RECENTLY PATENTED INVENTIONS.

Electrical Apparatus.

TROLLEY.—WILLIAM A. DAGGETT, Vineland, N. J. The object of the invention is to provide a trolley which will have a yielding connection with the wire, whereby the usual pounding or jumping is avoided, thereby preventing the disconnection of the trolley and the consequent cutting out of the lights and power. To attain this end the inventor employs a spring-yielding connection between the frame in which the trolley rotates and the trolley-pole.

CIRCUIT-CONTROLLER.—CHARLES C. WEBSTER, Asbury Park, N. J. This controller is designed to be used in connection with electrically-illuminated signs and can be readily adjusted or changed to direct a current to the lamps forming the respective letters of the sign in any desired order or combination. The arrangement consists of a series of fixed contacts connected with the lamps, and a rotary part provided with contact-lugs which complete the proper circuits when turned into engagement with the fixed contacts.

Mechanical Devices.

WATER-WHEEL.—JOHN W. TAYLOR MANUFACTURING COMPANY, Mt. Holly, N. J. The inventor's improvements pertain more particularly to very sensitive gates, so arranged exteriorly to the wheel and chute-box and so supported as to work without friction and wear with the parts inclosed by the gates. By a novel construction and arrangement of parts the gate is operated simultaneously in opposite directions lengthwise of the chute-boxes and wheels proper.

MACHINE FOR MAKING BRIQUETS FOR TESTING PURPOSES.—THOMAS MILLER, JR., Manhattan, New York city. The machine forms briquets f om cement, plaster, or other material for testing purposes. These briquets are uniform in size, density and strength. By means of such briquets the breaking strain or crushing resistance of different brands of cement material, or the relative breaking stra ns and crushing resistance of different materials can readily be ascertained.

Railway Contrivances.

CAR-BRAKE LEVER. — JOSEPH C. WESTERFIELD, Arlington, and HARRY S. CHINNOCK, JR., Belleville, N. J. In setting brakes hard, it is the usual practice to employ a hand-lever in the form of a wooden stick inserted in the spokes of the hand-wheel. This proceeding is somewhat dangerous, because the lever may slip. Such levers, moreover, are only too easily lost. The invention provides a brake-lever as a permanent attachment to the brake-rod, thus avoiding the dangers and difficulties mentioned. This lever is so connected with the rod that it may swing out of the way when not in use.

TRAIN-INDICATOR.—WILLIAM M. SIX and OLIVER R. DAILY, Lebanon, Ind. From the back of the case in which the indicator mechanism is contained, the operator can manipulate the indicating devices which are constructed and adapted to expose at the front of the case, the number of the train, the time when such train is due, and information whether or no the train is on time, and if late, to what extent.

BOTTLE.—GEORGE W. VOUGHT, Queens, New York city. The bottle is of the non-refillable class. The inventor has devised a cheap and simple valve-mechanism which can be applied to bottles of the ordinary shape and which is designed to prevent the illegal re-filling of a bottle. The mechanism in question is so made that a wire cannot be inserted through the neck to unseat the valve.

COMBINED SAFETY ANDIRONS AND SCREEN. —ISAAC W. SULLIVAN, Laxsonville, Tenn. The combined fire-scre n and andirons are so arranged that each furnishes a support for the other, the andirons being adapted for lateral adjustment and for convenient detachment. The screen is of woven wire, and to its inner side, hooks are attached. A curved supporting-bar, adapted to rest upon the floor, is loosely engaged by the hooks. The front ends of the andirons are detachably supported on the horizontal portion of the bar.

Miscellaneous Inventions.

BURIAL-CASKET.—PHILIP HERBOLD, JR., Galion, Ohio. This casket has a false bottom above, spaced apart from the bottom forming a recess for the cap or lid. A side is hinged to the bottom and is adjustable to positions to cover or to expose the opening to the cap or lid containing the recess.

PACKAGE FOR MEDICINES, ETC. — LUTHER E. MOORE, Marietta, Georgia. Each section of the package is composed of an outer layer of coarse fibrous material, and an inner layer of a smooth firm surface with an intervening sheet of cement impervious to heat and sealing mixture. The mixture w ll penetrate the package as far as the outer layer, but will be checked by the cement, which confines the saturation to the outer coat, and reduces the degree of heat to which the contents of the package are subjected. For salts, powders, and granulations of an effervescent nature easily injured by atmospheric conditions, by heat, or by contact with acids or alkalies, this invention will be a perfect protector.

SOFT-TREAD HORSESHOE. — JOHN RILEY, Manhattan, New York city. This is a light shoe, strong and serviceable, and one that will prevent slipping on smooth surfaces. It may be used until worn away. The shoe comprises a metal portion, tapered pillars attached to it, and a pad engaging the pillars. Portions extend through the openings in the shoe. Side portions of the same are extended outward from the pad and provided with nail-holes.

LOGGING-TRUCK. — JOHN LINDSEY, Sandersville, Miss. This is a low two-wheeled cart having a concave bolster. A log rolled to a central position on the bolster will remain in place without the use of standards. Tongs engage the logs. There is an adjustable support for the tongs and a locking device for the support. The logs are drawn over the wheels upon the bolster. The truck has a wheeled axle and a widened tongue attached thereto A horizontal swinging bar is mounted at one end on the tongue near one side thereof. A log-gripping mechanism engages the log. There is a connection between this gripper and the bar, and a latch engages the free end of the bar to hold it.

APPAREL-SHIRT.—SAMUEL A. ISRAEL, Manhattan, New York city. The invention makes an improvement in shirt-bosoms which are provided with flanges for holding detachable or false bosoms in place. The bosom-shirt has a retaining-flange provided with a slit or guideway at the lower end. A supplemental removable bosom is adapted to fit under the flange, and is provided with a tab which passes through the guideway.

NON-REFILLABLE BOTTLE. — WILTON A. and THOMAS A. HALL, Fernandina, Fla. This bottle belongs to that class in which valves open outward. This permits the outflow of liquid and prevents an inflow. A valve formed of elastic material and puckered at the opening so as normally to close it, works with a plunger which serves to open it when the bottom is turned downward, but which will not act to open the valve when the bottle is in an upri ht position. This prevents its refilling.

PROCESS OF MAKING PHOSPHOR-TIN.—GEORGE BERTHOLD, Great Falls, Mont. Phosphor-tin is made by subjecting a charge of tin, charcoal, and phosphorus, while held in a crucible and under the exclusion of air, to the action of heat in a furnace to cause the tin to melt and absorb a portion of the phosphorus. This forms the phosphor-tin to be used with copper to make castings of phosphor-bronze. There is no danger to the operator, as this method avoids to a great extent the formation of the obnoxious fumes which generally arise in the manufacture of phosphor-bronze.

WATER-CLOSET BOWL. — CHARLES SCHIFFLIN, Manhattan, New York city. In this invention the overflow of the bowl is completely prevented. At the same time the bowl is kept from getting foul. All obnoxious sewer-gases are trapped. The mechanism consists of a water inlet, a main trap as au outlet for the bowl, a water-distributing channel in communication with the inlet, and an annular overflow-channel above the distributing-channel. All the parts are integral with the bowl.

GAGE FOR CROSSCUT-SAWS.—JOSEPH MORIN, Seattle, Wash. A former invention of Mr. Morin's has been improved upon in this contrivance which provides a device in connection with saw-gages for measuring and testing the raker or chisel teeth of crosscut-saws in swaging the saws. Also a device in connection with a saw-gage for holding a chilled metal plate having a slot large enough to admit a raker-tooth immovable with reference to the body of the gage, and below the points of the cutting-teeth, making the points of each raker-tooth the same length; and also a device for holding a file fixed with its face at an accurate angle with the blade of the saw for jointing the cutting-teeth. A smooth frictionless surface in a perfect plane rests on the cutting teeth when gaging raker-teeth for swaging, and a transverse section of this plane is at right angles with the saw-blade when swaging.

BREAD-RAISING APPARATUS.—JOHN D. BELL, Arcadia, Kans. On the main box is a hinged lid having an aperture. This box is removably seated on a legged stand. There is a smaller raising-box with a lid thereon, and a removable partition in the raising-box. Ledges on the main box and raising-box support the latter centrally within the main box. A deflector-plate is in the main box below the raising-box and over an aperture in the bottom of the former. A casing hung from the bottom of the main box incloses the aperture, wherein is placed a lamp adapted to transmit heat into the air-space between the boxes. A gas-jet or an electric heating medium can also be used.

Designs.

BELT.—LOUIS SANDERS, Brooklyn, New York city. The novel feature of the design is a panel embossed and offset from the waist-band.

BABY-COMFORTER. — CHRISTIAN W. MEINECKE, Jersey City, N. J. The device consists of a nipple, the base of which is below a shield. The base below the shield has an annular rib formation at the upper end of a pad, the nipple constituting a portion of the pad.

BOTTLE.—MORITZ RHEINAUER, Manhattan, New York city. The bottle consists of two connected V-shaped members provided with a common threaded neck.

ANTI-RATTLER.—FENTON E. JUDSON, Autigo, Wis. This patentee gives a new shape to the bearing block employed in connection with wire anti-rattlers to obtain a better connection with the spring wire. and a more efficient pressure on the thill.

NOTE.—Copies of any of these patents can 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.

BLUE PRINT MAKING, EMBRACING DIRECTIONS FOR CONSTRUCTING THE PRINTING FRAME, PREPARING THE PAPER AND MAKING PRINTS OF VARIOUS KINDS. New York: David Williams Company. 1900. 16mo. Pp. 28. Price 25 cents.

Thoroughly practical and tested directions for making blue print paper will certainly prove of value to architects and engineers, who require the use of blue print paper.

MINING LAWS OF THE UNITED STATES OF MEXICO. Mexico City: F. P. Hoeck & Company. 1899. 8vo. Price $1 United States currency.

All those who contemplate having any mining business in Mexico should obtain a copy of these laws. They are printed in Spanish on one side of the page and in English on the other. This will tend to prevent mistakes.

PROGRESSIVE CARPENTRY. By D. H. Maloy. New York: David Williams Company. 1900. 16mo. Pp. 89. Price $1.

The author states that the work of preparation for this book began in 1860, and the first edition appeared in 1890. It presents hi new system of constructive carpentry and will undoubtedly be of use to builders.

Business and Personal.

Marine Iron Works. Chicago. Catalogue free.

For mining engines. J. S. Mundy, Newark, N. J.

"U. S." Metal Polish. Indianapolis. Samples free.

Yankee Notions. Waterbury Button Co., Waterb'y, Ct.

Handle & Spoke Mchy. Ober Mfg. Co., 10 Bell St., Chagrin Falls, O.

Machinery designed and constructed. Gear cutting. The Garvin Machine Co., Spring and Varick Sts., N. Y.

The celebrated "Hornsby-Akroyd" Patent Safety Oil Engine is built by the De La Vergne Refrigerating Machine Company. Foot of East 138th Street, New York.

The best book for electricians and beginners in electricity is "Experimental Science," by Geo. M. Hopkins. By mail, $4. Munn & Co., publishers, 361 Broadway, N. Y.

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References to former articles or answers should give date of paper and page or number of question.
Inquiries not answered in reasonable time should be repeated; correspondents will bear in mind that some answers require not a little research, and, though we endeavor to reply to all either by letter or in this department, each must take his turn.
Buyers wishing to purchase any article not advertised in our columns will be furnished with addresses of houses manufacturing or carrying the same.
Special Written Information on matters of personal rather than general interest cannot be expected without remuneration.
Scientific American Supplements referred to may be had at the office. Price 10 cents each.
Books referred to promptly supplied on receipt of price.
Minerals sent for examination should be distinctly marked or labeled.

(7970) G. N. S. asks: Would cotton-covered wire do for the secondary coil described in SUPPLEMENT, No. 160? Of course silk is a better insulator, but would the difference amount to very much? By answering oblige a constant reader. A. The reason silk covered wire is used in an induction coil is that the covering is thinner and takes less room. The object is to have as many turns as possible in the space given to the secondary.

(7971) W. E. F. asks: How can I make the best and cheapest lining to use in a reservoir dug in a side hill of sand and gravel, to hold about 20,000 gallons, not over 3½ feet deep? Will freezing injure it if empty in winter? A. The cheapest way to line a shallow reservoir is to tamp a clay and sand puddle all over the bottom and sides, not less than one foot thick. It can be made in two layers of half a foot each to great advantage in preventing seepage seams by lapping the work. The sand and clay should be mixed in equal parts, stiff and well rammed. When finished, the whole surface should be covered with clean gravel. Freezing will not injure it.

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