

ENGINEERING INVENTIONS.

A rotary engine has been patented by Messrs. Charles H. Melville and Thomas W. Brown, of Chattanooga, Tenn. It has a radially operating abutment with an eccentric revolving steam actuated hub for utilizing steam pressure to maintain steam tight contact of the abutment with the hub, and also has an improved contrivance for an automatic variable cut-off.

A sextant has been patented by Philippe Leuba, of Rue der Nord, No. 4, Aigle, Canton of Vaud, Switzerland. This invention covers a novel construction in which there are two artificial horizons, one for taking elevations and the other for taking depressions, and in which provision is made for the use of the sextant in the dark or at night.

A valve gear has been patented by Mr. James A. Stout, of Belleville, Ill. This invention covers novel combinations of mechanisms whereby the engineer has to control but two instead of three handles to give three movements, and dispenses with one of the eccentrics, its strap and connecting rod, also the link and link block with its rock shaft and connections.

A leveling rod has been patented by Mr. Robert B. Seymour, of Willet's Point, N. Y. It is made with a friction roller connected with the keeper that connects the target with the rod, so that the target can be easily and accurately adjusted upon the rod, the friction roller being so arranged that it can be readily adjusted to bear with any desired force against the rod.

A car coupling has been patented by Mr. David C. Barton, of Rocheport, Mo. This invention covers a combination of drawhead and coupling pin, with levers pivoted to the car on either side of the coupling pin, and forked at their adjacent ends, with other novel features of construction and arrangement of parts.

AGRICULTURAL INVENTIONS.

A sulky cultivator has been patented by Mr. Edward F. Husk, of Malden, Mo. This invention covers novel features in a machine on which a driver may ride while the machine straddles a row of growing corn, to plow or cultivate the earth on both sides of the corn, and to cut the corn stalks into short pieces after the corn has been gathered.

A grain separator and cleaner has been patented by Mr. Edward Sherman, of New Pendington, Ind. This invention covers novel features in a machine for separating grain and seeds, and for grading wheat so as to obtain the seed wheat separately, all the seed wheat being saved and separated from the grain passed through as it comes from the thrashing machine.

A hilling plow has been patented by Mr. Rudolph Schuster, of Waldeck, Texas. This invention covers special features of construction for plows with a double or right and left hand mould board for throwing soil from both sides of a furrow to form beds or hills, and the plow point is held securely in position with the use of only one bolt.

A corn planter has been patented by Mr. William L. Rucker, of Martinsville, Mo. The object of this invention is to provide a mechanism which may be easily controlled by the driver from his seat for allowing or preventing the dropping of seed, and for setting the mechanism to insure planting in accurate check row, the machine being also adapted for planting in drills.

A hay carrier has been patented by Mr. Thomas C. McNichols, of Belmont, Ohio. A self-acting brake is provided for retaining the carrier in place at any desired point while a load is being raised or discharged, and by a combination of levers the brake is made self-regulating in its action, while the carrier can be reversed so as to be operated in either direction from any point of the track.

A combined band cutter and feeder for thrashing machines has been patented by Mr. Richard Harding, of McGaheysville, Va. The object of this invention is to facilitate the feeding of grain to thrashing machines, and it covers an angular vibrating feed spout, a rotary band cutter; one or more grain spreads, an endless apron, and a rotating reel, with various novel features of construction and arrangement.

An adjustable cultivator shovel has been patented by Mr. Myron A. Twitchell, of Kingsley, Iowa. This invention provides a shovel or tooth for cultivators capable of doing service with all of its four sides or four corners forward, or with any side set at any desired inclination to the line of travel, so the plow is adapted to do a great variety of work in both right and left handed plowing.

A combined cotton chopper and cultivator has been patented by Mr. Lemuel Z. Grigsby, of Minden, La. The frame carries a cylinder with central annular groove, with adjustable knives on its face and can concave in its ends, operating levers connected at their rear ends by a crossbar pivoted to a crank carrying the chopping hoe and its standard, whereby stalks, vines, etc., at the sides of the plants will be cut up, the soil mellowed, and the plants brought to a stand by the passage of the machine along the rows.

MISCELLANEOUS INVENTIONS.

A culinary vessel has been patented by Mr. Thomas G. Beaham, of Zanesville, O. This invention covers a special construction of an earthenware vessel supported by a metal base in such a manner that both can contract and expand independently.

A hitching strap has been patented by Mr. Samuel Birdsall, of Susquehanna, Pa. This invention covers a coupling device of novel construction for attachment of the brace strap, and is an improvement on a former patented invention of the same inventor.

An album clasp has been patented by Mr. Ernst P. Hinkel, of Offenbach-on-the-Main, Germany. This invention covers a novel device of grooved disk and slide to render the clasp extensible, so that it can be lengthened and adjusted according to the thickness of the album.

An envelope has been patented by Mr. George W. Crane, of Topeka, Kan. The free edge of

the flap is inclined from one corner to the transverse center line, and from this point extends to the opposite side of the envelope in a line parallel with the longitudinal edges.

A button has been patented by Mr. Edward Berman, of London, Middlesex County, England. It has an apertured head, with its under surface recessed, a shank held in the recess, and an ornamental disk between the head and shank, so that a material of a different nature from that of which the button is made is held in the button and shows in its face.

A corner iron for wagon bodies has been patented by Mr. Edward Hutchinson, of New York city. It is designed to be made of Russia iron struck up in a novel form to give a firmer hold upon the body, with increased strength, while it can be made lighter than when made flat in the ordinary way, and is also applicable for corners of wagon seats.

A combined spring jack and annunciator has been patented by Messrs. Louis Townsend and Robert W. Moore, of Evansville, Ind. This invention consists in the combination of these two features on the same frame, to make them both occupy only the space of one, thereby saving half the space in the telephone switchboard.

A tricycle has been patented by Messrs. Thomas P. Hall and James B. Hall, of Toronto, Canada. Combined with a frame is a shaft journaled in its rear, on which are the driving wheels, the shaft and wheels being revolved by gearing from levers pivoted to the front of the frame, and there is provided a novel device for steering.

A binding attachment for sewing machines has been patented by Mr. Robert Hilgner, of New Orleans, La. This invention relates to a former patented invention of the same inventor, and covers several features of improvement thereon designed to secure better work and a more convenient and complete system of adjustment.

A combined truck and ladder has been patented by Mr. John C. Lowen, of Titusville, Pa. The ladder, as formed in connection with the truck, is easily moved when needed in the form of a truck, and then readily adjusted so as to form a step ladder, a combination which may be quickly reversed, so as to form a truck on which to convey goods.

A folding wardrobe and chiffonier has been patented by Henrietta L. Mehrer, of New Rochelle, N. Y. The invention combines with a chiffonier a detachable folding wardrobe provided with spring catches adapted to catch on slotted plates on the chiffonier, so the chiffonier and wardrobe can easily be united or detached.

A combined annunciator and spring jack has been patented by Mr. Louis Townsend, of Evansville, Ind. This invention consists chiefly in constructing the magnet which operates the annunciator drop with a hollow core and placing in this hollow core the spring jack, the combination being such as to make a single compact device, which will economize space.

A clockwork for mechanical lamps has been patented by Messrs. Frederick Cook and John H. Pomeroy, of New Haven, Conn. It is made with the fan shaft connected with the gear wheels of the clockwork by an elastic driving band of rubber or similar material, to prevent the fan driving band from exerting an injurious side draught upon the fan post.

A post hole auger has been patented by Mr. Alexander C. Osborn, of Clarksburg, West Va. Combined with the central stem are separate blades, with fixed and adjustable connections with the stem, there being also an adjustable disk, braces, and nuts, whereby the dirt may be withdrawn from the hole made by the auger and prevented from falling back.

A game has been patented by Mr. Paul K. Dealy, of Brandon, Manitoba, Canada. Combined with a plate or disk having recesses in its upper surface is a standard in the top of which a lever is pivoted, on one end of which a cup is formed; by striking a lever a marble or pellet in the cup is thrown up, and as it drops or not in the recesses of the disk the game is counted.

A machine for grading shot has been patented by Mr. Christopher C. Tracy, of New York city. It has plain cylinder drums with perforations all of the same size in each drum, there being as many drums as there are separate sizes of shot to be separated, and it is feasible to set the drums at any desired pitch to increase or diminish the speed with which the shot pass through.

A washing machine has been patented by Andrew J. Guffin and Matilda C. Guffin, of Rushville, Ind. A wash boiler of two or more sections has independent drums or wash wheels journaled therein, with a clutch mechanism for engaging and holding the shafts together, so the wheels may be operated separately or together, and two batches of different kinds of clothes may be washed together.

A composing stick for type setters has been patented by Mr. William Hendrickson, of Brooklyn, N. Y. It is made with a recessed knee, with lever clamps having their inner arms overlapped and their outer arms bent to overlap the under side of the bottom of the stick, and made to clasp the bottom by a hand screw, so the knee can be readily adjusted in any desired position.

The manufacture of wire coated articles forms the subject of a patent issued to Mr. Emil Kellermann, of Cincinnati, O. This invention consists in coating the ends of wires in the form of bulbs, by repeated dipping in an adhesive substance, and covering the same with a granular or flocculent material, in order to give an ornamental appearance to vases, baskets, and similar articles.

A rope socket has been patented by Mr. John H. Banser, of North Clarendon, Pa. It is a clamping socket of novel construction, affording increased facility for coupling and uncoupling of the rope by which the drill used in boring oil and other wells is raised and lowered, the screwing or unscrewing of certain parts serving to secure or release the hold of the socket upon the rope.

A corkscrew has been patented by Mr. Bartholomy Wilhelm, of Appleton, Wis. This inven-

tion consists in the combination, with a corkscrew, of two loose prongs between which the screw is adapted to revolve, and of a sliding ring surrounding the prongs and serving to hold their lower ends a greater or less distance apart, according to the size of the head of the bottle.

A doubling spooler has been patented by Mr. Leonard V. Richmond, of Sand Lake, N. Y. This invention is for facilitating the doubling of yarn upon upright and drum spoolers from cops, spools, and bobbins, by providing a mechanism that will stop the receiving spool automatically should one of the threads break or one of the spools become empty, thereby economizing time and preventing waste.

A curtain pole knob has been patented by Mr. David B. Olmstead, of New York city. This invention covers, as an improved article of manufacture, a curtain pole knob cast in metal or metal composition, and having its exterior surface metal plated, whereby elaborate designs may be made easily, and such as cannot be readily made in stamped, spun, or hammered work.

A saw filing machine has been patented by Mr. Hamilton Sherman, of Waverly, Pa. This invention consists in particular constructions of the machine frame to allow its dismemberment, and of the file frame guide, with a base plate sliding on a guide bar and with a head piece pivoted to the base plate, so as to be movable in horizontal plane, with other novel features.

A shawl strap has been patented by Laura A. Beatty, of Galesburg, Ill. With two bars having handles, straps are secured to one bar and passed through loops on the other bar, the bars being provided with means for holding them together, the shawl, etc., being held by the straps, the device also holding parcels firmly, and permitting of readily removing and replacing the shawl.

A trunk has been patented by Messrs. Oliver R. Meredith, James I. Gallacher, and Charles F. Jones, of Salt Lake City, Utah Ter. This invention covers a trunk corner piece provided with a hasp, and a corner piece with a hook lug over which the hasp can be passed, the first mentioned corner piece being secured on the corner of the trunk body and the other on the cover.

A fire escape has been patented by Mr. Thomas P. Hall, of Toronto, Canada. Combined with a reel or pulley, on which is wound a cable or wire, is a frame on which the pulley is pivoted, and a brake lever pivoted in the bottom of the frame, a belt being suspended from one end of the lever, making a fire escape which is compact, strong, and durable, and one which can be carried in the pocket.

A drawer has been patented by Mr. Michael Meyer, of Waukesha, Wis. The invention consists of a pair of intermeshing toothed sectors pivoted to fixed cleats or crossbars of the drawer frame and to the drawer by links, so a parallelism of movement of the drawer is secured, so the drawers will be compelled to move alike at both ends as they are drawn out from and slid back into closed position.

A machine for making and twisting chain links has been patented by Mr. Charles H. Reinisch, of New York city. It comprises a revolving mandrel, over which the links are shaped, stationary and movable cutting edges for cutting the links, and means for grasping and holding and at the same time twisting the links, the holding bar automatically adjusting itself to any irregularity in the rod or wire from which the links are being formed.

A baling press has been patented by Mr. William T. Anderson, of Rock Hill, S. C. The upper part of the press box is made vertically adjustable, and there is an arrangement of the pull ropes or chains of the follower to wind on tapering drums, to lessen the downward movement of the follower for each successive stroke of the operating levers as the compression increases in forming the bale, and to correspondingly increase the leverage of the levers, with other novel features.

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.

Steam Engine, Corliss system, 10 inch cylinder, 24 stroke, used only a short time, for sale. Keuffel & Esser, New York.

Experimental Machinery Perfected, Machinery Patents, Light Forgings, etc. Tolhurst Machine Works, Troy, N. Y.

Swift's Patent Coffee Roasters and Mills, 30 sizes. Lane Bros., makers, Box 276, Poughkeepsie, N. Y.

Bermuda Scientific Collections. Naturalist, Box 3359, N. Y.

A Patent Shutter Worker for sale or on royalty. See engraving, page 66 of this number. Address R. L. Brown, 35 W. 130th St., New York city.

Patent Elevators with Automatic Hatch Covers. Circulars free. Tubbs & Humphreys, Drawer 1637, Cohoes, N. Y.

Snyder Engine Company, 12 Cortland St., N. Y. "Little Giant" Engines, 1 to 6 H. P. Also Boat Engines, Propeller Wheels, etc. Send stamp for 23 page list.

Wanted.—A first-class man to superintend a Sash, Blind, and Door Factory; outfitted with all late and improved machinery; working about one hundred hands. Must be sober, a good manager, and estimator on job work. To the right man a good salary and permanent employment will be given. Or I will sell a half interest in the above well established business. Address, with full particulars as to age, habits, qualifications, and recommendation, R. F. Learned, Natchez, Miss.

Wrought Iron Bridges, Roofs, Girders, and Structural Iron Work. Hudson Bridge Works, Box 411, Hudson, N. Y.

Scientific Works by Huxley, Tyndall, Spencer, etc., very cheap. J. Fitzgerald, 20 Lafayette Place, New York.

Brush Electric Arc Lights and Storage Batteries. Twenty thousand Arc Lights already sold. Our largest machine gives 65 Arc Lights with 45 horse power. Our Storage Battery is the only practical one in the market. Brush Electric Co., Cleveland, O.

The Cyclone Steam Flue Cleaner on 30 days' trial to reliable parties. Crescent Mfg. Co. Cleveland, O.

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.

Stationary, Marine, Portable, and Locomotive Boilers a specialty. Lake Erie Boiler Works, Buffalo, N. Y.

Wanted.—Patented articles or machinery to manufacture and introduce. Lexington Mfg. Co., Lexington, Ky. Linen Safety Hose, all sizes, for hotels, warehouses, and steamboats. Greene, Tweed & Co., New York.

"How to Keep Boilers Clean." Book sent free by James F. Hotchkiss, 86 John St., New York.

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.

Steam Boilers, Rotary Bleachers, Wrought Iron Turn Tables, Plate Iron Work. Tippet & Wood, Easton, Pa.

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

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.

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

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.

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

Curtis Pressure Regulator and Steam Trap. Seep. 14.

Woodwork'g Mach'y, Rollstone Mach. Co. Adv., p. 14. Drop Forgings, Billings & Spencer Co., Hartford, Conn.

Munson's Improved Portable Mills, Utica, N. Y.

Catalogue of Books, 128 pages, for Engineers and Electricians, sent free. E. & F. N. Spon, 35 Murray Street, N. Y.

Anti-Friction Bearings for Shafting, Cars, Wagons, etc. Price list free. John G. Avery, Spencer, Mass.

Brass & Copper in sheets, wire & blanks. See ad. p. 438.

The Chester Steel Castings Co., office 407 Library St., Philadelphia, Pa., can prove by 20,000 Crank Shafts and 5,000 Gear Wheels now in use, the superiority of their Castings over all others. Circular and price list free.

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

Friction Clutch Pulleys. D. Frisbie & Co., Phila.

Tight and Slack Barrel Machinery a specialty. John Greenwood & Co., Rochester, N. Y. See illus. adv., p. 438.

Magic Lanterns and Stereopticons of all kinds and prices. Views illustrating every subject for public exhibitions, Sunday-schools, colleges, and home entertainment. 136 page illustrated catalogue free. McAllister, Manufacturing Optician, 49 Nassau St., New York.

Corundum Wheels; cut faster and wear longer than emery. Pratt & Whitney Co., Hartford, Conn.

Blake's Patent Belt Studs. The strongest and best fastening for Rubber and Leather belts. Greene, Tweed & Co., N. Y.

Mineral Lands Prospected, Artesian Wells Bored, by Pa. Diamond Drill Co. Box 423, Pottsville, Pa. See p. 62.

Shipman Steam Engine.—Small power practical engines burning kerosene. Shipman Engine Co., Boston. See page 61.

Notes & Queries

HINTS TO CORRESPONDENTS.

Names and Address must accompany all letters, or no attention will be paid thereto. This is for our information, and not for publication. References to former articles or answers should give date of paper and page or number of question. Inquiries not answered in reasonable time should be repeated; correspondents will bear in mind that some answers require not a little research, and, though we endeavor to reply to all, either by letter or in this department, each must take his turn. Special Information requests on matters of personal rather than general interest, and requests for Prompt Answers by Letter, should be accompanied with remittance of \$1 to \$5, according to the subject, as we cannot be expected to perform such service without remuneration. Scientific American Supplements referred to may be had at the office. Price 10 cents each. Minerals sent for examination should be distinctly marked or labeled.

(1) E. J. C.—In the reports for 1883, locomotives upon the following railroads and branches were for—
D., L., and Western..... 436
Pennsylvania..... 1105
N. Y. Central..... 632
N. Y., L., E., and Western..... 564
Baltimore and Ohio..... 571
Denver and Rio Grande..... 222
Northern Pacific..... 230
The Pennsylvania Railroad has the heaviest passenger locomotives.