

RECENTLY PATENTED INVENTIONS.

Agricultural Implements.

WEED-SEED DESTROYER.—ADAM REE, Georgetown, Minn. The inventor has sought to produce a plow capable of making either a shallow or deep furrow, according to the adjustment of certain parts. The plow is provided with a draft-frame on which a plow-beam is mounted to be raised and lowered, whereby the parts are maintained in that rigidity necessary to withstand the strain to which they are subjected when making a deep furrow.

Engineering-Improvements.

ROTARY ENGINE.—ALVIN H. SHOEMAKER, Fort Hamilton, New York Harbor. The present novel construction of rotary engine embodies an outer wheel, an inner wheel eccentric to the outer wheel and having cylinders whose pistons are connected with cross-heads moving radially in ways formed in the outer wheel. The outer wheel is suspended from the inner wheel by means of crank-hangers, and is preserved in its eccentric arrangement to the inner wheel by special mechanism.

ROTARY ENGINE.—GABRIEL P. B. HOYT, Jamaica, Queens, New York city. This invention is chiefly concerned with the provision of a packing. Two packing-plates, secured to each other, are fitted to slide in the piston-head. Two additional packing-plates are located between the two first-named packing-members and engaged therewith so as to be spread longitudinally with the axis of the piston, as the first named packing-plates move transversely to the axis. Slides are mounted in the head, having inclined surfaces engaging the first-named packing plates to push them outward transversely to the axis of the piston.

REVERSING SLIDE-VALVE.—HENRY DAMERELL, Luella, Mo. Connected with a steam-cylinder having a central exhaust and two end ports is a compound reversing-valve consisting of a flat slide-section moving on the ports of the steam-cylinder and having five passages. A sleeve connected with the slide-section emerges from the steam-chest through a stuffing-box. A distributing-valve section moves upon the slide-section and has a central exhaust-chamber, end exhaust-openings, intermediate induction-openings, and an attached rod extending through the sleeve of the other valve-section and having an independent external adjusting connection.

STEAM-ENGINE.—GABRIEL J. L. HENRY, Quebec, Canada. The engine belongs to that class in which motion is obtained by the alternate expansion and contraction of an extensible casing. The casing consists of a series of elastic annular sections, to the uppermost of which a top is secured extending inwardly so as partly to fill the central space between the sections. Devices are provided for controlling the admission and exhaust of the steam, and are located in the lower part of the casing and are also projected inwardly to fill the central space in conjunction with the top when the casing is contracted.

Mechanical Devices.

MONEY HOLDER AND CHANGER.—GEORGE T. FARNELL, Bayborough, N. C. This apparatus for holding money and making change delivers coins by the operation of suitable key-mechanism. The coin-delivering mechanism for each denomination of coin is adapted for the delivery of one, two, or three such coins as may be desired. The apparatus embodies a number of overlying slides, each, after the first, having lateral shoulders. There are also key-levers, each except the last being provided with notches through which the shoulders in the preceding slides may play in the normal position of the key-levers.

SHUTTLE FOR SEWING-MACHINES.—PERCY H. HEWITT, EDWIN A. COCKLE, and CHARLES MATTHEWS, London, England. The shuttle is to be used on two-thread sewing-machines having rotary, reciprocating, or oscillating shuttles. The shuttle is adapted to receive an ordinary full-sized reel of thread, so as to avoid the disadvantages arising from the use of a special reel of small capacity, these disadvantages being the loss of time in winding the thread from the reel onto the spool and in exchanging the empty for a full reel. Moreover, a reel-winding mechanism is rendered unnecessary.

DOUGH-MIXER.—WŁADYSŁAW and PETER KRYSZEWSKI, Jersey City, N. J. The dough-mixer comprises a bucket having a removable cover from which a central shaft depends, carrying a blade at its lower end. At each side of the central shaft, depending shafts are located, also carrying blades. These shafts are turned by a hand-operated horizontal shaft through the medium of bevel-gears.

SHOE-STAPLING MACHINE.—NATHAN S. WAKEFIELD, Pomona, Cal. It is the purpose of this invention to provide a machine for sewing the soles of boots and shoes to the uppers of the turns or welts, by means of wire to prevent the shoe from ripping and to render it more flexible than when sewed with thread. The machine is provided with a pair of segmental oscillating plungers to form a piece of wire into a curved staple and to abut against the welt while the staple is driven through the welt, and the upper and channel-flap of the sole. An oscillating pusher or driver operates between the plungers and engages the middle of the staple to drive the side bars of the staple through the welt, and the upper and channel-flap.

MACHINE FOR LABELING TINS, JARS, BOTTLES, ETC.—JAMES R. BRADLEY, North Unley, South Australia. In this machine are included a device for feeding the tins, jars, and bottles to be labeled, a labeling case and label elevating and retaining mechanisms, a casting device, and an apparatus for receiving the tins, jars, and bottles from the feeding device and forwarding them over the label-case. All the devices are actuated from a main shaft, and each device is arranged and designed to perform its work at the proper time relatively to the operation of the others.

Miscellaneous Inventions.

ADJUSTABLE STOCK FOR FIREARMS.—OLIVER O. SCRIPTURE, Prescott, Arizona Territory. The butt of the gun has a concavity at its forward end fitting into the convex rear end of the barrel section. A transverse pivot is located in the barrel-section. A connecting rod extends rearwardly through the butt, and has a flattened

front end mounted directly on the pivot. The rod can be longitudinally moved to clamp the sections together.

LIQUID-LEVEL INDICATOR.—HEINRICH RASMUSSEN, Lund, Sweden. The present invention provides a device for holding or supporting gages. The gage is held in top and bottom supports formed with seats and holding a glass tube. A rod is secured to one of the supports, extends through the glass tube and tubular support, and has its end threaded to receive a nut which may be turned to bring the two supports more closely together.

COVER.—FRANK B. READ, Manhattan, New York city. This cover is made of a single piece of fabric, creased to form a bottom, continuous sides, overlapping flaps for the ends, and a double-up reinforce-flap for each end, extending from the bottom to engage the lower portion of the overlapping end flaps and part of the bottom and sides. The cover is designed to be used on caskets, pieces of furniture and the like.

FOLDING CRIB OR CRADLE.—SAMUEL E. and HELEN OAKES, Passaic, N. J. The end frames of the crib each consist of crossed or pivoted legs which may be locked in fixed position. Rods connect the upper ends of the legs of both end frames. A folding mattress-support is suspended from the rods and consists of cross-bars pivoted to each other to form lazy-tongs. The ends of the cross-bars are connected with the longitudinal bars of the frame.

MAGAZINE-CAMERA.—ANDREA ANGEL, Liverpool, England. This invention relates to improvements in magazine-cameras for storing and exposing a series of sensitized films separated by backing-cards alternated with the films in the usual manner. The invention provides a mechanism which prevents the buckling of the films, holds them perfectly flat during exposure, releases them in succession, and disposes of them and their backing-cards after exposure. The special object of the invention is to dispense with the notching of the films or otherwise adapting them for the action of the releasing mechanism.

DOOR-HANGER.—CHARLES A. ENSIGN, Manhattan, New York city. The object of the present invention is to provide a device for hanging sliding-doors. Two supporting-trolleys traveling on a novel track are provided for each door, both trolleys having members adapted to be drawn together or apart for the purpose of raising or lowering the door by means of screws located at the forward edge of the door.

PROCESS OF ORNAMENTING METALS.—PARKER C. McILHINEY, Manhattan, New York city. The process consists in producing an uneven surface upon a metallic backing, electroplating the surface, and removing or cutting down portions of the plating to expose the underlying material. The ornamentation thus produced resembles inlaid work.

DESK.—ELIZA M. MOSHER, Ann Arbor, Mich. This school-desk is provided with an adjustable rest which in one position serves as a front flange and in another position as a support for a book, drafting or writing copy. Such articles are held above the top of the desk at an inclination to enable a pupil to assume and retain a natural position. The adjustable rest when in position at the front of the desk serves not only as a flange, but also as a support for the back of a book placed in position for study.

FEED-WATER HEATER.—HENRY A. MILLAR, Buenos Aires, Argentina. This inventor has provided a novel arrangement of tubular receptacles, pipes, and tubes in boilers, whereby the feed-water forms a deflecting arch to deflect the heat arising from the burning fuel to the front of the fire box, at the same time highly heating the feed-water and causing a circulation of the water in the boiler through the feed-water device.

RECORD-HOLDER.—JOHN C. KATTELL, Passaic, N. J. The holder for protecting phonographic records during transportation comprises a casing having a cover and a mandrel secured to the bottom of the casing. The mandrel has a length greater than that of the casing and passes through an opening in a top for the cover.

DRAWER-CENTERING DEVICE.—JOHN M. HOFFMIRE, Red Bank, N. J. The purpose of the present invention is to provide a simple means for centering drawers when closed. The invention provides a case open at its opposite ends and having slideway-channels in its opposite walls. Each drawer has flanges to engage in the channels, one of the flanges being provided with a recess between its ends, engaged by a rounded stop-dog. A spring is at each end of the case, and upon this spring the dog is mounted.

DEVICE FOR REMOVING SPLINTERS FROM GROUND WOOD OR SULFITE.—JOSEPH GOODFELLOW, Fort Edward, N. Y. This device is a pulp-strainer adapted to remove splinters and the like from ground wood-pulp or sulfite used in making paper. Within a tank having a discharge-orifice a reticulated cylinder projecting above the tank is mounted to turn, having communication with the discharge-orifice at one end of the cylinder. A closure is mounted above the tank for each end of the cylinder. An inclined table leads to the upper side of the cylinder, and a feed-box delivers the pulp to the table. As the straining cylinder is rotated the desirable portions of the pulp readily pass through the meshes to the interior of the cylinder; while the splinters and foreign matter are discharged from the proper orifice.

MOLD FOR CEMENT OR CONCRETE.—OLIVER P. BARNETT, Allerton, Iowa. In the construction of small cement or concrete culverts, drains, and the like, the chief difficulty has been to provide efficient means for supporting the core around which the material is molded and for removing the core after the cement or concrete has set. The inventor has provided improved apparatus comprising a collapsible core, and separable parts forming the exterior or body of the mold, which are in practice suitably connected and adapted to be removed after the core.

HOSE-GATE.—EDWARD S. CLARKE, Richmond, Va. To provide a simple means for clamping a hose to prevent the passage of water is the object of this invention. The hose-gate used for this purpose comprises a frame composed of sections jointed at one end and having at the other end clamping-laws. A screw is connected with one of the sections and has a threaded bearing in the other section. A gear is movable along the screw, and meshes with a pinion operated by a handle.

PHOTOGRAPHIC PRINTING-FRAME.—WILLIAM McDADDE, Newerf, Pa. Ordinarily in making large blue prints from tracings and stenciled sheets, it is difficult to remove the wrinkles from the sensitive paper or transparent tracing, and the result is that as the sensitive paper does not at all points lie closely to the tracing, imperfect reproduction of the lines occurs. The present invention uses an inflatable pneumatic pad for the purpose of pressing the tracing and paper closely together.

SKIRT-BINDING.—CYRUS L. SULZBERGER, Manhattan, New York city. The skirt-binding has its body and brush so doubled and stitched that a secure union of the body of the binding and the brush is effected, at the same time giving the desired stiffening, flexibility, and strength to prevent a wearing-out of the binding at its lower edge.

CORSET.—FRANK TUCEK, Manhattan, New York city. The body of the corset terminates along the front and side at the waist-line and extends downwardly at the rear beyond the waist-line. A hip-piece is secured to that portion of the body which terminates at the waist line. The rear end of the hip-piece is extended beyond the front edge of the extension of the body and is separate from the extension. A proper fitting is thus obtained, and the upper body portion of each half of the corset of a single piece of fabric, thus avoiding a multiplicity of seams.

CANDLE-EXTINGUISHER.—GUSTAVO BACCI and LEOPOLD E. PRISPOCO, Manhattan, New York city. The ordinary extinguisher employed for putting out the flame of altar candles presses the wick down, thus often displacing the candle before its flame is quenched. The inventors of this device extinguish candles by directing against the flame the products of combustion arising from a lamp provided with a deflecting chimney. The carbon dioxide gas, it is said, will immediately extinguish the flame without blowing it out.

SUSPENSORY BANDAGE.—JOHN J. COOPER, Manhattan, New York city. This combined jock-strap and suspensory is constructed so that it is readily secured in place and that the waist-band is not disturbed in opening and closing the suspensory.

APPARATUS FOR TREATING TOBACCO.—CHARLES E. COUTY, Louisville, Ky. The apparatus is designed to restore funky or moldy tobacco to its original quality. The tobacco is hung in racks in a compartment capable of ventilation, and is subjected to the action of steam supplied in a peculiar manner. It is stated that defective tobacco of a high grade, which is usually sold as a low grade tobacco, may be restored to its normal condition without injury to the leaf.

MOLD AND WEIGHT-GAGE.—ARTHUR C. GILLETTE, Jersey City, N. J. This device is especially adapted to form a number of blocks from a mass of soap, butter, or the like. The mold has a body-frame in which a follower is adapted to travel. Cutters are attached to the body-frame below the follower. Downward pressure is exerted on the follower and upward pressure on the body-frame to cut the butter or soap into blocks, uniform in size and weight. The board upon which the pats or blocks are formed is made in separable sections to enable the pats to be readily removed.

ARTIFICIAL TOOTH.—HENRY J. MILLER, Paris, France. The tooth comprises a body having a metal-lined cavity, the lining and body being provided at the sides of the tooth with notches leading into the cavity. The metal at the time of pouring runs from one tooth to another in these notches. In this manner the teeth are made solid one with the other.

MINERAL-LODE TRACER.—ALFRED R. HEYLAND and JOHN H. GRAY, Kaslo, Canada. The tracer consists of a graduated arc-plate mounted on a standard, two circular plates turning on each other and secured upon a projection from the central portion of the straight edge of the arc. An arm is secured to the upper plate and carries sights and a leveling instrument. The arc-plate is set perpendicularly to the lode and swung to correspond with the dip of the lode. The arm on the upper circular plate can now be turned so as to move in the same plane as the vein or lode, enabling the lode to be located at points where it is not visible.

DRILL.—PETER C. FORRESTER, Spring Valley, Ill. The drill is designed to be used in drilling rails and is constructed so that the weight of the operator in sitting serves to keep the tool point up to its work. On a support a drill-frame is mounted to move, and to the drill-frame a lever is pivoted at one end and adapted to sustain the operator so that his weight keeps the drill to its work. The drill and its support may be compactly folded and readily carried upon a hand-car.

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.

NEW BOOKS ETC.

LES FOURMIS DE M. CHARLES JANET. Par M. E. Van Overloop. Bruxelles. 1897

SUR LES NERFS DE L'ANTENNE ET LES ORGANES CHORDONAUX CHEZ LES FOURMIS. Par Charles Janet. Extrait des Comptes rendus hebdom. des séances de l'Académie des Sciences. Paris. 1894.

DIE PFLANZE IM ZAUBERGLAUBEN. Ein Katechismus der Zauberbotanik. Mit einem Anhang über Pflanzensymbolik. Von G. W. Gessmann. Vienna: A. Hartleben. 1899. Pp. 252. Octavo. With 12 illustrations. Price paper, \$1.50.

In olden times it was the custom to attribute to various things a certain influence over good and evil spirits. Plants seemed especially adapted for this purpose; for from time immemorial they had been regarded in the poetic lore of all nations as the toys of gnomes and elves. Certain herbs were said to be looked upon with particular favor by these little beings; while others, by

reason of their poisonous nature, were shunned. The wonderful development of the plant from an insignificant seed to a luxuriant, beautiful flower, could be ascribed only to the existence of a "plant-soul." Hence, plants in the eyes of the simple country folk were the expression of a mighty spiritual force, the force of nature. The curious volume now lying on our table describes the part played by each plant in the superstition and magic of olden times.

DIK FABRIKATION DER EMALLE UND DAS EMAILLIREN. Anleitung zur Darstellung aller Arten Emaille für technische und künstlerische Zwecke und zur Vornahme des Emailirens auf praktischem Wege. Von Paul Randau. Vienna: A. Hartleben. 1899. Pp. viii, 215. Octavo. With sixteen illustrations. Price, paper, \$1.

The present third and revised edition of Herr Randau's work offers to the manufacturer of enamels and to the metal-worker a handbook on the art of enameling. The industrial side of the subject has received the most attention; but since enameling is now employed in the decoration of art objects, the author deemed it advisable thoroughly to describe the making of colored enamels. The author states that the many formulæ which he gives for enameling have all been carefully tried. For this reason the work possesses a practical value which no doubt will be appreciated by the artisan.

DAS VERZINNEN, VERZINKEN, VERNICKELN, UND DAS UEBERZIEHEN VON METALLEN MIT ANDEREN METALLEN UEBERHAUPT. Handbuch für Metallarbeiter und Kunstindustrielle. Von Friedrich Hartmann. Vienna: A. Hartleben. 1899. Pp. viii, 222. Octavo. With three illustrations. Price, paper, \$1.

Before the appearance of "Das Verzinnen, Verzinken, etc.," there was no book in German technical literature which discussed the difficult task of the metal-worker in covering metals with other metals, or in giving to a metallic surface any desired appearance. Arduous as his work undoubtedly was, the author of this book has, nevertheless, described the various processes employed in coating metals with tin, zinc, and the like, in a style so clear and simple that it can be understood by any German mechanic of ordinary intelligence.

ISTHMUS OF PANAMA, NICARAGUA, CANAL ROUTES, ETC. By Thomas Wright Hurst, 1452 West Madison Street, Chicago. With maps. Pp. 98.

This very timely work is a compilation of various articles on the subject written for the technical journals by the author and various other writers. It also contains a valuable collection of reports, letters, memoranda, etc., by various engineers, travelers, etc., who have studied the canal problem on the spot. In addition to Panama and Nicaragua, other routes, such as San Blas and Darien, together with the Tehuantepec ship railway, are reviewed. Such a work is needed at a time when the country is considering the question of relative cost and advantages of the various routes.

THE TORPEDO IN PEACE AND WAR. By Fred T. Jane. Elaborately illustrated by the author. London: W. Thacker & Company, 2 Creed Lane, E. C. Calcutta: Thacker, Spink & Company. 1898. Pp. 164. Price \$4.

The matter in this work is written in the characteristic and very readable style of the author, whose works on naval subjects are favorably known wherever an interest in naval affairs exists. The author explains what is the true sphere of the torpedo boat and the destroyer, and this is done in the course of a series of sketches of what he calls the social side of torpedo-craft life as seen by him during naval maneuvers and other personal experience of the torpedo service. The illustrations are graphic and on the whole fairly good.

PLASTER CASTS AND HOW THEY ARE MADE. By Frank Forrest Frederick. New York: W. T. Comstock. 1899. 16mo. Pp. 131. 61 illustrations. Price \$1.50.

So far as we know, there is no book on plaster casting in the English language, and for this reason we would welcome almost any contribution to the subject; but Mr. Frederick's book is most admirable and treats the subject in a thoroughly practical manner. We have had many inquiries for a book on this subject, which shows that there is a legitimate field for it. The illustrations are admirably adapted to give the reader an excellent idea of the method of doing plaster casting of all kinds. The subject is treated with special reference to the use of art students and sculptors.

BETTER WORLD PHILOSOPHY. A Sociological Synthesis. By J. Howard Moore. Chicago: The Ward Waugh Company. 1899. 16mo. Pp. 275. Price \$1.

The author is dissatisfied with the egoism of our times. He feels it is short-sighted, mischievous, and unnecessary. He believes the future is to see better things; he pleads for the social recognition and control of laws of selection and evolution through a scientific stirpiculture of humanity. This book will undoubtedly interest many readers.

MEISTERWERKE DER BAUKUNST UND DES KUNSTGEWERKES. By Hubert Joly. Wittenberg, Germany. Price 50 cents.

This is a beautiful periodical, something on the order of Das Museum, but devoted to architecture and art handicrafts. The numbers will appear at intervals of three or four weeks, and the contents will be arranged according to the respective countries. Each will contain 23 large half-tone engravings. The more periodicals of this kind the better, and we only wish that some one will publish a similar periodical in the United States. As there is no text, and the titles are translated in English, we see no reason why Meisterwerke should not have a considerable circulation in the United States.