

ENGINEERING INVENTIONS.

A car coupling has been patented by Mr. Joseph T. Hammick, of Rhinebeck, N. Y. It is simple in construction, and is designed for coupling cars without going between them, and so that cars can be uncoupled from the top or either side, making a device calculated to be strong and durable, and yet one which can be easily operated.

A gearing for reverse shafts has been patented by Mr. William F. Cowden, of Cumberland, Md. This invention covers an improvement in gearing, and is especially intended for driving shafts of twin propellers, although it is also capable of use as a substitute for a cog belt and like gearing in mills, workshops, etc., where it is desired to drive two shafts in opposite directions.

A rail chair has been patented by Mr. Timothy L. Beaman, of Knoxville, Tenn. It is formed of two sections, each having an inwardly and an outwardly projecting base flange, an inward projection above the base, with other special features, whereby the cross ties or sleepers may be laid at any desired depth below the surface of the street without increasing the width or depth of the rail.

A refrigerator car and a refrigerator system for cars are the subjects of two patents which have issued to Mr. David Hennessy, of New York city. This invention contemplates the use of an ice machine instead of ice and the circulation of cold brine or other suitable cooling liquid through all or any of the cars of a train, the whole forming a traveling cooling plant, to be used in carrying meat and other perishable articles from place to place; the brine is forced by a pump from the ice machine through all the cars as desired and returned to a brine tank, and a fresh water condenser is used in combination with the motor that works the refrigerating apparatus.

AGRICULTURAL INVENTIONS.

A potato digger has been patented by Messrs. Hans and Jacob Nelson, of Waupaca, Wis. Combined with a frame and plow is a wheel journaled in the rear of the plow with toothed arms projecting from it and inclined upward from the plane of the wheel, with means for revolving the wheel by the forward movement of the machine, thus digging the potatoes and separating them from the soil.

A pulverizer and cultivator has been patented by Messrs. John R. Silas, Asa Chambers, and William J. Davis, of Cleburne, Texas. This invention covers special novelties in the construction and combination of parts, for pulverizing the soil in an improved manner, and with less expenditure of power in draught, and so the land can be plowed close up to plants growing in rows, but which are not regularly in line with one another.

MISCELLANEOUS INVENTIONS.

A spoke setting machine has been patented by Mr. Charles P. Lewis, of Sweet Springs, W. Va. This invention covers a special construction to enable spokes to be rapidly driven into the hub by unskilled labor, and so that every spoke shall have precisely the same slant or dish.

A gate has been patented by Mr. John F. Hopgood, of Morganfield, Ky. This invention covers a special arrangement of parts and details to simplify the construction of a gate which can be opened from either side by a pedestrian or a person in a vehicle by pulling on a rope or wire.

A folding umbrella has been patented by Mr. Samuel J. Wilson, of Wellsborough, Pa. The ribs are formed in sections, the smaller outer one adapted to slide into a larger inner one, and the stick has a hinge at or near its middle, so the umbrella can be folded in about half the usual length of an umbrella.

An oil drip pan for sewing machines has been patented by Mr. William Connolly, of South Norwalk, Conn. Combined with the machine table is a compound drip pan, with an upper trough or pan having drainage outlets and a subjacent detachable pan, there being a perforated strainer between the machine and the lower detachable pan.

A supporting attachment for pants, overalls, and drawers, has been patented by Mr. Isidor Stark, of New York city. Combined with the body and waistband of the pants, which have suspending loops and eyes, is a curtain having button holes in line with the loops and eyes, so the curtain can be used to suspend the pants, overalls, etc.

A lamp has been patented by Mr. Fritz S. Svenson, of Lund, Sweden. This invention covers a special construction and combination of parts for a lamp which can be lighted, extinguished, or cleaned without requiring the removal of the lamp chimney and globe, so these parts are not so liable to be broken, and the lamp can be easily handled.

A minnow bucket has been patented by Mr. William W. Hough, of Mound City, Ill. It consists of a perforated bucket with an annular float, a spring operated cover hinged to the top of the float over its central opening, and an outer imperforate bucket, the bucket being simple in construction, floating easily, and yet strong and durable.

A sewer gas excluder has been patented by Lydia N. Jackson, of New York city. It consists in a rubber cap and two crossed pivoted levers held therein, having hooks at their inner ends and finger plates at their outer ends, the inner ends of the levers being drawn together by a spring and passed into the apertures of the overflow grating to hold the cap in place.

A journal box has been patented by Messrs. Simon and Willis Shuffelbarger, of Eddville, Ill. Combined with an axle having an annular groove are box sections with cavities and anti-friction rollers in the groove and cavities, a split steel spring band surrounding the rollers, the rollers being thus held securely in place to reduce wear and make the box more durable.

A hand truck has been patented by Mr. John C. Dean, of Indianapolis, Ind. Its side bars are formed of tubes, round or oval in cross section, united by a series of transverse tubes, with their ends split and

bent in opposite directions to form curved tongues, which fit against the inner sides of the tubes, each held by a rivet passed through the tubes and the tongues.

A pin tag has been patented by Mr. James J. Murphy, of New York city. It has an inflexible base, on which is an outside card or paperticket, and a pin or wire fastening arranged to project through the base, secured thereto by an under bridge portion, and upper bent over portions, the device making a finer and more durable pin tag than those heretofore in use.

A package for whitewash has been patented by Mr. Charles F. Crockett, of Mount Vernon, N. Y. The box or package has triangular corner pieces to form compartments at its upper corners, so that in putting up whitewash for the market the buyer may at the same time be supplied, in the same package, with a suitable quantity of glue and coloring matter to use therewith.

A mixed paint has been patented by Mr. William H. Van Keuren, of Winona, Minn. This invention consists in the production, as a new article of manufacture, of paint powder from the "pipe stone" of Minnesota and Dakota, or from fused pipe stone, making an article which has certain general proportions of silica, alumina, oxide of iron, potassa, soda, and carbonate of lime.

A screw bolt lock has been patented by Mr. Gayger D. Tolman, of Shawano, Wis. A screw bolt has a longitudinal screw threaded aperture, its lower end having a smooth inclined shoulder, in combination with a screw having a portion smooth and tapered to correspond with the inclined portion, making a device for locking screw bolts so they will not turn.

A sofa bed has been patented by Mr. George W. Robbins, of Los Angeles, Cal. Cleats project beyond the rear sides of the main frame, the back frame is jointed to the main frame, and an auxiliary frame with longitudinal bar is hinged to the lower edge of the back frame, all so constructed and fitted as to make what may be convertibly used as either a sofa or a bed.

A hot air fireplace has been patented by Mr. Doyel Pearson, of Memphis, Tenn. The fire box has a forwardly-inclined back plate with side flanges, and with ribs, while there are tubular grate bars and a partition in combination with special inlet and outlet, so that fire places can be more largely utilized for heating rooms, and the heated air can be more efficiently directed.

A water gate has been patented by Mr. Daniel T. Hopgood, of Morganfield, Ky. This invention consists in a hinged gate and a horizontally-pivoted fender at the up-stream side, so made that the fender will be opened by the gate as the latter is opened by the rising of the water, to prevent the opening of water gates by live stock and keep the animals from entering adjacent lands.

A grinding mill has been patented by Messrs. Alphonso L. and William T. Anderson, of Tolland, Conn. Combined with the shafts, stones, frame, etc., is a nut within the frame, constructed to slide but not rotate therein, a screw passing through an apertured arm and the nut, elastic washer, etc., in order to provide for the separating of the stones should a hard substance pass between them.

A ratchet driving mechanism has been patented by Mr. Daniel H. McCoy, of Smithville, N. J. It is so made that the pawls of the driving clutch shall act more positively to drive or operate the connected machine, preventing noisy rattling of the pawls, so that a machine, or such device as a bicycle, may be run freely in either direction without effect on the ratchet driving mechanism.

A vehicle spring has been patented by Mr. John A. Birkmer, of New Lexington, Ohio. It is a compound spring with single upper spring widened at its mid length and with narrowed outer portions having eyes, in combination with sectional elliptical lower springs, so connected and arranged as to give to the vehicle a soft and easy motion, and form an even and steady riding spring.

A machine for spinning and twisting has been patented by Mr. Leedham Binns, of Philadelphia, Pa. This invention relates to cap spinning frames, and covers a tube made to engage with the bobbin and arranged around the whirl tube, upon which it is fitted to slide, so that a bobbin of considerable length can be used, and a steady and smooth rising and falling motion is secured for it.

An escapement for watches has been patented by Messrs. Gerson Krichevski and Abraham Edmonds, of New York city. This invention consists principally of a curved or circular detent or locking piece for the escapement wheel, which piece has a circular movement for releasing the teeth of the escapement wheel, with specially devised means for rotating the escapement detent.

A double grinding paint mill has been patented by Mr. John A. Berrill, of Waterville, N. Y. The frame of the upper mill rests upon the hopper of the lower mill, and has downwardly projecting lugs and hand screws, whereby the upper mill will be supported, by and securely connected with the lower mill, with other novel features to promote convenience and economical space.

A velocipede has been patented by Mr. Adam Rugally, of New York city. Combined with the frame are a driving shaft and wheels with ratchet wheels and pinions on the shaft disks mounted rigidly on the shaft, pins engaging with the ratchet wheels, rocking levers with curved racks engaging with the pinions, and there being springs for pulling the rear ends of the levers upward.

A combination table has been patented by Messrs. George D. Overin and Otto Meyers, of New York city. It has an upper sliding frame and preferably a hinged top, and combined with the main frame a sink, bread tray, rolling pin compartment, and bread and chopping board, having also a sliding ironing board adapted to be drawn out for use and shoved within the table when not in use.

A faucet or valve has been patented by Mr. Joseph Darling, of Karns City, Pa. Combined with

the valve body is a hollow divided plug having radial slots, the stem having radial lugs fitted into said slots, with other special features, so that the plug can easily be kept tight, and the seats of the turning plug are not subjected to wear from gritty particles in the fluid passing through.

A fireplace attachment has been patented by Mr. Thomas W. Dickinson, of Sharon, Pa. It consists of a metallic or fireproof flexible curtain with its roller supported in brackets detachably connected by hooks and slots to the mantel or fireplace front, which can be so operated as to serve as a blower to regulate the draught, and to answer the purpose of a summer front.

A box fastener has been patented by Mr. Charles R. Nelson, of New York city. Combined with a clamp plate having an aperture in one end, is a plate adapted to be secured on the box, and having an internally threaded tubular projection, which is passed through the aperture in the clamp plate, and a screw for holding the clamp plate on the projection, making a device for rapidly fastening and unfastening covers.

A vehicle seat has been patented by Mr. Francis W. Coleman, of Rodney, Miss. It consists in a flexible tension surface of canvas leather, or other analogous material, combined with and attached to horizontal end frames journaled in uprights, with other novel features, to make a seat which will be soft, elastic, and cool, or the invention may also be used in making lounges, bed bottoms, chairs, etc.

A side bar vehicle has been patented by Mr. Elisha Dupue, of Skinner's Eddy, Pa. This invention covers certain novel features in the parts or gearing which give an elastic support to the body and connect it with the axles, and the axles and head block together, being applicable to both high and low vehicles, and dispensing with the usual perches, perch plates, and bolts, and wooden spring bar.

A door check has been patented by Mr. Christian A. Schmidt, of Hoboken, N. J. Combined with a spring bolt is a slide with wedged shaped prongs adapted to act on pins or projections on the bolt, thereby withdrawing the bolt more or less and regulating its throw, the device being adapted to hold doors in certain positions, but permitting them to pass if sufficient pressure is brought to bear.

A gate latch has been patented by Mr. Samuel B. Elzey, of Morrisville, Mo. The construction is such that when the gate is swung against the post the projecting end of a bolt strikes the bottom edge of a latch and raises it, the latch afterward dropping in front of the bolt and unlocking the gate; to open the gate a handle is pressed down which withdraws the bolt, the bolt resuming its position by the action of a spring when the pressure on the handle is removed.

A cover for pots has been patented by Isabella Ann Lyon, of Boston, Mass. Combined with the cover is a hinged piece closing an opening therein, and having along its swinging outer edge a downwardly projecting perforated piece, and along its side edges strips with flanges, to prevent the hinged piece from swinging out too far, to facilitate drawing off the water from vegetables without removing them from the pot.

A shutter worker has been patented by Mr. John Dierks, of Harlan, Iowa. A hinge with one leaf has an externally toothed socket or eye, the teeth being directly in the surface of the socket, while a spindle has a screw thread or worm engaging the toothed socket or eye of the leaf, so a shutter or blind can be opened and closed by turning a handle in the spindle, and the blind will be retained in any position, more or less opened.

A chemical fire extinguisher has been patented by Mr. Joseph A. DeMauler, of Paris, France. The alkaline containing vessel has fixed around the outside of its collar a funnel which serves as a seat to hold the spherical acid containing vessel superposed thereon, a novel arrangement permitting the acid receiver to serve for an indefinite time, and to fulfill the double object of an acid receiver and of a stopper for the apparatus.

A carbonaceous antiseptic dressing has been patented by Mr. Aron F. Westerlund, of Stockholm, Sweden. The invention consists in a carbon wool obtained by soaking vegetable matters in mixtures of water and phosphoric acid, or boric acid, or phosphates or borates, then drying the material and carbonizing it, the product being suitable to use as an insulator for electric lamps, for keeping vegetable substances, disinfection, and keeping wounds clean.

NEW BOOKS AND PUBLICATIONS.

THE MANUAL OF PHONOGRAPHY. By Benn Pitman and Jerome B. Howard. Cincinnati: Phonographic Institute, 1885.

This little volume of about 150 pages is a revised edition of the Manual of Phonography by Benn Pitman, which first appeared in 1855. It has since run through several editions, and has been the standard text book in America. The present edition contains many improvements, and is quite abreast of phonographic progress. The main part of the book is devoted to the correspondence style of phonography, and an effort has been made to provide a system of sufficient simplicity to induce its adoption in ordinary business and social communications. The subject has been logically developed, following closely phonetic principles, and introducing as little empiricism as possible. As something less than two hundred words, by their frequent repetition, make up more than half the vocabulary of ordinary speech and correspondence, abbreviated forms for these have been introduced, and constitute a desirable feature of the book. The authors state that the system presented permits from two to three times the speed of ordinary longhand. The contents also include a number of well selected exercises, and a brief introduction to the reporting style, indicating the contractions necessary to enable one to keep pace with a rapid speaker. The volume is compact and well made, the phonographic characters being particularly clear and intelligible—that is, when one is initiated.

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.

H. Clay Scott, Minneapolis, Minnesota, writes that the notice in our issue July 4, of his Indestructible Asbeston Wick and Burners, has flooded him with letters for circulars, agencies, and burners. A meritorious article like this will always sell.

Providence Steam Engine Co., Providence, R. I., are sole builders of the "Improved Greene Engine."

Steamboats supplied with Pumps for every service by Valley Machine Works, Easthampton, Mass.

Billings' Drop Forged Lathe Dogs, 12 sizes— $\frac{3}{4}$ to 4 inches. Billings & Spencer Co., Hartford, Conn.

One 20 x 48 Corliss Engine, in good order, for sale by Henry I. Snell, 135 North Third Street, Philadelphia, Pa.

Cotton Factory, complete equipment, for sale. Address W. W. Jennings, Harrisburg, Pa.

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

Peerless Leather Belting. Best in the world for swift running and electric machines. Army & Son, Phila.

"How to Keep Boilers Clean." Send your address for free 88 page book. Jas. C. Hotchkiss, 86 John St., N. Y.

The most complete catalogue of Scientific and Mechanical Books ever published will be sent free on application to Munn & Co., 361 Broadway, N. Y.

Shafting, Couplings, Hangers, Pulleys, Edison Shafting Mfg. Co., 86 Goerck St., N. Y. Send for catalogue and prices.

Air Compressors, Rock Drills. Jas. Clayton, B'klyn, N. Y. Iron Planer, Lathe, Drill, and other machine tools of modern design. New Haven Mfg. Co., New Haven, Conn.

Wanted.—Patented articles or machinery to manufacture and introduce. Lexington Mfg. Co., Lexington, Ky.

Mills, Engines, and Boilers for all purposes and of every description. Send for circulars. Newell Universal Mill Co., 10 Barclay Street, N. Y.

Presses & Dies, Ferracute Mach. Co., Bridgeton, N. J. For Power & Economy, Alcott's Turbine, Mt. Holly, N. J.

Send for Monthly Machinery List to the George Place Machinery Company, 121 Chambers and 103 Reade Streets, New York.

If an invention has not been patented in the United States for more than one year, it may still be patented in Canada. Cost for Canadian patent, \$40. Various other foreign patents may also be obtained. For instructions address Munn & Co., SCIENTIFIC AMERICAN patent agency, 361 Broadway, New York.

Guild & Garrison's Steam Pump Works, Brooklyn, N. Y. Steam Pumping Machinery of every description. Send for catalogue.

For Sale.—Patent on Exercising Bars described in SCIENTIFIC AMERICAN of June 2, 1883. Address Geo. Worthington, 57 Second St., Baltimore, Md.

Machinery for Light Manufacturing, on hand and built to order. E. E. Garvin & Co., 139 Center St., N. Y.

Nickel Plating.—Sole manufacturers cast nickel anodes, pure nickel salts, polishing compositions, etc. Complete outfit for plating, etc. Hanson, Van Winkle & Co. Newark, N. J., and 92 and 94 Liberty St., New York.

For Steam and Power Pumping Machinery of Single and Duplex Pattern, embracing boiler feed, fire and low pressure pumps, independent condensing outfits, vacuum, hydraulic, artesian, and deep well pumps, air compressors, address Geo. F. Blake Mfg. Co., 44 Washington St., Boston; 97 Liberty St., N. Y. Send for catalogue.

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.

Knots, Ties, and Splices. By J. T. Burgess. A Handbook for Seafarers and all who use Cordage. 12mo., cloth, illustrated. London, 1884. Sent, postage prepaid, on receipt of 75 cts., by Munn & Co., New York.

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

Mineral Lands Prospected, Artesian Wells Bored, by Pa. Diamond Drill Co. Box 423, Pottsville, Pa. See p. 46.

C. B. Rogers & Co., Norwich, Conn., Wood Working Machinery of every kind. See adv., page 62.

If you want Engines, Boilers, or Machinery of any kind, send your address to Henry I. Snell, 135 North Third Street, Philadelphia, Pa.

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.

Curtis Pressure Regulator and Steam Trap. See p. 12.

The Crescent Boiler Compound has no equal. Crescent Mfg. Co., Cleveland, O.

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

Emerson's *Book of Saws free. Reduced prices for 1885.* 50,000 Sawyers and Lumbermen. Address Emerson, Smith & Co., Limited, Beaver Falls, Pa.

Hoisting Engines, Friction Clutch Pulleys, Cut-off Couplings. D. Frisbie & Co., Philadelphia, Pa.

Barrel, Keg, Hogshead, StaveMach'y. See adv. p. 76.

For best low price Planer and Matcher, and latest improved Sash, Door, and Blind Machinery, send for catalogue to Rowley & Hermance, Williamsport, Pa.

Patent Elevators with Automatic Hatch Covers. Circular free. Tubbs & Humphreys, Cohoes, N. Y.

Nervous, Debilitated Men. You are allowed a free trial of thirty days of the use of Dr. Dye's Celebrated Voltaic Belt with Electric Suspensory Appliances, for the speedy relief and permanent cure of Nervous Debility, loss of Vitality and Manhood, and all kindred troubles. Also for many other diseases. Complete restoration to health, vigor, and manhood guaranteed. No risk is incurred. Illustrated pamphlet, with full information, terms, etc., mailed free by addressing
Voltaic Belt Co.,
Marshall, Mich.

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