

RECENTLY PATENTED INVENTIONS.

Electrical Apparatus.

ELECTRIC MOTOR.—JOSEPH DARLING, Chicago, Penn. The motor is of that type in which the oscillation of an armature in front of the pole of the electromagnet is converted into rotary motion by means of a connecting-rod and crank-shaft arranged above and at right angles to the longitudinal axis of the electromagnet. The armature has a rocking axis directly at the pole of the magnet. To the other end of the armature an arm is rigidly attached, extending at right angles to a point near the opposite end of the electromagnet. A crank-shaft is arranged at right angles to the electromagnet. A pitman is disposed on the opposite side of the crank-shaft from the armature and connects the armature-arm with the crank shaft.

COMMUTATOR-BRUSH HOLDER.—HARRY BISHOP, Manhattan, New York city. To insure a firm contact of the conducting-block and the commutator and the seat of the block, and to permit a free sliding movement of the conducting-block without danger of the block's leaving its seat, the brush-holder is provided with a follower which serves to press the conductor to its seat. The follower consists of an angular lever, on opposite sides of the fulcrum of which are rollers arranged to engage one end and the outer face of the conductor to hold the latter against its seat and against the commutator, at the same time preventing movement of the conductor from its seat. Arcing is prevented and the life of the brush lengthened.

ELECTRIC FIRE-ALARM.—CHARLES L. HAIGHT, Poughkeepsie, N. Y. In this invention the fusion of metal at a low temperature releases the alarm. The circuit-closer employed comprises spaced contact-plates held in a casing and connected with the circuit-wires of an alarm. A contact-bar is mounted to slide in the casing, the outer end of the bar having a flanged offset. A spring moves the bar into engagement with the contact-plates. A binding-post is secured to the casing. A fusible connection between the two binding-posts normally holds the bar out of contact with the plates.

Engineering Improvements.

ROTARY-CYLINDER STEAM ENGINE.—GEORGE O. SANDERSON, Fertile, Iowa. The invention relates to that class of rotary engines in which the cylinders rotate about a stationary shaft, so as to act as a pulley for transmitting power. A tubular shaft is divided by a partition into admission and exhaust passages opening at opposite ends of the shaft. A steam-chest is fixedly held on the shaft near each end and has channels registering with the ports of the previously-mentioned passages. On the chests are spring-pressed slidable pistons. A cylinder, divided into compartments, is rotatably mounted on the shaft and has inclined abutments adapted to ride over the pistons. A diametrically-arranged cut-off is secured in each head of the cylinder.

Mechanical Devices.

SCRAPER.—GEORGE E. RICHARDSON, Chief, Mich. Mr. Richardson has improved a scraper which he has already patented, so that it can be raised and lowered at either the front or back by means of mechanism operated from the axle. The scraper, in the present invention, is evenly balanced so as to avoid lift on the neck of draft-animals; for the draft will be beneath the tongue. The scraper in no manner interferes with the driver in guiding the team. The drive shaft receives motion from the supporting-wheels of the frame. The drive-shaft is connected with lifting-shafts by a driving connection which serves alternately to operate the lifting-shafts. The scraper has its forward end portion controlled by one of the lifting-shafts, and its rear end portion by the second lifting-shaft. Both shafts act to raise or lower the scraper.

REFINING-ENGINE.—CHARLES E. TORRANCE, Northampton, Mass. The inventor has devised a refining-engine for paper-makers, which engine is arranged to prevent hard substances from coming in contact with and injuring the cutter bars or blades and to permit convenient adjustment of the revolving plug in the shell to compensate for wear of the bolts without, however, shutting or otherwise disturbing the driving-gear for the plug-shaft.

APPARATUS FOR CARDING-WOOL.—HUBERT L. OFFERMANN, Leipsic, Germany. To remove the burrs and other foreign substances from the wool, the well-known flicker-jp cylinder and beater operating against the points of the cylinder-teeth do not work sufficiently well, for the reason that only the burrs on the surface are removed. The equally well-known carding process is likewise defective; for the distance between the worker-cylinder and the carding-drum, while great enough to permit the passage of the burrs, is too great for the proper carding of the wool. In the present arrangement, notwithstanding this large distance between the drum and workers, the wool is not carded as heretofore from the drum into the worker-cylinders directly, but is removed from the drum and transferred to the workers by means of a special transferring-roller, in order to be then presented to the drum for treatment.

RAG-ENGINE.—EDWARD A. JONES, Pittsfield, Mass. Mr. Jones has invented a new and improved rag-engine in which a doctor is employed to prevent any of the pulp from being carried over by the heating-drum or from being lodged near the doctor under the cover to insure a free and easy running of the drum. The doctor is adjustably mounted to compensate for wear and removable to permit convenient exchange for a new one when worn out.

WHIM.—JOHN H. O'BRIEN, Nashby, S. D. The object of the invention is to provide a new and improved whim or miner's hoist which can be operated with safety and dispatch. In operation the bucket is raised high enough to permit a car to be run under the bucket. The tender then depresses a foot-lever, thereby disengaging the sweep from the drum and at the same time applying the brake band. By keeping command of the brake the bucket is lowered on to the car, and this done without letting the rope slack, the brake-lever is locked with the brake applied, and the bucket is cast off. With the rope maintained free from slack, the bucket can be swung clear of the car and will hang plumb without the necessity of starting the horse to take up slack, as is the case when the ordinary arrangement is employed.

Railway Appliances.

RAIL-JOINT.—JAMES S. PATTEN, Equitable Building, Baltimore, Md. The novel feature of this invention is to be found in a chair consisting of a clasp-section having a laterally opening seat for the edge of the rail-base. A base-plate is also used, provided near its free edge with an inclined surface adapted to operate by a wedging action upon the edge of the rail. A clamping-section has a base-plate adapted at its outer edge to engage with that of the base of the clasp-section and so formed that it presses upon the base of the rail and forces the rail into the seat of the clasp-section. The construction is both strong and cheap.

Miscellaneous Inventions.

EXTENSION-TABLE.—JOHN T. LA TURNO, Commerce, Mo. The object of the invention is to provide a table arranged to permit its extension by one or more auxiliary leaves which also serve to lock the table in place. The table is constructed with separable sections. Arms, pivoted at the central portion of the table, carry rigid auxiliary leaves. Levers are pivoted at one end on the arms and are designed to impart a swinging motion to the arms to move the auxiliary leaves into position on drawing the sections apart. When swung into position, the auxiliary leaves can be closely joined to the tops of the table sections. A locking-device locks the table-sections in position.

TOY MONEY-BOX.—WILLIAM H. DIETZ, Chicago, Ill. The invention provides an improved savings-bank for the use of children. The bank comprises a glass vessel having a threaded neck upon which a cover screws, having a coin-receiving slot. A pin is provided for insertion in registering apertures in the flange of the cover and neck. A lock engages registering eyes in the pin and the cover to lock the pin against removal from the apertures. The money is at all times visible, but cannot be removed until the cover is unlocked.

DRESSING-CHAIR.—CULLEN A. ROBERTSON, Sparta, Ga. The invention is an improvement in dressing or toilet-chairs, and provides a rest or support for various articles of clothing and embraces a large number of useful features in its construction. The chair includes a clock; a mirror; hangers for clothes; knobs for hats; a shelf for combs and brushes; a socket for a lamp in the shelf; slats for stockings; shoe-rests; a rest for shaving-articles; a shoe-blackening receptacle; and a trousers-press.

ROD OR RIVET CLUTCH.—HARRY ALAMAN, Terre Haute, Ind. This invention is a tool adapted for application to a rod for rotating it for any purpose or to a short screw-threaded rivet for the purpose of screwing it in place. The tool is particularly useful for inserting threaded rivets to secure boiler-plates together.

BOWLING-ALLEY.—HENRY BLOUTH, Grand Union Hotel, Wilmington, Del. Mr. Blouth has devised a means for conveniently resetting the pins which have been knocked down, for indicating to the bowlers the pins which have been knocked down, and for returning to the bowlers the balls which have not been thrown with sufficient force to travel entirely up the incline leading to the ball-returning trough.

CORNER-STAKE.—JOSEPH S. WEBSTER, Minneapolis, Minn. This corner-stake is designed for the use of surveyors and engineers and is adapted to be set in the ground and to contain a record of the surrounding ground and other information and is so arranged that it can be conveniently secured in place, or shifted from place to place.

PHOTOGRAPHIC-PLATE WASHING AND FIXING APPARATUS.—SAMUEL SALOMAN, Bronx, New York city. The apparatus is provided with liquid inlet and outlet pipes closed by caps. In fixing the plates the caps remain on the openings of the pipes. In washing the plates, the caps are removed, so that a continuous circulation of water can be maintained through the apparatus.

SURGICAL APPLIANCE.—THOMAS D. MCKOWN and HARRY E. CLARK, Cripple Creek, Colo. The appliance serves as a rest or support for a leg from the foot to the knee and is so constructed that it is adjustable and can remain without harmful effect upon the limb for any necessary period of time. The appliance so supports the limb that convenient access may be gained thereto at the sides, front, and back, enabling splints or bandages to be readily applied or the limb to be manipulated as required.

WINDOW-SASH.—SALVATOR J. BUZZINI and GIOVANNI FERRACIOLI, Manhattan, New York city. The invention relates to a window-sash of that class in which the sashes are adapted to swing open as well as to slide. The upper sash has a swinging sash-section; and the lower has two swinging sash-sections. A ledge is hingedly mounted on the upper sash and is designed to swing down over the top of the two swinging sash-sections of the lower sash. A fastening device holds the ledge in place.

CURTAIN FIXTURE.—FRANCIS B. JACOBUS, Jersey City, N. J. The curtain-fixture is so constructed that, when applied to the window frame and a curtain is suspended from the bracket, an obstructed space for the free circulation of air is obtained at the upper portion of the window between the curtain-roller and the window-frame. A person is thereby enabled to draw down the curtain and lower the top sash, thus allowing ample ventilation at the upper portion of the room without necessarily admitting much light. The curtain can be held close to the window-frame by means of a guide-roller.

SIZING-KETTLE.—WILLIAM WILSON, Danbury, Conn. The purpose of this invention is to provide a sizing-kettle with means by which the water therein can be kept clear and free from the impurities in the sizing-kettle. This purpose is attained by arranging a strainer in the kettle and forming the vessel into two compartments. The water is forced to circulate upward in one compartment and downward in the other. All the impure matter which floats in the sizing-kettle is thus caused to pass down into the strainer, so that only pure water emerges.

MILK-CAN.—JOHN GERMAN, Aubrey, Wis. Passing longitudinally through the milk-can from top to bottom is a tube which registers with an opening in the cover. A tube projects from the cover-opening and has sliding

engagement with the tube of the can. A portion of the cover-tube is perforated and forms a screen; while the other portion of the cover-tube is imperforate, so that according to the position of the cover, the interior of the can is ventilated or not.

FIREPROOF TAR-KETTLE.—ELIJAH CUBBIDGE, Brooklyn, New York city. The kettle is to be used for boiling the tar or asphalt employed in making roads. The object of the invention is to construct the kettle so that tar cannot take fire while boiling. To secure this end, a fireproof connection is provided between the top of the kettle-top and the wall of the furnace, so that flame cannot pass out from the top of the furnace.

VIZOR FOR CAPS.—MAX MATTES, Manhattan, New York city. The vizor consists of a piece of felt stiffened by a sizing and compressed. The sized and compressed felt is saturated with lamp-black and oil and has its top and bottom surfaces coated with layers of enamel. The edges of the felt are left raw. When the vizor is prepared, a jet-black raw edge is exposed which closely resembles the edge of leather.

CUFF-HOLDER.—EPHRAIM C. SHEDD, Wichita, Kans. While substantially rigid longitudinally, the holder can be turned axially and laterally at its portion adjacent to the sleeve-engaging clip, thus facilitating the attaching of the sleeve, especially when there are wrinkles with which it is usually difficult to engage the edges of the ordinary clip.

DEVICE FOR CONTROLLING HORSES.—CHARLES E. WILLIS, Manhattan, New York city. The attachment is always in position for instant use to check a vicious or unruly animal by contracting his windpipe, without, however, injuring him. The horse is thus compelled to release the bit, if held between the teeth, and to check his speed. The attachment can be used either with driving or with saddle horses.

BOTTLING MACHINE.—CHARLES H. BOGART, Brooklyn, New York city. This machine is especially adapted for bottling milk, either condensed or plain, and is so constructed that the milk is evenly directed to a series of nozzles and the supply regulated before it reaches the nozzles, and that the delivery ends of the nozzles are simultaneously opened or closed, as desired.

DEVICE FOR PREVENTING HORSES FROM CRABBING.—ALFRED and CARL THOMSON, Fort Ransom, N. D. The device comprises a rotary part arranged above and extending along the front board of the manger. When the horse bites his manger, the rotary part immediately turns, and thus eventually cures the horse of his habit.

KNOCKDOWN BOX.—ERNEST RASCHLÉ, Paris, France. The object of the present invention is the provision of a system of metal mountings or fasteners for use in the manufacture of chests, trunks, boxes, furniture, and other objects which can be entirely assembled or taken apart. The essential feature of the invention is a fastener, comprising two converging legs or end members, both adapted for attachment to the same part of the box. The inner ends of the end members are spaced. A central member extends from the inner end of one end member to the inner end of the other, and is constructed for attachment to another part of the box.

CABINET PICTURE-FRAME.—LOUIS B. PRAHAR, Brooklyn, New York city. The frame is so constructed that the picture, back, and glass will be entirely surrounded by the frame, effectually preventing the parts from accidentally dropping out after having once been placed in position in the frame. The top member of the frame can be removed to provide an opening through which the picture, glass, and back are slid into place.

WINDOW-SCREEN.—ELBRIDGE G. HOLDEN, San Antonio, Tex. The window-screen comprises a netting supported by a thin metallic frame. The sides of the frame form slides for engaging the inner faces of the window-stops. The transverse cross-bars of the frame and the netting are corrugated vertically, the corrugations acting as lateral springs for holding the slides in frictional contact with the stops and permitting the screen to be used on windows of different widths. Closing-pieces are employed for the corrugations.

SASH-HOLDER.—OTTO F. HELFRITZ, Chicago, Ill. The invention relates to a class of sash-locks which engage the sashes and the side of the window-casement to hold the sashes at desired points of vertical adjustment and lock them closed or partially closed. In a casing two locking-arms having convex outer edges are pivoted and held to rock toward and from each other, so that their ends can be projected from the casing. Two keeper-bars are adapted to hold the locking-arms retracted by their engagement with the members of the arms at their rear ends.

CATCH-BASIN OR FRESH-AIR INLET.—WILLIAM H. DEWAR, Manhattan, New York city. The catch-basin or fresh-air inlet has a self-cleaning top or grating and a back-pressure valve, which valve can be removed in a convenient manner whenever desired. The basin or inlet is so constructed that it can be flooded and cleaned at any time through a connection with a convenient water-supply.

BUCKLE.—SAMUEL and ABRAHAM BIENEZUCHT, Manhattan, New York city. Two telescopic members are employed which lock automatically. The locking-device is at the back of the buckle, but operated from the front, and so placed that its operation is not affected by any movement on the part of the wearer. The buckle is applicable to suspenders, garters, and gloves.

CURTAIN-ROLLER.—BENJAMIN F. BELL, Nashville, Tenn. The inventor's construction is designed to prevent one from overwinding or drawing the shade down too far. In the curtain-roller a screw-shaft turns. As the roller rotates, it carries with it a projection. A nut is threaded on the screw-shaft and has a lug arranged for engagement by the projection on the roller, means being provided for holding the nut from turning with the screw. The raising or lowering of the roller adjusts the nut to position in order to engage the projections arranged in the path of the nut to stop the turning of the roller.

BOTTLE-CLOSURE.—JOHN F. PERRY, 408 East 63d Street, Chicago, Ill. The closure comprises a cap, provided on its outer side at or near its upper end with a downward-facing stop-shoulder and with tongue, at its lower end, sprung normally outward. A fastening-device is held between the shoulder and the tongue and

is slidable longitudinally along the cap, whereby it may be adjusted to press the tongues into engagement with the bottle-neck.

BEDCLOTHES-HOLDER.—CHARLES J. WADE, Pension Office, Washington, D. C. The invention is especially designed for use on children's beds for the purpose of preventing the child from throwing off the cover. The construction is such that the movements of the child are in no way impeded and that the child may even readily assume a sitting posture. But whenever the child lies down, the clothing is instantly returned to the desired position.

Designs.

BELT.—WILLIAM WASSERSTROM, Manhattan, New York city. At the back of the belt is an elongated lozenge-shaped panel. A back section is interlaced through the central portion of the panel, whereby vertical sections of the panel are apparently embossed.

BELT.—JOHN STEMBER, Manhattan, New York city. The belt consists of two sections, united at the back by an ornamental connection, at which connection a portion of one section is passed through the other.

NOTE.—Copies of any of these patents can 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.

NEW BOOKS, ETC.

INJECTORS. Their Theory, Construction and Working. By W. W. F. PULLEN. Manchester: Technical Publishing Company, Limited. 1900. 16mo. Pp. 187.

It is seven years since this work was first published. The present edition describes the latest patterns of injectors. The subject is treated in a thoroughly practical manner, and includes not only the practice but the theory of the injector. Air injectors are also included.

SCIENCE OF COLOR MIXING. A Manual Intended for the Use of Dyers, Calico Printers and Color Chemists. By David Paterson, F.C.S. London: Scott Greenwood & Company. New York: D. Van Nostrand & Company. 8vo. Pp. 128. Price \$3 net.

The author has produced an excellent book. A new work on this subject has not appeared for a long time, and the progress which has been made in dyeing, etc., has been very great. A valuable feature is the various pattern plates. This new series of technical manuals is a most important one.

HEDGES, WINDBREAKS, SHELTERS AND LIVE FENCES. A Treatise on the Planting, Growth and Management of Hedge Plants for Country and Suburban Homes. By E. P. POWELL. New York: Orange Judd Company. 1900. 16mo. Pp. 140. Price 50 cents.

An excellent little book which will meet the needs of many persons. It will be welcomed by all who have country places and by landscape gardeners. It is well gotten up and illustrated.

QUANTITATIVE CHEMICAL ANALYSIS. By Frank Clowes, D.Sc., and J. Bernard Coleman. Philadelphia: P. Blakiston, Sons & Company. 1900. 12mo. Pp. 582. Price \$3.50 net.

It has been the custom of authors of most books upon chemical analysis to leave out illustrations of apparatus and methods of doing the work, or at least to use them sparingly. The volume before us is an exception to this rule, but it seems as though even more illustrations could profitably be used, for unfortunately chemical analysis must sometimes be picked up by the amateur without instruction. The volume before us treats the subject in a clear manner and it is one of the best we have ever seen for the use of the beginner and amateur.

FREE-HAND PERSPECTIVE. For Use in Manual Training Schools and Colleges. By Victor T. Wilson. New York: John Wiley & Sons. 1900. 8vo. Pp. 280. Price \$2.50.

The value of free-hand drawing, and especially free hand perspective, in all shop work will be conceded at once. The author has produced a most important volume which will prove of value to every one who has occasion to make even the roughest kind of perspective drawings. The section relating to perspective sketches from working drawings is particularly valuable, some of the illustrations being notably good. It is a style of book which should have a large sale.

CHURCHES AND CHAPELS. Their Arrangement, Construction and Equipment. By F. E. Kidder, C.E., Ph.D. Second Edition, revised and enlarged. New York: William T. Comstock. 1900. 8vo, oblong. Pp. 157. 54 plates. Price \$3.

The first chapters of this work are found interesting, treating as they do of the constructive features of churches a subject almost entirely neglected by writers upon this topic. The book is elaborately illustrated by diagrams and engravings. The author seems to cover the subject in a thoroughly satisfactory manner. Such topics as acoustics, heating, lighting and ventilation, church bells, tower clocks, etc., are not neglected.

GALVANIZING AND TINNING. A Practical Treatise on Coating with Tin and Zinc. By W. F. Flanders. New York: David Williams Company. 1900. 16mo. Pp. 93. Price \$2.

Technical literature is very deficient in information upon galvanizing and tinning, and we note with satisfaction the present volume, which gives precisely the information which is always asked for. It is written by a practical man, who has made the installation of galvanizing and tinning plants a specialty. The directions are common sense and the illustrations are excellent. It has a special chapter on tinning gray iron castings.