

RECENTLY PATENTED INVENTIONS.

Electrical Apparatus.

CONTACT-PLUG.—CHARLES WAGNER, Manhattan, New York city. The inventor has devised an improved contact-plug for attachment to walls and other supports. The plug is arranged to insure a perfect contact when in the socket, to be readily removed in order to break the contact, or to be inserted in order positively to make the circuit. Porcelain is used for the socket and plug.

BATTERY-TRAY.—JAMES R. BLACKWELL, Manhattan, New York city. It sometimes happens that the working of the apparatus connected with a battery is deranged by the breaking of one of the cells. The object of this invention is to provide a tray to hold a number of cells and to indicate when a cell is broken. The battery elements are connected with an alarm, so that should a cell be broken its liquid, flowing into the tray, will cause a current to pass through the alarm, thus indicating that there is a break.

COMBINATER WATER-TIGHT JUNCTION-BOX, RECEPTACLE, AND FIXTURE.—ANNA E. JAHL, Manhattan, New York city. The invention provides an improved combination water-tight junction-box, receptacle, and fixture, which is especially designed for use in places subject to considerable moisture, as along the shore of a river, in ships, and in subterranean and submarine work. The device is arranged to insure at all times proper connection, and, in case of an overload in the main current, to prevent breakage of the electric lamp by burning out a fuse.

Mechanical Devices.

ELEVATOR FOR BINDERS.—ALBERT M. ALLEN, Pauls Valley, Indian Territory. Mr. Allen has dispensed with the top elevator-apron by providing a single apron having slats carrying teeth, and has thus materially reduced the draft of the machine. The apron of the elevator is passed over two wheels, the slats at the inner face being adapted to enter the spaces between the teeth of the wheels. Hence the apron is given a positive and uniform movement, and will not be shifted as heretofore, by frictional contact with a smooth surface.

CLUTCH AND REVERSING MECHANISM.—JOHN BLEM, West Hoboken, N. J. The mechanism comprises a shaft to be driven; an internal gear-wheel; and an external gear-wheel, both gear-wheels being loose on the shaft. With the gear-wheels a driven pinion meshes. For each gear-wheel an independent clutch-mechanism is provided to lock either of the gear-wheels to the shaft to be driven. The device permits the operator readily to drive the shaft in either direction or to stop whenever he may desire.

STOP-MOTION FOR MECHANICAL TOYS.—ATHERTON D. CONVERSE, Winchendon, Mass. The purpose of the invention is to provide a means for automatically preventing the wheels or axles of a motor-controlled vehicle from turning until the vehicle is placed upon the support on which it is to travel. The driving-axle is provided with a projection. A second axle is employed, which is mounted to turn and slide and to operate a check-device which is arranged for contact with the projection from the driving-axle. The moment the vehicle is placed upon a support the wheels begin to turn.

SHOE-TURNING DEVICE.—GEORGE B. GARDNER, Haverhill, Mass. This invention relates to devices for facilitating the work of turning shoes, which work is necessary in the manufacture of certain kinds of shoes. The turner comprises two essentially parallel arms movable relatively toward and from each other. One of the arms has its end portion turned laterally approximately parallel with the line of relative movement of the arms.

CONCENTRATOR.—EDWIN A. SPERRY, Biwabik, Minn. The material treated is to be mixed with water and delivered on the surface of the table from the distributing-box. By adjusting the conical pitch of the table-top the ore-pulp is allowed to flow down toward the edge of the table, while the vanning or agitating motion, together with the action of the water mixed with the pulp, gives the particles an opportunity to separate according to their respective specific gravities. The heavier particles settle on the table, while the lighter particles remain on top of the heavier. The revolution of the tables moves the material so deposited, and a spray from a pipe washes off the upper and lighter portions of the material deposited and leaves the heavier values on the surface of the table. The values are in turn washed off into suitable receptacles.

DISINTEGRATING MACHINE.—BRUNO MOUTIER, Roquevaire (Bouches du Rhône), France. The machine is a powdering or disintegrating machine which breaks up, crushes, granulates, and pulverizes by inter-reciprocating shock of the material, and is characterized by a special construction which is exceedingly efficient and which reduces the wear of the working parts to a minimum.

MOTOR.—CHARLES W. STEELE, Detroit, Mich. The motor is designed to be employed in connection with boiler-tube cleaners, and comprises a casing which can be connected at one end with a motive-agent supply-pipe. A cap is secured to the opposite end of the casing, and is provided with exhaust-ports. In the casing is a series of deflectors. A shaft has bearing at one end in the deflector at the inlet end of the casing and at the other end

in the cap. Propeller-wheels are secured to the shaft and alternate with the deflectors, the wheels having peripheral angularly-disposed blades. The scoring-off process is materially assisted by the exhaust motive agent.

CLOTHES-WRINGER.—ALBERT G. CARLING, Hackensack, N. J. By means of the improvements devised by Mr. Carling the clothes-wringer can be actuated speedily for light work and can be adapted, by a quick change of working parts, for slow movement with great increase of power when heavy work is to be performed.

PROPELLER.—KIRK G. JOHNSTON, Piqua, Ohio. The object of the invention is to provide simple means for shifting the angle of the blades and locking them in order to propel the vessel forward or backward without reversing the direction of rotation of the propeller-shaft. The device is particularly serviceable in naphtha and gasoline launches.

ACETYLENE GAS GENERATOR.—TYRRELL H. DUNCOMBE, 300 Talbot Street, St. Thomas, Ontario, Canada. The water-reservoir, gas-receiver, and generating-chamber are arranged side by side. The water is allowed to gravitate from the reservoir to the carbid in the generator in order to produce gas, and is forced back and away from the carbid by the gas so produced, to cause the generation of gas to proceed or to be discontinued automatically in accordance with the consumption.

COAL-MINING MACHINE.—OUIS JACOBY, Sandrum, Ohio. The chief features of the invention are a strong main frame and a carriage which supports the cutting devices and the engine or motor mechanism and which moves back and forth in the main frame, so that the cutting devices can be properly projected to cut into the bank of coal when the machine is operated. In this machine the main frame possesses great strength to resist the vibration and lateral strain when the cutters meet an unyielding obstruction.

MACHINE FOR OPERATING UPON PITHY STALKS.—GEORGE R. SHERWOOD, 971 Warren Avenue, Chicago, Ill. The shell from one side of the stalk is severed by a cutter which is reciprocated longitudinally. To this cutter the stalk is fed by rollers which extend parallel with the cutter. The roller on the side from which the shell is cut is practically unyielding during operation and under the control of adjusting devices; while the other roller is yieldingly supported. Both of these cutters discharge on a carrier which can be coupled to other carriers to deliver the shell at any desired point. The pith is discharged by a screw-conveyor at one side of the machine.

STREET-SWEEPER.—JESSE M. HARR, Ninth and H Streets, Washington, S. E., D. C. This machine is designed to be propelled by one laborer and automatically to sweep up the dirt and deposit it in a receptacle by the machine. The dirt receptacle rests on the bottom of the machine. A rotary brush and a bucket are provided, the bucket being adapted to be opened on the side adjacent to the brush and to be automatically raised and dumped into the dirt-receptacle.

Vehicles and Their Accessories.

BICYCLE-LOCK.—EARL F. L. RUSSELL and CHARLES M. BROWN, Denver, Colo. The purpose of this invention is to provide a simple device for rendering bicycles inoperative and thereby preventing them from being stolen. This device comprises a bolt adapted to be forced against the tire of the bicycle-wheel so that the wheel cannot be turned.

ELASTIC TIRE.—WILLIAM F. WILLIAMS, 17 and 18 Great Pultney Street, London, W., England. The invention relates to the manufacture of hollow rubber tires of D section adapted to be secured to the wheel-rim by a band passing through the bore of the tire. The inventor produces a tire having embedded in the rubber (in immediate proximity to the bore) helical springs conforming with the transversely-arched shape of the tire, in combination with cords adapted to form a core to fill up the interior of the springs. Cords and springs co-act to strengthen the tire.

MEANS FOR SECURING ELASTIC TIRES TO WHEELS.—WILLIAM F. WILLIAMS, 17 and 18 Great Pultney Street, London, W., England. The invention relates to tires which are clasped about the wheel-rim by a metal band binding the base of the tire, or by inwardly-turned marginal flanges on the margin of the tire. The novel feature of the invention is to be found in a means for adjustably tightening and securing the tire.

Miscellaneous.

PIPE-STOPPER.—GEORGE B. SIDELINGER, Danville, Ill. Mr. Sidelinger has devised a means for hermetically sealing the ends of pipes in a most secure manner and yet so as to permit him to remove the plug quickly and easily whenever necessary.

WATER-REGULATING DEVICE.—THOMAS J. SANFORD, Chicago, Ill. The device is designed to regulate the water fed into an elevated tank on a building, is automatic in operation, is adapted to supply water to water fixtures for use as required and likewise to supply water to a heating-tank which is connected with the system of water-distribution.

POCKET-BOOK, HAND-BAG OR THE LIKE.—MAX VOEGELING, Brooklyn, New York city. By means of the improvements invented by the patentee a convenient change-pocket is

provided entirely separate from the other compartments of the article. Hence it is possible more readily to store change, bills, cards, handkerchiefs and the like separately.

GAS-METER SUPPORT.—HENRY T. HOLLAND, Manhattan, New York city. The inventor has devised a support which is cheap, strong, and simple, which permits ready access to the meter from all sides, which is capable of being used in different positions, and which is compact, permitting the gas-meter to be set where but little space is available.

TUNING-BUTTON.—ARTHUR J. LANG, Brooklyn, New York city. The tuning-button is of the kind used at the neck sections of stringed musical instruments. The purpose of the invention is to provide such a tuning-button with a light, yet durable head, and firmly to secure this head on the stem or shank.

PRESERVE-TIN.—EMILE BESSE and LOUIS LEBIN, Paris, France. These two inventors have devised a tin which can be soldered with or without pressure, in such a manner as to prevent the melted solder (which is interposed between the tin and its cover or its bottom plate) from running during the soldering into the interior or down the outside of the tin.

TOOL-HANDLE.—JOHN C. LAMBERT, Tonica, Ill. The handle comprises a shell in which two jaws are fitted. The jaws are tapered and the inner walls of the shell are correspondingly formed. One of the jaws has a threaded shank at its upper end over which is passed an eye formed on the under jaw so that the jaws may be connected with each other. The threaded shank of the first-named jaw screws into the upper end of the shell.

WORKMAN'S TIME RECORDER.—JOHN A. DEMOTT, Oberlin, Ohio. The workman who is late is provided with a special time-card which he perforates by a register. When the workman leaves at night he repeats the operation so that the card bears two perforations. If the workman goes out and returns at noon the card bears four perforations. In order to verify the record of a late man a special device is employed by which the card is perforated. If this perforated record tallies with the workman's account, the workman's record will be accepted as correct.

SAFETY-CHECK.—WILLIAM H. BLACK, 100 Broadway, Manhattan, New York city. The invention is an improvement in checks, drafts, and other papers representing value, including foreign exchanges, letters of credit, etc., and is specially designed for use as a traveler's check without necessitating a personal identification. The paper is good anywhere in the hands of the purchaser or his indorsee, but is good nowhere in the hands of a wrongful holder. The check can be cashed in by the purchaser at the issuing office without the necessity of giving bond or securing identification further than that afforded by the counter-signature.

BADGE-BAR.—BENJAMIN HARRIS, Manhattan, New York city. By means of the badge-bar a ribbon is fastened to the coat. The device comprises a bar the front face of which is ornamented and the rear face of which is provided with peculiarly-arranged pins, one being adapted to pierce the coat and the other to engage and suspend the ribbon.

BADGE-BAR.—BENJAMIN HARRIS, Manhattan, New York city. This badge-bar comprises a back-plate, a front binding-rim, a panel-bearing insignia or ornamentation, and pins at the back for securing the bar and the badge ribbon. The various parts are held together in a novel way.

PROCESS OF TREATING BLAST-FURNACE SLAG IN ITS MOLTEN STATE.—ALEXANDER D. UEBERS, Hoboken, N. J. The molten slag is gathered in a kiln having non-conducting walls and having an air-space above the surface of the slag. This space has restricted communication with the atmosphere. Communication between the air of this space and the atmosphere is regulated so that the air above the slag is intensely heated by radiation and the cooling of the slag is retarded while the slag is in a state of transition to the solid form.

MUSIC RACK AND LIGHT-SUPPORTING ATTACHMENT FOR STOOLS OR CHAIRS.—CHARLES H. BACON, Danielson, Conn. The invention provides means for adjustably securing a music-rack and a support for a lantern to a stool, thus accommodating each musician of a band with a support for music and with a light.

CIGAR.—FREDERICK E. ARNOLD, Ann Arbor, Mich. The cigar is arranged to prevent the ashes from falling off while smoking and at the same time to preserve all the flavor in the cigar and insure a free draft.

DESK-TOP.—ROBERT M. SMITH, Chicago, Ill. By means of Mr. Smith's invention an ordinary school-desk can be transformed into a desk fitted both for academic work and for manual training. This end is obtained by fitting the desk with a reversible top, one side of which can be used for academic work, and one side of which is arranged for manual work.

WATER INDICATOR.—WILHELM VOLTZOW and HENRY JURGENS, Brooklyn, New York city. By means of this machine the depth of water in a receptacle is accurately indicated in feet and inches at any desired point above or below the receptacle or at any point within the receptacle. The device is particularly applicable for automatically indicating to the watch officer of the deck of a vessel the depth of water in the hold in feet and inches.

DOOR SPRING AND STOP.—HENRY McCURRY, Evanston, Ill. This invention is an improved closing spring for stop devices for swinging doors of carriages to prevent the doors from swinging too far outwardly and striking the carriage-wheels. The device is entirely hidden from view when the door is closed.

CAN-SPOUT.—VIRGINIE A. HENRY, Manhattan, New York city. The invention provides a spout which is readily attachable to a can and which protects the contents of the can against dust and other foreign matter, and which excludes the outside air from all but a small portion of the surface of these contents.

DESK.—ROBERT M. SMITH, Chicago, Ill. The desk is a combined study and manual-working desk adapted for use in schools which combine both manual and academic studies. A reversible top is pivotally connected with slides mounted in sideways of a framing. Upon the movement of the slides from one end of the desk to the other the top is reversed. It is to be understood that the one side of the top is designed to be used for manual training, and the other side in the ordinary manner.

Designs.

BADGE.—FREDERICK KOCH, Manhattan, New York city. The design shows the new Pan-American Exposition badge which has recently gained such wide popularity. The badge consists of two heart-shaped elements arranged one beneath the other.

CANDY-MOLD.—CHARLES REPETTI, Manhattan, New York city. The mold produces a candy which bears a design consisting of two crossed flags upon which a pan is superposed, the dish of the pan bearing the head of a buffalo. The purpose is obvious.

GRASS-HOOK.—HENRY B. BARDEN, Wallingford, Vt. The shank of the hook is near the heel of the blade and slightly elevated at that point. The blade hangs at an angle to the cutting edge lower than the back, giving free play for a broad swath, and preventing the hand from coming in contact with the ground.

PARING KNIFE.—CORNELIUS T. DEMAREST, Hackensack, N. J. The leading feature of the design consists of a blade having two points extending therefrom which are dish.

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

NEW BOOKS, ETC.

THE VICTORIA JUBILEE BRIDGE. Complimentary Souvenir Booklet, issued by the Grand Trunk Railway System.

This artistic little souvenir book is bound in silvered metal covers and well illustrated with fine engravings, showing both the original Victoria tubular bridge across the St. Lawrence at Montreal and the new Jubilee bridge, which was finished in 1899. Considerable interest attaches to the original bridge, especially as it was opened in 1860 by the Prince of Wales. A photograph of the Prince and party, as well as the various commemorative medals, are all reproduced in the book, which contains a complete description of this great engineering feat and its accomplishment.

PLAIN FACTS ABOUT THE AUTOMOBILE. By Albert S. Clough, S.B. Manchester, N. H.: The Nature Study Press. 1901. 36 pp.

This pamphlet contains a popular description of the three systems now in use in this country, viz., steam, electric and gasoline. A comparison of them is made and the prospective purchaser is enlightened as to the advantages and disadvantages, and also given some valuable points as to their care.

SNAP SHOTS. Photographic Paper. J. W. Willard, Editor. New York: Snap Shot Publishing Company. 20 pp.

This breezy little photographic paper is now in the midst of its ninth annual volume, and continues to be the purveyor of interesting notes and short articles on practical photographic methods.

THE LOCOMOTIVE. Hartford Steam Boiler Inspection and Insurance Company. Vol. XXI. 1900. 191 pp., 40 ill.

The bound volume for 1900 of this little paper contains many articles of value to engineers and others having the care of steam engines and boilers. A number of photographs of curious boiler explosions are reproduced, and the causes gone into and described. In each number a monthly list of boiler explosions is given, as well as a list of boilers found defective upon inspection.

BIBLIOTICS, OR THE STUDY OF DOCUMENTS. By Persifor Frazer. Third Edition, greatly enlarged, rearranged and in part rewritten. Philadelphia: J. B. Lippincott Company. 1901. 266 pp., 45 ill.

This little volume is a complete handbook for those interested in the determination of the individual character of handwriting for exposing forgery and fraud. The author uses scientific methods throughout, employing composite and micro photography for obtaining a standard of comparison and for investigating tremors in the pen stroke respectively. His book describes (1) physical considerations, (2) grammapheny, or the study of the individual characteristics of the writing, (3) plassopheny, or the means to be employed for