

## ENGINEERING INVENTIONS.

A condenser has been patented by Mr. Richard T. Isbester, of Chattanooga, Tenn. It consists of a novel construction and arrangement of connected compartments and steam and water pipes, the steam pipes passing through fresh water pipes and compartments in such way that the apparatus is very compact, and adapted for effectively abstracting the heat from any fluid or gas.

A coal and ore car has been patented by Mr. Lester J. Barr, of Ashland, Wis. It has a hopper supported by a truss frame, with two sets of dumping doors in the bottom, operated by rods extending through cross bars at the top of the car, the construction being such that the cars will carry a maximum load, and no manual labor will be required in discharging a car of its contents.

A rotary steam engine has been patented by Mr. William F. Lawrenz, of Duluth, Minn. It consists of a concentric disk and shaft, with a valve provided with inlet, outlet, and reversing ports, and devices to operate the valve from the main shaft, the engine being simple in construction and direct in its action, while it can be reversed at any point of its stroke.

A car coupling has been patented by Mr. James B. Force, of Portville, N. Y. The drawhead has a horizontally ranging link socket with a downwardly and backwardly inclined floor, a vertically ranging slot crossing the socket, and other novel features, making a coupling which can be adjusted from either side or the top of the car, and which may be readily used in connection with cars having the common link and pin coupling.

## AGRICULTURAL INVENTION.

A corn planter has been patented by Mr. Robert W. Jordan, of Mount Sterling, Ala. Combined with a beam and drive wheels at its rear is a hopper, and semi-cylindrical feeder secured to a crank shaft journaled in the hopper, with other novel features, making a planter with which the seed will be dropped with certainty and which can be readily adjusted to work deeper or shallower in the ground.

## MISCELLANEOUS INVENTIONS.

An attachment for cooking stoves has been patented by Adile C. Philippi, of New Orleans, La. It consists in a frame fitted to the stove top, and extending beyond the sides and ends of the stove, in position to form a support for cooking vessels.

A churn has been patented by Mr. William S. Smith, of Salem, Ore. This invention provides a churn dasher operating mechanism applicable for use with almost any form of churn, whereby an exceedingly high rate of speed may be imparted to the dasher rod.

An animal trap has been patented by Mr. Arvor A. Taubeneck, of Marshall, Ill. This invention consists of a trigger engaging a bell crank lever held in a locked position by jaws operated by means of a spring, making a device adapted for entrapping wild ducks, geese, and other fowl.

A pie lifter has been patented by Mr. Edward T. Bradbury, of Mahanoy City, Pa. It consists of wire tongs formed of a single piece of wire, with a spiral in the middle of its length acting as a pivot to the arms of the tongs, the ends of the tongs having oblong eyes for receiving the edges of the plate.

A bedclothes holder has been patented by Mr. Henry O. Thomas, of Fremont, Neb. It is a clamp made of spring wire, with a hook, adapted to embrace and clamp the clothes, and another adapted to engage with a bail, by which the clothes will be held down firmly without mutilating or tearing.

A washing machine has been patented by Mr. William B. Reeves, of Friar's Point, Miss. It consists of a cylinder whose lower end is encircled by a skirt, the operation of a plunger in the cylinder forcing hot suds by atmospheric pressure through the clothes, avoiding all rubbing and mechanical friction.

A freight car lock has been patented by Mr. George J. Bedford, of Anamosa, Iowa. It is a hasp lock, also applicable to any form of door, being designed to operate in a horizontal position, and especially calculated for use in connection with a freight car door, or other form of door that it is necessary to seal.

A button has been patented by Mr. Stephen J. Swayze, of Sag Harbor, N. Y. It has a doubled-faced head in combination with a spring shank, adapted to be attached to a garment without stitching, and to be reversed, so that the same buttons may be used on uniforms to indicate "off" and "on" duty.

An adjustable chair has been patented by Mr. Algeraus C. Watson, of London, O. This invention covers a novel construction of a chair, in which the seat is vertically adjustable on its leg frame, and can be locked at any desired height, the chair being simple, strong, and inexpensive.

A cold chisel has been patented by Mr. Cornelius J. Phillips, of New York City. It is especially designed for plumbers' use in making penings in pipes, and has one or more shoulders above the bit, whereby an opening formed by the bit may be easily enlarged with the same tool.

A photographic camera has been patented by Mr. Erastus B. Barker, of New York City. This invention covers a construction whereby, through the aid of suitable mechanism, both the body and bellows can be readily detached from the running gear and front or lens holder support, and another body and bellows, either larger or smaller, be substituted.

A wire fence machine has been patented by Mr. William J. Raymond, of Cherry Vale, Kan. It has vertical standards and wire twistors on a truck, with beater arms, sliding bars, and an angle lever, and other novel features to facilitate building fences with twisted wires and pickets or rods held by the twisted wires.

A method of starching washed goods has been patented by Mr. Ernest A. E. Meyer, of Watertown, N. Y. It consists in building up within a suitable stationary receptacle alternate layers of hot starch and the goods to be starched, and then driving or heating the starch into the goods by mechanically pounding the whole mass within the receptacle.

A book holder has been patented by Mr. Joseph H. Paradis, of Amherstburg, Ont., Canada. It is a simple device for holding open books of different sizes, with bent wires mounted to turn in a base, bent tubes held on the upper ends of the wires, with two covers, whereby the book will be balanced and the holder work easily.

A reclining chair has been patented by Messrs. John W. Boggs and Daniel M. McLaughlan, of Albina, Ore. It is so made that the inclination of the side posts may be readily adjusted to suit the convenience of the person occupying the chair, and thus fixed by locking clamps, the details of construction being extremely simple.

Feed work for sawmills forms the subject of a patent issued to Mr. Benjamin E. Sergeant, of Greensborough, N. C. This invention provides a variable friction feed for the forward and backward motion of the carriage, employing but one lever to give the movements, and this lever designed to have only a forward and backward movement.

A horse tail supporter has been patented by Mr. William V. Ramsey, of Flemington, N. J. It is made with a plate having stationary jaws upon its rear sides, and with movable jaws and hand clamping screws, whereby the long hairs may be conveniently held up, the jaws being faced with rubber, that they may not injure the hair.

A machine for rolling horseshoe blank bars has been patented by Mr. John H. Snyder, of Richmond, Va. This invention covers improvements on a former patented invention of the same inventor, whereby the heel portions of the shoe are upset or narrowed and thickened, as desired, with other novel features.

A work box has been patented by Mr. John W. Hoffman, of Creston, O. Combined with a box or casing having thread passages and spool supports is a removable tray for various articles used in sewing and fancy work, with cutters secured to the box, with openings to receive tags and indicate the kinds of thread.

A rein holder has been patented by Mr. Harold Gooch, of Bonham, Texas. It consists of a standard having clamp screws for attaching it to the dasher, and carrying a stationary and a movable cylinder, between the toothed faces of which the reins are held, so that any forward tension on the reins makes the movable wheel hold them more firmly.

A saw has been patented by Mr. George N. Clemson, of Middletown, N. Y. It is provided with alternate layers of long and short teeth, the teeth of each pair being set in opposite directions, the design being that the long teeth shall do the cutting and the short teeth serve as cleavers, and for preventing the saw from catching in and splintering the work.

A tricycle has been patented by Messrs. Martin M. and William B. Depuy, of Rowland, Pa. Crank arms are attached to the journals of the drive wheel, and jointed levers are fulcrumed to hangers attached to the frame and connected with the crank arms and with hand levers, in such way that the tricycle can be driven at great speed.

A combined wagon seat and feed trough has been patented by Mr. Lenson Johnson, of Vincennes, Ind. In connection with a seat of ordinary construction a board of substantially the same form as the back of the seat is fitted to slide between cleats near the front of the seat upon the inner surface of its ends, thus converting the seat into a feed trough.

A wire twisting machine has been patented by Mr. Bertram Fulford, of Shelbyville, Ind. It is for twisting wire in making fences, and consists of a board provided with rack, segmental gear wheel, pinions, and a crank arm, the apparatus holding the wires open to permit of inserting pickets, and being moved forward each time a picket is inserted.

A gate has been patented by Mr. Phylander S. Tipton, of Anson, Texas. Its construction is such that an approaching vehicle depresses a trip bar, which operates a mechanism whereby the gate is swung open away from the vehicle, and when the vehicle has passed through the gate a holding latch is released, and the gate swung to a closed position.

A clothes line has been patented by Mr. Thomas F. Durand, of New York City. This invention covers, in combination with pulley blocks and an ordinary line, a novel description of clamp for joining one end of the line with a straight main portion, in order to make greater lengths of line available with a less number of pulleys than are usually required.

Show window shelving forms the subject of a patent issued to Mr. William Oswell, of Boston, Mass. The invention consists of upright supporting posts pivoted at the base, combined with shelves, the posts and shelves having correspondingly placed lugs, connected together by pivots through the lugs, making a series of shelves readily movable, so they will all be in the same vertical plane.

A horse detacher has been patented by Messrs. Franklin Thomas and George M. Kay, of Lebart, West Va. This invention relates to a single tree wherein the traces are held by spring hooks adapted to be easily withdrawn from the traces, for detaching the horse, in case he becomes unmanageable, which is readily effected by pulling upon a cord provided for the purpose.

An umbrella drip cup has been patented by Mr. David F. Taber, of Atlanta, Ga. It is a flexible rubber bag or receiver, having at one end a soft rubber cup adapted to receive the tip of the umbrella stick, and at the opposite end a rigid funnel, with means for retaining it on the end of the umbrella stick in position

to receive the dripping water, the device being readily applied and removed.

A vehicle seat has been patented by Mr. George E. Bartholomew, of Brooklyn, N. Y. This invention relates to vehicles in which it is desirable that the back seat should be free to swing outward to form an opening in the box, and provide a construction whereby the seat is firmly held and prevented from sagging in its open or extended position.

A vehicle running gear has likewise been patented by the above inventor, who has devised a construction whereby the ordinary form of platform spring is dispensed with, as is also the reach by which the springs are connected, the invention being an improvement on a form of gear heretofore patented by the same inventor.

A spoke fitting machine has been patented by Messrs. Joseph H. Mueller and Joseph Marx, of Cross Plains, Wis. A reciprocating plane is so mounted on a supporting frame, with adjustable clamping device, that the outer end of the spoke can be securely held, whatever its length, width, thickness, or inclination, making the machine to bring spoke tenons quickly and accurately to the required size.

A pneumatic device for discharging firearms, etc., has been patented by Mr. Otto Straube, of Spandan, Germany. It consists of an elastic or collapsible chamber or receiver adapted to be expanded by compressed air, with an air forcing device and devices for striking the fulminate or cartridge, with means for attaching the receiver to a firearm to act upon the trigger.

A revolving mould for casting tubes has been patented by Mr. George Adams, of Waterbury, Conn. Its construction is such that a perpendicular mould, with bowl above it into which the molten metal is poured, and the core rotate in unison to make a solid casting, the device being such that the casting can be easily removed, and being especially applicable for casting seamless copper and other tubes.

A supporting frame for carriage tops has been patented by Messrs. Edward Carroll and Patrick Ryan, of Guelph, Ont., Canada. Combined with a vehicle seat to which are secured flanged wear plates and channel irons is a swinging frame, sliding irons, pivotal and clamping connections, and other novel features, the invention being an improvement on a former patented invention of the same inventor.

A sled brake has been patented by Mr. William Andrews, of Buffalo Grove, Iowa. A rod and guide case is so connected with a runner and a brake shoe as normally to hold the shoe out of braked position, but the parts are independent of the draught devices, and so the brake may be applied at will, it being strong and serviceable, and adapted for use on sleighs of different sizes.

A grain silo has been patented by Mr. Celestin Engrand, of Marseilles, France. It consists of compartments having at their upper ends necks with hoppers, with outlet pipes connected to their bottoms, pneumatic pipes connecting with the compartments, and a layer of non-conducting material surrounding each compartment, whereby grain can be kept at a low cost for a long time.

A screw cutting machine has been patented by Mr. Chester A. Weller, of Croton Landing, N. Y. It is simple in construction, operates rapidly, and designed to produce perfect screws of different kinds as well as for twisting metal rods, the machine having a sliding carriage in which movable screw cutting tools are held, levers being pivoted on the carriage and acting on the movable holders for the screw cutting tools, with fixed cams acting on the levers, and other novel features.

A drier has been patented by Mr. Harry P. McDonald, of Louisville, Ky. It consists of a room whose walls are made of wooden frames, to the inside and outside of which canvas is applied, the latter being painted with silicate of soda or other fireproof material, whereby a great degree of difference of temperature or moisture may be maintained in a room or box so made without affecting the integrity of the inclosing surfaces.

A vapor bath has been patented by Carrie Aurelia Munro, of Olive Branch, O. The body of the bath is made in three separate sections, at the top of the main one there being an opening, so that the head of the person taking a bath may be outside the bath, and the smallest section having a vapor generator, intended to hold water and any desired medicament, the bath being adapted for stowing in small space when not in use.

A snap hook for harness and similar uses forms the subject of two patents issued to Mr. Thomas T. Morrow, of Caro, Mich. In one form the tongue is made in the segment of a circle so the hook may have a slight lateral play without being opened, while another form consists of a loop and hook pivoted together so that the strain in the line of draught will tend to close the hook and make it bear constantly upon the tongue, the construction in both cases being simple and the use of springs entirely avoided.

An electric connection for chandeliers has been patented by Messrs. John P. Willets, of Jersey City, N. J., and Edwin R. Crollis, of New York City. It consists of insulated metallic rings, so held in yielding electric communication with wires carried by the swinging portion of the chandelier as to maintain an electric connection between the main line wires and the lamps, and also furnishes an auxiliary bushing of insulated material, insulating the chandelier from the gas supply pipes.

A hame fastener has been patented by Mr. Daniel B. Baker, of Rising Sun, O. It consists of two metallic straps, one with teeth and the other with a double armed swinging lever, carrying a pin adapted to be engaged by the teeth of the first strap, the lever and its strap being so formed and proportioned that the lever will fold within the strap when moved to a position to lock the hames upon the collar, the device being quick of adjustment, and doing away with ordinary straps and fastening devices.

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