

RECENTLY PATENTED INVENTIONS.

Engineering.

COMPOUND CONDENSING ENGINE.—John S. Briggs, Poland, Me. This engine has high and low pressure cylinders and a cylindrical valve having ports on one side connecting with the exhaust of the high pressure cylinder, while ports on the opposite side connect with the low pressure cylinder and the condenser, a valve reciprocating in the valve cylinder having a transverse passage connecting the exhaust from the high pressure cylinder successively with the low pressure cylinder and the condenser. The arrangement is designed to prevent back pressure in the high pressure cylinder and to supply the low pressure cylinder as well as the condenser with exhaust steam from the high pressure cylinder.

AIR VALVE FOR WATER PIPE LINES.—Theron A. Noble, Seattle, Wash. For water pipe lines or other chambers containing water, the valve provided by this invention is arranged to let out air when the pipe line or chamber is being filled and let in air when the pipe breaks or is being emptied, thus preventing a collapse, the valve also opening to let out accumulated air that has collected at the summits of the pipe line, without allowing the water to escape, and preventing the hammering of the water. Within the valve casing is a chamber communicating with the atmosphere, a float carrying a valve to establish communication between the chamber and the casing, while a stem separate from the valve projects to the outside of the casing and is arranged to engage the valve.

Electrical.

CIRCUIT CONTROLLER.—William T. Budd, Charleston, S. C. This invention relates to circuit controllers for call box systems, and provides means by which a break in the main wires may be easily located without sending a lineman to find it in the usual manner; also, so arranging the parts that, should a wire be broken, the call will still be operative. The invention provides a controller wheel having a number of peripheral projections indicating the number of the call box, in which it is arranged in the usual manner, the wheel being made by the single operation of a die, and therefore inexpensive, and there being both a metallic and ground circuit, through the latter of which the circuit may be operated should a break occur.

Bicycles, Etc.

BICYCLE STEP.—Heinrich G. Borgfeldt, Brooklyn, N. Y. The bicycle step, according to this invention, is extended at an angle from the pedal crank at its shaft-bearing end, being so placed with relation to the pedal crank that motion will be immediately imparted to the wheel when the weight of the rider comes upon the step, making it unnecessary to take a few steps before mounting, as is ordinarily the case. The step will, in mounting, be nearer the handle bar than is usual, thus rendering the act of mounting much easier.

BICYCLE BALL BEARING.—William J. Tripp, New York City. This bearing, for use on bicycles and other machines, is designed to reduce friction to a minimum, while permitting of readily adjusting the several parts and affording convenient access thereto for repairs, etc. Two collars, each having an inwardly overhanging portion, are secured to the axle, and an additional collar is carried on each overhanging portion, the additional collars being extended inward and contracted, the pairs of collars thus forming an annular ball race, the ends of the hub being projected within the additional collars and the overhanging portions of the first named collars.

Mechanical.

BRACE.—John H. Morrison, Prescott, Arizona Ter. To obtain a high speed for the bit and insure an easy, steady and quick boring of the material, without necessarily increasing the speed of the crank arm to be turned by the operator, is the object of this invention. The tool is provided with a U-shaped frame having upper and lower bearings, in the lower one of which is a sleeve through which passes a vertical shaft carrying at its lower end the tool holder for a bit or other tool, the shaft being also connected by a train of gear wheels with the sleeve, whereby a higher motion may be transmitted to the shaft.

CUTTER HEAD AND CUTTER.—Frank E. Dalzell, San Francisco, Cal. An improvement more especially designed to facilitate turning rosettes, corner blocks, etc., has been devised by this inventor, the cutter head being provided with jaws forming curved slots at adjacent edges for the reception of the cutters, and the cutters being made of thin steel and curved to produce a shearing cut.

SCROLL SAW.—James G. Connelly, Vernon, S. D. To facilitate adjusting and operating the saw and combine therewith a lathe to be operated at will is the object of this invention. The arrangement is such that the saw table remains level, the saw frame being mounted in a yoke and being adjustable, so that the saw frame may reciprocate at any desired angle, while combined with the saw is a head and tail center of a lathe, the parts being so connected that the lathe or the saw may be operated independently, either one being thrown into or out of operation.

TUYERE.—David Summe, Darwin, Ind. To facilitate increasing or diminishing the draught in blacksmiths' forges, this invention provides a novel tuyere with an arrangement for keeping a projecting part cool, with an auxiliary draught opening to keep a smoldering fire when the forge is not in use. The invention comprises upper and lower plates united by lateral flanges and having recesses forming draught passages, the upper plate having perforations communicating with the draught passages, a surrounding channel being also connected with a water reservoir, while the draught passage may be connected with any style of bellows.

BOLT CUTTER.—James R. Rambo, Pulaski, Tenn. This device comprises a hollow head with rigid handle, two slidable parallel jaws being arranged in the head, to which also a handle lever is

pivoted, while a jaw lever has a head with projections engaging the jaws, its outer end having pivotal and loose connection with the handle lever. The tool is adapted for bolt cutting in general, but especially for cutting off the ends of tire bolts, which it does squarely and evenly, without leaving any bur.

APRON BOARD FOR PAPER-MAKING MACHINES.—Perry D. Taylor, Watertown, N. Y. This invention provides a board on which the apron may be quickly and conveniently adjusted for any sized sheet without detaching any part of the apron from the board or removing the attaching medium between the board and apron or between the apron and deckle frame. Bars with which are connected angular shields are held to slide in the board, while the apron is sectional, and the sections are attached to the sliding bars and connected with the shields.

Agricultural.

SCYTHE.—Gervais Nolin, Skowhegan, Me. To make a scythe of high grade and uniform quality of steel, the blade is made, according to this invention, with a ribbed back, the blade being formed of one piece and homogeneous in its composition at its edge, back and body, a heel being recessed to the blade and having a socket to receive the rib of the back. By this improved method of manufacture, the steel is heated but a few times and to a lesser degree than by methods heretofore employed.

COLTER BAND.—Thomas J. Mancill, Maben, Miss. A simple and inexpensive colter, which may be fastened to a plow beam without drilling holes in and weakening the latter, is provided by this invention. It comprises a top and bottom bar connected by diagonal side bars, the top and bottom bars having extensions with elongated openings through which hook bolts are passed, while a set screw is passed through one of the side pieces. This colter band may be readily applied to beams of different thicknesses or adjusted to the right or left or vertically, as desired.

PRUNING IMPLEMENT.—John L. Manning, Bartow, Fla. This invention comprises a staff or handle and two pivoted hook-shape cutters, one cutter having an extended shank or lever arm which is pivoted to the handle, the other cutter having a sliding connection with the handle, a pull rod being connected with the extended shank or lever arm, the arrangement being such that a pull on the lever arm operates both cutters simultaneously.

Miscellaneous.

FIRE TRUCK.—Richard J. Voelker, St. Louis, Mo. This invention relates especially to the steering gear of fire trucks, and provides a novel and simple form of latch mechanism by which the steering wheel shaft may be prevented from accidentally jumping or being jarred out of place, and by which the shafts may be removed without displacing the steering wheel.

WEATHER SIGNAL INDICATOR.—J. G. Wall, Brooklyn, N. Y. For use in public and private buildings, offices, stores, etc., this inventor has devised a weather signal indicator to display signals according to the daily reports of the Weather Bureau, comprising a bulletin board formed with means for reading the weather and storm signals, such means being printed, painted, or otherwise arranged on the board with the necessary text to be readily interpreted by the public, in connection with a changeable calendar, graduations with pointers indicating the velocity and direction of the wind, etc. Both air and sensible temperatures are given by the indicator. This inventor has also further protected his weather signal indicator by taking out a copyright thereon.

DOOR SECURER.—Richard D. Williams, New York City. For the use of guests, boarders and travelers, etc., this device is more especially designed, comprising a series of telescoping tubes, the upper one having a flat forked head to engage the shank of a door knob, while the lower one has a toothed foot piece, there being means for holding the head and foot pieces in alignment, and a simple form of locking device to hold the securer extended or closed. The device may be quickly and conveniently applied to lock a door against intruders, and may be telescoped into small space to be carried in trunks and bags, being also available as a handy weapon for defense.

MACHINE FOR CUTTING DOUGH.—Herman Weichert, Jersey City, N. J. For cutting dough in pieces of suitable size for loaves, each piece or loaf having the exact weight required, this inventor has devised a machine to which the dough need only be fed, when it will be automatically expelled from the machine, cut to the required weight. In the receptacle to which the dough is fed is a screw conveyor, there being a reciprocating cutter mounted to cross the outlet of the receptacle, and means for regulating the area of the outlet. An adjustment is provided whereby the weight of dough delivered may be increased or diminished, and any other plastic material may be fed and cut off in a similar manner.

LOCK.—James M. Sweeney, Somerville, Mass. This invention relates to locks in which a casing carries a sliding bolt normally retained by a series of tumblers movable by a specially constructed key, to release the bolt and permit it to be shot, the improvement providing a lock in which the bolt may be operated by a key or by a latch. The upper part of the casing is recessed for any suitable form of latch, and the shape, size, and relative dimensions of the tumblers and key may be changed to produce innumerable combinations, to differ in every lock that is manufactured.

AUTOPNEUMATIC PIANO PLAYER.—Fred R. Goolman, Los Angeles, Cal. In this instrument the pneumatic action, in combination with bellows, valves and tubes, forms the principal part of the mechanism, the control of the entire music, the operating of the expression pedals, and rewinding of the music on the roll after playing being effected without the assistance of the operator, and the instrument being designed to have a more perfect action and a finer and more delicate expression than has heretofore been attained. The instrument may be driven by an electric or water motor, spring or weight motor, as most convenient, the action being intended to

fit almost any piano or reed instrument, the shape of the parts being modified to suit.

ENVELOPE.—Albert Butzer, Carlyle, Ill. The blank of which this envelope is made has at one edge a projecting keeper strip and at the opposite edge a locking tongue, cuts in line with the sides of the tongue extending into the blank, and the inner end of the tongue having a delicate connection with the blank. It is designed that the envelope shall be inexpensive to make, and that after having once been closed it may not be reopened without detection.

MUCILAGE HOLDER.—Frank F. Peck, Susanville, Cal. This holder has an overbalanced scraper adapted to be pressed below the level of the mucilage by the brush and to rise above such level on removing the brush, the arrangement being such as to permit of readily scraping off surplus mucilage from the brush, automatically returning it to the chamber or well without clogging the mouth of the holder. This prevents also the loss of mucilage from its becoming hard in drying on the surfaces exposed to the air, and the mucilage in the holder retains its consistency for an additional period, not being liable to become unclean from dust and other impurities.

WRITING TABLET.—William H. Griffin, Hawthorne, N. J. A simple and inexpensive device more especially designed for use in schools, instead of slates, is provided by this invention, the device being adapted to hold loose sheets of paper in the form of a writing tablet. Mounted on one end of a board or backing is a spring-held bar adapted to clamp the paper on one surface of the backing near the end, the bar being held in desired position by the action of the spring.

SCHOOL ROOM DIRECTORY AND BULLETIN.—James S. McClung, Pueblo, Col. This board has a series of clips on its front face to receive information cards bearing on one face the name, age, grade and date of entrance of pupil, with address of parent or guardian, and on the opposite face a record of physical condition, etc., a record card being removably secured on the reverse side of the board presenting a digest of the records of pupils. The improvement is designed to present a record of which all the details will be readily accessible, enabling a principal or superintendent to enter a class room and investigate the history of one or more pupils without disturbing teacher or students.

ANTI-RATTLER FOR THILL COUPLINGS.—Frank P. Johnson, Danville, Pa. This invention covers an improvement on a formerly patented invention of the same inventor, and comprises a bolt for securing the thill to the axle clip, the bolt having one end extended downwardly and inwardly, while a wear plate has its lower end connected with the downward and inward extension of the bolt, a spring engaging the lower portion of the plate and pressing forward its upper portion. The device is designed to automatically take up wear and may be used on both right and left hand couplings.

FIRE ESCAPE.—Joseph Hagel, Mount Sterling, Ill. A slotted tube is arranged vertically as a permanent fixture on a building, according to this invention, a block sliding in the tube being moved by a rope or cable extending from cranks and a drum at the bottom over a pulley at the top of the tube, and there being attached to the block a cage which may be thus raised or lowered, the cage being arranged to be locked at the desired height. The device may be used to permit firemen to conveniently carry and operate hose, as well as to facilitate escape from any of the floors of a building.

DUMB WAITER SAFETY DOOR.—Theodore Grottko, West Hoboken, N. J. To close the doors of dumb waiter shafts at each floor of a building, to prevent fire from spreading therein, and to allow the cage to open the doors noiselessly at each ascent and descent, is the object of this invention, according to which the doors are hinged at one side of the shaft and normally supported horizontally by independent counterbalancing levers, there being sets of door openers at the top and bottom of the cage adapted to successively engage the doors and swing them upward or downward, according to the direction of progress of the cage.

WINDOW SHADE FIXTURE AND CURTAIN POLE SUPPORT.—George Biehn, North Yakima, Wash. This invention relates to fixtures adapted for ready attachment upon the side or top moldings of window casements without the use of screws or nails, affording a reliable support for the window shade at any desired point on the casement, and also providing for the ready removal of the fixtures without tools. Novel bracket supports for the curtain pole are also provided, which are likewise arranged for attachment or removal without the use of tools.

BED RAIL CLAMP.—Lafayette Weaver, Jr., Bridgeton, N. J. An improved detachable clamp or fastener for securing together the slats that support a bed bottom or springs and the side rails of a bedstead forms the subject of this invention. The clamp comprises a curved or bent main jaw adapted to engage the rail, two slidable auxiliary jaws to engage a slat, while a toggle lever and link are pivotally connected together and connect the adjacent ends of the three jaws. The pivotal connections form an arrangement on an eccentric so that the lever will be self-locking when adjusted.

ARTIFICIAL LEG.—Amos E. Tullis, Fargo, N. D. This leg has an external shell, preferably of raw hide, and inner inflatable air cushion with tube and nipple protruding through the shell, a clamp of special arrangement closing the tube, the arrangement of parts being such as to prevent the air cushion getting out of place, while it may be easily inspected or removed for repairs if necessary. This artificial leg is designed to be conveniently fitted to place and worn without injury or discomfort to the stump of the limb, on which it may be securely held.

COMPOSITE FLOORING OR CEILING.—John W. Piver, Pinia, Ga. A composite board or plank adapted for use in flooring or ceiling, etc., is provided by this invention, being formed of longitudinal strips cut from a flat grain board or plank, the outside strips thicker than the inside ones, and with the edge grain practically at right angles to the wearing surface, thus

producing an article which shall be more attractive or ornamental in appearance than composite boards or planks ordinarily used, and with no loss or waste of lumber.

FENCE POST.—Alfred J. Ogram, Litterberry, Ill. This invention relates especially to fence post braces adapted to be buried in the ground, providing an angular underground brace and anchor whose horizontal foot is bolted to the base of the post, while an inclined body portion meets an extended horizontal portion and diagonal top brace, both the latter being also anchored to the post.

Designs.

SKIRT BAND.—Elmer W. Towne, New York City. This design presents an ornamental band for the top of a skirt, in which bars arranged in circumferential groups meet a series of transverse bars.

CARPET.—Eugene A. Crowe, Brooklyn, N. Y. Two design patents for carpets and similar fabrics have been granted this inventor, one of which has scroll stems interrupted by foliate figures, combined with diverging leaves, flowers and foliage, the background being of stipple character. In the other design a foliate figure is a prominent feature, with a compound curved stem and leaves and sprays carried by the stem with a feathery effect, the leaves and sprays appearing at the ends as well as at the sides of the stem.

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(7348) L. H. B. says: Can you furnish me the formula for making seal metal, such as is used for the "counters" in notarial and corporate seals? A. Use the following for the counters for seals: Lead, 3 lb.; tin, 2 lb.; bismuth, 5 lb.; melt in the order named.

(7349) A. D. T. writes: At my home is a large leather-covered arm chair. Several evenings ago I was very much surprised when I arose from the same and touched the valve on the gas pipe to find that an electric spark emitted from my finger tips. This occurred on repeated trials. In the room there are no metallic bodies other than the gas pipe. Everything I touch is insulated, the chair with the leather, the floor with carpet. The spark may be seen and heard in any part of the room. It is a mystery to me and to all whom I talk to of it. There are no wires of any kind in the house; neither telephone nor light. Any explanation of the above would be highly appreciated. A. You describe the usual experiment of lighting gas with your finger. Had some one turned the gas on, and had you then touched the tip, the gas would have been lighted by the spark. The electricity is due to a charge gained by yourself through friction either against the leather of the chair or the wool of the carpet, probably the latter. Such a charge can only be gained by a nonconductor or by an insulated conductor, such as is the human body when standing on woolen. In cold, dry weather such electrical charges are very easily produced upon the clothing, in the hair, or rubbing paper, silk, or woolen.