

RECENTLY PATENTED INVENTIONS.

Engineering.

VALVE GEAR.—Jehial Spencer, Mildeville, Ill. A reciprocating slide is, according to this invention, adapted to be actuated from the engine pitman, and connected by an arm with a block held to slide in a link, and connected with the valve stem. The valve gear is in this way actuated from the pitman, is of simple and durable construction, very effective in operation, and is designed to cause the engine to utilize the steam to the fullest advantage, permitting of conveniently reversing the engine at any time.

POWER HAMMER.—James B. Sweeney and Robert W. Laird, St. Johnsbury, Vt. A revolvable drive shaft forms the fulcrum of a helve having a split end in this device, the vertically reciprocating hammer being arranged opposite the split end of the helve, in which is held a spring projecting into the hammer head, a box receiving the spring, and the box being pivoted and held to slide horizontally in the head. The improvement affords a very simple and inexpensive hammer, designed to deliver an elastic blow similar to one given with a hand hammer, the hammer being nicely adjustable to regulate the stroke.

PROTECTING LANDS FROM OVERFLOW.—William and Harper McCaughan, Gulfport, Miss. This improved means of protection for river banks provided with levees consists in forming an outlet channel leading to a lower reservoir, the channel also having levees upon each side, but having near its mouth a dam just high enough to permit overflow when the danger point is reached, the river at all other times flowing in its normal channel. The dam is inclined on each side of its middle to permit a steady rise on the river side and an easy and gradual flow on the other side.

LEAST RESISTANCE FOR VESSELS, ETC.—Francis E. Mills, San Francisco, Cal. This inventor has designed a form of body which, either solid or hollow, with a given length and end displacement, will pass through the air, water, or other resisting medium, with the greatest sustained velocity and the least expenditure of power. Such body consists mainly of two laterally adjoined and longitudinally reversed wedges, connected and merged together laterally by four sides whose transverse planes are at all points diagonal to the lines of taper of both wedges, twisting transversely ninety degrees in their length and merging in chisel form ends. Such body is adapted for military and other projectiles, boats and floating craft, etc.

DREDGER.—Samuel P. Hedges, Greenport, N. Y. The frame of this dredger is portable and may be placed on a float, extending over the edge, and the construction is such that the dipper arm is under the entire control of one individual, who is able to swing the crane in any desired direction, control the upward movement of the dipper arm, its inward and outward movement, and its plunging movement to reach the soil to be removed, the operator also holding the dipper arm in fixed position while the dipper is receiving its load.

Railway Appliances.

CAR REPLACER.—Albert S. Debose, Cuero, Texas. This device comprises two triangular blocks rigidly connected by transverse tie rods, each block having side flanges, a curved upper surface, a longitudinal groove in its upper surface, a slot at the broad end communicating with the groove, and a central longitudinal rib tapering toward the broad end of the block and projecting into the slot. The improvement forms a very cheap and simple device, which can be quickly set in place at any point where a car has been derailed, to facilitate replacing the car on the track, either in the ordinary road bed or upon a bridge.

CAR DUMP.—Hiram P. Williams, Somersdale, Ohio. This is a dumping mechanism upon which a car or other vehicle may be readily placed and held so that the load may be dumped from either side of the vehicle by the use of a motor or the strength of one or two men. Combined with a drive shaft carrying gear wheels is a number of disk-like cradles, each having in its upper edge a recess extending below the center of the cradle, and teeth on its periphery, the cradles being eccentrically mounted on a rock beam.

CAR BRAKE HANDLE.—John Marrisett, Vancouver, Canada. A pulley is, according to this invention, rigidly secured on the brake shaft, and adjacent on the shaft is a loosely supported bracket in which is fulcrumed a handle adapted to frictionally engage the pulley, there being a stop to limit the movement of the handle in one direction. When the crank handle is turned in one direction the chain is wound on the shaft in the usual way, applying the brake, but when the brake is released, the shaft turns without turning the crank handle, obviating the danger of one being struck and injured by the rapid reverse movement of the crank handle.

MILEAGE BOOK.—William Boll, Red Oak, Iowa. This is a very handy and simple book, having an extensible mileage strip, keeper plate, gauge strip and reel, with a guard flange on the keeper plate, the mileage strip being adapted to be severed without severing the gauge strip. The book is designed to have all the advantages of the customary mileage book, with the additional one that a certain length of strip represents a certain value, so that the strip may be easily torn for the amount desired and a mistake is not likely to be made.

CAR SEAL.—Benjamin J. Sturtevant, St. Paul, Minn. This seal for car doors, mail bags, etc., is very simple and durable, cheaply manufactured and easily applied. It consists of a tag made of clay or other suitable material, formed with a recess into which opens a slot, a spring hook being adapted to be drawn into the recess, and having sharp or pointed ends engaging the walls of the slots.

Electrical.

ARMATURE CONNECTION.—Oza DuFault, Spencer, Mass. This is a simple and effective device for connecting the terminals of armature coils with the commutator bars. Combined with the commutator

bars is a terminal piece for attachment to the end of the armature conductor, and a winding of a cord of insulating material for holding the end pieces in contact with the arm of the commutator bar.

ELECTRIC ALARM.—Samuel T. Sanders, Granite, Montana. This alarm is more especially designed for use in mines, to automatically signal to the engineer the arrival of the cage near a gallery at the time the chairs have been moved into the mine shaft to support the cage. The invention consists of an insulated slide connected with the mechanism for operating the chairs in the galleries, conductors held on the slide and connected with the circuit wires, and a circuit-closing arm on the cage adapted to engage the conductors to close the circuit to sound the alarm.

ELECTRIC LOCK.—Robert V. Cheatnam, Louisville, Ky. No key is employed with this lock, which is suitable for use on all ordinary house doors, especially those leading to the outside, as it cannot be opened unless one knows the combination. The mechanism comprises a series of push buttons, a circuit closer connected with certain of the buttons, and an electro-magnet connected with some of the circuit closers, the armature lever of the magnet normally locking the door bolt. The battery for the electric door bell also serves as the battery for this lock.

Mechanical.

LIFTING JACK.—Walter Johnson, Middletown, Conn. Under the special construction provided for by this invention the jack may be locked at any height to which it may be adjusted. The standard has opposing binding surfaces, and a handle lever pivoted to the standard is connected with a lifting piece, while a curved detent bar plays between and engages the contact surfaces, a lever bent from a rod of metal forming a short arm linked to the detent bar, portions being pivoted to the handle lever, and with a long arm extending adjacent to the handle lever.

MACHINE FOR BORING FRAMES TO BE CANED.—Karl F. G. Maier, Baltimore, Md. In this machine, when a form is placed in front of the boring tool, the form is automatically shifted to constantly present a new surface of the seat frame to be bored, simple means being provided for driving the boring tool simultaneously with the operation of the form, and giving to the boring tool a timed advance and return movement. The machine is very simple, compact, and inexpensive, and is designed, with a boy's attendance, to accurately do much more work than an experienced hand can do on the common upright machine.

PRINTER'S GALLEY.—Emil Lau, Brooklyn, N. Y. The side and head pieces of this galley have mitered abutting parts to form a corner, and a pin extends longitudinally into the side and head piece, the pin having transverse nicks or grooves, while fastening pins extend transversely through the side and head piece and through the nicks, thus making a galley which shall be as light as possible, while especially strong and true at the corners.

PRINTING PRESS PERFORATOR.—Joseph T. Scott, Coeur d'Alene, Idaho. This is an attachment for an ordinary printing press to enable the paper to be automatically perforated at the same time it is printed. It is an elongated case with open upper side to be locked into the type form, there being a slide bar in the bottom case provided with cams and a spring between the end of the case and the slide bar, while an angular lever is pivoted to the case, and a perforated bar above the slide bar is provided with perforating brads. The angular lever is adapted to contact with a block carried by the platen to cause the brads to perforate the paper, the perforator bar and brads being driven in the case as soon as the impression is made.

Miscellaneous.

PNEUMATIC ROAD CLEANING SULKY.—John Jacob Astor, New York City. The two wheels of this road cleaner are loosely mounted on the axle, and on the inner face of one of them is a bevel gear facing a similar gear splined upon and having a limited longitudinal movement on the axle, the gears being thrown into engagement with each other through an intermediate pinion, by means of a handle lever within ready reach of the driver. By the revolving of the axle, on the movement of the lever, a double acting bellows is operated to afford an air blast, the bellows being supported by brackets from the platform, and the link and pinion connection being such that the rapidity of the operation of the bellows may be readily regulated to supply a more or less powerful current. The bellows has a supplemental nozzle, which may be moved vertically or carried to either side of the machine, and that the dust may not fly upward as it is blown from the road when the cleaner is drawn forward, a hood is made to cover both the nozzle proper and the auxiliary nozzle. This cleaner is designed to effectively clear the roadbed of dust, or any light or loose foreign matter, depositing the removed material along the line of the road. This invention was illustrated and described in the SCIENTIFIC AMERICAN of September 3, 1892, and a fine working model was on exhibition at the World's Columbian Exhibition last year, where it attracted much attention.

LEATHER MEASURING MACHINE.—Jules E. Fortin, Quebec, Canada. The measurement of leather by this machine is effected by the disposal of numerous little weights hung at regular distances apart, each weight representing a certain space or area, and the weight by their displacement affecting the scale beam. The parts are so arranged that by raising a side of leather against the suspended weights, and effecting the balance by a counterpoise on the scale beam, the size of the side of leather will be indicated in feet and inches on the beam.

WOVEN CHENILLE FABRIC.—Leedham Binns, Philadelphia, Pa. As a new article of manufacture, this inventor has devised a strand of chenille comprising separated sets of warps, wets binding each separated set, the wets of the several sets crossing each other at their middle and between the separated sets of warps, the ends of the wets project-

ing from the outermost warp threads in the several sets forming tufts or loops, while a core thread extends through the space formed by the crossing wets.

BOAT.—Alfredo D'Costa Gomez, Bucaramanga, Colombia. This inventor has devised a style of boat especially adapted for the navigation of shallow water, or for streams in which there is considerable current. For the ordinary hull of a vessel is substituted a series of floats made of hollow cylinders of light metal, pointed at the forward end, each float having on its upper surface a longitudinal beam, and the floats of each series being connected by transverse beams, the latter being connected by deck beams, upon which is supported the deck and other desired structure.

PLATFORM RAILWAY.—Thomas Kennedy, No. 36 West 116th Street, New York City. According to this invention a central standard in a circular base constitutes a pivot or guide for a circular platform of solid or skeleton construction, upon which are circular tracks for cars or carriages, the platform, in addition to its central bearing, being partially supported by vertical springs arranged in a circle at a distance from the central standard, the springs being of different lengths, with the longer one at one side, so that the platform will normally be held in an inclined position. By alternately depressing the high side of the platform and permitting it to rise by the action of the springs, single cars or carriages, or trains of vehicles, may be made to travel constantly around the track, the rocking movement of the platform being effected by a motor, or by a rope or chain pulled by hand. The improvement affords an entirely safe construction for merry-go-rounds or carousels, giving the occupants of the cars a smooth and regular undulating or rocking motion, and it may also be utilized for purposes of display or employed as a toy, making rolling objects or a display frame exhibit various articles. A figure or group of figures may be secured upon the central portion, to remain stationary or revolve therewith.

BICYCLE SUPPORT.—Benjamin B. Davis and James F. McGowan, Athens, Ga. This is an extensible prop having at one end a fastening by which it may be secured to the bicycle frame at frontrod between the upper and lower main tubes, and provided between its ends with a clasp adapted to engage and scotch the wheel, the free end of the prop resting on the ground. The device is very simple and inexpensive, and may be readily applied to and removed from the machine.

HARNESS ATTACHMENT.—Edward K. Griesemer and John H. Manger, Reading, Pa. Combined with the breast collar of a harness and the thill of a vehicle is a spring clip to clasp the thill, one member of the clip terminating in a socket and the other member projecting into the socket, the free end of the clip being adjusted by a screw, while a lug on the breast collar enters the socket and is engaged by a catch. The improvement forms a simple means of attaching a horse to the thills, being especially adapted for a light harness, forming also a supplemental attachment to an ordinary harness, and a safeguard against accident.

BRIDLE BIT.—Robert Sears, Newark, N. J. The cheek pieces or guards, according to this invention, have extensions with eyes, the extensions forming bit-receiving recesses open from the edge of the cheek pieces, in which loosely fit the ends of a jaw strap, the strap being detachable from the eyes to permit entrance of the bit. This attachment for cheek reins may be applied to an ordinary bit, to prevent chafing of the horse's mouth, and when used in connection with a chin strap makes the checking action more effective, supporting the chin strap nearer the point of the jaw and preventing undue straining of the strap or the bit.

THILL COUPLING.—James S. Patten, Baltimore, Md. A simple construction of latch-plate and actuating devices has been provided by this inventor, the latch being automatically set and released by the proper movement of the thills. The device operates efficiently to take up all wear and also acts as an anti-rattler, while it can be made at a small cost.

SWORD BELT AND HANGER.—Laurent H. Allen, New York City. This belt has a keeper, the lower end of which has an eye with a downward and outward inclination, and the hanger has at its upper end a snap with the tongue at its inner side, the snap engaging the lower end of the keeper. The hanger and sword may be quickly and easily removed from the belt or arranged in engagement therewith without displacing the coat or disengaging or upturning the belt.

BANDOLIER.—Joseph Bertrand, Houghton, Mich. This article consists of a suspending strap or band, a pendant apron with sheath or pocket inclosing a rigid and perforated plate, while a load hanger is adjustably connected to the apron on the outer face. This bandolier is very simple, durable and inexpensive, and is designed to assist porters or others in the carriage of various articles, permitting of the load being carried as far from or as near to the waist line as possible.

HOSE COUPLING.—Patrick J. Barrett, Boston, Mass. The two sections of this coupling, when pressed together, become engaged by a slight turn or twist, there being on the exterior of one section teeth engaged by a tilting pawl on the opposite section, while a revoluble collar adjacent to the pawl has a cam slot engaging the shank of the pawl. The coupling makes an absolutely watertight joint, affords a clear waterway, and is so made as to facilitate the attachment of an electric signal to a hose.

SLIDING LADDER.—William J. Thurganger, Philadelphia, Pa. This is an improvement in ladders designed to be pushed back and forth opposite a row of shelves. The construction is such that the ladder will be held very steadily and its foot prevented from swinging laterally, while the ladder and its supports may be easily applied to the ceiling or the shelving of a room.

WRITING TABLET AND MANUSCRIPT HOLDER.—Barton W. Scott, San Jose, Cal. This is a casing made in the shape of a book, with two winding rollers for the paper, and a spring-actuated mechanism in the casing adapted to be connected with either roller

to move the paper up or down. The device is more especially designed for the use of reporters, writers, public speakers, etc., the matter being written on a continuous sheet or web of paper.

MUSIC STAND.—Frances Higbie, Brooklyn, N. Y. This invention provides an improvement in clamp joints, whereby any horizontal object, such as a music rest, bracket or table, may be adjustably held upon an upright support without the use of set screws, etc. The construction is such that the bracket or table, when moved to the desired point upon the standard, will remain stationary, and the more weight it carries, the more firmly will it be held to the standard.

METAL PIPE CONNECTION.—Patrick J. McGuire, New York City. This is a connection especially adapted to unite sections of soil pipe and prevent the passage of sewer gas. It comprises a conically enlarged hub in which is seated a mating joint ring, a soft metal joint ring being formed between a cylindrical extension of the conical hub portion, while there are external threads on the inserted pipe section. With this construction the work of putting up soil pipe in a building may be materially expedited.

DUPLICATE WHIST.—John G. Butler, Augusta, Ga. The novel shaped tray devised by the inventor for playing this and other games of cards is cruciform, with raised border and card receptacles in the branches, in which are projections to confine the cards in a given direction, with freedom for removal when required. The improvement facilitates the playing of the different "hands" over again, either by the same partners or by transferring the hands intact to opponents.

BASE BALL BAT.—Charles Jacobus, New York City. In a longitudinal axial bore of the bat, according to this invention, are placed heavy balls, a screw plug closing the outer end of the bore, and facilitating the placing or removing of the balls. As the bat is swung for a stroke the balls slide outward, to increase the effectiveness of the blow, the balls moving toward the handle end, and thus decreasing the weight of the bat, when the latter is held upright.

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.

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