

ducted. While other physicians had generally made experiments in order to prove the efficacy of some favorite treatment, or to establish the truth of some preconceived notion, it was the ambition of Louis to win fame by the impartial conduct of his observations.

The most eminent disciple, or rather colleague of Louis, is Velpeau; and his observations are received with equal respect in the world of medical science. When he recommends a remedy it may be accepted, not, as in the case of most physicians, as a guess founded on some half dozen cases, but as the conclusion of a long series of careful and honest comparisons.

At a recent meeting of the Academy of Sciences, in Paris, the treatment of cholera was discussed, and most of the published remedies denounced as utterly useless, when M. Le Verrier, the astronomer, complained that the time of the Academy was taken up in condemning remedies without indicating those which were more capable of arresting the evil. The newspapers publish recipes every day which contradict each other. Every medical man had his own system. What was necessary, was to point out at least what should be first done in the absence of the doctor. In a word, he wanted positive suggestions instead of negative discussions.

These remarks called up Dr. Velpeau, who said:—

"I am obliged to avow that it is not always in our power to point out an efficacious remedy. The cholera is no doubt caused by the introduction of a poison into the organism. If the poisonous element is in small quantity, and the organism strong, it makes no ravages; if the contrary be the case, the danger is real. Also when the patient absorbs what is administered to him, his cure is probable. But sometimes the stomach refuses to absorb any thing; and in this case recourse should be had to external means, which are often insufficient. In a word, the malady almost always commences by characteristic symptoms, such as premonitory diarrhea. The preventive treatment is easy, and it is for each person to guard himself. Excess of every kind should be carefully avoided, and the rules of salubrity attentively observed. The means of arresting the malady at its outset are very simple. My advice is this—pour from three to four drops of laudanum on a lump of sugar, and swallow it. Repeat in two hours afterward, and so on, until the colic and vomiting pass away. Take also very small injections of starch, poppy flowers with six, seven, eight or ten drops of laudanum. This treatment will almost always suffice to stop the diarrhea, and will be a guaranty against the malady."

The premonitory diarrhea of the cholera is of a very peculiar character, very easily distinguished from other forms of diarrhea. The discharges are frequent, and are white and watery, generally compared to rice water. Even for these it is best to consult a physician if possible, but if no physician is within reach, then, according to Velpeau, we are to swallow three or four drops of laudanum every two hours till the diarrhea is checked.

EGYPTIAN KOHL.—The kohl, or kheel, which we have seen in use for darkening the eyelids since the time of the ancient Egyptians, is made by the Arabs in the following way:—They remove the inside of a lemon, fill it up with plumbago and burnt copper, and place it on the fire until it becomes carbonized; then they pound it in a mortar with coral, sandal wood, tears, ambergris, the wing of a bat, and a part of the body of a chameleon, the whole having been previously burnt to a cinder, and moistened with rose water while hot.—*Rimmel's Book of Perfumes.*

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50,783.—Banding and Covering Projectiles.—John Absterdam, New York City:

I claim the employment or use of an alloy, such as herein described, for making bands, sabots, or packings of projectiles, substantially as specified.

Second, Cooling the alloy suddenly after casting on the projectiles, substantially as and for the purpose set forth.

50,784.—Sliding and Covering Buildings with Wood.—Henry B. Adams, Brooklyn, N. Y.:

I claim a new article of manufacture, formed like clapboards, but with the grain of the wood running up and down, the same being made in long strips by cutting them from around the log, as herein described, by which I avoid the numerous joints of a covering of shingles, and produce a more perfect covering for buildings, and more economical than has been heretofore known.

50,785.—Spring Seat for Wagons.—Thomas J. Alexander, Westerville, Ohio:

I claim the spring seat, consisting of the boards, ff, united by the cleat, h, and attached to the knees, E E, combined with the links, G G, and seats, B B, arranged and operating substantially as and for the purpose set forth.

50,786.—Mode of Lubricating Journals.—Charles Andrew, Providence, R. I.:

First, The combination of the lubricating reservoir with an adjustable screw plug, constructed and operating substantially as and for the purpose specified.

Second, I claim the combination of the box or bearing, H, the chamber, m, and the ducts or passages connecting with the same, the whole being constructed to operate substantially as and for the purpose specified.

Third, I claim the levers or conductors, k k, or their equivalent, in combination with the adjustable bearing, substantially as described for the purpose set forth.

50,787.—Combined Platform and Windlass.—Tunis J. Burlyte, Fond du Lac, Wis.:

First, I claim a platform, linged and mounted on wheels, for the purpose of moving it, substantially as shown and described.

Second, I claim the rollers, a, b, c, and d, provided with cog wheels, and used for separating the coils of rope separate, substantially as and for the purpose set forth.

Third, I claim the reversible frame, E, in combination with the platform, as shown and described.

Fourth, I claim mounting one of the rollers, c or d, in an adjustable bearing, as and for the purpose set forth.

Fifth, I claim the anchor, D, constructed as shown, and arranged to operate in combination with the movable platform, as herein set forth.

50,788.—Boot-crimping Machine.—J. D. Batchelor, Upton, Mass.:

I claim the combination with the clamping jaws of the screw shafts, B and C, and crank, F, substantially as set forth, also claim the operating the clamping jaws in boot-crimping machines by means of two parallel shafts, each shaft having a gear which meshes into the gear upon the other shaft.

50,789.—Grain Dryer.—H. H. Beach, Rome, N. Y.:

I claim, First, The employment of a perforated rotary cylinder, or drum, which is constructed that grain can be passed through it in a continuous stream, and subjected at the same time to currents of air, and to rollers or buckets, h h, substantially as described.

Second, Providing a rotating grain-drying cylinder, which is perforated, with a bonnet or cover, S, or its equivalent, substantially as described.

50,790.—Granary and Fruit House.—S. R. Beckwith, Cleveland, Ohio:

I claim, First, The drying of grain in bins or boxes by causing a current of cold, dry air to be circulated through the same by means of the pipes, h h' and l, in combination with the ice chamber, B, substantially as set forth.

Second, I claim the chamber, D, rack, D', slotted frame, F', and annular or rectangular chamber, N, in combination when constructed substantially as and for the purpose set forth.

Third, I claim the ice floor, a, in combination with metallic troughs, c, and wood gutters, e, constructed and arranged substantially as and for the purpose specified.

50,791.—Machine for Molding Potters' Ware.—Ephraim N. Blackmer, McGranville, N. Y.:

I claim the combination of the shouldered mandrel, h, and the molding box, b, operated as above set forth.

50,792.—Grain Dryer.—Alonzo T. Boon and Charles L. Stevens, Galesburg, Ill.:

First, We claim the heating of air from a force-pump blower, or otherwise, in a series of ring tubes placed within a cylindrical or other shaped furnace, and the application of it thereafter to the outer surfaces of rotary grain cylinders through perforated longitudinal tubes, substantially in the manner and for the purpose set forth.

Second, The passage of the products of combustion from the furnace into the oven through flues for increasing the heat therein, whereby the condensation arising from damp or moist grain is dried quickly or absorbed, substantially in the manner and for the purpose set forth.

Third, The passage of the products of combustion back again from the oven, together with the hot air, from the longitudinal tubes, and whatever volatile oil or other matter that may be emitted from the grain while drying, to the fire-box of the furnace, for facilitating the combustion therein, substantially in the manner and for the purpose set forth.

Fourth, The combination of the longitudinal tubes, E, with the flues, H, hereby that hot air, in conjunction with the products of combustion, in the oven, serve to give an increased heat therein, substantially in the manner and for the purpose set forth.

Fifth, The ring tubes, a, air chamber, B, distributing pipes, C, longitudinal tubes, E, having jets or nozzles with oblong openings, smoke pipe, h, flues, H, and pipe, J, as constructed and arranged, substantially in the manner and for the purpose set forth.

50,793.—Steam-engine Governor.—Augustus Brown, New York City:

I claim the swivel arm, G, and spring, k, in combination with a governor and its valve and with the belt which serves to impart motion to said governor, substantially as and for the purpose described.

The object of this invention is to combine with the governor of a steam engine a stop motion, which is so arranged that when the belt of the governor breaks or parts from some cause, the throttle

valve will be closed, and the engine is prevented from running away and doing some injury.]

50,794.—Ventilator.—B. J. Burnett, Mount Vernon, N. Y.:

I claim the construction and arrangement of the air ducts and regulating valves, substantially as and for the purpose herein specified.

50,795.—Glass Caster Wheel.—J. B. Capewell, Gloucester, N. J.:

I claim the employment of glass wheels with ribbed bushes, for casters, substantially as and for the purposes herein specified.

50,796.—Car Axle.—John W. Clark, Manchester, Wis.:

I claim a car axle, composed of the independent short axles, A, provided with the journals, a, having the projections, b, thereon, in combination with the central connection pieces, B, constructed and operating as and for the purposes herein set forth.

50,797.—Car Coupling.—Samuel A. Corser, Holyoke, Mass.:

I claim the arrangement of the draw-head, with its chamber, D, the gravitating pin, C, the pointed and notched shackle bar, B, the whole arranged substantially as set forth and represented.

50,798.—Construction of Baling Presses.—F. F. Cornell, Jr., New York City:

First, I claim forming a close press box or chamber by the employment or use of bars or strips of metal or other material placed between the upright posts of the framing, and working in suitable guides, and arranged so that their inner faces will be flush, or nearly flush, with the interior surface of the press box or chamber, and connected to the platen or roller and to the toggle levers, and operating substantially as and for the purpose herein specified.

Second, Forming feet or lugs, n n', upon the lower ends of the bars or strips, M M', and connecting together each pair by the rods, f, substantially as and for the purposes herein shown and described.

Third, The use in a toggle lever press of the lever sills, E E, and sheave frame, F F', and guide sheave, d d d', so arranged as to form a secure foundation for the fulcrum points of the radii of the toggle levers, and at the same time provide a means of carrying the chains, d' d', around the press chamber, so that the plane of the motion of the lower ends of the toggle levers and of the capstan used for winding the chains connected with the same may be placed at any required height above the base of the press chamber, substantially as and for the purposes herein specified.

Fourth, The joints in the lower part of the suspension rods, in combination with a side door or doors for liberating the ball from lateral pressure, substantially as described.

Fifth, The use of mechanism for retaining and liberating the platen on finishing the bale, substantially as described.

Sixth, The use of mechanism for opening the feed door automatically, substantially as described.

Seventh, The use of mechanism for liberating the cope automatically from the fixed position, so as to be used as a beater, by the action of the lifting rope, substantially as described.

50,799.—Double-lever Fishhook.—Germond Crandell, Washington, D. C.:

I claim the lever hooks, A A, either with or without the side hooks, a, in combination with the bait-holder, b, and the spring, d, the whole arranged to operate substantially as and for the purposes herein set forth.

50,800.—Refining Lead.—John J. Crooke, New York City:

I claim the improved process of refining impure lead by treating it, while melted, with the melted oxide of lead, substantially in the manner herein before set forth.

50,801.—Neck Yoke.—Jeptha Cummings, Perry, Mich.:

I claim the combination of the pivoted lever, F, rods, E E, and sliding rings, C, arranged in the manner and for the purpose described.

[The object of this invention is two-fold—first, to have the yoke adjustable in such a manner that it may be vertically lengthened or shortened so as to have a short and long yoke in one; and, second, to have it so arranged that it will equalize the draft, or, rather, subject each horse to an equal share of the labor of holding back the vehicle and its load in descending an eminence.]

50,802.—Roller for Washing Machines.—John Danner, Canton, Ohio:

I claim a washing-machine roller, the ribs of which are covered by sheet rubber or rubber cloth, and which is held to the ribs by the pieces, C, or their equivalents, clamping the edges of the rubber substantially in the manner and for the purpose herein described.

50,803.—Device for Spurring or Driving Horses.—John Davis, Northampton, Ill.:

I claim the attachment to a sweep horse-power of a series of rods provided with spurs and arranged with suitable levers, and in such relation with the sweeps that all of the horses attached to the power, or such as require it, may, by a single manipulation of a lever, be spurred simultaneously, substantially as described.

[The object of this invention is to obtain a simple device by which horses may be spurred in a sweep horse-power without the aid of a driver, and a plurality of horses, when used, spurred simultaneously—that is to say, those which require it—the spurs only acting upon these which do not perform their share of the work.]

50,804.—Manufacture of Steel.—Julien Derby, New York City, Alexander Trippe, Brooklyn, N. Y., and Eugene Ganssion, Baltimore, Md.:

First, We claim the tweers passing through the walls of an arch and carrying steam to the liquid pig after it has left the furnace, so as to produce granulation.

Second, The water tank or reservoir placed under said arch, for the purpose of receiving and chilling the granulated pig.

Third, The tweers adapted to the furnace, Fig. 2, for the purpose of carrying steam to the reheated granular pig, with a view to transform it into magnetic oxide; and

Fourth, We further and especially claim the general disposition of the appliances herein described and figured, for the production of said granulated, chilled and oxidized iron, as herein substantially set forth and specified.

50,805.—Grinding Mill.—Roswell Denison and John P. Moon, Grand Rapids, Mich.:

We claim the combination of the fan blower, d, air pipes, r t, arranged and described, and the discharge pipe and chamber, y z, in which latter the air is withdrawn from the inside of the curb, distinct from the aperture through which the meal is discharged.

[This invention consists in supplying currents of cold air to the interior of the mill-stone curb, and also through and into the eye of the stone, for the purpose of exhausting the moisture from the wheat as it is being ground, and thus preventing its gathering upon and adherence to the surface of the stone and curb, and other contiguous parts, where it soon sours; the air thus charged with the moisture from the wheat then passing freely out of the curb into a receiver, where, leaving such particles of wheat as may have been carried with it, it escapes to the atmosphere.]

50,806.—Stopper for Fruit Jars.—Charles R. Doane, Spotswood, N. J.:

I claim the improved stopper, composed of the radially divided or notched tightening disk, B, combined with the packing ring, M, and counter disk, C, substantially as and for the purpose herein specified.

50,807.—Car Spring.—George Douglass, Scranton, Pa.:

I claim the elastic plates, C, in combination with blocks, B B', of india-rubber or other suitable elastic or yielding substance, arranged within a box, A, to operate in the manner substantially as and for the purpose herein set forth.

50,808.—Screw Thread Cutting Tool.—Casper Dreher, Detroit, Mich.:

I claim as an article of manufacture a tongs whose jaws are provided with dies and set screws, substantially as described and represented.

[This invention consists in attaching to each of the inner faces or surfaces of two jaws, made of cast iron or other suitable metal, and susceptible of being opened and closed at pleasure, and directly opposite to each other, a steel die, having their inner surfaces or faces partially cut out in an circular shape, and provided with a series of screw-threads of corresponding size and pitch to those of the bolts or clips, which it is intended to restore or cut.]

50,809.—Hat.—Jeremiah H. Earle, Fall River, Mass.: I claim the separation of the body of the hat into two parts in front, and making the inside part or body open at the top and bottom, substantially as described.

I also claim fastening the sweat leathers to the inside part or body, and the lining and brim to the outside.

50,810.—Washing Machine.—John B. Fisher, Cincinnati, Ohio:

I claim the washboards, b, folding leaves, c, circular bosses, c', and regulating rod, f, combined as above specified, and for the purposes set forth.

50,811.—Car Coupling.—H. H. Fleming.—Kokomo, Ind.: I claim the yielding draw heads, B B, in connection with the pin-sustaining bars, H, arranged substantially as shown, so that when the draw heads are pressed inward or forced back in consequence of coming in contact with each other, the bars, H, will be actuated, and the pin let down through the link or shackle.

I also claim, in connection with the yielding draw heads and pin-sustaining bars, the yielding plates, D, arranged to operate in connection with the spring-catch links and draw heads, substantially as and for the purpose set forth.

[This invention relates to a new and improved car coupling, of that class which are termed self-acting or self-coupling, and it consists in a novel arrangement of the draw bar, and the manner of supporting and letting fall the coupling pin, and the retaining of the link or shackle in proper position, whereby the coupling is made to act in the most efficient and perfect manner, and without the liability of getting out of repair.]

50,812.—Crucible Mold.—Thomas G. French, Jersey City, N. J.:

I claim mounting the forming tool for the interior, substantially as and for the purpose set forth.

I also claim securing the mold in the chuck by means of the screwed bars, K, and grooved hoop, substantially in the manner set forth.

50,813.—Stone Breaker.—P. W. Gates and D. R. Frazer, Chicago, Ill.:

We claim, first, constructing a stone breaker, with a primary cylinder jaw, G, and a movable breaking jaw, B, and arranging these parts substantially as described.

Second, so arranging a single re-breaking device, L, with respect to two primary breaking devices, B G, one of said devices being a cylinder, that the stone will be subjected to a second breaking operation after it leaves the primary breakers, by means of a co-action of the primary and secondary breakers, G L, substantially as described.

50,814.—Machine for Binding Grain.—Albert Goodyear, 2d, New Haven, Conn.:

I claim, first, the twister, T, constructed substantially as described, so as to gather the straw and twist the band in the manner described.

Second, the combination of an apparatus for twisting the band, substantially as described, with a mechanism for gathering the grain to be bound into bundles.

Third, the twister, H', in combination with the twister, T, for the purpose specified.

50,815.—Carpet Bag.—Nicholas Groel, Newark, N. J.:

I claim the metallic corner piece herein described, constructed with the flange, f, and prongs, h, h, and adapted for application to a traveling bag, in the manner and for the purposes specified.

[This invention consists in attaching to the corners of traveling bags, metallic corner-pieces, made of such a form that they can be readily and with no trouble fastened to the bags, and without materially increasing the expense of manufacture.]

50,816.—Rolls for Rolling Railroad Rails.—A. J. Gustin, Worcester, Mass.:

I claim the combination and arrangement of a set of three high rolls, A, B, and C, for rolling railroad iron, constructed, arranged and operating as set forth, whereby the blank spaces in the top and bottom rolls as heretofore used are utilized and made available, as shown and described.

50,817.—Feathering Paddle Wheel.—Edgar Haight, Buffalo, N. Y.:

I claim, first, the combination of the axially hung buckets, F, having grooved ends, G, and the eccentric rim, C, and pins, g, by which the plane of the buckets may be made to radiate during their entire revolution from the summit of the wheel, substantially as described.

Second, the brackets, I, applied to the wheel, C, to operate in connection with the buckets, F, substantially as and for the purpose specified.

50,818.—Instrument for Tuning Pianos, Organs, Etc.—L. V. Hall, Mount Morris, N. Y.:

I claim the special construction and arrangement of the automatic instrument herein described, for tuning pianos and organs, the same consisting of the weighted bellows, B, tube board, C, valves, D, D, whose stems are provided with the notches, p, p, for engaging with the catch, o, springs, n, n, and the stop board, E, the whole so operating that the device is self-acting, and so that a simple tone or a chord may be produced at once, and without the constant attendance of the operator, substantially as herein set forth.

50,819.—Seat for Drivers and Conductors of Street Cars.—Thomas C. Hambly, San Francisco, Cal.:

I claim a swinging seat for street or other cars, applied to the dash board or other place on a car, constructed substantially as shown and described.

[The object of this invention is to provide a movable seat for conductors and drivers of street cars. It consists in applying a seat upon the end or upper bar of a crane or swinging frame, and bringing the crane to the inner side or face of the dash board of the car. When the seat is to be used, the crane is swung out from the dash board, and when it is not to be used it can be swung against the dash board and secured thereto by a spring catch. The seat itself is weighted on one side, so as to take always a vertical position on the top of the crane.]

50,820.—Tool for Opening Boxes, Etc.—Ephraim Ham-burger, New York City:

I claim a combination hammer containing a flat face and a sharp cutting edge, a stationary claw and a movable chisel claw, and a scraper, substantially as herein set forth, as a new article of manufacture.

[This invention relates to a hammer which, besides the ordinary uses for driving nails, presents a cutting edge for cutting off hoops in opening boxes, or for cutting a recess in the edge of a box in closing, a scraper either stationary or adjustable, for scraping off the address on a box or for other similar purposes, a stationary claw for extracting nails, and a movable chisel claw, inserted in a socket in the hammer for the purpose of forcing open the covers of boxes in such a manner that one and the same tool contains all the devices necessary or convenient in opening and closing boxes and for other operations.]

50,821.—Petroleum Stove.—Thomas C. Hargrave, Boston, Mass.:

I claim the pressure pipe, b', connecting the reservoir with the vaporizer, substantially as and for the purpose above set forth.

50,822.—Bridle.—S. B. Hartman, Millersville, Pa.:

I claim a bridle provided with a safety attachment formed by the employment or use of supplemental reins, connected directly to the cheek straps which pass through the rings of the bit, substantially in the manner as herein set forth.

I further claim the fitting or placing of the supplemental lines or reins within the ordinary reins, when such supplemental lines or reins are connected to the cheek straps of the bridle, and the former pass through the rings of the bit, substantially as set forth.

[This invention relates to a new and improved safety attachment for bridles, and is an improvement on a bridle for which Letters Patent were granted to this inventor, bearing date June 28, 1864. The object of the present invention is to simplify and render less cumbersome the device as originally arranged, and at the same time retain all its advantages, and possess the additional and important one of allowing martingales to be used.]

50,823.—Mode of Adjusting Car Wheels upon Axles.—Henry Helm, Albany City, Pa.:

I claim placing the wheels, B, on the axle between two flanges or bearings, a, b, secured tightly on the axle, the flange or bearing, b, being provided with two journals, c, c', on the former of which the wheels are placed, and the latter fitted in the ordinary boxes, substantially as and for the purpose herein set forth.

[This invention relates to a novel way of applying car wheels to their axles, whereby the advantages attending the securing of the wheels permanently on the axle, and leaving the latter to rotate—the usual plan—are obtained, as well as those attending the placing the wheels loosely on a fixed axle, or one which does not rotate while the disadvantages of both modes are avoided.]

50,824.—Coupling for Railroad Cars.—John R. Hill, Millville, N. J.:

I claim the shape and construction of the jointed car coupling and lever, combined as herein described and for the purposes set forth.

50,825.—Wind Wheel.—Earl F. Hough, Martinez, Cal.:

I claim the combination and arrangement of the apron, K, with the wind or storm board, P, together with the wheel box, B, attached to the swivel turn-table, N, and revolving upon the track, R R, by means of rollers, M, M, substantially as and for the purposes set forth.

50,826.—Power Presses.—Charles W. Johnson, Waterbury, Conn.:

I claim, first, the combination described of the gear, I, and plate, P, or their equivalents, constructed and arranged to operate together, substantially as and for the purpose specified.

Second, the combination and arrangement of the cam, S, lever, N, and bolt, r, in the manner substantially as and for the purpose specified.

50,827.—Bridge.—Joseph E. Kausser, New York City:

I claim, first, combining in the construction of bridges, viaducts, etc., iron or cast iron, round or polygonal cylinders or tubes, the length of which shall not exceed twelve times their diameter, in the manner herein described; that is to say, in such a way that the pressure of the transverse weight shall act in the direction of the longitudinal axis of said cylinders or tubes, substantially as herein described and for the purpose set forth.

Second, combining the semi-arches which form the bridge with each other at the center of the bridge, and with the abutments at its ends, in the manner described; that is to say, making the central ends of the parallel semi-arches alternately convex and concave, so as to fit into each other, and lower ends of said semi-arches convex so as to fit into concave supports on the abutments, substantially as described and for the purpose stated.

[This invention consists principally applying, in the construction of bridges, viaducts, etc., iron or cast-iron hollow cylinders or tubes, whether round or polygonal in form, in such a way that the strain shall be in the direction of their longitudinal axes, without relying on their lateral or cohesive strength; and also in neutralizing the effect of the contraction and expansion of the materials, by constructing the arch or bridge in two separate parts or semi-arches, the lower ends of which are convex and rest in concave recesses, and the upper ends at their points of contact terminate in alternate concave and convex projections, fitting into each other in the form of a pair of hinges, but without the connecting bolt.]

50,828.—Sulky Plow.—Albert Keith, Lisbon, Ill.:

I claim the combination of the lever, v, with the sliding-rod, z, guide standard, a, and standard, M, and the arrangement and combination of the standard, I, with the arm, K, and standard, M, substantially as set forth.

50,829.—Marble-finishing Machine.—Henry W. Kent, Battle Creek, Mich.:

I claim, first, communicating a combined rocking or reciprocating motion to the gear, N, by attaching the same rigidly to the frame of the pitman, R₂, by means of the connecting forks, i, i, or other equivalent device, substantially as and for the purpose herein specified.

Second, the use of the rising lead double-jointed pitman, R₂, in combination with the frame, A, and crank arrangement, substantially as herein described and set forth.

50,830.—Mowing Machine.—H. F. Lovejoy, Ninevah, N. J.:

I claim, first, the bar, F, attached to the main frame, C, and passing over the draught pole, A, in connection with the lever, G, link, a, and bar, b, and the supplementary frame, H, all arranged as shown, for the temporary raising of the points of the fingers of bar, N, for the purposes specified.

Second, elevating the finger bar, N, by means of the bar, P, and levers, U, Y, arranged and applied to the finger bar, N, to regulate the height of the cut of the sickle, substantially as described.

[This invention relates to a new and improved means for adjusting the finger bar, whereby the same may be raised above the surface of the ground when not required for use; as, for instance, in turning the machine at the ends of a field, or in transporting it from place to place; and also adjusted so that the sickle may cut higher or lower, as may be desired, and prevented from clogging up with cut grass, a contingency of quite frequent occurrence with the ordinary machinery in use.]

50,831.—Ventilating Car Window.—George Mann, Jr., Ottawa, Ill.:

I claim, first, the side windows or valves, C, arranged so as to open and close, substantially as herein specified.

Second, the springs, e, or an equivalent thereof, in combination with the side windows or valves, for the purpose herein specified.

Third, the noses or projections, b, in combination with the springs, c, for the purpose specified.

[This invention consists in constructing a window for a car in such a manner that the frame of the window shall be placed sufficiently far from the body of the car to admit of there being applied to it, on each side, a valve or side window, which can be opened or closed, as desired, and remain in either position, for the purpose of ventilating the car, which is effected by their forward motion of the car.]

50,832.—Apparatus for Filling Bottles.—John Matthews, Jr., New York City:

First, in apparatus for filling bottles, I claim an arrangement of the parts, whereby the bottles can be filled in an inverted position, substantially as herein specified.

Second, in an apparatus for filling bottles, I claim two separate passages for the entrance of the liquid and egress of the air, substantially as herein specified.

Third, the socket piece, D, provided with a cup having an elastic lining, and with an inlet passage, b, and fitted with a sliding tube, E, substantially as and for the purpose herein specified.

Fourth, the elastic tube, e, in combination with the sliding tube, E, substantially as and for the purpose herein described.

Fifth, the safety valve, G, in combination with the sliding tube, E, substantially as and for the purpose herein specified.

50,833.—Machine for Cutting Scale Board and Match Splints.—J. K. Mayo, Portland, Me.:

First, I claim the arrangement in the reciprocating frame of the dogs, N a, a, and weighted pressure bar, I, substantially as described.

Second, the arrangement of the stationary knife, C, throat piece, B, deflecting plates, k, l, and rollers, Y Z, substantially as described.

Third, the arrangement of the sliding frame, E, straps, T S, pulley, Y, drum, P, and weighted levers, R, R', substantially as and for the purpose described.

Fourth, in combination with the subject matter of the second claim, I claim the vertically adjustable sitting knife, D, as and for the purpose described.

50,834.—Instrument for Extracting Nails.—Robert McConnell, Lawrenceville, Pa.:

I claim a lever, A, with the pincers, B, and B', in combination with the lever, C, and wedges, l and m, when constructed and arranged as and for the purpose set forth.

50,835.—Treating Straw for Paper Pulp.—H. B. Meech, Fort Edward, N. Y.:

First, I claim my above-described method of treating straw or other material, preparatory for making paper pulp, by so charging it into the boiler, letting into and on to it the liquor and solutions applying the steam and fire heat rotating the boiler, and letting the steam pass at rest, in the manner substantially and for the purpose above described.

Second, I claim the use of a weak alkaline liquor, not to exceed two degrees of strength (Baume) in the treatment of straw under pressure, substantially and for the purpose above described.

Third, I claim the combination of the use of such weak alkaline liquor with my method of treating straw, as set out in my first claim herein, in the manner substantially and for the purpose above described.

50,836.—Isomeric Diaphragm Furnace for Desulphurizing Ores.—Daniel Minthorn, New York City:

First, I claim the intervening chamber or diaphragm containing iron borings or equivalent material, whether stationary or rotary, between a fire chamber and an ore receptacle, for the purposes above specified.

Second, I claim, in combination with the above, the annular or equivalent hollow form of the said diaphragm.

Third, I claim the perforated cones or hollow projections in the chamber or diaphragm, D, arranged substantially in the manner and for the purposes herein set forth.

Fourth, I claim the inclined plates forming a tunnel-bottomed furnace for collecting the disintegrated material, arranged relatively to the ore chamber, G F, and to the other parts, substantially in the manner and for the purposes herein set forth.

Fifth, I claim the within-described arrangement of the discharging grate or basket, F, relatively to the annular or hollow diaphragm, D, so as to facilitate the presentation of a thicker stratum of the ore near the center, where the currents of gases and steam strike directly, than near the edges where they strike with less force, substantially as herein specified.

Sixth, I claim the arrangement of the passages, A' B and C, and dampers, A₂ b and c, for changing the direction of the heat and gases, substantially as and for the purposes herein described and set forth.

50,837.—Wheel Plow.—I. F. Nutting, Palmer, Mass.:

I claim the combination of the head lever, E, connections, a, b, with a plow, D, and axle, B, and draft pole, C, when mounted on the wheels, A, A, substantially in the manner and for the purpose described.

50,838.—Attaching Augers to their Handles.—H. W. Olney, Alleghany, Pa.:

I claim the combination of the tube, a, to which the hand pieces, b, are attached, so as to form the handle of the tool with the tubular sleeve, c, placed over the tube, a, so as to turn thereon, and having an aperture, m, to receive, and a slot, n, the edges of which pass under and hold the barbed head of the auger or bit, and a spring catch, f, to hold it in place, substantially as hereinbefore described.

50,839.—Clap Board.—Hudson Osgood, Hardland, Me.:

I claim in boards for siding and roofing houses, making their inner surfaces plane, their outer surfaces annular, and joining their ends by means of metallic strips or plate, so as to protect the tongue and groove joints of adjacent boards from the weather, substantially as described.

[This invention consists in a novel construction of clap-boards and other boards, which it is desirable to prepare with a weather joint, the back of the boards presenting a plane surface, and the front an angular surface, so that when several are jointed together they will present the appearance of ordinary clap-boarding.]

50,840.—Elastic Supports for Bedsteads, Etc.—James Perry, Brooklyn, N. Y. Antedated Nov. 2, 1865:

First, I claim the strips, a, arched ribs, b, and elastic support, e, arranged as represented, whether the spring, c, be supported by a pin, d, or attached to the adjacent part or strip, a, as and for the purpose specified.

Second, I claim supporting the compound slats, a, b, c, on corresponding compound transverse supports, f, so as to obtain an elastic action in both directions, substantially in the manner and for the purpose herein set forth.

Third, I claim the elastic additional supports or stops, e', d', arranged substantially as specified relatively to the compound slats, a, b, c, for the purpose herein set forth.

Fourth, I claim the knobbed or swelled springs, c, q, arranged to operate in combination with the strips, a, and arched ribs, b, or their equivalents, in the manner and for the purposes substantially as specified.

50,841.—Belt Clasp.—I. N. Plotts, New York City:

I claim the buckle plate, A a b, made substantially as herein shown and described.

[This invention is designed as an improvement over the ordinary buckles, which are provided with tongues, and is more especially adapted for garments; such, for instance, as the waistband of ladies' skirts, gents' pants, vests, etc., although it may be applied to other purposes.]

50,842.—Hame Fastener.—A. J. Preston, Dryden, N. Y.:

I claim the combination of all the parts, as described, except the ring, f, and for the purpose of fastening hames.

50,843.—Friction Match for Lighting Cigars, Etc.—Henry Reiman, Brooklyn, E. D., N. Y.:

I claim the preparation of pasteboard or other stock for friction matches with a compound solution of chlorate of potash and niter, substantially as herein described.

50,844.—Harvester.—G. W. Richardson, Grayville, Ill.:

I claim as new the rod, E, in combination with the bars, D, E, connected by a joint, a, when arranged in connection with the finger bar, C, and bar, G, and all applied to the main frame, A, substantially as and for the purpose set forth.

[This invention relates to a new and useful improvement in connecting the finger bar to the main frame of the machine, whereby the points of the fingers or guards, and, consequently, the points of the cutters of the sickle, may be elevated in a greater or less degree, as circumstances may require, and be firmly retained in the position in which they may be set or adjusted.]

50,845.—Vapor Gas Burner.—J. J. Riddle, Cincinnati, Ohio:

First, I claim the needle, l, shaped and operated as aforesaid, for the uses and purposes before mentioned.

Second, I claim the holes, Q, or their equivalent, placed at any point in the stem or flue, f, within the body of the burner.

Third, I claim the hot-air chamber, r, or its equivalent, through which the air freely passes to holes, Q, and mingles over nipple, d, with the gas issuing therefrom.

Fourth, I claim the plate, G, or its equivalent, with one or more openings, e, in it, for the uses and purposes mentioned substantially.

Fifth, I claim the flue, *f*, or its equivalent, above the nipple, for draught and mingling purposes.

Sixth, I claim the tube, *x*, passing into the body of the burner, for heating purposes.

50,846.—Pumps for Oil Wells.—Timothy Rose, Cortlandville, N. Y.:

I claim the attaching or connecting to the lower end of the pipe or working barrel of pumps in oil or bored wells, one or more gaskets, with holes in the same in the direction of the center thereof, as above described, and for the purposes set forth.

50,847.—Flour Sifter.—Ziba Saunders, Tewksbury, Mass., and Abiel F. Saunders, Boston, Mass.:

I claim an improvement in flour sifters the revolving shaft, *C*, carrying a series of rods or beaters, *D*, in combination with a yielding bearing, *B*, constructed and operating substantially as described.

50,848.—Bolt-heading Machine.—Franz Schweizer, New York City:

I claim, first, the tongs, *g*, with an adjustable jaw, applied in combination with the longitudinally sliding head, *G*, and heading tools, in the manner and for the purpose substantially as herein set forth.

Second, Supporting the head, *G*, by springs, as and for the purpose specified.

Third, The combination of a series of heading tools, dies, and clamping jaws, with the reciprocating carrying head, *G*, and cam, *c*, and tappet, *c*, constructed and operating substantially as and for the purpose described.

Fourth, The heading dies, *h*, with yielding jaws, *h'*, constructed and operating substantially as and for the purpose set forth.

Fifth, The swinging levers, *i*, *l*, *l'*, operated by cams, *b*, *b'*, and applied in combination with the clamping jaws, and with the tongs, *g*, substantially as herein described, whereby the bolts are automatically raised to such a position that the tongs can readily grasp them and carry them along to the next surrounding heading dies.

Sixth, The slider, *j*, applied in combination with the heading dies, *h*, and carrying head, *G*, in the manner and for the purpose substantially as herein set forth.

50,849.—Car Spring.—John J. C. Smith, Philadelphia, Pa.:

I claim a car spring consisting of the combination or assemblage of the individual and comparatively small springs of convoluted or zig-zag shape, retained in their relative proximity, and operating substantially in the manner described.

50,850.—Car Spring.—John J. C. Smith, Philadelphia, Pa.:

I claim, first, The wires, *C*, which pass through the convolution of the spring pieces, *A*.

Second, I also claim the wire or other washers which connect the said wires, *C*, and thereby tie the pieces, *A*, to each other.

Third, I also claim the method of securing the spring pieces, *A*, to the upper and lower plate or to an equivalent frame or rods.

50,851.—Churn Dasher.—Milton J. Smith, Dansville, N. Y.:

I claim, first, The combination of the perforated and inverted trough-shaped portion, *A*, with the elevated frame, *B*, constructed to operate substantially as described.

Second, The construction of the portion, *A*, with concave sides, *a*, having perforations *d* and *e*, through them, substantially as described.

50,852.—Buckle.—James Stanbrough, Newark, N. J.:

I claim a buckle provided with two or more spurs or projections, to fit into a corresponding number of holes in the part or strap which passes through the buckle, substantially as herein shown and described.

[This invention relates to a new and useful improvement in buckles, more especially designed for harness buckles, and for connecting those straps or parts which are subjected to considerable strain, as for instance, the connecting of the traces to the hame straps, and the bit tugs to the saddle straps. The invention consists in having the buckle provided with two or more points, spurs or projections to pass through the strap, trace, or other part, so that the strength of one point on the buckle and one hole in the strap or trace will not be alone depended upon, as is the case with the ordinary tongued buckle.]

50,853.—Horse Rake.—A. C. Stone, Steepleville, Pa.:

I claim attaching the thills or shafts, *B*, to the axle by the bent arms, *a*, hinged to the upper side of said axle, so that the load will be discharged from the rake by the power of the draught animal, substantially as herein described.

50,854.—Cartridge Retractor for Breach-loading Firearms.—T. L. Sturtevant, Boston, Mass.:

I claim the combination and arrangement of the tripping stud, *m*, the arm, *k*, and the spring, *l*, with the block, *h*, or the barrel, *a*, the cartridge shell discharger, *F*, and the lever, *D*.

I also claim the combination and arrangement of the groove, *f*, and the stud, *e*, with the barrel, *A*, and the lever, *D*, the cartridge-shell discharger, *F*, and the stud, *m*, the arm, *k*, and the spring, *l*, arranged and applied to the said discharger and barrel substantially as specified.

50,855.—Suspended.

50,856.—Shoe-edge Burnishing Machine.—Nathaniel S. Thompson, Stoneham, Mass.:

I claim the combination of the adjustable guide, *F*, with the burnishing wheel, *E*, or the mechanical equivalent of such combination, substantially as and for the purpose specified.

50,857.—Drill-rod Attachment.—R. S. Torrey, Bangor, Maine:

First, I claim the brace bar, *B*, Fig. 6, or its equivalent which connects the temper screw, *E*, with swivel, *G*, Fig. 2, doing away with jam nuts, substantially as set forth for the purpose described.

Second, I claim the hand wheel, *F*, Fig. 7, in combination with screw, *E*, and the ratchet head, *K*, Fig. 7, as herein described.

Third, I claim the wire swivel, *G*, Figs. 4 and 5, and thumb latch, *I*, Fig. 4, which makes the whole thing secure while the machine is in operation, the whole operating in the manner and for the purpose set forth.

50,858.—Suspended.

50,859.—Instrument for Gathering Apples.—Erastus Tyler, Hancock, Ill.:

I claim an instrument for picking apples having a perforated plate, *B*, or its equivalent, a side, as described, and plate and pins, *C*, or their equivalent, combined and arranged substantially as described.

50,860.—Manufacture of Friction Matches.—Philos B. Tyler, Springfield, Mass., and William M. Chandler and L. P. Standish, Chicopee Falls, Mass.:

We claim the continuous or equivalent repeating match composed of a strip of substance which when ignited will burn with a flame, combined with the preparation of sulphur and phosphorus, or the equivalent therefor, which will ignite by friction, cut on along the whole length, or, as the equivalent thereof, in spots at given distances apart along the whole length, substantially as and for the purpose described.

And we also claim piercing the strips with holes and applying the material that ignites by friction thereto, to prevent such material from becoming detached therefrom, all substantially as described, and in the apparatus for using continuous or repeating matches, we claim the nose piece or tube through which the match passes in combination with the vibrating igniter, or the equivalent thereof, substantially as and for the purpose described.

We also claim in combination the nose piece through which the match passes, the roller, or equivalent thereof, for moving the match and the igniter, or the equivalent thereof, as and for the purpose described.

And finally, we claim in combination, the case for containing the match, the nose piece, the roller for moving the match, and the igniter, or the equivalents of them, as and for the purpose described.

50,861.—Hinge.—Lucian Upham, Pawtucket, R. I.:

I claim the combination and arrangement of the several parts, *A*, *C*, *B*, and *D*, when constructed and operated in the manner and for the purposes above set forth and described.

50,862.—Scouring Brick.—James Valentine, Woodbridge, N. J.:

I claim a scouring brick composed wholly or in part of the pulverulent mineral, which I have herein described as Woodbridge siliceous.

50,863.—Fire and Burglar Alarm.—Daniel Ward and Russel S. Luce, Lawsville Center, Pa.:

We claim, first, The bar, *B*, provided with the arm, *E*, in connection with the shaft, *F*, having a lip or projection, *F'*, and an arm, *G*, all applied to or used in connection with an alarm mechanism, substantially as and for the purpose set forth.

Second, The spring, *H*, and the wheel or hub, *I*, provided with the arm, *j*, in connection with the rod or stop, *k*, substantially as and for the purpose specified.

Third, The weights, *K*, connected by cords, *l*, to pulleys, *p*, around which said cords, *l*, pass with ratchet, *r*, attached, all arranged as shown, to operate the alarm in case of fire, as described.

Fourth, The plate, *C*, attached to the upper end of the bar, *B*, in connection with a suitable match holder, all arranged to operate as set forth.

[This invention relates to a new and improved device by which an alarm will be instantly given, in case of a fire occurring in any apartment of a building, or in case of a burglar entering through a door or window of a building, and when a fire occurs, the device when the alarm is sounded, indicates in what locality of the building the fire is, and at the same time lights a candle or lamp, so that the occupant may proceed to the spot at once, the lighting of the lamp or candle being also performed in case the alarm is sounded by the entrance of burglars.]

50,864.—Bottle Stopper.—Thomas B. Way, Bennington, Vt.:

I claim constructing the head of a bottle, or the like, in such a manner that a packing of rubber or some other flexible material, may be inserted and held therein, whereby I am enabled to use wooden plugs, instead of corks, as heretofore, for stopping or corking soda water, beer, and other bottles, substantially as shown and described.

50,865.—Hot-blast Furnace Lamp.—J. H. Wilhelm, Chicago, Ill.:

I claim, first, The combination of the air chambers, *V*, *V'*, with the air pipes, *5*, *5*, for the purpose set forth.

Second, The arrangement and combination of the coiled air pipe, *W*, with the air chambers, *V*, *V'*, for the purpose set forth.

Third, The combination of the heat-concentrating blower, *L*, with the platform, *M*, substantially as described, and for the purpose set forth.

Fourth, The elongation of the air chambers, *V*, *V'*, terminating in the blow pipes, *2*, *2*, substantially as described and set forth.

50,866.—Apparatus for Heating Soles and Shoes.—Freeman Winslow, Marblehead, Mass.:

I claim the combination of the series of wires, *a*, *a*, etc., with the lamp or means of generating heat, and the plate, *A*, or its equivalent, for supporting the said wires, the whole being arranged substantially as and for the purpose specified.

50,867.—Bottle Stopper.—John Woolaver, Suisun, Cal.:

I claim the method of sealing the bottle by means of the tube, *D*, or its equivalent perforated to correspond with the hole, *B*, in the neck of the bottle, substantially as described, and for the purpose set forth.

Second, I claim the projection and groove, *I*, in combination with the lever, *H*, with the button or disk, *G*, and the rings, *E*, *E*, arranged and operating substantially as described and for the purpose set forth.

50,868.—Instrument for Opening Bottles.—John Woolaver, Suisun, Cal.:

I claim in combination with the forceps, *K*, the perforated tube, *E*, having an opening at one end and closed at the other, together with the bar, *B*, substantially as specified and for the purposes set forth.

50,869.—Machine for Rolling Gun Barrels.—Joseph Yates, Mott Haven, N. Y. Antedated Oct. 25, 1865.:

I claim the arrangement of the segmental rolls, *C*, upon the extruders of the two shafts, and securing the dies to said rolls in the manner described, in combination with the adjusting screws, *F*, the gages, *J*, and bed plates, *K*, as and for the purpose set forth.

[This invention relates to a new and improved machine for rolling or drawing out gun barrels and other articles of metal which require to be of taper form.]

50,870.—Button-hole Sewing Machine.—Walker B. Bartram, Redding, Conn., assignor to himself and Henry B. Fanton, Danbury, Conn.:

I claim, first, The combination of the arm, *H*, with the wheel, *I*, and the eccentric of the driving shaft, or its equivalent, of a sewing machine, substantially as and for the purpose set forth.

Second, The combination of the wheel, *I*, with the arm, *H*, and the catch, *J*, substantially as and for the purpose set forth.

Third, The combination of the catch, *J*, with the wheel, *I*, and the plate, *A*, substantially as and for the purpose set forth.

Fourth, The combination of the cloth-holder, *O*, with the movable plate, *A*, and the circular plate, *N*, substantially as described and for the purpose set forth.

Fifth, The combination of the guide, *P*, with the movable plate, *A*, and the cloth-holder, *O*, substantially as and for the purpose set forth.

Sixth, The combination of the plate, *A*, with the wheel, *I*, and the springs, *L*, or equivalent, to give an alternate backward and forward motion to the plate, *A*, substantially as described and to the effect stated.

Seventh, The combination of the stop lever, *R*, with the feed bar of a sewing machine, substantially as described and for the purpose set forth.

50,871.—Process for Coloring Photographic Prints.—J. O. Beyse, St. Louis, Mo., assignor to himself and J. Utossy, Leavenworth, Kansas:

I claim, first, The manipulation of photographic prints herein described, for the purpose specified.

Second, The preparation of colors, and fixing them upon photographic prints, substantially in the manner described.

50,872.—Tanning.—Sanford A. Hickel, Roan County, W. Va., assignor to himself, C. and J. and B. F. Armstrong, Jackson County, W. Va.:

I claim the employment or use of manure, in combination with bark or other tanning material, substantially as and for the purposes set forth.

50,873.—Washing Machine.—John Keane (assignor to himself and William J. Snyder), New York City:

I claim, first, In washing machines, the dasher, *H*, fitted at its ends to move in grooves in the frame, *F*, substantially as shown, in combination with the scrubber, substantially as described.

Second, I also claim the dasher, constructed and operated as described, in combination with the roller, *G*, substantially as above shown.

Third, I also claim the vibrating frame, *F*, which carries the dasher, *H*, and roller, *G*, in combination with the fixed washboard, *C*, substantially as described.

[The object of this invention is to produce a washing machine worthy of a place in the laundry both on account of the saving of labor and of the preservation of clothes. The box to contain the suds and clothes has an abrading surface on the inside of its front, against which the clothes are brought by a frame capable of vertical and also of horizontal motion. The inventor has given the title of Peerless to his washing machine.]

50,874.—Manufacture of Mirrors.—Rudolph Keck (assignor to Simon Bache & Co.), New York City:

I claim the within-described method of precipitating upon glass plates, nitrate of silver or other suitable substance, or substances, by means substantially as herein described, or any other equivalent means.

50,875.—Hot-air Engine.—Hiram Kilbourn (assignor to himself and Sylvester P. Babcock), Waterloo, Iowa:

I claim, first, The balanced valves, *P*, *P*, *U*, arranged respectively with the driving cylinder and air pump, and operated from the piston rod, *L*, substantially as and for the purpose specified.

Second, The rack, *Y*, attached to the sliding frame, *S*, in connection with the pinion, *A*, and the spring, *C*, substantially as and for the purpose set forth.

50,876.—Apparatus for Distilling Spirits.—Arnold Kreuler and W. T. Pelton (assignors to W. T. Pelton), New Lebanon, N. Y.:

We claim, first, The rectifier, *b*, with the plates, *11* and *13*; for the purposes and as set forth.

Second, We claim the spiral dephlegmator, *e*, constructed and acting as set forth.

Third, We claim the rectifier, *n*, constructed in the manner and for the purposes specified.

Fourth, We claim the spiral dephlegmator, *p*, constructed in sections, as and for the purposes specified.

Fifth, We claim the water partitions in the tub containing the dephlegmator, *p*, constructed so as to allow the water in different parts of the tub to be different in temperature, as set forth.

Sixth, We claim the bent pipe and cock, *u*, at the lower part of the condenser, to retain a portion of the alcohol in the condenser or allow it to be entirely emptied, as and for the purposes set forth; and, in combination therewith, we claim the pipe, *v*, for the escape of gases, said pipe passing through the condensing water, as set forth.

50,877.—Manufacture of Soap.—Frank Kunkel (assignor to William E. Milne), Chicago, Ill.:

I claim, first, The process herein described of treating potatoes which have been previously boiled with the skins on with an alkali and subsequent boiling, substantially as set forth.

Second, The compound or composition of matter formed of boiled potatoes, alkali and creosote, or other antiseptic, substantially as and for the purposes set forth.

50,878.—Coffee Roaster.—C. A. Mills, Bristol, Conn., assignor to the Eureka Manufacturing Company, Boston, Mass.:

I claim, first, A rotating coffee receptacle in which coffee is roasted, constructed of a wire cloth so as to form a screen or sieve, when said receptacle is rotated operated through the medium of a clock movement, substantially as shown and described.

Second, In combination with the coffee receptacle constructed as set forth, I claim the lid or cover, *K*, arranged to fit over the receptacle, as described.

Third, The application of two springs, *E*, *E*, to the clock movement, when the latter is used in connection with or to drive a rotating coffee receptacle, substantially as and for the purpose specified.

Fourth, The applying of the coffee receptacle to the device by having a socket, *J*, at one end of the shaft, *H*, of the clock movement, to receive one end of the shaft, *J*, of the coffee receptacle, while the journal at the opposite end of said shaft is fitted in an open bearing, *c*, substantially as described.

50,879.—Pitman Connection for Harvesters.—David M. Osborne (assignor to himself and Wm. A. Kirby), Auburn, N. Y.:

I claim connecting the pitmen of harvesting machines to the head of the cutter bar or cutters, or other connecting bars to their supports, by means of conical lug-fitting into conical seats, and a draw or screw bolt passing through said lugs and seats in the line of their apices, substantially as and for the purpose described.

50,880.—Pitman Connections for Harvesters.—David M. Osborne (assignor to himself and Wm. A. Kirby), Auburn, N. Y.:

I claim a wrist-plate composed, first, of a hollow square or sided shank wrought on or securely fastened to the pitman or other connecting bar or rod; second, a sleeve having a cylindrical perimeter, and a square or sided opening to fit over the shank; and, finally, a through bolt to hold the sleeve to the shank, all arranged, constructed and operating in the manner and for the purpose described.

50,881.—Well-boring Apparatus.—Thomas J. Parke, Philadelphia, Pa., assignor to himself, J. Bryan, T. Gillespie, and E. A. Hintsicker:

I claim the case, *A*, with its openings, *e*, piston, *D*, and rod, *C*, combined and operating with a drill or cutter, substantially as and for the purpose specified.

50,882.—Car Coupling.—Henry S. Shepardson, Shelburne Falls, Mass., assignor to H. S. Shepardson & Co.:

I claim the combination of the shackle bolt, *B*, and latch, *C*, with the shackle case of a railroad car, substantially as described.

The shackle bolt, *B*, when constructed with the tail, *b*, substantially as and for the purpose described.

The shackle case, *A*, when provided with the openings, *F*, in combination with the shackle bolt, *B*, and latch, *C*.

50,883.—Bed Bottom.—Francois Carre, Paris, France. Patented in France July 4, 1862.

I claim a new bed spring, constructed in the manner and for the purpose above described.

50,884.—Apparatus for Purifying Alcohol.—Carl Johann Falkman, London, Eng. Patented in England Nov. 29, 1864.

I claim the within-described apparatus, composed of the serpentine channel, *A*, jacket, *J*, perforated bottom, *B*, and receptacle, *C*, with suitable supply and discharge pipes, constructed and operating substantially as and for the purpose specified.

[This invention has reference to that part of apparatus for distilling spirituous and other liquids in which the vapors, after separation from the wash or crude liquid by the process of evaporation, are purified from such impurities as are volatilized with them.]

50,885.—Printing and Dyeing Cotton, Linen, Etc.—Alfred Paraf, Mulhouse, France:

I claim the producing an aniline black upon fabrics or yarns by the action of chloric acid and free chlorine upon aniline or its homologues, or any mixture of the same, as herein described, or any modification thereof.

50,886.—Carriage Spring.—William Taylor, East Zora, Canada:

I claim the compound bow and scroll spring, *B*, in combination with the elliptic spring, *D*, constructed and applied for the purposes and substantially as described.

50,887.—Auger.—Horace T. Love, Vermillion Township, Kansas:

I claim the semi-circular edges; the angles of deflection and inflection in disposing these edges in their relation to screw and periphery of the auger, and the combination of these edges with an obtuse angular disposition of them in their relation to the axis of the auger, as and for the purposes substantially set forth in the foregoing specifications.

REISSUES.

2,100.—Manufacture of Paper Pulp.—James B. Brown, Peekskill, N. Y., assignee of Julius Augustus Roth. Patented Aug. 15, 1865.

I claim, in the process of treating vegetable substances, the process, substantially as herein described, of subjecting fibrous vegetable substances to the action of chlorine gas, and for the purpose specified.

2,101.—Baling Press.—Frederick F. Cornell, Jr., New York City. Patented June 20, 1865.

I claim, first, The employment or use, in a beater baling press, of a suspended follower, in combination with a beater used as a fixed head.

Second, Connecting the levers, *D*, to the sliding sides, *E*, and followers, *B*, by means of the staples or eyes, *b*, and fulcrum pin, *d*, and rods, *e*, or their equivalents, substantially as herein described.

Third, The pawls, *H*, so arranged as to engage automatically with the racks, *J*, upon the descent of the beater into the press chamber, thereby preventing its rebounding, and at the same time holding it in position to serve as a head block for the press, substantially as and for the purpose herein described.

Fourth, The racks, I and slides, I, in combination with the pawls, H, as and for the purpose specified.

Fifth, The standards, F, F, and cross beam, G, in combination with the rods, h, and pawls, H, arranged to operate substantially as described.

Sixth, The detent rod, f, in combination with the projections, f, and standards, F, F, substantially as and for the purpose hereinbefore described.

Seventh, The cam, J, in combination with the traveling slides, E, and post, A, substantially as and for the purpose herein specified.

2,102.—Harvester.—Reuben Hoffheins, Dover, Pa. Patented Nov. 3, 1863.

I claim, First, The combination in a two-wheeled, hinged joint machine, of a driver's seat mounted upon the main frame, with a raking mechanism mounted upon the finger-beam, and rotating on a vertical axis, or one nearly so, substantially in the manner described, for the purpose of enabling the driver to ride upon the machine while the rake is in operation.

Second, The combination in a two-wheeled, hinged joint machine, of a shoe with a hinged joint in it, with a rake and platform having an extension, J2, and with a draft frame which sustains the weight of the cutting apparatus and raking apparatus, with platform attached at a point between the two drive wheels.

Third, The combination with a hinged joint machine of the inner shoe and raking apparatus, substantially as described.

Fourth, The combination of a revolving or turning rake, extensible tumbler shaft, and driving shaft or axle of the main frame, substantially as described.

Fifth, The combination of a two-wheeled, hinged joint machine, a raking apparatus, and a driver's seat mounted on the main frame, substantially as described and for the purpose set forth.

DESIGNS.

2,215.—Standard and Treadle of a Sewing Machine.—Joseph W. Bartlett, New York City.

2,216.—Drawer Pull.—Pietro Cinguni (assignor to John E. Parker and H. J. P. Whipple), Meriden, Conn.

2,217.—Army Badge.—Isaac T. Hooton and J. H. Cummings, Boston, Mass.

2,218.—Monument to the Memory of Abraham Lincoln.—William H. Machew, Toledo, Ohio.

2,219.—Parlor Stove.—Charles Williams, Manchester, N. H.



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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. It is almost needless to add that, after eighteen 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 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

[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 a 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.

The Patent Laws, enacted by Congress on the 2d of March, 1861, are 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.

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.

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:—

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| 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..... | \$30 |
| On application for Extension of Patent..... | \$50 |
| On granting the Extension..... | \$50 |
| On filing a Disclaimer..... | \$10 |
| On filing application for Design (three and a half years)..... | \$10 |
| On filing application for Design (seven years)..... | \$15 |
| On filing application for Design (fourteen years)..... | \$30 |

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.

Patents may be extended and preliminary advice obtained, by consulting, or writing to, MUNN & CO., No. 37 Park Row, New York.

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, etc., 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.

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 enniers, 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.

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.

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



G. S. B. & Co., of Vt.—Mr. L. L. Smith, of this city, one of our largest electro-platers, says that in depositing copper on iron he should use an alkaline solution, and should prefer to employ a magneto-electric machine, driven by power, to make the deposit. Smees' Electro-metallurgy was published by John Wiley of this city, in 1852, but we should advise you to learn the art from some practical electro-plater.

L. L. V., of C. E., whose query was answered on page 20, Vol. XIII.—Lieut. John A. Winebrenner, U. S. A., of Scott Foundry, Reading, Pa., would like to communicate with you.

J. M. A., of Pa.—It is possible that you might make an engine work by creating a vacuum through the agency of a stream of water rushing through a pipe. You say you dreamed of it. Did you dream that any power was derived from it?

C. W., of Pa.—The power of an engine is obtained by squaring the diameter of the cylinder in inches, and multiplying by 7854. The sum so obtained, multiplied by the pressure of steam will give the pressure on the piston in pounds. This last is to be multiplied by the length of the stroke in feet, and again by the number of revolutions per minute, and this sum divided by 33,000. This will give the horse-power, for a horse is capable of raising 33,000 pounds one foot high per minute.

B. B. C. of N. Y., asks:—"Can you tell me the best field for an inventor to work? I think if I knew I would devote my whole time and energies to that particular object." Ans.—The best field is, of course, that in which you are best qualified. For example, an ingenious man who is thoroughly acquainted with cotton and woolen manufacture would be more likely to succeed in making inventions pertaining to such mechanism than if he were to attempt improvements in a direction where he had had no experience. For further hints study the SCIENTIFIC AMERICAN.

J. K., of Ill.—Fairbairn gives the tensile strength of single-riveted boiler plate at 56,000 lbs. to the square inch. To get the strain upon the plate of a spherical boiler multiply the square of the diameter by 7854, and this by the pressure per square inch. Your plan of securing the joints would give increased strength, but how much it is impossible to say, as it depends on so many circumstances.

C. D. R., of Tenn.—It is not new to stamp the exterior of lead pencils with measuring figures and marks, to indicate inches, and parts thereof.

G. W. R., of Mo.—You ask, "Is air a component part of a drum?" The reply is, it depends on the meaning of the word drum; and the meanings of words are to be determined by lexicographers. Webster defines drum, "A martial instrument of music, in form of a hollow cylinder, and covered at the ends with vellum, which is stretched or slackened at pleasure." It does not seem that air is a component part of the drum.

W. B., of N. J.—Gum shellac, dissolved in alcohol, will probably render your pine boards impervious to water; or you might line your tank with lime cement.

F. D., of Ky.—An india-rubber cement is made by dissolving pure india-rubber—not vulcanized—in spirits of turpentine. With this cement two pieces of india-rubber may be fastened together by coating their surfaces with the cement, and subjecting them to long-continued pressure. An india-rubber foot-ball might be patched in this way.

T. C. T., of N. Y., asks:—"Do you know of any good patent of which I can get an agency that will pay?" If our correspondent will read the SCIENTIFIC AMERICAN with regularity he will become cognizant of many valuable inventions for which doubtless he could get an agency. Or, if he chooses to advertise in our columns for an agency, probably he would receive a number of suitable replies.

A. F., of Mich.—We do not know where a complete modern model engine, low pressure, and fitted with every detail, could be had cheap. It depends greatly on the meaning people attach to words. Such an engine, with boiler, would be worth \$150, and could not now be built for that.

A., of Conn.—One good way of encouraging your boys to take an interest in their work will be to supply them each with a copy of the SCIENTIFIC AMERICAN. Boys take pride in a paper which comes addressed to their names, and generally read its pages with care. A large engineering firm at the West lately wrote us that they are accustomed to make a Christmas gift of the SCIENTIFIC AMERICAN to their best boys. We know of other establishments where the proprietors voluntarily supply their workmen with this journal, and find that it pays a hundred fold and more.

L. P., of N. Y.—Your plan for an aerial car, with an elevating gas bag, to be drawn through the air by birds, may have advantages over the contrivance illustrated in the SCIENTIFIC AMERICAN a short time ago, in which the car was put on and moved by bird power only. Our friend Will Brighteye prefers to drive with birds exclusively.

T. H. B., of N. Y.—We are not sure that we understand your question. To raise water fourteen feet requires a pressure of about seven pounds, and if it takes 20 pounds to draw the water through your nozzle, the power requisite for that would manifestly be nearly three times greater than that required to lift the same water fourteen feet. If, on the other hand, you obtain twenty pounds pressure from the hydrant, it will require less power to work from that.

H. C. P., of N. Y.—We have no doubt that our correspondent was able to understand that the explanation of the motion of a projectile varying from its north or south direction applied to the hemisphere in which we live; it is very plain that in the southern hemisphere the directions would be reversed. Are you not in error in supposing that 751 bears a larger proportion to 597 than 262 does to 747?