TRUSS FOR ROOFS, BRIDGES, &c.—Saml. J. Reeves, of Philadelphia, Pa., and Montgomery C. Meigs, of Washington, D. C.: We claim the mode of trussing or stiffening a curved or arched beam or rafter for bridges or roofs by means of tension rods or ties of metal, wood, or other suitable material, connected at their outer ends with the arched or curved beam or rafter at various points, and couverging towards and connected together at their inner ends at a point within the space contained between the arc or arched or curved beam or rafter and the straight line joining its extremities, substantially as described and as represented in the drawing and model.

APPARATUS FOR DRYING GLUE—M. Newbauer and P. Adelman, of New York City: We claim the arrangement of a chamber of circular or polygonal form, which is provided with a fan blower, or its equivalent, to which air of the proper temperature is conducted by means of a pipe, h, and tube, E, for the purpose of drying the cakes of glue, substantially as described.

STEAM BOILERS—Wm. Oldman, of Buffalo, N. Y.: I claim the central water space, F', in the combustion chamber, F, arranged in relation to the annular water space, F'', and to the tubes, D, or their respective equivalents, substantially as set forth, for the purpose of inducing an active circulation of the water radially among the tubes, with the advantages explained.

APPARATUS FOR EXHIBITING STEREOSCOPIC PICTURES—Stuart Perry, of Newport, N. Y.: I claim, first, A movable frame-work for holding a series of stereoscopic pictures, from which the pictures are brought to be inspected and then returned to it again by a mechanism operated by the user, substantially as described.

Second. I also claim bringing each individual picture or pair of pictures, in succession, to the same point or place, before they are projected from their compartments to be exhibited, by mechanism substantially such as described.

Third, I also claim, in combination with a movable picture holder, a reciprocating carrying frame, that catches each picture, or pair of pictures, in succession, and carries them to the place where they are to be inspected, and returns them to their compartment again, substantially as described.

Fourth, I also claim, in combination with a box or case, containing within it a series of pictures and a mechanism for projecting them from said case, a frame-work on the outside of said box or case for receiving said pictures, substantially as described.

Fifth, I also claim the slots in the picture holder barrier, f, and in the box or case, so that the picture, from its compartments in the picture holder, may be projected through both slots or openings to the outside of the box, substantially as described.

Sixth, I also claim the friction brake, t, or its equivalent, for holding the picture holder and prevent it from moving until started by the crank, substantially as described.

Seventh, I also claim making the frame, B, in sections, or with an opening, for the purpose of introducing the pictures through said frame into the compartments of the picture holder as well as removing them therefrom, substantially as described.

Eighth, I also claim the clamps, as applied to single or double pictures, for the purpose of strengthening them, preventing their warping or bending, and thus facilitating their passage through the slot, which they must pass through, to the place where the are exhibited, as described.

MACHINERY FOR DRYING PAPER—Edward L. Perkins, of Roxbury, Mass.: I claim a new mode of drying paper, which consists in feeding the paper from a roll outside of the drying chamber, through proper openings, to a series of rollers, arranged as described, and then conducting it over said rollers, vertically, through the apparatus, and subjecting it, during its passage, to a gentle current of heated air, produced by forming inlets at the bottom for the reception of the atmospheric air, which passes up and is heated by a suitable heating apparatus, and escapes readily through apertures at the top, as set forth, and then out of the drying chamber through proper openings to a receiving roller, in the manner substantially as described.

TAIL PIECES FOR VIOLINS—John Pfaff, of Philadelphia, Pa.: I claim the metal tail piece, A, with an eye, a, adapted to the detachable pin, h, recesses, 1 2 3 and 4, for the reception of the strings, and with the rib, h, the whole being constructed and applied to a violin, substantially as and for the purpose set forth.

CUTTING OUT STRAP HINGES—Saml. M. Richardson, of New York City: I claim the relieving die, d, in combination with the shaping die, f, and cutter, g, in the manner and for the purposes specified.

DUST-PAN—J. Hall Rohrman, of Philadelphia, Pa: I claim, as a new article of manufacture, a dust-pan, having its bottom corrugated and its back edge seamed over, substantially as described, for the purposes of making the bottom of the pan rigid without extending any brace from the handle, and rendering unnecessary the wiring of the back edge of the pan.

FURNACES AND STOVES—Charles B. Sawyer, of Fitchburg, Mass.: I claim, first, The arrangement of the closed topped fire-pots K, gas or combustion chamber, X, fire or draft flues, H, small gas openings, e, and air-heating flues, G, in relation to each other, substantially as shown and described.

Second, The arrangement of the horizontal ventilating flue, J, ventilating chamber, I, and exit ventilating flue, O, and right angled draft flue, F, in relation to each other and in the top of the furnace, as shown and described.

SPRING BEDSTEAD BOTTOMS—Geo. Schott and John Loudon, of New York City: We claim the arrangement of the eyes, d d, elastic cord or strap, 1, and hooks, 2 2, on the ends of the slats, c c, substantially as and for the purposes specified.

We also claim the studs, 3 3 and 5 5, constructed and acting as specified, to sustain the slats, c c, on the strap or elastic cord, 4, as set forth.

GRINDING MILLS—Joseph Sedgebeer, of Cincinnati, Ohio: I claim, first, Constructing the rotating plate, A, with the same dress or finish upon its grinding face as that of the stationary plate, B, substantially as described, for the purposes set forth.

Second, I claim the diamond-shaped teeth, a b c e, constructed and arranged substantially as and for the purposes set forth.

MEANS OF SECURING THE BITS OF BENCH PLANES—Chas. W. Seely and Benj. F. Locke, of Wellington, Ohio: We claim stopping the upper end of the interposed bit below the screw, and upsetting it so as to catch into the cross serrations in the bed-piece, as set forth.

MODE OF SWITCHING OFF RAILROAD CARS FROM ONE TRACK TO ANOTHER—M. Semple, of Philadelphia, Pa.: I claim the immovable switch or turnout, J P, in combination with the guide bars, G: when arranged and operating substantially as described.

MACHINE FOR RAISING WATER—Peter Shank, of Jefferson Township, Ohio: I claim the combination of the horizontal float wheel, the crank motion (as produced by the three pins) which gives six motions of the pump to one revolution of the wheel, and the horizontal double pump, substantially as described, for raising water.

OPERATING MACHINERY BY DOG POWER—Dexter C. Slater, of Lawrens, N. Y.: I claim the arrangement and combination of the wheel, G, shaft, F, cam, H, and lever, I, substantially as and for the purpose set forth.

[In this economical age even the dog is no longer allowed to waste his master's time by lazily passing the day, but is expected to do his quota of work. This invention is an arrangement whereby a dog may be made to work light machinery such as churns, grindstones, and the like.]

CHEESE-CUTTERS—De Witt Stevens, of Newark, N. J.: I claim, first, The arrangement of the platform, B, with the projecting rings, g, to operate in combination with the corrugated cutting edge of the knife, substantially as and for the purpose described.

Second, The arc, D, arranged in combination with the platform, B, with the handle, C, and with the handle, C, and with the knife, F, so that the cheese on the platform can be cut up in slices of any given weight, substantially as set forth.

Third, The arrangement and combination of the lever, I, the link, J, and the slide, G, for the purpose of operating the knife, F, substantially as specified.

[With this cheese-cutter it is easy to cut a slice down to the bottom and through the rind, and the cheese, by being placed on a graduated platform, can be cut into slices of any desired weight.]

ROCKING CRADLE—W. D Tewksbury, of Cuylersville, N. Y.: I claim the two escapement wheels, h and k, arranged in combination with the verge, E, and with the arm, F, and operating substantially in the manner and for the purposes described.

[Mothers will think much of this invention, for it saves them all the trouble of rocking the cradle which contains "the precious baby," as all they have to do now is to wind up the spring and the cradle begins and continues to rock without any trouble.]

METHOD OF PRINTING BANK NOTES—Alfred Tichenor, of Newark, N. J.: I claim, first, The making bank notes and other engraved plates, or sections of plates, with tongue and groove or dowel joints.

Second, The locking-together tongue and grooved bank note or other engraved plates, by a chase, having its formed with tongue or groove, or with dowels made to match or correspond to the ends and sides of the tongue and grooved plate, which chase is made in pieces, fitted together and furnished with set screws, e e, substantially as described.

BEE-HIVES—Ruggles S. Torrey, of Bangor, Me.: I claim providing the troughs in the tops of the comb-bars, arranged with the series of conducting tubes for conveying the feed to the troughs, and with apertures or slots for the free exit of the moisture to the condenser, in the manner and for the purpose described.

BRICK MACHINES—Wm. S. Watson, of Madison, Ind.: I claim, first, The combination and arrangement with a stationary pressing block, K, of an intermittently reciprocating press-box, formed with one or more chambers, I J, and provided with one or more plungers, L L', having a joint motion with the press-box and an independent movement thereto, essentially as and for the purpose set forth.

Secondly, The combination, with the intermittently reciprocating press-box, of the top and bottom holding slides, b b', or either of them, arranged to move conjointly with the press-box and independently of it, substantially as specified.

Thirdly, Mounting the intermittently reciprocating press-box with a feed-box, having one or more chambers, M M', essentially as and for the purpose set forth.

MACHINE FOR FINISHING LEATHER—T. F. Weston, of Salem, Mass.: I claim, first, The combination and arrangement of the devices herein described, or their mechanical equivalents, for changing the angle of the tool while the machine is in motion, so as to cause it to operate upon the latter, first with a sharp edge, to take out its inequalities, and then with a dull or blunt edge, to smooth the leather, the successive operations producing the peculiar effect desired, for the purposes as set forth.

Second, The arrangement of devices herein described for giving positive motions to the tool, for lifting it from and holding it down upon the bed, the same consisting of the sliding bar and friction box, operating as set forth.

OMNIBUS REGISTER—Robt. F. White, of New York City: I claim the spring platform, B, arranged in combination with the hammer, K, and with the index, k, and operated by the lever, F, or its equivalent, substantially in the manner and for the purpose specified.

[By this invention each passenger, as he or she pays the driver, is registered, by means of an index on a dial, so that the number of fares received by the driver can always be accurately known by his employers.]

LOCK ATTACHMENT—John M. Wilson, of Philadelphia, Pa.: I claim the arrangement, in combination with a lock, A a, and door, B d, of the box, C, key-holes, c b, wards, e, guard, E, plate, F, pivoted stops, G G h h i i, and springs, H H, the whole being constructed and arranged for united operation, in the manner and for the purpose set forth.

[To a lock of ordinary construction this inventor attaches a box, provided with wards, key-holes, and a revolving guard, so arranged as to prevent the lock being picked, and also preventing access to the working parts of the lock, so that an impression in wax cannot be taken, with a view of constructing keys to fit the lock.]

WASHING MACHINE—Samuel Wiswall, of Hyde Park, Vt.: I claim the arrangement and combination, within the oscillating cylinder, B, of a receiving chamber, d, having plates, e e, and a door, f, when said door, f, is corrugated on one side and hinged to one of the plates, e, so that said door, f, may serve as a rubbing-board and also as a presser; all substantially as shown and described.

[The object of this invention is to obtain a very simple clothes-washing device, by which manual labor can be made to assist the mechanical operation in a very facile way, and the parts of the clothes that cannot be perfectly cleaned by the machine alone, finished in an expeditious and perfect manner by the attendant without removing them from the machine.]

CULTIVATORS—John Young, of Joliet, Ill.: I claim, first, The combination of the screw-extension, A, on the bottom of the standard, B, with the oblique slotted castings, C C, attached to the front side of the cross-bar, D, of the beam, E, substantially as and for the purposes set forth.

Second, The combination of the stationary vertically perforated bar, G, with the adjustable rake or harrow, H, arranged on a cultivator, substantially as and for the purposes set forth.

BURGLARS' ALARM PISTOL—John G. Clark, (assignor to himself, D. G. Cotting and Samuel W. Hatch,) of Augusta, Ga.: I claim, first, A pistol arranged on a vertical suspension guide of a hammer, so that the explosion of its cap and the firing of its charges may be accomplished by concussions of the pistol and hammer, substantially as and for the purposes set forth.

Second, Holding the pistol suspended by the means and in the particular manner described for the purpose set forth.

MACHINES FOR TEMPERING CLAY—J. D. Custer, of Norristown, Pa., assignor to himself and J. M. Roberts, of Perth Amboy, N. J.: I claim the arrangement and combination of the stationary toothed rim, O, encompassing the pit, A, the frame, H, with the gearing, k M l, attached to its outer ends; the pinion, b, of the shaft, N, gearing into the rim, O, and the rod or shaft, F, connected with the frame, H, the hollow shaft, g, on the shaft, B, and the belt, e i, passing around the pulleys, K f h j, substantially as and for the purpose set forth.

[This invention relates to an improvement in that class of machines which are used for tempering clay, and similar purposes, and which are composed of a wheel placed on a radial shaft and made to rotate within a circular pit. The improvement is in driving or propelling the wheel, whereby any power—steam, water or animal—may be applied in a very simple and economical manner, and in a way less calculated to injure or rock the working parts than hitherto, thereby enabling machines to be constructed much less cumbersome than usual, and that will take much less power to drive them.]

STEERING APPARATUS—Wm. Goodsoe, (assignor to himself and Isaac Ayres,) of Manchester, Mass.: I claim the combination of the toothed segment, M, and the curved way, P, operating as set forth, for the purpose specified.

STOVES—C. Harris and Paul W. Zoiner, (assignors to themselves and J. Langstaff,) of Cincinnati, O.: We claim the arrangement and combination of the damper, G, chamber, f, double-walled case, a, and pipe, E, substantially as shown, so that the damper, G, which pertains to the oven, shall, when drawn out, extend across the bottom of the pipe, E, and cause the products of combustion to circulate as described, and when closed shall permit a more direct draft, for the purposes set forth.

[This stove is one of those which may be used as heat-diffusers and cook-stoves, and yet have an ornamental appearance, equally so as if intended only for heaters. The invention consists in a novel oven-attachment, which may be applied to the stove and removed therefrom as occasion may require.]

APPARATUS FOR HEATING WATER—Geo. L. Ingersoll, (assignor to J. E. Ingersoll,) of Cleveland, Ohio: I claim the double cylinder heater, C C, the same being united by the plates, G F H I, so as to form the space, J J, for the ascension of the heat, and by the pipes, D E, for the passage of the water, the heating space being covered by the cap, K, and the parts here named being arranged as set forth.

I also claim, in combination with the two cylinders, C C', the ingress-pipe, O, extending to near the bottom of the cylinder, C, the exit-pipe, O', and the pipe, N, in connection with the pipes, D E, for the purpose of establishing a circulation and rapid heating of the water.

SHOE-KNIVES—Ira Merritt, of Abington, Mass., assignor to himself and L. S. Merritt, of Weymouth, Mass.: I claim the described knife-holder, in combination with an extensible blade, so arranged that as the blade is worn it may be protruded, as set forth, for the purpose described.

SPIRIT GAS BURNERS—Charles Miller, (assignor to Henry Danford,) of St. Louis, Mo.: I claim the arrangement of the valve over the tube and wick, for the purpose of extinguishing the flame, or regulating its size and altering its direction, in the manner set forth.

DIAPHRAGM FOR PHOTOGRAPHIC CAMERAS — Felix Miller and Alois Wirsching, (assignors to Felix Miller and H. H. Hayden,) of New York City: We claim the arrangement and combination of the plates, a a', the notched plate, C, and springs, m, as and for the purpose shown and described.

[A number of curved plates are placed in a tube in front of the lens, so as to form apertures of different sizes for increasing or diminishing the intensity or sharpness of the light into the camera from the object, in taking photographic pictures.]

POWER PRINTING PRESSES—Jedediah Morse, of Canton, Mass., assignor to the S. P. Ruggles Power Press Manufacturing Company, of Boston, Mass.: I claim the improvement in the construction of each of the platen rails, a3 a3, the same consisting in the chute, k, and a notch or depression, l, arranged therein and with reference to the rollers or tapes, substantially in manner and for the purpose as specified.

I also claim the arrangement and combination of the slider, R, with the operating [illegible] the pin, or stud, C, on the [illegible] toggle, each slider being actuated by a foot-treadle, n, a spring, q, and the cam, r, of the toggle, substantially as described.

I also claim the mode of insuring the return movement of the toggles, and their gradual forward motion, after each impression has taken place, the same being accomplished by the notched wheel, u, or its notch, x, as described.

I also claim the mode of constructing the gears, a' and b', for operating the frisket-carrier, viz: with the toothed arcs, c' c' d' d', and the concave and convex arcs, e' e' and f' f', unprovided with teeth—the whole being arranged so as to operate together, substantially as specified.

I do not claim the subject of the United States patent No. 7,205; but I claim the combination of the two, or any other suitable number of wheels, r2 r2, lever nippers, t2, (applied respectively to them,) and their opening and closing bars, x2 y2, or mechanical equivalents for such bars, the same being substantially as and for the purpose described.

I also claim the specified mode of constructing each of the nippers, v v, for receiving the sheet of paper from the table, G, viz: so that each jaw may move away from the other while the upper is being raised; the same producing the advantages not only of insuring the passage of the lower jaw underneath the sheet of paper simultaneously with that of the other jaw over it, but of both jaws closing upon the paper at one and the same time, so as not to lift it out of place.

I also claim the mode of constructing the lower jaw, g4, of each pair of nippers, v, viz: with a lip or bend, n', arranged thereon and for the purpose described.

I also claim the mode of applying and operating each of the points, l 2, viz: hinging or jointing it to the table, G, and combining with it a stop, m2, and lever, k2, or the equivalents therefor, the whole operating or being made to operate substantially as described.

I also claim the improved method of operating the frisket-carrier, the same consisting in causing it to descend and pass in an inclined position under the delivering tapes and rollers, while the nippers, v v, may be approaching the sheet table, G, the same enabling the press to be made lower and shorter than when the frisket-carriage is moved horizontally under the said delivering tapes or rollers.

MACHINERY FOR CUTTING COMB TEETH—Wm. Noyes, Jr., of West Newbury, Mass., assignor to S. C. Noyes & Co., of West Roxbury, Mass.: I claim, in combination with the saw, or the same and its peripheral guide or guides, a mechanism or means of pressing or bending the saw laterally, substantially as and for the purpose specified.

I also claim the mode of producing the lateral and longitudinal movements of the carriage of the comb-carrier, viz: by means of the cam and its screw-thread periphery, arranged and operating in conjunction with a rack applied to the said carriage, substantially as described.

MACHINE FOR CONVERTING OSCILLATING MOTION INTO DIRECT CIRCULAR MOTION—Louis Planer, (assignor to himself and Joseph Auger,) of New York City: I claim the grooved dog, F, having its tail resting in a recess, b c, or equivalent resting place, in the lever, E, without being pivoted or otherwise attached thereto, and having a spring, G, applied in combination with it and the said lever, and the whole being applied and combined with the wheel, A, and its axle, E, substantially as described.

[This is a novel arrangement of a dog, a lever, and and a spring, in combination with each other and with the smooth rim of a wheel, whereby an oscillating movement is imparted to the lever by suitable means causes the dog to operate with great certainty to turn the wheel in one direction only.]

HOOKS FOR VEST CHAINS—Anthony Wallach, (assignor to himself and Adolph Wallach,) of New York City: I claim the clasping hook, c, in combination with the bolt, i, in the body, b, of the vest chain hook, for the purposes and as specified.

MOLDS FOR PRESSING GLASS—Thos. Shaw, (assignor to himself and John C. Bailey,) of Philadelphia, Pa.: I claim forming on the plunger, B, a shoulder, f, of a size corresponding to that of the upper edge of the recess in the base, A, of the mold, and limiting the downward movement of the plunger, so that the said shoulder shall coincide, or be slightly below the said upper edge of the recess, substantially in the manner and for the purpose set forth.

PLUG BEDSTEAD FASTENING—Jacob J. Smith, (assignor to himself and J. H. Pugh,) of Philadelphia, Pa.: I claim, first, A double plug fastening for bedsteads, consisting of the two distinct parts, A and A, so constructed as to be adapted for being driven or secured into the post and rail respectively, and also fitted with a wedge-shaped dovetail tenon, d, and a corresponding groove, e, operating together so as to cause the end of the rail to be drawn tightly against the post, in the downward pressure of the said rail, after they are connected together—all substantially in the manner and for the purpose set forth and described.

Second, I also claim making the post-plug, A', with the inclined dovetail groove, g, across in one side of the same so as to operate in combination with the wedge-shaped tenon, e, on the rail-plug, A, substantially in the manner and for the purpose set forth and described.

DESIGNS.

SEWING MACHINES—Solomon B. Ellithorp, of New York City.

COOK STOVE — Anthony J. Gallagher and Jacob Beesley, (assignors to Anthony J. Gallagher,) of Philadelphia, Pa.

Plants in Rooms.

In the crowded city, amid its dust, smoke, turmoil and troubles, it is pleasant to find a memento of the country in the opening rose and the modest daisy. When we see a pot of flowers adorning the window of a room, however humble in appearance the domicile may be, the feeling arises spontaneously in the mind that they are fostered by the gentle hand of some one whose tastes are true and tender. A few words on the culture of plants in rooms may be beneficial to many persons at this particular season of the year. They should be placed in a situation where they can receive an abundance of light and air; otherwise they will become sickly. Exposure to the dews at night (where this can safely be done in cities), then taking them in next morning, greatly promotes their health.

Plants are frequently injured by injudicious watering. Some persons seem to suppose that deluges of water afford a sure remedy for all the evils to which plants are subject. This is a mistake. True, they require a considerable amount of moisture, but not one half the quantity which is oftentimes applied. Evening is the best time to water them, and in every case, cold water from a cistern or a pump should be avoided. The water should be warmed by exposure to the sun, or in some other manner, up to the temperature of the atmosphere before it is used. Many plants are greatly retarded in their growth by cold water being poured upon them. The quantity to be applied varies with the size and nature of the flower; the ground should be thoroughly moistened, but not soaked. If the leaves should become infested with insects, some tobacco juice, mixed with water and sprinkled over them, will soon destroy these. The great feature in cultivating plants, to promote their health, is that which is equally efficacious with human beings—cleanliness.

Improved Seed-Planter.

Joseph McKown, of Geardstown, Va., has patented (May 24, 1859) a seed-planter, in which a horizontally-moving hand lever, divided hopper, &c., are so combined as to produce a very effective and simple machine. It is said to work equally well on smooth or rough soil, and is very highly spoken of by these who have had it in use.

CALIFORNIA WINES—The San Francisco *Herald* states that the present stock of California vines now under cultivation will yield $50,000,000 of wines and brandies in twenty years from the present day. The wine product of the Golden State increases at the rate of 50 per cent annually, and the quality of these is equal to the best imported. In all wine-growing countries, where the people use wine at their tables and where a bottle of it can be obtained for three or four cents, drunkenness and bar-rooms are unknown.

New Inventions.

SEEING IN A FOG.—In a communication to the Paris Academy of Sciences, Sir David Brewster says: "Whilst I was studying the polarization of the atmosphere, I observed this remarkable fact, that where distant objects are rendered indistinct by the interposition of a light fog, a part of their definiteness may be restored by looking at them through a nicol-prism which stops all the light the fog has polarized in a plane passing through the sun, the object, and the eye of the observer." The objects, thus made more distinct and visible, were seen in that portion of the fog in which the polarization of the reflected light was at maximum."—*Comptes Rendus.*

Kaleidoscope Toy.

Under the above caption the London *Engineer* states that a beautiful philosophical toy has lately been exhibited at the rooms of the Society of Arts in that city. Is is a top with a flat disk of wood, and a spindle in its center, by which it is set in motion with a string. On the upper surface of the disk cards of various colors and shapes are placed, and held by pins, and the top is set in motion. This produces pleasing effects, as a blue and yellow card exhibit a green color; a red and blue card a purple, and a red and yellow card an orange color. By taking a black card pierced with holes, and held steady above the rotating colored cards, the eye sees through the openings a most beautiful play of colors. They dance and waver in the outline of the perforated black card in a manner that appears magical. These effects are due to the fact that the eye retains for a certain period the impressions of color which it receives, and one impression has not time to be effaced before another succeeds it. The inventor is J. Gorham, who has thus succeeded in making a toy exhibit all the effects of the prismatic wheel which philosophers once employed to represent the prismatic spectrum.

Improved Car Seat.

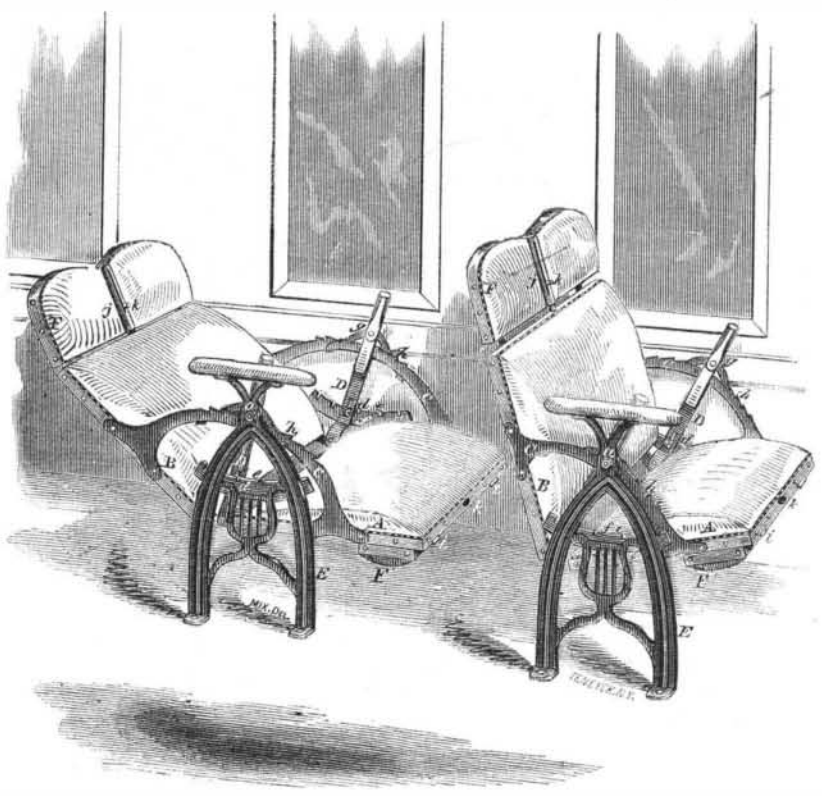
While many like the idea of a sleeping car which will form into a series of sleeping berths at night time and into an ordinary car by day, there are others who prefer to have a seat in which they can either sit, lounge or sleep with comfort at their own pleasure and under their own control. Such a one is the subject of our engraving, which shows two seats—one arranged for sitting and the other for sleeping.

A is the seat and B the back, which are hinged together, and each of them is provided with two serrated arcs, C, which pass through a slot in the piece, D. This piece, D, is attached to the pivot that hinges A and B together, and is suspended by a pin, *a*, from the frames, E. To the top of D a movable handle, *g*, is attached, in which is secured a double pawl, *h*, that catches into the teeth on C, and holds the arcs in any desired position until a pawl or pawls are elevated by *g*, when the angle can be changed. To the side of the car and to the frame, E, are secured arcs, *f*, provided with notches, *e*; and little pawls, *d*, in D, fall into the notches and hold the seat and back in any position; it is by this arrangement that they are reversed, A and B being alternately back and seat, according to the position. To both A and B there is secured a head-rest, F, which, by its hinged attachment, *i*, folds under the seat out of the way and rises flush with the back, where it is held by a bolt, *j*, passing into a slot, *k*, in the back. Let us suppose the seat to be in a sitting position, the occupant need only pull the handles, *g*, toward him, and, by elevating one pawl, *h*, allow the arc, C, to slide through the slot in D until the back had attained the desired angle, when *g* being released, the pawl will fall into a tooth or serration on C and retain the back in its position. The seat can be lowered by pushing the handle, *g*, from the occupant, and the whole can be swung or reversed by raising the latches, *d*.

This car-seat allows great freedom to the passengers, every two of them being able to place themselves in any position without reference to the others; and it admits so nearly of a horizontal position as to be a remarkably easy one in which to rest, and any angle between can be obtained for lounging or, familiarly speaking, "taking it easy" during a journey.

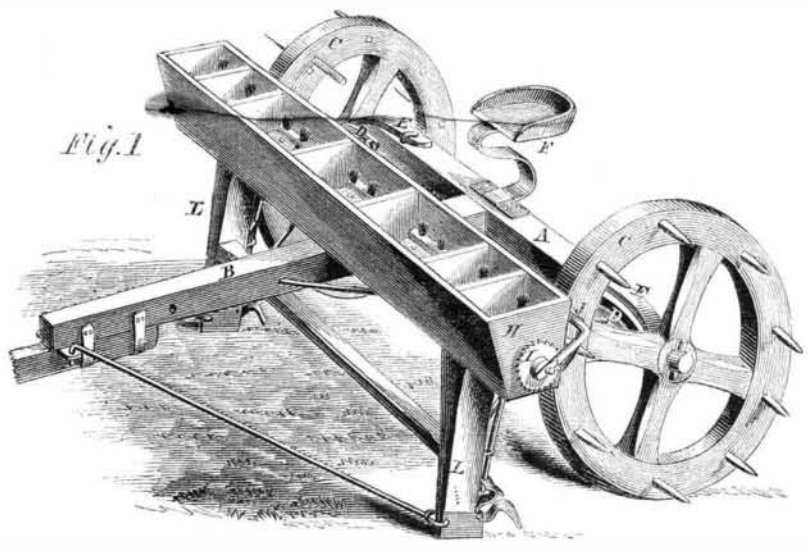
The inventor is W. L. Childs, of Piermont, N. Y., who will be happy to furnish any further information concerning the invention upon application. The patent is dated Feb. 1, 1859.

CHILDS' CAR SEAT.



ROOT'S HARROW AND SEED-PLANTER.

Fig. 1



The principle of combination, which can do much more than opposition, and which begins in the idea of a nation and organized government, and goes down to the humblest walks of life, is found in machinery as in human beings; and, indeed, as we have had occasion frequently to remark, combination is a peculiar feature of the inventions of the present age. The illustrations before us are another example of this fact, as they represent one and the same machine as a rotary harrow and as a seed-planter. The inventor is M. S. Root, of Medina, Ohio, and he obtained a patent Oct. 19, 1858.

Fig. 2

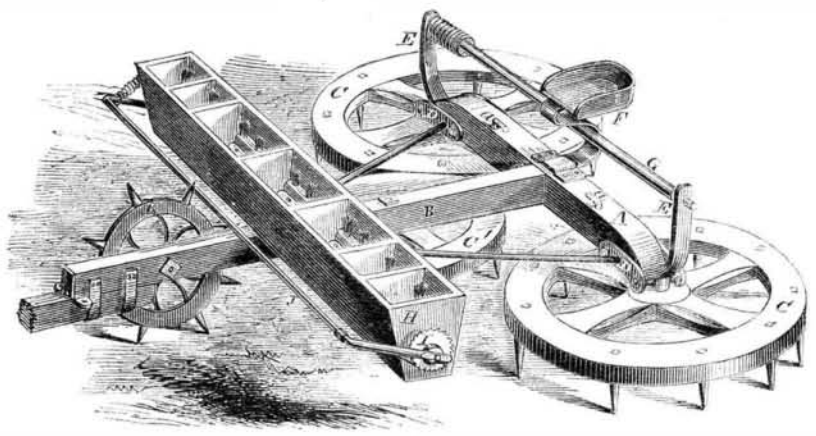


Fig. 1 shows it arranged as a seed-planter. A is the cross-beam, having braces, D, on each end, between which are hinged the axles of the wheels, C. These axles are provided with levers, E, that lie upon A. When C are used as wheels, they are held rigidly to keep the smooth periphery on the ground by small catches, *a*. To A is also secured the driver's seat, F. B is the tongue or draft-pole on which is secured the seed-box, H, that can be used for broadcast sowing. An indented cylinder lies in its base, and is rotated against brushes to measure the seed in each indentation, by having a ratchet wheel, I, on each, and a lever, J, provided with a pawl that, when pressed down by a projecting pin on the inside of C, moves the cylinder by the pawl acting on the ratchet wheel, I; J being brought back by a spring. The seed-box, H, can be adapted to corn-planting by the addition of planters, L, and they can have their measuring and discharging devices operated from J. The seed-box, it will be seen, is divided into compartments, so that it may be made to plant two kinds of seed at once, such as clover and grass, or more, or it can be used as a corn-planter alone. The wheels, C, it will be seen, are provided with spikes projecting at right angles from the periphery, so that, to change it to a harrow as in Fig. 2, all that has to be done is the following:—The catches, *a*, are turned and the lever, E, released, the wheels are then turned over so that the spikes dig into the ground, and a rod, G, with a spring on one end, is placed between the levers, E, to force the outside teeth or spikes of the wheels, C, the deepest into the ground. The seed-box, H, is unscrewed from the draft-pole, B, and moved further along it, and a small vertical wheel, K, is added in front of it. The rod, J, is turned over, and the projections on the wheel, K, keep moving it as the harrow is dragged along, so that seed can be planted while the ground is being harrowed. A supplemental harrow, C', is secured to the draft-pole, and, as will be seen on reference to the engraving, an excellent revolving harrow is obtained.

In testimony of the appreciation of this machine and for the encouragement of other inventors, we can state that the inventor is selling territory rapidly in Illinois at the rate of $200 a county. This machine can also be made a good cultivator, and we think that it is the very machine that every farmer has for a long time been wanting, and we have no doubt that many of our agricultural readers will discover that it exactly suits their requirements.

Any further information can be had by addressing the inventor as above.

New Work on Mining.

We have lately had the pleasure of examining a work in manuscript, by Mr. Job Atkins, a practical mining engineer, in Chesterfield, Va., which, from the experience of its author, should render it very acceptable to persons owning mineral lands, and those who wish to become acquainted with mining engineering. It contains much useful information regarding the Virginia coal fields, and the method of "prospecting" and boring for coal and working mines.

Browning Gun-Barrels.

MESSRS. EDITORS:—You recently published a recipe for browning gun-barrels. I experimented with it and found it too strong; but on reducing it by adding a pint of rain or distilled water, it made a splendid browning mixture. I am a gunsmith by trade, and consider that this recipe alone is worth the price of the SCIENTIFIC AMERICAN for a whole year.

P. S.

Delavan, Wis., June 8, 1859.

LIQUID GOLD.—Some of our cotemporaries state that M. Thiery, a French chemist, has discovered a method of keeping gold in a liquid state without the aid of heat. It is often asserted that the ancients knew a method of effecting this object, and that this is one of the lost arts. We are of opinion that the ancients *never were* acquainted with this art, and that M. Thiery *is not.*