

ENGINEERING INVENTIONS.

A car axle has been patented by Mr. Isaac W. Lewis, of Portland, Oregon. It is a two part axle, the shell having projections on its inner surface near one end, a spindle fitting in the shell having projections breaking joints with those of the shell, and a filling of soft metal being used, making an axle which permits one wheel to revolve independently of the other.

A steam engine has been patented by Mr. Charles F. Chandler, of Newark, N. J. The steam cylinder has two pistons, which advance toward and recede from each other, there being a rotary valve in the steam chest, pitmen connected with crank arms placed at angles to each other on the main shaft, and reversing gear for the rotary valve, the steam being applied in such manner as to avoid dead centers.

A governor for controlling the supply of fluids has been patented by Messrs. Alphens and Joseph Darling, of Petrolia, Pa. This invention relates to governors used to regulate the supply of gaseous fuel to steam boilers, or to regulate the pressure of steam or other fluids at a point of delivery, and provides novel features of construction and combination to make such a governor that will be simple, efficient, and durable.

A car coupling has been patented by Mr. John T. Pope, of Missionary, Miss. Combined with a pivoted drawbar and a shaft having a ratchet wheel is a pivoted pawl, with one end arranged to engage the ratchet, and the opposite end extended in position to be engaged by the drawbar on an approaching car, whereby cars will be automatically coupled on coming together, and may be uncoupled without going between the platforms.

An electric railway signal has been patented by Mr. Edward D. Wells, of Westminster, Md. This invention contemplates dividing the line, as in the block system, with electrical connections whereby a train is automatically signaled and prevented from entering upon a section of track until it is cleared, and provides a peculiar construction and arrangement of the circuit and signaling mechanism, which is also equally applicable as a switch signal.

MECHANICAL INVENTION.

A drilling machine has been patented by Messrs. Edgar Allen and Daniel S. Henrie, of Three Rivers, Mich. The construction is such that the drill spindle carries the drill in yielding connection with the material to be operated upon, and so that the pressure may be varied as required, the invention covering novel features of construction and combination for attaining these ends.

AGRICULTURAL INVENTION.

An adjustable plow shovel has been patented by Messrs. Amos B. Root and James F. Youtz, of Mount Joy, Pa. The curved standard has a pivot and adjusting apertures at its upper end and a vertical socket at its lower end, a transverse screw extending into the socket, and a bracket with vertical shank having an annular groove into which the set screw enters, to hold the shank from horizontal or vertical movement.

MISCELLANEOUS INVENTIONS.

A gate has been patented by Mr. John B. Holton, of Washington, Ky. The main feature of this improvement consists in a right-angular hinge rod, in connection with a special construction and combination of parts whereby the gate is braced, adjusted for taking up sag, and attached to the pivot post, the invention pertaining especially to farm gates.

A crock carrier has been patented by Mr. George K. Schaner, of Osborn, Ohio. It consists of a pair of levers crossed and pivoted together, and having angled serrated jaws, the longer arms of the levers being bent inwardly toward each other and having an elastic bail by which the jaws are drawn together in lifting two crocks thus held and lifted together.

A chimney cowl has been patented by Mr. Christian W. Ackermann, of Streator, Ill. The conical cap of the cowl is provided with a series of hinged pendants, and there are various novel details of construction calculated to give good ventilation to a room and yet automatically prevent rain or snow from blowing into the chimney.

A sofa bed has been patented by Mr. Lionel S. Trotter, of Portsmouth, Ohio. This invention covers a novel construction and combination of parts in a class of beds adapted to be folded for use as a sofa or chair, and provides a simple and inexpensive bed of this character, in which provision is made for the concealment of the bedclothes within the frame.

A faucet has been patented by Mr. Charles H. Loper, of Hickory, N. C. Combined with a bushing is a sliding tube having the inner walls of its outer end beveled, with other novel features, whereby the faucet can be pushed inside the barrel to be completely out of the way, to facilitate quickly moving the barrel without removing the faucet.

An electric burglar alarm has been patented by Mr. Edward E. Carr, of Chalmers, Ind. This invention consists in the peculiar arrangement of the circuit and contacts, and the means for locating the break, being applicable with a single battery to the doors and windows of dwellings, barns, etc., for sounding a continuous alarm.

A fruit picker has been patented by Mr. Jesse R. Hunter, of Palatka, Fla. It has an arm with stem-supporting shoulder and operating lever, with a spring wire secured at one end of the arm, connected to a cutting blade, and formed between its ends with a loop, in which the fruit is received after its stem is cut.

A neckscarf has been patented by Mr. Rubin Barnard, of New York City. It is made to

carry a picture, which can be exhibited or screened at the will of the wearer, the scarf having an opening in front, back of which the picture is adjustably held, ordinarily hidden from view, but so that it may be exhibited by the wearer pulling upon a band.

A dental anodyne or local anæsthetic has been patented by Mr. Robert H. Peak, of Orlando, Fla. It consists of a neutral mixture of acetic acid and carbonate of ammonia, salicylic acid, and hydrochlorate of cocaine, to be used for preventing or relieving pain during any work the dentist may have to do on the teeth.

A method of decorating glass has been patented by Louisa Winterhoff, of Hammersmith, London, England. A picture or design is printed on transfer paper, which is dampened and applied to the glass, printed side in contact, the paper then being moistened and stripped from the glass, and the printed impression dusted with finely powdered resinous substance.

A clamp has been patented by Mr. Frederick F. Houston, of Chicago, Ill. This invention covers novel features of construction and arrangement of parts, and an arrangement of a series of clamps on a frame for effect on all four sides of framed work at once, being especially designed for the use of carpenters, cabinet makers, and woodworkers in general, while clamping or gluing their work.

A tent has been patented by Mr. Merritt P. McKoon, of El Cajon, Cal. It is an improved "A" tent, with its ends firmly closed and extended at bottom into a half diamond shape, the doorway being at the center of one of the sides, with an inverted V-shaped canvas over the doorway, from the front peak of which is a guy rope passing over a suitable support for holding the roof straight out and firm.

A wire covering machine has been patented by Mr. Daniel Macduff, of North Grafton, Mass. The object of the invention is to make a machine especially adapted to produce a very pliable metallic thread for sewing leather or for other purposes, and it consists of a device for corrugating the wires before covering them with linen or other material, and means for winding the thread around the corrugated wires.

A book adjuster has been patented by Mr. Irvine J. Adair, of Dallas, Tex. It consists of a holder having longitudinal recess and vertical screw-threaded aperture, with base piece, adjusting screw, spring catch, and other novel features, for leveling books, especially large and heavy account books, and holding the leaves open, and enabling the book to be closed and opened again at the same place.

A folding baby carriage has been patented by Mr. Charles Haller, of New York City. It is so made that an elastic support is provided for the rear end of the carriage body, so that the elasticity of the spring can be regulated, and so that the carriage can be used as a cradle, with other novel features, the invention being an improvement on a former patented invention of the same inventor.

A measuring rack for goods in the piece has been patented by Messrs. William C. Newton and James G. Ferrill, of Batesville, Ark. It consists of a frame in which are side pieces adapted to hold the roll or board carrying the goods in such way as to facilitate the removal of just the quantity of goods required, the rack being designed for both light and heavy fabrics of all widths.

A pocket knife has been patented by Mr. Julius Wiesner, of Manchester, N. H. It is a springless clasp knife, the blade having studs on opposite sides of its shank at diametrically opposite sides of its pivot, the cheek plates having semicircular slots, with other novel features, whereby the blade will be held rigidly in an open or closed position, although the knife has no back spring.

A heating and ventilating apparatus has been patented by Mr. Richard A. Rew, of Pomeroy, Washington Ter. This invention covers a novel construction and combination of parts for providing the heater with plenty of pure air, economizing fuel, properly tempering the heated air by discharging steam into it in any desired quantity, and for drawing off the foul air and admitting pure air to the room.

A repeating fire arm has been patented by Mr. Carl J. Bjerkness, of Arkdale, Wis. The invention consists of a cylinder sliding in the breech block, a firing pin sliding in the cylinder, and a bushing on the breech block, making a repeating arm which is loaded automatically and throws the firing pin back to its place by the back action of the charge, and also discharges the cartridge shell automatically.

A lubricating composition has been patented by Mr. Joseph Plante, of Levis, Quebec, Canada. It consists of powdered sulphur, peat, and oil, the peat being used because it readily remains mixed with the oil, and the sulphur because the sulphurous acid which would be formed therefrom in case of fire would speedily extinguish the fire, the lubricator being designed for car axles and other purposes.

A composition for the manufacture of stone ware, etc., has been patented by Mr. Richard C. Remmey, of Philadelphia, Pa. It consists of Delaware clay and Delaware yellow brick clay, flour of mica, pulverized fine burnt clay, Connecticut brownstone, ground feldspar, and powdered loam, so combined as to be impervious to acids, extremely hard, and stand great changes of temperature without cracking or scaling.

A circular knitting machine has been patented by Mr. Thomas C. Chawner, of New York City. It is intended for working hard twisted yarns, and has special cutting means, in combination with catch lever and block, for automatically severing the yarn with a shears-like cut, with other novel features, the invention being an improvement on a former patented invention of the same inventor.

A tobacco wagon frame has been patented by Mr. Joseph F. Prescott, of Hopson, Ky. It consists of two pairs of longitudinal timbers supported at opposite sides of the wagon by two pairs of

trestles consisting of crossed timbers, forming both the supports and braces of the frame, which is inexpensive and rigid, and especially adapted for a wagon for carrying tobacco.

An alarm attachment for door knobs has been patented by Mr. William P. Allison, of Kennebunk, Me. The door knob spindle has levers connected by an intermediate mechanism to a lever centrally pivoted to a support, from which a connection is made with a lever adapted to operate the door bell, so that the act of turning the knob to open the door will sound an alarm.

A picture exhibitor has been patented by Mr. Arthur M. Boos, of Buffalo, N. Y. It is a device of novel construction, superior to the ordinary book albums, and much less cumbersome when viewing the pictures, with side openings and interior catches, and slides to view photographs of various sizes, and may be made of large size, and operated by machinery to display advertisements.

A caster has been patented by Mr. John S. Dignam, of London, Ontario, Canada. It is of the kind in which the cruet-carrying receptacles turn upon a horizontal shaft, a cross piece at the bottom of the base adapting the caster to be attached vertically as in a buffet railway car, with other novel features, the invention being an improvement on a former patented invention of the same inventor.

A trace carrier has been patented by Mr. John L. Gilman, of Des Moines, Iowa. It is applicable for use in connection with either a single or double harness, and so arranged that the ends of the traces may be inserted and securely held against accidental displacement, relieving the stableman of the trouble of doing up the trace to prevent its dragging upon the ground.

A subsidiary axle arm has been patented by Messrs. George Hoepfner and Henry Wuest, of New York City. It is for use on the axle of a vehicle if the original axle becomes broken off, to be attached thereto by clamps, the subsidiary axle being adapted for either end of the main axle, and the invention covering a special construction of the axle and clamps.

A refrigerator has been patented by Mr. William W. Dunn, of Fort Worth, Texas. The cooling box has top doors, and there is an overhanging frame and guide pulleys, with cords and weights, the ice box having an ice support in its lower end and a water tank in the upper end, the discharge pipe being connected with the tank and having its lower portion disposed in coils below the ice support.

A device for renovating garments has been patented by Annie Shanley, of New York City. It consists of a standard with heating shell and heating core, with gas pipe fitted in the shell for heating it when the core is not to be used, with other novel features, whereby the sleeves and shoulders of velvet or other garments may be renovated without ripping or removing from the body of the garment.

An arc lamp has been patented by Messrs. Vaclav Klan and Francis Spurny, of Prague, Austria-Hungary. The carbon holders are suspended from two sets of pulleys, one for balancing the carbons and their holders by their weights as usual, and the other set to maintain equilibrium against the resultant attraction of the two solenoids by a suitably suspended counterpoise, with other novel features.

A thill coupling has been patented by Mr. Joseph Christiff, of Hightstown, N. J. Combined with the thill iron, clip, and bolt connecting them, is a nut having inward beveled sides, and a wedge with one vertical edge beveled to engage the beveled nut and bearing against the clip with its opposite vertical edge, the object being to prevent the rattling of the shaft or thill coupling.

Storing ice forms the subject of a patent issued to Mr. George T. McCormick, of New York City. This invention provides means for dressing or trimming blocks of ice by the power that moves the blocks along the tramway into the ice house, a saw being arranged to run parallel with the tramway and cut off the honeycombed and snow ice from each block, there being also vertically arranged saws or knives to dress the sides of the blocks.

A music leaf turner has been patented by Mr. Seth Rathburn, of Chicago, Ill. It is adapted for use with both organs and pianos, the apparatus being fixed to the face of the music rack, and the music in position, with separate leaves between spring tongues moved by carrying arms, which may be operated either by a treadle or by hand by the performer, without interfering with the performance of the composition.

A flue or chimney lining has been patented by Mr. Hugh McMahan, of New Cumberland, West Va. The flue sections are made with angular cross section, and the interior angles filled in or re-enclosed to approximate a round form, the ends being so formed that one end of each section shall have tenons and the other end sockets to fit such tenons, the design adapting itself especially to terra cotta or earthenware flues and chimney linings.

A hay press has been patented by Mr. Charles A. Hamilton, of Meridian, Miss. It is an improvement in that class of presses known as continuous or reversible, the material being fed into the press box in successive charges to be acted on by a reciprocating follower, which is operated by a pivoted reversible sweep or lever, so connected as to permit it to be thrown back by the elasticity of the pressed material after reaching the limit of its forward movement.

A watch regulator has been patented by Mr. Aloys Platt, of Brooklyn, N. Y. The adjusting screw and the regulator lever are so connected that there will be no side play at the point of connection, and the connection is so arranged between the adjusting screw and the lever which moves it that all danger of accidental displacement of the screw, and the regulator lever to which it is attached, is avoided, the invention being an improvement on a former patented invention of the same inventor.

Business and Personal.

The charge for insertion under this head is One Dollar a line for each insertion; about eight words to a line. Advertisements must be received at publication office as early as Thursday morning to appear in next issue.

In its editorial of Feb. 19, *Engineering News* speaks of Mr. Wellington's new "Economic Theory of the Location of Railways" as being "the most elaborate technical work which has ever appeared in this country, Trautwine's 'Pocket Book' alone excepted."

Patent swing cut-off saw, with patent shield for saw. Rollstone Machine Co., Fitchburg, Mass.

Manufacturers' Advertising Bureau, 8 Broad St., N. Y. Benj. R. Western, Treas. Managers of advertising for firms. 20 years' experience. Best references.

Telescope Lenses. Lowest prices. Gardam, 36 Maiden Lane, N. Y.

Wanted—Experienced and practical foreman in brass working factory. Must have best references and be thoroughly competent. Give full particulars; no others noticed. Brassworker, P. O. Box 229, New York city.

The Anchor Supporters. B. A. Pollard, 32 Whiting St., Boston, Mass.

Ten dollars a month will buy a farm in Claremont Colony. Maps and full particulars free. J. F. Mancha, Raymond, Surry Co., Va.

I want to have manufactured, on royalty, my knock-down pigeonhole case. Everybody needs one. Send for circulars. B. G. Merrill, Lake Geneva, Wis.

A stock company in this city, owning four U. S. patents covering striking improvements on staple article in hardware line, want \$30,000 additional capital. Goods tested three years by consumers, and highly commended. Made by contract, obviating risk of plant; demand unlimited; profits large, ranging in price from \$50 to \$150. Foreign patents owned by company. Acceptable party may have choice of executive office. Address Secretary, P. O. Box 778, New York.

Best tempering fluid known—Mercury, potash, and hydrochloral. \$2.00 per gallon. Samples, 25c. Address Chemical Works, New Albany, Ind.

Blake's Improved Belt Studs are the best fastening for Leather and Rubber Belting. Greene, Tweed & Co., 83 Chambers St., New York.

Link Belting and Wheels. Link Belt M. Co., Chicago.

The *Railroad Gazette*, handsomely illustrated, published weekly, at 73 Broadway, New York. Specimen copies free. Send for catalogue of railroad books.

Protection for Watches. Anti-magnetic shields—an absolute protection from all electric and magnetic influences. Can be applied to any watch. Experimental exhibition and explanation at "Anti-Magnetic Shield & Watch Case Co.," 18 John St., New York. F. S. Giles, Agt., or Giles Bro. & Co., Chicago, where full assortment of Anti-Magnetic Watches can be had. Send for full descriptive circular.

Woodworking Machinery of all kinds. The Bentel & Margendant Co., 116 Fourth St., Hamilton, O.

Concrete patents for sale. E. L. Ransome, S. F., Cal. Guild & Garrison's Steam Pump Works, Brooklyn, N. Y. Pumps for liquids, air, and gases. New catalogue now ready.

The Knowles Steam Pump Works, 44 Washington St., Boston, and 93 Liberty St., New York, have just issued a new catalogue, in which are many new and improved forms of Pumping Machinery of the single and duplex, steam and power type. This catalogue will be mailed free of charge on application.

Presses & Dies. Ferracite Mach. Co., Bridgeton, N. J.

Nickel Plating.—Sole manufacturers cast nickel anodes, pure nickel salts, polishing compositions, etc. \$100 "Little Wonder." A perfect Electro Plating Machine. Sole manufacturers of the new Dip Lacquer Kristaline. Complete outfit for plating, etc. Hanson, Van Winkle & Co., Newark, N. J., and 92 and 94 Liberty St., New York.

Iron Planer, Lathe, Drill, and other machine tools of modern design. New Haven Mfg. Co., New Haven, Conn.

Supplement Catalogue.—Persons in pursuit of information of any special engineering, mechanical, or scientific subject, can have catalogue of contents of the SCIENTIFIC AMERICAN SUPPLEMENT sent to them free. The SUPPLEMENT contains lengthy articles embracing the whole range of engineering, mechanics, and physical science. Address Munn & Co., Publishers, New York.

Curtis Pressure Regulator and Steam Trap. See p. 45.

Inventors wishing to sell their inventions, address, with particulars, Chas. Babson, Jr., 24 Congress St., Boston, Mass.

We are sole manufacturers of the Fibrous Asbestos Removable Pipe and Boiler Coverings. We make pure asbestos goods of all kinds. The Chalmers-Spence Co., 419 East 8th Street, New York.

Universal & Independent 2 Jaw Chucks for brass work, both box & round body. Cushman Chuck Co., Hartford, Ct. Steam Hammers, Improved Hydraulic Jacks, and Tube Expanders. E. Dudzeon, 24 Columbia St., New York.

60,000 Emerson's 1886 Book of superiorsaws, with Supplement, sent free to all Sawyers and Lumbermen. Address Emerson, Smith & Co., Limited, Beaver Falls, Pa., U. S. A.

Safety Elevators, steam and belt power; quick and smooth. D. Frisbie & Co., 112 Liberty St., New York.

Cotton Belting, Linen Hose, Piston Valve Rod Packing. All kinds of Mfrs. supplies. Greene, Tweed & Co., New York city.

"How to Keep Boilers Clean." Send your address for free 88 page book. Jas. C. Hotchkiss, 93 John St., N. Y.

The Holly Manufacturing Co., of Lockport, N. Y., will send their pamphlet, describing water works machinery, and containing reports of tests, on application.

Niagara Steam Pump. 20 years before the public. Always first premium. Adapted for all purposes. Norman Hubbard, Manufacturer, Brooklyn, N. Y.

Iron and Steel Wire, Wire Rope, Wire Rope Tramways. Trenton Iron Company, Trenton, N. J.

Astronomical Telescopes, from 6" to largest size. Observatory Domes, all sizes. Warner & Swasey, Cleveland, O.

Split Pulleys at low prices, and of same strength and appearance as Whole Pulleys. Yocum & Son's Shafting Works, Drinker St., Philadelphia, Pa.

Send for catalogue of Scientific Books for sale by Munn & Co., 361 Broadway, N. Y. Free on application.