

### Ship Launching.

The difficulties which attended the launching of H. M. S. the *Northumberland*, coupled with the fact that the tendency of the age is materially to increase the tonnage of ships, whether destined for mercantile or defensive purposes, seem to point to the speedy abandonment of the practice of launching ships, which never was entirely devoid of risk and danger. It has been said that no engineering enterprise must now be deemed impossible, provided only that ample funds are forthcoming for its execution. We are willing to give ample credit to the ability of our engineers, but we are by no means inclined, unnecessarily, to put that ability to the test. It is by far too costly a proceeding to rely upon, the utmost stretch of their skill to effect results are daily called for; neither is this a course which engineers would recommend; for the President of the Institution of Civil Engineers, in his address delivered January last, laid it down as a maxim for young engineers that, "they must be prepared, if necessary, to advise their employers that the objects which are sought are not commercially worth the cost of the means which would secure them."

The launching of ships of the largest class, although it has hitherto proved practicable, has certainly, in two memorable instances, been attended with most important drawbacks. To the anxieties attending the launch of the *Great Eastern* has been attributed, and not without some reason, the early death of its gifted designer; and the outlay attendant on the protracted operations, which ultimately forced the reluctant ship into her native element, must have been very large. The more recent instance of the *Northumberland* is commonly reported to have occasioned an outlay of thirty thousand pounds, in the efforts made to get her afloat. If, now, time had been an object in preparing this formidable ship for sea, and circumstances might very well have transpired to call for her immediate equipment, the hitch in launching this ship might have proved a national misfortune.

The authorities are pretty well agreed that the untoward arrest of the ship on the launching-ways, after moving down some 170 feet, was due to the departure from the usual inclination in the construction of the ways; but this again is generally considered to have been dictated by no undue caution. Our cotemporary, the *Engineer*, who is no mean authority on the point, in speaking of the launch, says:—"The immense mass of the vessel renders her practically uncontrollable; and if she had been launched a little too fast, she might easily have run right across the river, and injured herself seriously on the opposite shore before she could have been brought up." Again, in *Engineering*, a similar opinion is expressed. The writer says: "The general incline of the ways is less than that usually adopted: and when we consider the difficulty of controlling the motion of such an immense mass as the *Northumberland*, there certainly seems to be a good reason why this should be the case." He then cites an instance of a vessel launched from the Millwall yard breaking away and running down a vessel moored on the other side of the river. The naval architect, therefore, in adhering to the practice of launching, has to steer between his Scylla and Charybdis—a dead lock on the ways, and a destructive run.

But, it will be asked, what is to form an efficient and reliable substitute for the launching ways now in use? In reply to that question we may cite the following words of the President's address already referred to, viz:—"That hitherto the inventive genius, the patient perseverance, and the indomitable energy of the members of our profession, have not been found unequal to the tasks they have been called upon to perform." We are not however sure that any fresh efforts of inventive power are required to insure this desired result. Resort may be had to dry docks. But then it will be said that the expense of dry docks is enormous, and that in many localities they are impracticable. This may be so, but there are plans for meeting these difficulties which deserve the serious attention of naval architects. Let us take, for example, one designed and patented in the year 1857 by Mr. Lungley, the general manager of the Millwall Company, by whom the *Northumberland* was built. He proposed to construct dry docks and basins for stowing away vessels, which might enter at all tides, and be left high and dry above the level of the sea or river. To this end he made use of the natural level of the land, and built up his dry docks and basins thereon, connecting the dry dock with the basin, but so that they might be cut off therefrom by gates when required. The basin he connected with the sea or river by means of an outer dock or

channel, provided with double gates, and the water level of the basin be maintained at an artificial height. If, now, this plan was feasible for repairing and stowing away vessels, there is no reason why it should not be equally applicable for floating newly-built vessels. The natural level of the ground being used, will insure the docks from the influx of land springs, and any leakage into the docks from the basin is readily disposed of by gravitation.

There is, however, another plan and one that has the advantage of being in practical operation at the Victoria docks, that might, with a little modification, be adapted to the use of shipbuilders. We allude to Mr. Edwin Clark's hydraulic lift and saucer or pontoon. The vessel to be docked is floated over the sunken saucer or pontoon, and the latter is then raised by the simultaneous action thereon of a series of hydraulic lifts, until the ship is raised out of the water. The buoyancy of the pontoon or saucer is then restored, and it is floated off with the ship upon it to a shallow dock, for inspection and repairs.

Here again are the main requirements for insuring the safe and easy transfer of a vessel of any tonnage from the stocks to its native element. We trust, therefore, that the time may not be far distant when—by a judicious and timely outlay of money by the Government and our large shipbuilders—the transit of our ships from land to water may be effected without risk, and at an insignificant cost; and the public, which never fails to become the ultimate sufferer wherever risks are incurred, will be relieved from the recurrence of those seasons of anxiety which were notably created by the launch of the *Great Eastern* and H. M. S. the *Northumberland*.—*Newton's London Journal*.

### New Patent Process in Wire Drawing.

The application of a new principle in the manufacturing process of wire drawing has just been made by a Birmingham firm—Messrs. Hibel and Colbourn, of the Long Acre Mills, Nechells—and its superiority certainly seems to claim for it a foremost place in the history of modern inventions. The improved process, which has been patented by Mr. John Hibel, consists of an entire alteration of the method of annealing. Under the old system annealing pots consisted of hollow cylinders of cast iron, closed at the bottom, and furnished with a lid or cover at the top, which was closed nearly air-tight during the annealing process. These pots were built in a furnace, and charged with the articles required to be annealed. When the pots were filled, the furnace was heated to the required degree, and allowed to cool, together with the pots. By this process, however, the surface of the wire became more or less covered with scales, which had to be removed by pickling before the wire could be drawn to the required thickness. By the new process the annealing pots are constructed of two hollow cylinders of cast iron, of different diameters, the smaller one being placed within the larger; a ring-like space is thus left between the two cylinders, which constitutes the chamber in which the articles to be annealed are placed. The bottom of this chamber is closed, and the top is also closed and made air-tight during the annealing process. When these pots are placed on the furnace, the flames not only encircle them, but come up through the hollow center, and the wire is thus more thoroughly and uniformly heated. They are made air-tight by a simple process, and when the wire is taken out is as smooth as possible; there is no scale about it, and therefore does not require pickling, as under the old system. The quality of the wire is also much improved; it is considerably more ductile, and a considerable saving is effected in weight, as the process of pickling reduces the wire considerably. Under the old system a No. 4 rod, before it could be drawn to No. 13, would require pickling six times, and annealing five times; under the new system the same rod requires pickling once, and annealing once. By the old process it would take eleven days to draw the wire to the required thickness; but by the new plan it is done in five days. It will therefore be seen at once that the saving of time, fuel, and vitriol (for pickling) must be very great, while the quality of the wire must be much improved.—*Ironmonger*.

A PATENT has been brought out by Messrs. Bond, Russell, and Fisher, of Newport and Tredger, Monmouthshire, Eng., by which the refuse material from ironworks can be turned to profitable account in substituting it for emery. The inventors have found that slag possesses all the properties of emery, and by their process they make it even superior to emery for polishing steel, iron, brass, copper, and other metals.



ISSUED FROM THE U. S. PATENT OFFICE

FOR THE WEEK ENDING MAY 15, 1866.

Reported Officially for the Scientific American

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54,658.—Bed Bottom.—John Randolph Abbe, Providence, R. I. Antedated May 7, 1866:

I claim the springs, B, applied to the head and foot rails, a, of the bedstead in combination with the springs, B, rods, C, provided with knobs, d, and the slats, D, having concave surfaces to receive the knobs, all being arranged substantially as and for the purpose set forth.

54,659.—Corn Sheller.—Augustus Adams, Sandwich, Ill.:

I claim in combination with a series of feeding throats in the hopper of a corn-shelling machine, the use or employment of a rotating bar or shaft, M, provided with one or more suitable projections or angles, or a series of projections or angles corresponding with said series of feeding throats, arranged and operating substantially as herein specified and shown, and for the purposes set forth.

54,660.—Water Wheel.—I. J. W. Adams, Galetstown, Md.:

I claim the arrangement of the penstock, E, scroll, C, frame, d, wheel, B, with its sides, a, and brackets, c, as described, shaft, A, crank, G, and box, H, operating in the manner and for the purpose herein specified.

54,661.—Harness Motion for Looms.—A. L. Anderson, Ware, Mass.:

First, I claim the combination of mechanism for moving loom harnesses consisting of the treadle, E, arm, G, pieces, a, a, wheel, H, levers, d, d, and cords or similar connections, e, e, when arranged and operating substantially in the manner herein set forth. Second, Connecting the arm, G, both to the latch, D, and to the harness operating device as shown, so that it may actuate both simultaneously, substantially as herein described.

54,662.—Railway Car.—Edward H. Ashcroft, Lynn, Mass.:

I claim a safety car constructed with a water space, one or more showering pipes, and a fusible plug apparatus, arranged substantially in manner and so as to operate with respect to the car chamber, as specified. And in combination with a car so made, I claim a heating apparatus and a circulation coil, or the equivalent or equivalents thereof applied to the water heating space, substantially as and for the purpose, and to operate as explained.

54,663.—Apparatus for Molding and Drying Peat.—Edward H. Ashcroft, Lynn, Mass.:

I claim the herein described mode of preparing peat for fuel, namely, filling the molds, compacting the same, drying, and discharging at one operative, in the manner substantially as set forth.

54,664.—Skiving Machine.—William S. Atchley, Williamsburg, Ohio:

First, I claim the combination of the adjustable bed plate, A, with the knife blade, B, when the two are arranged together so as to operate, substantially in the manner described and for the purposes specified. Second, In combination with the above, the pressure roller, S, of the knife-carrying frame, K, arranged just in front of the knife blade, as and for the purpose specified. Third, Hanging the roller, Y, in the bed plate, A, as and for the purpose described.

[This invention relates to certain new and useful improvements in machines, especially intended for the skiving of leather, although with slight additions it can be applied to the splitting of leather, whereby many important advantages are secured.]

54,665.—Applying Labels to Bottles.—James S. and Thomas B. Atterbury, Pittsburgh, Pa.:

We claim the bottle, having a label applied to a recess formed in it, and secured in such recess and covered by means of a soluble glass cement, as a new and improved article of manufacture.

54,666.—Axle Box Cover.—William S. Auchincloss, New York City:

I claim the arrangement of the square or polygonal-sided bolt, b, attached to the cover, B, and capable of manipulation by means of the bridge, C, substantially in the manner described and represented.

54,667.—Meat Chopper.—Daniel W. Baker, Harwich, Mass.:

I claim the combination of the bent arm, L, the post, D, or its equivalent, the knife and its slide rod, and the mechanism for imparting to the knife-rod its reciprocating movements, such mechanism being the lever, G, the connecting rods, I, K, and the gears on their shafts, the whole being substantially as specified.

I also claim the arrangement of the lever, R, its pawl, P, and spring, J, with the post, D, and lever, G, applied thereto, and to the knife shaft as described.

I also claim the combination and arrangement of the guard, O, with the bent arm, L, and the knife and its rod, as applied to such arm, and to operate in the tub, as specified.

I also claim the combination of the spring latch, M, or its equivalent, with the post, D, the bent arm and the knife combined together, and with machinery for operating the knife, as specified.

54,668.—Machine for Opening Tin Cans.—W. K. Baldwin, Chicago, Ill.:

First, I claim the arrangement and combination of the standard, B, clamp, P, and guides, V, when constructed and operated substantially as described.

Second, The combination of the parts, H, G and E, in combination with the bar, K, and lever, O, substantially as described, and for the purpose set forth.

54,669.—Cultivator.—Orlando Barr and Franklin F. Cox, Beloit, Wis.:

We claim the rod, B, B, as shown in Fig. 1. The head blocks, "B B", sliding upon the said rod, B, B, connected with the gear, b, b, and foot-lever and section pulley, D. The sliding rods, A, A, attached to the beams, "A A", and the device and arrangement of the draft rods, g, g, and chains, e, e, when constructed substantially as and for the purpose herein set forth and described.

54,670.—Sewing Machine for Stitching Cord to the Edge of Fabrics.—Wm. B. Bartram, Norwalk, Conn.:

First, I claim, in combination with automatic mechanism capable of producing both a forward movement and a lateral reciprocation of the material to be stitched, a cloth-holding device, which par-

takes of the said lateral reciprocation, and between the upper and lower pairs of which the said material and cord pass in their forward movement, for the purpose described.

S. Claim, in combination with the laterally reciprocating table, A, the clamp or holding device, B, substantially as and for the purpose set forth.

**54,671.—Sewing Machine for Stitching Eyelet Holes.—**  
W. B. Bartlam, Norwalk, Conn.:

I claim the combination of the cylindrical guide, A, and a presser-foot, D, with a rectilinear forward feed movement, and a horizontally-reciprocating mechanism, to effect a lateral feed of the cloth, for the purpose set forth.

**54,672.—Raking and Binding Attachments to Harvesters.—**  
Joseph Barta, La Crosse, Wis.:

First, I claim the wheel, E, provided with pins, i, arranged in concentric circles, and the ratchet, F, connected with said wheel, and both placed loosely on shaft, D, in combination with the dotted wheel, G, on shaft, D, the pawl, H, provided with lever, H', and the plate, I, all arranged substantially as shown and described, for the purpose of rotating the shaft, D, and consequently the raking and binding device intermittently, at longer or shorter intervals, as may be desired.

Second, The endless chain, S, arranged to operate first in one direction, and then in the other, in combination with the plate, P, having the ratchet-head, Q, attached to the lever, O, plate, R, and the staple, L, all arranged substantially as shown, to give the reciprocating movement to the rake, and also the rising and falling movement, substantially as described.

Third, The adjustable frame, O, on which the plate, P, works, for the purpose of adjusting the rake in such a relative position with the cradle as to cause the sheaves to be bound generally, whatever the light or length of the grain may be, substantially as set forth.

Fourth, The pawl, n, applied to the plate, P, and arranged so as to be operated therein, in and out of gear, with rack, O', through the medium of the cone lever, O', at the time of raising and lowering of the rake, substantially as described.

Fifth, The cradle, C, and bar, E', are arranged and combined as shown, so that the bar, as it is raised by the rotation of shaft, D, will raise the cradle with it, the cradle holding the gavel in position, and the bar, E, drawing the cord, r, around it, substantially as set forth.

Sixth, The twister, J, provided with jaws, w, w', one of which is furnished with a hollow square, A'', in combination with the hook, U, and the clamps, v, v', all arranged to operate substantially as shown, for the purpose of tying the knot.

Seventh, The pivoted plate, I', operated from the shaft, D, and provided with slots, segment rack, etc., for the purpose of operating the hook, b', and twister, J, as set forth.

Eighth, The apron, L, operated by the lever or arm, p', cam, q, on shaft, D, in combination with cradle, C', and bar, E', all arranged to operate in the manner substantially as, and for the purpose specified.

Ninth, The shears, M', placed on the bar, E', and operated from the shaft, D, to cut the cord, substantially as herein set forth.

[This invention relates to a new and improved raking and binding attachment for reapers, designed to be operated automatically throughout, from the driving wheel of the reaper, to which it may be applied. The object of the invention is to obtain a device for the purpose specified, which will be capable of being put in motion at longer or shorter intervals, as occasion may require, and be also capable of being adapted for binding long or short grain.]

**54,673.—Saw Mill.—**Marshall M. Bishop, Le Roy, N. Y.:

I claim adjusting the saw by means of the pivoted frame, D, racks, d, d', pinions, E, and ratchet device, S, arranged to operate as herein described.

**54,674.—Mosquito Canopy.—**Marshall Bliss, Grinnell, Iowa:

I claim the combination of the frame, A, so connected to the wall of a room that it can be elevated or lowered as desired, with the cord, b, or its equivalent, and the netting or canopy, B, substantially as specified.

[This invention consists in a canopy or mosquito bar for enveloping the whole or a portion of a bed, so arranged that it can be brought into a position to surround the bed, or thrown entirely away from the same, at the will of the person lying in the bed, without the necessity of a change in the position of his body.]

**54,675.—Cotton Bale Tie.—**Jas. Booth, St. Louis, Mo.:

I claim an improved cotton bale tie, A, constructed with three hooks, a, a', a'', and combined with the ends, B and C, of the hoop substantially in the manner described, and for the purpose set forth.

[This invention consists of a cast-iron bale tie, which is riveted fast to one end of the hoop, and which is provided with three hooks locking into notches in the other end of the hoop, the notches and hooks being so arranged that the strain of the hoop would be distributed among the three points of support, enabling the tie to withstand an immense pressure.]

**54,676.—Paper Tin.—**Edward H. Boswell, Philadelphia, Pa.:

I claim the arrangement of the calendar holders, A, elastic band, D, and pen-holding block E, in combination with a paper tin, of which one side is graduated, and the other raised, by projections, to act as a ruling guide, in the manner and for the purpose herein specified.

[This invention consists in certain improvements in the common paper tin, by which it is made to serve several purposes, in addition to its primitive use as a paper tin, viz: that of a letter clasp, a ruler, a ruler—by which to draw ink or pencil lines—a receptacle for pen-holders and pencils, and a calendar, for any of which purposes it can be used without injuring its qualities for any one particular purpose.]

**54,677.—Stair Rod and Fastening.—**Edward H. Boswell, Philadelphia, Pa.:

I claim the combination of the slotted rod, B, and the shouldered fastening, D, which, in one position, will admit the passage over it of the rod, retaining the latter by a partial revolution, substantially as described.

**54,678.—Key.—**Thomas S. Bowman, St. Louis, Mo.:

I claim the application to a key having a hole drilled in its shank or arbor, of a spring and stopper, substantially in the manner as and for the purpose herein set forth.

**54,679.—Scoop, Sifter, Grater and Holder.—**Frederick Bucknam, Portland, Me.:

I claim the combination with a scoop of the described form and kind of the roller, R, sieve, B, ban le, H, having the grater and holder, G, made as specified, all constructed, arranged, and operated as set forth.

**54,680.—Breech-loading Fire-arm.—**John Burke, Courtland, Ill.:

First, I claim the combination of a telescopic joint in the barrel, with a hinged joint in the stock, when the barrel slides in the forward portion of the stock, substantially as and for the purpose set forth.

Second, The combination of the sliding barrel with the dovetail bar and front portion of the hinge, substantially as and for the purpose set forth.

Third, The combination of the barrel with the front and rear portions of the hinge, substantially as and for the purpose set forth.

Fourth, The combination of the projection, r, on the front part of the hinge in the slot, h, with the rear part of the hinge, to hold the barrel at an angle, when loading, substantially as described.

Fifth, The combination of the catch lever, s, thumb bolt, n, and bar, i, substantially as and for the purpose set forth.

**54,681.—Machine for Cutting Cloth.—**Victor H. Buschmann, Baltimore, Md.:

I claim the endless belt, k, constructed and applied, and operating substantially as described, and for the purpose set forth.

**54,682.—Lock-up Safety Valve.—**A. S. Cameron, New York City:

First, I claim the closed case, A, constructed substantially as here-

in described, in combination with a single disk safety valve, o, and lever, substantially as and for the purpose set forth.

Second, The notched standard, c, rising from the bottom of the case, A, and arranged relatively to the internal screw, k, applied substantially as and for the purpose described.

Third, The counter lever, C, in combination with the slotted bar, p, provided with a shoulder, p', and with the main lever, d, of the safety valve, constructed and operating substantially as and for the purpose set forth.

Fourth, I further claim a cap applied to the valve port or discharge port of a lock-up safety valve apparatus, for the purpose and in the manner explained.

[This invention consists in the arrangement of a closed case or box, which can not be opened except by the person authorized to do so, in combination with a single disk safety valve, with a single or compound lever, in such a manner, that while the openings are free for the ingress and egress of steam, the valve is protected, and cannot be tampered with. It consists, also, in the arrangement of a slotted counter lever, in combination with the closed case and main lever of the safety valve, in such a manner that the attendant is enabled to blow off without supplying the means of adding to the load of the valve.]

**54,683.—Car Coupling.—**Miles H. Card, Fulton, Ill., and John W. Stewart, Lyon, Iowa:

First, We claim the combination and arrangement of the guards, C, links, B, and cams, D, with the draw head, A, substantially as and for the purposes specified.

Second, We claim, in combination with the links, B, and cams, D, provided with the shoulders, n, the employment of the pin or stop, c, arranged and operating substantially as specified and shown.

Third, We claim providing the cam with the projection, n, operating as set forth.

**54,684.—Fishing Tackle.—**W. D. Chapman, Theresa, N. Y.:

I claim the combination of the fixed wire hook, E, spring hook, F, and snood, G, when arranged together, and so as to operate substantially in the manner described, and for the purpose specified.

[This invention relates particularly to trolling fish-hooks, so called, although it can be applied to other hooks, and it consists in a novel manner of hanging a hook containing the fly, or other bait, to one or more hooks, whereby, when so desired, it can be easily detached therefrom, and a hook, adapted for another and different kind of bait, as for instance, for minnows, used.]

**54,685.—Sprinkler.—**W. F. Class (assignor to Nathan Page), Cleveland, Ohio:

First, I claim the plate, F, nozzle, C, and plunger, B, in combination with the cylinder, A, valves, H, L, and perforated base, A', which are arranged in the manner and for the purpose set forth.

Second, The lips, l, wings, n, and plunger, B, in combination with the valves, H, L, pipe, P', and nozzle, C, when arranged in the manner and for the purpose described.

**54,686.—Apparatus for Expelling Air from Cans.—**Daniel Clavidge, Indianapolis, Indiana:

I claim an apparatus for expelling the air from cans by pressure upon their sides, arranged substantially as set forth.

**54,687.—Machinery for Forging Screws.—**John Cochran, Township of Wall, N. J.:

First, The method of forming screw-threads upon metal bolts by means of forging dies of proper shape, in combination with a guide screw and rotating wheel, all constructed and arranged substantially as described.

Second, The combination of the tons and guide screw with the forging dies and templates, constructed and operating substantially as described.

Third, The combination of the clevis with the sliding rods or templates, so as to sustain a move with the bolt or blank, while it is being formed by the screw-forming dies, constructed and operating substantially as described.

Fourth, Controlling the space between dies, operating as described, as the operation progresses, by means of sliding templates, or their equivalent, so as to force screws of uniform diameter or taper, or gunbolt pointed, substantially as described.

Fifth, The combination of the sliding templates with the guide screw, by means of the slide rods and yoke, so as to be operated by it with an equal and simultaneous retractive movement, constructed and arranged substantially as described.

Sixth, The combination with screw-forming machinery, of the open bearing, r, clevis, in front of the dies, and the open-screwed bearing, in the pedestal for the guide screw, so that a blank or bolt, and the detachable apparatus, y, which it is held and rotated, can be safely and expeditiously placed in, or removed from, the machine while in motion, and without interruption to the speed, substantially as described.

Seventh, The straight-threaded forging dies, in combination with the plunger, c, and anvil block, J, constructed and operating in the manner and for the purpose, substantially as described.

Eighth, The combination, in a screw-forming machine of a screw forging die that has a positive and definite reciprocating movement, and a screw forging die that has a positive movement to or from the other, as required in the production of screws of varying diameter, when such movement of the latter die is caused and controlled by means of sliding templates, or their equivalent, substantially as described.

Ninth, The method of forming or making screws upon metal bolts, by operating upon and completing them from the neck or shank toward the point, by the means and in the manner, substantially as described.

**54,688.—Device for Operating Ships' Windlasses.—**Geo. Coffin, Boston, Mass.:

First, I claim the combination and arrangement of the windlass and its chain drums, operated by the toggle-jointed levers, substantially as described.

Second, Regulating and checking the veerings of the cable by means of a lever, working in the top of the chain pipes, as in the manner described.

Third, The arrangement and construction, substantially as described, of the chain drums and brakes, by which they can be made to turn with, or be disengaged from the windlass.

**54,689.—Ratchet Attachment for Harvesters.—**William Cogswell, Ottawa, Ill.:

I claim the combination with the pinion A, and shaft, B, of the adjustable pawl, C, C', and ratchet, B', substantially as described, to operate in the manner and for the purpose set forth.

I further claim the combination with the pawls, C, C', and ratchet, B', of the screw bolts, E, E', and nuts, E, E', as and for the purpose described.

**54,690.—Neck Yoke.—**A. C. Cooke, Ohio, Ill.:

First, I claim the combination with a neck yoke of friction spools, C, substantially as and for the purpose specified.

Second, The manner of connecting the friction spool, C, to the bar, A, as shown and described.

[This invention consists in the employment, in combination with a neck yoke, of friction spools, fitted to ride upon the breast straps of the horses, in such a manner that the jerking of the pole, when the vehicle is passing over uneven ground, will not affect the horses or wear out the breast strap in so great a degree as occurs in the usual mode of attachment.]

**54,691.—Shoemaker's Jack.—**Lewis L. Coon, Nunica, Mich.:

First, I claim the combination of the working shaft, C, and the standards, H, H', revolving at right angles to it, substantially in the manner and for the purpose set forth.

Second, So arranging the standard, H, by means of a bevelled base and eccentrically placed screw, that by using the nut, K, the last will be held firmly in place, substantially in the manner set forth.

Third, The combination of spring, D, sliding cone, E, and detent, p, for the purpose of fixing the position of the shaft, C, substantially as set forth.

**54,692.—Machine for Cutting Pegs out of Boots and Shoes.—**Thomas Corey, Marlboro', Mass. Antedated Nov. 15, 1865:

First, I claim the arrangement in a machine for removing pegs from the inside of boots and shoes of cutters in combination with

suitable mechanism for imparting rotary movement thereto, substantially as shown and described.

Second, In combination with cutters and machinery for imparting rotary movement thereto, I claim the frame provided with vertical and oblique arms or horns, substantially as and for the purpose set forth.

Third, So constructing the arms or horns of the frame, as to inclose and surround the cutters and mechanism in rotating the same, leaving only the cutting edges of the former to project, as shown and described.

Fourth, The arrangement of the rotary cutters in relation to their respective driving machinery and horns or arms so that they shall revolve on vertical axes, substantially as set forth.

**54,693.—Gang Plow.—**Thomas J. Cornell, Decatur, Ill.:

First, The combination of the lever, M, and bent arm, O, for raising the beams from beneath a point in the rear of their forward point of attachment, so as to be vibrated upon the said lifting device, by a weight applied to the forward end, substantially as described.

Second, The combination of the link, H, attached to the forward end of the beams and to the carriage, and operating substantially as described.

Third, The combination of the beam and the curved arm, or its equivalent, which in its backward motion operates to keep the beam down under the circumstances described.

Fourth, The mode of attaching the tongue to the carriage consisting of the laterally sliding socket and the guides, arranged and operating as described.

Fifth, The combination of the links, H, and standards, G, whose holes admit of the vertical adjustment of the links therein.

Sixth, The arrangement of the root lever, R, the links, H, and beams, A, operating as described.

[This invention consists in devices for raising the fore and hind ends of beams for regulating their action and position, and in the mode of attaching the beams to the carriage, and in the mode of attaching the tongue.]

**54,694.—Pipe Tongs.—**Richard Cox, Philadelphia, Pa.:

I claim the jaw, c, serrated and shaped as described, swiveling upon the screwed handle, A, in the manner and for the purpose specified.

**54,695.—Folding Hair Brush.—**Charles Crosman, Tompkinsville, N. Y.:

I claim a hair brush, the handle of which may be folded over upon the brush head, the said handle being hinged or pivoted and having suitable catches for holding the two parts in an extended position, substantially as described.

[This invention consists in hinging or jointing the handle of a brush to the brush head in such a manner that the handle may be thrown back upon the said head piece, and thus be folded into a small compass when not needed for use.]

**54,696.—Fruit Gatherer.—**John A. Daum, Canton, Ohio:

I claim the adjustable bar, D, with set screw, F, screwed to the frame, A, when used as and for the purposes herein set forth.

The frame, A, receiver, E, pipe, H, wheels, B, B' secured by lever, c, c, and bar, D, arranged and used substantially as and for the purpose herein set forth.

**54,697.—Ore Separator or Jigging Machine.—**Thomas Davey, Houghton, Mich.:

I claim the combination of a double acting plunger pump with two sieves of a jigging machine so that each motion of the plunger shall force water through one of the other of the said sieves, substantially in the manner and for the purposes set forth.

Arranging the sieves of an ore washer and separator, one above the other, substantially as and for the purpose described.

In combination with the sieve of a jigging machine, I claim the receiving hopper, B, provided with the perforated bottom, c, as and for the purpose set forth.

In combination with the sieves of a jigging machine, I claim the ore discharging chamber, L, provided with a gate or gates, as described.

In combination with the sieve and pump of a jigging machine, the partition, s, as and for the purpose set forth.

The adjustable pressure board, I, in combination with the pump and sieve of a jigging machine.

In combination with the sieves, D and J, of a jigging machine the passage, H, and shoot board, I, substantially as and for the purpose set forth.

**54,698.—Sextant.—**George Davidson, Philadelphia, Pa.:

I claim the combination of the spirit level, cross-wire reflector and double convex lens, or their equivalents, with the sextant, quadrant, octant, reflecting circle, or their equivalents, substantially as above described.

**54,699.—Spinning Mules.—**William C. Davol, Fall River, Mass.:

I claim the escape wheel or plate, p', on the clutch, F, constructed and operated substantially as described for the purpose of engaging and disengaging the clutch, F, at stated intervals, in combination with the fixed stud with the escape plate, W, and helper spring, Z, as above set forth.

Second, I also claim the fixed latch or stud, t, in combination with the escape wheel, p', of the escape wheel, p', substantially as described for the purpose of moving and holding the escape plate clutch box, F, out of gear at intervals.

Third, I also claim the combination of the escape wheel, p' and the clutch box, F, with the stop finger, 14, and stop plate, 15, for turning the cam shaft, E, at intervals, substantially as described.

Fourth, I also claim the combination of the escape wheel, p', and the clutch box, F, with the escape plate, W, escape lever, 3, and helper spring, 2, substantially as described.

Fifth, I also claim in combination with the escape plate, W, the helper spring, 2, the escape lever, 3, the stop finger, 14, the stop plate, 15, and the catch or clutch box, F, with its escapement, p', arranged substantially as above shown.

[This invention consists in an improved mode of turning and operating the cam shaft of the mule. This is accomplished in a positive manner by a new combination in the arrangement of geared wheels and clutch box, and escape plate, with a fixed latch or stop for moving the clutch box out of and into gear at intervals, all of which operate in combination with another escape plate and escape lever with a helper spring for putting the clutch box into and out of gear. These operate together for turning the cam shaft one quarter of a revolution at intervals, in order to change the different parts of the mule in and out of gear.]

**54,700.—Harness Snap.—**George W. Devine, Ottumwa, Iowa:

I claim the within described snap as an article of manufacture, said snap made of wire with a loop at one end, and hook at the other, the two parts of the wire being twisted together or around each other, between the loop and the hook, for the purpose of making a firmer loop, and for binding the hooks together more securely, and thus throwing the tension upon both parts of the wire in whatever line the strain may be directed, substantially as herein specified.

**54,701.—Plug for Washing Machine.—**Ellis Doty, Janesville, Wis.:

I claim the inside plug valve for closing the discharge opening of the tub or chest actuated by spring or lever and maintained in open position by the engagement of a shoulder or pin with the edge or other part on of the chest, substantially as described.

[This improvement consists in a long pointed plug, held in place by a coil spring. It closes an orifice in the bottom of the tub through which the water is discharged.]

**54,702.—Manufacture of Guard Finger for Harvesters.—**Rufus Dutton, New York City:

I claim forming a guard finger of one uniform metal, as steel cutting, sawing or milling a slot therein, and tempering such slot on its under surface or edges while the body of the finger remains untempered or not hardened, substantially as and for the purposes set forth.

Forming a solid guard finger, cutting the slot therein and tempering such slot on its under surface or edges, substantially as and for the purpose set forth.

Forming the guard finger from a single piece of metal, without a well and cutting a slot for the knife to work through, substantially as and for the purposes set forth.

54,703.—Boller Thimble.—George W. Duvall, Norfolk, Va.

I claim a cylinder of iron in two sections with scroll-shaped head and grooves as described in combination with the wedges, A, constructed and operated substantially as described.

57,704.—Spinning Machine.—William Eberhard, Sharon Center, Ohio.

I claim the arrangement of the fuse and the devices connected with it and the crank shaft and the means connected therewith, for giving the backward and forward motion to the carriage as herein recited.

The arrangement of the lever, b', and the means connected therewith, for producing the change of gear and making and breaking the connection of the feeding apparatus with the carriage, as herein described.

Third, combining the spring, m', with the spool and spindle, as and for the purposes herein set forth.

54,705.—Smoke-consuming Heater.—George W. Fair, Dayton, Ohio.

First, I claim the fire-clay arch, A, with its long aperture, B, at top, as arranged and combined with its fire place, C, and inside flue, G, as herein described.

Second, I also claim the outside flue, H, constructed of sheet iron or metal around the arch, as arranged and combined with the dome, J, as herein described, and for the purposes set forth.

51,706.—Lifting Jack.—Dan el Fasig.—Rowesburg, Ohio.

I claim the combination of the standard, A, with the sliding rack bar, C, lever, D, and adjustable arm, J, when the latter acts as a fulcrum and detent, its teeth, e e, engaging in corresponding recesses, h, in said frame, A, all co-operating and constructed substantially as described, and for the purposes set forth.

51,707.—Beer Faucet.—Joseph Firmenich, Buffalo, N. Y.

I claim the plug of a faucet made wholly of rubber, partially elastic, when arranged and combined with the wooden wrench, operating substantially as and for the purposes herein set forth.

54,708.—Liquid Cooler.—Adelbert Fisher, New York City.

I claim the movable heads, E, with annular recesses, A, in combination with the center bolt, F, annular cylinder, A, and vessel, B, all constructed and operating substantially as and for the purpose described.

[This improvement consists in providing the annular cylinder with movable heads which are held in position by a central bolt, the joint being rendered tight by suitable packing in such a manner that by uncovering the central bolt, the heads are released and access can be had to the interior of the annular cylinder or cylinders for the purpose of cleaning.]

54,709.—Saw Filing Machine.—Charles P. Frazer, Allowaytown, N. J., and C. C. Hinchman, Clarksboro, N. J.

I claim the combination of the reversible swivel plate G, file carrier, D, groove, M, tongue, O, and clamp, B, the whole being constructed and arranged in relation to each other, substantially as described, and for the purposes specified.

54,710.—Mode of Receiving and Delivering Mail Bags Upon Railroad Cars.—J. Fredenburgh and G. A. Davidson, Greene, N. Y.

First, We claim the scoop or hoppers, B and C, constructed and arranged in the manner described, the same being seamed to the mail car and also one placed upon the front edge of each mail station platform, to be operated by passing cars, herein set forth.

Second, We claim the method of tossing or throwing the mail bags from the cart to the station platform, and from the platform to the car, at the same time, by the means employed, substantially as herein described, for the purpose specified.

54,711.—Garden Digger.—Roscoe R. Frohock, Boston, Mass.

I claim a digging implement constructed with two blades, a and b, arranged to operate together, substantially as described.

54,712.—Telegraph Post.—William J. Fryer, Jr., New York City. Antedated May 1, 1866.

I claim the danged tubular telegraph post made of corrugated sheet iron, B, resting upon a base, A, radiating arms, D, and cap, C, all constructed substantially in the manner and for the purpose herein specified.

54,713.—Fire Screen.—H. P. Gengembre, Pittsburg, Pa.

First, I claim the combination of the flexible screen, V, mounted in the case, T, and supported by the piece, P, arms, M and K, and the clamp, E, for the purpose specified.

Second, The combination of the oscillating disk, G, washers, I I and rivet, H.

Third, The arms, K and M, articulated together and also with the clamp, E, for the purpose specified.

Fourth, The combination of the piece, P, with its pulley, p p balls S, and cords, R R.

Fifth, The combination of the case, T, with its roller, X, and pins, Y Y, as described and for the purpose specified.

54,714.—Mechanism for Adjustment of Head Lights.—Charles D. Gibson, New York City.

First, I claim movable locomotive head light when its adjustment to any given angle is placed under the control of the engineer or driver, substantially in the manner and for the purpose herein described.

Second, I also claim the central plate, B, and support, C, when combined with lever, D, arm, F, elbow joint, E, and shaft, F, or their equivalents, substantially in the manner and for the purpose herein described.

54,715.—Tension Pulley for Sewing Machines.—Julien C. Ghrardin, Philadelphia, Pa.

I claim the use of screws in place of rivets for fixing to gether the plates composing the tension pulley of a sewing machine, thereby having either ordinary heads or the same with a segment cut away, for the purposes hereinafter described.

54,716.—Safety Valve for Steam Generator.—Virgil D. Green, Watertown, Wis.

I claim the combination of the cup-shaped or hollow valve, D, steam passage, I, and weighted valve, N, and boiler valve, K, connected to a common stem, L, when arranged so as to operate together, substantially as herein described, and for the purpose specified.

[The object of this invention is to enable a large safety valve to be used for the escape of steam from a boiler, while at the same time the use of a long lever, or heavy weights or rigid and stiff springs are entirely obviated.]

54,717.—Lime Kiln.—Powell Griscom, and J. H. Miller, Baltimore, Md.

We claim the arrangement of the draw pits and furnaces on opposite sides as described, and secondly, the arrangement of the furnaces in respect to the kilns, so that the furnaces with the exception of those at the ends, shall communicate with the kiln at each side.

[This invention relating to lime kilns, consists in putting the drawpits and furnaces on opposite sides, and arranging the furnaces so that with the exception of those at the ends, they communicate with the kiln.]

54,718.—Wardrobe, Bureau, Desk, Washstand and Bed Combined.—E. Hamburger, Detroit, Mich.

I claim, First, A combined wardrobe, bureau, writing desk, washstand and bed, when arranged substantially as set forth.

Second, In the folding bed, I P, I claim the middle legs, K, formed with a notch, as described, and hinged to one section, I, in combination with a projection upon the end of the frame, I, substantially as and for the purpose set forth.

54,719.—Pump.—Thomas Hansbrow, Sacramento, Cal.

I claim the arrangement of the air vessel, G, nozzle, d, side pipe, C, valve chest, F, valves, b b' c c', passage, D, and cylinder, A, operating in the manner and for the purpose herein described.

[This invention relates to a new and useful improvement in up

right reciprocating pumps, and it consists in running the suction pipe up through the pipe communicating with the cylinder, whereby the pump cylinder cannot lose its "priming;" that is to say, said cylinder will be kept supplied with water even though the valves should leak.]

54,720.—Paper Collar.—William B. Harris, Springfield, Mass.

I claim the notches or slits in the ends of the collar, and the lengthened button holes or slits, arranged in such a manner that when the notches are placed in the lengthened button holes or slits, they will prevent the upper edge of the collar from turning in toward the neck, and by slipping along the button holes, allow the collar to adjust itself exactly to the neck, as herein described.

54,721.—Cooking Stove.—Daniel Hellig, Chicago, Ill.

I claim the arrangement and combination of the oven, D, with the fire box, P, when constructed as described, and used for the purpose set forth.

54,722.—Steam Gage Cock.—Frederick Henke, Scranton, Pa.

I claim a gage cock framed by combining the piston, I, with the arm, J, valve, D, and spring, G, substantially as described and for the purpose set forth.

[The object of this invention is to furnish a gage cock for steam boilers and similar uses, which will be easily operated, will be steam and water tight, will not be liable to get out of order, will be subject to little wear, and which can have the piston removed for repacking or cleaning out the gage while the gage is attached to the boiler and the boiler in operation; and consists in combining a packed piston or valve pusher with the lever and valve as herein after more fully described.]

54,723.—Hay Loader.—S. R. Higgins, Parma, Mich.

First, I claim the rake, I, connected by joints to arms, J, which are secured by joints to a turn table, D, on a mounted frame, and arranged with a hoisting tackle and upright on the turn table to operate in the manner substantially as and for the purpose set forth.

Second, The sliding plate, K, provided with an oblong slot, G, through which the hoisting rope, H, passes, and connected with the lever, B, of the arbor of the castor pulley, b, to serve as a clutch for the hoisting rope, substantially as described.

[This invention relates to a new and improved machine for loading wagons with hay or grain, and it consists in a novel construction of a rake and the application of the same to a mounted frame; in connection with a hoisting and lowering tackle, tripping device, clutch, and turn-table, whereby hay or grain may be taken up either from cocks or windrows and deposited upon the wagon or cart with the greatest facility.]

54,724.—Potato Harvester.—Joseph K. Hill, Xenia, Ohio.

First, I claim the double or compound roller, A A', constructed and operating as described, in connection with the fifth wheel, for the purpose set forth.

Second, The pivoted and adjustable plow and cutting coulter, constructed and operating substantially as described, and for the purpose set forth.

Third, Operating the digging shovel, H, through the leverage frame, J J K.

Fourth, Constructing the toothed cylinder, I, of sections or disks, with recesses, h', to hold the teeth, as described for the purposes set forth.

54,725.—Grate.—Charles Hives, Salem, N. J.

I claim the raised, sloped, annular portion, d', on the rim of the grate, D, and the corresponding annular groove, c c', in the bottom of the cylinder, C, the said parts being arranged together, so as to operate substantially as and for the purpose described.

54,726.—Machinery for Separating Metals from Ores.—John A. Hitchings, Denver City, Colorado.

I claim, First, The arrangement of the mortars, rounded stamps, and slotted connecting openings, substantially as and for the purpose set forth.

Second, The arrangement as a sequence to the subject matter of the first claim, of the rollers, N, in the trough for the further comminution of the ore received from the stamps.

Third, A basin-shaped revolving roasting plate, Fig. 4, provided with scrapers as described, and with a vessel containing salts of soda, alum or potash, which are intermingled with the ground ore.

Fourth, The arrangement, with the revolving roaster, of the cold water tank which receives the heated ore therefrom, as described.

Fifth, The arrangement of the roasting plate, cold water bath, amalgamator, and crusher, as described.

Sixth, The quicksilver-coated copper amalgamator, acting as a final means of arresting non-mercurialized metals, arranged and operated as described.

Seventh, The condenser arranged as described, consisting of the flue, Z, passing through the water chamber, the discharge pipe, h, and the chamber, b, the shower bath, c, and exit flue, f.

54,727.—Clothes Drier.—M. D. Hotchkiss, Sheboygan Falls, Wis.

I claim in combination with the swinging arms of a rack for holding clothes while drying, the supporting arc, D, substantially as set forth.

In combination with the swinging arms of a rack for holding clothes while drying, the spring, E, substantially as and for the purpose set forth.

54,728.—Bayonet Attachment.—Charles Howard, New York City.

First, I claim the groove around the center of the hilt or tubular part of the bayonet with a slot cut through for the purpose of supporting and keeping in place an open spring ring fastener.

Second, The open spring ring, a segment of which is made thick so as to drop into a notch of the barrel to fasten the bayonet, for the purpose substantially as above set forth.

54,729.—Tethering Halter Apparatus.—Eldridge Howe, Marlboro', Mass. Antedated April 13, 1866.

I claim the tethering apparatus, substantially as described, as composed of the halter and the series of cylinders as applied together, as and for the purpose specified.

54,730.—Steam Generator.—Dewitt C. Howell, Goshen, N. Y.

First, I claim the conductor, G G' g' g', constructed and connected with the fire box and arranged with reference to the fire box and surrounding portion of the boiler, substantially as herein described for the purpose set forth.

Second, The fuel reservoir, D, piston, D', and slide valve, M, applied in combination with the grate, C, or fire bed, substantially as herein specified.

Third, The pipe, P, and valve, v', applied substantially as and for the purpose herein set forth.

54,731.—Steam Engine.—Lafayette Huntoon, Milford, Mass.

I claim as my invention the improved steam engine constructed substantially in manner and so to operate as herein before described, that is to say, as composed of the main and expansion cylinder, A B, of different capacities or lengths and diameters as stated, their separate pistons, C D, piston rods E F, connecting rods, G H, and cranks, I, K, set in chests, V W, valves, T U, and steam passages and valve chest mechanism arranged together, and applied to a driving shaft, substantially as explained.

54,732.—Drawing Roller.—Daniel Hussey, Nashua, N. H.

I claim the combination of the gear, e d, or their equivalents, with the tubular top roller, A, the weight shaft, a, and the bottom roller, B, or the shaft, b, thereof, the whole being substantially as and for the purpose set forth.

[I also claim the combination of the weight-bearing sleeve, C', with the shaft, a, and the tubular top roller, A, A, thereof.]

[I also claim the arrangement of the sleeve, C', with respect to each of the top rollers, viz., so that one shall extend into the other short distance and be encompassed by it, substantially as and for the purpose as specified.]

54,733.—Screw for Stools, Etc.—William Allen Ingalls, Chicago, Ill.

I claim the above-described screw, as an article of manufacture.

54,734.—Brick Mold.—Thomas James, Baltimore, Md.

I claim a mold for forming bricks or other articles of clay, made wholly or in part of vitreous material, or faced or lined with vitreous material, for the purposes set forth.

[This invention consists in a glass or vitreous face or lining, applied to a brick mold or piston.]

54,735.—Crimping Machine.—John P. Jamison, New York City.

First, I claim the four springs, D and E, made of metal or other substances, adjusted, arranged and secured to the cross piece, C', in the manner herein above substantially set forth and described.

Second, The four brass jaws or stretchers marked, E, in combination with said four springs, D and E, secured to cross bar, C, as regulating and providing for the self-adjustment thereof, as herein shown and described.

54,736.—Button.—John M. Johnson, New York City.

I claim the barbed piercing stud, C, in combination with the rigid tubular shank of the button, A, and the spring, D, and operating in the manner and for the purpose herein specified.

54,737.—Bed Bottom.—Warren Jones, Berlin, Wis.

I claim the combination of the braces, E, with the springs C' C' C' C', slat, B, bars, D, and frame, the whole being arranged to operate substantially in the manner and for the purpose set forth.

[The nature of this invention consists in the employment of braces which in addition to their function of preventing the deflection or displacement of the spiral springs, are adapted in themselves to constitute yielding supports, so that while they fill an important office in conjunction with the springs, they have the special and independent character of elastic, yielding bearings.]

54,738.—Die for Heading Bolts.—Charles Kane, Pittsburg, Pa.

I claim the heading or staving die, M, when its cross section is a parallelogram in combination and made to correspond with and fit a rectangular space left between the pressing dies, the dimension of which is greater from edge to edge, as above described.

54,739.—Sand Pump.—J. B. Kibler, Girard, Pa.

First, I claim the movable valve seat, J, in the bottom of a sand pump, substantially as described.

Second, I also claim the stopper or plug valve, c', in the top of the pump, in combination with a solidly extending downwardly below the end of the supports of the pump, substantially as described.

[This invention consists in a novel construction of a sand pump whereby its operation is rendered automatic.]

54,740.—Handle for Coffee, Spice, and Other Small Mills.—Jacob Kinser, Pittsburg, Pa.

I claim the cast iron handles for coffee, spice, and other small mills, substantially as shown and described, as an article of manufacture.

54,741.—Wash Basin.—Johann Christian Knoepke, Philadelphia, Pa.

I claim as a new article of manufacture, a tin wash bowl made of a combination of the bowl, B, curved strip, C, and ring, E, in the manner and for the purpose described.

54,742.—Loom for Weaving Tapes, Ribbons, Etc.—Lucius J. Knowles, Warren, Mass.

I claim a combination composed not only of the straps, e e, and their guide wheels as applied to the lay and its rack, substantially as described, out of the crank, n, the shaft, o, and the bevel gears, t u, or their mechanical equivalent or equivalents, operated by the cranked shaft of the lay.

I also claim the straps, e e, and the guide wheels, f f g g, arranged and combined together, and with the lay and the rack, substantially in the manner, or so as to be operated by a crank or its equivalent, as specified.

I also claim the arrangement of the shaft, o, and its crank, n, and gear, t, with the crank shaft, c, and its pinion, u, and the straps, e e, applied to the lay and its rack, substantially as specified.

54,743.—Breech-loading Fire-arm.—T. T. S. Laidley, U. S. Army, and C. A. Emery, Springfield, Mass.

We claim, First, Locking the movable breech piece, by means of a piece independent and separate from the hammer or tumbler, but moving on the same axis, and the same operated or brought into place, as soon as the breech piece is closed, irrespective of the extent to which it may have been opened.

Second, The arrangement of a cam on the same axis of the breech piece, for the purpose of throwing back the locking piece, so that by means of a stop on the cam, the breech piece may be opened by the simple motion of the said cam.

Third, The arrangement of a pawl attached to the locking brace and engaged with the hammer or tumbler for the purpose of throwing back the said locking piece, the two being arranged and operated substantially and for the purpose specified.

54,744.—Breech-loading Fire-arm.—James Lee, Milwaukee, Wis.

First, I claim the breech block, C, provided with the grooves, e and f, substantially as, and for the purpose set forth.

Second, I claim the breech lever, D, with the studs, m and l, to operate in connection with the breech block, C, as shown and described.

Third, I claim the lever, D, having its front end provided with the lip or hook, o, and arranged to operate within the chamber of the gun, substantially as, and for the purpose set forth.

54,745.—Cow and Sheep Rack.—Rodman Lovett, Canton, Ohio.

First, I claim the section A A', hay racks, B B, revolving troughs, D d, and guide board, C, arranged substantially as, and for the purposes set forth.

Second, The adjustable hay racks, B B, when arranged and used for the purposes set forth.

Third, The adjustable trough, F, in combination with the sections, A A', when used as, and for the purposes specified.

54,746.—Evaporating Solutions of Salt, Sugar, Etc.—Osborne MacDaniel, New York City.

First, I claim in connection with evaporating vats the vertical sliding and folding frames on which are fastened cloths, mats, or boards, so arranged as to fold over and upon each other at the bottom of the vat when the frames are lowered, and to hang in the air when the frames are raised, substantially as, and for the purpose herein described.

Second, I claim the elevated distributing troughs, o o, and the return troughs, v v, in combination with the tanks, D and E, and the evaporating apparatus suspended in the vats, B B, for the purpose, and substantially as herein described.

54,747.—Dumping Wagon.—A. D. Manley, Washington, Mich.

I claim the sliding bar, R, with its pins, w, operating in combination with the spring bars, m, and the swinging boxes, G H I, for joint or independent action in the manner, and for the purpose herein specified.

[This invention particularly relates to the box or body of a wagon, and it consists in so dividing the same into two or more sections or parts, and arranging them with regard to each other, in such a manner that either one or all of the sections can be so operated as to "dump" such portion of the load as may be contained in its various sections at pleasure, without necessarily bringing the wagon to a stop, which result can be accomplished with the utmost ease by the driver of the wagon, without moving from his seat, and the wagon body similarly replaced or reset, after any one or more of its sections have been dumped.]

54,748.—Mode of Extinguishing Fire.—W. C. Marshall, New York City.

I claim the arrangement of several series of perforated pipes, a b c (one or more for each floor of a building), in combination with nipples, a' b' c', situated on the outside of the building, and each communicating with a distinct series of pipes, substantially as, and for the purposes set forth.

[This invention consists in arranging in the interior of building and along the ceilings several series of perforated pipes, one or more for each floor or story, in combination with nipples, while

are situated on the outside of the building and each of which communicates with a distinct series of pipes in such a manner that in case of fire in the building, a hose can be readily attached to the proper nipple, and the floor on which the fire originated can be flooded with water, and the fire extinguished before it is allowed to make much headway.

54,749.—Tenoning Machine.—Lawrence Mason, Turin, N. Y.:

I claim the arrangement of the vertically moving frame, B\* B\*, adjustable bars, D, D', and springs, E\* E\*, saws, F\* F\*, cutters, G\* G\*, raised by means of the tappets I\*, and arms, N\*, operating substantially as described and represented.

54,750.—Machine for Boring Wagon Hubs.—Lawrence Mason, Turin, N. Y.:

First, I claim the arrangement in the hub-boring machine of the adjustable cutter mandrel, B, with its plate, S, and set screw, T, and the clamping and centering plates, D, D', with their triangular openings, F, E, constructed and operated as described.

Second, I claim the combination and arrangement of the frame, M, arbor, K, slotted bar, N, arm, P, collar, Q, disk, R, shafts, B, and adjustable plates, D, D', substantially as and for the purpose described.

54,751.—Cultivator.—William McCormick, Muscatine, Iowa:

First, I claim the cast iron standards, Z, provided at their upper ends with flaps, I, to fit over the upper and lower edges of the plow beams, I, in order to avoid the use of the braces to retain the standards in position, substantially as set forth.

Second, the arrangement of the plow beams, I, as shown, to wit, the rear ends being provided with rods, J, to fit into staples or guides, K, at the lower parts of uprights, G, at the rear of the frame A, and their front ends connected by chains, R, to uprights, G, which are attached by universal joints, P, to the front part of the frame, A, the uprights, G, passing down between uprights, M, and the front bent parts, A\*, of one of the clevis, L, of each beam, substantially as and for the purpose specified.

Third, the attaching of the doubletree, Q, to the front ends of the beams, I, when said beams are connected to the bar, A\*, through the medium of the uprights, G, in said beams, in the manner substantially as set forth.

Fourth, the arrangement of the treadles, T, with the beams, I, and lever, W, substantially as and for the purpose specified.

54,752.—Brick Machine.—A. R. McNair, New York City:

First, I claim feeding the molds to a brick machine in a pile from the front side, substantially as specified.

Second, The eccentric wheels, F and L, L, in combination with shaft, D, levers and hinges, O, presser, H, sliding boards, E and G, as described, constructed, and arranged, substantially as and for the purpose set forth.

54,753.—Axle Box.—Joseph Montgomery, Harrisburg, Penn.:

First, I claim the journal box, C, arranged and constructed, substantially as described and for the purpose set forth.

Second, The lid, A, hinged low and secured by handle, B, and jamming cam, B, constructed and operating substantially as described and for the purpose set forth.

Third, The loose or hinged rack frame, C, inside of box, constructed and operating, substantially as described and for the purpose set forth.

54,754.—Portable Fence.—E. D. Montrose, Nashua, Iowa:

I claim a portable fence constructed of two or more parallel chains, A, composed of links, a, bent in the form and around the pickets B, in the manner substantially as herein set forth.

54,755.—Carriage Seat.—F. B. Morse, Milwaukee, Wis.:

I claim the lever, G, when used in combination with the seat rail post, F, for the purpose specified and arranged, and operating substantially as described.

[The object of this invention is to so attach the lazy-back and buggy tops to the seats of carriages, that when desired they can be readily and easily detached therefrom or secured thereon, and thus either one or the other used at pleasure, the mode of attachment being simple, light, but strong, and costing but little to manufacture.]

54,756.—Plow.—John Mott, Danville, California:

I claim First, As a new invention, the use of a double plow revolving upon a horizontal axis, L, the two plows being placed one over the other in an inverted position, substantially as described and for the purpose set forth.

Second, I claim the clamps, M and N, for hinging the main rod, L, to the standards, C and I, and the adjustment with washers (or their equivalents) of the clamps, N, for turning the plow more or less to land, substantially as described.

Third, I claim the set screws, S, placed in the upper end of the standard of the plows for steadying them and keeping off the land side from the standard, J, substantially as described.

54,757.—Superheating Apparatus.—Isaac Newton, New York City:

I claim, First, The arrangement of a superheating apparatus composed of a system of tubes and a circulating chamber, within an enlarged casing or box, N O P Q, in relation to the outlet of the boiler and the base of the chimney, substantially as and for the purpose specified.

Second, Bracing the circulating chambers, A B C D, by securing one or more of the inner tubes to their corresponding outer ones at their ends, H F, and their reverse ends, respectively, to the side, C D, and dividing plate, I K, of the circulating chamber, substantially as described.

Third, The arrangement of the superheating tubes within the casing, N O P Q, in relation to the circulating chamber and to a door, A' B', in the said casing, substantially as herein specified, to provide for the removal and replacement of any of the said tubes.

54,758.—Machine for Making Eaves Troughs.—O. W. Noble, Darlington, Wis.:

I claim, First, The slide, E, in combination with the roller, B, arranged and operating substantially as specified.

Second, The forming board, F, in combination with the treadle, G, and roller, B, substantially as and for the purpose specified.

Third, The combination and arrangement of the roller, provided with a permit F, and side, D, and slide, E, with the forming board, F, and treadle, G, substantially as specified.

[This invention relates to a machine for forming sheet metal eaves troughs whereon the roller is provided with a slide secured to a permanent rib therein for clamping the sheet of metal while being formed, which is used in combination with a forming board operated by a treadle, all being suitably arranged so that the operator can put in the sheets of metal, operate the machine and remove the formed trough without a change of position.]

54,759.—Pentographic Machine.—Edmund Oldham, Brooklyn, N. Y.:

I claim in pentographic machines the use of an eye glass with a speck or dot on its surface for the purpose of tracing outlines of plane or other surfaces, substantially as above set forth.

Second, I also claim the means above described for giving independent movements to the diamond pointer, to wit: the bar, E, the base pinion, F, and its shaft, G, and the toothed wheel, H, on which the carriage H, rests substantially as above set forth.

Third, I also claim the ruling devices, R S T, constructed and operated substantially as set forth.

54,760.—Chuck.—L. H. Olmsted, Stamford, Conn.:

I claim making a chuck, substantially as shown and described.

54,761.—Egg Beater.—S. B. Pangborn and G. H. Griffin, Boston, Mass.:

We claim the improved egg beater, as composed of the vessel or pot, A, the shaft, e, and its wings or beaters, g g g, and the arms or projections, e, and the weight, f, fixed to such arm, the whole being arranged in manner and as to operate substantially as and for the purposes as hereinbefore specified.

We also claim the combination of the centrifugal guard, h, with the vessel, A, with its cover, and with the shaft, its beaters and the arm and weight applied to such vessel, they being substantially as specified.

54,762.—Chair.—V. P. Parkhurst, Templeton, Mass.:

I claim the combination of the plate, F, pivots, a, ferrules, F, caps, G, and pins, g, arranged relatively with the back, D, and posts, C, of the chair, A, and operating in the manner and for the purpose herein specified.

[This invention consists in so attaching or hanging the backs of chairs and other similar seats to the posts that they will adjust themselves to the person sitting in the chair, supporting both the shoulders and lower part of the back, whatever position the sitter may assume; and also, in so hanging the said back that when the person rises from the chair, the back will resume its original or vertical position between its posts or supports, without the aid of springs or any other additional devices.]

54,763.—Cultivator.—Edward Parmele and R. N. Patterson, Davenport, Iowa:

First, We claim applying shovel standards to a carriage in such manner that they are allowed to rise or fall bodily or in dependency of each other and also being moved laterally together by the feet of the attendant, substantially as described.

Second, The slotted shovel standards, D, D, in combination with the treadles, r, r, and the driver's seat, substantially as described.

Third, Connecting the standards, D, D, to the rollers, e, in such manner that their lower ends can be swung forward and upward in combination with contrivances for leveling said rollers, standards to be adjusted laterally, and also moved up and down in a direction with their length, substantially as described.

Fourth, so constructing the two treadles, r, r, that each one serves as a lever, and also as a means by which both standards can be moved simultaneously to the right or to the left, substantially as specified.

54,764.—Clothes Wringer.—James N. Pease, Panama, N. Y.:

I claim the improved method of rearing wringer rolls by doubling or multiplying the toothed wheels in the manner hereinbefore described, that is to say, by the employment upon each of the shafts geared together of two or more sets of teeth of like number, so that the rotation or construction of each set being situated in different planes, but in such a fixed relation in respect to the other set, or sets, that the spaces between the teeth of either set shall be equally divided by the teeth of the other.

54,765.—Broom Head.—Daniel Peters, Eaton, Ohio:

I claim the tube, E, which forms a guide and socket for the bolt, D, in its described combination with and relation to the said bolt, the wrapper, B, the handle, A, and bars, F, F.

54,766.—Water Closet.—Oliver S. Pettit, Brooklyn, N. Y.:

I claim the combination of the valve, H, rod, I, and lever, J, with the discharge pipe, G, and cover, B, of a water closet, substantially as described and for the purpose set forth.

[This invention has for its object to so improve the construction of water closets, that the unpleasant effluvia may not ascend through the discharge pipe and be disseminated through the building; and it consists in combining with the discharge pipe and with the seat or cover of the pan, a valve, opening automatically to permit the escape of the contents of the pan, and closing when the pressure upon the cover is removed.]

54,767.—Ladder.—Barton Pickering, Dayton, Ohio:

I claim the platform, C, provided with catches, u, t, the rollers, o, and bent rods, f, in combination with the ladder, A, B, having projections on the part, A, substantially as described and for the purpose set forth.

54,768.—Safety Valve.—Alexander Pollock, New York City:

First, I claim the valve chest, C, and its two valve seats, e, f, the double puppet valve, E, F, and the outlet, D, arranged in relation with each other and with the steam box, A, communicating with the steam space of the boiler, substantially as and for the purpose herein specified.

Second, The arrangement of the safety valve, the weight, H, or its equivalent, and the lever, J, through which the weight or spring acts upon the valve all within a steam box, A, which is always in communication with the boiler, substantially as herein described.

Third, The tripping lever, M, outside of the steam box, A, and the rod, L, connected in combination with the said lever, J, connected with the valve lever, J, within the steam box, A, substantially as herein described, whereby the lifting or tripping of the inclosed valve for blowing off steam is provided for, without permitting the load on the said valve to be increased, or the said valve to be secured in a closed condition.

Fourth, The arrangement of the valve chest, C, attached to steam box, B, by the removable plate, D', whereby the removal of the pin, n, the valves and valve chest, e, f, J, may be removed from the steam box with the said plate, D.

Fifth, The bar, Q, staple or staples, R, pin or pins, t, and seal or seals, J, applied and arranged in relation with each other and with the steam box, A, and door, F, substantially as and for the purpose herein set forth.

Sixth, The double puppet valve provided between its heads with a chamber, g, which is open to the steam space in which the valve chest is situated, substantially as and for the purpose herein specified.

54,769.—Churn Dasher.—G. H. Poole, New York City:

First, I claim the dasher, B, constructed substantially as described and for the purpose set forth.

Second, The combination with the dasher of the disk or fan, D, substantially as described and for the purpose set forth.

Third, The combination of the double cover, E, F, constructed as described with the dasher and with the churn, substantially as and for the purpose set forth.

Fourth, The combination of the crank wheel, I, arm, H, and guides, N, with each other, with the dasher B, cover, G, E, F, and frame, J, substantially as described and for the purpose set forth.

[The object of this invention is to furnish a churn by means of which the globules in the cream which contain the butter may be gradually and quietly broken in contact with the air, thereby improving the quality and increasing the quantity of the butter produced. And it consists, principally, in the novel construction of the dasher, which is made by attaching three or more whorls of radial arms to the lower part of the dasher shaft. To the upper and under sides of each of these arms is attached half-cone shaped cups or scoops, which, as the dasher rises, carry up and project through the air quantities of the cream, and as the dasher descends, carry down with them air to be distributed through the cream.]

54,770.—Railroad Switch.—Thomas B. Purves, Green Bush, N. Y.:

I claim the construction of a portable switch, for the purpose of placing cars upon a railroad track by the combination of the bar, a, b, c, secured as described to the rail, with a movable limb, c, f, g, formed as shown and hinged or pivoted over the center of the rail, substantially as described and for the purpose set forth in this specification.

54,771.—Purifying Bone Black.—Thomas H. Quick, New York City:

First, I claim the line, G, for receiving the descending currents of ammonia or bone black, constructed substantially as and for the purpose above described, with the diaphragm, B, and shelf, C, in combination with the feed pipe, A.

Second, I claim the combination of the flue, G, with a Hancock steam blower, arranged substantially as and for the purpose above described.

54,772.—Portable Fence.—Jacob Reedy, Toledo, Iowa:

I claim constructing the posts, A, with a double riveted mortise and the boards, B, with corresponding notches in their lower sides, the fence being secured by such notches and by keys driven above the boards, substantially in the manner set forth.

54,773.—Ladies' Paper Underleaves.—Helen M. Remington, Springfield, Mass.:

First, I claim as a new article of manufacture, a paper underleaves, substantially as described.

Second, I claim the material composed of two thicknesses of paper with an oily substance to render it water proof and a suitable pre-

paration to prevent this oil from striking through to the outside, substantially as described.

54,774.—Mode of Attaching Circular Saws to their Arbors.—Albert L. Rice, Worcester, Mass.:

First, I claim the improved mode hereinafter described, of attaching and adjusting circular saws to their arbors by the combination with the stationary and movable recessed collar as herein described, of a conical bush, sliding on the saw arbor, and fitting in the recess formed in the movable collar under such an arrangement that the saw may be simultaneously adjusted, and secured on its arbor, as shown and set forth.

Second, In combination with the stationary and movable collar and conical bush fitting in a recess in the movable collar as described, I claim the employment of a rubber or other elastic packing or washer, as and for the purpose herein set forth.

54,775.—Axle Box.—William F. Rippon, Providence, R. I.:

I claim the independent oil reservoir, A, provided with a filter, c, as described in combination with the journal bearing, D, substantially as described.

54,776.—Egg Beater.—Alexander M. Robinson, Boston, Mass.:

I claim the funnel-shaped ends in combination with the ribs soldered to the sides of the case.

54,777.—Head Block for Saw Mills.—George W. Rodenbaugh, Toledo, Ohio:

First, I claim setting the log to the saw at either end or at both, simultaneously, by means of the independent shafts, E, E, when operated by compound cog wheels, J, and adjustable pulleys, K, K, substantially in the manner and for the purposes herein specified.

Second, I claim the construction of the dog, consisting of the bit, a, attached to a shank, n, which fits and slides within the vertical groove of the knee, substantially as described and represented.

Third, I claim operating the pivoted dog, a, by means of the lever, b, and pins, e, e, as and for the purposes set forth.

54,778.—Extension Fruit Ladder.—Artemas Rogers, Painesville, Ohio:

I claim the lever, I, brace, D, in combination with the ladder, A, and loops, C, arranged and operated in the manner and for the purpose set forth.

54,779.—Bed Bottom.—Jonas Rouse, Dowagiac, Mich.:

I claim the combination of the shaft, C, and secondary shaft, D, arranged to operate substantially as specified.

[This invention consists in the combination, with the shaft of a bedstead of a secondary shaft, in such manner that the secondary shaft acts as a spring, giving to the slats proper the desired springing motion, whereby a cheap and easy spring bed bottom is obtained.]

54,780.—Steam Generator.—Stephen P. Ruggles, Boston, Mass.:

I claim combining with an open boiler or reservoir of water, a steam generator within said boiler, and at or near the bottom of the column of water therein, substantially as and for the purpose herein described.

54,781.—Washing Machine.—William H. Sargent, Weymouth, Mass.:

I claim the combination and arrangement of the stationary rubber, f, the friction rollers, e, e, and their carrying frame, A, B, constructed with its two opposite sides, b, b, inclined toward the handle, and made with openings through its ends to enable the water and saponaceous matter to flow freely through them into and out of the case while the machine may be in use.

54,782.—Attaching Props to Carriage Bows.—Leonard Sawyer, South Amherst, Mass.:

I claim the plate, B, provided with the square tubular projection, C, and the prop or arm, D, provided with a screw to fit into an internal screw thread in the projection, c, in combination with the collar, F, having a square interior and fitted on a square portion on the prop or arm, and on the projection, c, substantially as and for the purpose specified.

54,783.—Device for Shooting Gravel at Cows upon Railroad Tracks.—Stephen Scolton, Richmond, Ind.:

I claim the construction and operation of the valve, c, in combination with the hopper, A, and tube, B, or their equivalents, for the purpose described.

54,784.—Harvester.—Jacob Seibel, Manlius, Ill. Antedated May 1, 1866:

First, I claim the arrangement of the jointed shaft, H, with the two shafts, J, N, with their attachments, operating substantially as and for the purposes herein specified and shown.

Second, I claim suspending the platform upon the main frame by means of the bar, R, and the bent support, W, attached to the platform, all being arranged and operating as and for the purposes specified and shown.

54,785.—Hoop Skirt.—Permelia E. Sheffield, Pontiac, Mich.:

I claim hoop skirts of steel wire, having an apron, A, extending down the front of the skirt covering the wire, substantially as and for the purpose set forth.

54,786.—Ribbed Metallic Bar.—John Y. Smith, Alexandria, Va., assignor to himself and Herman Haupt, Philadelphia, Pa.:

I claim the manufacture of the metallic triple-ribbed bar, in the manner and by the means substantially as herein described.

54,787.—Mail Pouch or Box.—Marshall Smith, St. Louis, Mo.:

First, I claim the combination of the box, C, D, with the toothed ways, e, f, and sliding follower or compressor, A, or corrugated ways, h, and followers or compressor, B, or their equivalent devices, when employed as and for the purpose set forth.

Second, I claim attaching the reversible label, M, to the box, C, substantially as described.

Third, I claim interposing a rubber or any other suitable packing, x, between the different parts of wooden boxes, so as to make them water-tight, for the conveyance of mail.

Fourth, I claim a box fitted with internal partitions and followers, arranged to separate parcels of mail matter, while being conveyed in the same box, the whole used as a package for inclosing mails for and in transportation, substantially as set forth.

54,788.—Flour Sifter.—Edward Spencer, Philadelphia, Pa.:

I claim the employment of the balls, E, in combination with the rotary cylindrical sieve, A, B, suspended in a suitable case, C, D, the whole being constructed and arranged together, so as to operate substantially as and for the purpose described.

54,789.—Harvester Rake.—Ara D. Sprague and Asbury Dockum, Caledonia, Minn.:

First, We claim the combination and arrangement of the elevated rake head, G, F, and arm, H, with the shaft, J, constructed and operating substantially as and for the purposes herein delineated and shown.

Second, We claim in combination with a slotted rake head, F, G, the employment of the stationary rafter, L, arranged and operating as and for the purposes set forth and shown.

Third, We claim the adjustable teeth, c, when constructed, arranged and operating as and for the purposes shown and described.

54,790.—Combined Harrow and Roller.—John Steiner and John P. Miller, Harrisburgh, Ohio:

First, We claim the drag bar, A, constructed and arranged with reference to the harrow, B, substantially as described and for the purposes specified.

Second, The combination of the harrow, B, drag bar, A, the wheels, D, E, E, and the roller, C, in the manner substantially as described, and for the purposes specified.

54,791.—Sorghum Stripper.—A. P. Stephenson, Equality, Ill.:

I claim a tool constructed substantially as described, for topping, stripping, and cutting sorghum, and other canes.

54,792.—Water Wheel.—Christopher C. Stillman, West-erly, R. I.:

First, I furnish every one of the pitches of a turbine wheel with a separate gate operated substantially as and for the purpose herein specified.

Second, A combination with a series of gates applied one to each of the pitches of a turbine water wheel, I claim a case so applied

open and close the said gates in pairs successively, all around the wheel one on each side of the center thereat, substantially as herein described.

Third, I claim the combination of the annular grooved cam, E, the circular sliding guide frame, D, and the stems of the gates, substantially as and for the purpose herein set forth.

Fourth, the springs, B, applied in combination with the gates and stems, substantially as and for the purpose herein described.

54,793.—Weather Strip for Doors.—A. E. Strobel, New York City: I claim the plate, D, attached to the door and operating as a weather strip by projecting into and receding from the groove, C, with the movement of the belt, I, in the act of latching or unlatching the door, in combination with the means for locking the plate within the groove, substantially in the manner and for the purpose herein set forth.

54,794.—Portable Fence.—John Thompson, Williamsburgh, N. Y.: I claim the swivel sockets, B, and rails, G, D, E, in combination with the rollers, A, H, so arranged that the fence will be convenient to any desired angle of the structure, and the posts always retained perpendicular in position, substantially in the manner herein represented and described.

54,795.—Hot-Air Furnace.—Thomas Wallace, Chicago, Ill.: I claim the arrangement of the zig-zag pipe, A, and horizontal pipes, B, in a furnace, in such a manner that the heat from the fire in the furnace shall be made to follow the pipe, substantially as and for the purpose set forth.

54,796.—Gate.—H. M. Ward, Stone Church, N. Y.: I claim the seat-acting joint made of two disks, D, and bearing, E, connected by the shaft, G, and the guide, F, with two or more friction rollers, B, H, when assembled in combination with the gate, A, in such a manner as to balance it when slid half back and then swing it around automatically, substantially as set forth.

54,797.—Cherry Stoner.—William Weaver, Phoenixville, Pa.: First, I claim the disk, C, having ribs on both sides, in combination with a double or with two hoppers arranged opposite sides of the disk, substantially as and for the purpose described.

Second, the combination with the disk, C, of one or more inclined channels, D, for the purpose specified.

Third, the combination with the disk, C, of one or more hoppers with a reverse disk having blunt-ended projections or ribs, C, on one side and sharpened ribs, C', on the other, for the purpose set forth.

54,798.—Boiler Feeder.—W. S. Wells and S. B. Wells, Middlebury, N. Y.: We claim the combination with a steam boiler of an auxiliary steam and water chamber, provided with a float connected with the valve through which steam is supplied to the feed pipe, so as to cause the starting up and stopping of the said pump, when the several parts are arranged as herein described.

54,799.—Fan and Parasol.—William H. White, West River, Md.: First, as a new article of manufacture, a fan sun shade, or canopy, composed of a frame and wrapper, when the latter is provided with draw cases, and draw springs, and constructed and applied in the manner hereinafter set forth.

Second, I claim, as a new article of manufacture, a combination fan and sun shade, constructed and operating substantially in the manner set forth.

54,800.—Corn Plow.—Daniel Wilde, Washington, Iowa: First, I claim adjusting the shovel-tips and shovels, by means of the slots, G, and bars, F, secured for the purpose herein set forth.

Second, I claim, in combination with the shackle bar, I, between the handles and connected thereto, the slotted or spaced plates from ends of the beams, M, fixed to the front bar, U, substantially as described, as and for the purpose herein set forth.

Third, I claim connecting the shoveler to the plow frame, by means of the hinged straps, X, and bar, Z, and pin Y, as described.

54,801.—Propeller.—Aretus A. Wilder and William Gooding, Detroit, Mich.: I claim the combination of two or more flanged buckets with paddles, C, on shafts and rods, A, B, constructed substantially as shown and described, and for the purpose set forth.

54,802.—Whitewashing Apparatus.—Moses H. Wiley, Bucksport, Me.: I claim as my invention the said apparatus or combination of the reservoir, A, the rollers, B, and D, and the trowel, E, arranged substantially in the manner and so as to operate as and for the purpose substantially hereinafter specified.

54,803.—Buckle.—Joseph J. Wilkins, Virdey, Ill.: First, I claim the buckle constructed and operating substantially as shown and described.

Second, I claim providing the buckle tongue with the cam, N, for the purpose of rendering itself operating, as set forth.

54,804.—Adjustable Sandal.—Jane Maria Wilkinson, Urbana, Ill.: First, The sole, A, in combination with the heel, A', of the sandal, substantially as and for the purpose set forth.

Second, An adjusting device by which a sandal may be adapted to different sizes of shoes, substantially as and for the purpose set forth.

Third, The sole, D, with the opening, E, in combination with the adjustable heel, A, and plate, B, substantially as and for the purposes set forth.

54,805.—Floor Clamp.—Seth C. and Samuel Winslow, Worcester, Mass.: We claim the combination of the dogs, G, G', with the floor clamps, substantially as and for the purpose herein specified.

54,806.—Billiard Register.—A. Wirsching and William Zoehle, Williamsburgh, N. Y.: First, We claim the use of a billiard indicator, of concave keys or buttons, C, O', substantially as herein described, so that the points of the cue are not liable to slip thereon, when the players wish to force the cue in.

Second, The keys, C, C', in combination with rockers, M, levers, H, and stop pins, L, substantially as and for the purpose set forth.

Third, The keys, C, C', in combination with elbow levers, Q, Q', racks, W, W', and index hands, A, A', constructed and operating substantially as and for the purpose described.

Fourth, The serrated arms, E, E', in combination with stops, I, keys, C, C', racks, W, W', and index bands, A, A', constructed and operating substantially as and for the purpose set forth.

Fifth, The rack, W, W', and pinions, E, E', in combination with the radiating plates, F, F', arms, C, C', pawls, B, B', ratchet wheels, A, A', and index hands, A, A', constructed and operating substantially as and for the purpose described.

Sixth, The levers, M, M', and inclined plates, O, O', in combination with the stops, K, K', levers, P, P', and ratchet wheels, A, A', constructed and operating substantially as and for the purpose set forth.

Seventh, The additional hook catches, S, S', in combination with the ratchet wheels, A, A', and index hands, A, A', constructed and operating substantially as and for the purpose described.

Eighth, The pawls, A, A', and ratchet wheels, W, W', in combination with the ratchet wheels, A, A', and index hands, A, A', and B, B', as and for the purpose set forth.

Ninth, The inclined plates, E, E', F, F', in combination with the pawls, A, A', and index bands, A, A', B, B', constructed and operating substantially as and for the purpose described.

Tenth, The keys, C, C', in combination with the ratchet wheels, A, A', and index hands, A, A', constructed and operating substantially as and for the purpose set forth.

54,807.—Slingshot Arm.—Oliver E. Wood, Philadelphia, Pa.: First, I claim slinging the gun by means of the strap, C, and one or more hooks, D, D', substantially as and for the purpose described.

Second, I claim a hook, O, attached to the cartridge box, F, to adapt the latter to be attached to and supported by any part of the equipage.

Third, I claim the method of holding open the flap of the cartridge box.

Fourth, I claim providing the bayonet with a hook, R, to enable it to be slung to the equipage, as and for the purpose specified.

Fifth, I claim slinging the cartridge box behind to the knapsack, in any manner, substantially as described.

Sixth, I claim the blind-buckles, I, I', or their equivalents, attached to the front of the knapsack to enable the blankets or other equipage to be retained by the coat straps, G, G', in a position forward of the center of the knapsack, in the manner and for the purpose set forth.

Seventh, I claim the ring, K, attached to the under-side of the knapsack, to support the accoutrements when shifted to the rear.

54,808.—Foot Stove.—M. B. Wright, West Meriden, Conn.: I claim the arrangement of the movable perforated plate, G, rim, B, lamp, C, movable heating plate, H, and movable grate, B, in combination with the perforated vessel, A, constructed and operating in the manner and for the purpose herein described.

54,809.—Machine for Colling Hoops of Wood.—Louis Zistel, Sandusky, Ohio: First, I claim the combination of the belt, I, pulley, J, self-adjusting pulleys, M, and U, carrying pulley, T, drum, K, weighted lever, N, relatively to each other, and operating in the manner and for the purpose herein specified.

Second, The combination of the swinging cover, W, drum, K, pushing hook, B, shaft, D, arms, B', C', arranged and operating in the manner and for the purpose herein specified.

[The object of this invention is to furnish a machine for colling hoops, grape and chest-bow sides, etc. for market. And it consists of a combination of pulleys, bands and levers, by means of which the hoops are colled into a coil about a drum or pulley, the parts being so arranged as to adapt themselves automatically to the different positions required by the increasing size of the coil.]

54,810.—Machine for Tightening and Securing the Hoops of Compressed Bales.—Richard S. Adams (assignor to himself and George E. Parrott), Loyd, N. Y.: I claim an improved machine formed by combining a pair of grippers, B, constructed as described, with each other, with the cog wheel, C, ratchet wheel, E, pawl, F, and with the frame, A, in which they are placed.

Second, The combination of the punch, G, constructed and operated substantially as described, with the machine, for the purposes set forth.

[The object of this invention is to furnish a machine by means of which the hoops may be drawn tightly around the bales and their ends secured to each other easily, securely, and cheaply. And it consists of a pair of grippers, racks, cog wheel and punch, so arranged that the ends of the hoop may be grasped by the grippers and drawn so as to overlap each other. The punch is then operated, cutting, and forcing out a strip in the hoops, so as to form a loop, into which a key is dropped, securely connecting the ends of the hoop together.]

54,811.—Clamp for Holding Cigars for Tying.—Muti Ali (assignor to himself and William Mayer), Philadelphia, Pa.: I claim the within described clamp, composed of the elastic band, B, and block, A, constructed substantially as and for the purpose herein set forth.

54,812.—Knitting Machine.—J. M. Armour, Craftsburg, Vt., assignor to National Knitting Machine Co.: I claim to make a stitch or loop by drawing the needle and thread through an opening in the end of the frame, D, which supports the needle and stitch holder, I, arranged to press the stitch against the face of the frame, D, and hold it there, while the needle with the new stitch is drawn in it, substantially as and for the purpose set forth.

Third, The carrier frame, D, constructed and operating as and for the purpose herein shown and described.

Fourth, I claim, in drawing the needle, A, by means of the spring, I, or its equivalent for the purpose of imparting to the needle a quick backward movement, and thereby ensuring the drawing of the new stitch through the previously formed stitch before the latter is released by the stitch holder, I, as described.

Fifth, I claim providing the frame, D, within which the needles traverse, with guides and eyes, G, E, for the purpose of uniting more or less of them together, as and for the purpose set forth.

Sixth, The combination and arrangement of the cam, E, and the cams, O, and N, with the needle, A, and stitch holder, I, for the purpose of giving to said needle and stitch holder the required movement, substantially as herein set forth.

Seventh, I claim constructing the form or endless chain for holding the needles, I, in place or sections, so arranged or connected together as to prevent of entering or contracting the form or chain by adding more sections, or removing some of them at pleasure.

Eighth, I claim also the combination of a revolving endless chain or form, constructed as above described with one or more stationary cams for operating the needles.

54,813.—Saw Grinding Machine.—John G. Baker (assignor to Henry Lisston), Philadelphia, Pa.: First, I claim as my invention the vertically adjustable frame, D, for holding the saw in combination with the grind stones, B and B', the whole being arranged and operating substantially as set forth for the purpose specified.

Second, The frame, D, its detachable packing pieces, E, and detachable strips, F, the whole being arranged for supporting and grinding the saw blade, substantially as described for the purpose specified.

Third, The combination of the adjustable frame, D, with the adjustable cross head, I, its spindles, J, and the friction pulleys, M.

54,814.—Heating Stove.—Albert N. Beach, Windsted, Conn., assignor to himself and Edward Hatch, Charlestown, Mass.: I claim my improved stove as constructed with the fuel supply opening, E, furnished with a door or cover, F, and the draft or air induct or ducts, provided with a valve or valves, A, arranged in the top of the stove and over the fuel chamber in the manner and for purpose set forth.

54,815.—Self-rocking Cradle.—Benjamin Brazelle (assignor to himself, W. P. Walker and J. Clark Brown), Nashville, Ill.: I claim the rocker wheel, K, the sliding verge, N, the lever, L, the detent or lock lever, P, the stud, O, and the ringer rod, M, in combination with each other with the clock work, and with the frame of the cradle or crib, substantially as herein described and for the purpose set forth.

[This invention consists in combining with the frame of the cradle of a system of levers and clock work, so constructed and arranged as to impart to the cradle a constant and regular vibration, and which can be so adjusted that the motion may be slow or fast, and the movement long or short, as may be desired.]

54,816.—Feeding Mechanism for Sewing Machines.—George W. Goodspeed, Winchendon, Mass., assignor to T. S. Page, Toledo, Ohio: I claim the arrangement and combination of the cams, F, G, the feeder, F, its arms, B, C, the regulating screw, D, and the vibratory arm, H.

And also the combination of the same and the friction apparatus, substantially as herein before described.

54,817.—Dinner Pail.—David Howarth (assignor to himself, W. R. Johnson, and Samuel C. Rundlett), Portland, Me.: I claim a dinner pail composed of several rings so arranged that they may be passed out when the pail is to be used, the rings connected with each other, when expressed out, by forming hooks or shoulders on their edges to overlap each other and the lower or bottom ring having a compartment to contain liquid, all constructed and arranged in the manner and for the purposes herein set forth.

54,818.—Device for Operating Sashes of Ventilating Windows.—Edwin Lockwood, Bordentown, N. J., assignor to himself and to Wm. H. Carryl, Philadelphia, Pa.: I claim the combination of the rod, A, lever, D, spring, L, pawl, M, and ratchet or corrugated plate, B, in the manner and for the purposes substantially as shown and described.

54,819.—Clothes Sprinkler.—Matthew Moriarty, Bangor, Me., assignor to himself and William A. Ullmer, Ellsworth Falls, Me.: I claim as my invention and as a new article of manufacture for the special purpose for which it is designed, the clothes sprinkler composed of the elastic bulb, the jet pipe and the nose arrangement, arranged and combined, substantially as specified.

54,820.—Pipe Tongs.—Albert E. Page (assignor to Page, Wilson & Co.), Fitchburg, Mass.: I claim the arrangement of the arm, B, with respect to the arm, B', of the lever, B, B', in the manner substantially as described, and the application of the jaw, D, to such arm, B, by a screw, B, dropping from the jaw and screwed through the said arm in the manner and so that it may be revolved with and by means of the jaw, substantially as specified.

Also a cam when the jaw, D, of the pipe tongs is connected to the screw, B, so as to operate with it, the arrangement of one of the two teeth of the jaw, D, and the other aside from the axis of the screw produced, the whole being as explained.

54,821.—Machine for Boarding and Graining Leather.—James Parker, Woburn, Mass., assignor to himself, S. and S. B. and L. L. Holden: I claim, First, the combination in a boarding machine of the top board, G, with the arm, F, and slide, C, D, substantially as described and for the purpose set forth.

Second, The combination of the top board, G, with the springs, K, and rubber board, H, substantially as described and for the purpose set forth.

Third, The combination of the rubber board, H, and bolster board, I, substantially as described and for the purpose set forth.

Fourth, The combination of the rubber board, I, with the springs, S, and trencher board, N, substantially as described and for the purpose set forth.

Fifth, The combination of the trencher board, N, with the springs, S, screws, M, and board or frame, I, substantially as described and for the purpose set forth.

Sixth, The combination of the arm, V, and lever, T, with the trencher board, N, and bolster board, I, substantially as described and for the purpose set forth.

[The object of this invention is to furnish a machine by which leather of different variety and of different thicknesses may be boarded, grained, or softened quickly and thoroughly. And it consists principally in the combination of a rubber and bolster with each other, both rubber and bolster being adjustable and so constructed and arranged as to adapt themselves to the various thicknesses of the skin that may be operated upon.]

54,822.—Grain Elevator.—Joseph T. Parlour (assignor to himself and James Dean), Buffalo, N. Y.: I claim the adjustable ledge or screw clamps, P, when used for the purpose of holding the endless bucket chain, constructed and arranged as herein described.

[This invention relates to a new arrangement of parts especially intended to be used on vessels, in which grain is transported, the object of which is to automatically convey or shovel the grain from all parts of the hold, to the hatching in which the elevator is arranged for hoisting and thus discharging the grain from the vessel.]

54,823.—Ditching Machine.—Jacob P. Rees and R. A. Graham (assignor to themselves and C. C. Buras), Greensburg, Ind.: I claim the rotating wheel, F, or its equivalent, arranged in a suitable frame so hung in and to the body of the machine, as to be raised or lowered, substantially in the manner described and for the purpose specified.

[The principal object of this invention is to construct or arrange the ditching device of the machine, in such a manner that a ditch of any desired depth may be made.]

54,824.—Steering Apparatus.—Edward A. Turner, New York City, assignor to himself and John A. Leggett, Bradford, Conn.: First, I claim the pawls, N, and the frames, K, arranged and operating with reference to each other and with the two ratchet wheels, G, H, on the drum of the apparatus, substantially as herein set forth for the purpose specified.

Second, The levers, A, provided with teeth, B, or their equivalents, operating the pawls, N, in connection with the ratchet wheels, G, H, substantially as herein before set forth for the purpose specified.

54,825.—Tool for Making Spiles.—G. W. Wait (assignor to himself and A. J. Smith), Wayland, Mich.: I claim the combination of the shaping knife, B, with a wood boring tool, A, in such a manner as to bore and shape wooden spiles at one operation, substantially as specified.

[This invention consists in the combination with a bit or any suitable boring tool, of a knife or cutter so constructed and arranged that while the tool is boring the hole in the spile, the knife will bend or round off the end in the manner required.]

54,826.—Mold for Casting Curved Pipe.—Seth Williams, (assignor to Henry C. and C. T. Williams), Foxboro, Mass.: I claim the arrangement and combination of the wings or extensions of the core head, with the two openings, or the same, and the brackets applied to the two parts of the flask, substantially as specified.

54,827.—Saw.—Joseph Woodrough, Hamilton, Ohio, assignor to Woodrough & McParlin, Cincinnati, Ohio: I claim the counter sunk or imbedded ribs, E, employed in combination with the teeth, B, C, substantially as and for the purpose set forth.

54,828.—Seat and Back to Chairs.—Francois Carre, Paris, France: First, I claim the radiating strips, A, of sheet steel, or other suitable material, arranged in the central disk, B, and frame, C, constructed and operating substantially as and for the purpose herein specified.

Second, The secondary supporting strips, E, in combination with the radiating strips, A, and central disk, B, constructed and operating substantially as and for the purpose set forth.

Third, The back of a chair or other similar article composed of C-shaped strips, A', of sheet metal or other suitable material, in combination with horizontal rods, B', and frame, H, constructed and operating substantially as and for the purpose described.

54,829.—Mode of Separating Gold and Silver from their Ores.—William Crookes, London, England: I claim the employment of antimony, and cadmium, and such other metals as are before mentioned, and also of such several processes for the extraction of gold and silver from the ores and substances containing them, and for the treatment of mercury, employed for such purposes as herein before substantially set forth and described.

54,830.—Ventilating Stove for Railroad Cars.—Richard Eaton, London, England: First, I claim the arrangement of the air ducts, F, in the front corner of the stove and air passage, D, in the top thereof, in combination with the air pipe, C, in the manner and for the purpose herein specified.

Second, The arrangement of the chamber, A, air ducts, F, air passage, D, air pipe, C, spiral chamber, G, and chimney, E, constructed and operating in the manner and for the purpose herein specified.

[The object of this improvement is to produce a stove which shall give out a large amount of heat with a small amount of fuel in comparison with other stoves; which also can be used with coal, wood, or other fuel; and which will, when in operation, serve to ventilate the apartment or car in which it is used.]

54,831.—Watch.—F. A. Lange, Glashutte, Saxony: First, I claim the removable key, K, inserted within the pendant of a watch and retained therein, substantially in the manner described in combination with the winding mechanism of the watch, when constructed and operating in the manner and for the purposes as set forth.

Second, I claim the concave contrate wheel, F, upon the arbor, D, and gearing with the crown wheel, G, said contrate wheel having its teeth constructed in the peculiar manner described.

Third, I claim providing the ratchet cylinder, H, upon the arbor, D, and gearing with the contrate wheel, F, with a projection, M, upon its lower surface, which enters a slot or recess upon the face of the pinion, O, and operates in the manner and for the purposes set forth.

Fourth, I claim the loose pinion, O, upon the shaft, D, in connection with the minute wheel, when provided with a recess, N, upon its face, and constructed and operating in the manner and for the purposes set forth.

Fifth, I claim the combination of the removable key, B, arbor, D, concave, conical, wheel, F, crown wheel, Z, ratchet cylinder, H, with its pinion, K, and the pinion, O, when constructed and operating substantially in the manner and for the purpose set forth.

54,832.—Artificial Fuel.—Edmund Sharpe, Paris, France: I claim the herein-described artificial fuel consisting of peat, anthracite, and bituminous coal with a coal-tar cement, combined in the proportion and in the manner substantially as set forth.

54,833.—Method of Mining Coal Minerals, Etc.—William Locke, John Warrington, W. E. Carrett, W. E. Marshall, and J. Telford, Kippax, Eng. First, We claim the system or mode of adapting the cutting tool or tools of machines for working coal and other minerals and earthy matter by the direct pressure of a flow of water or other practically non-elastic fluid medium, by the means and in the manner substantially as herein shown and set forth, so as to produce a steady even slotting action of the tool or tools at any angle with the substance to be cut.

Second, The application and use to and in machines for working coal and other minerals and earthy matters of a holding on head or feeder, which is pressed against the roof during the cutting action of the tool or tools and released therefrom to allow the machine to move forward during the return or back stroke of the tool or tools, the movements of this head or feeder being obtained from the pressure of water or other practically non-compressible fluid medium, substantially as herein shown and described.

53,834.—Manufacturing Bank Notes.—George T. Jones, Cincinnati, Ohio: I claim the process substantially as herein described of manufacturing bank notes, bonds or analogous securities, by applying ink or coloring matter to un-sized or partially sized paper, so that it will penetrate to the manner and for the purpose set forth, and afterward applying a coating of size to permeate the paper, cement its fibers and prevent counterfeiting or alteration by the transfer or removal of the ink.

I claim as a new article of manufacture, a bank notebond or other evidence of value with the portion or signature protected by size for the purpose of preventing counterfeiting or alteration.

54,835.—Mode of Preparing Bank Notes to Prevent Counterfeiting.—Geo. T. Jones, Cincinnati, Ohio: I claim covering the impression with a transparent film of paper or other fibrous material, substantially as described.

REISSUES.

2,241.—Water Closet Valve.—T. H. Bartholomew, New York City. Patented Jan 19, 1864:

First, I claim in combination with a water closet, a supply valve, valve stem, diaphragm, E, and regulating chamber, said parts being so arranged that the valve may be opened by the manual force applied to it, and closed by the pressure of the water and retained in its closing, substantially in the manner and for the purpose set forth.

Second, A flexible disk forming an obstruction in the water passage or way of the cock, to operate in the manner substantially as and for the purpose set forth.

2,242.—Preserve Jar.—R. A. Bunnell (assignee of Chas. F. Spencer), Rochester, N. Y. Patented Feb. 10, 1863:

I claim a cover or stopper, with a packing around its edge, or periphery, in combination with a jar, or can, whose mouth or neck has a cylindrical or slightly flaring inner surface, and an inwardly projecting shoulder or seat below.

I also claim a self-retained cover, or stopper with a packing which projects above and below its edge so as to be impressed between the neck and the mouth, or neck of the jar or can.

I also claim the combination of a jar, or can, which has an inwardly projecting shoulder in the mouth or neck thereof, with a cover or stopper, whose packing packs both against the said shoulder, and against the inner periphery of the neck.

I also claim a packing ring, one edge of which is bent inward and held in a peripheral groove of the stopper or cover.

I also claim a cover, or stopper, which has an edge or flange below the packing ring, in combination with a shoulder in the neck of the jar or can.

I also claim the combined arrangement and construction of the double flanged cover, B, packing, b, and jar-neck seat, a, one flange, f, of the cover compressing and tightening the packing ring and the other flange, g, nearly fitting and closing the circle within the seat, substantially as and for the purposes herein specified.

2,243.—Iron Ship.—Mary Jane Montgomery (assignee by mesne assignments of Richard Montgomery), New York City. Patented Dec. 6, 1859:

First, I claim the use of corrugated metallic beam, whether straight, curved, bent, or sheared, in the construction of ships, steamers, or other vessels.

Second, The use of corrugated metallic plates or sheets, in the construction of bulk heads or partitions for forming fire-proof or water proof compartments in the holds of ships, steamers and other vessels.

Third, The block or knee, C, when constructed substantially in the manner and for the purpose set forth.

Fourth, The metallic plate, E, when forming the plating of the sides, and if required, the flooring of the deck, in combination with the corrugated beams to which they are attached, substantially as shown and described.

2,244.—Iron Ship.—Mary Jane Montgomery (assignee by mesne assignments of Richard Montgomery), New York City. Patented Dec. 6, 1859:

I claim the above described curved, bent, or sheared corrugated beam, irrespective of any peculiar curve, bend, or shear, in the construction of ships or other vessels.

2,245.—Sewing Machine for Stitching Button Holes.—The Bartram & Fenton Manufacturing Company, Danbury, Conn., assignees by mesne assignments of W. B. Bartram, Reading, Conn. Patented Nov. 7, 1865:

First, We claim stitching a bar across the end of a button hole, for the purpose of strengthening the same, by means of devices which produce a lateral reciprocation of the material being stitched while it is also being fed forward, and permit the extent of the said lateral reciprocation to be increased at will by hand, while the machine continues in operation.

Second, Working and entirely completing a button hole without the use of a hand needle, by means of devices substantially as herein described.

Third, In combination with the arm, H, the wheel, I, and the eccentric of the driving shaft of a sewing machine or its equivalents, for the purpose set forth.

Fourth, In combination with the wheels, I, and P, the arm, H, and the stop, J, provided with the projection, a, substantially as and for the purpose set forth.

Fifth, In combination with the wheel, I, the stop, J, and the plate, A, substantially as and for the purpose set forth.

Sixth, In combination with the movable plate, A, of a sewing machine, the cloth holder, O, and the circular plate, N, as and for the purpose set forth.

Seventh, In combination with the cloth holder, O, the stationary guide, P, and circular plate, N, substantially as and for the purpose set forth.

Eighth, In combination with the springs, L, the stop, J, wheels, I, P, arm, H, and the eccentric of the driving shaft of a sewing machine, substantially as described for the purpose of producing a zig-zag stitch.

Ninth, In combination with the feed bar, b, and its eccentric regulating lever, R, for throwing the feed bar entirely out of action, substantially as and for the purpose herein set forth.

2,246.—Mode of Regulating the Temperature of Hot Water Apparatus.—Thomas T. Tasker, Philadelphia, Pa. Patented Dec. 5, 1854:

First, I claim the combination of a float actuated by the expansion of water with a draft or smoke damper, as the means of regulating the temperature of a hot water heating apparatus, substantially as and for the purposes described.

Second, The use of the damper, O, for admitting cold air over the fire, as a means of cooling the gases of combustion, of reducing the draft, and of cooling the water in the boiler, either alone or in combination with other dampers.

Third, The use of a simultaneous motion for the dampers, P and M, and the succeeding simultaneous motion for the dampers, P and O, as described.

Fourth, The combination of the three dampers, P O M, and the

float, A, together with rods, G K, and the link, R H, for the purpose and object herein described.

2,247.—Machine for Sawing and Edging Clapboards.—Averus A. Wilder, Detroit, Mich. Patented, Oct. 30, 1855. Reissued, Oct. 18, 1859.

First, I claim the flanged rollers, d, with the spring, e, or equivalents, in combination with the adjustable back rest, b, for the purpose herein before described.

Second, The combination of circular saw, k, and the rotary edging cutter, n, attached to its arbor with the upper rotary edging cutter, g, for the purpose herein described.

DESIGNS.

2,312.—Bracket.—Albert Bridges, New York City.

2,313.—Card Holder.—Joshua Brooks, Newton, Mass.

2,314.—Plates of a Cook Stove.—Samuel W. Gibbs (assignor to Samuel H. Ransom), Albany, N. Y.

2,315.—Plates of a Cook Stove.—Samuel W. Gibbs (assignor to Samuel H. Ransom), Albany, N. Y.

2,316.—Printer's Type.—Andrew Little, New York City.

2,317.—Knife Handle.—Solomon Oppenheimer, Peru, Ind.

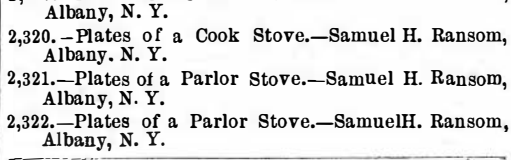
2,318.—Plates of a Cook Stove.—Samuel H. Ransom, Albany, N. Y.

2,319.—Plates of a Cook Stove.—Samuel H. Ransom, Albany, N. Y.

2,320.—Plates of a Cook Stove.—Samuel H. Ransom, Albany, N. Y.

2,321.—Plates of a Parlor Stove.—Samuel H. Ransom, Albany, N. Y.

2,322.—Plates of a Parlor Stove.—Samuel H. Ransom, Albany, N. Y.



C. H. L., of R. I.—Your question about firing the cannon ball from a train of cars is an old one and has been published even in the daily papers some time since. We do not care to publish problems of this nature.

C. B. S., of Ind.—The points of drawing instruments, or rather the legs, are screwed on to the brass or German silver.

J. E. B., of Mass.—You ask us when there is the most strain upon a rope—when but one pair of oxen is drawing on it attached to a stump, or when there are two pair of oxen, one pulling one way and the other another. We ask you whether there is more strain on a rope with two thousand or with four thousand pounds?

O. Z. D., and others.—We must positively decline publishing recipes that have appeared within a week or two in our paper. It seems as though some of our friends read the paper very superficially.

Y. C. J., of Pa.—Paper rubbed with lampblack will make a tracing paper for common purposes.

C. E. W., of Mass.—It is impossible for us to say what will cure the itch.

W. R. B., of N. Y.—There is nothing in the diagram you send us "to turn a crank through more than one-half of its stroke by a single movement of a lever." If you have obtained such a result, it is due to the momentum of some of the parts, not to any arrangement of them.

T. L. B., of St. Louis.—You have hit the nail on the head.

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On application for Extension of Patent.....	\$50
On granting the Extension.....	\$50
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