

ENGINEERING INVENTIONS.

A railway rail spring has been patented by Mr. Edward A. Olmstead, of New York City. It is a bowed spring plate with slots through which pass the spikes for securing the rail to the ties, whereby both rail and spring are held in place, it being designed to diminish the pounding effect of heavy trains upon the rails and lessen the noise.

A car coupling has been patented by Mr. Eugene A. De May, of Richmond, Texas. It has a spring-pressed hook attached to or formed upon a rock shaft extending to the top of the car, with a hand wheel to turn it, and there is also a rod extending to the side of the car, for uncoupling cars from the bottom or side, the device being applicable with the ordinary draw-bar.

A dumping car has been patented by Mr. Lawrence J. Woodhead, of Chattanooga, Tenn. In connection with hinged sides or gates, it has mechanism for opening and closing and holding them locked in position, while the car has a rounded or convex bottom, which aids in the automatic removal or dumping of the load, the devices being easy to operate, and the car simple of construction and durable.

AGRICULTURAL INVENTIONS.

A potato digger has been patented by Mr. James W. Scott, of Uhrichsville, Ohio. The plow or scraper can be let into or removed from the ground easily by the driver, a rocking motion is given to a shaker to separate the earth from the potatoes as both are raised by the plow in its forward progress, and there are various novel features of construction and arrangement of parts.

A sulky harrow has been patented by Mr. Nathaniel T. Collins, of Hartford, Kansas. The invention covers various novel details in the construction and arrangement of parts, permitting the raising or lowering of the two harrows independently of each other, and the lengthening or shortening of each as desired, while the machine is light, durable, and effective.

MISCELLANEOUS INVENTIONS.

A ball turning lathe has been patented by Mr. Tronson Draper, of Petrolia, Ontario, Canada. It has an adjustable face plate covered with leather and backed by rubber or other elastic material, a pair of tongs having steel cups, an adjustable steel cup placed on a holder, a ball rest, and means for adjusting the steel cup holder, with other novel features.

A lumber register has been patented by Mr. John Thompson, of Minneapolis, Minn. It is made by splicing to the axle of a drive wheel a cone pinion, communicating motion to a series of registering disks, the several pinions constituting the cone representing each a standard length of lumber, the cogs corresponding to the number of feet in the length of each piece.

A weather board gauge has been patented by Mr. James H. Smith, of Little Rock, Ark. It is a combined tool, making an adjustable gauge, nail for supporting the board to be next secured to the building, hatchet to be employed in removing nails, try square and straight edge, dispensing with the use of separate nails for holding the board in position while being marked and nailed.

A stump extractor has been patented by Mr. John Cornelius, of Oakland, Md. It comprises a main frame with horizontal shaft having chain and worm wheels, with intermeshing worm, a pulley frame and pulleys supported in the main frame, with a guide so devised that when the machine is anchored to the ground and under strain, the machine will conform to the variations in strain.

A keyboard attachment for musical instruments has been patented by Mr. Henry Richards, of Decker, Ind. The invention consists of a series of keys operating on the keys of the instrument and actuated by a belt having projections, a frame supporting the keys, and provided with means for adjusting them, with a device for moving the belt, whereby a piece of music may be performed on organ or piano.

A ventilator has been patented by Mr. John Williams, of Quebec, Canada. Combined with a fixed cylindrical section having a winged fan, and a removable section with duplex screens, are valves hinged centrally within the fixed section and adapted to close against back draughts, with other novel features, the device being designed as a simple and effective ventilator for windows or shafts.

A cuspidor has been patented by Mr. James J. Brennan, of Morris Plains, N. J. It is designed for use in railroad cars, and has an apertured inclined bottom, an apertured inclined cap suspended below the bottom, with a detachable apertured top of novel form, making an article designed to be self-cleaning, which cannot be upset and which will help ventilate the car.

A stop valve for water service pipes has been patented by Mr. Daniel Kearney, of Montreal, Canada. It is designed to facilitate the operating of such valves from within the basement or cellar, instead of from the surface of the ground outside, a piston cylinder attached to the valve having two pipes extending into the basement, so that their ends are easily accessible, by which the stop valve may be moved up or down as desired.

A machine for making wire and slat fences has been patented by Mr. Joseph S. Locke, of Spartanburg, Ind. Combined with a standard and draw wires or bands are spools, bands and clamps relatively arranged to allow the strands of the finished fence wire to be put in tension independently, the fencing to be made along the line of the fence posts, or made in lengths suitable for rolling up for shipment.

A vending apparatus has been patented by Mr. George A. Macbeth, of Glenisla Ealing, Middlesex County, Eng. The invention covers a rotating

magazine or multiple hopper to hold a supply of goods, a delivery drawer or slide by which the articles are withdrawn singly, with a mechanism for locking the drawer each time it is pushed in or closed, with other novel features.

A machine for sizing oranges and other fruit has been patented by Mr. Alfred Ayer, of Lake Weir, Fla. It has grading frames with longitudinal ribs, so that the oranges in passing upon them will not be cut or bruised, and beneath each frame a vertically sliding table forming a bed or support for the oranges, with cushions, and other novel features, to facilitate the rapid and exact sorting of the fruit without injury.

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.

"A new edition of Trautwine's Civil Engineers' Pocketbook is now ready. There are many improvements, including additional tables for Kutter's formula, a new table of foreign coins, etc., etc."

60,000 Emerson's 1887 Book of superior saws, with Supplement, sent free to all Sawyers and Lumbermen. Address Emerson, Smith & Co., Limited, Beaver Falls, Pa., U. S. A.

Wanted—A locomotive draughtsman. Must be a first class man. Write "L," care of 6 Hanover St., Boston, Mass. Give places worked at, age, and pay wanted. All letters will be answered.

For Sale—One 100 H. P. Buckeye Engine.—On account of our putting in a 300 H. P. Corliss engine (July 1) we offer for sale a Buckeye engine, 100 H. P., in first class order. Can be seen running at factory of Seabury & Johnson, East Orange, N. J.

Electric Mats, Burglar Alarm, under Carpets. Only Security. (Thieves remove panel or glass. Old Alarms worthless.) Invaluable. Stores, Offices, Door Open. S. S. Applegate, Camden, N. J.

All Books, App., etc. cheap. School of Electricity, N. Y. Stationary and boat engines, boilers. Best and cheapest. 1 to 10 H. P. Washburn Engine Co., Medina, Ohio.

Water power and mill site on the Little Elk, at North-east, Md., half way between Philadelphia and Baltimore. 25 feet fall. The old Cranford Mill property. Plenty of stone and timber for building uses. Must be sold to close an estate. Call on or address John M. Simpers, North-east, Md.; or A. D. Atkinson, New Brunswick, N. J.

An undivided half of a metallurgical patent, having about 13 years to run, will be given for prosecuting infringers to final judgment in the courts. The damages accruing against infringers are already about \$5,000 a day. Address Inventor, room 8, 3d floor, 160 Broadway, New York.

Press for Sale—Quick acting. Hole in bed 8x5; punches to center of 13 in. sheet; 2 1/2 in. shaft; also four spindle Drill. A few second-hand engines in first-class condition. B. W. Payne & Sons, Elmira, N. Y.

For the latest improved diamond prospecting drills, address the M. C. Bullock Mfg. Co., 138 Jackson St., Chicago, Ill.

The Australian-American Trading Co., 20 Collins St., West Melbourne. Sole agencies for American novelties desired. Correspondence solicited. Care of Henry W. Peabody & Co., Boston.

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

The Knowles Steam Pump Works, 113 Federal 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.

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

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

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

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.

Cutting-off Saw and Gaining Machine, and Wood Working Machinery. C. B. Rogers & Co., Norwich, Conn.

Curtis Pressure Regulator and Steam Trap. See p. 253.

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

Use Ainsworth's Belt Clamp. See advt. next issue.

Iron, Steel, and Copper Drop Forgings of every description. Billings & Spencer Co., Hartford, Conn.

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 and 421 East 8th Street, New York.

Cushman's Chucks can be found in stock in all large cities. Send for catalogue. Cushman Chuck Co., Hartford, Conn.

Steam Hammers, Improved Hydraulic Jacks, and Tube Expanders. R. Dudgeon, 24 Columbia St., New York.

Hoisting Engines. D. Frisbie & Co., New York City.

"How to Keep Boilers Clean." Send your address for free 88 page book. Jas. C. Hotchkiss, 120 Liberty 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.

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

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

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.

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

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THE QUEEN'S PICTURES. Cassell & Co., 741 Broadway, New York City.

Of uniform size with the Magazine of Art, Messrs. Cassell & Co. have issued a jubilee number, illustrating the chief events in the life of Her Majesty Queen Victoria. It is a superbly illustrated number, and is of especial interest to all English residents and their descendants in this country.

SCIENTIFIC AMERICAN BUILDING EDITION.

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361 Broadway, New York.

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