

RECENTLY PATENTED INVENTIONS.

Agricultural Implements.

PLOW.—T. H. HARRIS, Fredricksburg, Va. This is an implement by which the land-furrow may be turned in either direction, by which the depth of the furrow may be regulated as well as the width and in which the disk can be lifted for passing over stones and other obstructions and in moving from place to place, and in the use of which the driver can adjust the plow from the driver's seat and begin work as soon as the team is in position. The axle may be long enough to support two or more disks.

HARROW ATTACHMENT FOR PLOWS.—J. C. FOOSHE, Ninety-six, S. C. The purpose in this invention is to provide connected spiked-wheels, a support upon which the wheels are mounted to turn, and means for adjustably connecting the support to the plow, whereby the support may be placed and held at any angle to the beam, whereby as the plow advances the spikes strike the ground obliquely to the rows of plants, causing the spiked teeth when operating across a row of young plants to thin them out, and supplying room for the growth of the remaining plants. At the same time young weeds are removed, the ground pulverized to the roots of the plants, and the ground turned up by the plowshare.

CANE-LOADER.—L. B. LOTZ, Plaquemine, La. In loading sugar-cane the cut cane having been thrown four rows in one, thus leaving two clear rows for the loader to move in, the device is drawn along the row of cane. The open grab-hook being lowered over the cane and so placed as to grab an armful is operated by means of a hoisting-rope to raise the cane, when by means of a handle the operator turns the bundle held by the hook to a point over a wagon, when the hooks are tripped to deliver the cane.

BUTTER FOR HARVESTERS.—J. J. WISEMAN, Wunghnu, Victoria, Australia. This apparatus is constructed in two sections—a feed section and a butt-aligning section. Means are provided for adjusting the butter in such manner that the aligning-section no matter in what position the butter is placed will be parallel with the packers and will produce a straight butt for the sheaf whether the grain be long or short. The contrivance materially assists in keeping the binding-table clear, thus preventing the grain choking between the rollers and packers of the harvester.

PLANT-SUPPORT.—E. C. SHERMAN, Lawrence, N. Y. The inventor's object is to provide a plant-support, easily applied, and arranged to securely hold the stems or other parts of the plant in proper and secure position on the stake, wire, or other similar fixed support without danger of injury to the plant or interfering with its natural growth.

RAKE ATTACHMENT FOR REAPERS OR MOWERS.—G. HAUNSTEIN, Olds, Iowa. As a substitute for a reel upon a reaper or mower, the inventor provides a rake whereby the grain will be drawn to the cutter-bar and over the platform at the rear thereof no matter whether the grain is upright or inclined more or less in direction of the ground. The rake is supported so that it will have a rotary reciprocating motion over the grain-receiving platform and over and in advance of the cutter-bar. The rake is so supported and located that it may be driven by the same gearing usually employed to impart motion to the reel.

DRAFT AND STEERING DEVICE.—H. J. EFLER and G. A. NAUMAN, Oxnard, Cal. The design in this case is to provide a draft and steering mechanism so connected to a plow that the plow-beam is relieved of all strain except a light lateral strain, thus making it more durable, and, further, to so arrange the mechanism that the steering may be accomplished with very little manual exertion.

Dental Apparatus.

PNEUMATIC APPARATUS FOR DENTISTS OR PHYSICIANS.—P. H. STEHLEY and J. H. HULLINGS, Parsons, W. Va. The improvement designed by these inventors consists in a novel construction and arrangement of pneumatic reservoir for air in combination with a receptacle for medicaments and various pipe connections, tubes and nozzles, whereby the apparatus is made available for the uses named in a simple and convenient way. It is applicable for use by chemists, embalmers, and others.

ATTACHMENT FOR DENTAL ENGINES.—J. C. HOLSON, Ord, Neb. In the present case the improvement resides in an attachment engageable with the barrel of an ordinary dental engine and comprising a nozzle connected with the water source and certain means for manually controlling the movement of the water from the nozzle, so that the dentist may turn the water on or off at will by an easy operation of the same hand which holds the tool.

Engineering Improvements.

GAS-ENGINE REVERSING-GEAR.—M. H. NEFF, Watertown, N. Y. The igniter in this reversing-gear on being actuated by an eccentric on the engine-shaft, is moved so that its position on the shaft is changed, thus changing the moment of action of the igniter so as to "catch the engine on the turn," and thus reverse its movement.

PUMP.—A. DELLANNA, Salt Lake City, Utah. Mr. Dellanna's invention relates to a pump, the general characteristic of which

is one or more cylinders moving on relatively stationary pistons and adapted to be submerged in a body of water to force a column through a discharge pipe.

VALVE.—R. A. QUIN, Shamokin, Pa. This valve is of that class that requires to be acid-proof internally; and the inventor's object is to provide a new and improved device which is simple and durable in construction and completely acid-proof to permit its use for the passage of mine or acid waters, to insure long life of the valve, and at the same time prevent leaking.

PUMPING SYSTEM.—J. G. STEINER, Bluffton, Ohio. In this case the improvement pertains to a system or apparatus for operating pumps and other machinery by fluid-pressure, the aim being to transmit power from a central station to a plurality of pumps situated at different points, this power being transmitted by the fluid-pressure referred to.

HYDRAULIC RAM.—H. CULPAN, Aims, Ore. The object of the invention is the provision of a new and improved ram which is simple and durable in construction, very effective in operation, and arranged to produce a greater ratio between the head of power-water and the head against which water is discharged.

Hardware and Tools.

WIRE-FENCE-BUILDING IMPLEMENT.—E. F. HALL, Hayes, Texas. The object of the inventor is to provide a novel implement adapted to take up slack in an unbroken fence-wire, draw together ends of a broken fence-wire, so as to permit the ends to be spliced together, cut off surplus wire, and pull staples from the fence-posts.

DOOR-LOCK.—C. ASHMUSEN, Kings Park, N. Y. The door-lock in this case can be readily changed from a spring-lock to a dead-lock, and vice versa, is not liable to be opened by unauthorized persons or unscrewed to give access to the mechanism, and is arranged with the lock mechanism contained in the door-knob and adapted to be unlocked either from the outside by a key in the outer door-knob or from the inside by a push-button on the inner door-knob.

SHEEP-SHEARS.—H. BURTON, 136 Oakbrook road, Sheffield, England. This sheep-shears improvement relates to hand-operated shears whereof the blades are connected by shanks or handles to a spring-bow; and the object of the invention is to obtain the desired advantages of interchangeability of the blades and avoid all torsional weakness of the connections consequent on the detachability of the blades.

PICK.—J. L. GRIFFIN, Wellsville, Ohio. The construction of this pick is such that the helve may be securely fastened therein without being weakened, and it may be readily removed and replaced by a new one. This is done by recessing the pick at its middle portion and providing a clamping-plate adapted to be fastened over the recess, the recess being of dovetail form, so that when the helve of corresponding shape is fastened therein the parts cannot become separated while the pick is in use.

BORING-TOOL.—C. K. SHEETS and W. L. HILL, Montgomery City, Mo. The advantage of this tool over similar ones is that a bungle-hole may be bored in a barrel without liability of shavings getting therein. The cutting-lip on one blade is a little longer than that on the other blade. When the tool is in use the lip on the blade will be the first to cut through the barrel, forming a loose plug and arresting further boring action of the shaving edges. An outer annular ledge is left on the plug, and when the plug is lifted the advantage mentioned above is obtained.

Heating and Lighting Apparatus.

CARBURETER.—D. J. ESSER, Mauch Chunk, Pa. The end attained in this invention, is the provision of a new carbureter not liable to get out of order, perfectly safe, and arranged to effectively purify and enrich the gas to insure burning thereof with great economy and with a bright and clear light.

HEATER ATTACHMENT.—G. LUND, Victoria, Canada. In this gas-stove the object is to provide a new and improved heater attachment for gas heating and cooking stoves arranged to carry all obnoxious gases out of a room, and at the same time utilize the heat to the fullest advantage for heating water and air in the room.

SMELTING-FURNACE.—E. CAMPBELL, Rossland, Canada. In Mr. Campbell's apparatus the improvement relates particularly to the water-jacketing construction of the furnace and to the novel construction of the receiver, including the tapping-jacket and slag-spout. The inventor aims to construct the furnace of wrought-iron, replacing all cast-iron water-jackets, rings, etc., with flanged wrought-iron jackets and to avoid seams and rivets where molten metal comes in direct contact therewith.

CUPOLA.—T. HOLLAND, New York, N. Y. This invention relates to improvements in furnace-cupolas for melting metals, the particular object of the inventor being to provide a simple means for introducing hot-air blasts into the cupola to quickly raise and maintain a uniform temperature of very high degree.

WATER-HEATER.—T. E. LEACH, Brooklyn, N. Y. The purpose of this invention is to provide a device for heating water in bath-tubs, and other receptacles through the medium of gas, gasoline, or other vapors and to so construct the device that it will be quickly and

conveniently applied and held in position, and adjusted to any depth of receptacle. Another purpose is to so locate the water-circulating tubes that the heat will be circulated around and in engagement with them for a maximum period before escaping.

Mechanical Devices.

DEVICE FOR GRINDING BROKEN PAPER.—R. DIETRICH, Merseburg, Prussia, Germany. Suitable for the perfect combination and grinding of so-called "broken" paper, cellulose, ground wood, and similar material for the manufacture of paper, this kneading and mixing machine is superior to the devices of this kind as heretofore employed, by the chips of the paper being caught and pulled into the device with reliability, so that an abundance of good and uniform pulp can be obtained in a short time ready to go on the paper-machine.

COTTON-CLEANER.—E. B. HAM, Jennings, Oklahoma Ter. The contrivance invented by Mr. Ham relates to an improvement in cotton-cleaners and consists of novel construction and combination of parts of which the object in view is the production of a cheap, simple, durable and efficient cleaner that may be used either in connection with an unloader or with the gin-house suction.

OVERFLOW-ALARM.—G. H. ROWLAND, New York, N. Y. The invention in this case refers to overflow alarms, the same being adapted for use in refrigerator-pans to automatically indicate the accumulation of water therein up to a certain level and to notify a housekeeper that the pan requires attention, thus preventing the overflow of water and damage to carpets, etc. It may be used in any kind of a receptacle to indicate the rise of liquid to a predetermined level.

GLASS-MOLDING MACHINE.—S. KRIBS, New York, N. Y. A leading feature of this machine is the construction which enables a double insulator to be formed, that is, an insulator carrying two wires so formed that a reentrant cavity lies between the two wires, to prevent short circuiting the wires from sleet or rain. Another feature lies in handling a core used to mold threads on the interior of the insulator, in such a manner as to prevent stripping the threads. Another feature lies in the arrangement of a plurality of molds and an equal number of plungers so that they all work successively, giving time to cool the parts.

METAL-SHEARS.—T. F. LIPPENGOOD, Libertyville, Iowa. The object in view in this invention is to provide a simple and convenient metal-shears adapted to be used either by hand or by power and which may be easily changed from right to left hand cutting, and which by having two cutting edges for the movable blade shall be capable of running for a long time without regrinding.

GRAIN-ELEVATOR.—C. R. BENEDICT, Lidgerwood, N. D. The class of grain-elevators to which the improvement in this invention has reference is that having an endless chain of buckets, the object being to provide a simple means for automatically cutting off the supply of grain after a certain amount shall have passed into the elevator, and thus prevent choking of the buckets while running at full speed.

COTTON-GIN.—J. BRANDON, New York, N. Y. The inventor claims as his object in this improvement a new and perfected cotton-gin for readily ginning cotton, the mechanism assuring a uniform pull or tension upon the cotton fibers throughout their entire length, thus preventing kinking, and thus entirely diminishing the possibility of injuring the staple by adhesion.

SAW-SETTING MACHINE.—B. F. BRILEY, Bluff City, Kan. The intention in this case is to provide a saw-setting machine, very effective in operation, and arranged to periodically feed a saw-blade forward the distance between three teeth to bring a tooth in position for a setting hammer to strike the tooth and accurately set it to any degree, according to the fineness or coarseness of the saw.

DREDGER.—F. W. THUNEN and L. L. CHESHIRE, Oroville, Cal. This type of dredger is useful for mining operations. The inventors have particularly in view the provision of cutting or digging mechanism for the dredger, which shall be so constructed that stones and the like will be prevented from entering the space between the teeth or body of the digger and the side of the support upon which the diggers are mounted, thus obviating the possibility of breaking or damaging the cutting-teeth of the diggers. Means are provided for removing worn-out teeth and substituting new ones.

CASH-REGISTER.—JOHANN C. VAHJEN, New York, N. Y. This machine can be quickly operated and a check and duplicate check be obtained. The check proper is automatically delivered from the device while the duplicate check will remain locked in the machine to be examined whenever opened. Amounts indicated can be read at the front and at the back of the machine; and means are provided to detect any omission to ring up a sale and to identify the salesman; also means to produce display matter on the check delivered, which check is evidence of a sale recorded and as a protection against an overcharge.

STONE-BREAKER.—E. DEANE, New York, N. Y. The improvements in this case reside especially in the means for imparting movement to a movable jaw; and they consist in

a crank-shaft carrying a pitman which hang from the crank-shaft and is of rectangular form, the lower portion being in the form of a horizontal bar which coacts with a toggle, so that as the pitman is raised and lowered the toggle is actuated to impart the necessary movement to the movable jaw. A bearing block for the shaft on which the movable jaw is mounted enables the shaft to be adjusted toward and from the stationary jaw at will, thus to regulate the degree to which stone is to be crushed.

Medical Devices.

SYRINGE.—F. M. BAKER, Fond du Lac, Wis. The prime object of this invention is to so construct the syringe that the proper surgical cleanliness will be insured, thus avoiding all possibility of the presence of poisonous foreign matter. This device will be constructed and assembled in the laboratory and placed in a sterilized package, where it is kept until used. When taken from the package, the needle should be inserted under the skin, and the two friable portions of the receiver fractured, after which upon operating the bulb the liquid may be ejected without being exposed to the air or being brought into contact with operating fingers.

Musical Instruments.

STRINGED MUSICAL INSTRUMENTS.—H. STEENBOCK, New York, N. Y. Following on a former patent granted to this inventor relating to zithers and like instruments, the present invention has for its aim the provision of a stringed musical instrument arranged to allow hammers to strike the strings from underneath with any desired force and without danger of dislocating the strings and without causing the instrument to get easily out of tune.

MUSICAL INSTRUMENT.—J. CONNERY, Corning, N. Y. The arrangement of this simply and durably constructed instrument enables a player to sound the strings or other sounding devices in a very simple and effective manner on the performer actuating the corresponding keys of a keyboard. The driver-wheel may if desired be driven by mechanical or other means.

Railway Improvements.

SAND-GUARD FOR RAILROAD-TRACKS.—J. P. NEWELL, Portland, Ore. Stated broadly, this improvement consists in a novel guard fence or wall intended to be set at an angle with the prevailing winds and between the track and the approaching sand drifts, adapted to catch the wind and turn it downward with added force to divert the moving sand, which, with the diverted wind, will be carried along in a direction parallel with the guard front and deposited where further drifting can do no harm. The action is the same with drifting snow.

COMBINED TRACK-SWITCH AND BLOCK-SIGNAL.—H. HOLLIS, Wilmington, Del. This is an invention which pertains to track-switch mechanism together with block-signals to be used in connection therewith. It can be used in a great variety of relations, but is particularly applicable for service in street-car systems in cities in which a single track is used, when cars passing in opposite directions cause loss of time at points from which the track is visible for only a short distance.

RAILWAY CONSTRUCTION.—P. DUNWALD, Rio, N. Y. The aim of this invention, which refers to passenger transportation is to provide a new and improved railway construction which is simple and durable and more especially designed for conveniently and quickly transporting persons up and down streets in cities and other places.

Vehicles and Their Accessories.

DUMPING-WAGON.—V. BROWN, Watrous, New Mex. Mr. Brown is the inventor of an improved dumping wagon the body of which is adapted to be tilted to one side when dumping. When the body is thus tilted a simple means is automatically actuated to lift up the lower side-board of the body, permitting the contents to fall out.

SHIFTING-RAIL FASTENER FOR VEHICLE-TOPS.—F. H. DELKER, Henderson, Ky. Provision is made by this invention for the quick reliable connection of the shifting rail of a vehicle-top with the seat-irons or braces that are fixtures on the side and backboards of the vehicle-seat, and likewise the convenient and speedy removal of the vehicle-top from the seat, as occasion may require.

FIFTH-WHEEL.—J. BURNS, Brooklyn, N. Y. The design in this case is to construct a new and improved fifth wheel which will not only reduce the friction attending the movement of the parts, but will also provide a device which may be kept clean and which will avoid the unsightly appearance common to fifth-wheels of the usual construction.

AXLE.—E. A. JUDD, Olean, N. Y. The invention relates to thimble-skein axles used on farm and lumber wagons; and the object is to provide a new and improved axle which is simple and durable in construction, exceedingly strong, and arranged to resist the tendency to spring under a heavy load.

Another invention relating to thimble-skein axles such as described above has just been patented by Mr. Judd, and its purpose is to provide a new and improved axle which is cheap to manufacture, and arranged to obviate the use of special fastening devices for securing the reinforce bar in position in the axle-tree and thimble.

WHEEL-FASTENER AND AXLE-PROTECTOR.—G. Wood, Ballard, Wash. The purpose of this contrivance is to provide a construction whereby to quickly place and hold a wheel-hub upon an axle spindle without the use of a nut, the wheel being fastened from the rear instead of from the front, and to provide perfect protection for the end of the axle against sand, dust, etc. Means are supplied for bringing the front projection of the hub practically within the plane of the dish of a wheel.

Miscellaneous.

BAKER'S OVEN.—G. H. McCausland, Philadelphia, Pa. In this case the object in view is the provision of means by which the oven-door may be quickly opened to introduce or remove loaves or the like into or from the oven-chamber, the door being closed in a similar manner in order to confine the heat in the chamber, the whole operation being done with less time, labor, and loss of heat than by the common method, which requires the door to be operated by hand.

BARREL-HEAD FASTENER.—H. H. Kromberg, New York, N. Y. The purpose of this invention is to provide a device adapted to receive the chime or end sections of staves and in which the customary head may be readily laid and fastened, and, further, to so construct the device that any person of ordinary intelligence may place a head in position and remove it without injury to the contents of the barrel no matter how fragile. The device permits the heads to sustain great weight without sagging and adds materially to the barrel's strength.

BREWING.—H. A. Hobson, 54 Church road, Acton, London, England. Mr. Hobson previously invented a method of brewing in which a hopped wort was produced by first making an infusion of hops, then running it off, and after fixing the tannic acid extracted from the hops mashing malt in the hop decoction as the mashing liquor. In the present invention the especial object is to effect an economy in working such process by extracting to the utmost extent the useful properties retained by the materials treated and making them available in the production of the wort.

MILK HEATER OR COOLER.—A. Jensen, Topeka, Kan. This device provides means for heating, cooling, deodorizing, and aerating milk and other liquids. When milk is to be heated steam is introduced which sets up circulating currents and gradually heats the liquid flowing in a thin film over the outer surface of a conical wall. If to be cooled, a stream of cold water is introduced from the bottom of the conical pan and absorbs the heat of the milk.

CHECK-HOOK.—J. H. Allison, New Vienna, Ohio. This check-hook is so constructed that when a rein is held in by the hook it cannot be displaced, but the rein may be readily dropped forward after being separated from the hook a sufficient distance to allow the animal freedom to drink and move his head to and from his sides, and then by one movement of the hand the check-rein may be again carried to checking position on the hook.

COOLER.—C. F. Conover, New York, N. Y. This cooler is designed for cooling distilled aerated mineral waters and liquids usually contained in a large receptacle adapted to be supported on the cooler and tilted to allow emptying of all its contents and to permit quick connection between the receptacle and the cooler proper to insure a flow from the receptacle through the cooler whenever a discharge-faucet is opened.

SKIRT-HOLDER.—S. D. Engle, Hazleton, Pa. Mr. Engle has in view the provision of a simple article for holding women's skirts from dragging, thus relieving the user of the labor of holding up the skirt by hand. It may be used with any kind of a skirt made of thick or thin fabrics and it is operated by frictional engagement of its parts with the dress fabrics, so as to overcome any liability of injury thereto.

HYGROMETER.—J. H. Gerrer, Elreno, Oklahoma Ter. This device is of that character which employs signal-flags and a dial and indicator-hand in connection with a twisted strip or string having one end free and the other fixed against movement. The strip or string must be formed of material that will expand or contract to atmospheric conditions, thereby twisting or untwisting its free end, to which end the flag-support and the indicator-hand is secured.

AWNING.—H. C. Marcus, Bohemia, Ore. Comprised in this awning for tunnels is a collapsible frame formed of spring material, so that it may be arched upward and one side edge engaged with the side of a tunnel and the other side engaged either with the opposite side of the tunnel or with an extensible supporting-bar, the awning forming an effective covering for workmen and shedding water to the very sides of the tunnel.

MEANS FOR FIXING BOLTS, SCREWS, OR SIMILAR ARTICLES IN SOFT SUBSTANCES, SUCH AS WOOD.—J. V. E. Thiollier, 58 Rue de Lourmel, Paris, France. The system invented by Mr. Thiollier consists in placing between bolts and the sides of a hole in a piece of wood with which the bolt is to be engaged a metal protection consisting of a band or rod of metal wound into a coil. The chair bolt or screw is thus enveloped throughout its length, or almost so, by the coil. Under these conditions it is no longer the bolt or screw which is in contact with the wood, but the coil

of metal, whose hold on the wood is determined by the impulse to expand, which it receives from the inserted screw or bolt.

SHADE-HANGER.—W. Disney, Cincinnati, Ohio. The improvement in this patent relates to shade-hangers for windows, the inventor's object being more particularly to produce an adjustable hanger and to prevent the free ends thereof from wearing upon the woodwork of the window. In this shade the usual support is not needed, the pressure of a cord being all the support required.

BUCKSAW.—C. T. Redfield, Glenhaven, N. Y. Mr. Redfield in this device has made an improvement in buck-saws; and it consists in a novel construction and combination of parts whereby the saw-frame can be strongly braced so that it cannot rack on the joints, will always remain in perfect alignment, and will be rigid in use without any danger of breaking.

PHOTOGRAPHIC MOUNTING-ROLLER.—J. H. Hampp, New York, N. Y. One object in this case is the provision of means for imparting a traveling motion to a pressure-roller, so as to make it traverse the work on a bed of the apparatus, the mechanism being auto-reversible and arranged to clear the driving and idler pinions of the sprocket-gear-driving mechanism. Another is to provide means for raising the roller with relation to the bed in order that the work may be placed in position beneath the roller, certain of the roller-operating devices being arranged to permit of its adjustment by the lifting devices.

UNIVERSAL FRACTION RULE OR SCALE.—W. F. Leavell, Castlerock, Wash. This invention has for its object the provision of a device by means of which all the fractions of an inch not usually found on an ordinary rule may be readily obtained, while at the same time the ordinary linear scale-measure may be used on the same instrument.

DRAWING-FRAME.—L. J. Wrigley, Lawrence, Mass. The present improvement has reference to drawing-frames for drawing fiber in the several processes in textile-mills, the object being to provide means in lieu of the usual weights, springs, or levers for holding down rolls and also to furnish means for automatically releasing pressure should the sliver lap around the drawing-rolls or other obstruction occur in the fiber.

NUT-LOCK.—H. A. House, Aspen, Col. The improvement made by this inventor consists of certain novel features of construction which provide a simple, cheap, and efficient locking device for nuts, which will effectually prevent retrograde movement thereof and which will permit the nut to be readily applied or removed.

APPARATUS FOR HEATING FLUIDS OR FLUID MIXTURES.—F. S. Chapman, Kenton, Ohio. This apparatus comprehends a pair of electrodes incased in a non-electric conducting-body, with their opposing faces separated to form a passage-way for the fluid, and a metallic casing which serves as a solid exterior for holding the electrodes and their surrounding non-electric body intact during the handling of the complete device, and which also serves as a convenient means for joining with the faucet of ordinary house-service pipes.

MANUFACTURE OF TABLE KNIVES, FORKS, OR SIMILAR ARTICLES.—H. Joest, Hanover, Germany. The intention in this case is to connect a tang throughout its length, or nearly so, with a handle and at the same time anchor it in the handle, so as to protect both tang and handle against the entrance of liquid and render them immune to the effects of acid liquids or vapors. This is attained by casting around the tang of a knife or fork in a mold an alloy of aluminium and magnesium. This adheres closely to iron or steel, behaving toward the latter like a solder, so that the tang becomes a part of the handle.

INK-REDUCER AND PROCESS OF MAKING SAME.—F. Fisher, Brooklyn, N. Y. By means of this reducer printers' ink is softened and caused to properly adhere to paper, thus preventing the liquid from peeling off. The reducer also prevents the ink from being offset from the paper, that is, it prevents the application of excessive quantities. Owing to this, and to the ink treated with the reducer, drying very rapidly, fresh-printed sheets placed one upon the other will not adhere nor will a lower sheet transmit its impression to the back of an upper sheet.

TOY.—O. F. Hale, Pocahontas, Iowa. The invention in this case resides in a novel manner of sustaining a clown in an upright position, and in the peculiar arrangement of those parts in connection with a spring-board on which the clown stands and which is vibrated to produce the desired movements of the clown or other performer.

HOSE-COUPLING.—E. J. Pace, Salem, Ohio. The object of this invention is to provide a coupling for water, steam, or air conducting hose which has novel duplicate connecting sections, is very simple, easy to connect and detach, is reliable in service, and is light, durable, and of shapely design, and has no projections from its general surface.

COMBINED CANE AND CHAIR.—R. C. Dulin, McKeesport, Pa. This combined cane and chair consists of a simple, strong, and cheap article in which the parts fold compactly in order to facilitate transportation or handling, the seat being easily unfoldable for use to afford support for the person. The construction admits of the use of two seats in

connection with a single staff. The article is equipped with means for the attachment of an umbrella.

TOY BOAT.—A. M. Royse, Winchendon, Mass. In this toy the purpose is to so construct the metal hull of a keel boat that when the boat is not in water or when it is packed, the keel can be folded, thus facilitating packing and carriage, and to reach such a result in a simple, practical manner, and so that when the keel parts are in position for use, the keel will be as rigid as if made of one piece.

REVERSIBLE SMOKE-STACK.—S. T. Walton, New York, N. Y. The smoke-stack is so constructed, that it may be turned end for end, whereby to readily clean the stack, the stack remaining upon its pivots, and to provide means for securing the stack to its base, whichever end is uppermost, by means of a slip collar and guys. It is made to be readily reversible and conveniently secured in proper position.

MEANS FOR REPAIRING BOOTS AND SHOES.—G. W. Case and D. L. Swinton, Jr., Port Jervis, N. Y. The intention of the inventors is to provide an apparatus by which a new rubber sole may be expeditiously applied to the upper of a boot or shoe or a rubber patch may be vulcanized on a worn boot or shoe at the heel or sole thereof, the new sole applied by their apparatus having a surface, whereby repairs may be effected and the owner saved the expense of buying new articles. The inventors also provide a mold having a pattern-surface to give the corrugated face to the bottom of the new rubber sole.

BUILDING BLOCKS.—W. D. Kilbourn, Pueblo, Col. The object of this invention is to provide a series of blocks of various shapes by means of which a great variety of structural devices in miniature may be built up, thus not merely providing amusement as a toy, but serving to develop the mechanical ideas of a child or person.

CLUTCH.—M. McHale, Phoenix, and J. Trainner, Eholt, Canada. The invention in the present case has reference to new improvements in clutches, the object in view of the inventors being to provide a clutch of simple construction and adapted for use for various purposes—such, for instance, as a drill-chuck or for locking together two members of a tripod-leg.

GLOVE.—A. G. Hoegren, Chicago, Ill. This glove invention has for an object, among others, to provide an improvement in the cut of the inside portion of the palm and fingers of the glove whereby to secure a considerable width in the inner sections of the finger pieces of the glove.

HARNESS-LOOP.—J. H. R. Hauck and J. L. Warden, Pleasant Hill, Mo. In this case the invention relates to harness-loops formed of metal; and it consists of a peculiar loop of that character involving novel and improved securing means. The loop is adapted to be applied to any strap or portion of harness with less liability of severing the stitches than with any similar loop known to the inventors.

APPARATUS FOR CONTINUOUS FRACTIONAL DISTILLATION OF PETROLEUM.—W. D. Perkins, Oil City, Pa. Mr. Perkins, in this case, provides an apparatus by which the fractional distillation of petroleum or similar liquids is effected continuously and rapidly, so that several distinct products are obtained, the same differing in specific gravity and other qualities. The whole operation is practically effected automatically, it being only necessary to supply gas, water, and steam in a certain manner.

SUSPENDER-BELT.—L. Reiter, New York, N. Y. This contrivance is an improvement in those devices which serve as combined suspenders and belts, the devices being readily convertible from one of the articles to the other. The construction provides for neatness and effectiveness; this is particularly so in the case of the belt, since when adjusted as a belt the article does not appear to be anything more than such.

HAIR-CRIMPER.—Marguerite I. Connell, New York, N. Y. The purpose in this case is to provide a curler having a pliable body made of soft rubber—for example, in spiral form—and an elastic retaining device in the form of a tie or an equivalent device capable of extending practically from one end of the body to the other for the purpose of retaining the hair in position upon the body of the curler, the hair being wound on the body to impart a wave to the hair when the device is removed. This device for curling or waving the hair is used without heating and will not cause discomfort during repose.

FEEDER FOR FOUNTAIN PENS.—J. Weeks, Brooklyn, N. Y. Provided in this invention is a reliable feeder for pens adapted to any barrel and so constructed that it may be used in connection with any style of pen, the pen constituting a valve for the outlet of the feeder, normally concealing the outlet, but automatically opening it to supply ink the moment the pen is brought into action and enabling the pen to be carried point down without danger of leakage, and kept constantly moist with ink, in condition for instant use.

THIMBLE PUZZLE.—H. Schierhorst, New York, N. Y. In the operation of this puzzle a person removes a cover and holding the device by means of the base tilts the box from side to side, so as to roll the thimbles around

in any manner. The purpose is to lodge the thimbles upon bosses; but the operator may vary the game by trying to lodge one of the thimbles upon a particular boss, or to lodge both upon the bosses.

FOLDABLE PAPER BOX.—H. Lowy, New York, N. Y. The inventor's object in view in this improvement is to rapidly and economically produce a box-blank which is of such form that it can be bent or folded easily to complete the box and have its parts so arranged and interlocked that the use of paste or other mucilaginous material is obviated. The box-blank can be stamped or cut without waste of the paper-stock, and the box resulting from the bending of the blank is held together by the engagement and interlocking of its parts.

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