

RECENTLY PATENTED INVENTIONS.

Agricultural Implements.

MECHANICAL MOVEMENT.—EDWARD A. MAINGUET, Evangeline, La. The invention is an improvement in mechanism which is preferably adapted for operating the cutter-bar of a mower or reaper, but which is also capable of general application and use whenever it is desired to transmit motion to a reciprocating part by means of an endless belt. A rocking-lever is arranged to operate in a plane between the runs of the belt; and a bar is held to the belt and deflected thence inwardly and engaged with the lever. Thus the lever is operated by the movement of the belt.

Engineering Improvements.

GENERATING MOTIVE POWER.—RUDOLPH STENGERSEN, Brooklyn, New York city. Mr. Stengeresen has devised improvements in generating motive power whereby explosive charges are successively exploded in an explosion-chamber connected with a pressure storage-chamber, to store the force of the explosion in the storage-chamber, and to utilize the pressure obtained for driving machinery.

IGNITER FOR EXPLOSIVE-ENGINES.—JOHN T. METCALFE, Quincy, Pa. The igniter comprises an electrical circuit provided with separable contacts for producing sparks. A rocking-shaft actuates one of the contacts. Rigidly mounted on the rocking-shaft is a lug, provided with an anvil-face. A spring-driven hammer is loosely mounted upon the rocking-shaft, and is free to strike the anvil-face. A rocking-lever, loosely journaled on the rocking-shaft, has a catch for engaging the hammer, which catch is released by a movable arm. Since the adjusting-lever can be used so as to govern the period when the spark is made relatively to the position of the main shaft, the spark can be made at any desired point within reasonable limits relatively to the stroke of the engine.

Electrical Apparatus.

INSULATING-CONDUIT FOR CONDUCTORS OF ELECTRICAL TRAMWAYS.—PAUL C. SEGUY, Rue de la Héva, 9, Paris, France. The invention relates to a system of insulation for electrical-tramway conductors, where by danger to the foot passenger is avoided, as well as to vehicles. The insulator comprises a block of insulating material having a channel formed therein for the conductor. The block is provided with means for the escape of water from the channel. A block arranged below the insulating-block forms a channel for the water.

Hydraulics.

TANK.—GEORGE BECKING, 12th Street and C. S. R.R., Chattanooga, Tenn. The invention is an improvement in water-closet tanks and other reservoirs and provides devices for securing operation of the flushing-valve after filling. Means are likewise provided for preventing the overflow of the tank in case the devices for automatically controlling the supply should become inoperative.

WATER-JOINT.—MATTHIAS GARVEY, Crown Point, N. Y. Heretofore great difficulty has been experienced in connecting the water-pipe with the drill-rod, since the drill-rod must turn continuously and the water-pipe remains stationary. Owing to the necessary movement of the parts, it has been found very difficult to pack the connection between these two elements. To overcome these objections Mr. Garvey has devised a water-joint comprising a thimble through which the pipe passes, the thimble having a counter-bar to form a cavity. Into the cavity a cap is screwed. A packing is carried fast on the water-pipe and is situated within the cavity. Ball-bearings are placed between the packing and the cap.

FAUCET AND VALVE.—EDWARD A. POHLMAN, Manhattan, New York City. In this construction, the valve-seat is conical and is removable from the barrel or casing of the valve. The valve itself is spring-controlled, and is fitted to the conical seat. The construction is such that concussion or hammering is prevented. A bonnet for the valve-casing serves as a fulcrum for the lever which operates the valve.

Mechanical Devices.

CINEMATOGRAPHIC APPARATUS.—AUGUSTUS ROSENBERG, 12 Southampton Row, London, England. The direction of motion of the film is automatically and instantaneously reversed (without reversing the direction of motion of the motor or handle) when the film has been traversed in the one direction and the position of the lens barrel is altered automatically and coincidentally with the change of direction of motion of the film. Hence the film is exposed to the extent of only one-half of its width when running in the one direction and to the extent of the other half when running in the other direction.

CLUTCH.—CHRISTIAN JOHNSTON, Elgin, Ill. This clutch, especially designed for use in winding up springs in motors and other instruments requiring winding up and braking, is arranged to turn the shaft on a forward motion and release or brake the shaft on a return-stroke. Two clutch members are employed, of which one is secured to the shaft and the other mounted to rotate loosely and

concentrically on the shaft. The two members are locked together with a swiveling connection that precludes lateral separation. One of the members has flat faces on which are mounted loosely balls or rolls pressed on by springs, so as to insure the contact of the rolls or balls with the rims.

DRIVING-GEAR FOR BELTED MACHINES.—FRANK FRIGERIO, White Haven, Pa. The object of the invention is to provide an improved driving-gear for spinning-machines, arranged to permit proper adjusting and tightening of both runs of the driving-belt to insure a uniform rate of speed for the spindles to be driven. The invention is applicable not only to spinning-machines, but to any machine driven by belt, rope, or cable.

HORIZONTAL BORING-MACHINE.—DEFIANCE MACHINE WORKS, Defiance, Ohio. This machine is the latest design of Mr. George A. Ensign, one of the most fertile inventors of woodworking machinery. The horizontal boring-machine is an improved construction, and is arranged to insure a regular and uniform feed to produce smooth and true holes without the employment of skilled labor or without any effort on the part of the attendant of the machine.

Tools and Apparatus for Special Purposes.

PENCIL-SHARPENER.—AMOS T. FOX, Tacoma, Wash. The pencil-sharpener is operated like a pair of scissors. A long or short point can be produced quickly and conveniently without breaking the lead or soiling the hands. The device comprises pivotally-connected body members, a pivoted pencil receptacle, and an adjustable knife adapted to enter and to have movement in the pencil receptacle.

SLIDE LOOP-CLIP.—ISAAC GOURES, Manhattan, New York city. The clip is intended to hold a strap or loop as adjusted on a belt of elastic webbing. The device is simple in construction and serves to prevent the loop or strap from sliding along the web. The clip is furthermore so designed that it will not cut into the web or soil it.

CASING HEAD FOR OIL WELLS.—JOHN W. FRYE, Station So. Side, Oil City, Pa. Sometimes a derrick is blown down, with the result that the tubing is broken and the lower section drops down into the wells. To recover such a section involves much time and trouble. Mr. Frye makes the tubing which extends down into the well separate from the stand-pipe rising into the derrick and provides a special construction of casing head, which holds the tubing in a suspended position and at the same time connects the tubing and stand-pipe with a closed joint, thereby permitting a continuous flow of oil upwardly without waste.

Vehicles and Their Accessories.

DRAW.—MARTIN LEATHERMAN, Garden City, Minn. The invention is especially adapted to wagons and sleighs to prevent them from running down inclines covered with ice or snow. The draw is adapted to be applied to the vehicle under the wheel or runner, and to support it on the ground, the engagement of the draw with the ground holding the vehicle back sufficiently to prevent its crowding the team.

Miscellaneous Inventions.

NON-REMOVABLE BUNG.—CONRAD ZWICKEL and LEO P. GRUNBAUM, Boise, Idaho. This bung for wooden receptacles for malt or other liquors is non-removable without its destruction after it has been driven into the bung-hole. Hence the adulteration of a choice brand of liquor is prevented or exposed by the necessary substitution of a differently constructed bung.

NECKWEAR.—JENNEY A. TURNER, Norfolk, Va. The inventor has devised a stock-tie which has a body to be wrapped around the neck, an extension at one end of the body, and two tie ribbons at the other end of the body, these tie ribbons being each capable of half-encircling the neck and of being tied together. The tie sets well and attractively on the neck.

FOLDING TABLE.—SIMON M. SNOOK, Scranton, Pa. The present invention is a new and improved folding table arranged to be very firm when set up, and adapted to permit the user conveniently to fold and store it in a small space. The table is intended primarily for ironing, although it may be used for other purposes.

MATCH-BOX.—CAESAR SCHAEER, Superior, Neb. The box is useful for carrying matches or snuff. The manner of opening the box is kept a secret by the user. A device is included in the construction which has every appearance of being the real means of opening the box, but which carries a pin to pierce the finger of the person who presses it.

PEN-HOLDER.—CHARLES W. BARKLEY, Seward, Neb. This invention relates to a pen-holder of such construction that the pen can be held conveniently; and yet, when it is desired to do so, the pen can be ejected without the necessity of applying one's fingers to it.

NON-REFILLABLE BOTTLE.—JOHN S. BROMHEAD, Brooklyn, New York city. This non-refillable bottle is designed to contain Worcestershire sauce, catsup, or any semi-liquid. The peculiar means for preventing the refilling are as simple as they are ingenious.

HOOF-PAD.—JOHN CAMPBELL, Manhattan, New York city. The hoof-pad is to be used conjointly with a horseshoe and serves to furnish a cushion which bears the force of the blow of the hoof on the ground. The pad is provided with an air-chamber running continuously around the length of the pad and having an opening into the atmosphere.

NON-REFILLABLE BOTTLE.—WILLIAM C. LEAK, San Antonio, Tex. The non-refillable bottle is of such construction that the liquid is prevented from being poured back into the bottle by a check, seated on the lower part of the neck and controlled by a plunger, which when the bottle is turned into upright position enables the check to move from its seat, thus permitting the liquid to run out of the bottle.

POST-SECURING DEVICE.—WILLIAM NEWMAN, Alexandria, So. Dak. This device is intended for use on posts, stakes, and piles to prevent them from splitting while they are being driven in the earth. The simple construction provided can be readily applied to the post and will adapt itself to the cross sectional shape, and can be tightened to bind the post so that it will not split.

COCK FOR GAS-FIXTURES.—JAMES D. STURGIS, Chicago, Ill. The cock completely cuts off the flow of gas to the burner when the cock-plug is turned in one direction until its rotation is arrested by a stop. A graduated but diminished flow to the burner is permitted when the plug is turned oppositely until arrested by another stop. The full flow of the gas is obtained when the plug is adjusted so as to locate projections between the stops on the body of the burner.

HORIZONTAL SWING.—CHARLES A. SCHINDLER, Jr., West Hoboken, N. J. Mr. Schindler has provided a new and improved horizontal swing, which in construction is simple and durable, and which is arranged to insure an easy turning of the rope-supporting frame, by reason of an ingenious ball-bearing arrangement at the pivot portion of the swing.

WHEEL ATTACHMENT FOR CHILDREN'S HIGH CHAIRS.—ISAAC M. CLARK, Lompoc, Cal. Mr. Clark has provided the rear legs of a child's high-chair with wheels supported upon novel clamps. The clamps are readily attachable. When in place the clamps serve to prevent the restless movement of the child from tipping over the chair. The attachment, however, serves not only to prevent rearward tipping, but also for moving the chair in any direction.

NECKTIE HOLDER.—ZALAL GUZIK, Manhattan, New York City. The inventor has devised an improvement in means for holding four-in-hand neckties in connection with a button and turn-down collar. The tie is suitably held without passing it around the collar. A clip of novel construction is provided which serves not only as a convenient attachment between the tie-shoulder and the collar-button, but also to strengthen the central portion of the shield, where it is most likely to break.

Designs.

SHINGLE.—GEORGE F. MURDOCK, Wellsville, Ohio. The leading feature of this design is to be found in the shield-like formation of one end portion.

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.

PRACTICAL DIETETICS. Food Value of Meat. By W. R. C. LATSON, M.D. 16mo. Pp. 72. Price 50 cents.

The matter of meat eating is becoming an important subject of consideration, and in this manual Dr. Latson shows quite clearly that all the fatty elements found in meat can be obtained by the use of other products, as cereals, nuts, vegetables, fruits, etc., avoiding the use of foods that are likely to be unhealthful.

OUR FERNS IN THEIR HAUNTS. A Guide to All the Native Species. By WILLARD NELSON CLUTE. Illustrated by WILLIAM WALWORTH STILSON. New York: F. A. Stokes Company. 1901. 12mo. Pp. 332. Price \$2.15.

The author has paid special attention to the haunts, habits, uses, folk-lore, structure, growth, abundant distribution and varieties of ferns, covering a greater range and covering more species than are mentioned in any other similar work. Every common or English name is given, together with the scientific names of both the old and the new nomenclatures, with a discussion of the origin and application of these names. It contains a most valuable illustrated key to the families. The illustrations have supplied more than 200 beautiful illustrations, in color, in wash and in pen-and-ink. It is a delightful book.

ELECTRICAL CATECHISM. An Introductory Treatise on Electricity and Its Uses. By GEORGE T. SHEPARDSON, M.E., New York: American Electrician Company. 1901. 8vo. Pp. 403. Price \$2.

The work here presented is a revision and enlargement of the Electrical Catechism which was first published in Electrical Industries and continued in the American Electrician. It is designed to answer the numerous questions that continually come up in the houses of those who come in contact with any applica-

tion of electricity. The topics are selected from personal questions and letters, and from the queries noted in electrical papers, these being supplemented by others intended to prepare the way and to make the treatment more consecutive and comprehensive. The result is a book of great value for all students of electrical engineering. It is a mine of valuable material.

PRIMITIVE MAN. By D. N. HOERNES. London: J. M. Dent & Co. New York: Macmillan Co. 1901. 16mo. Pp. 135. Price 40 cents.

One of the admirable little Temple series, which is well adapted to give the reader an idea of the principles of anthropology.

A HISTORY OF THE PRECIOUS METALS FROM THE EARLIEST TIMES TO THE PRESENT. By ALEXANDER DEL MAR, M.E. New York: Cambridge Encyclopedia. 1902. 8vo. Pp. 480. Price \$3.

The present work is based on a previous edition published in 1879. The arrangement of the first work was by epochs. The present arrangement is by countries, involving an entire rewriting and revision of the work by the author. Its scope is very broad, and the bibliography which the author cites is most imposing. The amount of valuable information relative to the precious metals of all countries is really remarkable. It is a most beautiful book.

CONTRIBUTIONS TO MINERALOGY AND PETROGRAPHY. From the Laboratories of the Sheffield Scientific School of Yale University. Edited by S. L. PENFIELD and L. V. PIRSSON. New York: Charles Scribner's Sons. 1901. 8vo. Pp. 842. Price \$4.

This volume comprises a series of reprints of some of the most important of the papers containing the researches made in the chemical, mineralogical and petrographical laboratories at Yale. In the lines of mineralogy and petrography, it is believed that gathered from foreign scattered sources and put into this compact form they will prove a useful addition to the literature of these closely allied sciences. The first editor is responsible for the mineralogical portion, and the second for the petrographical part. The work is of great value and a monument of patient and careful research.

3,500 QUESTIONS ON MEDICAL SUBJECTS ARRANGED FOR SELF-EXAMINATION. Philadelphia: P. Blakiston's Son & Co. 1901. 32mo. Pp. 217. Price 10 cents.

It would appear that any one who could answer the 3,500 questions proposed in this quizbook ought to be given a degree of M.D. on the spot. It is an excellent little work which can be commended to every medical student, and it will also assist the practitioner in brushing up his rusty points. The right-hand page is left blank for memoranda.

A HANDBOOK FOR APPRENTICE MACHINISTS. By OSCAR J. BEALE. Providence, R. I.: Brown & Sharp Manufacturing Company. 1901. 16mo. Pp. 141. Price 50 cents.

This book is for learners in the use of machine tools, and is the outgrowth of the needs of the company referred to above in the instructing of apprentices. It was felt there was too much uncertainty in depending upon oral instruction to impart the information in some details, which every apprentice is entitled to receive. An experimental edition of this book has been printed and has proved useful. The present edition is carefully revised and enlarged with the hope that it will be still more useful. Various subjects, such as centering, turning, drilling, tapping, etc., are treated, as well as pulley speeds, gear speeds, chain gears for screw-cutting, the reading of drawings and kindred subjects.

GEOMETRIC EXERCISES IN PAPER FOLDING. By T. SANDARA ROW. Edited and revised by Profs. BEMAN and SMITH. Chicago: The Open Court Publishing Company. 1901. 12mo. Pp. 148. Price \$1.

An examination of Sandara Row's geometrical exercises in paper folding convinces the editors of its undoubted merits and of its value to American teachers and students of geometry. The exercises do not require mathematical instruments, and an envelope of selected papers accompanies each volume.

GESCHICHTEN VON DEUTSCHEN STAEDTEN. By Prof. Menco STERN. New York: American Book Company. 1902. 12mo. Pp. 420. Illustrated with Map of Germany and 14 engravings.

Encouraged by the success of his earlier book, "Geschichten vom Rhein," Prof. Stern has written another volume of short stories of interesting German cities and towns. These legends and tales of the founding and history of well-known places serve to fix them in one's memory, and to give each a distinct individuality. The stories are told in a simple, terse style, showing considerable literary merit, and will be found most interesting reading, not only by the student with a slight knowledge of German, but also by anyone thoroughly conversant with it. To a person about to take a trip through Germany these legends will furnish a pleasant introduction to its many fine cities and often suggest places of interest to be seen when visiting them. The book is excellently printed in clear German type and is furnished with a complete vocabulary.