

RECENTLY PATENTED INVENTIONS.

Agricultural Implements.

THRESHING-MACHINE.—HAROLD A. RANDS, Forest Grove, Ore. The frame of this machine is a metal truss-frame, light, yet strong. The machine has a metallic separating-rack made in two sections driven directly from a crank, the rack being so constructed that the metal part at a predetermined portion of its length will be raised in such a manner as to spread the straw evenly. A simple and readily-operated device is also provided, whereby the concave can be lowered to enable access to be had thereto and to the cylinder.

Bicycle-Appliances.

BACK-PEDALING BRAKE.—ANTONE A. ZALONDEK, Oklahoma, Oklahoma Territory. The rear-wheel hub rotates upon an axle and is provided with a sleeve. A disk is fixed to the axle and the sprocket is mounted loosely on the sleeve between the disk and hub. A swinging dog carried by the sprocket is adapted to engage a shoulder on the sleeve. Balls are arranged in recesses of diminishing depth in the disk. When the rider back-pedals, he causes the balls to move within the shallow portion of the recess in order to force the sprocket against the hub, and thus to stop the wheel.

BRAKE.—OTTO O. ZIMMERMAN, Manhattan, New York city. This invention consists of two principal parts—the brake-mechanism proper, located upon the forward portion of the lower rear braces, and the operating mechanism, consisting of a roller adapted to engage the front tire. A steel ribbon connects the roller and the brake-mechanism, so that when the roller is made to engage the front wheel, the brake-mechanism operates upon the rear wheel, the principal braking action being upon the rear wheel.

Engineering Improvements.

VAPOR-ENGINE.—EDWARD L. LOWE, Astoria, Ore. The improvements in this invention are found in a peculiarly-constructed fire chamber, in which a fire may be built from fuel other than that of the oil employed in driving the motor, and in which a coil or other retort is arranged for the passage of the oil which drives the motor, so that such oil is vaporized, as is usual in this class of apparatus.

PISTON-PACKING.—GREGORY M. MULLEN, Baltimore, Md. The inventor has devised an improvement in the class of pistons for steam-engines in which a "bull-ring" is employed to hold the spring-packing, which bull-ring is constructed of two annular sections adapted to be placed on the piston-head and having radial flanges between. On the outer sides of the flanges the packing-rings are arranged to form a perfect steam-tight joint.

Mechanical Devices.

TYPE-WRITER.—WILLIAM C. CHAPMAN, Greenwood, Ga. The present invention provides a means for automatically returning the carriage at the end of the line to commence a new line, and also provides a paper-feeding mechanism actuated at the return of the carriage to feed the paper forward for a new line. The invention furthermore comprises mechanism by which the carriage is returned with a step-by-step motion corresponding with the step-by-step forward feeding motion, so that the carriage may be run back in order accurately to place the carriage for any letter previously struck.

PROPELLING MECHANISM FOR VESSELS.—THADDEUS MURPHY, Manhattan, New York city. The hull of the vessel has two parallel keels, one located on each side of the longitudinal center of the vessel. The keels converge upwardly into the hull to connect with each other and to form a cavity in the hull-bottom. A rotary shaft extends longitudinally in the cavity and has propeller-blades. A gear-wheel is attached to the shaft between the ends, and meshes with another gear-wheel carried by a second shaft. The second shaft is a power-transmitting shaft, and actuates the propeller-shaft to drive the vessel, the power exerted, it is claimed, being less than that ordinarily required, owing to the peculiar mounting.

MOTOR-WHEEL FOR VEHICLES.—JULIUS W. WALTERS, Manhattan, New York city. Within the vehicle-wheel a motor is mounted which is connected with the wheel by mechanism whereby the wheel can be started, stopped, or reversed, while the motor is still running. The mechanism has an outwardly-extending portion concentric with the wheel, by means of which the mechanism is operated. The motor, it will be observed, is carried within the wheel itself, and the power is directly transmitted, and undue loss, it is said, is thereby prevented.

RIBBON-FEED REVERSING MECHANISM FOR TYPE-WRITERS.—GEORGE A. SEIZ, Manhattan, New York city. This invention is an improvement on a similar device patented by the same inventor. In the present improvement, the axle of the ribbon-spools has an arm pivoted therein carrying two shafts, one bearing two pawls adapted to engage ratchet-wheels on the ribbon-spools and having arms extending therefrom, and the other shaft being notched, the notches having differing angular relation to the shaft and being adapted to receive the pawl-arms to carry them, on the rotation of the notched shaft, alternately in and out of engagement with the ratchet-wheels on the ribbon-spools. A stop is provided to limit the extent of the release movement of the pawls.

Railway-Contrivances.

THROTTLE-LEVER.—LORIN W. CANADY, El Paso, Tex. Instead of employing the ordinary rack and dog arrangement to hold the throttle-lever in position, the inventor employs a spring-pressed cam which holds the lever in any position. By this device the engineer is enabled to regulate the position of the throttle-lever as he chooses; whereas, in the former arrangement, the engineer was limited by the teeth of the rack

FEED-WATER HEATER AND PUMP FOR LOCOMOTIVES.—LUCIUS D. COPELAND, Phoenix, Arizona. The water-heater is located in the smoke-box of the boiler. An exhaust-steam pipe, provided with a check-valve, opens into the heater to discharge the steam into the water. A small pump is provided, having a

suction-pipe connected with a water-supply, and a discharge-pipe connected with the heater. A larger pump has a suction-pipe connected with the heater and a discharge pipe connected with the boiler and provided with a check-valve. By means of the heater and pump, heated water is fed to the boiler in a very simple manner.

Miscellaneous Inventions.

WEIGHING-APPARATUS.—LEONARD D. ORR, Pogram, Ill. The apparatus embodies a scale-beam with a counterpoise adjustable thereon by means of a suitably driven gearing, the movement of which is controlled by the position of the beam. The gearing also serves to drive a numbering apparatus for indicating the weight of the article. The beam when balanced is stopped with machine-precision; and the result is indicated by the numbering apparatus in a manner which renders fraud impossible.

TAG-HOLDER.—MARIE Z. VILLEFEU, Babylon, N. Y. The holder is designed to hold shipping or address tags on bicycles and packages, and is composed of spring-pressed jaws and of a pin carried by and movable longitudinally of the jaws. In use on a bicycle, the jaws are to be engaged around the handle-bar or some other portion of the frame, the pin being then forced through the tag or cord.

SUSPENDER-ATTACHMENT.—GEORGE H. TUTHILL, Brooklyn, New York city. The improvement devised by this inventor is designed to hold the suspenders together and to prevent them from sliding off the wearer's shoulders, and also to hold the necktie in place and to support the drawers. The attachment comprises a cord having a number of clips slidable thereon, and a central plate securing the ends of the cord and slidably engaging the cord between the clips. The plate and clips act together to perform the functions mentioned.

STAIRWAY.—GEORGE C. TILYU, Coney Island, Brooklyn, New York city. The present invention provides a stairway constructed in two longitudinally-slidable, inclined sections, arranged snugly against each other and furnished with means by which they may be driven simultaneously in parallel lines and in opposite directions, thus causing confusion to a person seeking to ascend or descend the stairway, the purpose being to afford amusement to the persons using the stairway.

NON-REFILLABLE BOTTLE.—EDMUND WEST, Vallejo, Cal. In the neck of the bottle a cylinder is inserted open at the top and at the bottom. A weighted plug is adapted to close the bottom of the cylinder. A float-supported rod is passed through the cage, serves normally to hold the plug from the bottom opening in the cylinder, and pulls the plug into the bottom opening when the bottle is empty.

THREAD-BOX.—MATTIE J. EDWARDS, Los Angeles, Cal. A receptacle is provided by this invention in which the thread is always kept in place ready for use. The box is formed with grooves extending inside of the front face. On opposite sides of the grooves clasp-springs are arranged which distend the thread across the grooves so that it may be easily grasped between the fingers. There is no projection on the front face of the box to injure the fingers.

PNEUMATIC PROPULSION MEANS.—JAMES C. WALKER, Waco, Tex. The inventor has sought to apply currents of air to aid the propulsion of ships or boats and to adapt the form of the ship to this mode of propulsion. The invention comprehends generally a construction of the hull of the vessel whereby air is capable of being so distributed as to produce a cushion on which the vessel is to float as much as possible instead of directly on the water, and means whereby cavitation on the rear of boat and of the propeller is reduced to a minimum.

CATTLE-SHED.—WILLIAM HEATON, Allerton, Ill. The shed is composed of sections which have open ends, and which are adapted to be abutted end to end. The sections have inner and outer walls, and their roofs are provided with hinged doors. Feeding-troughs extend longitudinally within the sections to the ends, whereby the ends of the troughs of the abutting sections may register with supply-chutes leading from the outer walls of the sections to the troughs. Gates in the outer walls control access to the chutes. The inventor claims that by thus arranging the shed, more stock can be fed than would be possible otherwise.

SHADE-FINDER.—GEORGE K. HENDERSON, Coshoc-ton, Ohio. This invention is a device for blending colors, showing over one thousand four hundred shades composed of yellow, red, and blue, by the proportions of each single or blended color by weight and by comparative scale. The device consists of three sheets of gelatin mounted so as to pass one over the face of the other, the base of the blender having a scale giving the proper proportion of each color on each sheet. The device will be of considerable service to the process-worker, lithographer, printer, or anyone concerned with the mixing of colors.

SPECTACLES.—JOHN McLERNON, Pottsville, Pa. This invention consists of a U-shaped spectacle-frame which passes over the ears and around the back of the head. A movable frame holding a pair of lenses slides forward or backward in the projecting ends of the U-frame and allows the lenses to be focussed. The lenses may also be moved nearer together or farther apart in order properly to center them. This invention will be of service to watchmakers, jewelers, and engravers, as it will enable them to make use of both eyes in their work.

LEVELING-ROD.—JOHN S. MILLIKIN and W. EUGENE BOWEN, Ontario, Ore. This device consists of two independently-movable, endless tapes located side by side in the same face of the rod and scaled from zero in opposite directions. The tapes pass over rollers in each end of the rod; and each has a sighting-target attached to it at zero. By means of this rod differences in elevation between two points may be read directly without making the computation ordinarily required.

ACETYLENE-GENERATOR.—ERNST A. MEYER, Memphis, Tenn. The carbide-tray in this apparatus is placed in a compartment in the bottom of the gasometer. In its center is a small receptacle for water, which has perforations at different heights to allow the water to reach the carbide. Immediately above this receptacle is a valve-chamber having in its top a tubular valve and

casing. The valve tube has openings near each end so placed that, when in its middle position, water can pass into the valve-chamber; while in extreme positions one or the other openings is closed. A float attached to the end of the valve tube regulates the supply. As the gasometer bell falls, it sinks the float and opens the valve, which soon closes again as the gas evolved causes the bell to rise.

AUTOMATIC SIPHON.—CHARLES F. L. McQUISION, Butler, Pa. This siphon is so constructed as to empty a tank at stated intervals as soon as it becomes full. It consists of an inverted U-shaped discharge pipe, the longer arm of which terminates in a water-seal or trap below the tank. A second S-shaped tube placed beside the siphon is connected with it above the level of the water in the trap. The lower bend in this tube is above the bottom of the siphon pipe; while the upper bend is above the bend in it. As the tank fills, the air is compressed in the two pipes, causing the water level to fall in both ends of each. When the level falls to the lower bend in the small tube, the compressed air blows out the water-seal, and the water, rushing in from above, starts the siphon flowing.

SELF-WEIGHING SCALE.—ALVA W. B. JOHNSON, Mount Vernon, Ill. This scale consists of a pivoted scoop having a small inclined bucket-elevator, similar to a grain elevator, arranged in the back end. The elevator is operated by an electric motor. The weighing scoop rests on a balanced platform the same as with an ordinary scale. After setting the weight at the proper point on the scale arm, the operator fills the scoop till the beam rises, when a connection is made, and the elevator carries away the surplus. The operator then dumps the scoop; and the scale is ready to weigh again.

INCANDESCENT VAPOR-BURNER.—JAMES A. YARTON, Kansas City, Kan. This apparatus for burning vaporized hydrocarbons comprises essentially an oil or naphtha tank having a vent, and a generator. A pipe leads from the generator and is connected with the tank at top and bottom, whereby the gases escaping from the generator can pass into the tank at the top, without impeding the flow of the oil. One of the novel features of the invention is the construction of the generator. This generator comprises a tube bending down immediately over the burner or at the point of greatest heat whereby a pocket is formed to which the oil drains and is then vaporized. Traps are provided in the apparatus to collect sediment.

THAWING-DEVICE FOR MINES.—CARY WRIGHT, Salmon City, Idaho. This invention consists of a rotatable cylinder horizontally mounted on a movable platform and having a hinged cover through which fuel may be introduced. The cylinder is perforated on its front side to allow the heat to escape. The rear side also has perforations through which an air blast is maintained for the purpose of aiding combustion.

PIPE-SCRAPER.—SAMUEL CRAWSHAW, Oamaru, New Zealand. The scraper consists of a main stem attached to which are spring arms, having at their ends laterally-curved scrapers, which conform to the surface of the pipe. Spreader-plates adjust the spring-arms for any size of pipe. A leather scraping piston is at the forward end of the stem, and a centering block at the handle end.

TOASTING AND BROILING APPARATUS.—ABRAHAM LURIE and LOUIS BILOON, 179 E. 107th Street, New York. The toaster consists of a U-shaped wire netting frame fitted with a handle and arranged to slip into a special holder attached to a gas jet. The holder has two flat side pieces, which act as reflectors. A sheet of flame plays between each of the side pieces and the wire holder, thus toasting the slice of bread on both sides at once. The broiler is similarly constructed and is provided with the necessary drip-pans.

CORSET-FASTENER.—ANNA LEESON, Quatsino, Canada. One of the two busks of the corset is notched to receive lugs on the other busk when both are made to overlap. A clasp engages each lug, which is properly bent to receive it, and holds the two busks firmly together.

TEMPORARY FASTENER FOR BOXES, ETC.—HIALMER B. J. ANDRUS, Winoski, Wis. This fastener consists of two long, narrow, U-shaped, flexible wire prongs, which are driven into the top and side of the box near the edge. The upper one, which is a little wider than the lower, is bent out horizontally and the lower one passed vertically upward through it. The top wire is then bent down against the side of the box, and the wire, passing through it, is bent down over it, thus securely fastening the cover.

PNEUMATIC TIRE.—JOHN J. FARRAR, Rapid City, S. D. An outer containing tire has within it a small inflation-tube with rigid walls. This inflation-tube is inside what corresponds to the inner tube of an ordinary double tube tire, this inner tube being, however, firmly bound to the outer tube at short distances, thus forming bulb-shaped compartments. A valve in the inflation-tube in each compartment admits the air, and a puncture in any part of the tire will only cause the deflation of one compartment.

SKYLIGHT.—WILLEY J. P. KINGSLEY, Rome, N. Y. The skylight has longitudinal grooves cut in the flanges supporting the panes, and the top or lapped-over edges of the panes are cut at a wide, obtuse angle. By this arrangement, the water which may condense on the under surface of the glass runs to one side and down the groove out to the roof.

MAIL-BOX.—S. A. and F. J. BRAGUNIER, Topeka, Kan., and P. J. BRAGUNIER, Denver, Col. This box is adapted to be fitted to a door or door casing, and is fitted with a vertically-sliding door having lugs projecting through slits in the sides. One of the lugs passes under a catch on the door (supposing the box on the casing) and thus locks the door of the mail-box. When the door is opened, the catch is disengaged from above the lug and, consequently, the mail box door may be raised.

HAMMOCK-SLING FOR INFANTS.—IRA M. GEORGE, Kingsbridge, New York city. This invention provides a small hammock swung from davits fastened to the bedposts at the foot of the bed. The arms of the davits project toward the head of the bed and are held rigid by an adjustable brace rod. When making the bed the hammock and brace may be easily detached and the arms swung facing each other directly over the foot board.

Designs.

LACE FASTENER.—WILLIAM H. PARDEE and FENTON E. JUDSON, Antigo, Wis. The leading feature consists in a fastener having a hook arched from the eye with a lateral trend at the arched portion, the end beyond the arch running downwardly and inwardly and then outwardly to give the free end a trend in a direction opposite the lateral trend at the arch.

PINCUSHION.—CORY JONES, Long Island City, New York. The cushion consists of a head, formed with a cap, on the side of which are bands above a head from which depends a tapering shank, designed to enter the hole of a spool of thread.

LEGGING.—CHARLES S. and A. S. HUNTINGTON, Omaha, Neb. The legging has its instep portion offset from the body portion, the inner ends of the instep overlapping the instep end of the body and having a binding extending from one side to the other of the body, following the line of the instep. Upon the heel portion of the body a curved stiffening band is secured.

METAL STOCK.—ROBERT DULK, Bronx, New York city. The leading feature of the design consists in a spray of holly and a smooth border extending along the edge of the spray. The stock is to be used on picture-frames, the smooth border serving to prevent the pricking of the fingers which has hitherto resulted from its omission.

LAMP.—LOUIS C. TIFFANY, Manhattan, New York city. The body of this lamp is formed by the shell of a pearly nautilus, pivotally mounted on a stand. Within the shell the bulb of an incandescent electric lamp is arranged.

ACETYLENE GAS BICYCLE-LAMP.—CHARLES KELLY, Passaic, N. J. The lamp in appearance is very compact, and gives, for the amount of carbide used, an exceedingly bright light. The brilliancy of this light depends largely upon the use of a parabolic reflector.

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.

THE LOCOMOTIVE. New Series. Vol. XIX. Hartford, Conn.: The Hartford Steam Boiler Inspection and Insurance Company. 1898. J. M. Allen, Editor. Pp. 191. 12mo.

The annual volume of this little periodical is always a welcome visitor, and will prove valuable to all steam users and those who are in any way interested in the subject. Each number contains one or more high class technical articles, besides a full record of boiler explosions of a preceding month. There is also a collection of well selected reprint matter. Where necessary the subject is well illustrated by half-tone engravings, showing explosions, etc., and by clear diagrams. The Locomotive is read by steam users all over the country.

MATERIALISTISCH-HYPOTHETISCHE SÄTZE UND ERKLÄRUNG DES WESENS UND DER KRAFTÄUSSERUNGEN DES ELEKTRISCHEN FLUIDUMS. Von F. Ph. Stögermayr. With 88 illustrations. Vienna: A. Hartleben. 1899. 2 vols. 8vo. Pp. 431. Price, paper, \$2.

THE ELEMENTS OF PRACTICAL ASTRONOMY. By W. W. Campbell. New York: The Macmillan Company. 1899. Pp. 264. Price \$2.

The time is ripe for a new text book on astronomy, and Prof. Campbell, who is an astronomer in the Lick Observatory, is well qualified for the task. It should be said, however, that this is the second edition, the former having been published in 1891. The author's experience in presenting the elements of practical astronomy to large classes of students has stood him in good stead, and the volume before us is an admirable text book for classes.

DEFECTIVE EYESIGHT. The Principles of its Relief by Glasses. By D. B. St. John Roosa, M.D., LL.D. New York: The Macmillan Company. 1899. 12mo. Pp. 193. Price \$1 net.

The author is one of the most noted specialists in diseases of the eye in the world, and anything which emanates from his pen is sure to be authoritative, and the volume before us is filled with valuable material which cannot but prove of the greatest possible value to all who deal with defective eyesight. It is accompanied by many excellent illustrations and test charts.

LA SPÉCIFICITÉ CELLULAIRE. Par L. Bard. Paris: Georges Carré et C. Naud. 1899. Pp. 100. 12mo. Price 50 cents.

LA SEXUALITÉ. Par F. le Dantec. Paris: Georges Carré et C. Naud. 1899. Pp. 98. 12mo. Price 50 cents.

LA THÉORIE DE MAXWELL ET LES OSCILLATIONS HERTZIENNES. Par H. Poincaré. Paris: Georges Carré et C. Naud. 1899. Pp. 80. 12mo. Price 50 cents.

The three little volumes which lie before us form part of a series of scientific monographs which the publishers have termed "Scientia." The volumes in the series are written by well known French savants and offer to the reader a philosophic exposition of recent discoveries and of the development of the sciences in general. The clearness of the descriptive matter and the scholarly way in which the subjects have been treated should earn for the series a place in the library of every student of science.

TWENTY-FIRST ANNUAL REPORT OF THE STATE BOARD OF HEALTH OF CONNECTICUT. Pp. 197.

We acknowledge the receipt of this valuable annual book of 197 pages for the year 1898, compiled by Prof. Charles A. Linsley, M.D., of New Haven, Conn. It contains reports from the several county and town health officers, and numerous statistics graphically arranged.