

ENGINEERING INVENTIONS.

A car bell has been patented by Mr. William H. Hudson, of New York City. It is adapted to be operated from the axle of the car when the latter is in motion, the car bell and striker being arranged in connection with a pulley having an arm operating on the striker, an endless belt passing over the pulley and operated by the axle of the car.

A steam heater for railway cars has been patented by Mr. Henry R. Robbins, of Baltimore, Md. This invention covers certain novel features of construction in steam heaters in which pipes or tubes are supported underneath a train of cars, with means for communicating with registers or other devices for diffusing the heat within the cars.

A car coupling has been patented by Mr. Lavvega Self, of Piedmont, Mo. Combined with the chambered head of the drawbar is a spring-pressed follower adapted to hold the pin in an elevated position, and to hold the link in suitable position for engagement with the drawhead of the adjacent car, the device being simple and designed to work entirely automatically.

An automatic railroad gate has been patented by Mr. John T. Phillips, of New Castle, Pa. It is designed to be closed automatically by the approaching train and opened as soon as the last car has passed the gate, which is pivoted, in connection with springs arranged at the side of one of the rails of the track, wheels mounted in bearings, levers engaging the springs and wheels, and other novel features.

A tube expander has been patented by Mr. Thomas Beverly, of Ellis, Kansas. It is especially designed for expanding the ends of boiler tubes close up to the flange of the flue sheet, a single tool being provided for flues of different diameters, the stock being adapted to receive rollers or swages of different sizes, in connection with which is employed a tapering plug varied in size and form for different requirements.

A car coupling has been patented by Mr. Henry Gallager, of Savannah, Ga. It is intended especially for use on freight cars, having a drawhead of the ordinary form, with pin openings, with a main lever and a pin suspended at its forward end, the rear end being pivoted to the drawhead, the device being intended as a simple construction, whereby the coupling and uncoupling can be effected without trainmen going between cars.

A railway gate has been patented by Mr. Oliver H. P. Cornell, of Albany, N. Y. It is for closing highways at the intersection of railways and for giving an alarm just before and during the closing of the gates, and has a spring-actuated mechanism, a scape wheel and a pendulum pivoted on a fixed support, with other novel features governing the time of opening and closing and adapting the gate for use in a variety of situations.

AGRICULTURAL INVENTIONS.

A combined hay rake and tedder has been patented by Mr. Cassius M. Maxson, of Portville, N. Y. This invention covers various novel details in the construction and combination of parts of a machine which can be readily adjusted for use as rakes or as tedders, and which is calculated to be reliable in operation in either capacity.

A dust conveyer for thrashers has been patented by Mr. Lyman A. Miller, of Carbondale, Ill. Combined with the thrashing cylinder and feed board are a fan and fan case, with a tube having its vertical portion provided with inwardly or rearwardly projecting tubes, extended to conform to the lower side of the feed board and then carried upward and rearward to cause it to overhang the feed board.

A combined seeder and fertilizer distributor has been patented by Mr. Isaac N. Franklin, of Lake View, Chicago, Ill. The construction is such that the seed and fertilizer are simultaneously dropped in one spot on one side of the machine into a furrow made by the opening cutter or plow, the furrow afterward being closed by the driving wheel, the invention covering various novel details and combinations of parts.

MISCELLANEOUS INVENTIONS.

An improvement in calipers forms the subject of a patent issued to Mr. Oliver D. Warfield, of Chicopee Falls, Mass. The invention consists in a joint formed of two rolling surfaces held together by a spring, the legs having convex surfaces and mortises, and the spring having tenons to fit the mortises.

A hat has been patented by Mr. Robert Plats, of New York City. It is designed as a cheap and practical folding hat, the brim wire being formed in curved sections, with inwardly projecting radial arms at the ends of each section, the arms being held by radial seams in the brim.

A fireplace blower has been patented by Mr. Ralph Ely, of Delaware, Ohio. A hood is secured to the lower edge of the blower proper, and so arranged as to permit free access for the purpose of stirring the fire, while the dust resulting from such stirring will be carried up the chimney by the draught.

A necktie fastening has been patented by Mr. James H. Carter, of Philadelphia, Pa. A back plate is connected at its upper edge to the upper edge of the front or main portion of the necktie, with openings through the front portion and back plate, the button head holding the tie also serving as a substitute for the ordinary scarf pin.

A scribing attachment has been patented by Mr. William F. Seargeant, of Marshall, Mo. It consists of two parallel legs united by a head block, one leg being somewhat longer than the other, with other features, the attachment being more particularly designed for marking off weather boards where they abut against window casings and corner strips.

A swing has been patented by Mr. John O. Lyon, of Quincy, Ill. Its construction is such that no rope or other connection with a fixed point is

required to operate the swing. The seat may be adjusted to an upright or a reclining position. The swing is easily portable, and has an awning to adapt it for comfortable use in sun or shade.

A hat hook has been patented by Messrs. Gustav and Frederick Pape, of New York City. This invention covers a pivoted arm arranged to be closed upon a hat or other garment placed upon the hook, and to be locked to prevent the removal of the garment except by the person holding the key to unlock the pivoted arm.

A cattle stanchion has been patented by Mr. Dwight Manwaring, of Algona, Iowa. The frame has a horizontal rod on its top crosspiece, the neck bars having separate independent flexible connections at their upper ends sliding laterally on the horizontal rod, the neck bars being thus yieldingly mounted and increasing the comfort of the animal.

A necktie has been patented by Mr. John H. Irwin, of Philadelphia, Pa. Combined with a binding strip formed with button holes are studs fitted within the button holes, the binding strip being composed of several layers of the material forming the outer face of the scarf, thus making a scarf which can be worn much longer than the ordinary form.

A bustle has been patented by Messrs. Edward D. and John Fraser, of Brooklyn, N. Y. It consists of main and auxiliary loops so arranged that when the extending loops are subjected to any pressure directed toward the person of the wearer the loops will fold upward and inward to positions within the line of the main supporting hoop.

A cuff fastener has been patented by Mr. David Stone, of New York City. It is a stud formed with a hollow shank adapted to receive a headed pin, the head of the stud being preferably concave and the hollow shank being preferably provided with a spring, making a fastener whereby the cuff may be readily secured in such position as may be desired.

A carpet stretcher has been patented by Mr. Oscar L. Sprague, of Andover, Ohio. Combined with a slotted main frame is a rack bar carrying teeth and having vertical and longitudinal movement, a pivoted lever carrying a pawl, an independently pivoted retaining pawl, and other novel features, calculated to make a simple and effective device for the work of putting down carpets.

A cigar bunching machine has been patented by Messrs. William M. Steidle and Anton Senn, of Toledo, Ohio. It has an endless traveling apron and adjustable guide roller, whereby either or both edges of the belt may be slackened or tightened to roll bunches of different sizes and shapes, the compressor cutting off surplus tobacco as it depends on the cigar bunch placed in the shaper and forcing the bunch into the mould cavity without too much pressure.

An improvement in pants has been patented by Messrs. Frank Kahn, Hirsch Morris, and Louis Morris, of Memphis, Tenn. It consists in having a strip stitched at opposite sides of the crotch seam, through the laps or folds, with a second separate strip crossing the first strip and stitched to the legs at opposite sides of the seams, the invention relating especially to working pants or overalls, and being intended to make ripping practically impossible.

A fruit picker has been patented by Mr. George C. Thompson, of Darien, Ga. It consists of two pivoted hemispherical cups, arranged to nest together or pass one into the other, combined with a pull cord for closing them to a spherical form, and a forked handle, permitting fruit to be picked from clusters, from the picker not expanding to occupy a great space when opened.

A washing machine has been patented by Mr. John W. Neff, of Buckhannon, West Va. Combined with a suds box in which revolves a drum, having circular plates with circularly arranged bowed springs, the plates carrying concave rubbing sections connected by bolts to the ends of the springs, are other novel features, to bring more or less pressure on the clothes in their passage between the drum and rubbing sections.

A shuttle operating mechanism has been patented by Mr. Lynn W. Buck, of Springfield, Vt. The sweep stick is formed with a slot through which the picker stick passes, the slot being larger than the picker stick, to permit independent movement of the latter, the sweep stick being supported and connected with the picker stick by an all wood or all metal connection, and yet retaining freedom of action or rebound.

An implement for buckling bale ties has been patented by Mr. Frederic S. Williams, of De Roche, Ark. Combined with a bar having a device at one end for clamping one end of the tie is a lever fulcrumed to the bar, and formed with a forked forward end adapted to retain the cross bar of a buckle held to the other end of the tie, and allow the first named end of the tightened tie to be passed around the buckle cross bar, with other novel features.

A plastic compound for walls has been patented by Mr. Henry W. Merritt, of Somerville, Mass. This invention is an improvement on a former patented invention of the same inventor, and provides for a compound consisting of silica and a solid silicate and carbonate of lime, each in pulverized condition, dissolved in water, and a soluble alkaline silicate, the whole intermixed and incorporated after a special manner, and including variations for different uses.

An automatic perforator for printing presses has been patented by Messrs. George and Robert Kennedy, of New Westminster, British Columbia, Canada. The invention provides a hollow rule containing a serrated cutter mounted on links to give it a parallel motion, in combination with an angled lever pivoted in the hollow rule and arranged to be engaged by the yielding contact carried by the platen of the press, for perforating paper in the operation of printing.

A washing machine has been patented by Mr. Townson Hand, of Shelbyville, Ind. This invention provides an improvement in machines where

conical shaped dashers are made to reciprocate vertically in a tub on a revolving table, the machine being adjustable by a single tension screw to operate on a large or small number of clothes, and provides means whereby the dashers may be readily changed from a vertical to a horizontal position, with other novel features.

A stringed musical instrument has been patented by Mr. George W. Van Dusen, of Brooklyn, N. Y. This invention relates more particularly to pianos, providing a simple arrangement of the strings and their supports, the spring wire being flattened where it is doubled over or around a head or pin, and the string head having a knife edge bearing upon a compensating lever, the construction being designed to assure the maintenance of the strings in practically perfect harmony and pitch of tone.

A carding engine has been patented by Messrs. Benjamin A. Dobson and William I. Bromley, of Bolton, Lancaster County, Eng. The invention relates to an improved arrangement for casing in the space between the cover of the doffer cylinder and the adjacent portion of the main cylinder of the carding engine, dispensing with the ordinary wooden or tin mould or any other loose filling up or making up pieces, the use of which necessitates separate adjustments of the parts.

A carding engine has likewise been patented by Mr. William Dobson, of Bolton, Lancaster County, Eng. In connection with the engine bend, flexible bend moving lengthwise, and cams and pins for adjusting the flexible bend, are a slotted bracket piece on the engine bend and a pin or projection on the end of the flexible bend riding in the slot, making an easily arranged positive adjusting action.

SCIENTIFIC AMERICAN BUILDING EDITION.

JUNE NUMBER.

TABLE OF CONTENTS.

1. Plate in Colors of a Twelve Hundred Dollar Cottage, with floor plans, also sheet of details, specifications, bills of estimate, etc.
 2. Plate in Colors of a Five Thousand Dollar Residence, with plans, sheets of details, description, etc.
 3. Plate in Colors of President Cleveland's Cottage, near Washington.
 4. Residence of George Noakes, Esq., at Riverside Park, New York City. Page engraving.
 5. A Dwelling for Three Thousand Dollars, with perspective and floor plans.
 6. A Residence at Orange, N. J., with perspective and floor plans.
 7. A Three Thousand Dollar House at Mount Hope, New York, with perspective and floor plans.
 8. A Twenty Thousand Dollar Suburban Residence, with perspective and partial details. Full page engraving. An elegant design.
 9. Residence of George W. Childs, Esq., at "Wootton," Delaware Co., Penn. Half page engraving.
 10. Exhibition of Fine Arts, Venice. With one page of engravings.
 11. A Hungarian Villa. Half page engraving.
 12. Design for a Store and Stable adjoining. With engraving.
 13. A Carriage House and Stable of moderate cost. With engraving.
 14. Semi-detached Dwellings at Evanston, Ill. Half page engraving.
 15. The Country Residence of George Ebers, Starnberger Lake. Half page engraving.
 16. The new Addition to the Metropolitan Museum of Art, Central Park, New York. With an engraving.
 17. The Historic Monuments of France: The Roman Arch of Mars, at Reims. Half page engraving.
 18. The Tower of Belem, near Lisbon. With half page engraving.
 19. Two Churches of moderate cost, with perspective views and ground plans.
 20. Residence of Mr. Arthur Lawrence, Maidenhead Thicket, Berks, near London, showing perspective and plans.
 21. Modern Japanese Houses, five figures. Figure 1, Interior Arrangement of an Aino Dwelling; Figure 2, Aino House, Yezo; Figure 3, A Street Scene in Kyoto; Figure 4, A Modern Japanese House; Figure 5, Framing of an Ordinary Two-story House.
 22. Miscellaneous Contents: Creosote Wood Preserving Stains.—Architectural Education.—The Silver Birch.—The Architect and House Drainage.—Failure of the New York Plumbers' Strike.—Seasoned Lumber.—A Building Union in Chicago.—Stability of Walls at Openings, illustrated with 11 figures.—The House of John Dryden in Fetter Lane, with two engravings.—Egyptian Reliefs.—Floors and Ceilings, Ancient and Modern, by C. Powell Karr, with several engravings.—Portugal Laurels by the Seaside. The Equitable Building, New York.—Enameled Brick of Different Colors, how to make.—Preservative Fire-proof Paint, how to make.—Warner's Improved Dry Plate Holder, illustrated.—Method of Unloading Grain, two illustrations.—A Wooden Tower nearly 1,000 feet high, illustrated.—Copper as a Roofing Material.—How to Wax Floors.—The Edelweiss, illustrated.—The Larch as a Lawn Tree, with two engravings.—Palms for Room Decoration, with illustration.—Cast-iron Beams under Repeated Impacts.—Cheap Steel Girders.—A Good Floor.—Root Choking of Drains.—To Transfer Prints to Wood.—Tree Growth.—Convention of National Association of Builders of the United States at Chicago.—The Vast Sums of Money expended by Builders.—Earthen Drains.—End Wood Flooring, illustrated.—The Florida Steam Heater, illustrated.—The Mason Reducing Valve, illustrated.—The New York Central Iron Works.—How to Clean Chamois Leather.
- The Scientific American Architects and Builders Edition is issued monthly. \$2.50 a year. Single copies, 25 cents. Forty large quarto pages, equal to about two hundred ordinary book pages; forming, practically, a large and splendid MAGAZINE OF ARCHITECTURE, richly adorned with elegant plates in colors and with fine engravings, illustrating the most interesting examples of Modern Architectural Construction and allied subjects. The Fullness, Richness, Cheapness, and Convenience of this work have won for it the LARGEST CIRCULATION of any Architectural publication in the world. Sold by all newsdealers.
- MUNN & CO., PUBLISHERS,
361 Broadway, New York.

Special.

Says Frank Siddall: "I inhale Compound Oxygen nearly every day of my life; it invigorates the nerve centers. My capacity for work increases, and also my enjoyment of life. I go up to Drs. Starkey & Palen's office at any hour that I am able to get away from my office. I prefer the morning, for its beneficial influence endures throughout the day. Then I come straight back and buckle to work again. I am a well man now, and continue its use only as an invigorator; but both my wife and son have tried it (the former for serious complaints) with the most satisfactory results."

"Dr. Starkey left a lucrative practice to apply the fruits of long researches; and if he had advertised as I have done, he would now be a millionaire. But he and his partner, Dr. Palen, are well known. Here is Judge William D. Kelley, 'the father of the House of Representatives,' as he is called. Ask him."

"Yes," said Judge Kelley, "I can indorse all that Mr. Siddall has said about the benefits of Compound Oxygen, for it was the means of restoring me to health after everything else had failed, and I thought I must die. I had frequent hemorrhages. But Compound Oxygen came to my notice: I tried it and was saved."

"I have known Dr. Starkey for thirty years," resumed Mr. Siddall. "He is worthy of my most sincere indorsement. But I wish he would advertise his great remedy."

Drs. Starkey & Palen, 1529 Arch Street, Philadelphia, Pa., will send their pamphlet of cures and testimonials to anybody who will write for it.

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.

The Republic Reduction Works, Republic, Michigan, have recently erected a 12 inch Sturtevant Mill for grinding specular iron ore with most excellent results. They are now arranging to add two 20 inch mills to increase their output. The percentage of iron saved with this machine is much larger than by any other process, and the cost of grinding much less.

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.

Inventors, patentees wanted. "J." P. O. box 3101, 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 Crawford Mill property. Plenty of stone and timber for building uses. Must be sold to close an estate. Call on or address John M. Simpser, 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 1/4 in. shaft; also four spindle Drill. A few second-hand engines in first-class condition. B. W. Payne & Sons, Elmira, N. Y.

United States rights for an egg carrier for sale. Apply, Ed. Chexnayder, New Orleans; or to Wilson & Leach, 585 Broadway, New York.

For the latest improved diamond prospecting drills, address the M. C. Bullock Mfg. Co., 133 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 98 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.

The Sturtevant Mills are being largely and favorably introduced for crushing and grinding ores, phosphate rock, cement, and other hard and refractory materials. Circulars, with full information and references, may be had on application to the Sturtevant Mill Co., Boston, Mass.

Link Belting and Wheels. Link Belt M. Co., Chicago. Presses & Dies. Ferracute Mach. Co., Bridgeton, N. J. Woodworking Machinery of all kinds. The Bentel & Margedant Co., 116 Fourth St., Hamilton, N. Y.

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.

Catalogue of books on civil and mechanical engineering, electricity, arts, trades, and manufactures, 116 pages, sent free. F. & F. N. Spon, 35 Murray St., New York.

Cutting-off Saw and Gaining Machine, and Wood Working Machinery. C. B. Rogers & Co., Norwich, Conn. Power, 113 Liberty St., N. Y. \$1 per yr. Samples free. Billings' Double-acting Ratchet Drills. Drop Forgings all kinds. Billings & Spencer Co., Hartford, Conn.

Universal & Independent Jaw Chucks for brass work, both box & round body. Cushman Chuck Co., Hartford, Ct. Get estimates from Christiana Machine Co., 206 North 4th St., Philadelphia, Pa., for shafting, pulleys, hangers, and gearing before ordering elsewhere.

The Improved Hydraulic Jacks, Punches, and Tube Expanders. R. Dudgeon, 24 Columbia St., New York.

Hoisting Engines, Friction Clutch Pulleys, Cut-off Couplings. D. Frisbie & Co., 112 Liberty St., New York.