RECENTLY PATENTED INVENTIONS.

Agricultural Implements.

PLOW.—CARLO O. DAHLMAN, Chicago, Ill. Briefly stated, this plow embodies in its construction a moldboard having an endless belt traveling over its turning-face which, in the forward movement of the plow, carries the earth rearwardly, whereby the friction of the earth is decreased, and the moldboard is kept scoured. Suitable guards are also provided for guiding the upper and lower edges of the belt.

Engineering Improvements.

STEAM-ENGINE.—LOUIS DALLA-DECIMAS, Courbevoie, ADOLPHE KECHEUR, Billancourt, and AUGUSTE CHAGNAUD, Cognac, France. This invention provides an engine having three cylinders arranged radially about a common central chamber, each cylinder having two passages leading respectively from its inner to its outer end. A valve controls each of the passages. To pistons in the cylinders, piston-rods are rigidly secured, so as to have a rectilinear reciprocating motion. Each of the pistons carries at its outer end a head provided with a transverse slideway, engaged by the crank-pins of rotatable pinions. A gear-wheel rotates upon the axis from which the cylinders radiate, and engages the pinions. The rotation of the gear-wheel controls the motion of the valves.

Mechanical Devices.

DADOING AND TENONING MACHINE.—ALOIS KOHLER, New York city. The purpose of this invention is to provide an improved machine by means of which certain parts of the framing for door and window casings may be cheaply and rapidly produced. The apparatus consists of a frame slidable upon the main frame of the machine and carrying two shafts, one provided with the dado-heads and with a cut-off saw between the heads, and the other provided with the tenoning heads. The frame can be moved toward and away from the stock placed upon the working-table. The device constitutes a compact and easily operated machine, which may be so set, that accuracy and uniformity of the work may be attained with the use of ordinary labor.

WAVE-MOTOR.—JOHN W. PITTS, Hueneme, Cal. This invention provides a wave-motor having a float or buoyant vessel containing gearing and a frame hung from a mast attached to the gearing, so that the diversities of movement occurring between the frame and the vessel will be transmitted to the gearing in a manner adapted for practical use.

Railway Appliances.

AIR-BRAKE.—WILLIAM T. HAMAR, Atlanta, Ga. This invention provides an improvement in the main piston of the triple valve of an automatic air-brake system, used for the purpose of passing air from a train-pipe to the auxiliary air-reservoir located on the car in the position of "brakes applied." The invention provides means for recharging the auxiliary air-reservoir while the brakes are still applied or before the airis discharged from the brake-cylinder, so that the auxiliary air-reservoir is ready to perform its full and effective work at its normal pressure in a second application of the brakes, immediately after the brakes are taken off.

AUTOMATIC SIGNALING MECHANISM FOR LOCOMOTIVES.—MASON A. BAMBOROUGH, Chicago, Ill. The object of this invention is to provide a signaling mechanism for locomotive engines, which is designed to sound automatically the whistle or gong, as may be desired, at or near stations, crossings, switches, or other places. In connection with the locomotive whistle or bell, a rod is connected which extends downwardly. A lever is transversely arranged beneath the locomotive and engages the rod. A lever-arm, jointed to and swinging freely from the outer end of the lever, is adapted to engage a trip-block alongside the track, so as to operate the whistle or gong.

Miscellaneous Inventions.

BOTTLE-STOPPER.—URIAH L. RIFE, Newport, R. I. This bottle-stopper has a plug adapted to engage the end of a bottle-neck. A metal sleeve depends from the plug and has a number of longitudinal slits forming fingers. A bushing of yielding material surrounds the sleeve, the sleeve being extended the entire length of the bushing so as to prevent buckling. A stem movable through the plug has a bulb at its lower end to expand the sleeve, a head on its outer end, and a spring between the head and the plug.

CRATE.—EDWARD S. SHELLHOUSE, Carey, O. The folding crate provided by this inventor has a base composed of parts rigidly connected, with sockets interiorly located at the corners. An upper folding section having side pieces is also provided and has a hinged connection with the corresponding parts of the base-section. End pieces are adapted to rest upon the end portions of the base-section, and have corner-posts arranged to enter the sockets in the base. The corner-posts are formed with ledges on their upper ends, upon which ledges a covering-piece is adapted to rest. This covering-piece is provided with a door. Locking-devices connect the side-pieces of the upper section with the end-pieces of the upper section.

JAR-CLOSURE.—JOHN SCHIES, Anderson, Ind. This invention aims to provide a simple and novel form of fastener and of stopper, together with a mouth and neck conformed to and co-operating therewith, by which a secure and tight closure is effected, the whole presenting an attractive appearance. By employing a clamping bar or rod of especial construction, the stopper may be held firmly in the mouth of the jar and may, with equal readiness, be removed.

PACKING FOR PUMP-PISTONS.—FREDERICK VAN DEN POSCH, Parker's Landing, Pa. The inventor claims that his packing possesses the elasticity of a leather cup without becoming soft in oil or hard in salt water. The packing in question consists of a body formed of fibrous material, and of a base-ring made of vulcanized rubber united with the lower edge of this fibrous body and possessing greater rigidity than the latter.

ANNEALING-POT.—WILLIAM P. DOULIN and FRANCIS W. RAYMOND, Wheeling, W. Va. To overcome the deterioration due to the expansion and contraction caused by the successive heating and cooling of tin-plates while being annealed, these inventors have connected with the body of the annealing-pot, flanged near its interior edge, a removable top composed of sections suitably connected, and an arched top brace having a dovetail slide detachably connected with two of the sections. By constructing the pot in detachable removable sections, expansion and contraction, it is claimed, are so neutralized that twisting and cracking are prevented.

HARNESS-LOOP.—JOHN T. CONDON, Lemars, Ia. The device of this inventor is an improvement in the class of skeleton metal loops which are applied to various portions of harness, more especially to neck-yoke, breast, hame, and breeching straps, for the purpose of securing the ends of the straps at points contiguous with the buckles. The loop comprises obtuse-angled side bars, having pendant ears and four connecting bars, one being curved inwardly. The middle of the three bars is located in rear of the bottom one and confines the loop of the strap. The front bar is curved to accommodate the buckle-tongue, its ends being in contact with the buckle-frame.

DRAFT-CLEVIS FOR PLOWS.—STACY H. SNOWDEN, Arcturus, Va. By means of the improvements embodied in this draft-clevis for plows, the inventor is enabled to regulate the amount of land cut by the plow, and to secure a regulation of the depth of a plow when in operation. The clevis has a latch provided with a notched wing and with a stop-wing at an angle thereto. A draft connection is provided consisting of two hooks swiveled together, one of the hooks being adapted to be secured in different engagements with the clevis, by means of the notched wing; and the other hook being adapted for connection with the whiffletree. By adjusting the swiveled hook, the plow may be made to sink more deeply or to exert a greater lateral force.

CORE FOR PAPER ROLLS.—JOHN J. MORAN and SIDNEY E. SMITH, New York city. This invention provides a core for rolled paper, such as that which is used in printing-presses. The core is made collapsible or capable of being removed from the roll of paper after it has been wound, thereby avoiding the necessity of shipping cores in the rolls and returning the cores to the mill after the paper has been used, and also obviating the expense of procuring cores sufficient to supply the needs of the mill while other cores are in transit or held at the printing-office.

BEDSTEAD.—BENJAMIN F. BAILEY, Ellisville, Miss. By means of the durable support provided by this inventor, bed-slats may be conveniently attached to the side rails of a bedstead, the support for the slats being of such character that it will not harbor vermin and will add materially to the strength of the rails. Tips are provided for the ends of the slats, which tips are adapted for engagement with the supports on the side rails. When placed in position, the slats serve to tie the side rails together wherever a slat is placed, thus adding to the strength of the bedstead.

CARPET-BEATER.—CHARLES M. COMSTOCK, Windsor, N. Y. This carpet-beater consists of a handle having a cylindrical section provided with longitudinal grooves in opposing faces, the grooves having inclined lower faces. The end portions of a rattan bow engage with the grooved surfaces of the handle extension. Clamping-sleeves conforming with the shape of the extension of the handle and with the outer formation of the members of the bow, are also provided. These sleeves receive the members of the bow and are passed over the extension portion of the handle. By this means the members of the bow will be subjected to a wedge-like action to clamp them firmly to the handle extension, thus providing a secure fastening for the rattan.

PROTECTOR.—HOWARD K. FOLLANSBEE, Wellington, O. This invention provides an improved protector especially designed for use in an ordinary vest-pocket to keep the walls thereof spread apart to permit the protection and reception of cigars. When closed, the device forms a casing for a single cigar or other article. The protector consists principally of two oppositely arranged members and a folding device to connect the members with each other and close them so as to form either a casing or a means whereby the members are spread apart.

CIGAR-LIGHTER.—AUGUSTUS C. GRUHLKE, Waterloo, Ind. In this invention a cigar-lighter is provided, which is suspended from the ceiling so as to hang near a show-case. The lighter in question is automatically enkindled by an electric spark when drawn toward the person desiring to use the device; is automatically extinguished when released; and is so constructed that the electric current cannot be short-circuited.

HAIR-FASTENER.—SETH W. HERRICK and CALEB R. LUNGER, London, England. Hither the duplex combs employed in hair-dressing have been permanently riveted or hinged to each other. These constructions have the disadvantage of permitting only a small degree of separation at the jointed sides. Difficulty is also experienced in placing the comb exactly upright after folding the hinged portions together. These objections are overcome in the present invention, by providing a comb consisting substantially of two entirely separable combs, so designed as to be capable of interlocking. One of the combs is provided for this purpose with guideways extending longitudinally of the teeth, the other comb having blades or prongs adapted to enter these guideways.

TIME-OPERATING VALVE.—THOMAS KITSON, Stroudsburg, Pa. This valve is particularly adapted to the controlling of the dampers and doors of stoves, and is connected with an alarm-clock, so that, as the alarm is sounded, mechanical devices are operated to release a chain or other connection. A circular back-plate is adapted to be attached to the clock and has an annular flange at its edge projecting from one face to engage with the clock. A lug attached to the plate projects from a break in the flange and acts as the fulcrum of a lever having one arm projected through the break in the flange and lying alongside of the inner face of the plate. An arm rigid with the plate projects outwardly therefrom adjacent to the lug. A finger is pivoted to the arm and is engaged with the outer end of the lever. By this means the finger is held until the lever is thrown.

HAND-STAMP.—CALEB LEE, Homeworth, O. The purpose of this invention is to provide a stamp designed for use in post-offices, business-houses, and the like. The device comprises a revoluble inking-pad mounted yieldingly, a platen arranged adjacently to the inking-pad, a revoluble stamp-carrier holding a number of stamps, and controlling the movement of the inking-pad, a spring-pressed shaft formed with a spiral groove and mounted to turn and to slide, and a spring-pressed pawl engaging the groove to turn the shaft on its return movement.

COMPRESSED-AIR WATER-ELEVATOR.—WILLIAM A. MITCHELL, Nashville, Tenn. The water-elevator forming the subject of this invention is so constructed, that water may be supplied from a cistern to any point in a building or to any point removed from the source of supply, it being possible to discharge any water that may be in the pipes, and to refill the pipes quickly with fresh water, thus obviating the necessity of using water that may have become stale by stagnation. A self-filling water-cylinder is provided which is placed in the source of water-supply. A return-pipe is connected with the service-pipe and with the cistern or source of water-supply, and is adapted to conduct water from the service-pipe into the cistern in such a manner, that the water delivered by the return-pipe, together with any air that may be within the return-pipe, will agitate and purify the water in the cistern, fresh cool water, as previously stated, simultaneously entering the service-pipes from the cistern.

FILTER.—ALBERT L. MCLANE, Laredo, Tex. With a basin, a series of filters are connected, each having porous walls and chambers. Each of the filters has a valve controlled connection with a discharge-pipe. A flushing or service-pipe is provided with which each of the filters has a valve-controlled connection. In operation the basin is filled and the several filters are entirely submerged. The water will percolate through the porous material and will then be discharged from chambers into the main pipe.

TYPE-WRITER CABINET.—PHILIP E. WHITING, Carmi, Ill. This inventor has devised a cabinet in which several compartments are provided for the machine and for supplies. These compartments have doors, which are connected with one another, and with a drawer that supports the type-writer. When the drawer is pulled out, the type-writer compartment and the supply-compartments are opened. The compartments are closed by pushing the drawer in.

Designs.

TIP-CAT.—ROBERT A. NAGLER, New York city. The tip-cat of this inventor differs from most others in being made of elastic rubber, whereby the cat, upon being struck upon one of its pointed ends, will bound to a greater height and distance than is usual in wooden cats. The sides of this rubber cat are hollowed to enable it to be readily picked up.

BADGE.—LAHVESIA P. C. LOCKWOOD, Lake Maitland, Fla. The leading feature of this design consists in two plates, one pendent from the other. Upon one plate a pig is drawn; upon the other plate a man is pictured in a kneeling position. The design represents figuratively, Spain begging peace from the United States.

NOTE.—Copies of any of these patents will be furnished by Munn & Co. for 10 cents each. Please send the name of the patentee, title of the invention, and date of this paper.

NEW BOOKS, ETC.

A SHORT MANUAL OF ANALYTICAL CHEMISTRY: QUALITATIVE, QUANTITATIVE, INORGANIC AND ORGANIC. By John Muter, Ph.D. Philadelphia: P. Blakiston, Son & Company. 1898. Pp. 228. 8vo. Illustrated. Price $1.25.

The present manual is the second American edition adapted from the eighth British edition, which shows that the book has been received with great favor. It is designed to introduce students to the chief developments of analytical chemistry, from the simplest operations upward, and including many organic questions generally overlooked in elementary books. By working through it a student will become familiar with a great variety of processes, and will then be in a position to use with satisfaction the exhaustive treatises dealing with any special branch he may wish to follow. The book is illustrated and is accompanied by a large number of analytical tables.

A TEXT BOOK OF MINERALOGY. With an Extended Treatise on Crystallography and Physical Mineralogy. By Edward S. Dana. New York: J. Wiley & Sons. 1898. Pp. 593. 8vo. 1,000 illustrations. Price $4.

The "Text Book" is a very old friend and has always maintained the reputation of being one of the best and the most usable books ever published on the subject in any language. The remarkable advance in the science of mineralogy during the years that have elapsed since the "Text Book" was first issued in 1877 has made it necessary in the preparation of a new edition to rewrite the whole, as well as to add much new matter and many illustrations. All who are in any way interested in mineralogy cannot fail to receive a vast amount of information from this book. It is a standard reference book which we keep on our table to settle all questions of mineralogy. We know of no book on the subject in the English language which is so thoroughly good. It is, perhaps, too advanced for the beginner, but fortunately the Danas have three books, in which the subject is carefully graded. The present volume might be called the intermediate one.

PROCEEDINGS OF THE FIFTEENTH ANNUAL CONVENTION OF THE NATIONAL CONFECTIONERS' ASSOCIATION OF THE UNITED STATES. Held at Chicago, Ill., June 1 and 2, 1898. Official Records of Reports, Circulars, and Communications for the year 1897-1898. Philadelphia: Confectioners' Journal. 1898. Pp. 279.

Notes & Queries

HINTS TO CORRESPONDENTS.

Names and Address must accompany all letters or no attention will be paid thereto. This is for our information and not for publication.

References to former articles or answers should give date of paper and page or number of question.

Inquiries not answered in reasonable time should be repeated: correspondents will bear in mind that some answers require not a little research, and, though we endeavor to reply to all either by letter or in this department, each must take his turn.

Buyers wishing to purchase any article not advertised in our columns will be furnished with addresses of houses manufacturing or carrying the same.

Special Written Information on matters of personal rather than general interest cannot be expected without remuneration.

Scientific American Supplements referred to may be had at the office. Price 10 cents each.

Books referred to promptly supplied on receipt of price.

Minerals sent for examination should be distinctly marked or labeled.

(7516) **H. J. L. asks:** Can the alternating current be changed into a continuous current? If so, how? A. If you have an alternating current dynamo, it can be changed to give a continuous current by putting a commutator upon the axle in place of the collector rings. If, however, the alternating current is obtained from a street line, it can be changed to a continuous current by a rotary transformer in which the alternating current drives the motor part, and in turn by a commutator a direct current is taken off, of such voltage as may be required.

INDEX OF INVENTIONS

For which Letters Patent of the United States were Granted

NOVEMBER 1, 1898,

AND EACH BEARING THAT DATE.

[See note at end of list about copies of these patents.]

Advertising device, A. A. Du Bois 613,503
Advertising vehicle, T. J. King 613,634
Aerating liquids or beverages, apparatus for, Koenig & Erlanger 613,376
Alarm. See Leak and fire alarm.
Aldehydes, making aromatic, P. P. Monnet 613,460
Animal trap, J. F. Cluss 613,558
Animal trap, E. Piggott 613,304
Atomizer, A. M. Foster 613,413
Audiphone, A. Ross 613,606
Back pedaling brake, F. L. Clapp 613,619
Back pedaling brake, W. D. Robinson 613,477
Bag. See Sleeping bag.
Bag fastening, C. Le Duc 613,580
Bake, portmanteaus, etc., securing, N. Buxton 613,492
Ballot box, McCarron & Montgomery 613,294
Barrel and binding therefor, knockdown, F. W. C. Schaperkotter 613,531
Basket, folding, R. H. & W. A. McNair 613,387
Basket, knockdown, A. R. Tiffany 613,335
Battery. See Water battery.
Bayonet and gun sight, combined, B. Burton 613,241
Bearing, ball, J. G. Buebler 613,489, 613,490
Bed, collapsible, W. J. Curry 613,499
Belting, protective covering or shield for chain, N. C. Bassett 613,637
Bicycle, C. C. Chrisman 613,244
Bicycle, J. E. Praul 613,601
Bicycle brake, S. S. Goldman 613,508
Bicycle gear case, R. Ramsay 613,469
Bicycle saddle, B. McGregor 613,295
Bicycles, etc., pedal mechanism for, C. Meier 613,456
Billiard table cushion, T. R. S. Bullock 613,407
Bit. See Drill bit.
Boat and sled, combined, W. A. Kirby 613,576
Boiler. See Steam boiler.
Boiler furnace, downdraught, G. H. Watson 613,614
Boiler gage, N. H. Hiller 613,447
Bottle cap, A. Mazzanovich 613,288
Bottle or similar receptacle, Hoffman & Frist 613,371
Bottle stoppers, feed chute for crown, F. O. Woodland 613,349
Bottle washer, A. Bosanko 613,234
Bottles, articles of glass, etc., appliance for packing, H. B. Roxburgh 613,529
Bottles, device for preventing fraudulent refilling of, N. Nelson 613,465
Box. See Ballot box. Cock box. Folding box. Mail box. Match box. Pencil box. Telephone box.
Box assembling machine, J. F. Gilliland 613,626
Box fastener, L. C. Dickerman 613,500
Bracket. See Car door bracket. Lantern bracket.
Braiding machine, L. L. F. Malhere 613,380
Brake. See Back pedaling brake. Bicycle brake.
Bridge safety gate, Heffron & Rice 613,568
Bronzing machine, Emmerich & Vonderlehr 613,412
Burner, Hamrick & Miller 613,649
Button fastener, T. E. Jones 613,373
Camera, folding, H. M. Reichenbach 613,310
Can cover, milk, C. Congdon 613,442
Car coupling, W. F. Richards 613,314
Car coupling, J. H. Simcox 613,429
Car coupling, automatic, C. Mehring 613,523