

RECENTLY PATENTED INVENTIONS.

Railway Appliances.

CAR COUPLING.—Robert McMahon, Seattle, Washington. The draw head of this coupling has a vertical guide tube loosely embraced by a rocking bar supporting the coupling pin, which has a flanged head, and whose toe is engaged by a pivoted cam block, in connection with a tripping device, forming an automatic coupling, and one which may be operated from either side or the top to couple or uncouple cars.

CAR COUPLING.—Michael F. Finnerty, Brooklyn, N. Y. By this invention a transverse bar is adapted to slide vertically in the drawhead, the bar having a pin which projects at right angles, while the coupling link is adapted to be engaged by the bar and pin, the device being automatic in operation, and being designed to make ferryboats fast in their slips as well as for coupling cars.

STATION INDICATOR.—William S. Mallard, Darien, Ga. This is a device more especially adapted for use on steam or street railway cars, and to be located in convenient reach of the conductor or brakeman, consisting of a suitably constructed casing to carry indicator plates, means being employed to automatically hold each plate in a sight opening, and move the slides successively as desired, a gong being rung at each change of the slides.

ELECTRIC RAILWAY TROLLEY.—William J. Cavert, Albany, N. Y., and William P. Wiswall, West Troy, N. Y. The bearing below the trolley wheel has an upwardly projecting fork embracing the conductor beyond the wheel, and adapted to contact when the trolley wheel fails, with other novel features, the trolley being adapted to follow the conductor without cramping, and having a guard attachment also adapted to clear ice from the conductor.

Mechanical.

LOOM SHUTTLE TENSION DEVICE.—Squire Bentley and Alfred Bentley, Paterson, N. J. This is a tension regulator for shuttles used in weaving ribbons or other narrow goods, and consists of a spring wire spring having one end fixed to the shuttle body and the opposite end coiled around the quill spindle and arranged to press against one end of the quill, and is designed to hold the latter with an even pressure, without regard to the amount of silk on the quill.

CHAIN.—Richard Paxson, Philadelphia, Pa. This invention relates to cable chains, such as used on cranes for raising and lowering heavy weights, and for other machines, and provides an open link chain, the links in different planes and crossing one another, with concave bearing surfaces on opposite faces of the links upon opposite sides of the opening through the links, forming a new article of manufacture.

Agricultural.

CORN HARVESTER.—Thomas C. St. John, Willoughby, Ohio. This machine has two parallel inclined beams adapted to straddle a row of corn, with a series of inwardly inclined fingers pivoted to each of the beams, and adapted to swing upward and outward, the machine being moved over the field to cut the ears from the stalks and gather the corn in the wagon by which the machine is carried.

SHOCK COMPRESSOR.—James K. Miller, Emporia, Kansas. The body portion of this device is split longitudinally to form two arms, one of which is prolonged and formed into a narrow neck and a terminal head, a pulley being pivoted between the arms and the head apertured to receive a rope, to compress fodder and corn shocks and hold them while they are being tied.

DEHORNING CALVES.—Charles T. Ingraham, Dwight, Ill. Two knife arms are pivoted together, supporting knives of special form, one of the knife arms having a handle and the other being adapted to be struck by a suitable implement to force its knife toward the other one, for conveniently and rapidly cutting out the horns of calves, so as to prevent further growth.

Miscellaneous.

BACKING PLATES FOR PRINTING.—Jacob C. Wolfe, New York City. This inventor has obtained two patents for backing for electrotype or stereotype shells, there being in one case a metal box-like backing having vents in one face to receive surplus cementing material, the backing having straight sides and ends and being of the least possible weight, while in the other case it consists of a body shell with an interior lattice work and a top plate detachably attached thereto, adapted for the reception of the shell, whereby one base or backing may be utilized for printing matter contained upon any one of a number of shells.

BOOK CASE.—Isaac C. Woolrey, Geneseo, Kansas. This case has a series of vertically arranged partitions fitted to slide freely between the shelves, with horizontally arranged springs connected to the several partitions and holding them yieldingly apart, whereby each book is held between two movable partitions, thus protecting the books and holding each in its assigned place.

TRAMMEL HEAD.—Reinhold G. Hausdorfer, Zanesville, Ohio. Combined with a head frame having a trammel point is a shoe pivoted in the frame, while there is a clamping plate engaged by two thumb screws, a fulcrum pin uniting the frame and shoe, affording means to secure the points of a beam compass upon the elongated bar or beam of the instrument and adjust them with great accuracy.

TRANSPOSING KEY BOARD.—James M. Gilbert, Putney, Vt. A series of finger keys is pivoted in a movable frame, while there is a rack and pinion movement for actuating the frame and a locking device

for the pinion, with other novel features, making a quickly and easily adjusted device for a piano or other instrument by which music may be played in a higher or lower key.

BRIDGE GATE.—Henry E. Dewey, South Haven, Mich. This is a gate designed to be operated from the land side or the bridge, but shut off from connection with the bridge when operated from the land side, and shut off from the land when operated from the bridge, while the gate when closed will be securely braced, so that it cannot be broken down by runaway teams.

HOSE WASHING MACHINE.—Anderson B. Cosby, Richmond, Va. A portable frame or carriage is provided with an annular spraying pipe through which the hose is passed, a supply pipe being connected with the frame and supporting the pipe, while a discharge pipe supports a trough through which the hose is passed and in which it is washed while passing through.

HOOK.—James K. Miller, Emporia, Kansas. This hook has an eye in its shank, two oppositely extending hooks at its lower end, and a central hook at right angles to the others, being one by means of which a rope may be easily and quickly fastened, and convenient for use in fastening bundles, for hoisting purposes, and various uses.

PAVING BRICK.—Athelstan O. Jones, Zanesville, Ohio. This brick is of greater vertical depth than width, and has rounded upper edges, forming seams or grooves when laid, while it has diagonal grooves on one side, vertical grooves on the other side, and horizontal grooves in the ends, to receive pitch or cement to be flowed between the bricks to bind them tightly in the roadbed.

TRUNK ATTACHMENT.—William R. Sutley, Mitchell, South Dakota. This invention provides a handle bar with parallel limbs to loosely embrace the sides of the trunk, and slide in and out in keeper loops attached thereto, there being spring stops on the ends of the limbs to contact with the loops, the device giving a leverage to facilitate the movement of heavy trunks and packages, on which any suitable form of caster may be used.

LOCK.—Thomas A. Phillips and James J. Greenhoe, Williamstown, Pa. In this lock the case contains a horizontally movable frame on which is formed a locking bar with horizontal ribs, a tumbler fixed to the lock spindle moving in a recess of the frame to actuate it, with other novel features, the lock being designed for use without a key, and for arrangement from the inside of a building or room in such a manner that it is impossible to operate it from the outside.

DOOR KNOB.—Henry F. Keil, New York City. A shank is adapted to pass into a recessed head, and soft metal balls are pressed through openings in the shank extending into recesses in the head to fill the openings and recesses, thus securing the shank to the head or handle in a simple and effective manner.

KEY.—Paren England, Aspen, Col. This key is provided with an attachment in the form of a supplemental bit pivoted to the key shank, forming a locking member serving to plug up the key hole, the key part proper being retained in position in the lock notwithstanding any jarring or shaking of the door.

ABSORBENT BOTTLE COLLAR.—Benjamin H. Day, Jr., West Hoboken, N. J. By this invention a flexible band is adapted to hug the neck of the bottle, being held in place by a retaining wire, the device being designed to catch and retain the drip when pouring from a bottle or other vessel to which it is applied.

TABLET ORNAMENT.—Louis B. Prahar, Brooklyn, N. Y. A front and back plate are pivoted together to hold between them leaves of celluloid, ivory, etc., in connection with an automatic or other latch stop and means for attaching the back plate to a pocket book, traveling bag, etc., forming a tablet convenient of access and of ornamental description.

CORSET FASTENING.—Thomas J. Brough, Baltimore, Md. The lock of this device has a handle bar and a hook which projects through and is journaled in a cap plate secured to the corset, the cap plate holding the lock to the corset and forming a bearing for its pivotal movement, making a simple and economical fastening.

TOBACCO BOX.—Joseph Lewis, Winsted, Conn. This is a box for holding tobacco in plug or stick form, and has an attached knife and feeder to supply the tobacco in cut portions as required, the knife portion occupying one end of the box, which it closes when not in use, while a swinging handle shuts within a recess in the side of the box.

MUSTACHE TRAINER.—Isaac Commons, Piqua, Ohio. This device consists of a piece of flat spring metal bent to form two limbs which may be brought in engagement with each other, two such clasps being employed to retain the mustache in desired position.

TOY BUZZER.—George T. Fallis, St. Joseph, Mo. This is a device to be whirled in the air, when it emits a buzzing sound, which increases or decreases according to the momentum, the device being attached to and swung by a string or cane.

TOY PUZZLE.—William W. Brown, New York City. According to this invention a screw or pin is held crosswise in the lower end of a long stem on the inside of a bottle, in a position apparently impossible to place it, but which is made possible by the division of the stem and a rod passed down an inner bore, the device being designed to tax the ingenuity of an investigator. Address E. Muehsam, No. 2 Walker Street, New York, for particulars about this puzzle.

NOTE.—Copies of any of the above patents will be furnished by Munn & Co., for 25 cents each. Please send name of the patentee, title of invention, and date of this paper.

NEW BOOKS AND PUBLICATIONS.

EXAMINATION OF WATER FOR SANITARY AND TECHNICAL PURPOSES. By Henry Leffmann and William Beam. Second edition, revised and enlarged, with illustrations. Philadelphia: P. Blakiston, Son & Co. 1891. Pp. vi, 130. Price \$1.

The horizon of the medical school is kept in view by the author of this work. It gives all the standard methods for determining the constituents of water, together with a particularly valuable chapter giving, in brief, the biological examination with determination of colonies of bacteria. A table of factors for calculation, and conversion tables, giving the grains per United States gallon and the grains per imported gallon, with other similar tables, and a full index, are contained in the work. Illustrations are used wherever necessary, and as an abstract and compendium of a definite branch of analysis, the work has considerable value.

GEOLOGICAL SURVEY OF NEW JERSEY. Final report of the State geologist. Vol. II. Mineralogy, botany, zoology. Trenton, N. J. 1890. Pp. x, 824.

This is another of the works marking the completion of the report of State Geologist George H. Cook, whose recent decease adds to the interest of these catalogues, for such they are, which have a value to naturalists and can be truly said to be inestimable. The fullness of the work adds additional regret to the feelings of the scientific world for his loss. The present volume is devoted entirely to zoology, including insects, vertebrates, etc.

L'ACIER: HISTORIQUE, FABRICATION, EMPLOI. L. Campredon. Paris: B. Fignol. Pp. 344. 50 illustrations.

This is a very acceptable and prettily illustrated presentation of the subject of modern steel, processes, uses, and tests.

PROGRESSIVE CARPENTRY. By D. H. Meloy. Waterbury, Conn. 1890. Pp. 55. Illustrated. Price \$1.

The results of the experience of fifty years are supposed to be condensed into the narrow compass of this little book. It is devoted principally to roof framing and laying out work, and there is no doubt that it will be of use to many carpenters and builders.

PROGRESSIVE EXERCISES IN PRACTICAL CHEMISTRY. By Henry Leffmann, M.D., Ph.D., and William Beam, M.A. Illustrated. Philadelphia: P. Blakiston, Son & Co. 1890. Pp. 104. Price \$1.

This little work is very acceptably presented. It treats in a very detailed method of the simplest chemical manipulations, pouring of liquids, filtering and washing precipitates and the other minutiae of the chemist's work. While it is calculated for the curriculum of certain institutions, the Woman's Medical College and the Pennsylvania College of Dental Surgery, it would be of use in many schools where an elementary course of chemistry only is desired. It extends through the simpler tests and work of inorganic chemistry. It includes 253 experiments, which would keep it within the range of many schools.

A MOVE FOR BETTER ROADS. Essays on road making and maintenance and road laws, with a synopsis of other contributions and a review, by Lewis M. Haupt, and introduction by William H. Rhawn. Philadelphia: University of Pennsylvania Press. 1891. Pp. xvi, 319.

The new movement in the direction of better roads for this country finds an exponent in the present work. It represents the recent essays written in competition for the prize offered by the University of Pennsylvania for writing the best paper on the subject. It contains, in addition to general matter, the first, second, and third prize papers and a number of essays to which honorable mention was awarded, and a digest of the contents of the remaining contributions by Professor Haupt. The information contained in this book is of great variety, and it may be regarded as a standard work on the subject. It is to be hoped that it will produce an enlivening effect upon our legislatures in the enactment of laws promotive of good roads throughout this country.

THE WASHINGTON BRIDGE OVER THE HARLEM RIVER, AT 181ST STREET, NEW YORK CITY. A description of its construction. By William R. Hutton, Chief Engineer. Illustrated. Leo Von Rosenberg, New York. Pp. 96. Plates 63. Price \$8.

This magnificent work describes in full detail all the stages of erecting the Washington Bridge in this city. It includes the false work, building of the foundations thereon, systems of hoisting, and all the details of the finished structure. As a monograph of one of the great bridges of the world, perhaps the handsomest of all iron bridges, it is simply beyond comparison. The plates include numerous photogravures illustrating the progress of operations, which come out with extreme clearness. In every respect the work is entirely beyond criticism, and is produced on so luxurious a scale that one can hardly hope that it will soon be surpassed by anything in literature or engineering.

THE FIVE ORDERS OF ARCHITECTURE, according to Giacomo Barozio, of Vignola, to which are added the Greek orders. Edited and translated by Arthur Lyman Tuckerman for the use of the art schools of the Metropolitan Museum of Art. New York: William T. Comstock. 1891. Pp. 12. Plates lxxvii. Price \$5.

As will be seen from the summary of this work, it consists almost entirely of plates. The five orders treated are the Tuscan, Doric, Ionic, Corinthian, and Composite. All of the orders are of the Roman type, the Doric having a base, and all of the columns being shown in the systematically arranged page as mounted

on pedestals. It gives, in other words, classic architecture from the standpoint of the mediæval architect. The book is unexceptionably gotten up as regards the character of the plates, their selection and the utility thereof for the working architect, the shadows cast by the capitals and bases receiving especial attention. The latter feature is cited as an example of the methods followed. Throughout the same care and thoroughness distinguish the work.

APPLIED MECHANICS. By James H. Cotterill, F.R.S. John Henry Slade, R. N. London: Macmillan & Co. 1891. Pp. xiv, 512. Price \$1.25.

This excellent little work includes the general branches of mechanics, couples, work and energy, mechanical powers and constructions, the steam engine, strength of materials, and hydraulics. It is fully illustrated, and includes a number of problems for solution by the student. Like so many of the English elementary scientific works, it is written for the curriculum of a special school.

THE RICH MAN'S FOOL. A novel. By Robert C. Givens. Chicago: Laird & Lee. 1890. Illustrated. Pp. 431. Price 50 cents.

THE CHESS PLAYER'S POCKET BOOK AND MANUAL OF THE OPENINGS. Edited by James Mortimer. Fifth edition. New York: Dick & Fitzgerald. (No date.) Pp. 74. Price 50 cents.

The leading openings of chess are treated in this work with considerable fullness. It will be of use to many devotees of the game.

BIBLIOTHECA POLYTECHNICA. Directory of technical literature. A classified catalogue of all books, annuals, and journals published in America, England, France and Germany, including their relations to legislation, hygiene and daily life. Edited by Fritz von Szczepanski. First annual issue 1889. New York: International News Company. London: Sampson Low, Marston & Co. Paris: E. Bernard & Cie. St. Petersburg and Leipzig: Fritz von Szczepanski. 1890.

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