

## IMPROVED NAIL PLATE FEEDER.

William H. Rittenhouse, Norristown, Pa.—In this invention, two spring nose pieces are employed instead of the one rigid one heretofore used, in order that, when the barrel is turning over on one of them, its weight and the pressure of the bearings will spring it, and so nip the plate that it will not feed while turning. The blank from which the nail is cut obliquely across has one edge longer than the other, necessarily; and as the reciprocal feed turns the long and the short edge up alternately, in ordinary nail plate feeders, high speed is not possible, because the moving knife lifts the plate from the bed knife when, in turning, the long edge is up. But in this device, when the short edge is up, and the nose piece made to spring and bind the plate, the moving knife will clear it every time, and there is no limit to the speed, so far as the feed is concerned.

## IMPROVED RAILROAD RAIL JOINT.

Duncan C. Waddell and John F. Finger, Marion, S. C.—This invention consists of a chair that embraces the bottom and inner side of the rail, and is provided with a central standard or bearing piece, which comes between the ends of the rails when they are placed in the chair, and extends beyond the outside of the rail, where it is mortised to receive a split key, that rears against the web, the said key being retained by a wedge driven in the split. The device forms a rigid support for the ends of the rails. It may either be placed on the cross ties or between them. The bearing piece between the ends of the rails permits the wheels to pass over the joint without jarring or injuring the end of the rail.

## IMPROVED SEWING MACHINE FOR EMBROIDERY.

Charles Marin, Newark, N. J., assignor to himself and Isidore Rosenthal, New York city.—This invention produces embroidery stitches of varying lengths at one side of the fabric only, and retains the embroidery stitches at the ends by fastening stitches that pass through the fabric at a considerable saving of thread. The machine is made in the nature of the sewing machine, and produces, by the parallel and angular disposition of the thread, flat or raised designs of any configuration, in a rapid, even, and perfect manner. It consists, essentially, of a reciprocating needle bar, with two adjustable needles, a slotted presser foot, a swinging and parallel feeder, and a shuttle that places the embroidery stitch in position for the fastening end stitches of the adjustable needles.

## IMPROVED WHEEL TIRE.

George Cornwall, Garden City, N. Y.—This consists of a tire the essential part of which is rawhide. The hide is fitted on a metal hoop while in a soft state for fixing it in the required shape, and an elastic cushion of rubber is interposed between the hide and the metal band.

## IMPROVED LUBRICATOR.

Joseph W. Reed, Kalamazoo, Mich.—This invention is a double automatic lubricator for steam cylinders of locomotives and other engines, by which one of the lubricators may be dispensed with; and it consists of a cup cast in one piece with fixed internal feed pipes, having regulating top nozzles and outer cocks for shutting off the steam. The casting of feed pipes and cup in one piece makes the cup cheaper, and without joints. The steam passes up the pipes from the steam cylinder, and condenses gradually in the cup, which, by the double condensation pipes, forces the oil up the nozzles and down the pipes as long as the engine is running. When the steam is shut off, the supply of oil is interrupted, being regularly continued when the steam is let on again.

## IMPROVED WIND WHEEL.

Alfred M. Vanpelt, Capioma, Kan.—By suitable construction, as the wind blows against the forward sides of the fans, it presses them against the weights, and the weights support them against the wind, unless it be strong enough to raise the said weights, and thus take the fans out of the wind. By suitable adjustment, the wheel may be arranged to work with any desired power.

## IMPROVED WATER WHEEL.

Samuel G. Marlin, Clarion, Pa.—This consists of a wheel composed of two disks placed side by side, each having buckets and issues, which are so adjusted that the buckets of one fit in the issues of the other, in such manner that, by adjusting one of the disks toward or from the other, the capacity of the issues may be raised to any extent, and may also be closed altogether, if required to serve for the gate.

## IMPROVED WINCH.

Elias Sorrinson, West De Pere, Wis.—This consists of a common winch, whose crank shaft is placed by sliding pinions in connection with a second hoisting drum, and with rubber rollers for taking up the slack. It serves to hoist two or more sails at once.

## IMPROVED TOOL FOR CAPPING AND UNCAPPING CARTRIDGES.

Isidoro Zamboni and Carlo Zamboni, Owatonna, Minn.—This is an improved device for removing the exploded cap from a cartridge shell for breech-loading shot guns, and recapping and reloading the shells.

## IMPROVED LIFTING JACK.

Thomas J. Corn, Sni Mills, Mo., assignor to himself and James M. Faulk, same place.—This consists in making the parts of a lifting jack so that they may be folded compactly together for storage or transportation. When this is desired, the lever is removed and the standards are folded.

## IMPROVED MIDDINGS SEPARATOR.

Jefferson Graham, Alden, Minn.—There is a vertically reciprocating shoe having screens, each clothed with finer and coarser numbers of bolting cloth; also a series of chutes, one set for delivering the purified middlings out of the machine, and the other for delivering the imperfectly separated matters upon the screen below. With the above, a blast fan is combined.

## IMPROVED GLOVE-SEWING MACHINE.

Peter E. Gullrandsen and Johan C. Rettinger, Copenhagen, Denmark.—The object of this invention is to construct a glove-sewing machine on the revolving hook system, which produces with two threads a stepping and cross stitch, that resembles and equals the best sewing done by hand, and makes the seams strong and durable. The device includes glove-feeding cups, reciprocating needle bar with tension devices, a rotating hook with bobbin and tension, and a compound mechanism for operating the cross stitching device. The horizontal actuating mechanism of the parts is inclosed below the table, and operated by a treadle, the glove-feeding cups being run close to each other, or at some distance from each other, to take hold or relinquish the work by means of a pressure spring and releasing treadle connection.

## IMPROVED SLAUGHTERING APPARATUS.

Kennard Knott, London, Ontario, Canada.—This invention relates to an improved slaughtering apparatus in which the bullock is thrown down, and (after being killed) drawn out and deposited upon a car, which transports the body to the mechanism by which it is hoisted for being dressed. After the dressing operation it is lowered, divided in halves by a swinging saw, and the two parts, which are suspended from hanging tramways by wheel hooks, are quickly conveyed by said hooks into the freezing house, where they are packed, or from which they may be removed to cars or ships for transportation.

## NEW CHEMICAL AND MISCELLANEOUS INVENTIONS.

## IMPROVED POCKET CALENDAR.

Benjamin F. Norris, Chicago, Ill.—The improvement consists in the particular construction and arrangement of the two sheet metal disks to each other, one of which is provided with a series of indentations corresponding to the divisions of the calendar face, and the other of which is provided with a stud, one end of which affords a knob for turning the disk, and the other end of which forms a stop which enters into the indentation of the other disk, and by locking the two disks determines the proper registration of the divisions of the two disks and prevents accidental displacement of the same while in the pocket.

## IMPROVED LANTERN.

Henry C. Kelly, Chicago, Ill.—This invention relates to a novel construction of the lantern; and it consists in the construction and arrangement of the burner and deflectors, the construction of the base provided with tubes for supplying air to the burner, the construction of the outlet for the hot air above, and the means for attaching the guards to the base piece, and thus connecting and holding the several parts together.

## IMPROVED PUZZLE BLOCKS.

Ripley R. Calkins, St. Joseph, Mo.—The object of this invention is to provide a mechanical or material verification of the geometrical problem "that the square described upon the hypotenuse of a right-angled triangle is equal to the sum of the squares upon the other two sides." To this end the invention consists in the combination of five blocks, three of which are in the shape of similar right angle triangles, one in the shape of a trapezium, and the other in the shape of a trapezoid, which blocks are adapted to be put together to form a single square upon the hypotenuse of a right-angled triangle, or to be transferred or arranged in two squares upon the other two sides; the same to be used in schools for purposes of illustration, or to be used as a puzzle for general amusement.

## IMPROVED STREET LAMP.

Lewis O. Cameron, Pittsburgh, Pa.—The improvements constituting the invention are embodied in three features, namely: 1st. Constructing the glass body of the lamp with a large opening at the bottom, and providing adjustable perforated plates for closing the same, the said plates being attached exteriorly. 2d. Making the metallic cap or top portion of the globe adjustable and removable. 3d. Providing the lamp with a detachable holder or reservoir for gasoline or other light hydrocarbon.

## IMPROVED BROMINE STILL.

Freeling W. Arvine, Mason City, W. Va.—The points of novelty in this invention consist in making the still with a funnel-shaped bottom, introducing the steam pipe at the lowest point of the same, and providing an annular orifice for the escape of the liquid product. It also consists in providing a return pipe for the escaped bromine at the mouth of the receiver, and conducting the gas to an absorber where it is dissolved in bittern and returned to the still for utilization by decomposition.

## IMPROVED HORSE DETACHER.

Amos M. Barker, Macon, Neb.—In using the device the cock eye of the tug is put over the outer arm of a double hook, and the head of a rod is placed in the space between the points of the said double hook, holding the hook securely in place. Should it become necessary to detach the horse, the driver pulls upon the cord attached to the arm of the rod. This turns the rod and raises its head out of the space between the points of the double hook, when the draft strain turns the hook forward, draws the tug from the said hook, and the horse is detached.

## IMPROVED POCKETBOOK FASTENING.

Ernst Schnopp, East New York, N. Y.—This lock consists of a face plate, with swinging handle, applied to the closing flap of the pocketbook. It has a center knob at the under side of the same, that enters a centrally perforated radial spring plate for closing the lock, the button being released by pulling at the face handle.

## IMPROVED TEMPORARY BINDER.

Ferdinand Guicheteau, Brooklyn, N. Y.—This invention consists in the combination of a spring clip of novel construction with the back of a book-shaped box or receptacle, in such a way that letters, invoices, and other similar papers, may be placed on a pair of needles fixed to the said back and retained by a spring. The latter is slotted, and so placed as to be capable of following the papers down on the needles.

## IMPROVED UMBRELLA SUPPORTER.

August H. Adams, Piqua, Ohio.—This consists of an attachment for vehicles, having a socket for the umbrella handle at one end and double sockets at a suitable angle at the opposite end, to be secured by clampscrews to a grooved supporting post attached to the wagon seat.

## IMPROVED EAR RINGS.

Leon P. Jeanne, New York city.—This invention consists of a spring lever hook, attached to a knob of the ear ring or drop, and bent upward, so as to bear on the ear, and retain the button securely in position.

## IMPROVED BILLIARD BALL.

Gustav Magnus, Berlin, Prussia.—These balls are made uniformly solid throughout, without any pores or cavities. They are perfectly elastic. They rebound to a height of eighty feet if thrown on an iron plate. Their center of gravity is exactly in the center of the ball, so that they lie still in any position on a surface of quicksilver. They do not crack or peel off, and they do not lose their color. The ingredients are rubber, sulphur, a suitable coloring matter, and heavy spar, or sulphate of baryta, the latter in a quantity at least fifty per cent of the rubber. The mixing is done in the usual way. After having made a ball, as nearly true as possible, and about one half inch smaller than the finished ball, it is enveloped in a sheet of the same mixture, having the required color, of three eighths of an inch thickness, and put in a very strong metallic mold of adequate form. The whole is then submitted to the curing process during at least ten hours, commencing with a low temperature, and increasing it slowly but steadily. The mixture is exposed only for one hour or less to the highest degree of heat, which will vary according to the quality of the india rubber used. The cured balls are then turned and finished.

## NEW HOUSEHOLD INVENTIONS.

## IMPROVED WATER FENDER FOR DOORS.

Elliot L. Valentine, Oakalla, Ill.—This consists of a water conduit, made from sheet metal, to be attached to doors, windows, and other similar places, to catch the water that drifts against them, and conduct it outside the sill.

## IMPROVED WASH BENCH.

Peter E. Rudel, Grand Rapids, Mich.—This is a folding wash bench, hinged to a vertical standard carrying wringer rolls. The bench is formed of two sections, which consist each of a platform supported upon a hinged frame or leg, and adapted to fold and lie close against the upper portion of the standard.

## IMPROVED INVALID BEDSTEAD.

Franklin E. Sawyer, Hyde Park, Vt.—This bedstead may be easily and conveniently adjusted by the occupant or attendant to any position, to be used as a common bed, or as a sofa or settee, or at any inclination. It is also easily movable from one room to the other, and has accommodations for the storing away of soiled clothes.

## IMPROVED BOTTLE WASHER.

William Scherenberg, New York city.—In using the machine, the bottles are placed in a frame and secured. A trough is then lowered, bringing funnels into the mouths of the bottles, into which water and shot, tacks, or other suitable substance, are poured. A wheel is then turned which shakes the frame and bottles, washing the said bottles clean in a short time. When the bottles are sufficiently washed the frame is turned through a half revolution, which allows the water and shot or tacks to flow from the bottles into a basin.

## IMPROVED WASHING MACHINE.

Allen D. Ferris and Albert N. Ferris, Blakeley, Minn.—The suds box is made in the form of a half cylinder, and to it is attached a series of parallel cross bars, which form the rubbing board, and at the same time strengthen the zinc bottom. The top opening is surrounded with a curve which prevents any water that may be spilled from running off upon the floor, and serves as a rest for the attachment of a wringer. Devices are provided to hold the suds box stationary while the wringer is being used.

## IMPROVED SPRING PILLOW.

Jacob Beamer, Manor Station, Pa.—The object of this invention is to furnish, in place of the feather pillow, an improved wire spring pillow, that is conducive to sound and healthy sleep by keeping the head cool, and admitting pure air to the back of the same. Wire cloth is stretched on curved band springs, which are attached to the lower ends to a suitable supporting frame, and at the upper ends, by a cross strip, to upright rack bars. The supporting springs are laterally braced by a curved stiffening rod.

## IMPROVED EVAPORATOR FOR REGISTERS.

W. R. Fowle, Baltimore, Md.—The invention consists in moistening hot air as it passes into an apartment from a furnace or stove, by causing it to pass through strips of absorbent material, more or less saturated with water. The absorbents are endless pieces of fabric held by opposite rolls, and dipping into the water, being spaced by ring grooves in the top roll. The invention is equally adapted to any form or location of register by means of an attachment open at the bottom so as to enclose with a lid the ordinary floor register, and provided with a rear opening to correspond with that of the evaporator.

## NEW AGRICULTURAL INVENTIONS.

## IMPROVED FARM GATE.

Dennis C. Bacon, Litchfield, Ill.—This consists in hitching the rear post of the frame to the main gate post, on which it turns by eyes and long staples.

## IMPROVED CHURN.

David J. Rogers, Bardstown, Ky.—This invention relates to certain improvements in churns, designed to simplify and extend the use of the same, and expedite the operation of churning. It consists principally in the combination with a tube or case, provided with slits and perforations, of a projecting handle for holding the tube stationary against the bottom of the outer case while the dasher is being worked up and down in the said tube, by means of which arrangement any vessel without a special cover may be employed for the outer containing case, and the churning devices adapted for use in the one as well as in the other.

## NEW WOODWORKING AND HOUSE AND CARRIAGE BUILDING INVENTIONS.

## IMPROVED WAGON SPRING ATTACHMENT.

Reuben Doty and Joseph Doty, Wellsville, N. Y.—This is a device for attaching springs to a wagon body, composed of a top plate, a cross bar, encircling clip or band, and downward extending lugs, to form shackles for springs, the whole made in one piece.

## IMPROVED ROCKER AND TRACK FOR CRADLES AND CHAIRS.

Daniel Rupp, Four Corners, Iowa.—This device is so constructed that the rocker shall always have a smooth surface to rock upon, however rough the floor may be, or however soft the carpet. The invention consists of a track having a right-angled bracket with a V-shaped slot, in combination with a cradle rocker, having a pin which enters the slot in the bracket.

## IMPROVED PORTABLE HOUSE.

Francis M. West, Des Moines, and Addison R. Smalley, Snyder, Iowa.—This is a portable house that may be readily shipped and set up, and taken to pieces in case of fire, or for moving, the construction being strong and durable, while at the same time neat in appearance. The walls are made of grooved and tongue-locked logs, with detachable door and window casings applied in similar manner. The floor is connected to the joints by pins and recessed locking strips, while the roof sections are supported on dovetailed rafters by lateral bearing strips and top battens, the parts being interlocked rigidly.

## NEW TEXTILE MACHINERY.

## APPARATUS FOR BOILING AND DYEING SILKS, ETC.

Lewis Leigh, Pittsfield, Mass.—This consists in the combination of the series of fingers, their connecting rods, and an operating mechanism, with the two vats for moving the rods that support the material being boiled or dyed, and in the combination, with the end of the outer vat, of a box, connected with the space between the two vats by an opening. The box receives the wash from the ebullition of the liquid in the first vat, and, being higher than the said vat, allows the liquid to flow back into the same, thus avoiding any risk from boiling a liquid in an airtight space.

## IMPROVED SPINNING AND DOUBLING MACHINERY.

John L. Taylor and Robert Ramsden, Bolton, England.—This invention relates to the machines known as throstle spinning and double frames, and consists in imparting a positive motion to the bobbin on which the yarn or thread is wound, and a variable motion to the inverted fier, which is fixed to a bush, bearing upon a flannel or other washer placed on the lifting rail. The advantages claimed for the improvements are: First, no oil is required for the spindle to lubricate the bobbin after doffing, as heretofore; secondly, no snarling of the yarn on the top of the spindle can take place; thirdly, no friction of thread against the fier leg; fourthly, no removal of fiers when doffing; fifthly, a great saving of waste is effected, and of time in doffing, and the bobbins can be doffed while the frame is going; and, lastly, as the bobbins bear upon metal plates, they are not liable to be saturated with oil, and consequently no oil can penetrate to the yarn on the bobbin, as heretofore.