

## ENGINEERING INVENTIONS.

A car coupling has been patented by Messrs. Jacob W. Baker and George A. Prescott, of Dover, N. J. This invention consists in a coupling pin having a head of peculiar construction, with special means for lifting or operating the pin, whereby its jamming is avoided, and a straight lift or movement obtained for it under all circumstances.

A car coupling has been patented by Mr. Frank Betts, of Irwin, Col. At the inner end of the drawhead opening are securing plates, arranged in such manner that they may be moved in a plane at right angles to the length of the drawhead, these plates being actuated inward by springs, together with a special design of coupling bar, and other novel features.

Locomotive valve gear forms the subject of a patent issued to Mr. Wallace J. Lewis, of Tyler, Texas. The invention consists of a centrally pivoted lever, operated from the cab of the locomotive, with slotted reversing arms actuated by the lever, and connected to the valve rod, the invention being an improvement on a former patented invention of the same inventor.

A traction engine has been patented by Mr. William L. Leland, of Oroville, Cal. Separate engines are mounted upon the truck frame for the front and back wheels, the engines being only connected to the boiler by flexible pipes, and there being combined with the truck frames a central steering gear, whereby both truck frames are equally and simultaneously turned.

A traction engine has been patented by Mr. William A. Shadd, of North Buxton, Ont., Canada. This invention relates more particularly to an apparatus for guiding the engine, providing an effective, easily handled steering gear, which, when adjusted by hand levers, will be operated by the power of the engine itself; the engine being adapted for plowing, thrashing, hauling ditching machines, etc., and being so constructed that it can be turned within its own length.

A railway operating plan has been patented by Mr. Alexandre F. Godefroy, of St. Louis, Mo. Its design relates partly to transit, partly to the cars, and partly to the track, it being intended that a moving train can, without stopping, drop its rear passenger car so the latter will come to a stop at the station, after running up a slight incline, and that a car can be added to the moving train with the momentum it would acquire in running down a similar incline.

## MECHANICAL INVENTION.

A saw swaging machine has been patented by Mr. William G. Baumgardner, of Filer City, Mich. It has a saw swage gate carrying a stationary anvil die, with an oscillating die operated from the main shaft, an automatic clamp lever, an adjustable saw blade holder, and a device for moving the saw, making a machine which is automatic in operation and adjustable to saws of any shape or size.

## AGRICULTURAL INVENTIONS.

A combined planter and cultivator has been patented by Mr. Aaron L. Parker, of Philadelphia, Miss. This invention covers a novel construction and combination of parts in a planter and cultivator designed to be readily adjusted for use in either capacity, and one adapted to do a large variety of work.

A listing plow has been patented by Mr. Joseph S. Crum, of Manhattan, Kan. The plowshare has the forward portion of its cutting edge reduced and horizontal, with an upwardly inclined and outwardly extending rear portion, whereby provision is made for cultivating both the bottom and sides of the furrow.

A wheel cultivator has been patented by Mr. Stephen A. D. Thomas, of Perrysville, Ind. It has a sectional axle, with an externally screw-threaded sleeve upon each section, and a screw-threaded yoke on each sleeve carrying the cultivator frames, with provision for adjusting the cultivators independently of each other, with various other novel features of construction and arrangement of parts.

## MISCELLANEOUS INVENTIONS.

A machine for cutting cigar wrappers has been patented by Mr. James W. Cameron, of New York city. It is so constructed that with it one leaf, or fifty to a hundred leaves, called a book, may be cut at one operation, without the aid of any sustaining devices for holding the leaves in place while being cut.

A mop wringer has been patented by Mr. John Harris, of Lansingburg, N. Y. It consists of a roller frame held to a vessel to hold the water wrung from the mop, the rollers held in the frame exerting a squeezing pressure on the mop fabric to a degree which is governed by the pressure of the foot upon a treadle.

A cocoanut grater has been patented by Mr. Oscar Domaleki, of Brooklyn, N. Y. This invention relates to improvements in vegetable graters having a rotary disk, with a perforated grating surface, and mounted to rotate horizontally, a hopper being placed above the disk, a plunger sliding in the hopper, and means for rotating the disk.

A hay stacker has been patented by Mr. Clark W. Huntley, of Chariton, Ia. In combination with a frame having inclined beams is a fork attached to arms having friction rollers, arms with a cross piece pivoted to the fork arms and the main frame, a balancing box with pulleys, ropes, sheaves, etc., whereby hay is readily elevated and discharged upon the stack.

A plaiting board has been patented by Mr. John P. Caldwell, of Gainesville, Ga. It is a combined plaiter and lap board, designed to enable the operator to rapidly lay off regular plaits of any desired depth, which may be either pressed or stitched to place

after being formed, spaces between the plaits being measured by graduations on the sides of the board.

A furnace for fruit driers and other uses has been patented by Mr. Hugh S. Jory, of Salem, Oregon. It consists of an inclosing casing, across which extends a furnace, with a smoke flue projecting from the top up through the casing, and diametrically opposite draught openings with dampers, to thoroughly consume the fuel and utilize the heat.

A horse power has been patented by Mr. Ira A. Jefferson, of Salt Lake City, Utah Ter. It is a machine especially adapted for use at mines, being very compact and the parts detachably united for convenience in transportation, the construction being such that the machine can be very easily operated and hoisting may be speedily accomplished thereby.

A paper box has been patented by Mr. Joseph T. Craw, of Jersey City, N. J. It is a box which when set up will have a flat, springless bottom, without exposed folds, the blank from which it is made being so cut and scored that when the parts are adjusted they will be locked against displacement, without the aid of paste, except upon the main paste flap.

A rein holder has been patented by Mr. Romeo P. Tomassek, of New York city. The invention consists in a pair of clamping jaws, one for each rein, which are closed by a spring, and are arranged to be opened by the pressure of the foot, making a simple and efficient rein holder for attachment to the dash board.

An extension table has been patented by Mr. Frederick W. Nye, of Columbus, O. It has slide bars with recesses in their adjacent faces, and spring-pressed pins for pressing the bars apart and limiting their movement, with metal slides, and other novel features, making a simple, strong, and durable table, which can be cheaply manufactured.

An adjustable draughting table has been patented by Mr. John G. Aston, of Asheville, N. C. It is so made that, by means of a rockered supporting frame, the angle of the board can be adjusted at will with reference to its base, while, by loosening a binding screw, the board may be turned on the frame to suit the convenience of the draughtsman.

A supply and drain pipe connection for washstands has been patented by Mr. William D. Schuyler, of New York city. It is a direct supply faucet connection with the drain pipe valve, by combining a faucet having an axially turning or rotating barrel with the valve, through the intervention of a flexible or loose connection, all complicated mechanism being avoided.

A kitchen cabinet has been patented by Annie E. Irwin, of Memphis, Tenn. It is made in three divisions, each containing compartments, the divisions having suitable hinged and bolted doors, the door of the central division forming a bread or biscuit board when opened, while a mirror is on the top of the case, the design of the wood being ornamental as well as useful.

A brush extractor for pulling up brush or clumps of bushes by animal power has been patented by Mr. Samuel Maxim, of Wayne, Me. It consists of a pair of forceps jaws with suitable handles, with a chain attached to one of the jaws near the point, and extending through an eye projecting from the opposite jaw, for partly encircling the bushes and binding them tightly in the points of the forceps.

A spring motor has been patented by Messrs. Emanuel Nichols, of Unadilla, and Daniel W. Clark, of Grass Lake, Mich. This invention consists more particularly of a peculiar arrangement for accelerating and regulating the reciprocations of the rock shaft through which the power is applied, together with a novel spring winding attachment, and various other special details of construction.

A door or window fastener and alarm has been patented by Mr. John L. Painter, of Bellevue, O. This invention consists in a slotted triangular frame having a convex side, a claw with a pivot extending through the slot of the frame, the claw being adapted for insertion in the door jamb, and a spring-actuated hammer for exploding a percussion cap for giving an alarm.

An end gate for wagons has been patented by Mr. Henry C. Higgins, of Winona, Minn. It is formed in two sections, made so that they meet at about the transverse center of the wagon, and united by a pivotally connected lever and links, so that grain, potatoes, and other similar articles, carried in bulk, may be unloaded from the wagon without the necessity of taking out the tie rod.

A tobacco scrap breaker has been patented by Mr. Samuel P. Collins, of Allegheny, Pa. It consists of a toothed cylinder, a yielding toothed bar journaled next to the cylinder, a perforated apron under the cylinder and bar, and a reciprocating screen below the apron, with other novel features, the machine being also adapted for other uses, such as a grain thrasher and cleaner, and for similar work.

A tug coupling has been patented by Messrs. Elisha A. Rouse and Henry Summers, of Bozeman, Montana Ter. In connection with a fixed jaw, with an end stud having a pin, is a pivoted jaw with an aperture or hole to receive the pin, a number of back end shoulders, and a spring-pressed latch adapted to engage the shoulders, making a simple and secure coupling, easily connected with an eye or ring.

A heel for boots or shoes has been patented by Messrs. Paul Stucker and Christian Nen, of Brooklyn, N. Y. This invention relates to detachable heels, and consists principally of screw connections of the sole and heel, one permanently and the other adapted to be revolved by a key, whereby the heel may be quickly and easily detached from and attached to the boot or shoe, and can be firmly held in place.

A wagon box lock has been patented by Messrs. Joseph Marx and Joseph H. Mueller, of Cross Plains, Wis. It consists of two T-headed rods pivoted to the ends of the shorter arm of a T-lever, and a pawl

connected with the longer arm of this lever, adapted to engage notches in one of the T-headed rods, in such manner as to make a simple and efficient fastening for the end gates of wagon boxes.

A laying out machine has been patented by Mr. Edward A. Jerome, of East Portland, Oregon. It is designed to lay out material to use in making sash, doors, blinds, etc., marking it to indicate the face side and work edge, so the operator will know how to run the material through the machine, and the invention consists of various novel details of construction and arrangement of parts.

A regulator for flues has been patented by Mr. James Cant, of Orebridge, Thornton, Fifeshire, Scotland. It is especially designed for the more perfect regulation of the ventilating of sulphuric acid chambers, or other chambers and furnaces, fires, and close places, or of flues and ducts leading from such places, the invention consisting of various novel details in the construction and arrangement of parts.

A stanchion has been patented by Mr. William H. Youngs, of Waverly, Iowa. It has a lower supporting step, a bracket formed with a longitudinal slot, and a spring connected to the stanchion and to a fixed support in advance of it, whereby cattle may be secured in their stalls and have a wider and freer range of movement than was possible with the old style of device.

A basket cover has been patented by Mr. Hiram Gary, of Croton, N. J. It is of such fabric as ordinarily used in connection with fruit baskets, and is provided with a metallic spring secured at one end within the margin of the cover, the free end overlapping the fixed end, making a fruit basket cover which can be easily removed to display the fruit, and can be readily sprung back over the basket.

A bale tie has been patented by Mr. William P. Rylander, of Lockhart, Texas. This invention consists principally of a bale tie jaw stamped from sheet metal, formed with an open hook at one end in front of a curved edge, with an opening at the other for attachment to the bale hoop, the opening being shaped to permit the jaw to have a pivotal side motion upon the hoop.

A centrifugal dish washer has been patented by Mr. Allen G. Ingalls, of Granby, Quebec, Canada. It consists of a dish water tank, a rotary rinsing water bucket with transverse partitions and discharge pipes, a basket to receive the dishes, pumps to discharge water over them, lamp-heated flues, and an operating mechanism, so that dishes can be thoroughly washed, rinsed, and dried by the machine.

A knitting machine has been patented by Mr. Isaac W. Lamb, of Jackson, Mich. The object of this invention is to improve the Lamb knitting machines formerly patented in details of construction to enable the machine to do a greater variety of work, to be run faster, and to be more easily adjusted for different kinds of work, and at the same time to render its construction more methodical, cheaper, and more durable.

A fruit picker has been patented by Mr. William S. Mallard, of Darien, Ga. Combined with a handle, and a ring fixed on its upper end, is a fruit-conveying tube attached to the ring, and a spring connected with the tube for holding a portion of it normally slack, with other novel features, making a device for severing the fruit from its stem or branch, and a bag for receiving the fruit when severed.

A lead pipe reel has been patented by Mr. Fred. Etapenc, of Binghamton, N. Y. It consists of an outer rolling circular case, within which the reel proper is arranged, having the same axial center, the reel consisting of opposite heads mounted on flanged metal sockets, its shaft carrying bars, between which an end of the pipe is entered before coiling, the shaft being operated by a crank, the construction being simple, strong, and efficient.

An attachment for stoves has been patented by Mr. James A. Porter, of Jackson, Mich. It consists of a hollow, semi-cylindrical drum supported above the stove, concaved upon its inner side, and having a series of apertures, with funnel-shaped conductors having telescopic tubes to cover the top openings of a stove and conduct the gases or smoke to the drum, to prevent these, or odors from the cooking, affecting the air of a room.

An alarm for hoisting machinery has been patented by Mr. Robert Mulholland, of Mineville, N. Y. A rock shaft is connected with an alarm bell, and is provided with a weight to be engaged by the hoisting rope when a given amount of the rope has been wound upon the drum of the hoisting engine, with means for adjusting the apparatus to give an alarm when any prescribed amount of rope has been wound upon the drum.

A centrifugal amalgamator has been patented by Mr. William White, of Mount Vernon, N. Y. It is so constructed that crushed ore or sand containing precious metals may be fed to a revoluble pan containing mercury, and caused to pass to and fro across the surface of the pan as it travels toward the periphery under the effect of the rapid rotation of the pan, the amalgamator being applicable for either wet or dry crushed ore or metal containing sand.

A process of naphthol dyeing, a product thereof, and the application of such process to dyeing textile animal fibers or vegetable fibers, form the subject of three patents issued to Mr. Thomas Holliday, of Huddersfield, York, England. The process consists in forming on the fibers a deposit of oxide of lead, or a lead soap, and combining therewith alpha or beta naphthol to form azo coloring matter, by treating the cotton, etc., with a solution of oxide of lead in caustic alkali, and when a soap is required passing the goods through a solution of it, or an oily emulsion, and then treating the goods with naphthol in solution, the lighter or darker shades being produced by the use of varying quantities of the matters used in relation to each other, the process being varied for application with textile animal fibers, or with cotton or other vegetable fiber, in a raw state, or spun, woven, or otherwise manufactured.

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