spring.—George H. Lewis, Providence, R. I.: I claim the improvement in the manufacture of car and other springs, which consists in forming a hollow air-tight elastic vessel or shell the sides or walls of which are of sufficient thickness to be practically non-collapsible in combination with partially or wholly filling said vessel with any suitable liquid so as to add to the resisting power of the spring, as set forth.

43,317.—Folding Car Standard.—S. Little, Loretta, Pa.: I claim the combination of the slot in the standard, and the recess between the standard, with the pivot pin, so that the standard may be raised and lowered in a vertical line as well as swing on the pivot pin, substantially in the manner and for the purpose herein described.

43,318.—Grain Separator.—Leonard Low, San Francisco, Cal.: I claim, first, The arrangement of the inclined screens, I, in quadrant around a center shaft, B, substantially as herein described and shown.

Second, The combination of the screens, I, and chutes, K, when the same are arranged around a center shaft and operated by oscillatory motion, substantially in the manner and for the purposes described.

Third, The adjustable strips, E, in combination with the screen supports for the purpose of adjusting the inclination of the screens, substantially as described.

Fourth, The hopper, L, in combination with the telescopic nozzle, N, and crop-head, U, for the purpose of adjusting the feed of the grain, substantially as herein described.

43,319.—Cannon Sight.—Philo Maltby, Cleveland, Ohio: I claim, first, The combination of the rotary rear sight with the rotary forward sight, each being constructed in pairs and numbered as described and used in connection with each other, as and in the manner herein set forth.

Second, I claim the herein described method of holding the rear and forward sights in place when adjusted to corresponding numbers, as described.

Third, I claim in combination the standard, A, cross-piece, B, and rear-sight, E, arranged and operated as herein set forth.

Fourth, I claim the horizontal adjustment of the sight, E, by means of the screen, C, and holding the same in position by means of the bar, a, and thus specified.

Fifth, I claim a series of rotating rear and forward sights, when constructed and operating as herein described, the same being adapted to different degrees of light.

Sixth, I claim the cap, G', and the herein-described method of attaching it to the cascade of the gun, substantially as described.

Seventh, I claim the vertical adjustment of the rear sight by means of the bar, G', and set screw, e, when arranged and operating as and for the purpose specified.

43,320.—Steam Boiler.—George Mann, Jr., Ottawa, Ill.: I claim the above open at each end and attached to the front part of the steam boiler and connected with the water gages of the boiler, as shown in the specification.

43,321.—Mammiform Breast Protector.—Eleanor M. Marshall, Hillsdale, N. Y.: I claim, first, Making the springs, A, A2, mammiform, for the purposes herein specified.

Second, I claim forming the springs, A, A2, from one and the same piece of wire, for the purpose shown.

43,322.—Construction and Equipment of Ships of War.—R. G. McDougal, New York City: I claim, first, The removable cutting edges, c, c, applied to a beak or prow of any suitable form.

Second, The well or stand pipe, D, closed by an adjustable valve, d, in combination with the vessel, A, constructed and operating substantially as and for the purpose shown and described.

Third, In combination with the vessel, A, I claim the separate hawse pipe, E, extending down through the bottom of the vessel and operating in combination with the chain, f, in the manner and for the purpose substantially as described.

Fourth, Forming the after part of the vessel with double ogee lines, g, h, in combination with screws and rudders, arranged substantially as and for the purposes set forth.

Fifth, In a vessel constructed substantially as herein described, the open net work skegs, j, and fore and aft braces, m, applied to the vessel, A, substantially in the manner herein described, to form counter braces, and to receive and protect the screws and rudders, and at the same time give free access of water to the screws and rudders.

Sixth, In a vessel constructed substantially as herein described, connecting the chains or ropes of two or more rudders upon one central drum, O, substantially as and for the purpose specified.

Seventh, Connecting the steering gear with the throttle valve of the engines, in the manner and for the purposes herein specified.

Eighth, The use of two or more turn-tables, I, with guns, J, in combination with an oblong cylindrical casemate, G, constructed and operating substantially as and for the purpose set forth.

Ninth, The oblong cylindrical casemate, G, with arched roof, H, and radiating ports, K, constructed, arranged, and operating as and for the purpose specified.

Tenth, In a vessel constructed substantially as herein described the double sliding doors, L, in combination with converging spring levers, M, applied substantially as and for the purpose described.

Eleventh, The removable top, g, of the pilot-house, F, raised and lowered, substantially as herein described for purposes of ventilation and protection.

43,323.—Apparatus for forming Stereotype Molds.—J. D. McLean, New York City: I claim, first, The employment or use of a sliding frame, E, provided with type dies, H, in connection with parallel plates, B, B, a notched bar, G, and a rod, F, provided with an upright, k, all arranged as shown for the purpose of adjusting the type dies over the plastic substance which receives the impressions, for the purpose set forth.

Second, The plunger, D, in combination with the die frame, E, grooves, f, f, in the plates, B, B, and slides, M, M, in said grooves, for the purpose specified.

Third, The pawls, K, K, connected with the levers, L, L, with the springs, q, s, attached, in connection with the racks, J, J, on the bed, I, for the purpose specified.

Fourth, The pawl, G, and screw, R, in combination with the pawl, P, at the under side of the platform, O, for the purpose set forth.

[The object of this invention is to obtain a machine of simple construction by which molds or matrices for producing stereotype or electrotype plates for letter-press printing may be formed direct from dies, thereby avoiding the labor and expense of setting up type, and the casting or forming of molds therefrom.]

43,324.—Nail Machine.—Michael McManus, Brooklyn, N. Y.: I claim, first, The combination with the lever, H, h, and the cutter, E, of the sliding lifter, F, slotted arm, and crank, d, whereby the cutter is thrown into and out of gear at the will of the operator.

Second, The friction brake, R, and belt-tightening lever, O, combined with each other and with the hammering or shearing mechanism of a forging machine, which has its cutting mechanism driven independently, substantially as herein specified.

Third, The combination of the clamp, g, of the rod holder, substantially as and for the purpose herein specified.

43,325.—Mode of purifying Hydro-carbon Oils.—Joshua Merrill, Boston, Mass.: I claim in the process of purifying hydro-carbon oils, treating them substantially as hereinbefore described, with sulphate of soda, for the purposes substantially as hereinbefore set forth.

I also claim in combination with the treatment by sulphate of soda, I claim in said process the use of caustic or carbonate alkalies, substantially as described.

43,326.—Can for Paint, Fruit, etc.—Herman Miller, Hohen, N. J.: I claim having the plates provided with solder grooves, b, in combination with the turning of the edges of the plates into said solder grooves, substantially in the manner and for the purpose herein shown and described.

[In this improvement the joining edges of the can are bent in a peculiar manner, so as to lock firmly together; and there is also a groove made in the body of the tin, along the line of the lapping edges. This groove strengthens the can and also serves to assist the workman in soldering, by keeping the solder upon the lap, preventing it from running away, etc. Liability to leakage is thus prevented, the operation of soldering is cheapened and quickened, and the finished can is stronger, and in many respects superior to those made in the ordinary manner. We consider this a good improvement.]

43,327.—Hand Spinning Machine.—Charles A. Moorehead, Quincy, Ill.: I claim, first, Elevating the spindle for reeling off the yarn or for other purposes by causing the spindle frame, A, to revolve upon its carriage without disconnecting the spinning apparatus, substantially as described.

Second, Making the journal boxes of the spindle removable, in order to withdraw the spindle from its frame and thereby be able to cross the driving band, substantially as described.

43,328.—Stove.—Benjamin Morrison, Philadelphia, Pa.: I claim, first, The stationary bottom grate, D, and the vertically-sliding front grate, E, when the same are constructed and arranged together in combination with the fire-box of a stove, so as to operate substantially in the manner described and set forth for the purposes specified.

Second, I claim extending the grate bars of the front portion of a stove grate so that the said extensions or their equivalents shall form ribs, e', exclusively on the inner or fire side of the thin upper portion, e, of the grate, substantially as described and set forth for the purpose specified.

Third, I also claim the mode herein described and set forth, of constructing and securing the lining of the fire-box of a stove; the same consisting of the two side pieces, c, c, each sloped and rabbeted as described, and the single back-piece, c', having its two ends sloped to fit in the said rabbets of the side pieces as described, the front ends of the side pieces being retained in position by means of the vertical ribs, 2, 2, or their equivalents, substantially as described.

43,329.—Sea Pipe for Vessels.—David W. Nearns, St. Louis, Mo.: I claim, first, The arrangement and combination of the nuts, C, E, and pipe, A, in the formation of the joints of shoes or sea pipes with the sides of vessels, substantially as herein set forth and represented.

Second, I claim the employment of the perforated tube or pipe, g, in combination with the pipe, A, substantially as and for the purposes set forth.

43,330.—Mounting Heavy Guns.—John B. Newman, Milford, Pa.: I claim, first, The yokes, F, F', supported on wheels substantially as described and employed for elevating and mounting guns, as set forth.

Second, I claim the pins, f, in combination with the apertures, f', for adapting the yokes to convey the gun in either a direct or indirect course, in the manner specified.

Third, I claim the lever, H, h, h', constructed in the manner described and having its fulcrum in the lever, I, when employed in combination with a rack, g, formed on the face of the wheel, G, as and for the purpose set forth.

Fourth, I claim the angular blocks or pieces, f2, applied to the yokes, F, F', in the manner and for the purpose explained.

Fifth, I claim the ways, E, inclined in relation to the chassis, A, substantially as and for the purpose explained.

43,331.—Harvesting Machine.—Samuel K. Paden, Volant, Pa.: I claim, first, The combination of the chain, chain-wheels, pinions, and curved segments for raising or lowering and holding the cutting apparatus at a y adjusted height, substantially as described.

Second, I claim the apparatus for raising and lowering mechanism the shaft, P, its pinion, Q, and the two racks, v, v, for taking up or letting out the reel driving belt, S, to keep its tension on the pulleys uniform, substantially as described.

I also claim, in combination with the double-hinged joints, n, o, between the platform and main frame, the coupling, p, and bridge, X, for the purpose of conveying the grain from the platform to the main frame by a belt, substantially as described.

43,332.—Mode of attaching Door Knobs to their Spindles.—Emery Parker, West Meriden, Conn.: I claim the employment of a slitted washer, D, in combining the knob with a threaded spindle, by means of an independent piece of metal which embraces the spindle at its square portion, and engages with the end of the shank of the knob, substantially in the manner and for the purpose set forth herein.

43,333.—Mule for spinning Woolen Yarn.—Seth D. Paul, Lawrence, Mass.: I claim as an improvement in the roller motion the use or combination of roller cam, 27, latch, 28, latch spring, 29, lever, 30, the connecting gears, and worm gears, spring, 37, levers, 36 and 38, and stand, 40, or their equivalents operating substantially as described.

Second, I claim the apparatus for running the carriage in, while twisting, consisting of the combination of pinion, 8, gears, 9, 10, swing shaft, 11, gears, 12, 13, scroll, 14, plate, 17, cans, 18, 19, gears and pinions, 19, 20, 21, lever, 23, spring, 24, and joint, c, or their equivalents, substantially as described.

Third, I claim the combination of lever, 41, spring, 42, spring, 43, and arm, 67, or their equivalents, for throwing up the winding-on rack of the spinning mule to back off.

Fourth, I claim the shipper, 47, running the whole length of the mule, and also at right angles across the length of the mule head, substantially as described.

Fifth, I claim the attachment, 49, to shipper, 47, with its joint and spring, 54, operating substantially as described.

Sixth, I claim the combination of the spring latch, 44, with the backing off, relieving lever, substantially as described.

Seventh, I claim the shapers, 50, 50, as described and for the purpose specified.

Eighth, I claim the shapers, 51, 51, as described and for the purpose specified.

Ninth, I claim the combination of the scroll, 14, 14, or its equivalent, with the roller cam, latch and spring, which govern the motion of the rollers.

43,334.—Cut-off Valve.—Charles H. Parshall, Detroit, Mich.: I claim, first, The plate, V, constructed, arranged and used for the purposes and substantially as herein shown and described.

Second, The balanced cut-off valve, G, E, constructed and operating substantially as described.

Third, The aperture, D, in center of valve and over exhaust-port, S, constructed, arranged and used, in combination with the cut-off valve, G, E, for the purposes and substantially as herein shown and described.

Fourth, The plate, V, plate, E, aperture, D, and cut-off, G, in combination, all constructed, arranged and used for the purposes and substantially as shown and described.

43,335.—Seed and Grain Drill.—W. P. Penn, Bellville, Ill.: I claim setting the feeders, F, at an oblique angle with the axis of the rock-shaft, E, combined with the hopper box, for the purpose of insuring a more uniform flow of seed, as set forth.

43,336.—Device for oiling Wool in Carding and other Machines.—W. K. Platt, Gloucester, N. J., and Henry Holcroft, Media, Pa.: I claim, first, The oil tank or cistern, K, rotary oiling cylinder, G, G, and rotary brush, F, in combination with each other and with the roller, E, and feed apron, C, to operate substantially as and for the purpose herein specified.

Second, The rotary oiling cylinder having pivoted slats, e, e, operating in combination with stops, g, g, substantially as and for the purpose herein specified.

Third, The apron or burr carrier, I, applied and operating substantially as and for the purpose herein specified.

[The object of the first part of this invention is to oil the wool on its way to the carding engine, burring machines or picker. This part of

the invention consists in the combination with the feed apron of such machine, of an oiling cylinder rotating in a tank or cistern containing oil or oiling mixture, and a rotary brush which receives the oil from the cylinder and oils the surface of a fluted roller under and in contact with which the wool passes on its way from the apron to the feed rollers of the machine. The wool, in passing under and in contact with the above-mentioned fluted roller, receives from it the necessary quantity of oil. Another part of this invention consists in an improved device for carrying away the burrs from such machines.]

43,337.—Car Wheel.—Perley Putnam, Laconia, N. H. : I claim a cast-iron car wheel having a double plate or two plates with corrugated surfaces or alternate projections and depressions extending around the central opening of the wheel, substantially as shown and described.

I also claim the V-shaped arms or projections on the serpentine portion of the wheel, and extending along underneath the flange thereof, as set forth.

I further claim the corrugated double plates, c, serpentine portion, d, and arms, h, all combined and arranged, to form a new and improved cast-iron car wheel, as described.

[This invention consists in casting the wheel with a corrugated double plate around its center and having the flange side of the wheel cast with V-shaped arms or projections which extend from the corrugations around the center of the wheel outward and underneath the flange of the wheel, whereby a very strong and durable cast-iron car wheel is obtained.]

43,338.—Let-off Motion of Power Looms.—Rensselaer Reynolds, Stockport, N. Y. :

I claim, first, The brake, F, combined with the yarn beam by means of a brake wheel, E, a right lever arm, G, and a pivoted stem, d, to which is attached a weight, H, and arm, e, the whole applied to operate substantially as and for the purpose herein described.

Second, The combination of the brake with the vibrating bar, K, or whip roll, by means of a lever, m, I, I, attached to the brake, and a lever, J, attached to or forming part of the vibrating frame which carries the said bar, K, or roll, substantially as herein set forth.

Third, The hand lever, L, applied and arranged in combination with the brake shoe, substantially as and for the purpose herein specified.

[This invention relates to let-off motions of what are termed the "friction" kind in contradistinction to those which have a positive action.]

43,339.—Loading Ordnance.—Delos E. Rice, Detroit, Mich. :

I claim the combination of the cogged piston rod, D, pinion, E, crank, F, tight piston, A, annular cartridge, C, and hook and eye attachment, H, all constructed, arranged and operating as set forth.

43,340.—Leather-paper for Floor Cloths, etc.—Edward Richmond, Brookline, Mass. :

I claim, as a new article of manufacture, a carpet, rug, lining, table cover, house or wall paper made of two or more sheets of leather paper united at their edges, in the manner hereinbefore described, so as to produce a continuous even surfaced sheet, substantially as set forth.

43,341.—Vegetable Ointment or Salve.—Wm. C. & James H. Roney, Gallupville, N. Y. :

We claim the combination of the various ingredients above specified to produce a vegetable ointment and sticking salve, substantially as and for the purposes specified.

43,342.—Beer-cooler.—Daniel Sager, Albany, N. Y. :

I claim, first, The reservoir, B, provided with the tubes, C and D, when used in combination with the tub or box, A, substantially as shown and described.

Second, I claim providing the exhaust pipe with the outlet, e, in combination with the stop cocks, a and b, substantially as and for the purpose herein set forth.

Third, I claim providing the reservoir, B, with the tube, F, having a cock, d, for the introduction of water, or other liquids, as described.

Fourth, I claim supporting the reservoir by means of the legs, f, or their equivalents, substantially as and for the purpose set forth.

43,343.—Tightening Tires of Carriage Wheels.—Peleg S. Sanford, Westport, Mass. :

I claim tightening the tires of carriage wheels by separating the felloes with keys, as set forth and described.

43,344.—Sirup Gage for Bottling Soda, etc.—Jno. Schrink, Toledo, Ohio :

I claim the chambers, A' A', induction pipe, H, induction pipe, L, sirup pipe, B, valve, J, and piston, D, these several parts being constructed, arranged, and operating substantially as and for the purpose herein set forth.

43,345.—Oil Can.—Eliphalet S. Scripture, Brooklyn, N. Y. :

I claim the use or employment of the thumb piece, B, in combination with the flexible bottom, A, spiral spring, S', and can, P, when the same shall be combined for the purposes herein set forth.

43,346.—Tanning.—Harris Stratton, Jr., Leavenworth, Kansas :

First, I claim a tanning compound constituted of terra japonica, Sicilian or native sunac, sulphate of soda, nitrate of potassa, and bois de arc, or bow-wood bark, the whole being combined and employed in the manner herein specified.

Second, I claim the combination of sulphate of soda and lime, employed in the manner described, for softening the hides preparatory to tanning.

43,347.—Artificial Teeth.—John Terrell, Philadelphia, Pa. :

I claim, first, The openings, e and d, formed and arranged in respect to a tooth or a block of teeth, substantially as and for the purpose specified.

Second, The projections, a, arranged as described for the purpose set forth.

43,348.—Manufacture of Alcoholic Spirits.—Macklot Thompson, St. Louis, Mo. :

I claim, first, The general disposition of macerating tubs and method of working the same, so that the liquid is caused to descend by its own gravity from one tub to another, and in its descent become charged with saccharine matter, being discharged at intermediate points only when the wort shall have acquired the requisite degree of density.

Second, The method of working macerating tubs in batteries arranged in cascade fashion, and connecting said batteries so that the work of one may be continued into the other.

Third, The method of working the macerating tubs of each battery at the temperatures of 212° and 150° Fah., respectively, at the periods and in the manner hereinbefore set forth.

43,349.—Printing Press.—Stephen D. Tucker, New York City :

I claim the employment of the means, or the equivalent thereof, for discharging a current or currents of air under the sheet of paper, to hold it up against the under side of a series of tapes or cords, in combination with the fly for depressing or striking down the sheet, substantially as described.

43,350.—Printing Press.—Stephen D. Tucker, New York City :

I claim hanging the frame which carries the roller which transfers the ink from the inking cylinder to the ink distributing surface of the type cylinder, so that it shall vibrate on the axis of the inking cylinder, substantially as and for the purpose described.

I also claim the manner of adjusting the pressure and range of motion of the roller which transfers the ink from the fountain roller to the inking cylinder and the roller which transfers it from the inking cylinder to the ink distributing surface of the type cylinder, or either of the said rollers, by the employment of the adjusting shaft with its eccentric pin, or the equivalent thereof, in combination with the swinging frame which carries the roller and vibrates in one direction and against the eccentric pin by a spring, or the equivalent thereof, as and for the purpose specified.

And I also claim, in combination with the radial bars of the rollers for inking the form of types, the shafts, with their weighted levers, or the equivalent thereof, for drawing the said rollers a short distance from the ink distributing surface of the type cylinder for the

purpose set forth, and so that the rollers shall be restored to their operating condition when the form of types reaches them, as set forth.

43,351.—Breech-loading Ordnance.—Thomas Tully, Waukegan, Ill. :

I claim the construction and combination of the arms, C, and eccentric ring, D, arranged and combined, with the swinging breech, B, as herein described, for the purpose of expediting the loading of a cannon, and preventing the escape of gas.

43,352.—Treating Lard, Tallow, etc.—George B. Turrell, New York City :

I claim the method herein specified of treating lard or other fatty material, for the removal of aqueous and volatile portions, and I also claim the coding of such materials, in substantially the manner and for the purpose specified.

43,353.—Switching Car Trucks.—Joseph E. Tynan, Paterson, N. J. :

I claim the lever, A, or its equivalent, as shown and described, when applied to a rail way car trucks, with the purpose of switching such cars from a straight track around curves or on to other tracks or sidings.

43,354.—Fruit-drier.—William Voegel, Chelsea, Mich. : I claim the arrangement of the stove, B, flue, F, guard plate, I, sliding shelves, D, D, door, C, and hot air passages, h, c, d, when constructed, arranged, and operating in the manner and for the purposes herein specified.

[This invention consists in arranging, in a novel way, a series of shelves or drawers within a case containing a stove or heater, and having the latter covered by a plate, and the case provided with a ventilator; all being arranged in such a manner that the heat is made to pass all around the shelves and drawers, and upward through the centres of the same, whereby the fruit may be dried very expeditiously and in a perfect manner, and with but very little labor and trouble on the part of the attendant.]

43,355.—Braid Guide for Sewing Machines.—Jephtha A. Wagener, New York City :

I claim providing for the passage of the braiding material over a bridge, b, and through a channel, d, d, which is below the top surface of the slotted portion of the braider foot or pad, a, substantially in the manner and for the purpose described.

Second, So constructing the slotted portion of the braider foot or pad, a, with a depressed bridge, b, and a groove or slot, d, d, in a plane above the bridge, and an intersecting or needle slot, c, that the braid can be passed under the foot or pad, and over the bar or bridge, in a straight, or nearly straight, line, and also be sewed upon the cloth through the slot of the foot or pad, and inspected before it passes from under the foot or pad, all in the manner set forth.

Third, I claim the combination of the depressed bridge, b, slot, d, d, and pressure foot, a, the whole constructed, arranged, and operating in the manner substantially as described.

43,356.—Punch for cutting out Welts of Boots and Shoes.—J. H. Walker, Worcester, Mass. :

I claim, first, In combination with a spiral or volute knife or cutter, set and held in a stock of wood, a metallic or other resisting back or base, to prevent the cutter from being driven into the wood, by use or otherwise, beyond a given distance, substantially as, and for the purpose described.

I also claim, in combination with a volute or spiral cutter for cutting out straps or strips of leather, a cross knife or knives for separating the strip in part or in whole from the refuse, substantially as described.

I also claim, in combination with a spiral or volute knife, and a cross knife or knives, an ejector for throwing out the end of the cut strap, as and for the purpose described.

43,357.—Construction of Piles for Wharves, etc.—Chauncey Walton, Washington, D. C. :

I claim, first, Surrounding the wooden pile with a metallic ferrule at the water line, to preserve the wood, by keeping it in a uniform hygrometric condition.

Second, Making the pile of two or more short pieces of timber, substantially in the manner and for the purpose described.

43,358.—Machines for cutting Matches.—Anthony Welsch, Chicago, Ill. :

First, I claim the combination and arrangement of a series of cutting grooves, a, with a corresponding series of flexible spring cutters, c, c, whether said cutters are arranged alternately, as shown, or not, operating substantially as and for the purposes herein described and shown.

Second, I claim arranging the spring cutters, c, c, alternately, in two rows, substantially in the manner and for the purposes specified.

43,359.—Tool for graining Marble, etc.—Stephen Wiggins, Bridgeport, Conn. :

I claim the combination of the elastic type cylinder, A, clearing roller, B, center pins, D, springs, E, E, and handle, F, the whole being constructed, arranged, and employed in the manner and for the purpose set forth.

43,360.—Bench, Plane.—Stephen Williams, Philadelphia, Pa. :

I claim, first, The construction of the body of the plane of moveable blocks or sections, substantially in the manner and for the purpose herein shown and described.

Second, I claim the combination of the moveable sections, D, D, independent plane bit holder, A, enclosing band, E, and screw, F, all arranged and employed as described.

43,362.—Harvester.—Charles P. Wing, Fayetteville, N. Y. :

First, I claim the bar or lever, F, in combination with the arm, G, and pins, g, for elevating and lowering the cutting apparatus, or retaining it in a fixed elevated position, or at any desired angle, substantially in the manner and for the purpose explained.

Second, In combination with the above, I claim the traction wheel, A, formed with a convex rim or periphery, for the purpose of presenting an effective traction surface when the cutting apparatus is elevated.

Third, I claim the vibratory beam, B, employed in connection with the pole or tongue, C, in the manner described, so as to preserve the proper position of the rake's seat, H, driver's seat, L, reel standard, M, and whiffletree, S, when the cutting apparatus is elevated by the bar, F, as set forth.

43,369.—Steam Engine.—Wm Wright, New York City :

I claim, first, The arrangement of a steam engine for marine and other purposes, the steam chamber or cylinder of which is stationary and curved into a segment of a circle concentric with the center of motion, the said chamber or cylinder being of a circular sectional area, substantially as herein set forth.

Second, In combination with a segmental steam cylinder or chamber, I claim the piston rod traversing both ends of the said cylinder or chamber and forming an opening near the center of which is the center of motion, substantially as set forth.

Third, I claim the combination with a stationary segmental steam cylinder piston and annular piston rod of a walking beam hung and oscillating in bearings at the center common to the cylinder and piston rod, substantially as set forth.

Fourth, In combination with a stationary segmental steam cylinder and piston and annular piston rod, I claim an oscillating walking beam rigidly connected and moving in unison with the piston rod, substantially as set forth.

Fifth, The combination of an annular piston rod extending through both ends of a segmental steam cylinder with a walking beam rigidly connected at both of its ends with the piston rod, substantially as set forth.

Sixth, The attachment of a connecting rod to both the beam and piston rod when the movement of the latter is thus transmitted directly to a revolving shaft, substantially as set forth.

Seventh, The arrangement of a segmental engine substantially as described whereby two connecting rods may be used operating two different shafts on either side thereof for the perfect balancing of, and for obtaining the greatest useful effect from the engine, substantially as set forth.

Eighth, In combination with a piston rod whose transverse section is more or less oval or elongated, I claim the method herein described of packing the same by the employment, in connection with a suitable stuffing material, of side compression plates, substantially as set forth.

43,363.—De-sulphurizing Ores.—Hezekiah Bradford (assignor to Horatio Bogart), New York City :

I claim, first, Moving the metallic ores gradually from the cooler to the hotter portions of a hearth substantially as specified, so that the de-sulphurizing operation is gradually performed as set forth.

Second, I claim the introduction of steam or of steam and hot air combined, into a chamber over a hearth on which the ore is gradually heated, substantially as and for the purposes specified.

Third, I claim a series of stirrers moved by a chain, in combination with the de-sulphurizing hearth, for the purposes set forth.

Fourth, I claim the flap, l, l, in combination with the stirrers and de-sulphurizing hearth, for allowing the stirrers to enter and leave the chamber as specified.

Fifth, I claim the water vessel, m, to cool the chains and stirrers as set forth.

Sixth, I claim the arrangement of the circulating pipes, u, r and s, and vessels, o and p, in combination with the boiler, q, for the purposes set forth.

43,364.—Boring Machine.—Joseph Edgecomb (assignor to Thomas H. Dodge), Worcester, Mass. :

I claim the combination of the stops, M, with the device for automatically throwing into action, the rack bar, K, and gear, I, after the auger has made one or more revolutions to break the thread in the wood, substantially as and for the purpose herein described.

I also claim the combination of the screw, m, cam, n, and dog, o, with the spring rod, L, for the purpose of throwing the rack bar in and out of gear from the wheel, I, substantially in the manner herein described.

I also claim in combination with the rod, L, the spiral spring, v, for the two fold purpose of forcing said rod upwards and of imparting to it a rotary turn so as to force the dog, o, to its original position after it has been acted upon by screw, m, substantially as herein described.

I also claim, in combination with the stop, M, the set screw, p, and point, 6, when applied to boring machines, substantially as herein described.

I also claim the combination of the auger shaft, G, bevel wheels, F, H, wheel, I, screw, m, cam, n, rack bar, K, spring, L, with the several devices for operating them, substantially as and for the purposes set forth.

43,365.—Saw Mill.—C. T. Fairchild (assignor to Wm. A. Veer), Salisbury, N. Y. :

I claim, first, The rail, b, bearing on the log from end to end in combination with the arms, a, toothed racks, c, pinions, d, arbors, e, and hand lever, f, constructed and operating substantially as and for the purpose specified.

Second, The index, i, adjustable by means of the slotted hinge, j, in combination with the hand lever, f, spring catch, g, and gage, h, constructed and operating in the manner and for the purpose specified.

[This invention relates to certain improvements in gages for circular and other saws whereby after each cut the log can be readily moved the desired distance for another cut and the thickness of the boards can be determined without loss of time.]

43,366.—Folding Arm-chair.—Henry S. Golightly and Chas. S. Twitchell (assignor to Jas. G. English and E. F. Merrick), New Haven, Conn. :

We claim, first, The construction of a folding arm-chair by combining with the legs, arms and back, when joined together so as to admit of their being folded as herein described of a seat made of rigid material or of a flexible fabric or substance when secured in or stretched upon a rigid frame, substantially as set forth.

Second, In folding arm-chairs in which the several parts are united by and movable upon fixed joints, we claim a non-flexible seat hinge to the front rail which is the hinge bar common to the arms and front legs, substantially as set forth.

Third, Locating the joints of the standards and the cross legs at the point below the seat and out of the line and back of the rear legs so that when folded the upper part of the legs will laterally overlap each other and allow of the seat lying within the bulk of the folded stand, as set forth.

Fourth, In folding arm-chairs the several parts of which are united by and movable upon fixed joints, we claim making the rigid seat when hinged to the front and supported by the rear rail as herein described, narrower in the rear than in front so as to clear the tops of the rear legs as set forth.

Fifth, In combination with the arrangement last referred to, we claim studs or projections in the rear of the seat for the purpose of suitably bracing the chair when open for use, as herein set forth.

Sixth, Combining with a non-flexible seat attached to the front and supported by the rear rails of a folding arm-chair, operating as described, a cam or its equivalent, for the purpose of raising the seat out of side contact with the rear legs whilst the chair is being folded.

Seventh, In folding arm-chairs operating as described, we claim the combination of a non-flexible seat hinged to the front rail and supported by the rear rail with a strap fastened to the front and rear of the seat and passing over the rear rail for the purpose of holding the seat within the bulk of the folded frame, substantially as set forth.

43,367.—Mechanism for filling or building Bobbins in Spinning.—Simeon Goodwin (assignor to Charles A. Shaw), Biddeford, Maine :

First, I claim a mechanism for building or filling the "Hussey bobbin," in the manner shown in Fig. 4, and as herein described, when constructed and used substantially as set forth and specified.

Second, I claim a mechanism for building or filling the "Emery bobbin," in the manner shown in Fig. 3, and as herein described and constructed and used substantially as herein specified.

Third, I claim the adjustable auxiliary piece for building or filling the "Goodwin bobbin," in the manner shown in Fig. 6, and herein described, when constructed and used substantially as hereinbefore set forth.

43,368.—Clothes-wringer.—Josee Johnson (assignor to John Ward, Jr.), Brooklyn, N. Y. :

First, I claim in clothes wringing machines, the intermediate upright, B, arranged between the uprights, A and C, substantially in the manner and for the purpose herein specified.

Second, I claim in combination with the above the employment of the spring, E, arranged at or near the middle height in the machine, substantially as and for the purpose specified.

43,369.—Elevating Jack.—Samuel Lauchli (assignor to himself and Wm. G. Rich), St. Louis, Mo. :

I claim the combination of the double eccentric shaft, D, and independent alternating levers, E, E, with the rack bar, C, substantially in the manner and for the purpose shown and described.

43,370.—Car Brake.—Bernard Morahan (assignor to Joseph L. Jernegan), New York City. Ante-dated June 23, 1864 :

I claim, first, The adjustable dog, F, or its equivalent, arranged in combination with a stud or projection, h, on the side of the wheel, B*, and with the brake, D, D, substantially as herein specified so that the direct action of the stud or projection on the dog the brakes are applied.

Second, The movable stop, j, and hinged spring latch, K, or their equivalents applied in combination with the dog, F, and stud or projection, h, in the manner and for the purpose substantially as herein set forth.

Third, The weighted lever, i*, and hinged cam, k, or their equivalents in combination with the rock shaft, G, arm, l, dog, F, and stud, h, all arranged and operating substantially as and for the purpose herein shown and described.

43,371.—Manufacture of Tin Cans.—George W. Prince, Cambridge, Mass., assignor to Banker & Carpenter, Boston, Mass. :

I claim gutting the top, bottom, and sides of a tin can by means of double or guttered flanges on one piece, and single flanges on the adjacent piece through the intervention of solder applied thereto when the lock or joint is turned and formed on the inside of the can, which gives strength to the can and protection to the lock or joint, substantially in the manner and for the purpose described.

43,372.—Drill.—George C. Taft, (assignor to Thomas H. Dodge), Worcester, Mass. :

I claim the movable slotted cam, H, within the recess of the lever, E, to impart to said lever an oscillating motion substantially as and for the purpose herein described.

I also claim in combination with the feed wheel, D, the friction wheel, L, and pawl, M, for the purpose of coupling and releasing the screw spindle, B, from the driving pulley, substantially as herein described.

I also claim, in combination with the adjustable slotted cam, H, within the recess of the lever, E, the adjustable pin supporter, h, as and for the purpose herein described.

I also claim the combination of the driving pulley, K, cam lever, E, slotted cam, H, friction wheel, L, pawl, M, feed wheel, D, and spindles, B, C, when constructed and operated as herein described.

43,373.—Cartridge Box.—J. T. Warren, Stafford, N. Y., assignor to Robert A. Chesebrough, New York City :

I claim the construction, arrangement and combination of the

metallic box, E, with its upper and lower apartments, G, and link, H, operating on the pivot, J, of the case; K, substantially as herein described.

43,374.—Portable Coffee Mill.—Sam. H. Witmer, assignor to Mahlon M. Wambaugh, Cincinnati, Ohio :
I claim the portable telescopic coffee-mill, constructed substantially as described.

43,375.—Railroad Car Coupling.—Rich. D. Chatterton, Bath, Great Britain :
I claim the combination of the pawl, B B', coupling-head, d d', and bearing, D d, arranged and operating substantially as and for the purposes specified.

[This invention consists in the employment or use of a shackle in connection with a pawl or catch placed in the draw-head, and all so arranged that a self-connecting car-coupling is obtained, and one which will be applicable to the securing of draught-poles and thills to ordinary horse carriages.]

43,376.—Sugar-mold.—Carl Kronig, Vienna, Austria :
I claim the new article of manufacture herein described, being a sugar-mold formed of papier-mache, in the manner substantially as set forth.

43,377.—Water Defences as the Protecting Armor of Vessels.—Albert Pagenstecher, Valparaiso, Chili :
I claim, first, The employment or use of bags made of india-rubber or other suitable material, and filled with water, substantially as herein specified, for the purpose of forming armor for a vessel.
Second, The application to the sides of a vessel of sheets, B, of india-rubber, or other suitable flexible and elastic material, to operate in combination with metal strips, C, and adjusting bolts, E, substantially in the manner and for the purpose herein shown and described.

[This invention consists in the application to the outside of a vessel of a series of chambers with flexible sides, made of sheets of india-rubber, or other suitable elastic material, to be filled with water when in action, and emptied when not in action in such a manner that the armor can be drawn up tight to its sides, where it does not interfere with the sailing qualities of said vessel, and when preparing for action the armor can be expanded by filling the chambers with water, thus encasing the entire vessel in a water-jacket, and protecting it against projectiles of any kind that may be hurled against it.]

43,378.—Metal Cans, Cases, Boxes, etc., for preserving food, gunpowder, liquids, paints, oils, and other articles.—Jean Bouvet, La Rochelle, France, assignor to Moritz Primer, New York City :
I claim the manufacture and use of metal boxes, cans, cases, and other metallic vessels, hermetically sealed or closed by inserting and soldering a wire between the body and the intended opening of such metal box, can, case, and other metallic vessel, one end of such wire protruding at the outside for beginning and effecting such opening.

RE-ISSUES.

1,709.—Roller for expressing Water from Clothes.—Selden A. Bailey, Simeon S. Cook and Benedict M. Cook, Woonsocket, R. I., assignees by mesne assignments of John Allender, New London, Conn. Patented Jan. 11, 1859 :
We claim, first, A roller so constructed as to yield more at its center than at or near its ends, in combination with a covering of vulcanized rubber of tubular form, as and for the purpose set forth.

Second, Cog-wheels, in combination with elastic rollers, constructed and used substantially as set forth.

1,710.—Machine for wringing Clothes.—Selden A. Bailey, Simeon S. Cook and Benedict M. Cook, Woonsocket, R. I., assignees by mesne assignments of said S. A. Bailey. Patented April 5, 1859 :
We claim, first, The employment of the cylindrical wooden spring-piece, a, which is divided in two parts at its center, each part being fitted with a slot from the place of division, as shown in the drawing, towards its outer end, the same being covered by rubber cylinder, substantially in the manner and for the purpose specified.

Second, The spring, F, in combination with elastic rollers, for the purpose set forth.

1,711.—Electro-magnetic Bathing Apparatus.—James Young, New York City. Patented May 14, 1861 :
I claim, first, The use of the above-described electrodes, i, i', charged and operated in the manner and for the purposes herein before specified.

Second, The use of adjustable metallic plates or electrodes, i, i', in combination with stationary metallic plates or electrodes, G and D, connected with an electro-magnet in combination with a non-conducting bath-tub, for the purpose specified.

Third, The combination of the bathing-tub, A, an electro-magnet, metallic strip, q q', and brakes, r r', r'2 r'3 r'4 r'5 and r'6, for the purpose of charging at will each or all of the metallic plates or electrodes, in the tub, A, and operating substantially as described.

Fourth, The combination of a non-conducting bath-tub with a metallic plate or electrode at each end, one electrode being connected with a positive pole, and the other electrode with a negative pole of an electro-magnet.

Fifth, The use of the main switch, n n', by which the polarity of all the brakes, r r', r'2 r'3 r'4 r'5 and r'6 are at once reversed, and by one movement.

Sixth, The combination of an electro-magnet, M, bathing-tub, A, and metallic vessel, H, with a rod, m, operating as and for the purpose set forth.

Seventh, So combining a swing-tub, A, switch, N, and an electro-magnet, M, that by the oscillating motions of the tub the current is changed.

Eighth, So arranging the top-rail, a, on the sides of the tub, that the same projects over the inside and outside, in the manner and for the purposes set forth.

Ninth, I claim the stationary metallic guides or side-rails, j j', attached to the sides or top-rail of a bath, when used for maintaining in position, guiding or charging with electricity the electrodes, i i', substantially as described.

1,712.—Elevating and delivering Water from Wheels.—James Daykin, Cleveland, Ohio. Patented August 21, 1860 :
I claim, first, The inclined board, K, or its substantial equivalent, as herein described, in combination with the spouts, A' and E', bucket, E, valve, M, rod, L, rope, S, or its described equivalent, and counter-balance weight, F, the whole being constructed, arranged and operated in the manner and for the purpose set forth.

Second, I claim throwing the lower end of the bucket forward over the delivery spout by means of the inclined board, K, whether said board is entire or only represented by its operative parts of contact, as herein described, and opening the valve, M, by the same movement, by means of the rod, L, in the manner herein fully set forth.

1,713.—Stave Machine.—Jonathan E. Warner, Boston, Mass. Patented Nov. 15, 1853 :
I claim clamps, which support the interior surface of a stave, and are combined with and turn on an axis which is at substantially the same distance from the position of the stave as the axis of the barrel of which the stave is to form a part, substantially as set forth, in combination with a revolving cutter for bevelling the end of a stave, and also in combination with a revolving crozier cutter, each acting on the stave substantially as described.

I also claim pairs of clamps mounted and turning on an axis having the relation to the barrel described, whereby one stave may be adjusted in readiness for working off on one pair of clamps, while another stave supported on another pair of clamps is being worked off by revolving cutters as specified.

I also claim a combination of dressing up cutters with unyielding exterior clamps for the stave to be dressed up, and with yielding interior clamps turning on an axis, substantially the same as that of the barrel to be formed by the stave, all being and operating substantially as set forth.

I also claim the combination of exterior and internal clamps for the stave, which latter turn on an axis located with reference to the stave, substantially as described, with revolving cutters for bevelling, bowing and croziering the two ends of the stave without removing from between the clamps, all being and operating substantially as set forth.

I also claim the combination of exterior and interior clamps for the stave, the latter turning on axis located with reference to the stave, as described, with two sets of revolving cutters and two circular saws, all being and operating substantially as set forth, so that the stave may be worked off by applying it once to the machine.

I also claim cutter-heads and exterior clamps which are adjustable lengthwise of a stave, substantially as described, in combination with interior clamps also adjustable lengthwise of the stave, as set forth, whereby staves of different lengths may be worked off in the same machine, as specified.

I also claim the combination of the internal clamps for the stave with their axis in such manner that they may be adjusted radially, substantially as set forth.

1,714.—Machinery for the manufacture of Wool and other fibrous materials.—Eben D. Jordan, Boston, Mass., assignee by mesne assignments of John Goulding. Patented December 15, 1826. Reissued July 29, 1836. Extended Aug. 30, 1862, by Act of Congress :
First, I claim, in combination, the following sets of apparatus, or elements making up a machine namely: first, a bobbin-stand or reel; second, bobbins on which roving may be wound; third, guides or pins; fourth, a carding-machine; fifth, condensing and drawing-off apparatus; and sixth, winding apparatus, all substantially as are herein described, whereby rovings may be fed to a carding-machine, carded, condensed, drawn out and wound again in a condensed state, substantially in the manner herein before set forth.

Second, I claim the feed-rollers of a carding-machine, in combination with bobbins and proper stands therefor, and guides or pins, whereby slivers or rovings may be fed to be carded by mechanism, substantially as herein described.

Third, I claim a delivering-cylinder of a carding-machine, in combination with apparatus for drawing off, condensing or twisting, and winding carded filaments, the apparatus being substantially as are herein described, whereby carded filaments may be delivered, drawn off, condensed and wound in a condensed state upon bobbins, as herein before set forth.

And, lastly, I claim a mule or spinning-frame provided with spindles mounted on a carriage, and with jaws or their equivalents for retaining roving, in combination with bobbins whose axes are parallel or nearly so with the line of spindles, and rest upon crums revolving to unwind the bobbins, the combination being and operating substantially as herein before set forth.

DESIGNS.

1,966.—Clock-case.—Robert Dunn, Greenpoint, N. Y.

1,967.—Group of Figures.—John Rogers, New York City.

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-THIRD 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 seventeen 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; but they take pleasure in presenting the annexed testimonials from the three ex-Commissioners of Patents:—

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. Yours very truly,
CHAS. MASON.

Judge Mason was succeeded by that eminent patriot and statesman, Hon. Joseph Holt, whose administration of the Patent Office was so efficiently conducted, upon the death of Gov. Brown, he was appointed to the office of Postmaster-General of the United States. Soon after entering upon his new duties, in March, 1859, he addressed to us the following very gratifying letter:

MESSRS. MUNN & CO.—It affords me much pleasure to bear testimony to the able and efficient manner in which you discharged your duties as Solicitors of Patents, while I had the honor of holding the office of Commissioner of Patents, and your business was very large, and you sustained (and I doubt not justly deserved) the reputation of energy, marked ability, and uncompromising fidelity in performing your professional engagements.

Very respectfully, your obedient servant,
J. HOLT.

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.

As an evidence of the confidence reposed in their Agency by inventors throughout the country, Messrs. MUNN & CO. would state that they have acted as agents for more than TWENTY THOUSAND inventors! In fact, the publishers of this paper have become identified with the whole brotherhood of inventors and patentees, at home and abroad. Thousands of inventors for whom they have taken out patents have addressed to them most flattering testimonials for the services rendered them; and the wealth which has inured to the individual whose patents were secured through this office, and afterwards illustrated in the SCIENTIFIC AMERICAN, would amount to many millions of dollars! Messrs. MUNN & CO. would state that they never had a more efficient corps of Draughtsmen and Specification Writers than those employed at present in their extensive offices, and that they are prepared to attend to patent business of all kinds in the quickest time and on the most liberal terms.

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, &c., 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 F. 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. Address MUNN & CO., No. 37 Park Row, New York.

HOW TO MAKE AN APPLICATION FOR A PATENT.

Every applicant for a patent must furnish a model of his invention if susceptible of one; or, if the invention is a chemical production, he must furnish samples of the ingredients of which his composition consists, for the Patent Office. These should be securely packed, the inventor's name marked on them, and sent, with the Government fees. Many thousands of such examinations have been made through this office, and it is a very wise course for every inventor to pursue. Address MUNN & CO., No. 37 Park Row, New York.

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:—

On filing each Caveat.....	\$10
On filing each application for a Patent, except for a design.....	\$15
On issuing each original Patent.....	\$20
On appeal to Commissioner of Patents.....	\$20
On application for Re-issue.....	\$20
On application for extension of Patent.....	\$20
On granting the Extension.....	\$50
On filing a Disclaimer.....	\$10
On filing application for Design (three and a half years).....	\$10
On filing application for Design (seven years).....	\$15
On filing application for Design (fourteen years).....	\$30

The 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. 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.

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, &c.

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.

Circulars 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 assignments of patents. Fees moderate.

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.

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.

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.

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.

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