

## Recent American and Foreign Patents.

**Improved Tobacco Press.**

James M. Gaston, New Albany, Ind.—This invention consists of the molds and follower for pressing tobacco into plugs, arranged between upper and lower rollways, slightly converging, and provided with means for forcing the mold and follower along, and wedging them powerfully together between said rollways. There are cross partitions between the ends of the molds, contrived to recede before the ribs of the follower and thus allow said ribs to extend the whole length of the group of molds whereby the necessity of fitting the ribs accurately to the molds, which would otherwise exist, is obviated; and moreover it allows of shifting the molds for making plugs of different lengths, and employing the same ribs with molds of any length. A contrivance of the end partitions is added for removing them and the mold bottoms and sides, for changing them to any required length. The inventor has furnished us the figures in detail of the capacity of his machine for making plug tobacco, of various sizes in one day. We have not room for his statements; but if they are accurate (which we do not doubt), his invention is very important to the tobacco manufacturers. We shall probably publish engravings of the press, with detailed descriptions, in a few weeks.

**Improved Fire Arm.**

James B. Thomas, Montgomery, O.—This invention consists in attaching to fire arms of any size or kind a measuring instrument by which the exact distance of an object may be quickly and accurately obtained, the army officer or the sportsman being thus enabled to make the precise allowance for the rise or fall of projectile that characterizes his fire arm at varying distances. The surveyor or backwoodsman can also thus conveniently carry on his shoulder his means of defence and a perfect instrument for measuring regularly shaped sections of land.

**Improved Car Pusher.**

Edward Little, Alva S. Bailey, and Frederic L. Clarke, Paxton, Ill., assignors to Edward Little and Alva S. Bailey.—This is an improvement on the car pusher for which a patent has been granted to Alva S. Bailey, under date of June 3, 1873, so that the car sill may be held firmly, without possibility of detachment, during the forward motion of the car, while the clutch part grips firmly the rail and slides readily along the same with the motion of the car. The invention consists, first, in providing the upper end of the slide beam with a pivoted sill clamp, which is readily adjusted to every thickness of car sills; and, secondly, in an improved spring rail clutch applied to the lower end of the main beam.

**Improved Fertilizer Distributer and Seed Planter.**

Mark Cooper, Greenville C. H., S. C.—This is an improved machine so constructed as to open a deep furrow, and distribute a fertilizer in said furrow, and cover it with soil. It also opens a shallower furrow above the fertilizer, distributes the seed in the furrow, and again covers it with soil.

**Improved Miter Box.**

Edwin Knock, Vermont, Ill.—This invention relates to boxes for guiding the saw in sawing miters and other angles in doing woodwork of various kinds. An adjustable plate is moved toward or from a main plate by suitable mechanism, according to the width of the piece to be sawn, and may be adjusted to saw at any angle from a right angle to almost any other desired.

**Improved Iron Ship Builder's and Boiler Maker's Gage.**

James McPhail, Ellis, Kan.—Two guide rods have a gage head sliding on them, fastened by means of a plate and hinged clamp. A slotted hole gage is held on the rods, having a fixed hole and a slide plate also with a hole. The holes may with it be adjusted to any desired distance from each other. The boiler plate is secured against the previously adjusted guide, so as to bring the lap edge in position to have the location of holes determined by the hole gage. The movable plate is moved to or from the gage hole, and the whole instrument is then moved along the lap edge until the hole in said plate comes where the gage hole had been, and thus the places for hole after hole are indicated at uniform intervals.

**Improved Pile Cutter.**

Isaac E. White, Brooklyn, N. Y.—In this invention, the saw frame is made independently adjustable in a shifting frame, so as to permit the adjustment of the saw shaft or of the frame, or of both.

**Improved Track Clearer.**

Thomas C. Churchman, Sacramento, Cal.—A scraper raises the snow from directly over the rails and delivers it to a vertical rotary cylinder, whereon are fixed several spiral flanges, which, being turned from the center of the machine outward, beat the snow off at the sides, and at the same time screw it upward, so as to pack it into the sides of the cut when the snow is as deep as the height of the cylinders, or throw it to the top when not so high. The cylinders are hollow, perforated in the shell, and have a steam pipe entering the interior chamber through the top journal, for delivering steam to heat them. Below the scraper is a perforated pipe receiving steam from the boiler through conducting pipes, to heat the scraper for softening the snow.

**Improved Fare Box.**

Cassius M. Coledge, Rochester, N. Y.—This box is designed to be carried by the collector to the passengers, who are to deposit the exact fare therein. Glass in the side and top enables the collector to see that the passenger deposits the proper amount. The money is placed upon a wing through an opening and slides to a lower compartment, being allowed to do so by the conductor turning a handle and so moving the partition. By the same operation a bell is caused to ring.

**Improved Potato Digger.**

Paul Dennis, Schuylerville, N. Y., assignor to himself and David Craw, same place.—The plow is placed in a diagonal position, and its ends are inclined so as to be parallel with the length of the machine. The rear end of the plow is provided with a guard, to prevent the potatoes and soil from passing off at the same end, and the forward end also has a guard for the same purpose. The lower side of the plow is made nearly flat, and in its rear part is a longitudinal T groove, in which works a bar, to which are attached fingers. The throw of this shaker bar is to be adjusted as the condition of the soil may require. A lever, operated by the driver from his seat, operates a shaft to which is attached two cams, which, when the free end of the lever is moved to the rearward, press down upon the axle, and thus raise the frame and its attachments, throwing the machine out of gear. To the shaft is also attached a hook, which, when the free end of the lever is moved forward to allow the frame and its attachments to move downward to throw the machine into gear, will pass around and beneath the axle, and lock the frame in place.

**Improved Adjustable Pitch Board.**

Joseph Noll, Poughkeepsie, N. Y.—This pitch board is made of metal, with sliding and slatted sides. It is arranged in such a manner that the pitch and width of tread may be adjusted along the slatted sides of a rectangular corner piece, and set rigidly, by suitable clamping screws and connecting pieces, to be readily used on either side.

**Improved Lawn Mower.**

Aiyah P. Osborn, Seneca Falls, N. Y., assignor to Eugene A. Rumsey, same place.—The stationary cutter or cutter bar is provided with curved and projecting guards that prevent the grass from getting beyond the ends of the knives before it is cut. In order conveniently to adjust the cutter with respect to the rotary knives, it is pivoted to the head, and fastened at the upper end of the guard by a screw bolt and nut.

**Improved Car Coupling.**

George D. Burton, New Ipswich, N. H.—There is a socketed buffer and a solid headed one for entering the socket. The former is bell-mouthed, so that the latter will enter readily for self-coupling; and it has vertical shoulders just inside of the mouth for locking the solid buffer after entering the socket by means of notched pawls which are pivoted to side recesses just behind the head. The forward ends enter freely, and have springs to push them out as soon as the notches pass the shoulders. To unfasten the pawls, they are connected by a cord with a shaft extending up to the platform or to the top of the car, and arranged to turn for winding the cords on and off.

**Improved Revolving Harrow.**

Henry N. Dalton, Pacheco, Cal.—Mechanism is provided which causes the rollers to revolve uniformly; and as the harrow is drawn forward, one roller will be revolved by the revolution of the other roller, so that they will stir the soil evenly. Levers enable the harrow to be adjusted to work at any desired depth in the ground, or to be raised away from the ground for convenience in passing from place to place.

**Improved Mechanism for Propelling and Steering Boats.**

Andrew J. Emmons, New York city.—This invention consists of a vertically adjustable cylindrical compartment at the stern of the boat, which is rotated by a lever or tiller, and provided with a steam cylinder for rotating the screw shaft, supported in bearings connected to the compartment. The lever may be geared in any suitable manner, and the boat jointly propelled and steered by means of the screw. For entering locks or for other purposes the compartment may be turned under a full right angle from its exact position, and thereby the screw carried to one side, being protected against injury in this position.

**Improved Current Wheel.**

Michael McCarty, Pueblo, Col. Ter.—This invention consists of a current wheel arranged at the outside of a float which is arranged in a slip in the river bank, or between two piers at right angles to the current, so that it can be floated out to extend the wheel into the current, and back to withdraw it therefrom, for stopping and starting the wheel, and regulating it to the force of the current. A full description and illustration will be found on page 223 of the current volume of this journal.

**Improved Aerial Propeller Wheel.**

Lewis A. Boswell, Talladega, Ala.—This is an aerial propeller wheel in which the fans are mounted horizontally on a hub of a vertical axis, so as to revolve on their own axes independently of each other. An arm moves against a stationary cam and turns the vanes edgewise to the wind at the time of beginning the return movement, so as to offer little or no resistance while going backward, and a spring and chain are combined with each vane arm in such manner as to turn the vane back so as to take the wind when the vane begins the forward movement, at the moment the arm escapes from the cam.

**Improved Machine for Welding Together Sections of Tubing.**

James Sadler, New York city.—This machine is for welding boiler tubes when they are to be repaired by attaching pieces of tubes to their ends. It consists of two short cylinders on the ends of two rotating shafts. The tube is welded between the said rotating cylinders. The upper cylinder is made adjustable and governed by a pressure lever and spring attached to an adjustable bracket.

**Improved Seed and Fertilizer Sower.**

James Codville, Woodstock, Can.—The invention consists of a hopper conveying the seed to the sliding seed-dropping bar, to which motion is imparted by the supporting wheels, intermitting pinion, and crank rod, jointly with pivoted weighted elbow pipes. Said sliding seed bar has feed cups for regulating the quantity of seed, and feeding it to the swinging elbow pipes thereon for distributing the seed or fertilizers broadcast over the ground.

**Improved Car Coupling.**

Howard Daniels, Morley, Mich.—This invention consists of a rest for the lower end of the coupling pin in advance of its hole in the drawhead, a little shoulder in front of the hole, and a spring rest on the front of the car above the drawhead. The whole is so arranged that the pin, being set on the rest for the foot and leaning against the spring rest, will be thrown into the hole to fall and secure the coupling link self-actingly as soon as the buffer is pushed back against the spring under the car by contact with the car to be coupled.

**Improved Lubricator.**

Joseph W. Reed and Martin V. Osborn, Kalamazoo, Mich.—This invention relates to providing air openings in connection with a discharge pipe and regulating cock or plug; and also to a non-heat-conducting substance interposed between the case or cylinder and its lining. When the plug has been turned for lubricating, the oil descends into the cylinder by its own gravity as the plug is turned to open the ports and bring the air passages to register with each other to admit air to the cavity.

**Improved Heating Stove.**

Anna Wheeler, Brownville, Neb.—There are two hot air chambers on opposite sides of the fire chamber, from which the hot air is led away for heating different rooms. The air enters these chambers from heaters or flues located on the sides, and, to some extent, over the fire, so as to make very direct application, and through pipes, partly at the sides and partly under the fire. The chambers are divided horizontally by a partition, and the air from the lower portions, which are more exposed to the heat than the upper portions, is allowed to pass directly into other chambers through openings. There are two sets of pipes, each receiving the air from one heater, and conducting it down and through the fire chamber to the hot air chamber of the opposite side. The partitions separating the chambers have a hole with a damper, to be opened or closed at will, to pass the hot air from one to the other, as may be required in different cases; and the escape passages have dampers to regulate the escape of heated air, whereby it can be directed into conducting pipes.

**Improved Water Wheel.**

Abisha B. Reniff, Bingham's Mills, N. Y.—In this turbine wheel, the water is admitted through a horizontal annular stationary chute rim to a horizontal annular bucket rim of the wheel. The buckets are arranged radially to the axis of the wheel between two circular plates which converge from the top downward a third, or a little more, of the width, and then continue parallel to each other to the bottom, either with or without converging side plates to the chutes. The buckets incline forward about one third of their length, and backward the rest of their length in straight lines.

**Improved Toy Dart.**

Edwin B. Morgan, Paterson, N. J.—This is a dart to be thrown by a spring connected to the handle by an elastic cord, which serves both for the said spring for throwing the dart and for a recoil spring to return it to the operator, and thus to save running for the dart each time it is thrown. The object is to provide an entertaining toy for children.

**Improved Car Axle and Bearing.**

John Bailie, Milwaukee, Wis.—This invention has for its object to improve the construction of the axles and bearings of cars, locomotives, and other vehicles in such a way as to prevent lateral motion in said vehicles and the consequent end friction and wear of said axles and bearings. The invention consists in the combination of two parts, one an axle arm having a peripheral concavity formed longitudinally upon the arc of a circle, and the other a bearing block, the under side or wearing surface of which is longitudinally convex correspondingly.

**Improved Portable Screen.**

Henry L. Leach, New York city.—This invention consists of a box frame placed on wheels, which is provided with an inclined adjustable screen, and with hinged and detachable doors at the rear end for getting at the dust, and emptying the same, as required. An illustrated description of this device will shortly appear in our editorial columns.

**Improved Pruning Hook.**

Edward E. Stedman, Ravenna, Ohio.—The blades are made of a single piece of steel, which is bent in the center at right angles for the space of one inch, to allow it to be attached to the end of the handle. The two cutting edges face each other, thus allowing the pruning hook to be worked up or down, or by pushing or pulling. The blades are parallel to the staff or handle, but in different planes, and have a curved edge. This arrangement adapts the implement for use in such a manner as to often prevent slipping at the commencement of a downward cut.

**Improved Letter Box.**

William D. Dann, Phoenix, assignor to Wells M. Peck, same place.—This invention consists of the application of a signal bell to a drop letter box, together with contrivances by which the cover of the orifice through which the letters are dropped into the box will be made to cause the bell to strike when the cover is moved to open the orifice for dropping the letters in, and thus give notice of the arrival of the mail.

**Improved Device or Turning Locomotive Crank Pins.**

Andrew J. Schindler, Hornellsville, N. Y.—This is a tool carrier, called a quartering tool, mounted on a boring bar, which is arranged in such relation to the center of a lathe for turning and boring locomotive wheels that, when the wheel is centered in the lathe, the quartering tool will, by being revolved and fed along by the boring bar, turn off the crank pin exactly parallel with the axis of the wheel. This is done whether the wheel itself be true or not.

**Improved Combined Desk, Seat, and Table.**

David Francis, Birkenhead, England.—In constructing this article of furniture to serve several uses, the standards are made of wrought iron welded and riveted together. A bar of extra strength is inserted in the upright portion of the back, to give greater strength, and to form a knuckle, to which a movable top is hinged. The movable top is furnished with plates formed in L iron, with ratchet and tongue, the latter riveted on. Plates are secured to the top by four strong iron screws, and to the standards by a bolt running through the said knuckle, a longitudinal slot being provided at the end of the tongue. The bolt has a head at one end and is secure at the other by means of a split pin, with ends turned round the bolt. By means of the longitudinal slot at the end of the tongue, the top can be moved to any angle, and secured in position by means of the teeth and ratchet. The seat is secured to each standard by flat round-headed bolts and nuts. To make the desk and seat more rigid, and freer from rocking, stays are fixed to the under side of the seat, and secured to the standard by bolt and nut, and to the seat by bolt and nut and strong iron screws.

**Improved Ticket Clasp.**

Hermann Lücke and Philipp Brümmer, Worcester, Mass.—The clamp is formed by bending and doubling over an extension of the main plate. A spring, which curves over the clamp, latches in the hook, which secures the device to the clothing, and protrudes through the clamp. A point is cut from the clamp, which extends through an orifice in the plate to puncture the ticket, and prevents it from being withdrawn. There is also a spring hook, at the lower end of the main plate, upon which baggage checks and similar articles may be safely confined. A pencil holder is besides added, it being a lateral extension of the plate, bent in a circle to form an eye and hold the pencil by friction. A thread cutter is provided, formed of a piece of metal, separate from the plate, but attached thereto by means of solder, having a curved slot therein. In the slot is fixed a steel blade. The thread to be cut is forced down into the acute angle of the opening, and is severed by its contact with the edge of the blade.

**Improved Reciprocating Winnower.**

Henry Keller, Sauk Center, Minn.—This invention relates to improvements in the reciprocating winnower or fanning mill patented by the same inventor under date of June 24, 1873, by which the grain may be separated as to fineness and delivered directly to suitable measures, and also the whole mill stiffened and braced in a more perfect manner. The present device consists mainly in the arrangement of spouts supported in the frame below the fan box for delivering the winnowed grain in connection with the lower separating screens supported in the shoe, and provided with spout-connecting guide straps. The grain is thus continuously and steadily separated from the chaff, assorted as to fineness, and fed to the receiving measures.

**Improved Ditching Machine.**

Jordan W. McAllister, Woodson, Ill.—The ditching wheel is made with three or more flanges upon its face. The central flange is attached to the center of the outer ends of the spokes. The tyres are then put on, and afterward the side flanges. This construction leaves the face of the wheel entirely smooth, so that the plows or scrapers will encounter no obstructions in removing the soil from said wheel. In bearings in the front vertical bar of the frame, works the rear end of the draft shaft, the forward part of which passes between four vertical angle iron posts of an upright frame. To the latter is bolted a horizontal plate, which is slotted to correspond with the space between the posts of the frame, so that the shaft may not be obstructed in its up and down movement. The forward part of the plate passes through a slot in the bolster, and has four pairs of friction wheels pivoted to it, which rest against the front and rear sides of the said bolster. The plate and vertical frame may be moved laterally, to keep the ditching wheel in line with the ditch, should the bolster, axle, and wheel deviate from said line. The ditching wheel may be raised from the ground for passing out of and into the ditch, for turning, and for passing from place to place. Suitable mechanism, governed by a lever, enables the ditching wheel and its frame to be inclined to one or the other side to keep them vertical should the surface of the ground, and consequently the bolster plate and frame, be inclined.

**Improved Skate.**

Reginald H. Earle, St. John's, Newfoundland.—In this device there are slotted pieces pinned to the foot plate, which are pushed apart or drawn together to grasp the boot by a suitably pivoted lever acting upon a longitudinal plate through inclined slots, in which projections on the flanged grasping arms pass. The fastening apparatus on the heel is operated by moving a screw in the shank of the skate; and the entire mechanism is such that the skate may be easily adjusted or removed without requiring the use of an extra key or wrench.

**Improved Oval Lathe for Finishing Hats.**

Carlos W. Glover, Danbury, Conn., assignor to the Tweedy Manufacturing Company, same place.—There is a hollow arbor, the journals of which revolve in uprights, and which carries a fly wheel. The ends of a crosshead work in bearings formed in the fly wheel, and to it is attached a spindle, which passes longitudinally through the hollow arbor, and is made smaller than the cavity of said arbor, and tapering, so that it may have an oscillating movement therein. The end of the spindle has a screw thread cut upon it to receive the hat block. The screw thread also carries a crank arm, the crank pin of which enters a hole in a ring, which fits into, and works in, a ring groove in a plate. With this arrangement, when the crank is in a vertical position above the spindle, as it moves through the first quadrant, the spindle moves downward, bringing the center of the spindle into line with the center of the hollow arbor. As the crank moves through the second quadrant, the spindle moves upward, and again moves downward through the third quadrant, and upward through the fourth quadrant having thus two upward and two downward movements during each revolution. The effect of this is to keep the upper side of the work always in the same horizontal plane.

**Improved Brake for Steering Wheels.**

John P. Geisler, Dubuque, Iowa.—A swinging bar is so arranged as to be pressed by a lever, through the medium of a triangular block, against the rim of the wheel. When the pilot presses with his foot on a treadle, the long end of the lever will be raised and the brake will be applied. The amount of pressure which he thus applies determines whether the wheel is to be suddenly stopped or simply retarded. The back motion of the lever is produced by a spring. When the brake is applied, the opposite side of the rim of the wheel bears against the end of a timber, which prevents the straining of the wheel and adds to the friction and power of the brake. The parts of this brake are duplicated to allow the pilot to stand either to the right or left in operating the wheel.

**Improved Life Raft.**

Bernard Almonte, Great Barrington, Mass.—This raft is composed of four, more or less, sections, hinged to each other and to a central keel, and made of planks. Each section is provided with a keel, and on each side of each keel is an air chamber of waterproof material. These sections, being thus hinged together and to the keel, fold up when not in use. Latches hold the sections on the same plane, so that they form a broad platform when on the water. When launching the raft, one of the sides is let loose from the davit hook, allowing it to unfold and hang by the side of the vessel, where the latches are adjusted so that, when it is launched, it is ready for use.

**Improved Harrow.**

Martin McNitt, Mound Station, Ill.—In this invention, the teeth of the rear bar of the series are adapted to assume an angle or position different from the teeth of the other bars. The result is that the teeth of the rear bar may be set at different angles, and hence be brought into action even when the others are out of action altogether.