

ENGINEERING INVENTIONS.

The propelling of marine vessels forms the subject of a patent issued to Mr. William O. Robbins, of New York city. Compressed air pipes lead from the stern of a vessel close to the propeller blades, which are made to revolve by the force of air at a high pressure, whereby only short propeller shafts are needed, and friction and danger of breakage is removed.

A car coupling has been patented by Mr. Ernest M. Brown, of New Boston, Ill. The draw bar has a head, from one side of the face of which two longitudinal slotted prongs project, and which has a coupling pin, in combination with a coupling link of an opposite drawhead, so the cars are at all times coupled by two links, and the pins have considerable play in the links.

A car brake and starter has been patented by Mr. Eyvind Lee Heidenreich, of Chicago, Ill. Combined with the axle is a sliding sleeve having clutch cups at its ends which can be engaged with clutches mounted loosely on the axle and engaging with a wheel in which a spiral spring is coiled, so the energy of the car's motion while being stopped is stored to be given out in helping to start the car again.

A car coupling has been patented by Mr. Joseph McCoy, of Independence, Mo. Combined with the drawhead is a V-shaped link lifter pivoted on the bottom and connected with a swinging piece arranged at one side of the drawhead, while on the opposite side is a horizontal bar with a beveled head projecting beyond the end of the drawhead, the device being intended to both raise the link and couple automatically.

A railroad gate has been patented by Mr. Albert M. Woodruff, of Athens, Mich. It is made with a shaft having a staple and rigid arms carrying suspended weights, with a push bar and springs so arranged and connected with supports attached to the track that the gate will be opened by the wheels of an approaching train, held open while the train is passing, and then automatically closed.

A valve gear has been patented by Mr. John R. Deering, of Emporia, Mo. The construction is such that the valve will be fully moved by an eccentric during an eighth of a revolution of the shaft, and will remain still until the eccentric reaches the opposite side, so the exhaust will be open for three-quarters of the time of revolution, thus giving an exceptionally free exhaust and reducing the back pressure on the piston to a minimum.

A car coupling has been patented by Mr. John O'Brien, of Austin, Minn. A shaft is journaled in the top part of the drawhead in front of the coupling pin, carrying a plate whose free edge projects toward the rear of the drawhead, adapted to lift the outer end of the link when the shaft is turned, with which are other novel features, the device being calculated to facilitate the coupling of cars having drawheads of unequal heights.

A railway and tramway chair has been patented by Mr. John Poyser, of Sherwood Rise, Mansfield, Nottingham County, England. It is made with three jaws formed in one piece with or rigidly attached to an ordinary base, one jaw being shaped to receive one side of the rail in the usual way, and the two jaws on the other side leaving sufficient space to allow of the easy admission and extraction of the rail, a wooden or metal key being driven in this space to fix the rail firmly in position.

AGRICULTURAL INVENTIONS.

A corn planter has been patented by Messrs. Edwin M. Calef and Truman L. Tracy, of Missouri Valley, Iowa. This invention covers a novel construction and arrangement of parts intended to facilitate the planting of corn in accurate check row, and promote convenience in adjusting the seed dropping mechanism to keep the cross rows in line.

A mower has been patented by Mr. Benjamin Saunders, of Claverack, N. Y. The axle and main gear wheel are connected by a ratchet wheel, and spring pressed pawls are pivoted to the radial arms of a hub, so arranged that the main gear wheel can be driven at a fast or slow speed, and the sickle bar thus be made to vibrate more or less quickly, as the character of the grass may require, without stopping the machine.

A cotton chopper has been patented by Mr. James F. Barringer, of Bennettsville, S. C. It is made with wheels and an axle, runners connected by a shaft, pivoted bars, standards, and chopping hoes attached to a swinging extension bar vibrated by a crank shaft driven from the wheels and axle, making a machine to facilitate the chopping of cotton to a stand, and one which can be conveniently adjusted, operated, and controlled.

MISCELLANEOUS INVENTIONS.

A belt clasp has been patented by Mr. George E. Zeltmacher, of Brooklyn, N. Y. A peculiarly made slide is so combined with the buckle that the clasp can be readily adjusted to lengthen and shorten the belt, which will remain as fixed when adjusted, and the belt will not be disfigured or otherwise injured.

A hasp lock has been patented by Mr. Charles P. Pond, of Camden, N. Y. Combined with a hasp, a lock is formed in the swinging end of the same, no key being required to lock the hasp, and the improvement covering a lock which is simple in construction, strong and durable, and one which can be used on numerous objects.

A nail extractor has been patented by Mr. Lewis Howard, of Watkins, N. Y. Combined with a claw bar, with a spring bit secured to its under side, a clevis is pivoted to the bit, and a pin unites the shank of the clevis between the bit and the under side of the bar, making an improved device for extracting nails and spikes easily and rapidly.

A wire frame has been patented by Mr. Henry F. Fordham, of Greenport, N. Y. This invention consists principally in holding the ends of the wires with a tube and wedge, key, or rivet, in making frames

with wires that radiate from a central point, so that the wires will be held very firmly at the center of the frame, and the frame will be cheap and strong.

A convertible chair has been patented by Mr. Edward H. Lewis, of Nashville, Tenn. It is a folding chair of novel design, readily convertible into a settee, bed, or cot, a lounge, a child's crib, or a carpet or wall paper exhibiting frame; it is composed of three main bent sections, which may be put together without tenons or mortising, glued angles, or ordinary framing.

A backing for books has been patented by Mr. Gustav A. Shurmann, of New York city. It consists of wood or other suitable material provided with removable attaching strips for holding the leaves, furnishing a device for binding in a firm and substantial manner, and in such way that the leaves or body of the book can be removed from the covers.

A carriage seat has been patented by Mr. Charles Morgan, of Bridgewater, Nova Scotia, Canada. The frame of the seat is so arranged, in connection with the use of springs, that it is adapted to slide back a little when the carriage receives a sudden shock or jerk, and then again return to its place, thus easing the back of the person occupying the seat.

A composition of matter for facing brownstone and for making artificial stone has been patented by Mr. Benjamin E. Ratcliffe, of New York city. It consists of linseed oil, sand, and litharge, in specified proportions, with any desired pigment for coloring, and if a finer grained mixture is required, ground pumice stone is added.

A grindstone frame has been patented by Mr. Julius B. Johnson, of Johnson, Neb. It is a knockdown frame which can be readily put together, the sides of the frame having oppositely arranged grooves down their inner faces, near each end, with which, by reason of the construction and fit of the legs, cross end pieces to keep the sides at their proper distances apart are dispensed with.

A stair rod has been patented by Mr. Thomas Worley, of New York city. It is made with interior screw threads in each end, the screws to fit therein having radial perforations in their shanks, with caps having flanged outer ends and transverse slots to inclose the screws and the ends of the rod, so that such rods may be readily applied and removed, and will hold the carpet firmly.

A disinfecting compound has been patented by Mr. Ferdinand Jossa, of Boston, Mass. It consists of definite mixtures of sulphate of iron, borax, chloride of sodium, and bicarbonate of soda, dissolved in warm water and mixed with dry sulphate of lime, the compound being suitable for use as a powder, in hard cakes, or dissolved in water according to the strength required.

A hose reel has been patented by Mr. Luther C. Baldwin, of Manchester, N. H. A U-shaped support, made of gas pipe or other suitable material, is attached to the side of a building or to the ground, supported from the bowed portion, the arms holding a roll of hose which has a crank for winding the hose, the device being fixed near a faucet or hydrant, to facilitate the use of small hose in sprinkling, washing, etc.

Saddle bags form the subject of a patent issued to Mr. Joseph J. Stephens, of Coalesburg, Mo. The bag is made open at the top, with a low front wall, in which is a cover opening on links as a tray, the whole affording a convenient receptacle for vials and other articles, while there is a flap cover which swings over the top and front of the tray and fastens to the front of the body.

A safety lamp has been patented by Mr. John L. Williams, of Shenandoah, Pa. This invention covers novel attachments arranged outside of the wire gauze cylinder of the lamp, with adjustable sleeve on the wick tube to afford safety against a rush of gas, also an extension of the gauze cylinder below the burner, an additional wire gauze protector at the top of the lamp, with other novel features.

A combined wire stretcher and staple puller has been patented by Ella Moore, of Walla Walla, Washington Ter. The handle has teeth and a clamping lever, in combination with a fuicrum plate or head made on a curve, having at one end a hook and at the under side of the opposite end a depending pawl, making an especially useful device for building and repairing fences.

A machine for sorting feathers has been patented by Mr. Henry C. Dyer, of St. Louis, Mo. There is a chamber with means for agitating the feathers, and a blower for making a current of air which carries off the lighter feathers and allows the heavier ones to drop into a pit, there being rollers and belts with pins over which the feathers are conducted, the larger ones catching on the pins and dropping down.

A ruler attachment for slates has been patented by Mr. Joseph R. Kennedy, of Philadelphia, Pa. The ruler is formed with a straight tube and spring tongues, the latter adapted to enter a slot in the edge of the slate frame, the device being such as not to interfere with the ordinary use of a slate, while adapted to hold a pencil and sharpener, and also for use as a ruler and measuring implement.

A revolving chair has been patented by Mr. C. Arnold Graef, of Bay Ridge, N. Y. A lever pawl is pivoted to the socket attached to the legs, and engages with side rack teeth upon the pivot bar, passing through the socket and carrying a pivoted seat spider, whereby the bar will be securely supported and can be readily raised and lowered, and the chain will remain at the desired height.

A windmill has been patented by Mr. James E. Goodhue, of St. Charles, Ill. It is a self-regulating mill of the class known as "solid wheel" mills, and its construction is such that the mill may be promptly stopped during heavy or light winds, while the vane maintains its position in line with the wind, with various other novel features to improve the construction and promote the efficiency of windmills.

A grappling bucket has been patented by Mr. William G. Thompson, of Brooklyn, N. Y. It is made with a foot block carrying the bucket arms, a head block-carrying connecting bars and pulleys, and a

hoisting rope so contrived to run that the bucket can be controlled by a single rope or chain, and will be opened and closed automatically, the apparatus being inexpensive to manufacture and its working easily controlled.

A carriage axle and box have been patented by Mr. Josiah Fowler, of St. John, N. B., Canada. The outer end of the axle has no screw or nut to hold the wheel in place, but instead there is a screw cap slipped over the bed of the axle, which is screwed by an external thread into the hub of the wheel and by an internal thread into the inner and larger end of the axle box, with other novel features, to promote durability and noiseless running.

A sweat pad for horse collars has been patented by Mr. Edward L. McClain, of Greenfield, O. A corrugated strap, preferably of rubber, is attached to a sweat pad, the strap being adapted to be brought around the inner roll of the collar and passed under the hames, so as to be held between the hames and the collar, the attachment being thickest at its outer or free end, so it will have a wedging action between the hame and collar.

The marking of chocolate cream drops and other confectionery forms the subject of a patent issued to Messrs. John S. Hawley, of Brick Church, N. J., and Herman W. Hoops, of New York city. The marks are impressed upon paper, upon which the cream drops or other confectionery are laid while warm and plastic, and upon cooling and hardening preserve impressions of the figures of the struck up or impressed paper on which they have been laid.

A folding crib has been patented by Mary E. Woodward, of Parker, Dakota Ter. It is formed of two sides and two end pieces, each having at each end a corner piece with triangular cross section, the corner pieces hinged together in pairs, and bottom boards being hinged to swing upward to the bottom rails of the side pieces, making a child's crib that can be folded compactly, quickly set up, and will then stand firmly.

A machine for cutting cloth, leather, and other substances has been patented by Mr. Charles Goettler, of New York city. Combined with a horizontal shaft mounted in fixed bearings, with a feed roller, is another vertically adjustable shaft with feed roller, and a knife held adjacent to the outer sides of the rollers, with other novel features, so the material will be cut smoothly as it is drawn against the edge of the knife by the feed rollers.

A magazine spring gun has been patented by Mr. Stephen D. Engle, of Hazleton, Pa. The magazine, to contain balls or projectiles, may be a simple longitudinally bored extension of the stock, connecting with the barrel at the breech, and allows one ball at a time to pass into the bore on suitably elevating the muzzle, when the follower or driver is in position, the propelling springs, which act in unison, giving an extended and powerful throw.

A stove has been patented by Messrs. Burt A. Bridgen and Edwin Cannon, Jr., of Moravia, N. Y. Around the fire pot, and below it, is a horizontal partition, cutting off all passage of gases from the coal to the smoke flue except through the fire pot and grate. The smoke flue being below the line of the partition, the stove being intended to economize fuel by consuming the gases, while being simple in construction.

A horse collar has been patented by Mr. Ebenezer Fisher, of Philadelphia, Pa. This invention covers a steel horse collar of two sections, each forged from a sheet of steel to form thin side flanges, whereby a greater degree of spring action is provided for the draught attachments, with other novel features, embodying improvements on a collar which has been the subject of several former patents by the same inventor.

A windmill has been patented by Mr. Oren Stoddard, of Busti, N. Y. By this invention it is designed to utilize the ornamental towers of buildings to locate wheels, vanes being suitably pivoted to arms to swing edgewise to the wind on the returning side, with two doors for each side closing to the center plane of the wheel, and so that only the ordinary form of the tower will appear when the doors are closed and the wheel not in use.

An odometer has been patented by Mr. Benjamin F. Hutches, Jr., of Galveston, Texas. It is a simple, compact instrument, with geared wheels and dials, for attachment to bicycles, carriages, cars, etc., for registering the distance traveled, and will register the distance either forward or backward, up to tens or hundreds of thousands of miles if required, without requiring special adjustment of the registering mechanism.

A photographic camera has been patented by Mr. Thomas Samuels, of Hadley-Monken, Middlesex County, England. The lens is so supported as to swing both on a horizontal and on a vertical axis, with vertical and horizontal adjustments, whereby the same results may be obtained as by the combined use of sliding fronts and swing backs, the bellows body of the camera readily lending itself to any desired adjustment of the lens.

An apparatus for transmitting power has been patented by Mr. Louis G. C. y Saenz, of Puebla, Mex. This invention combines a rotatable shaft provided with a power accumulating balance wheel, one or more disks being fast on the shaft, and one or more loose balls carrying reciprocating tapering pockets constructed to receive the disks partly within them and between the balls in the pockets, with other novel features to promote the accumulating and transmission of power.

An ore separating and concentrating machine has been patented by Mr. Henry Landrin, of Anglet, Basses-Pyrenees, France. It works on the gravity principle, a hollow vessel being held in an upright position in a frame, the upper third of the vessel being cylindrical, and the lower two-thirds tapered toward the bottom, a hopper being in the upper part, the bottom of the hopper formed of sector-shaped wings, and an arm or rake being held above its floor, while the hopper may be revolved around a shaft, with other novel features.

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