

## RECENTLY PATENTED INVENTIONS.

## Apparatus for Special Purposes.

**METALLURGICAL CRANE.**—D. W. BLAIR, Perth Amboy, N. J. The crane is used for handling the anodes and cathodes of a metallurgical bath, more particularly of the kind used in copper works. Skeleton frames supporting depending hooks are rockably mounted on the main frame. The frames can be shifted endwise and a single series of hooks will answer for both the anodes and cathodes.

**CARBURETER.**—C. L. CHAMPION, St. Louis, Mo. The carbureter is arranged to furnish a supply of gas of uniform richness and in the exact quantities required for immediate consumption. The lower portion of the generator casing is filled with loose material, such as sponge, cotton, ground coke, etc., and on top of this material stands the hydrocarbon liquid at a predetermined level. A pump is connected with the carbureter and pumps air through the material. By regulating the quantity of air supplied, gas of different degrees of richness may be produced.

## Hardware.

**SNAP-HOOK.**—G. W. H. SHREFFLER, Lockhaven, Pa. In this snap-hook the inventor avoids the usual button serving as a means for pushing the pin back against the spring. A shield is located outside of the casing in which the pin slides, connection between the shield and the pin being such that pressure applied to the former will be communicated to the latter. This arrangement not only overcomes the disadvantages of the button design, but also prevents water entering and freezing in the casing, thus clogging the pin.

**PENCIL-SHARPENER.**—E. BURKE, Lakeview, Ore. In this invention a novel attachment is provided for pocket knives which greatly facilitates their use in sharpening lead pencils and also enables the safe employment of the knife as an ink eraser, if desired.

**TUBE-CLAMP.**—W. DE FREITAS, New York, N. Y. By this invention Mr. Freitas supplies us with a clamp of simple and inexpensive construction that may be quickly applied to make a gas-tight joint between a rubber tube and a gas-cock or nipple and prevent accidental detachment of one from the other.

**WASHER-FASTENER.**—J. W. SHAW, Berryessa, Cal. This fastening device will firmly hold the washer in a hose-coupler or the like and not interfere with the passing of water through the same. A wire spring is seated along the inner periphery of the washer and terminates in points which project through the side walls of the washer and engage the thread on the coupling.

**NUT-LOCK.**—R. S. BOYKIN, Moselle, Miss. The nut-lock comprises a collar having a square opening which fits on the squared end of the portion of the bolt projecting beyond the nut. Fingers on the collar fit into holes in the nut and a spring latch holds the collar in place.

**ROD-HANGER FOR WINDOW-SHADES.**—C. H. BACON, Danielson, Conn. The rod hanger is arranged to form a permanent part of the shade and is easily placed and secured on the window frame to support and hold the shade in proper position. The hanger also serves as a binder or clamp to hold the shade cloth wound up on the roller when the window-shade is in stock at a dealer's store.

**EYELET.**—F. J. LELAND, Knoxville, Tenn. This invention relates to devices for lacing the ends of belts and provides an eyelet which is easily applied and arranged to preserve the belt from wear and damage. It comprises two members, each having an oblong hollow shank and a head, the latter having serrations along its edges which are adapted to sink into the belt. One of the shanks is provided with a plurality of shoulders on each side and the other with a tongue on each side adapted to spring into engagement with these shoulders.

## Mechanical Devices.

**FUR AND GLOVE SEWING MACHINES.**—M. HANFIELD, London, England. The invention has for its object to simplify the construction and increase the durability of the machine; to render the machine more noiseless in operation, and enable it to be run at a higher speed than other machines of the kind now in use. Mechanism is provided for imparting to the looper the various movements necessary for the formation of the stitch, namely, longitudinal reciprocating movement, vibrating movement in the longitudinal plane of the looper stem, and rocking movement about its longitudinal axis.

**ORE-SEPARATOR.**—J. M. McCLAVE, F. H. KIRBY, and E. R. CUMBE, Denver, Colo. An electro-magnetic apparatus is employed for separating from sand or pulverized ores metals of weak magnetic action, and a dry process is used for the separation of ores of equal specific gravity, resulting in the saving of fine dust generally lost by the present methods.

**CURVED-HAT-STAY-FLANGING MACHINE.**—A. E. NIELSEN and F. BENTSEN, Brooklyn, N. Y. The hat-stay-flanging machine is more especially designed for flanging the undulating edges of tubular articles, such as paper supports or stays for nesting hats. The machine is very simple and durable in construction, and can be readily manipulated without the use of skilled labor.

**CONVERTING MOTION.**—C. H. FRALEY and G. F. MILLER, Alma, Neb. Messrs. Fraley and Miller have invented means whereby reciprocating motion can be converted into rotary motion. A reciprocating rod is connected with a lever and causes the latter to oscillate on its axis. Pawls on this lever engage a ratchet wheel which is thereby caused to rotate.

**AUTOMATIC TROLLEY-CATCHER.**—T. B. SHANAHAN, Gloversville, N. Y. The device is so constructed that the moment the trolley jumps the feed or line wire, it will automatically act to draw the pole downward and hold it in such position until sufficient slack is provided in the rope to permit the wheel of the pole to again connect with the feed wire. It is also so constructed that when the trolley pole rope is drawn therefrom the springs connecting with a drum in the device on which the rope is wound, will be turned in a winding direction.

## Medical Apparatus.

**HYPODERMIC SYRINGE.**—JOHN N. FAIN and SIGMA L. HATFIELD, Wagoner, Ind. Ty. The syringe is so constructed as to be conveniently carried in the pocket; and is provided with chambers in which hypodermic needles and tablets used for forming different hypodermic injection mixtures are carried. It comprises a central cylinder in which a piston slides and two smaller cylinders or chambers oppositely disposed on the central cylinder. Means are provided for closing the central cylinder and locking the piston rod down in place.

## Process Patents.

**PROCESS OF MAKING DOLOMITIC SANDSTONE.**—H. E. BROWN, Coldwater, Mich. The object of this invention is to produce compact, artificial stone. The sandstone is produced by the union of oxides of calcium and magnesium with various compounds of silica, forming a fine and compact structure, so that it can be used for all ordinary purposes of construction, as well as the finer decorative purposes and has great tensile and crushing strength, resisting also the disintegrating actions of the weather, as well as those of water.

**PROCESS OF TREATING COPPER-NICKEL-SULFID ORES.**—D. P. SHULER, Sudbury, Canada. The process relates to the treatment of ores containing, besides iron and nickel, non-magnetic elements, such as copper, in combination with sulphur. The main product of this process is pig iron containing a percentage of nickel, which makes it suitable for use in the manufacture of nickel-steel. Secondary products are an iron-nickel-copper matte and sulphur dioxide gas.

**PROCESS OF PURIFYING ZINC-BEARING ORES.**—C. R. P. STEINAU, Cleveland, Ohio. The process provides a commercially applicable method of purifying zinc-bearing solutions in such a manner as to remove any nickel or cobalt compounds that they may contain, so that lithopone made from such purified solutions will have a white color of a purity or perfection not hitherto attained.

## Railway Contrivances.

**NUT-LOCK.**—M. McDONALD, of Pictou, Can. The device is particularly adapted for use in fish-plates, bolts and nuts. It comprises a plate having openings which receive and conform to the shape of the nuts. This plate also has perforations near the ends which are engaged by locking-clips held to the fish-plates by the nuts.

**OPERATING RAILWAY SWITCHES.**—A. YOUNGBLOOD, North Augusta, S. C. The switch is designed to operate automatically while the engine is in motion. A projection on the rolling stock may be depressed to engage a switch frame in the center of the track, thereby throwing the switch. The inventor informs us that the switch has been given a practical test on the Georgia railroad, and operated perfectly at a speed of from 20 to 25 miles per hour.

**CAR-COUPLING.**—W. H. CORDILL, Brule P. O., Brule Co., So. Dakota. The object of the invention is to provide a device whereby a train of cars may be uncoupled at any desired point by turning the line of rods from either end of the train. The coupling-heads are placed inside a cylindrical draw-head provided with arms extending outwardly and forwardly, each draw-head being automatically locked to the cylinder of an opposing draw-head. When the rods connecting the couplings are turned, the coupling-heads are unlocked, thus disconnecting the car. By the turning of the rods the coupling-heads of a train are, one after another, brought under the control of the operator until the coupling is reached which is to be disconnected. Thereupon a single turn of the rod in the opposite direction unlocks this coupling and all the coupling-heads on the rod will be simultaneously returned to their initial positions.

## Tools.

**LINOLEUM-CUTTER.**—F. L. TRIPP, Ellensburg, Washington. Linoleum may be accurately and smoothly cut by this cutter. The material is clamped securely between two blocks and the cutter slides along the upper block, having a guide at one side and a V-shaped knife along the other side which cuts the linoleum.

**CHEESE-BOX TRIMMER.**—H. W. QUADE, Watertown, Wis. This improved cheese-box

trimmer is readily applied and manipulated, and easily adjustable for boxes of different diameters. It is arranged to quickly and accurately reduce the height of the side of the box to the level of the cheese therein or a little lower to allow for shrinkage of the cheese.

## Vehicles and Their Accessories.

**CORNER-IRON FOR VEHICLE-BODIES.**—G. W. VINSON, Hazlewood, Ky. With this special corner-iron one bolt at each corner forms the sole means for fastening adjoining ends of the framing of the body, and is the only fastening connecting the framing with the corner-irons, save one or more screws passed horizontally through a downward extension of one side of the iron and the lower end of the extension bent horizontally to pass under the side boards of the body to support them and obviate strain on the devices connecting the sides with corner irons.

**SINGLETREE-HOOK.**—T. S. YOUNG, Fossil, Ore. The hook is constructed to include a safety keeper extending over the hook proper. It is made from a single length of metal bent between its ends to form the loop or ring to fit upon the end of the whiffletree and at its ends to provide the hook for engagement by the trace chain and the safety keeper overlying the hook.

**BUCKLE FOR TUG-STRAPS.**—W. H. ROSE, Bemidji, Minn. The buckle affords a reliable attachment for the end of a trace or tug strap upon hames of a harness and is convenient in adjustment to connect or release the strap. It avoids bending the trace at the point of connection, thereby reducing injurious wear to which such straps are ordinarily subjected.

## Miscellaneous Inventions.

**MATRESS OR CUSHION AND HEATING ATTACHMENT THEREFOR.**—A. G. SCHMIED, Marysville, Kans. The mattress or cushion is made of top and bottom portions which are connected at one side, one portion being provided interiorly with projections or ribs and spaces intervening them for accommodating a heater. The heater consists of a series of tubes made of aluminium, or of rubber when the cushion is to be bent. The tubes are filled with hot water.

**BRUSH.**—J. M. CHAMBERS, Thomaston, Conn. The brush is so constructed that when not in use the bristles may be folded onto the head or casing and covered up, the whole being in compact form, so that the brush may be conveniently carried in a person's pocket or packed with baggage. The invention is applicable more particularly to toilet brushes, such as hair, tooth and clothes brushes.

**MEASURING INSTRUMENT.**—I. B. HAGAN, North Lamoine, Me. The instrument is useful in describing and measuring angles and any of their branches. It comprises a graduated base rule, at one end of which is hinged a graduated angle rule, the angles being measured on a protractor plate. On the base rule is mounted a slide carrying a perpendicular rule also graduated. A spirit level is secured to one end of the base rule.

**CUFF-HOLDER.**—PAUL CUMMING, Key West, Fla. This invention provides a cuff-holder, easy to apply and remove, and one which may be manufactured at a low cost. The cuff lock in use is detachably secured to a shirt cuff and forms a novel detail of the invention. The swivel connection between cuff lock and the clasping arms permits an easy rotatable adjustment of the cuff on the wrist band of the shirt sleeve, as may be desired to properly dispose its lapped edges at the side of the hand of the wearer.

**VACUUM-PAN.**—G. L. RIBAUD, Grand Saline, Texas. The vacuum pan is provided with improved heating sections and an improved form of discharge chamber. The pan tapers at the bottom to an orifice, which is flanged for securing thereto a brass lined sleeve. Fitted within the sleeve and extending through the orifice is the neck of the discharge chamber. This neck is closed at the top, but is provided with apertures in its sides. When it is desired to remove the collected substance, the discharge chamber is filled with a supply of brine and then raised by any suitable means. The apertures in the neck are thereby brought into communication with the bottom chamber of the pan, effecting a transfer of the liquor to the pan and the collected salt to the discharge chamber.

**BRUSH.**—F. H. TUCKER, Invercargill, New Zealand. The brush consists of a compressible vessel of a suitable size and shape for holding water for the purpose of wetting the surfaces of paper. When filled with water and tightly corked, it is only necessary to slightly squeeze the compressible vessel, forcing the water to ooze out onto or through a felt brush which is applied to the paper.

**BELT-GUIDE.**—C. MCKEEN, W. BAYES, and W. HEYER, Winside, Neb. The guide not only prevents the belts from being misplaced by sudden gusts of wind, either vertical or horizontal, but also from undue wear of the edges, preventing turning and stretching.

**FOLDING CRATE.**—A. J. NOLTY, Memphis, Tenn. The folding crate has novel features of construction that adapt it for quick erection into a commodious receptacle for poultry, live game, fruits, and other products usually transferred to market in such inclosures. The

Improved crate is furthermore adapted for speedy collapse and close-folded adjustment of the parts that are all connected together.

**PROPORTIONATE SCALE.**—G. R. BROWN, Pledger, Texas. The scale is particularly designed for determining the relative proportions or percentage of lint contained in seed cotton. A disk is mounted to rotate on one of the fulcrum points of the beam. Blocks mounted to slide on the beam at opposite sides of the fulcrum are connected by links to the disk. A pan is supported on one of the blocks which slides along a graduated portion of the beam. A loop adjusted and fixed to the beam supports a second pan.

**NON-REFILLABLE BOTTLE.**—J. W. McCracken, Logtown, Miss. Novel details of construction are provided which may be easily placed in the neck of the bottle and are adapted to afford a closure therefor that permits the liquid contents to be freely decanted, but prevents the bottle from being filled in the usual manner.

**CHAIR.**—A. M. SMITZ, Depere, Wis. The chair is provided with a convenient adjustable and detachable device for supporting a book or the like in front of a person sitting in the chair and provides further a cover for a receptacle on the chair that may be used as a writing desk. This makes the chair very useful for students or invalids.

**VENTILATOR.**—I. C. RAMIREZ, Puebla, Mexico. The ventilator involves a vertically extending tube or conduit with absorbent material therein, in which tube is induced a current of air passing from the atmosphere into the apartment. This current is not only fresh, but is also cooled by the evaporation that takes place in the tube.

**FRUIT-DRIER TRAY.**—J. H. COLLINS, Nashville, Tenn. The drier frames are so constructed that in case of rain during the day they can be easily and quickly racked up and placed under shelter. When taken into the house at night they require but very little space, and as there will be from three to four inches space between the frames when racked up the fruit will continue to dry in the house.

**NEEDLE-HOLDER.**—R. MILLER, Cortland, N. Y. The invention relates to a means for conveniently carrying sewing materials in a toilet article, such as a comb, a hair ornament, or a hat pin, so that the toilet article will serve as a casing therefor, and be adapted for use in the usual way, but permit a ready removal of the sewing implements and material as occasion may require.

**FISHING-GEAR.**—A. W. WILSON, San Francisco, Cal. By practical observation, Mr. Wilson has noticed that minnows and other small fish when being chased by larger fish, swim erratically and "skitter" or swerve from side to side. This is probably due to excitement or exhaustion, and a trolling-spoon or artificial bait should be made to imitate these movements. Such fishing-gear is provided in this invention.

**SPOOL-HOLDER.**—J. H. HILTON, New York, N. Y. This portable spool-holder supports a number of spools in a simple and compact manner and may be hung upon a wall or placed on a table, sewing-machine or the like, without danger of any of the spools dropping out. It is also arranged to permit convenient access to the thread on any of the spools, and in case a spool is empty it can be readily removed and replaced by a full one.

**FAUCET.**—J. C. POETZ, Spokane, Wash. The faucet may be readily opened to permit the flow of water, and will close automatically by the supply-pressure. The main valve, which is directly exposed to the supply-pressure, has a piston normally free from this pressure and of greater area than the valve. Means are provided for admitting the supply-pressure to act upon this piston in opposition to the action of the supply-pressure directly upon the main valve, thus opening the valve. Pressure upon the main valve will close it when the supply-pressure of the piston is cut off.

**SUSPENDERS.**—I. WECHSLER, Brooklyn, N. Y. The device is so constructed as to be readily changed for use as ordinary suspenders, or as a waist belt. Metal clips at the front ends of the straps are so formed that they may engage one another to form a belt buckle or engage independently with the suspender ends.

**HORSE-TAIL HOLDER.**—H. E. GAVITT, Topeka, Kans. Mr. Gavitt has invented a horse-tail holder which can be easily applied and will efficiently serve its primary purpose of holding the tail in such manner as to prevent the appearance of being docked, and will also hold the tail done-up, as is desired when the horse is being used in mud. When in position the device is concealed from view. It consists essentially of a main strap secured by a loop to the crupper. On the main strap are a number of transverse straps employed in securing that portion of the tail which has been folded back just below the tail bone.

**AMUSEMENT APPARATUS.**—H. F. SCHRADER, Brooklyn, N. Y. This invention relates to an amusement device simulating an old Dutch windmill and its surroundings, these including a canal, or mill-race, through which boats are drawn by any desired power.

**NOTE.**—Copies of any of these patents will be furnished by Munn & Co. for ten cents each. Please state the name of the patentee, title of the invention, and date of this paper.