Recent American and Foreign Patents.

Improved Railway Rail Joint.

Bartholomew C. Crowley and John D. Kelley, Renovo, Pa.—The chair plates, clips, and fish plates, are made of wrought metal, in one piece, the plates being long enough for extending across two ties and resting at the ends on them, while the clips are of the usual length, and located at the middle, where the rails meet in them, thus combining the chair and fish plates. The knee-shaped guard chairs, of cast metal, are bolted up to the fish plate on one side by one of the bolts used for fastening them, and also bolted or spiked to the tie. The end bearing against the fish plate, and also the shoulders bearing against the flange of the rail and edges of the chair, are rounded, to allow the chair to be closely bound to the several parts, and at the same time allowed to move forward and back, as the rail expands and contracts, without cramping unduly.

Improved Steam Pump.

William Atkinson, Gardner, Ill.—This invention relates to means whereby greater simplicity, less liability to stoppage, and greater economy in the operation of pumps, may be secured. This is considered by experts to be a very noticeable improvement.

Improved Lint Cotton Opener, Cleaner, and Straightener.

James B. Wendel, Memphis, Tenn.—This invention relates to and consists in means whereby lint cotton may be opened, cleaned, and straightened by a single continuous operation.

Improved Gas Machine.

Robert L. Cohen, Philadelphia, Pa.—This invention relates particularly to the construction of the blower or device for forcing air through the carburetting liquid, whereby such uniformity of pressure is produced as ensures a steady, unwavering flame, in place of a flickering one, as in most other machines.

Improved Leather Glazing Machine.

Wright Walter, Yonkers, N. Y.—This invention consists of a rotary wheel, carrying the agate glazing rolls on its face, to revolve against the morocco, leather, or other substance to be dressed, lying below the wheel on a spring bed or platform. The glazing rolls are mounted on a spring band of metal at the middle of the spaces between the arms of the wheel on which the band is stretched. Under each roll is an adjustable spring bearer, to regulate the pressure of the glazing roll on the leather. These bearers are adjusted a little short of the band, so that when the rolls first strike the leather on the table the band will yield more readily, and thus not deliver blows as heavy as if directly supported by the beams. The beams are also provided with adjusting screws by which to cause the agates to bear evenly on the leather throughout the whole length.

Improved Gate Hinge.

William S. Whiting, Jr., of Seymour, assignor to Frederick L. Allen and William H. Richardson, Waterbury, Conn.—By this improved gate hinge, the gate may be readily swung to either side without difficulty, and closed or shut by its own weight. The invention consists of a supporting bracket fastened to the gate post, and provided with curved V or wing-shaped slot for guiding the pintle of the bracket plate of the gate, and preventing the gate from getting out of place. The pintle plate swings by side recesses around fixed pins of the supporting plate. When the gate is in closed position, the pintle is in the vertex of the slot, and both recesses are in contact with the guide pins. By swinging the gate to either side, the side recesses and pintle swing around the corresponding and slotted part until the extreme limit of motion is obtained.

Improvement in Laying Cement Pipes.

Jacob Loeffler, New York city.—By this invention, a continuous and solid pipe may be constructed directly on the ground, dispensing with special places of production, loss of breakage by shipment, and other difficulties. The invention consists of a molding flask, constructed of detachable exterior sections, suitably supported on the ground, and eccentrically adjustable core sections, which are flanged in such a manner that an overlapping joint of the pipe sections is produced as they are formed consecutively, one after the other. The core sections are withdrawn from the finished pipe sections, by contracting them, by means of a central shaft and cam eccentrics.

Improved Ventilator Cap.

Gerald Kavanaugh, New York city.—This invention relates to the construction of caps for ventilator pipes or flues, and consists of pyramidic shaped and overhanging sections connected with the top of the flue, combined with a central section consisting of two pyramids, the bases of which are connected, the sections being supported by means of straps or stays. It is claimed that this cap will allow a current of heated impure air to escape, while admitting a current of cold fresh air to enter.

Improved Self-Adjusting Dam for Dental Use.

Jacob L. Chevalier, Newark, N. J.—The frame of the device is formed of wire bent into a coil, and with its ends bent outward. To the ends are attached U-shaped frames of such a length as to embrace two or three teeth. The inner arm of the upper frame is made the shorter, on account of the curvature of the roof of the mouth. The outer arm of the upper frame is made with an extension bow, that it may be extended or contracted. The arms of the frame are covered with rubber bags, stuffed, to form pads, which stuffing may be readily adjusted. To the inner arm of the lower frame of the side dams is attached a rubber flap to rest upon and prevent the tongue from coming in contact with the tooth being operated upon. Five of the dams constitute a set—two for each side, and one for the front.

Improved Washing Machine.

John Contrell, New York city.—In a box of rectangular form are placed on edge three movable ribbed plates, to which is given a horizontal longitudinal motion. The clothes to be washed are placed between the reciprocating plates. The proper quantity of water being in the machine, the clothes will be forced between the ribs of the plates, and, being thus held, will receive an alternate back and forward motion nearly identical with hand motion. The reciprocating ribbed plates are connected at their ends by perforated flexible diaphragms, to prevent the clothes from getting between the box and the ends of the plates. Tubes are attached to sections, arranged near the bottom of the machine, which extend to a steam generator, by means of which a circulation of water is maintained.

Improved Iron Truss Bridge.

Edward Hemberle, Chicago, Ill.—The top chord of a bridge truss is made of H-shaped rolled beams, jointed together at the ends and straight in the middle of the truss, from a point one and a half panel lengths from the end of the truss; from this point to the end, the chord is bent in a circular arc down to the shoe. The arc is held in shape by two or more tie rods entering at the bottom chord pin, to distribute and transmit the load from the point to the arc. The top chord is spliced and connected over the pin by a wrought iron plate, bent in double angle form to fit the web of the beams, bolted on the ends of the two beams so that its flanges project downward to receive the pin, for connection of the tie rods and struts of the truss. This plate is bolted to the under side of the chords by two short bolts, making a temporary connection to the top chord. On top of the chords, at the joint of the sections, there is a cast block, fitting into the trough of the H-beam, which is bolted down, by two bolts, passing through the block to the web of the beam and the wrought iron connecting piece. The block has lugs cast on the top, in which the top lateral ties are secured.

Improved Earth Auger.

William Sandlin, Minden, La.—This invention consists of a spirally flanged auger of the usual construction, provided with a pivoted and exchangeable bit for producing wells of different diameters, and connected with a cylindrical sand box, having band springs applied at the outer side for retaining the box stationary in the well. Small rollers at the upper curved ends of the band springs are carried through slots of the box between two disk-shaped collars of the auger shaft, on which the collars turn, while also raising and lowering the box with the auger. The ends of the band springs are attached by ropes or chains to the auger shaft to prevent the catching on projecting parts of the well during the raising of the auger and sand box.

Improved Glass Melting Pot.

Robert Richardson, Brooklyn, N. Y.—The pot is made with a cover about the same as the ordinary covered pots, but with two or more large openings at the junction of the cover with the sides of the pot, and with raised portions of the cover projecting over said openings, so as to prevent the falling of any matters from the top of the furnace and the flue into the pot. A small opening is made through the top of the wall surrounding the mouth of the pot, to permit of the escape back into the furnace of any portion of the heat currents that may, in consequence of draft through openings, tend to come out at the opening in the furnace wall through which the glass is taken from the pot.

Improved Medical Compound.

Benjamin F. Ulmer, Savannah, Ga.—This invention consists of a composition composed of ground dandelion, ground butternut bark, ground senna, ground serpentaria, ground star aniseed, ground fennel seed, and ground coriander seed, mixed together and moistened with pure glycerin, water, cologne spirits, and sirup prepared from the domestic black root of the Southern States. The remedy is administered as a liver corrector or vegetable aperient, and is found useful in all bilious complaints.

Improved Tyre Tightener.

Absalom Hollingsworth, Alba, Mo.—This invention is an improvement in the class of tyre tighteners in which a wedge is employed to draw the two ends of the tyre together. The improvement relates, first, to providing both ends of the tyre with lengthwise slots and the felly with radial slots, one to receive the wedge and the other to permit adjustment of a screw clamping bolt; second, to a U-shaped bar or staple applied to the slotted end of the felly, to operate in conjunction with the tightening wedge.

Improved Manufacture of Enameled Dial and other Plates.

Joseph H. Robinson, Liverpool, England.—The foundation of the dial is made of thin sheet iron, which is stamped out by means of a press and suitable dies, with the edges turned up all round, so as to form a kind of shallow tray to hold the enamel on the face of the plate. The necessary holes are punched at the same time. The plate, having been made chemically clean, receives an enamel composed of white lead, arsenic, flint glass, saltpeter, borax, and ground flint. These substances, having been all reduced to powder, are mixed together, melted in a crucible, and run into cakes, which are afterwards pulverized. A sufficient quantity of the dry pulverized enamel is sprinkled on the face of the plate, which is then placed in a muffle. When the enamel is fused, the plate is withdrawn from the muffle and allowed to cool; and when cold, it will have a hard, white, glazed surface, and is then ready for receiving the lettering and figuring.

Improved Vehicle Seat.

James A. Curtis, Greencastle, Ind., assignor to himself, Robert Renick, and Gasper Renick, same place.—This invention consists of a sliding back seat on ways on the top of the buggy body, with spring clamping levers to fasten it at any point. The levers extend from each side to the middle of the seat, where a locking bolt is contrived for binding them against the ways by turning it so as to cause a cam to press down on the levers. The front or jump seat is provided with short swiveled legs connected with longer legs of the same, so that, when the seat is thrown forward, the shorter legs will be detached from their sockets and turned on their pivots to adapt them to support the seat in its changed position.

Improved Pocket Book.

Alexander M. Le Vino, New York city.—This invention relates to an improvement in pocket books, by which they may be manufactured without stitching, in a neater or more durable manner; and it consists in the connection of the partitions, which are made of a continuous blank, with sector-shaped extension side flaps or tongues, arranged symmetrically at each section thereof, with the outer side flaps or gussets. The main advantage of a pocket book constructed in this manner consists in the extension of the partitions across the full width of the same, and its exposure to wear and tear at the outer edges of the partition, being the points of greatest resistance, while the sections of the side flaps or gussets are folded or crimped to the inside, and thereby fully protected.

Improved Rotary Engine.

Edward Myers, New York city.—The cylinder is provided with heads in the ordinary manner, and with a central partition. The shaft passes through the centers of the three heads. In the inner sides of the two outer heads, and in the opposite sides of the central head, are formed circular cavities, concentric with respect to each other, eccentric with respect to the heads, and tangent to the inner surface of the cylinder between the ports. Hollow drums are made to fit into the cavities and abut against the heads. In the ring ends of the drums, close to the circumference of said ends, and extended longitudinally through said shell, are formed round holes, in which are placed cylinders which are slotted longitudinally to receive the shanks of the pistons, which receive the shaft and carry the same with them in their revolution. The outer end of the pistons is made with flanges upon its opposite sides, fitting into a recess in the face of the drums, and its outer surface is curved to correspond with the inner surface of the cylinder. The steam chest has two branch ports leading into the cylinder upon the opposite sides of the central head. As the steam is admitted through one of the ports, it forces the piston around the inner surface of the cylinder, the steam in front of said piston all the time exhausting through the other port. The movement of the piston will rotate the shaft and drum about their separate axes. The eccentricity of the drum and shaft with respect to each other, and the location of the ports with respect to said axes, gives space for the steam as it expands. To avoid this useless weight, the head of the piston may be made separate from its stem, and secured to it by screws, so that the head may be detached and the stem inserted and withdrawn through the interior of the drum; or a portion of one end of the drum, around the hole for the slotted cylinder, may be cut out and replaced by a piece secured by screws, so as to be readily detached and replaced. This allows the piston and cylinder to be removed together from the drum, the piston stem passing out edgewise.

Improved Plow.

Moses F. White, Douglassville, Texas.—This invention relates to turn plows, and consists in several features of improvement, by which the preparation and tillage of the soil may be done at less than the usual expense, and with more than the usual convenience to the farmer. By this invention, the cutter may be easily changed in depth or inclination and securely held at any point of adjustment.

Improved Plow.

Moses F. White, Douglassville, Texas.—The object of this invention is to provide an improved plow for cultivating cotton or other crops which are grown in rows or drills of the requisite distance apart. The improvement consists in the arrangement of a plate or share with an adjustable bar which forms what is commonly designated the point, and a grooved standard having lateral flanges having a broad flat foot to which the share is attached,

Improved Windmill.

John A. Jelley and Josiah N. B. Parrin, Atalissa, Iowa.—This invention relates to that class of windmills which automatically adjust themselves to the wind. It consists of a set of vanes journaled upon a revolving plate, to which is pivoted a large main tail having a smaller supplemental tail at or nearly at right angles to it. When the wind blows too hard, it forces around the smaller tail, which, by means of a projecting arm, changes the direction of the main tail, and causes the revolving plate to turn and present the vanes more obliquely to the wind, thereby correspondingly reducing their velocity. Said tails are also controlled in their position by means of separate independent gearings of ropes, which are fastened to the same and pass around sheaves, contained within arms attached to the revolving plate, and are fastened within reach of the workmen below.

Improved Screw and Pivot Chair.

William T. Doremus, New York city.—The chair seat rests upon the rubber springs, which are seated on a cross bar and bolted thereto. In the center of the cross bar is formed a long socket, in which fits a screw which passes through a plate and into the pedestal. By suitable construction this screw is securely connected with the base, so that it will be firmly held. This construction also enables the pedestal to be made low, to better adapt the chair for being upholstered; and also enables it to be made lighter than is possible when the screw is attached to said base.

Improved Corn Planter.

John Clarridge, Mount Sterling, O.—To the free end of a lever which governs the dropping valve, and to the projecting side of the distributor, are pivoted the rear ends of two rods, the forward ends of which are attached to a slide. By suitable construction, as the slide moves forward the distributor is operated to drop the seed into the cavity of a standard, and the valve is closed to receive the seed. As the slide moves to the rearward, the distributor is turned to receive seed for another hill, and the valve is opened to drop the seed previously removed to the ground. The slide moves forward and back between four friction rollers pivoted to a plate attached to the front cross bar of the frame. To the end parts of the plate are attached two blocks as thick as the slide for the cross slide to work upon. The cross slide is held down upon the blocks by keepers. In the lower side of the cross slide is formed a cam groove to receive a pin attached to the slide, so that the latter may be moved back and forth longitudinally by the transverse movement of the cross slide.

Improved Cooking Stove.

James R. Williamson and John L. Williams, Jessup, Ga.—The stove is divided, by vertical partition plates, into compartments, of which the outer ones are arranged as fireplaces, with grates, ash boxes, front dampers, and doors constructed in the usual manner. The inner compartments are divided into the lower and upper sections, the lower sections being used as ovens, and provided with a door, hinged so as to swing in horizontal position, to be supported therein by chains of sufficient strength to support the bake pans thereon. The upper sections connect recesses of the partition plates with the fireplaces, and draw the flames through the same. The upper sections are cleaned from soot by a front opening and door above the door of the ovens. A chamber extends below the ovens, connecting by slotted apertures with the fireplaces and with the chimney. Pivoted dampers serve to open or close apertures, and admit thereby the fire to heat the ovens or exclude the same, as desired. The chamber may easily be cleaned by taking off the door. The rear wall is provided with draft openings near the top plate, which are opened or closed by dampers, so that cooking may be carried on in all the pots and ovens, or in any part thereof.

Improved Can for Cooling Milk During Transportation.

George W. Fluke, Mount Pleasant, Iowa.—The object of this improvement in cans for cooling milk during transportation is to utilize the cooling capacity of the ice or water which was allowed to run off in the milk can as in the improvements patented by same inventor under dates of March 3 and May 19, 1874. The present invention consists of an ice water receptacle, placed circumferentially around the milk can, and below and in connection with the bottom of the ice chamber or receptacle at the side of the can, for conducting the ice water around the lower part of the can, and discharge by an exit perforation at the upper part and near the end or partition of the water chamber.

Improved Horse Power.

Andrew Jackson Pierce, Cherryvale, Kan.—This is an improved horse power so constructed that it can be conveniently taken down, set up, and carried from place to place, and which will allow as many horses to be hitched to it as the work to be done may require. This consists of a polygonal center block fastened to the ground, from which radiate a number of sills. Each sill carries a standard, and the standards support a frame in which are a number of vertical flanged pulleys. An endless chain passes around all the pulleys and also around a large gear wheel. From the latter motion is imparted to the mechanism to be driven. The draft bars are attached to the endless chain in any required number.

Improved Car Coupling.

John Pendergast, Spring Grove, Minn.—This invention consists of a drawhead with curved jaws which are fulcrumed to a slot of the drawhead back of the link cavity, so that the overlapping ends of the jaws pass through side slots of the mouth of the drawhead into the same, and couple thereby the link. The rear arms of the jaws are attached to a strong elliptic band spring, which is again applied at its rear part to a connecting bar sliding in a longitudinal guide perforation of the drawhead, and projecting beyond the front part above the mouth, so as to close the jaws when being carried back by the concussion of the drawheads, and be locked in this position by a pivoted spring lever catching into a notch of the sliding bar. On releasing the lever or treadle the link is instantly uncoupled by the spreading of the spring jaws.

Improved Clover Separator.

Zephaniah Miller, Canal Fulton, O.—In operating this machine, the clover is thrown on a stationary toothed feeding apron, whence it is carried on and over a cylinder to the teeth of the stemmer concave, when the stems are torn from the heads, and both are carried to a stationary conducting apron, and then to the separator, the broad teeth of the apron preventing any stems or pods from falling into the cylinder case. The feed bottom catches the heads which have fallen through between the slats of the separating belt, whence they are carried by the slats of said belt into the cylinder case, and then to the hulling teeth, by which the seeds are thrashed from the heads, when both are thrown over into the seed and pod conveyer. They fall thence into the seed separator, and are prevented from rising on the cylinder above the stationary toothed apron by its broad teeth. Thus the two operations, that of stemming and hulling clover, are performed by one beater cylinder. The pods and seeds pass from the conveyer to the platform and belt, by which they are delivered to the winnowing mechanism located under the platform.

Improved Sewing Machine Table.

James M. Baird, Wheeling, W. Va.—The object of this invention is to utilize the available space in the cover of the sewing machine, and to furnish an improved fastening of the same to the table; also to extend the table in such a manner that the cover may be placed in the rim like a leaf, and thereby out of the way. Beveled lugs slide into grooves at the inside of the cover, and lock in connection with a beveled cam, which is pivoted to the table and fits into a corresponding groove of the cover, securing the box firmly to the table. In the direction of the arm and needle bar are arranged parallel drawers. The top of the cover projects sufficiently to have the width of the table, and rest thereby on extension pieces, like the leaf of a folding table.

Improved Cotton Cultivator.

Theodore C. Burnham, Waco, Texas.—To the axle is attached a cone chain wheel, around which passes an endless chain, which also passes around a chain wheel, the journals of which revolve in the frame. To the front cross bar of the frame is secured a rod, which is hinged to the end of a block that rides upon the axle in a cavity formed in the side of the cone chain wheel, the said rod having a bend formed in it to pass around the rim of the said wheel. To the chain wheel are attached bevel gear wheels, which gear with vertical shafts. To the lower ends of the latter are attached circular cutters, made slightly convex upon their upper side and slightly concave upon their lower side, and in one side of each of which is formed a semicircular notch about six inches in diameter. The cutters are so arranged that the notches of the two cutters may be directly opposite each other, so as to leave an uncut space about six inches in diameter every time the notches of the cutters come together as the machine is drawn forward. Plows are attached to the forward part of the frame, in proper position to bar off the plants in front of the cutters, which cutters will thus have to cut only through the ridge of soil left between the furrows made by the plows. Guards are supported at the inner sides of the plows to guard the plants from being injured by rubbish or stones thrown against them. Suitable means support the cutters and plows of the said frame away from the ground, for convenience in turning and passing from place to place.

Improved Railroad Track.

Henri A. Corbin, Paris, France.—The ties by which the rails are connected are composed of a rod and tube, the former passing through the latter, and also through the rails, and having screw nuts applied to its ends. The ends of the tube abut against the inner side of the rails and thus hold them rigidly apart, while the screw rod equally prevents their separation. The rails are made of angle iron, one side or flange of which forms the base that rests on the ground. They are connected in sections by fish plates which are riveted or bolted to the ends of one pair of rails, and pivoted to the contiguous ends of the next pair.