

RECENTLY PATENTED INVENTIONS.

Engineering.

ENGINE GOVERNOR.—Martin A. Green, Altoona, Pa. This invention provides an improvement in centripetal governors in which the speed is affected by variations of the operative position of the adjustable valve-acting eccentric. A pivot pin projects eccentrically from the hub of the governor wheel, a rocker plate journaled on the pin being connected with the pivotal governor arms, and the valve pin is eccentrically journaled on the rocker plate, the journal being normally over the axis of the wheel when the governor balls are at their normal innermost position. With this construction the operative mechanism is designed to automatically balance up the necessary overbalance of the centripetal force to make the governor stable.

HYDRAULIC PROPULSION OF VESSELS.—James C. Walker, Waco, Tex. A means of applying the jet principle of propulsion has been patented by this inventor, in which main trunk tubes of tapering shape are arranged lengthwise of the vessel, the tubes being largest at their front open end, and having along their length a series of nozzles opening rearwardly along the side of the vessel, while propeller wheels in the main tubes are adapted to suck water in at the front and force it out through the nozzles against the surrounding water. One set of nozzles may be used independently of the other to facilitate steering, or one set may be arranged for forward and the other for backward movement.

Railway Appliances.

MILEAGE RECORDER.—Harry S. Squires, New York City. This is an automatic device for use on passenger cars to record the number of miles for which each seat is occupied. Electro-magnets controlled from the seats of the car are arranged to actuate a series of levers each carrying a point which marks upon a traveling sheet moved by clock work, a governor actuated from the axle locking the levers in place. When each seat is occupied its connected circuit is closed and the record commences, the circuit being broken and the record ceasing when the passenger rises. The sheets may be changed at the end of each conductor's run and turned in with his report.

TORPEDO CLIP FASTENING.—Will C. Schooley, Braddock, Pa. The securing of torpedoes to the rails to hold them in the path of the wheels of a train is provided for by this invention, the fastening being simple and readily applied, so that the torpedo is not likely to get loose. The device consists of a clip formed of an oblong wire loop, to be bent downward at its ends at opposite sides of the torpedo case, a flexible clip being held in the clip fastening and adapted to be doubled upon the rail. The device holds the parts of the torpedo together in such a way that a small torpedo is designed to make as much noise as a larger one used in the ordinary way.

CABLE RAILWAY.—Samuel D. Root and Gordon C. Vineyard, Anaconda, Montana. This invention provides a simple and inexpensive construction, automatic in operation, for use as a freight line in a hilly or mountainous section. Combined with a main stationary cable inclined in the direction of the grade is a second cable formed in sections, each section inclined in reverse direction to the main cable, with intermediate mechanism, whereby the weighted car is made to carry the empty car to the top of the hill. The main cable and the supplemental cables are held to strut frames by means of peculiarly constructed shoes.

Electrical.

ELECTRIC DOOR OPENER.—Louis Bates, Jersey City, N. J. This invention covers an improvement on a formerly patented invention of the same inventor. When the door is to be unlocked the circuit is closed through magnets held in the lock casing by means of a push button in the ordinary way, and when the circuit is closed an armature is vibrated to strike against the arm of a releasing latch, a locking pawl being released from the main latch and held in this position until the door is pushed open.

Agricultural.

CULTIVATOR.—Augustus Tindall, Brenton, Ill. This is an implement of simple, strong and inexpensive construction, in which the blades may be quickly and conveniently raised and lowered. Its construction is such that there may be used, in conjunction with the shank of the cultivator blade, a removable and adjustable colter wheel, capable of being placed at any desired inclination with respect to the blade, the blade being so made that its point is removable and reversible. The colter may be adjusted at any angle with reference to the shank or to the blade, and is laterally adjustable to and from the heel of the blade.

Mechanical.

SAW SET.—William M. Greilick, Sutton's Bay, Mich. The frame of this device is in the shape of a standard or block adapted for attachment to a bench, a gauge being held horizontally on the frame, on which also is seated a sleeve in which is held a horizontal arm with a lug opposite the set block, there being a key and plates for adjusting the arm vertically, while a punch slides vertically in the sleeve above the set block, and plates are provided for adjusting the punch laterally.

OILER FOR HAND SAWS.—Seth Parmele, Portland, Oregon. This is an attachment to be placed on the saw blade near the handle, by means of which oil may be ejected at any time upon the blade when it sticks while the work of sawing is being done. The oiler extends on each side of the blade, and rests partly on the top of the handle, and it has a circular flexible diaphragm at each side similar to the bottom of an ordinary oil can, and a forward and downwardly projecting nozzle on each side, through which the oil is ejected by pressing upon the diaphragms.

WOOD CARVING MACHINE.—William R. Snyder, Royer's Ford, Pa. This machine has a

platen supported on a laterally movable frame, and adjustable to incline it from a horizontal plane and also rotatably and reciprocally adjustable, an arbor being rotatably supported above the platen and adapted to swing orbitally, with cutter adjustable thereon, while there is a turntable support for the arbor, with means to move the turntable and mechanism to effect the rotation and longitudinal adjustment of the arbor. The machine is designed to facilitate the rapid and secure execution of intaglio carving upon a surface of wood or other material, without requiring an outline of the design on the surface to be carved.

CENTERING DEVICE.—Fredrick L. Canham, Lisbon Falls, Me. This is an improved apparatus for use in finding the center of regularly or irregularly shaped ends of pieces of wood or metal bars, etc. In the slotted top of a frame is held an adjustable head carrying a center on the end of which is a funnel held in outermost position by a spring, and directly opposite is similarly arranged another funnel, the outer end of the head being pivotally connected with a lever. An article placed between the funnels assumes a central position, and is thus held.

FELTING MACHINE.—Julius Kittel, Cranford, N. J. This machine is specially designed for making felt to be used in the manufacture of piano hammers, the invention being embodied in a perforated steam drum covered with burlap and means for feeding the felt material. The burlap is sufficiently rough to enable it to take up the felt material fed on to the drum and hold it securely for the required time, the steam passing through in sufficient quantity to merely moisten the material as required to produce good felt.

HAIR CURLING MACHINE.—Junius A. Murphy, New Orleans, La. This machine has an axially bored cylindrical curling head having its front end formed into a spiral face, and having a cast-off point at the forward terminal of the spiral face, there being a spiral groove between the point and the face. The machine is designed to take the place of hand work by mechanically curling or kinking hair.

EXTENSION SHOE LAST.—James H. Livermore, Port Townsend, Washington. This last is preferably made of metal, and has a detachable toe or sole portion, in the center of which is an elongated slot through which is passed the head of a connecting bar, the rear end of which extends into a hollow heel portion of the last. The connecting bar has on its upper face a series of graduations, and the parts may be readily locked in place in such position as desired.

PITMAN.—Philip Y. Barber, Sharp's Wharf, Va. This is a device more especially designed for use on mowers, reapers, etc., and is of simple and durable construction and arranged to relieve the wrist-pain of all turning or twisting strain. The head, in the free end of which screws a sleeve or tube, is pivotally connected with the actuating crank disk, and a rod pivotally connected with the device to be driven has a reduced part extending through the sleeve, a nut holding the rod in position on the sleeve, but so as to permit its turning.

DIFFUSION APPARATUS.—Samuel Faron, Pahala, Kau, Hawaii. The cane juice is extracted from the sugar cane, according to this invention, by subjecting the cane to the pressure of successive sets of rolls, and the light or thin juice obtained by the last set of rolls is carried back and mingled with the denser and heavier juice extracted by the first set of rolls. A series of mills is connected together by elevators and troughs, but one pump being required and the usual separate tanks being dispensed with.

Miscellaneous.

CLOTHES PIN.—John W. Cook, Harisburg, Oregon. This clothes pin is formed of a length of wire bent between its ends to form near its middle a number of clasps, and also provided with a bearing to run upon a supporting line and a guide opening for a pulling cord. A number of the pins are supported to move upon a line, upon which the pins and garments are drawn out the garments being connected together by the pins, so that the line can be filled without moving from one place, and can be stretched over any kind of ground.

GATE.—George Ford, New Harmony, Ind. This invention relates particularly to gates known as "hand lever openers," and provides certain improvements whereby the gate may be opened and closed from one side by a single lever. The gate may be opened by one in a vehicle or on horseback, approaching from either side, by pulling down upon a cord attached to a lever, and the invention covers various novel features of construction and arrangement of parts.

COMPOSITION FOR DOLLS.—Solomon D. Hoffmann, Moscow, Russia. The heads, feet, and lower limbs of dolls are constructed, according to this invention, of a composition of glue, glycerine, zinc oxide, and other ingredients, and a novel manner of making the mask and covering it is also provided, the mask being very light, practically indestructible, and slightly elastic.

DESIGN FOR A SPOON.—George P. Tilton, Newburyport, Mass. This design embodies a border ornamentation, of which the primary element is the rose, the stems forming scrolls, while the reverse of the spoon is free from roses and the foliate scrolls are plain, the back of the bowl having an ornamental figure.

DESIGN FOR A SPINNING TOP.—Albert J. Huntoon, Kansas City, Mo. This design presents a novel configuration and ornamentation, the body of the top being hexagonal, and its faces embellished to simulate the sides of dice.

DESIGN FOR A BAKING PAN.—George B. Gifford, Albany, N. Y. This pan has an essentially square, high cover, with paneled sides and handles on its ends, the cover fitting loosely within the flaring side walls of the base portion or pan proper.

ELEVATOR.—William N. Anderson, San Rafael, Cal. A light, durable, and non-combustible

door for closing the well of an elevator is provided by this invention, in connection with a simple mechanism by which the movements of the elevator cage will automatically open and close the doors. A vertically swinging door adapted to swing across the well has a segmental rack, and vertically sliding rack bars extending above and below the door at its hinged edge are both geared to the segmental rack, the arrangement being such that one rack opens the door when the cage ascends and the other opens it as the cage descends.

BRICK KILN.—Simon Dewhirst, St. Joseph, Mo. This kiln has in its side walls a series of combustion chambers leading into the interior above the floor, and a series of furnaces arranged on the outside, each furnace communicating with a combustion chamber and each being provided with a separate combustion chamber opening into the interior of the kiln above the first combustion chambers. The invention covers an improvement on a former patented invention of the same inventor, the design being to utilize the fuel in the best possible manner and obtain a uniform heat in all parts of the kiln.

TYPEWRITING MACHINE.—George M. Beerbower, Washington, D. C. The printing of the date, address, signature, etc., upon the paper by the movement of a single key lever is provided for by this invention, the words, figures, etc., being readily changed as may be desired, thereby saving a great deal of time and labor. The invention consists essentially of a type bar or lever carrying the necessary removable interchangeable types, in combination with a supplemental open frame attached to the end of the main frame of the machine, the type bar or lever being pivoted between inwardly curved arms of the frame.

WINDOW.—Robert H. White, Madison, Ind. This invention provides novel and inexpensive appliances to allow the upper and lower sash to be separately or together rocked and placed at any desired angle of inclination, permitting the sashes to slide in their guides while inclined, while also affording means to lock both sashes closed.

FIRE ESCAPE.—George L. Roberts, Grand Rapids, Mich. This is the invention of a fireman and engineer of many years' experience. It is a device adapted for extension upon a fixed rail from the exterior of a building, where it may be moved sidewise to any desired point, affording means for the quick and easy descent of a large number of inmates, at the same time affording the firemen means of access to the fire. A pendant, movable ladder-supporting frame is supported on rollers from the rail, and the descent of the ladder is effected by the weight of persons stepping upon its platforms, proper checking devices being provided to prevent a too rapid descent.

CEMENT MILL AND FURNACE.—Henry H. Bourne, Trinidad, Col. This is a combination construction designed to be readily transported from place to place, and be very effective in operation. The casing has a transverse partition forming a mill compartment and a furnace compartment, a smoke stack extending centrally from the partition to connect with the outlet of the furnace, while an agitator in the mill compartment is mounted to turn on the smoke stack. The upper end of the casing is open, so that the material to be treated can be readily thrown or dumped into the mill compartment.

PACKAGE CARRIER.—Frank H. Palmer, Brooklyn, N. Y. A grooved handle, adapted to receive the binding strings of a package, and to hold them in such manner that they are not likely to become detached, is provided by this invention. A transverse groove is formed at its opposite sides with under cuts, and a diagonal groove leads to the transverse groove. The device is very inexpensive, may be quickly applied, and prevents the cutting of the fingers by the strings in carrying packages.

UNICYCLE.—James Imlah, Barre, Vt. This vehicle has a non-rotating inner wheel formed with a suitable framework and a double rim connected with a framework in which the rider's seat is held, the two rim parts engaging ball bearings in an inner annular flange connected by spokes with the tire of an outer wheel. The machine is designed to be readily manipulated for steering and propelling purposes, while being adapted for travel at a high rate of speed.

MOTOR SPRING FORK FOR BICYCLES.—William Lynch and Eugene Tremper, Wallkill, N. Y. This is a fork of simple construction designed to act as a cushion for the rider when the wheel is passing over an obstruction or over rough ground, also acting as a motor to propel the wheel forward when an obstacle is met. It is made in two sections, the upper one yoke-shaped and the lower one comprising two bars pivoted to the members and adapted for attachment to the axle, there being power connections between the lower section and the wheel, stop devices at the junction of the two sections, and a spring connecting the two sections.

BOOK MAILING ATTACHMENT.—Chas. S. Hardy, San Diego, Cal. A permanent fly leaf is attached to the cover of a book, to be shut within or turned outward around the book as an attached mailing sheet or wrapper, to be sealed or otherwise fastened and having on its exposed surface the owner's name and address, etc. The invention is also applicable to various articles or packages, legal and other documents, but is mainly designed for books, as pass books, bank books, etc.

TOBACCO PIPE.—Thomas T. Ely, West Paris, Me. Suspended in the bowl of this pipe is a sheet metal tobacco-holding cup, there being side perforations near the top of the cup, and an air passage between the cup and bowl from these perforations to the stem. Within the cup is a diaphragm resting upon a spring, which is pressed down when the pipe is charged with tobacco, the spring raising the diaphragm as the smoking proceeds. With this form of pipe the smoke is not drawn through the nicotine deposited by the tobacco, but is drawn through the perforations of the cup near the top of the burning tobacco.

AWNING.—Bernard Branner, New York City. This device is designed to permit an or-

inary window shade to be utilized as a part of a door or window awning when desired, and it may also be used as an interior screen for a window or door. It consists of two triangular wings of flexible material, a stretcher rod being secured to the lower end of each wing, the upright edges of the wings being connected to the window casement, while a hook extended from each stretcher rod at its outer end interlocks with a staple or screw eye on the lower part of the awning.

VENETIAN BLIND.—James K. Benway, Albany, N. Y. This invention relates particularly to the pulleys over which pass the cords for raising and lowering the slats, the pulleys being so improved that the slats will respond to the cords more smoothly and with precision, and the hangers of the pulleys will be prevented from marring the bars from which they are suspended.

EXTENSION GUN STOCK.—Erastus Jones and Ralph Townsend, New York City. The back plate and the stock are so made, according to this invention, that the plate may be carried to and from the end of the stock to form an extension of the latter. Between the stock and the plate is a spring cushion, adapted to counteract the recoil of the gun, and the connection of the stock with the plate is such that the latter may be conveniently adjusted to the marksman's shoulder.

RADIATOR.—George E. Longard, Halifax, Canada. This is an improved radiator of simple and durable construction, very ornamental in appearance and adapted for both steam and hot water heating. The headers form top and bottom girders for the pipes, and each of the tubes is formed with a recess adapted to be covered on the outside by a removable metallic screen fitted into the front of the pipe.

SKIRT SUPPORTER.—Georgia V. Smith, Princeton, Ill. An elastic band is provided with a lever-like spring clasp at one end for engaging the other end of the band, and a cord is secured to the clasp to support and hold the band in position on the wearer. This supporter, by reason of its elasticity, will not permanently crumple or crease the skirt, and may be conveniently adjusted or removed by the wearer while on the street.

DESK ATTACHMENT FOR CHAIRS.—Milton C. Hutton, Georgetown, Texas. This attachment may be applied to desks and other articles of furniture as well as chairs, affording a desk or table which may be adjusted toward the person or vertically, means being also provided whereby a book or other object may be prevented from slipping off from the table. Each end of the board constituting the top of the table is provided with different means for attaching it to an article of furniture.

DRAUGHT EQUALIZER.—Erastus Roadifer, Carpenter, Ind. This invention relates to a three or four horse evener, to be used on any machinery or vehicle where it is desired to apply extra power on one side of the center of the draught, but being especially useful on reaping and mowing machines. The construction is such that if the three horses on one side get ahead, the swing of a specially arranged lever throws them further away from the tongue, instead of allowing them to crowd over upon the single horse.

FRUIT JAR.—Charles L. Wight, Mahukona, Hawaii. This is a knock-down jar, its bottom having marginal grooves and intersecting sockets, the cover having similar grooves and holes, the corner posts also having longitudinal grooves and end tenons to enter the base and cover sockets, while the side panels have top and bottom edges to fit the base and cover grooves, and the vertical edges fit the post grooves. This jar may be made of wood and glass, or other suitable material.

ANIMAL TRAP.—Edwin R. and Charles W. Knecht, Shelbyville, Ill. This is a trap to catch small animals, such as rats and mice, and is so made that the animal passing in one end can see through and out at the opposite end, entering either end and perceiving the bait from any portion of the trap. But the bait cannot be taken, the animal approaching it being dropped into a lower prison compartment, to be removed at will.

DESIGN FOR A CARRIAGE BODY.—Aaron T. Demarest, New York City. This design relates to the contour and decoration of coupes, and its main feature consists in the sweep or curvature of the lines of the body at the margins and between the margins as viewed from the side.

DESIGN FOR A BROOCH PIN.—Thomas Tugby, Niagara Falls, N. Y. This pin has something the appearance of an insect having a shell with an oval back and projecting head and horns, and the construction of the pin is strong and simple.

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.

MINER'S POCKETBOOK. By C. G. Warnford Lock. New York: Spon & Chamberlain. 1892. Pp. xvi, 472. Price \$5.

This comprehensive little work touches on all topics connected with mining, from the blasting and shaft sinking operations, lighting of mines, treating of ores and similar subjects, to the assay of ores, mine surveying, geology and the properties of metals. A glossary, list of useful books and a comprehensive index are also embodied in the work.

THE ARITHMETIC OF ELECTRICITY. By T. O'Connor Sloane. New York: N. W. Henley & Co. 1892. Third edition revised. Pp. 138. Price \$1.

We have already reviewed "The Arithmetic of Electricity" in these columns. The best testimony of the nature of its reception by the public is the early issuing of a third edition. The object of the work is to give a