

## NEW WOODWORKING AND HOUSE AND CARRIAGE BUILDING INVENTIONS.

### IMPROVED REVERSIBLE LOCK.

Edwin A. Kimball, Danville, Ill.—In this device the latch serves also as a lock bolt. The invention consists in combining with a key-holed case and shouldered bolt a double-acting guard, pivoted centrally in a recess of the bolt, having portions thereof curved and provided with projecting teeth, so as to enable the same key to lock the bolt, no matter in which direction it may be turned.

### IMPROVED MOUSING HOOK.

Nels E. Johnsen, Chelsea, Mass., assignor to himself and George W. Gannaway, of same place.—The invention consists in tongued notches formed in the parts of the hook at their shoulders, and the grooved shoulders or projections formed upon said parts at their points, to adapt the parts of the hook to interlock with each other. To open the hook a spring key is withdrawn, and the eyes slipped around upon one of the arms of a pear-shaped thimble, which allows the parts of the hook to be drawn apart.

### IMPROVED VEHICLE SPRING.

Thomas Alsop, Elkhart City, Ill.—This consists in combining a ratchet and pawl with springs arranged on shafts and attached at their inner ends to loose sockets. The pressure of the wagon body upon the lever arm is transmitted to the spiral spring and throughout the full length of the same to the fixed socket, the spring being called gradually but entirely into action, avoiding thereby any violent shocks and producing the easy and elastic play of the springs.

### IMPROVED VENTILATING CARRIAGE AND CARRIAGE TOP.

Ezra Marsh, Newark, N. J.—This invention proposes to make closecarriages in such a way that fresh air, in any desired quantity, may be admitted, and the foul air allowed to escape. The invention consists in a carriage body, having its front top bar and posts made hollow or tubular, and provided with the opening to admit fresh air to the carriage body. The latter is also provided with an air space, made by interposing a sheet of straw board between the upholstery and the walls, through which they are formed. The second invention includes a shield made in two parts, in which are glass panes connected to the dash board by swiveled eyes, so that it may be adjusted to any angle, according to the relative position of dash and top. Another new feature is a frame arranged in connection with the dashboard to hold a rug which is adapted to serve as a foot warmer.

### IMPROVED DRAFT EQUALIZER.

Alexander Meharry, Pleasant Hill, Ind., assignor to himself and William Brown, of same place.—A bar is pivoted to the tongue, and to its ends are attached small chains which are secured to hook bars. From one hook bar a chain passes to a pulley on the axle, along the axle to another pulley on the tongue, thence to another pulley on the axle, and then to the other hook bar. To each hook bar a whiffletree is attached. By this construction the points of draft attachment are close to and upon a level with the forward ends of the plow beams; and by adjusting the position of the pulley on the tongue with respect to the axle, the weight of the tongue may be wholly or partly taken from the horses' necks, as may be desired.

### IMPROVED WAGON BRAKE.

Jacob Hamelback, Hopewell, Ohio.—This invention relates to certain improvements in that class of wagon brakes in which the back lash of the neck yoke and the forward movement of the vehicle when the team is stopped serve to apply the brakes. The invention consists in the particular construction of devices connecting the brakes with a sliding collar, to which the neck yoke is connected; in the use of a ratchet and pawl, arranged to automatically hold the brakes applied, and to automatically release the same upon the starting of the team. It also consists in the peculiar construction of devices for preventing the application of the brakes while backing.

### IMPROVED BARREL HEAD.

John W. Sasseer, Jr., Horse Head, Md.—This invention contemplates the manufacture of barrels with heads that may be readily removed without taking off or loosening a hoop, or impairing the strength of barrel. The invention consists in making an expandible barrel head in four pieces, of which two are pivoted to and over a third, while the fourth piece is employed to serve as an expanding key that retains the head tightly in its proper position.

### IMPROVED DUMPING WAGON.

Jared Wells, Grand Rapids, Mich.—The bottom of the body is made in three transversely pivoted sections, each of which is connected by a chain to a pulley, and said chains pass to a shaft operated by a lever. By turning the lever the sections are tilted sufficiently to cause the load to slide from the rear ends.

### IMPROVED FIFTH WHEEL.

David G. Wyeth, New Way, Ohio.—The object of this invention is to provide an improved swivel coupling for connecting the front spring and axle of carriages, wagons, and other vehicles. It consists in the construction of a sectional socket containing a bearing with two bevels which form a swivel connection between the spring and axle, and in the means of connecting and securing the parts together, the whole being designed to take the place of the fifth wheel and king bolt as ordinarily employed.

### IMPROVED AUTOMATIC GATE.

William A. Baker, Morenci, Mich.—This gate is so constructed that it may be opened and closed without its being necessary for the driver to get out of the vehicle. It occupies no space outside of the line of the fence, and its operating mechanism is raised from the ground so as not to be affected by snow and frozen ground, and it closes directly behind the vehicle.

### IMPROVED DUMPING CAR.

George A. Gregg, Quarry, Iowa.—The car is mounted on two grooved middle wheels running on the rails, and a single wheel on each side running on plank, by which contrivance the car may be dumped either sidewise or endwise. The middle wheels are the support when dumping sidewise, and the side wheels when dumping endwise. The sides and end of the box are so pivoted to an overhead support that they keep closed when the car is upright, and open self-actingly when the car dumps.

### IMPROVED VEHICLE SEAT LOCK.

George E. Robison, Locke, N. Y.—This is an ingenious lever and clamp for fastening a seat to the body of a vehicle, in such a way that the seat can be readily moved forward or back upon or detached from the body.

### IMPROVED DUMPING WAGON.

Montgomery C. and Henry L. Meigs, Romney, Ind.—This invention relates to certain improvements upon the dumping wagon for which letters patent, No. 168,125, were granted to the same inventors, July 27, 1875. It consists in a detachable skid adapted to be attached to the end of the wagon and used as an inclined way, up which the loading scoop is drawn, by means of a doubletree of greater length than the width of the wagon, the horses being attached to the ends thereof, and walking upon opposite sides of the wagon. The invention also consists in guard rails, placed upon the sides of the wagon to prevent the doubletree from deranging the device for lifting the bottom sections of the wagon. It also further con-

sists in a support, pivoted to the bottom of the front end of the wagon and provided with a notch which, when the end of the wagon is raised, falls upon the reach, from the action of gravity, and supports the wagon in an elevated position so as to accommodate the front wheels in short turning.

### IMPROVED SAWING MACHINE.

William S. Saunders, Atlanta, Mo.—This invention consists of a portable sawing machine, containing a crank and band wheel contrivance for working the saw by a crank and pitman. The essential features are a ground hook, for holding and fastening the log, a helper for holding small sticks, and a shaft and truck wheel contrivance to facilitate the moving of the machine from place to place.

### IMPROVED CAR MAT.

John W. Groat, N. Y.—The object of this invention is to furnish an improved mat for the floors of cars, saloons, and other places, which shall be simple in construction, strong, firm, and durable, and at the same time capable of being made very ornamental. This mat is formed of strips of wood which, by screw bolts carried diagonally between corner pieces and a flanged center piece, are securely fastened in place.

### IMPROVED HAND CART.

Joseph M. Jones, Paris, Ky.—This inventor combines the body of a hand cart, a cranked axle, and an elliptic spring, the latter resting on the sliding frame, while the cranked axle supports it. He is thus enabled to apply the spring to take up the shock of jars and jolts without lifting up the body too high above the wheels.

### IMPROVED AUGER.

William H. C. Smith, Pawtucket, R. I.—This is an improved hollow auger for boring wooden conductors, being so constructed that the wood is chipped up to allow it to fall down through the auger without clogging. Bits of different size and height are used, and there is a new way of attaching the bit to the auger by side projections, grooves, and a fastening screw.

### IMPROVED CIRCULAR SAWING MACHINES.

James T. Bagges, Bridgeport, O.—This invention consists of an improved arrangement of contrivances for automatically adjusting the tilting table laterally at the same time and by the same operation that it is tilted, the lateral adjustment being to shift the saw slit so as to compensate for the misplacement of it relatively to the saws, caused by the tilting. The invention also consists of a novel contrivance of the apparatus for adjusting a couple of saws on an A-shaped frame, whereby both saws may be adjusted simultaneously, or either independently of the other.

### IMPROVED DUMPING WAGON.

Samuel B. Steward, Urbana, O.—By operating a lever or pinion, a shaft secured in the frame meshes into a curved rack attached to the forward part of the body. This raises said portion of the body, when, by suitable devices, the end board may be released and the contents discharged.

### IMPROVED SHUTTER AND DOOR FASTENER.

Thomas B. Rogers, Jr., Brooklyn, assignor to Max Hallhelmer, of same place.—A couple of bars, of unequal length, are joined together at one end. One is joined to the window and the other to the window sill, so that they swing with the blind. At the joint of the bars is a clamp by which the joint can be readily made rigid to fasten them and hold the blind in any position; and besides the clamp, there is a stud which drops into a socket in the sill to fasten the blind shut.

## NEW MECHANICAL AND ENGINEERING INVENTIONS.

### IMPROVED NAIL EXTRACTOR.

Lorenzo D. Browne, Shawnee, Ohio.—This consists of an auxiliary claw mounted on the top of the ordinary claw bar in such a manner that it can be used when the spikes too high for the main claw, and can be swung out of the way readily when not required for use.

### IMPROVED FRICTION CLUTCH.

Edwin F. Williams, Bald Mountain, Col. Ter.—This invention consists of brakes which are drawn against the face of a disk wheel by wedges moved by a sliding head on the shaft, in turn operated by the levers.

### IMPROVED LEATHER-SKIVING MACHINE.

Edwin B. Stimpson, Brooklyn, N. Y.—This is a machine by which thin, light, and soft leather can be readily skived in pieces of any form. It consists of a table, which can be revolved and turned in any direction, and also raised and lowered at will, over the central portion of which is a rotary skiving cutter, a rotary presser, and a rotary guide for the leather. The leather is placed on the table, and the latter turned or moved about so as to pass the margin to be skived under the cutter. The work is effectually and rapidly performed on leather of any thickness, quality, or condition.

### IMPROVED MAGNETO-ELECTRIC MACHINE.

Thomas W. Livingston, Ainsworth, Iowa.—This invention consists of straight magnets with alternating polarities, and wire coils wound in one direction, combined with a revolving shaft having at both ends as many radial arms as there are magnets. The shaft is provided with a commutator in connection with conducting springs, attached to a pivoted lateral block set by a lever into a notched plate for producing currents of uniform or reversed polarities.

### IMPROVED CAR COUPLING.

John H. Lands, Reigelville, Pa.—This consists of a pivoted link that is raised from the top side or platform of the car by a laterally swinging link frame. The latter is retained in position by a sliding guard piece with front plate until pushed back on the approach of the car to be coupled, so as to drop the link over a coupling hook.

### IMPROVED CAR COUPLING.

James B. Smith, Hepworth, Ontario, Can.—This invention relates to certain improvements upon the car coupling for which letters patent were granted to the same inventor on October 26, 1875; and it consists in the improved attachment of the drawbar to the car. The rear end of the drawbar is recessed, and in the recess is arranged a box over which the drawbar slides, which box swings on a vertical pivot and constitutes the connection with the car. Upon each side of this sliding box and arranged in the recessed drawbar are disposed independent springs, which arrangement enables the buffer spring to be made stronger or lighter than the draw spring, as may be desired.

### IMPROVED NUT LOCK.

George E. Jordan, Angola, Ind.—This inventor proposes a continuous strap or plate with slots or recesses for several nuts, said plate being secured by washers and keys at the ends.

### IMPROVED GOVERNOR FOR STEAM ENGINES.

Christ Ackermann, Young America, Minn.—This improvement consists in the peculiar construction of parts whereby the connection between the valve and the balls of the governor is broken whenever the belt breaks and the balls drop, so that the valve automatically closes as soon as the accident occurs, and the speeding of the machinery is prevented by cutting off the steam.

### IMPROVED BOAT-DETACHING HOOK.

Robert McMaugh and Archibald McMaugh, St. Catharine's, Canada.—This consists of a pair of hooks, surrounded at the middle by a pivoted loop which ordinarily holds them closed. The loop is held in place by a pin entering one part of the hook and being held there by a spring. A cam arrangement is added, so formed that, when it is turned to bring its lever upward, it may force outward the spring, withdrawing the pin from the hook and allowing the loop to be raised.

### IMPROVED COKE OVEN.

Sebastian Stutz, Pittsburgh, Pa.—This improvement consists in the arrangement of zigzag passages below the bottom of the coking chamber and upon the sides between the inner and outer walls whereby a more uniform heat may be maintained, and also in the employment of a reservoir for the collection and utilization of the waste gases.

### IMPROVED MACHINE FOR CUTTING BOOT STRAPS.

John E. Plummer, Hornellsville, N. Y.—This invention is designed for cutting boot straps, but is applicable also for cutting straps used in harness, trunk, and saddle making. It consists in a framework carrying a revolving shaft having a leather holder provided with a set of automatically operated clamping fingers or springs, which clasp the leather to a holder, in combination with a stationary knife which, as the leather holder revolves, cuts off the length of the strap, and a series of stationary knives which sever the cut section of leather into a series of straps.

### IMPROVED PACKING FOR CAR AXLE BOXES.

I. Benedict, Richmond, Va.—This invention relates to means for packing the axle boxes of cars and other vehicles so as to furnish a gradual supply of lubricating material to the journals, and consists in the application of cork or analogous substance, so that oils of a liquid character only at ordinary temperatures may be as readily employed as those that assume a more solid form, and so that the boxes may be safely manipulated even by unskilled persons.

### IMPROVED GUARD FOR RAILROAD CROSSINGS.

Lyman L. McCrea and Robert V. Coon, Troy, N. Y.—This is a device for preventing horses' feet from getting caught upon the spike heads, or between the rail and planking, at railroad crossings. It consists in a guard having one edge formed to fit upon the flange and into the neck of the rail, and its other edge formed to fit against the edge of the planking. It is concealed upon its upper side, and provided with a flange and lugs to underlap the planking and the flange of the rail between the ties.

### IMPROVED DIE FOR MAKING HAMMERS.

Henry W. Kip, Buffalo, N. Y.—This invention consists of dies contrived in a novel way for shaping, riveting, and other like hammers, and punching the eyes in a drop press at one blow, and also partly separating them from the rod.

### IMPROVED BELTING.

John Neumann, Brooklyn, N. Y.—This consists of broad metal links with notches in the ends, forming loop-shaped projections for interlocking. The projections of one are arranged in the notches of the other, and a couple of pins are inserted and so arranged that they roll one on the other when the chain bends around the pulleys. Sliding friction in the connection of the links is thus avoided. The invention also consists of plates attached to the sides of the link to adapt the belt for grooved pulleys. Said plates are so arranged as to fit the sides of a tapered groove, and have a little flexure in the connection with the links, so that they accommodate themselves to the sides. These plates are connected to the links in a simple and inexpensive manner, which also constitutes a part of the invention.

### BUTTON-SEWING ATTACHMENT FOR SEWING MACHINES.

John W. Fries, Salem, N. C.—This consists of a clamp for holding the buttons under the needle arranged on a shifting plate, which is worked to right and left alternately with the operation of the needle by a little vibrating cam on an elbow lever worked by the needle bar, and which is itself vibrated by the plate which carries the clamp.

### IMPROVED PUMP.

John K. J. Foster, Horbury, near Wakefield, England.—This consists in constructing the displacer in the form of a hollow cylindrical sheet metal vessel, with a tube running through the same longitudinally, so that several of the displacers may be placed upon the same pump spear, if desired.

### IMPROVED BURNISHING MACHINE FOR BOOTS AND SHOES.

George E. Burgess, Hudson, Mass., assignor to himself and Waldo B. Brigham, same place.—This consists of a rotary burnishing tool, constructed in conical form to fit the beveled shape of the edges of shoe shanks, and having a head which fits the upper edge. The head at the same time constitutes a guide, by which to aid the operator in applying the shoe to the tool. A friction pad is combined with the tool, to afford the heat necessary to the efficient action of the tool.

## NEW AGRICULTURAL INVENTIONS.

### IMPROVED MILK COOLER AND STRAINER.

Charles Weineis, Bloomingdale, Ill.—This is an improved milk cooler and strainer, by which any quantity of milk may be cooled in quick and effective manner for transportation, the cooler allowing also the ready detaching and cleaning of the parts. The invention consists of an outer water receptacle, a milk receiver, with bottom strainer and threaded tubes screwing into the bottom tube of the outer receptacle, and of an interior cooling can, with spiral winding rib, forming the channel for the milk to pass through to the outlet tube.

### IMPROVED BEE HIVE.

Caleb E. Bost, Davidson College, N. C.—This invention relates to an improved construction of bee hive designed to give greater security to the bees from the attacks of moths and millers, and which shall be more convenient in handling and better adapted to promote the health and prosperity of the bees in all seasons. It consists in the construction and arrangement of the entrance to the hive for keeping out moths and millers, and in a supplemental upper section for the hive, which can be taken off or placed on according to the requirements of the season.

### IMPROVED RAKE.

Glover Hawley, Hawleyville, Conn.—The object here is to make rakes that have become loose upon the handle as firm and strong as new ones. A plate of wood or metal, made wider at its forward end, and with two holes to receive the middle teeth, is secured to the handle and head.

### IMPROVED WEANING BIT FOR CALVES.

John H. Bailey and Louis Loupee, Toledo, Iowa.—This is an improvement on the anti-sucking bits for calves for which letters patent have been granted to John H. Bailey, under date of November 8, 1875, so that the animal has a better chance to eat and drink without covering up the ends. The invention consists of a tubular suction bit, which is made of two centrally hinged sections, open at the ends, which rings are attached to stationary staples projecting toward the rear of the bit sections.