

ENGINEERING INVENTIONS.

A valve for engines has been patented by Mr. James Des Brisay, of Kamloops, British Columbia, Canada. Combined with a valve adapted to rotate on its seat, and having a concentric projection, is a ring held on the projection and pressing against the valve, with other novel features, the valve being operated directly from the main shaft.

A car dumping device has been patented by Mr. Daniel T. Denton, of Tower Mines, Minn. This improvement is specially adapted for cable cars loaded with ore, coal, or other material, and covers a novel construction and combination of parts by which the loaded cars are easily, quickly, and automatically dumped.

A car coupling has been patented by Mr. Simon J. Freeman, of Rochester, N. Y. The drawhead has a projection in its bottom, behind which is a recess, combined with a vertically sliding and longitudinally swinging arm extending up through a slot, with other novel features, whereby the coupling and uncoupling of cars may be readily effected without going between them.

A car coupling has been patented by Mr. David N. Tarbox, of Cedarville, Ohio. Combined with a drawhead in which is journaled a hooked coupling link is a transversely swinging weighted operating arm extending through the drawhead and having a limited movement through the coupling link, there being a pivoted retaining cam on the arm adapted to bear on the drawhead.

A steam boiler has been patented by Mr. George Kingsley, of Lowell, Mass. Combined with a double shell horizontal boiler having an inner and outer fire space and a waterspace between are inclined laterally projecting tubes screwed into the inner shell having their inner ends closed and elevated and projecting into the inner fire space, stay bolts alternating with the tubes and connecting the shells, the invention covering an improvement on former patented inventions of the same inventor.

MISCELLANEOUS INVENTIONS.

A lotion to be used in the treatment of sores has been patented by Mr. Thomas Tomlinson, of Clarinda, Iowa. It is made of gambier, salt, sulphuric acid, and water, compounded in specified proportions, and used as directed.

A ratchet drill has been patented by Mr. Peter B. Erickson, of Ishpeming, Mich. The invention covers a novel construction and combination of parts, whereby the drill may be readily inserted and the action of the drill reversed, and wherein also the device will be durable and can be conveniently manipulated.

A vehicle spring has been patented by Mr. Edwin Jarrell, of Harper, Kansas. The invention consists in novel constructions and combinations of parts designed to render available in a simple manner the square torsion of the spring bars, with other special features.

A latch bolt has been patented by Mr. Franz Spengler, of Berlin, Germany. It is made in wedge-like form, having its end beveled from edge to edge and from side to side, being designed to reduce the friction between the head of the bolt and the keeper on the door casing to a minimum.

A shingler's gauge has been patented by Mr. Franklin P. Sanborn, of Standish, Me. This invention covers a device of novel construction to be used in applying shingles or clapboards to the roofs or walls of buildings for determining the proper position of each course with respect to the preceding course.

A mole trap has been patented by Mr. Samuel J. Grimmett, of West Plains, Mo. Combined with set or fall sticks a board is used having pins on one side and a longitudinal knife on the other, the pins being adapted to impale or imprison a mole, and the knife for destroying snakes.

A bucksaw frame has been patented by Mr. Joseph W. Thompson, of Mount Pleasant, Iowa. The invention covers a novel construction and arrangement of parts and details for an improved saw frame in which each of the end pieces is made of a U-shaped bar so as to combine lightness with strength.

A wall protector, to prevent defacing of walls by furniture, has been patented by Messrs. Roldin S. Robbins, of San Francisco, and Alphonzo H. Broad, of Berkeley, Cal. It consists essentially of an elastic button surrounding flange, to be used with a retaining band or wire, to protect both the walls and furniture.

A garment stay has been patented by Mr. Edward K. Warren, of Three Oaks, Mich. It is a covered stay for dresses or other garments, having a stiffening strip covered by separate pieces of fabric projecting beyond the side edges, and there stitched to form selvages through which the seamstress may stitch and secure the stay to the garment.

A weather board holder and gauge has been patented by Messrs. Madison G. Stanley and William F. Jones, of Kenton, Tenn. The device is simple and easy of manipulation, and is designed to dispense with driving nails in the previously put on boards, while affording means for expeditiously gauging the amount of lap to be allowed.

A crutch attachment has been patented by Mr. William J. Donald, of Tunnel City, Wis. This invention covers an improvement in that class of crutches which have an elastic foot and a spur, either of which may be adjusted for use alone by resting the foot on the ground or floor to screw or unscrew it, thereby projecting or withdrawing the spur.

A magic lantern slide has been patented by Mr. Edward T. Petter, of Newport, R. I. It consists of a continuous band or strip of flexible transparent or translucent material, carried by reels or spools, upon which the views or figures are portrayed, combined with a motor for drawing the band through the lantern from one reel to another.

A portfolio for maps, periodicals, etc., has been patented by Mr. Henry A. Hayden, of New York City. It has a series of fastening devices arranged on the inside of the covers, and consisting of overlapping metallic strips hinged to staples, being designed to display maps, time tables, etc., in prominent places.

A hammock has been patented by Mr. Barry A. Norris, of Houston, Texas. It is made with slats, each provided at its ends with a transverse aperture through which passes a cord or wire for holding the slats together, making a hammock designed to be simple and durable and yielding to the motion of the body.

A wheeled dumping scraper has been patented by Mr. Cyrus A. Kenney, of Nicholasville, Ky. The scoop is adapted to be lowered to present its scooping edge to the ground for filling, while it may be raised to a greater or less height and be dumped backwardly, the invention covering a novel combination and construction of parts.

A pay device has been patented by Mr. David W. Bundy, of Toronto, Ontario, Canada. The invention consists mainly of a tray having a series of pockets, each bearing the name and number of an employe, in connection with money boxes adapted to be received in the pockets and bearing a corresponding number.

A heating gas burner has been patented by Mr. Albert J. Doty, of Philadelphia, Pa. It is made of a disk of sheet iron, in the edge of which flaring slits are formed, the disk being swaged up so that the edges will be beveled and the slits made narrow, with parallel edges, making the desired form of orifice for the gas and air.

An image has been patented by Mr. Charles L. D. Looke, of Gravesend, N. Y. It is made with an inner wooden section and outer plastic side sections, whereby great strength is obtained and the muscles can be brought out naturally, as desired for images or figures of animals to be used in connection with carrouseis or merry-go-rounds.

A chill mould apparatus has been patented by Mr. William Fawcett, of Jersey City, N. J. It is an apparatus for casting sash weights or similar articles, in which the moulds are chilled by water, the hollow sectional moulds being arranged in a rotary frame about a hollow axle having a water supply and exit pipes suitably attached.

A geometrical drawing board has been patented by Mr. James M. Pringle, of Bathurst, New South Wales. This invention provides a simple means for facilitating the teaching and explaining the principles of that branch of solid or descriptive geometry used in construction, also illustrating these principles in the teaching of mechanical drawing.

A lock hinge has been patented by Mr. Leonard Tilton, of Brooklyn, N. Y. It consists of a vertical plate, with a slotted horizontal plate, in combination with a pivot bolt held in the slot, an arm, rack, and locking bolt being held in an aperture in the window frame, making an improved fastener for window blinds, etc.

An apparatus for casting metal ingots has been patented by Mr. William Höffelmann, of Germanlahutte, Prussia, Germany. It is for casting small ingots suitable for the manufacture of wire, etc., and designed to produce great density at their outer part, with as little loss as possible from waste in the runner and gates.

An attachment for bicycles has been patented by Mr. Herman H. Holtkamp, of New Knoxville, Ohio. It consists of a runner or shoe arranged for connection with the small wheel of the vehicle, with bearing plates which may be clamped to the peripheral face of the driving wheel, whereby the machine may be run upon ice or snowy ground.

An ice cutting machine has been patented by Messrs. Louis C. Hartung and William A. Hausner, of Stillwater, Minn. The frame is mounted at the rear on wheels and in front on runners, the turning of the wheels, which are spiked, acting on a shaft to drive a saw, the weight of the frame forcing the revolving saw down into the ice.

A drag saw has been patented by Mr. John Haggan, of Brooklyn, N. Y. It is designed for cutting off the upper ends of piles and similar uses, and combines with a support to be fastened to the pile a yoke pivoted on the support, and having parallel ways adapted for the saw to slide therein, the saw having a handle set at an angle to the face of the blade.

A journal bearing has been patented by Mr. George L. Griswold, of Bellows Falls, Vt. This invention provides a bearing box or reservoir having a network of oil or lubricant passages or channels in it, at a number of the intersecting points of which are cavities or receptacles, the device being adapted for lubricating flat as well as convex or cylindrical surfaces.

A toilet paper cutter has been patented by Mr. Henry H. Harrison, of New York City. It has a stationary blade, with rollers for drawing the paper from a drum, in combination with a pivoted blade and springs, and other novel features, whereby the paper may be conveniently drawn out and cut off in the desired lengths.

A velocipede has been patented by Mr. John Hagan, of Atlantic City, N. J. Combined with the main axle and driving wheels, springs are so secured to the main frame that power may be stored up therewith, by means of a crank arm, and can be used as desired in propelling the velocipede, provision being also made for the use of an electric motor and batteries.

A rowing gear has been patented by Messrs. Oren Tippy and Fred D. Smith, of New Carlisle, Ind. This invention provides a device by means of which a boatman may pull a boat in the direction in which he is facing, it being designed that every motion requisite in rowing may be obtained by

the use of the device, while the oar can be manipulated with efficiency and ease.

A brick machine has been patented by Mr. Robert A. Willett, of South Amboy, N. J. This invention covers a novel construction, combination, and arrangement of parts in a machine in which the clay is compressed in the form of bricks by different plungers, and in which the pressure may be adapted to different qualities of clay and the slow or quick movement of the plungers in the mould boxes be regulated.

A gate has been patented by Mr. John W. Rutledge, of Shannondale, Ind. It is designed to be opened and closed by a person in a vehicle or on horseback, and is constructed to prevent snow and ice interfering with the action of the catches, and to render more effective and simple the means of actuating the latch, while the gate may readily be tightened and braced as required.

A wrench has been patented by Messrs. Albert M. Spaulding, of Flowerfield, Mich., and Herbert L. Case, of Bristol Center, N. Y. It is specially adapted for conveniently unscrewing the nuts of vehicle axles, and comprises a bar having a wrench head between its ends and arms mounted adjustably on the bar, the opposite ends of each arm being adapted to engage a spoke.

A breasting attachment for heeling machines has been patented by Messrs. Martin C. McGeeness and John Tweedie, of Jefferson City, Mo. This invention covers a novel combination and arrangement of parts in a device designed to accurately trim the inner edge of the heel of a boot or shoe, without cutting the sole, while the top piece is put in place at the same time.

SCIENTIFIC AMERICAN
BUILDING EDITION.

OCTOBER NUMBER.—(No. 36.)

TABLE OF CONTENTS.

1. Elegant plate, in colors, of a suburban dwelling costing eight thousand five hundred dollars. Floor plans, sheet of details, etc.
2. Elegant plate, in colors, of two cottages costing twelve hundred and sixteen hundred dollars, respectively. Sheet of details, floor plans, etc.
3. A residence at Richmond Hill, N. Y., lately built, at a cost of ten thousand dollars. Perspective and floor plans.
4. A dwelling for three thousand five hundred dollars. Floor plans and perspective.
5. Villa at Fontainebleau—M. E. Brunnarius, architect. Cost, eight thousand six hundred dollars. Floor plans and perspective.
6. View of the new Protestant church at Lyons, France. Cost, eighty thousand dollars.
7. Page of engravings showing the house at Stratford-on-Avon in which Shakespeare was born—Anne Hathaway's cottage, near Stratford-on-Avon—Trinity Church, Stratford-on-Avon, where Shakespeare is buried—The residence of Mary Arden, the mother of Shakespeare—Old Elizabethan house, Stratford, showing the domestic architecture of the time of Shakespeare.
8. The chancel, Holy Trinity Church, Stratford-on-Avon, showing the Shakespeare memorial bust and tablet, and the stained glass window, the gift of American visitors.
9. A suburban villa lately built at Sound View Hill, Long Island Sound, near New York. Perspective view and floor plans. Cost, five thousand eight hundred dollars.
10. Design for a cottage by S. W. Whittemore, architect, Brick Church, N. J. Perspective and floor plans. Cost, three thousand five hundred dollars.
11. A Queen Anne cottage in Rochelle Park, New Rochelle, N. Y., costing five thousand six hundred dollars. Plans and perspective.
12. An English double house of moderate cost. Perspective and floor plans.
13. Design for the Duquesne Club House, by Heins & La Farge, architects, New York.
14. Miscellaneous contents: A new regimental armory, New York City.—Ventilating pipes.—National Zoological Park.—Lime from oyster shells, showing pit for burning shells.—Roman road construction.—Beauty of the larch.—Sewage disposal in Great Britain.—Orchids, illustrated.—Test of fireproof wire lathing.—A clematis porch illustrated.—Some ways of using the Virginia creeper, illustrated with 3 figures.—Feeding coal to the fire.—Wood that will not blaze.—Fall of a stone church tower.—A ruined city in Texas.—Loofah as a substitute for sponge.—A California farm.—Defects in plumbing in the Maine Insane Asylum.—An improved reversible shaper, illustrated.—Improved hand and foot power saws, illustrated.—Practical hints on disinfection.

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.

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.

Pattern letters and figures to place on patterns for castings. (H. W.) Knight & Son, Seneca Falls, N. Y.

All books, app., etc., cheap. School of Electricity, N. Y.

Private line telephones. See illustrated adv., page 237.

Boiler Explosion.—Agents wanted to sell new book. Just published. Every owner of a steam plant and every fireman in the United States wants it, and must have it. Price, \$2.00. Address G. J. A. Zeller, bookseller, 18 So. Fourth St., St. Louis, Mo.

One hardly realizes the immense loss sustained in machine making (where many duplicate parts are required) by the old way of single forgings, or cutting out of solid metal, compared with the modern appliance of drop forging. With a die, by a single stroke or two, thousands are made exactly alike, in size and form, ready for the finishing, either of the best tool steel, Bessemer steel, iron, or copper. Mr. Charles Robertson, Broadway, Revere, Mass., makes a specialty of splendid drop forgings. All orders by letter, or in person, promptly attended to, and perfect satisfaction is guaranteed.

Rare Chance to Invent!—Cox's clothes drier. Useful in every family. Patent for sale, either as a whole or by States. Apply to patentee, Geo. Cox, No. 123 So. 6th St., Reading, Pa.

Wanted—Purchaser for patent of successful water motor, or partner with capital to manufacture. Will sell on royalty. Geo. E. Reid, 46 Elm St., Albany, N. Y.

Just Published—Elements of Electric Lighting, including electric generation, measurement, storage, and distribution. By Phillip Atkinson, A. M., Ph. D., author of Elements of Static Electricity. 260 pages; 104 illustrations. Price, \$1.50. For sale by Munn & Co., 361 Broadway, New York.

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

Pratt & Litchworth, Buffalo, N. Y., solicit correspondence relative to manu facturing specialties requiring malleable gray iron, brass, or steel castings.

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.

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

Nickel Plating.—Manufacturers of pure nickel anodes, pure nickel salts, polishing compositions, etc. \$100 "Little Wonder." A perfect Electro Plating Machine. Agents 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.

Perforated metals of all kinds for all purposes. The Robert Aitchison Perforated Metal Co., Chicago, Ill.

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

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

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

Lockwood's Dictionary of Terms used in the practice of Mechanical Engineering, embracing those current in the drawing office, pattern shop, foundry, fitting, turning, smith's and boiler shop, etc., comprising over 6,000 definitions. Edited by a foreman patternmaker, 1888. Price, \$3.00. For sale by Munn & Co., 361 Broadway, New York.

Duplex Steam Pumps. Volker & Felthousen Co., Buffalo, N. Y.

No. 11 planer and matcher. All kinds of woodworking machinery. C. B. Rogers & Co., Norwich, Conn.

Billings' Patent Screw Plates. Drop Forgings, all kinds. Billings & Spencer Co., Hartford, Conn.

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

Friction Clutch Pulleys. The D. Frisbie Co., N. Y. city.

Wrinkles and Recipes.—Compiled from the SCIENTIFIC AMERICAN. A collection of practical suggestions, processes, and directions for the mechanic, the engineer, the farmer, and the housekeeper. Illustrated colored frontispiece. Edited by Park Benjamin, Ph. D. Third edition. Price, \$2.00. For sale by Munn & Co., 361 Broadway, New York.

Tight and Slack Barrel Machinery a specialty. John Greenwood & Co., Rochester, N. Y. See illus. adv., p. 28.

Double boring machines. Double spindle shaping machines. Rollstone Machine Co., Fitchburg, Mass.

Belting.—A good lot of second hand belting for sale cheap. Samuel Roberts, 363 Pearl St., New York.

Specially adapted for machine shops—Talcott's combination patent belt hooks. Providence, R. I.

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

NEW BOOKS AND PUBLICATIONS.

FIRST ANNUAL REPORT OF THE BOARD OF MEDIATION AND ARBITRATION OF THE STATE OF NEW YORK. Commissioners, William Purcell, Gilbert Robertson, Jr., Florence F. Donovan. Transmitted to the Legislature January 16, 1888. The Troy Press Co., printers. 1888. Pp. 734.

In this report of the Board of Mediation and Arbitration of the State of New York the condition of several branches of manufacture, as revealed in the examinations of operatives and employers by the Senate committee, is given. The work is an interesting one, despite the unattractive form of question and answer in which most of it is necessarily presented, and many of the