

RECENTLY PATENTED INVENTIONS. Agricultural Implements.

POTATO-PLANTER.—CORNELIUS HONSON, Belding, Mich. The planter is adapted either to be drawn by horses or propelled by a motor. It opens furrows, drops potatoes in the furrows, and covers the potatoes. The features of novelty are the valve mechanism for conveying the potatoes into the furrows and devices for throwing the valve mechanism into and out of connection with one of the transporting-wheels of the machine. The potatoes are fed preferably by hand and are planted by the machine in two rows of hills, three feet apart.

Bicycle-Appliances.

BICYCLE-SUPPORT.—SAMUEL M. MILLER, Mason City, Ill. The support can be readily attached to any bicycle-frame, and sustains the bicycle after a rider has dismounted. When not required the support may be closely secured to the lower main tube of the frame, out of the path of the pedals. The supporting-rod is prevented from moving or rattling when locked to the frame and, when lowered, is maintained at an angle to one side of the bicycle.

BICYCLE.—ANDREW C. NYGAARD, Rawlins, Wyo. This is a novel form of chainless bicycle, the pedal-shaft of which is provided with a gear-wheel formed with two series of teeth adapted to engage a double pinion, which transmits the power to the rear wheel. At the option of the driver either series of teeth of the pedal-shaft gear-wheel can be engaged with the corresponding series on the pinion. A change in speed can thus be readily made by the rider, whenever it may be desirable.

SADDLE.—FREDERICK C. AVERY, 6363 Greenwood Avenue, Chicago, Ill. The saddle is of that form having a comparatively rigid seat portion to sustain the weight of the rider, and an elastic pommel. The invention provides a substantial spring with supports to limit the action of the pommel in its up-and-down motion. The tension on the pommel-spring can be so adjusted as to suit the requirements of the rider.

Engineering-Improvements.

BOILER.—TRUMAN CHAPMAN, Concord, N. C. The circulation of this boiler is enhanced and the heating of the water rendered more thorough by means of manifolds communicating with the boiler and connecting with one another by pipes passing through the fire-box and combustion-chamber of the furnace. The arrangement of the tubes insures effective heating and circulation without the necessity of piercing the boiler-shell at a great number of points.

SPEED REGULATOR FOR EXPLOSIVE-ENGINES.—GUSTAVE VICTOR LEON CHAUVEAU, 163 Avenue Victor Hugo, Paris, France. This valve-operating mechanism for automobile hydrocarbon-motors, comprises a movable part or hook mounted to oscillate and operatively connected with the valve, and an oscillating tappet normally in the same plane as the hook, so that the tappet will engage the hook and actuate the valve. The hook and tappet are relatively movable lengthwise of the axis of oscillation. A governor shifts the parts to cause the tappet to miss the hook in case of an excessive speed. The mechanism is so located as to be examined, lubricated and repaired with more facility than has hitherto been possible.

PISTON-ROD FOR STEAM-PUMPS.—PERRY S. HOUGHTON, Lindsey, Penn. The rod has a core of iron or steel, which is provided with annular grooves or recesses. A rod proper formed of brass or bronze incloses the core and is cast integrally around the core and has portions run into the grooves and recesses to form a compact inseparable mass. A piston-rod thus formed is not liable to break, bend, or spring when in use.

Mechanical Devices.

VENDING-MACHINE.—GEORGE E. FORD, Room 17, Hermitage, Grand Rapids, Mich. The object of the invention is to provide a coin-operated machine in which the goods to be sold are displayed so that they can be selected by the customer, but without the possibility of their being removed before the proper coin has been deposited. A flexible guard or shield is employed, which is adapted to be manipulated by the hand of a customer and by means of which he is able to select and remove the article he desires, but without actual manual contact therewith and without the possibility of surreptitiously abstracting it. The form of shield used is a pocket or mitten, adapted to receive the operator's hand and to be thrust into the chamber containing the goods.

CARRIER.—IRVIN GRIBBLE, Topeka, Kans. The invention is an improvement in overhead carriers and is especially designed for use with dredging-buckets. The carrier runs on cables arranged at an incline. A stop is provided at the lower end of the incline to engage and hold a carrier while the bucket is being lowered and to be filled and while it is being raised. The bucket or its supporting device is provided with means which engage the carrier and at the same time release it from its anchoring stop, so it can be drawn up its inclined track to the desired point.

WEIGHT AND PRESSURE RECORDING APPARATUS.—EDWARD MCGARVEY, Bellefonte, Penn. The invention provides a simple, electrically-controlled apparatus, by means of which the weight of objects or their pressure can be accurately recorded at any point near to or distant from the weighing-scale and by means of which the time and trouble of manipulating weights and poises are avoided. The weight is taken without perceptible movement of the scale-beam, thus causing little wear on the parts and simplifying the construction. A permanent record of the weight is made, hence there is no liability of mistakes.

WRENCH.—REINHOLD KLATT, Strong City, Kans. The shank of the wrench has teeth along its rear edge and a fixed jaw upon which a movable jaw is fitted. A screw-rod is pivotally connected with the movable jaw. A locking-slide separate from the movable jaw surrounds the shank and is provided with a longitudinal opening in which the rod is loosely received and with separated shoulders. A nut is held between the shoulders and screws on the rod. A locking dog on the rear of the slide has a tooth adapted to engage the shank-teeth. A

spring-pressed lever pivoted on the slide engages the dog to operate it. The wrench is designed for use on pipes, nuts, and other objects, and can be coarsely and finely adjusted.

BOOK-COVER-SHAPING MACHINE.—DANIEL J. MUNN, Brooklyn, New York city. The purpose of the invention is to provide a machine designed to give the desired shape to the flexible back of a book-cover before the binding up of the leaves, instead of shaping the back by tools after the insertion of the leaves. The machine comprises a heated former over which the cover-back is stretched. Movable jaws operate in conjunction with the former to engage the cover-back, at the junction of the cover-sides, to form permanent recesses or creases in the back.

EJECTOR FOR BREAKDOWN FIREARMS.—CHRISTIAN A. FISCHER, Grand Forks, N. D. The ejector is designed not to eject a cartridge-shell until the hammers are at full-cock. The ejector-hammer operates in conjunction with a spring-controlled sliding sear and a plunger. A firing-hammer is arranged to operate the plunger; and a spring-controlled trip-rod operated from the plunger is arranged to release the sear from the hammer when the gun is broken.

BRICK-MOLD SANDER.—ELSON T. BENNETT, Towanda, Penn. In the ordinary brick-mold sander it is necessary to feed the molds into the machine singly, and at the proper time so that there will be no interruption in the feeding. It is also necessary to rap the boxes by hand in order to remove the surplus sand, and to feed the molds by hand. The present invention, so far as possible, renders this work automatic, so that the only hand-work required is the feeding of the molds to the machine. After sanding, the mold is automatically inverted and rapped, whereby the surplus sand is removed. The molds are supplied as may be convenient.

HAIR-PICKING MACHINE.—EDGAR BEERS, Georgetown, Conn. This machine prepares the hair in sheet form as it comes from the rope without breaking or tearing. The machine comprises a series of feed-rollers, each two pairs of which are operated by a rock-shaft. Pickers operate forward of the feed-rollers and are connected with the rock-shaft by longitudinally-adjustable links. Endless carriers convey the material from one pair of feed-rollers to another. By means of a clutch mechanism, the pickers and feeding devices operated by the shafts may be thrown out of operation when desired.

LIBRARY OR PARCEL CONVEYOR.—PHILIP REICH, Cincinnati, Ohio. The mission of the library and parcel servitor is automatically to convey books back and forth between their shelves and a central desk either upon the same floor or other floors, and simultaneously to register the taking out and return of every book. All this work is performed within a minute by means of conveyers and of electrical circuits connected with a central switch-board. The invention is also adapted for use in insurance and railroad offices, music-publishing houses, and department-stores, where file-boxes or similar parcels are handled. The system dispenses with step-ladders and superfluous help connected therewith. The shelves and desks can be compactly arranged so as to save space and reduce expenses. The invention requires no remodeling of buildings.

Miscellaneous Inventions.

BOTTLE.—PHILIP J. FRIEDRICH, Coytesville, N. J. This non-refillable bottle is fitted with a simple means to prevent the outflow of liquid should the bottle be inverted. This means is also designed to act as a stopper or valve to relieve the main valve of the pressure of any small amount of liquid which might be in the bottle, during an attempt to refill by inverting the bottle in liquid. A tube permits the entrance of air while pouring liquid from the bottle, the tube being provided with a valve to prevent refilling therethrough.

AMALGAMATOR.—JOHN M. HOLMES, Glens Falls, N. Y. The amalgamator comprises a pulverizing-drum with an inner and an outer sheet-metal shell, the inner one being corrugated to provide a series of ribs. A mulling-cylinder longitudinally corrugated is arranged within the inner shell and is adapted to engage with its corrugations, whereby the rotation of the shell will cause the cylinder to revolve. Steam is directed through the peripheral passages formed by the corrugations of the inner shell. The corrugations form a series of heating-tubes and take the place of gear-teeth.

WATER-FEED APPARATUS.—JOHN MORRISON, Dubuque, Iowa. The object of this invention is to provide a stock watering-trough in which the water will be kept warm in winter. A large tank provided with a suitable heater contains near its bottom a small reservoir which is connected through the side of the tank by means of three hollow bolts—two at the top and one at the bottom—with a watering-trough. The uppermost of the three bolts, which is above the water level, serves to keep the water in the reservoir at atmospheric pressure. An automatic float valve admits water to the reservoir when the level is lowered, and a constant circulation of warm water into the trough is maintained through the other hollow bolts.

Designs.

BOTTLE.—JOHN SCHIES, Anderson, Ind. The bottle is triangularly shaped in cross-section, being made up of broad flat sides or panels, with narrow panels breaking the angles between them. The broad panels converge to a point at their top, while the narrow panels diverge to correspond. The neck of the bottle is cylindrical, having a rib about midway between its ends and a shoulder at its juncture with the body.

COVER-DISH.—ROBERT L. JOHNSON, Hanley, England. The leading features of the design consist of fluted undulating side panels on the body and cover and embossed curtain end panels separating them. The minor features consist of foliate handles on the body and cover and fancy border ornamentation on the same.

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(7761) M. F. K. asks: 1. What resistance is necessary in a 52 volt current of say 5 amperes, to reduce the voltage to 4, 6, and 10 volts respectively and what rule is applicable in such a case? A. This problem is solved by Ohm's law C=E+R or CR=E. In this case C=5, and E=52. Then R=10.4 ohms; 5 amperes will flow when the resistance in the circuit is 10.4 ohms. Now to find the point from which to the other pole the drop will be 4 volts. The drop through the rest of the circuit must then be 48 volts. Solve as before with 48 in place of 52. The result is 9.6 ohms. With 9.6 ohms in the external resistance the drop in the rest of the circuit is 4 volts. Proceeding in the same way for 6 volts, you will find 9.2 ohms; and with 10 volts, 8.4 ohms as the resistance required. 2. If a wire is connected to the two wires of a 52 volt multiple circuit, it causes a short circuit; why does not an incandescent lamp cause the same result? A. The resistance of the lamp is high enough to allow the proper current to flow for heating the filament to incandescence only, but the resistance of the wire is so low that a current flows which is able to heat the wire above its melting point. If a piece of wire were taken which has the same resistance as the lamp filament, there would be no burning out of the wire.

(7762) J. A. K. asks: 1. Will you kindly inform me of a simple method to take fluoride of ammonia, the crystals, and treat it so as to contain a small portion of hydrofluoric acid? Then dry it so as to form powder or nearly so. A. If you heat fluoride of ammonium mixed with sulphuric acid in a dish of platinum or lead, you will produce the hydrofluoric acid which we understand you to mean. You must not do this where any of the fumes can be inhaled by any one. You cannot dry the result since this acid absorbs water most greedily. Nor can the acid be kept except in lead or hard rubber bottles. It is highly corrosive and very dangerous to have around. 2. What is the best fatty oil to dissolve resin in so it will not become too tacky? A. Turpentine is the best solvent of resin. A mixture of turpentine and kerosene may be so proportioned with resin as to make a non-tacky compound.

(7763) M. C. asks: 1. In regard to the record of the gramophone I wish to know if sound could be reproduced from the zinc disk on which the sound wave is first etched, as well as from the ordinary record which is made from the zinc disk? A. Yes, except that there would be a metallic, harsh quality given to the sound by the scraping of the stylus over the zinc. 2. Is the record made directly from the zinc disk or is it made from a mould which is made from the zinc disk? As for instance, in stereotyping, a mould is first made from the type and the plate is then made from the mould. A. The record must be made from the mould which has directly been made from the zinc disk. A copy from the zinc directly is the intaglio of the original, and reverses its tracing completely. It could not be employed for reproducing the original sound.

TO INVENTORS.

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INDEX OF INVENTIONS

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AND EACH BEARING THAT DATE.

[See note at end of list about copies of these patents.]

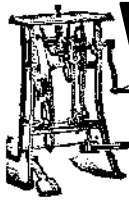
Table listing various inventions and their patent numbers, including items like Advertising apparatus, Agricultural implement, Air brake, Air compressor, Alarm, Animal trap, Apparel, Barrel closure, Batteries, Battery compound, Battery cups, Beam shoe, Bearing, Bedstead, Bell, Belt, Bicycle, Bicycle alarm, Bicycle brake, Boat, Boiler, Book, Bottle, Bottle stopper, Bottle washer, Box, Brake, Brake beam, Brake shoe, Brake slack, Bridge, Bridle bit, Broom holder, Bucket, Bundling machine, Burglar alarm, Burial apparatus, Burner, Button, Cabinet, Cacao butter, Caisson, Calcium oxid, Calculating machine, Camera, Camera magazine, Cant hook, Caps for explosive charges, Car coupling, Car door operating mechanism, Car grip, Car roof, Car switch, Car wash, Cars, Carbureter, Card shifter, Cardboard, Cartridge box, Case, Casket, Caster, Caster ball, Casting aluminum alloys, Casting apparatus, Catalytic material, Cement, Cement plaster, Centrifugal machine, Chain sprocket, Chair with automatically changing seat, Checkrein, Cheese mauling machine, Chuck bone holder, Churn, Cigar mill, Cigar bunching machine, Clay or gravel washing machine, Clock, Cloth cutter, Cook, Coffee roaster, Coin box, Collapsible box, Collar and shirt protector, Composing machine, Confectionery, Conveyor, Conveying apparatus, Cooling apparatus, Corn husking machine, Corner separating germ, Corner brace, Cotton picker's spring spine supporter, Crate, Creamer, Crushing and pulverizing machine, Cryptographic chart, Cuff supporter, Cultivator, Cultivator and handle, Cupel machine, Curling tongs heater, Curtain, Cutter, Cycle lock.

(Continued on page 349.)

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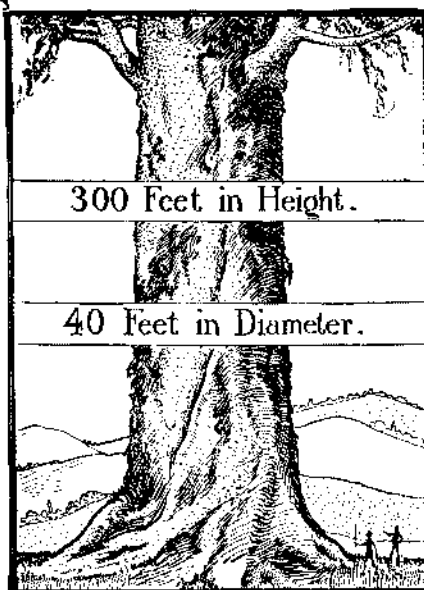
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OTHER FEATURES. Lieut. Peary's Adventures. Lieut. Peary has been in the Arctic during the past year, and intends to remain there until he can reach the Pole. He has written a description of his visit to Gen. Greely's quarters at Fort Conger for the January number. Other papers will follow.

RUDYARD KIPLING will contribute timely poems and short stories from time to time during the coming year.

ANTHONY HOPE has written a new novel of great power, which will shortly be begun in McClure's. It is a pure love story, and undoubtedly the best thing he has ever done.

MARK TWAIN has written several papers for coming numbers. "My Boyhood Dreams" will appear in the January number.

BRET HARTE has contributed "A Jack and Jill of the Sierras" to next year's budget of short stories. It is written in his old-time fascinating style.

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PROPOSALS. COMMISSION NEW EAST RIVER BRIDGE, City of New York. NOTICE TO CONTRACTORS. November 9, 1899.

Proposals will be received by the Commissioners of the New East River Bridge, at their office, at No. 49 Chambers Street, in the Borough of Manhattan, in the City of New York, at two o'clock in the afternoon of the 7th DAY OF DECEMBER, 1899, endorsed "Proposals for Construction of Steel Cables, Suspenders, etc., of the New East River Bridge," for furnishing the materials for and constructing the steel cables, suspenders, cable bands, coverings, sheaves and their appurtenances of the New East River Bridge, in accordance with the proposed form of contract and the drawings and specifications therefor. All bids shall be enclosed in sealed envelopes, addressed to Lewis Nixon, President of the Board of Commissioners of the New East River Bridge, and presented to him on that day and at that hour at said office, and such bids will be opened in public meeting by the said Commissioners on that day at two o'clock in the afternoon.

Copies of the specifications and the general drawings for the work, with the proposed forms for the bid, bond and contract, may be seen and further information will be given at the office of the Chief Engineer, No. 31 Broadway, Borough of Brooklyn, City of New York, on and after the 13th day of November, 1899. The Commissioners require that all bidders shall carefully examine the specifications, drawings and proposed form of contract, in order that no question as to their meaning may arise hereafter. It must be distinctly understood that no changes in the quantity or materials or the workmanship will be allowed, and that the specifications will be adhered to strictly.

The contract is to be completely performed within ten months after the cable saddles are set in place upon the steel towers of the bridge. Proposals will be made upon a form provided therefor, and only these proposals will be considered which are complete, in proper form, comply with the requirements herein stated, and are offered by parties of known reputation, experience and responsibility. Each bidder will be required to deposit, with his proposal, in the office of the Commissioners, a certified check for \$12,000, payable to the order of Julian D. Fairchild, as Treasurer of the New East River Bridge Commissioners, as security for the execution by him of the contract and the giving of the required bond, if his bid is accepted, within two weeks after notice of the acceptance of his bid.

The Contractor will be required to give a bond in the penal sum of \$400,000, in the form annexed to the proposed form of contract, with an approved surety company doing business in the City of New York, conditioned for the prompt and faithful performance of the contract and its covenants and the work thereunder. As by far the greater part of this work can be executed only by bridge establishments of the first class, bids will be received only from such parties as have the requisite plant and facilities which have been in successful operation on work of similar character for at least one year. The bidders must be, in the opinion of the Commissioners, fully qualified both by experience and in appliances to execute work of this character and importance according to the highest standard of such work at the present time. The Commissioners reserve the right to reject any and all of the proposals offered, and to accept any proposal offered.

LEWIS NIXON, President. JAMES D. BELL, Secretary.

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