

**IMPROVED DOUBLE ACTING ANTI-FREEZING FORCE PUMP.**

Henry M. Wyeth, Richmond, Ind.—This invention is intended chiefly to provide a submerged double acting porcelain lined pump, which shall be of a simpler construction and less expensive manufacture than those heretofore made. It is an improvement upon that form of pump in which two inlet valves are employed in connection with a single outlet valve arranged in a side pipe which opens into both ends of the cylinder. The invention consists mainly in casting the pump and the side pipe in a single piece, which secures the desideratum of cheapness, and with the greater portion of the said pipe offset or removed from the periphery of the cylinder so as to leave a space between, which permits the successful lining of the pump with porcelain.

**IMPROVED COMBINED CENTER AND CARRIER FOR LATHES.**

Charles A. Niebell, Scranton, Pa., assignor to himself and P. Franz, of same place.—This device is so constructed as to enable the workman to get the correct center of a shaft without its being necessary to remove the work from the lathe more than once. It may be adjusted to correspond with a long or a short center. It also may be used for gas pipe centers, on shafts for cutting off the riser, for facing pipes, and as a chuck upon any kind of a lathe.

**IMPROVED NUT LOCK.**

Joseph C. Wright, Philadelphia, Pa.—The object of this invention is to construct a nut in such manner that it may be rigidly held on its bolt, when set in position, by inserting a packing of soft metal or other material capable of expansion, into a recess cut, punched, or swaged in the face of the nut in such manner that the packing may have a direct bearing on the thread of the bolt.

**IMPROVED HOSE COUPLING.**

William B. Kilbourne, Auburn, Me.—This hose coupling may be readily united. It is not liable to clog so as to prevent it from being quickly put together, and the threads cannot be crossed. The lugs of one part are placed in the recesses in the other part, and the parts of the coupling guided by the lugs are brought squarely together. A sleeve is then moved forward and screwed on the threads of the recessed part by means of a spanner placed on the lugs.

**IMPROVED PUMPING APPARATUS.**

Waldemar F. Plockross, Fagundus, Pa.—This relates to apparatus used in pumping oil or water from deep wells. It consists of a suitably braced right angled lever, which swings on a pivot between stationary posts, and is connected at the end of its horizontal arm with the pump rod, and at the lower end of its vertical arm, by means of rods, with any convenient motive power.

**IMPROVED CORNSTALK PRESS.**

Edgar P. Davis, James E. Davis, and John Fisk, Crete, Neb.—This is an improved machine for pressing cornstalks, weeds, hay, brush, etc., into small bundles for fuel. It presses the material compactly, holds it securely until bound, and is so made that one person can be sawing the bundles into lengths while another is passing the bands around them.

**IMPROVED PUMP.**

Michael Cook, West Le Roy Mich.—The object of this invention is to provide an improved means for giving motion to the piston; also for counterbalancing the same, and for readily removing the lower valve of the pump without removing the pump from the well. An advantage gained by the peculiar construction of this pump is, that the displacement of water by the enlarged piston rod reduces the weight of the water resting on the piston.

**IMPROVED STEERING PROPELLER.**

Clemens Uller and Jasper N. Bennett, Columbus, O.—The object here is to provide, as an auxiliary device for vessels already built, or to be built, an improved propelling and steering apparatus, by which the vessel may be propelled to the right or left, forward or backward, without stopping the engine. The invention consists of a vertical revolving shaft, with horizontal paddles that are submerged in the water and turned alternately into horizontal position by a cam of a sleeve around shaft, said sleeve being adjusted by a steering lever, in connection with a disk and ratchet device.

**IMPROVED FOLDING BOAT.**

John H. Bates, Nanticoke, Pa.—This consists in the arrangement in a boat of a folding bottom, folding ribs, and flexible sides, and a removable rail, seat, and oar lock. A covering of canvas, or other flexible waterproof material, is attached to the boat bottom by means of nails, and is secured to the rails at the top of the boat by straps which are engaged by buttons that project from the rails and from the posts at the bow and stern. The boat thus constructed is light and strong, and is capable of being quickly taken apart or put together, and when taken apart it may be folded together and packed in small compass.

**IMPROVED STEAM ROAD WAGON.**

George W. Wade, Clam Lake, Mich.—The track wheels are made large and with wide flanges upon the inner sides of their rims, to serve as tracks for the small driving wheels to run upon, so that the machine may lay its own track as it advances. A power is applied to the axle, the driving wheels roll forward upon the flanges of the track wheels, and are all the time rolling up a slight inclined plane. Should the track wheels, or either of them, strike an obstruction, they will stop, while the driving wheels will roll up a steeper inclined plane until the center of gravity has passed the point of resistance, when the track wheels will gently tilt over the obstruction, and the wagon will pass on without jar.

**IMPROVED COMBINED NOZZLE AND SPRINKLER.**

Neil Malmquist, Brooklyn, N. Y., assignor to himself and John Loyd, New York city.—This invention consists in a sprinkler provided with a short tube in its face directly opposite its screw socket, and having its outer end covered with a perforated cap, with a tube in its side, having the outer end closed. A small marble is placed within to adapt the device for throwing water in a solid stream or a shower.

**NEW AGRICULTURAL INVENTIONS.****IMPROVED PLOW.**

James F. Wilson and Richard I. Wilson, Calhoun, Ga.—The wings of this plow are so constructed that they may be raised out of, and lowered into, working position separately or both together, as may be desired. They also may be adjusted to prevent small plants from being covered or injured by having soil thrown upon them.

**IMPROVED CORN PLANTER.**

Robert Fox, Decrfield, Iowa.—This relates to improvements in corn planters; and it consists in an arrangement of plows on an adjustable shaft, by turning which the plows are raised or lowered.

**IMPROVED PLOW.**

Charles Atkinson, Monterey, Ill.—This is an improved plow for opening trenches and subsoiling. It is so constructed as to clear itself in opening trenches, and may be readily adjusted to work at any desired depth in the ground.

**IMPROVED DITCHING MACHINE.**

James R. Slaton and John M. Wadlington, Morganfield, Ky.—This is an improved machine for opening ditches of any desired depth and width. It may also be used with advantage for grading roads, and for various other purposes where soil is to be moved. The scraper may be raised or lowered by the advance of the machine, according as a lever is operated.

Devices are provided to lock the scraper in place and hold it down to its work in operating upon hard soil. There is an upper carrier designed for use in opening deep ditches to prevent the soil, and especially clods and lumps, from sliding or rolling back. As the soil reaches the upper end of the carrier it passes into an inclined spout, by which it is conducted to the side of the ditch. The spout may be inclined in either direction to deposit the soil upon either side of the ditch, as may be desired.

**IMPROVED CHURN DASHER.**

John L. Maxwell, Bentonville, Ark.—By suitable construction, as the dasher is raised, the tendency is to form a vacuum beneath it. This opens the valve and draws air into the cavity of the handle and the cavity of the dasher. As the dasher is forced downward the valve is closed, and the air is forced into and through the milk. This introduction of air, and the peculiar form of the dasher, throws the milk into violent agitation and brings the butter quickly.

**IMPROVED DITCHER.**

Wilbur R. Peet, Viola, Iowa.—With the bottom cutter is connected a rest, supported on any suitable bar, so as to allow the furrow slice to begin to turn only at some distance from the knives, and thus prevent any strain that might arise from tearing the slice. A turning board is arranged, cut and fitting diagonally across the face of the rest, and rising on a gradual lateral slant to and above the bars, so that when the furrow slice rises above the bars it will be thrown over and reversed from its natural position, and not merely turned on end. The turning board is provided with water channels to allow the moisture to drip back into the furrow.

**IMPROVED SWINGING GATE.**

William A. Ohaver, Monmouth, Ill.—To the shorter end section of the gate is attached a balancing block, which facilitates the swinging of the gate into open or closed position, but which does not entirely balance the longer section, so that the latter is slightly heavier than the block and shorter section, for bearing, by its outer and lower end, either on a notched block when closed, or on the ground when opened, for being retained in either position without propping or holding.

**IMPROVED PLOW.**

William Clore, Rising Sun, Ind.—This invention consists in so constructing and connecting the share, land side, and colter of a plow, that a close and firm joint will be formed, and the parts always maintained in exactly their true relation to each other.

**IMPROVED PLOW.**

John M. Looker, Abilene, Kan.—This plow may be readily adjusted for the different kinds of plowing, and to take and leave land. The invention consists in a plow provided with an arrow-head point having its landside wing projecting beyond the line of the landside of said plow; and in the share formed solid with the arrow-head point, made nearly flat, and having the outer part of its forward edge curved forward.

**IMPROVED FARM GATE.**

Orlando F. Fuller, Lamont, Mich.—This is an improved farm gate that may be conveniently adjusted at suitable distance above the ground, to clear the snow in winter, and admit the passage of smaller animals. It is also self-closing by its own weight as soon as released.

**IMPROVED HOP DRYER.**

Charles A. Sands, Burlington, Kan.—This invention consists of a hop drying apparatus, consisting of a centrally pivoted box that takes the place of the drying floor. The box has a top and bottom of wire gauze, and hinged end doors that connect with openings in the walls of the upper and lower stories, for charging and discharging the hops to and from the dryer. The end doors of the drying box are provided with transverse rubber cushions or strips for closing the space between the walls and the box when said doors are in a horizontal position, and thereby compelling the heat to pass through the drying box.

**IMPROVED HAY RAKER AND LOADER.**

John S. Hewitt, Wheatland, Mo.—This is a machine that may be attached to the side of a wagon, which will gather the hay from the ground and deliver it to the hay rack carried by the wagon. As the wagon is drawn forward the machine is set in operation by the rotation of a wheel. The forward motion of the machine gathers the hay on the teeth of the rake. An endless apron elevates the hay and delivers it to another apron, which carries it laterally to the rack of the wagon.

**IMPROVED SELF-RAKE FOR HARVESTERS.**

Isaac N. Cherry and Robert N. Cherry, Jersey city, N. J.—The object here is to provide a rake for harvesters that will deliver the gavels at the rear of the machine in compact form for binding. The reciprocating motion of the ratchet bars, the teeth of which move the grain along the platform, is continuous, and when a sufficient quantity of grain is carried into the fingers of the delivering apparatus, they first close down on the gavel and then are drawn backward. When the gavel is drawn from the platform the fingers fold down and allow it to pass, but afterward spring up and prevent the escape of loose grain. The entire mechanism is exceedingly ingenious.

**NEW HOUSEHOLD INVENTIONS.****IMPROVED NIGHT LAMP.**

Harry W. Huntington, Williamsburgh, N. Y.—This lamp is provided with a very small wick tube, and is intended for burning through the night; and by the arrangement of the wick tube the flame is located at a distance above the oil, so that the oil is not heated and gas is not generated, and, consequently, danger is avoided. By the use of a chimney of suitable length smoking is avoided without using many of the devices common to larger and more complicated burners.

**IMPROVED SPITTOON.**

Pierre Celestin Ste. Marie, Montreal, Canada.—This spittoon is composed of two parts, so constructed and fitted together that when the spittoon is overturned its contents are received by the upper part thereof, thereby preventing soiling of the floor or carpet. The spittoon is supported upon casters, whose stems or pivots are fitted in sockets formed in ornamented bases or enlargements of the base rim of the spittoon.

**IMPROVED COMBINED DESK, WASHSTAND, AND BLACKING CASE.**

Alexander O. Kirkwood, Yonkers, N. Y.—This consists in the combination, in a single piece of furniture, of a desk having a convenient receptacle for books and papers, a washstand having a convenient reservoir for water, a stationary bowl, an adjustable mirror, and a closet for towels, etc., and also a towel rack and a blacking case, which contains a folding rest for the foot and a place for the blacking and brush.

**IMPROVED SPRING BED BOTTOM.**

John H. Palmer, Warren, Pa.—This spring bed bottom is so constructed that the springs may be conveniently adjusted according to the weight they may have to support, that the rails may be braced against the pull of the springs, and that the springs may be kept in proper position when under pressure. In it, plates are provided with single or double notched flanges, and made in two parts, with their adjacent ends inclined to cause them to meet at an angle, in combination with the frame and springs of a bed bottom and couplings, formed of two short rods, are rigidly connected by an arm, in combination with the springs.

**IMPROVED STOVE MAT.**

Christian A. Reimers and John C. Branch, Davenport, Iowa.—The wooden body of the mat is covered with a zinc sheet which is spun over its circular edge. In order to form a raised rim on the zinc a bead is spun, or otherwise formed, on its upper side, near the edge of the mat, and a rod or stout wire is laid in the groove (on the under side of the zinc) to prevent the bead being indented or flattened by blows or pressure.

**IMPROVED VEGETABLE SLICER.**

Joseph H. Alfred, Rosbach, Iowa.—This consists of a frame containing a pivoted and grated support on which to place articles to be cut, and in a series of knives arranged tangentially to a circle described from the pivot on which they swing, and which pass between the bars of the support. The whole is supported by a frame, to which are attached receptacles for the articles to be cut, and for the slices cut by the apparatus.

**IMPROVED KNIFE AND FORK CLEANER.**

Albert E. Van Horn, Sebewaing, Mich.—This consists of an inclined scouring table with side rims, having a till or receptacle at the lower end for the scouring powder. A leather strap is stretched on a fork-shaped support for facilitating the cleaning of the forks.

**IMPROVED DOOR CHECK.**

James B. Everest, Yonkers, N. Y.—This consists in a spring of peculiar shape made from a single piece of spring wire; the object being to provide an inexpensive and simple device that may be readily placed under doors of every description for holding them in any desired position.

**IMPROVED TABLE EASEL.**

Christine Fisher, Salisbury, N. C.—This easel is adapted to the use of architects, civil engineers, and others, and is so constructed that it may be adjusted to have a level top, or to give its top any desired inclination, and to enable paper of any desired length to be used, holding the part being worked upon smoothly and firmly.

**IMPROVED BUTTER AND FRUIT JAR.**

Charles A. Sands, Burlington, Kan.—This improvement consists of a butter and fruit jar having a bevelled lid seated by an interposed rubber gasket on the tapering top edge of the jar, and being secured by a rubber band lapping over the lid and the recessed edge. The bottom edge of the jar has also a circumferential recess with a rubber band extending into the recessed part and lapping over the bottom edge, to produce, in connection with the top band, protecting cushions.

**IMPROVED ARM REST.**

Philo R. Wago, Rockport, Mo.—This is a novel device to be attached to a desk or table for supporting the arm while writing; and it can be adjusted to the required height to suit books of different thickness. In working on large sheets of paper or maps covering the whole desk, it is used to widen the desk, thus making it convenient to write on the extreme lower edge of the sheet. It also can be used with equal advantage in any position which the writer may assume.

**NEW MISCELLANEOUS INVENTIONS.****IMPROVED AWL.**

George P. Harley, Allendale, S. C.—By this invention leather may be stitched together with rapidity and facility. It has a recess and hook back of the point, and tapering side channels running from the recess to the point.

**IMPROVED CARD HOLDER.**

Henry J. Herbert, London, England, and Edward R. Wilbur, New York city.—This is an improved device for holding business cards, adapted to be hung upon a wall, and so constructed as to display a card. The chief feature of the invention is a hinged card receptacle, and a case therefor. The rear side of the receptacle is provided with a weight or spring, to draw it closed when released, after having been opened.

**IMPROVED WHIP.**

George P. Overin, New York city.—The core is formed of one or more strings of gut, and is stiffened and filled out by rattan sections. Hitherto, the rattan sections have not been used with the enameled surface, as the pith only has been employed; but, by this method, the natural strength and elasticity of the outer or enameled surface are retained and utilized.

**IMPROVED COPY BOOK.**

John W. Manning, Cambria, N. Y.—This consists in an arrangement of movable copies, and in an improved method of fastening the same in the book, which facilitates the operation, so that the copy books may be readily made. The copy slips are of the same length as two of the pages of the book, and are folded in the center and placed on the threads and wire. The copy is moved down the page, so as to cover each line as it is written, so that the scholar imitates the copy and cannot follow the line he has previously written.

**IMPROVED FILTER RACK.**

Byron Fenner, Westfield, N. Y.—This consists of a filter rack made of a spirally coiled wire, attached by top hook and jointed center link with lower hook to the top and bottom of funnel.

**IMPROVED FRUIT DRYER.**

Samuel Myers, Adamsborough, Ind.—This consists in novel means employed to pass a current of dry heated air over fruit until it is completely dried, without allowing the air to stand, or that which has been moistened by contact with fruit on lower shelves to come afterward in contact with that on the upper shelves.

**IMPROVED HARNESS SADDLETREE.**

James McCormick, Glendon, Iowa.—This invention consists in a saddletree made in two parts having lugs formed upon their upper ends, halved to each other, and provided with teeth to mesh into teeth formed upon the under side of the base of the water hook. The lugs are perforated to receive the screw by which the said parts are firmly locked together. Upon the rear end of the screw is formed a loop to receive the back strap, and which also serves as a handle for screwing the said screw in and out. The tree may thus be adjusted to fit the horse's back.

**IMPROVED MANUFACTURE OF SPECTACLE TEMPLES AND JOINTS.**

Dormer C. Winans, New Haven, Conn.—According to the method heretofore practised, the temples and joint pieces of spectacles have been constructed from separate pieces of metal, and soldered together. The object of the patentee is to cheapen and improve the construction of temples and joint pieces by forming them solid together, or in one piece. For details, see patent.

**IMPROVED TALKING AND CRYING DOLL.**

William A. Harwood, Brooklyn, N. Y.—The object of this invention is to provide a sound-producing attachment to be applied to the bodies of dolls, which may be blown by the mouth to imitate vocal sounds.

**IMPROVED ICE BOX ATTACHMENT FOR COOLING ALE, ETC.**

James J. Moloney and Isaac S. Schuyler, Brooklyn, N. Y.—This is an ice box provided with a cooling chamber below the ice chamber, and at one side of the latter with keg compartments. A track with movable hoisting apparatus is arranged above. There is a detachable extension of the tracks upon the outside of the ice box to receive a truck and cask, and a combination of crank shaft and rope for moving the trucks upon the tracks.