

## ENGINEERING INVENTIONS.

Mr. Albert J. Seaman, of Stanford, Ky., has patented an improvement in what is known as "petticoat" pipes for locomotive engines; the object of the invention being a construction by which a larger exhaust nozzle can be used, so that a larger quantity of steam may be generated with a less amount of fuel than usual.

An improved dumping car has been patented by Mr. John E. Bemis, of Waupun, Wis. The platform of this car is made in two parts, divided lengthwise along the middle, the parts being hinged near about their middle longitudinally to the car frame, so as to be tilted on the hinges for dumping to the sides of the car. The inner edges of the divided platform have sides to prevent the load from falling between them when raised up and the joint where they meet together opened; and between the sides and the outer edges over which the earth is dumped they have a rod or bar extending from end to end, so that the earth will be piled up around it when loaded on, and the rod will act as a retarder to the earth when discharging and prevent it from sliding off rapidly and projecting so far away from the track as it otherwise does.

## MECHANICAL INVENTIONS.

Mr. Alfredo Cottrau, of Naples, Italy, has patented an improved car wheel consisting in two concentric tires fitting over the tread, and connected at the adjoining edges by a flat ring which is placed edgewise in relation to the tires.

Mr. Allen Ditson, of Larned, Kan., has patented an improved mechanism for converting reciprocating rectilinear into continuous rotary motion, so as to avoid dead centers. The invention is especially adapted to windmills, but may be used wherever available.

Mr. Christian W. Hergenroeder, of Baltimore, Md., has patented a device for turning the leaves of sheet music which consists of a stand for holding the sheets or book, and a train of gearing connected to a pedal, by which suitable mechanism for turning the leaves is operated.

An improvement in hat pouncing machines has been patented by Mr. Theodore Hadden, of Matteawan, N. Y. This invention consists of a tension attachment whereby the action of the pouncing roller upon the felt may be easily controlled and the danger of injury to the hands of the operator from contact with the wheel is obviated.

Mr. Augustus F. Woodham, of Minneapolis, Minn., has patented a velocipede for traveling on ice and other smooth surfaces. It has a suspended driving wheel for operation by the feet of the rider, front sled runners having an attached hand steering device, and a rear spiral propeller actuated by attachments on the driving wheel arranged to engage with a screw on the shaft of the propeller, the latter and the runners forming the bearing supports for the vehicle on the surface it is designed to travel over.

A combination tool patented by Mr. Elijah A. Parks, of South Bend, Ark., consists of a metal plate or strip having one end beveled to form a screw driver, having notches in one edge for bending saw teeth or breaking glass, having the upper end of this edge beveled and provided with gauge studs or projections to be used as a gauge for the inclination of saw teeth, having a glass cutting roller journaled in one edge, and having a recess in one end, which forms a sharpened and pointed prong to be used as a can opener.

Mr. Daniel M. Reed, of Ancona, Ill., has patented an improved windmill, in which the wheel is of ordinary construction, except that the sails are made of sheet metal instead of wood, as heretofore. These sails are placed edgewise in diagonal slots cut in the edges of the inner and outer rims of the wheel in the ordinary manner, and are secured therein by the nails, which pass through the sails and diagonally into the rims. This mill is provided with improved means of regulation, so that it maintains a uniform velocity under varying pressures of wind.

Messrs. Samuel Collinge and Aaron Serfass, of Easton, Pa., have patented an improved brick machine especially adapted for short grained clay and shale, and is adapted to work it in a damp or moist state, as it is usually found when newly dug up, the machine being adapted to exert such a pressure that the clay will be formed into a truly shaped brick at one operation. The plungers being kept hot by the steam entering them prevents the clay from clogging the machine or from adhering to the plungers, so as to break or injure the form of the brick.

Mr. William C. Knox, of Groesbeck, Tex., has patented an animal power made with a small wheel placed loosely upon a stationary upright shaft, and connected by hinges with the inner ends of arms and sweeps attached to the main wheel, which is mounted upon castor wheels to support the weight of the wheel and its attachments. With the main wheel is connected by an interposed frame a large gear wheel, into the teeth of which, upon the opposite side of its axis, mesh the teeth of two small gear wheels, each gear wheel being provided with a driving pulley, whereby two separate machines can be driven by the same power and at the same time.

## AGRICULTURAL INVENTIONS.

Mr. Thomas P. Hopper, of Sherman, Tex., has patented an improved cotton seed planter, by which accuracy and uniformity in the planting of cotton seed is insured, and depositing of the seed in moist soil is made practicable.

An improved Paris green and fertilizer distributor has been patented by Mr. Benjamin F. Muschert, of Morrisville, Pa. This is a simple and ingenious arrangement for distributing a greater or less quantity of Paris green or other material upon or around plants.

A corn planting machine invented by Mr. Zebulon W. Burt, deceased, has been patented by Lydia Ann Burt, of Rome, O., administratrix of said Burt.

This invention relates to improvements in that class of corn planters and fertilizer distributors in which the corn and fertilizer are planted in hills instead of drills.

Mr. James B. B. Evans, of Junction City, Mo., has patented a band cutter and feeder for thrashing machines. The object being to feed to the cylinder of a thrashing machine the sheaves of grain to be thrashed, and at the same time to cut the bands of the sheaves and spread them out evenly and regularly before they are introduced into the thrasher.

An improved cotton chopper has been patented by Mr. Greene W. Dugger, of Greensborough, Ala. This invention consists of an improved chopping and hoeing or cultivating machine, in which it is sought to provide simple and efficient means for regulating and adjusting the chopper and hoes or plows, both for working together or separately, also to provide for the protection of the same from injury by obstructions.

Mr. Charles William Wilfert, of Jeffersonville, N. Y., has patented an improved hand planter made with a box having its lower end beveled upon the opposite sides, and provided with a handle and guide-keepers. At the lower ends of the sides of the box are hinged two plates, connected at their upper ends by hinged bars with a slide placed at the forward side of the box. The upper ends of the hinged plates are held apart, holding their lower ends together by springs attached to the box.

Mr. Geo. C. Mueller, of Shasta, Cal., has patented an improved corn crusher. The invention consists in a casing containing a cylinder on which saw blades are secured, between which cylinder and a curved frame, also provided with saw blades, the ears of corn pass and are cut to pieces, and these pieces are then guided by suitable guide plates to a cylinder provided with studs on its surface, between which cylinder and a curved frame, also provided with studs, the pieces of the ears of corn are crushed to meal which is to be used for fodder.

Mr. Judson B. Hurd, of Sour Lake, Texas, has patented an improved revolving plow, for cutting up, breaking, and turning over the soil or turf, in which the cutter blades are freed automatically from the soil, turf, etc., adhering thereto. The invention consists in a cylinder to which radial blades are attached, between which movable scraper blades are held and pressed against the radial blades, which scraper blades are moved to and from the edges of the radial blades by pivots attached to the arms of the scraper blades, and passing into grooves in the end plates, on which the cylinder revolves, whereby when the revolving plow is moved over the ground the radial blades cut into the ground, and the scraper blades are moved to the outer edges of the radial blades when the same are raised, and scrape off the soil, grass, etc., adhering thereto, which scraper blades are cleaned by scraper plates attached to the frame of the plow.

## MISCELLANEOUS INVENTIONS.

An improved book rest for writing desks and tables has been patented by Mr. Reuben W. Terrill, of Denton, Texas. The object of this invention is to support record books upon desks or tables in such positions that they can be conveniently used.

A novel device for moving pianos has been patented by Mr. Robert L. Thompson, of Boulder, Col. This invention consists of a frame or cradle to be applied to a pianoforte, so that it can be moved with great facility and without danger of marring or injuring it.

Mr. Mineheart Brunell, of Allegany, N. Y., has patented an improved device for equalizing the draught of a team of horses, so that when one animal pulls in advance of the other, the animal that draws less will have a greater leverage than the other animal.

A novel roundabout has been patented by Mr. Cornelius R. Silabon, of Hull, County of York, England. This is a ship roundabout provided with means whereby the ships are given a rocking or undulatory movement, in imitation of the motion of a ship at sea.

An improved suspender end patented by Mr. Bernard Petchaft, of New York city, is formed of two strands parallel to each other until near their lower ends, and then crossed before reaching and at the ends, the two crossings being fastened by rigid clamping devices, forming a button hole.

An improved wire stretcher patented by Mr. Robert Milby, of Morales, Texas, consists of two obtuse angled bars, connected at one end by a detachable rod, provided with the straining devices at the other end, and having the vertices of the angles connected by a rod.

An improved scoop has been patented by Mr. Mark J. Liddell, of East Saginaw, Mich. This invention consists in a scoop body of metal secured to a head by means of a band turned on the end of the scoop and fitting over a band on the head. The handle is secured in the head by a wedge.

Mr. David W. Smith, of Port Townsend, Washington Ter., has patented an improved buckle for harness and other straps, designed as a buckle to which one or more straps can be secured, and by means of which a strap can be attached to a bit, ring, or other place without being stitched or riveted.

Mr. James B. Bray, of Waverly, N. Y., has patented an improved machine for perforating paper in lines as is customary in postage stamps, bank checks, etc. It consists of a perforating wheel mounted in the end of a sliding rod, and capable of being moved in a right line over the paper by means of a suitable handle.

An improved fire extinguisher has been patented by Mr. Daniel Parham, of Tynesborough, Mass. This invention consists in a certain arrangement of devices, whereby the severing of a cord or cords by fire operates to sound an alarm and to turn on water for extinguishing the fire.

Mr. Harley A. Barnhart, of Hallsville, O., has patented an improved table. The object of this invention is to construct an extension table by the combination of two separate tables in such manner that the two tables can be used separately or combined together, as may be desired.

Messrs. John B. Davis and William Walker, of Glenwood, Pa., have patented an air blast or injecting apparatus for use with blacksmiths' forges and furnaces for the supply of air thereto, by means of a steam jet, whereby the air is applied in a moist condition, or in the presence of moisture, to facilitate combustion.

Mr. Paul E. Wirt, of Bloomsburg, Pa., has patented an improved fountain pen. This invention relates to that class of writing instruments in which a nib pen is employed in connection with a reservoir or fountain; and it consists mainly in a duct and valve formed upon the nib of the pen for controlling the flow of ink at the pen.

Mr. Hiram Kenton, of Albany, Or., has patented an improved magnetic gold separator, for separating fine gold and other metals from magnetic sand and other gold bearing sands and gravel in hydraulic mining, and also for the working of the tailings from quartz mills for saving the gold carried off in the sluiceways.

Mr. Harry T. Johnson, of Scio, N. Y., has patented an improved mechanical telephone, having a novel arrangement of the wires traversing the diaphragm for improving its vibratory action. It also consists in the peculiar construction and arrangement of a double diaphragm arrangement calculated to improve the efficiency of the sound producing qualities of the telephone.

Mr. Henry C. Fox, of Evansville, Ind., has patented an improvement in reversible saw-irons, in which the iron is made hollow and is provided with heating devices within, and has several faces, either one of which may be brought into use by shifting the position of the handle, which is adjusted in relation to the iron by means of a spring catch.

Mr. Alexander Morison, of Alpena, Mich., has patented a railroad freight car that can be easily changed so as to adapt it for carrying ordinary freight or for carrying stock, or both, as circumstances may require, and one having such construction that the stock may be easily fed and watered without taking them out of the car.

Mr. William W. Goodwin, of Philadelphia, Pa., has patented an improvement in gas cooking stoves or ranges. The object of the improvement is to construct gas cooking stoves and ranges in such a manner as to give the greatest facility and convenience for cooking operations, and at the same time insure the escape of the waste products of combustion to the chimney or escape flue.

Mr. William W. Goodwin, of Philadelphia, Pa., has patented an improved burner for gas stoves. This invention relates to gas burners of the Bunsen type, adapted for burning a mixture of gas and atmospheric air, the object being to facilitate the cleaning of the burners, which are apt to become clogged. This burner may be applied to gas cooking stoves and ranges of any construction, as well as to the simple form of stove shown.

Mr. Diedrich Schmidt, of New York city, has patented an improved fish safe, in which salted fish can be kept any length of time without losing in weight by the evaporation of water. The invention consists in a box provided with a slatted floor for receiving a box containing salted fish, below which a water pan is placed, which provides the box with moisture and prevents the rapid evaporation of the water in the salted fish.

An improvement in fence posts has been patented by Mr. Norman A. Haven, of Lime Spring, Ia. The object of this invention is to furnish fence posts of durable character for building fences of any usual style. It consists in a mortised post slotted from the upper end through the middle down to a point at the desired height of the bottom rail above the ground, and having metallic filling pieces with ears turned in opposite directions.

Mr. Frederick H. Tompkins, of Jersey City, N. J., has patented an improved shade rack for holding a variety of sample window shades so that they may be conveniently and advantageously exhibited to customers for selection, the construction being such that the rack may be quickly taken down and packed in small space or for shipment, and easily set up for use, and such that the curtains may be entirely inclosed in the rack, and thus completely protected from dust and other injury.

An improved automatic siphon has been patented by Mr. Robert Reiman, of Egg Harbor City, N. J. The invention consists in a starting and stopping device of peculiar construction to be attached to the outlet end of the tube or hose of the siphon, whereby the air may be exhausted to start the siphon by a removable mouth piece, and the flow of the liquid may be instantaneously stopped, and be suspended and started again indefinitely, without having recourse to a renewal of the exhausting operation.

An improved inkstand has been patented by Mr. Charles De Roberts, of Albion, Neb. The invention consists in a swiveling ink vessel provided with a spout and with a swinging cover, which ink vessel and cover can be operated by means of levers and connecting rods in such a manner that when a knob projecting from the front of a lever pivoted in the base of the inkstand is depressed the spout will be swung downward and the cover will be raised, so that a pen can be passed through the spout into the ink.

Mr. William G. Jesse, of Georgetown, Ky., has patented an improved trap for catching tobacco flies, cotton flies, bee millers, and other insects which injure the crops. The invention consists in a box mounted to turn on a lamp and provided at its inner end with a mirror. The box has a downwardly inclined chute between the lamp burner and the mirror, to the lower end of which a bag or receptacle is attached for receiving the insects which have been killed or crippled by the flame in passing over it to the mirror.

An improvement in tanning apparatus has been patented by Mr. Wenzel Masek, of Philadelphia, Pa. This is an improvement on Letters Patent No. 118,034, for an apparatus for use in tanning hides *in vacuo*. The present invention consists in providing the tank or cylinder for containing the hides and tanning liquor with a movable footway for use of the workmen

in hanging and removing the hides, and which also serves to agitate the tanning liquor and throw it upon the suspended hides, whereby the operation of tanning is hastened.

An improved thread case has been patented by Mr. Eugene L. Fitch, of Des Moines, Ia. This invention relates to that class of thread cases in which a number of spools placed transversely are held in a row in a drawer in such a manner that the spool at the outer or open end of the drawer can be released to drop from the drawer by pulling a wire upon which the spool rolls to that end of the case at the inner edge of the counter and can then be seized conveniently by the seller or clerk. The object is to facilitate releasing the outer end spool of a row of spools in a drawer.

An improved furnace grate has been patented by Mr. John R. Fish, of Grand Rapids, Mich. The invention consists of an arrangement of rocking grate bars, so that the bars are alternately higher and lower with respect to each other to the extent of an inch and a half or thereabout, the object being to provide grate bars for burning coke in locomotives, the higher bars projecting upward into the bed of fire, so that they will break the fused cake or crust which forms in the bottom of coke fires, so as to obstruct the air to such an extent that the upper portion of the fire fails to get the due supply of air for good combustion.

Mr. George W. Smith, of Harlansburg, Pa., has patented an improved fire escape consisting of a pair of hollow guide ways made of metal tubes erected vertically in front of and projecting a little from the side of a building, and coupled by an arch at the top, to each of which tubes a balcony is fitted so as to slide up and down, being connected through a slit with a suspending and operating rope within the tubes, the two balconies balancing each other, so that persons in one or the other may command their own descent by means of a lever brake in the balcony. Means are also provided for working the brake from the ground.

Mr. Henry J. Butler, of Independence, Or., has patented an improvement in harness trace buckles. The objects of the improvements being to provide a buckle that obviates the use of the box loops or strap loops ordinarily attached to the hame tug, to connect the hame tug with the trace by the buckle in a manner that divides the strain upon the leather, thus obviating the entire strain being upon one point alone in the trace, as is the case with other trace buckles; and to obviate having any part of the buckle on the hame tug or the trace while in the course of construction, the hame tug and trace being entirely finished before the buckle is attached.

A reversible moulding for frames has been patented by Mr. Charles H. Bodurtha, of Delaware, O. This invention consists in a moulding provided in each edge with a longitudinal cut, and with a cut parallel with each edge in the inner surface of the moulding, whereby a rabbet can be formed in either edge of the moulding by deepening these cuts sufficiently to loosen the strip of wood between the two cuts. With this moulding a loss of material in making the frame is obviated, as there is no necessity of cutting a triangular piece out of the moulding for each corner of the frame, as has been necessary in making frames of mouldings having a rabbet on one edge only.

Owing to the rude construction of the chimneys now in use on railroad cars, it is the practice, as soon as the summer season begins and heat is no longer needed in the cars, to remove the chimneys and pack them away, to remain until the cars are again required to be heated, when they are again put in place upon the cars for use. Mr. Charles A. Dubey, of Brooklyn, N. Y., has patented a railroad car chimney constructed so that it need not be removed from the car, but may be permanently attached thereto, thus avoiding the labor of removing and replacing the chimneys, and the wear and tear incident thereto, and to the packing of the chimneys away.

Mr. Charles Gibbs, of New York city, has patented a portable galvanic battery constructed with a case containing a jar provided with a water tight cover firmly secured to it. Through a stationary cover connected with the case passes a rod attached to the cover of the jar for raising and lowering the jar, and which is secured in place, when adjusted, by a fastening attached to the stationary cover. The electrodes are placed in the jar, and are supported by rods attached to them, passing through the jar-cover and the stationary cover, and having binding posts attached to their upper ends, whereby the electrodes and solution can be brought into contact and separated by raising and lowering the jar.

A vital heat alarm has been patented by Mr. Wilhelm Reissig, of Darmstadt, Germany. The object of this invention is to provide a device for sounding an alarm or otherwise giving notice when the natural warmth of the body and life returns in apparently dead persons—for instance, persons in a trance. The invention consists of a tube or vial containing mercury, and connected by electric conductors with a battery, which mercury is held from closing the circuit between the conductors or wires by a plug of highly fusible material, the plug melting when the natural warmth of the body returns, thus closing the circuit, so that an alarm will be sounded by the alarm apparatus connected with the battery.

An improved harness pad press has been patented by Mr. Joseph W. Johnson, of Lathrop, Mo. The invention consists in a harness pad press formed of two V-shaped frames, provided with longitudinal vertical ridges having one side flat and the other side recessed or curved to adapt the frame to form straight or swelled pads. The two frames are united by bolts, and the leather for forming the pad is placed between them and formed by means of the forming irons, wedges, and clinching irons placed between the leather on the frame, upon which the edges of the leather are lapped under the clinching irons, and a piece of leather is placed under the edges, and is secured to the same by means of tacks or rivets driven through the overlapping edges of the two pieces of leather, and having their points bent over or clinched by the clinching irons, whereby the two pieces of leather are united and a perfect pocket or casing for the filling of the pad will be formed.