

## ENGINEERING INVENTIONS.

A governor for supplying gaseous fuel has been patented by Mr. Alpheus Darling, of Petrolia, Pa. This invention covers certain novel features of the governor and its connections to the gas well and boiler, to make the governor more sensitive to variations of boiler pressure, and to more efficiently control the fuel supply.

A surface condenser has been patented by Mr. Benjamin S. Benson, of Baltimore, Md. By this invention the steam is passed through a set of cells in one direction, and condensed by a current of cold air blown forcibly through an alternate set of cells separated only by thin metal partitions, the device being adapted for traction engines or locomotives where water is scarce.

## AGRICULTURAL INVENTIONS.

A harrow has been patented by Mr. Franklin McCoy Jansen, of Sheldon, Iowa. It consists of a series of frames with toothed sockets, so arranged that the teeth may be used straight or slanting, so the harrow may be used on rough or smooth ground, or can be made to present more or less harrowing surface, as desired.

A weed pulling machine has been patented by Mr. Edward L. Rasmussen, of Duluth, Minn. It consists of two sets of revolving wheels, with an endless chain and spurs, made to work in a recessed frame, and a device for imparting rotary motion to the chain wheels from the main axle, with an adjustable swinging frame and dragging wheel, to pull out weeds by the roots.

A hay raker and loader has been patented by Mr. Joseph I. Davis, of Mt. Hamill, Ohio. The construction is such that the machine may be drawn behind a wagon, when the hay gathered by a rake is lifted by the teeth of a reel and carried up on an elevator and carrier to be delivered into the wagon, saving time and obviating the necessity of stacking in the field.

## MISCELLANEOUS INVENTIONS.

A sewing machine has been patented by Mr. Otto L. Schastey, of New York city. It is a single thread machine, and has a vertically and laterally reciprocating needle bar, to make a cross or binding stitch, especially applicable for sewing edges of material.

A wagon jack and step ladder combined has been patented by Mr. Frank N. McKean, of Long Branch, N. J. It consists of a frame so made with bars to serve as steps as to be readily adjustable for either use, and to be convenient and reliable with either adjustment.

An adjustable chair has been patented by Mr. Hamlet S. Felton, of Chester, Ill. It is made to be folded together very compactly and lowered through an opening in the floor, whereby a room, hall, or theater, with such devices, can be cleared to afford an open floor in a few minutes.

A hat or bonnet support has been patented by Margret Smith, of Baltimore, Md. The device may consist of a bandeau or comb, having elastic pins so secured that when free they will assume a projecting position, and when desired they can be held down out of the way.

A bicycle saddle has been patented by Mr. Robert E. Humphreys, of Irwin, Pa. This invention consists in the combination, with a curved piece, of a spring rod secured and bent to form the supporting springs and horn, making a saddle which will rock forward and back, up and down, and laterally.

A calcimine compound has been patented by Messrs. Samuel U. Brunck and George A. Marsh, Jr., of Sandusky, Ohio. It consists of calcined plaster, cotton seed oil, and water, formed into a paste and afterward dried and ground, for mixing with dry powdered calcimine or other like wall finish materials.

A pencil sharpener has been patented by Mr. Azel Hatch, of Lexington, Ky. This invention covers a broad flat file, with a beveled surface on either of its sides, the broad portion being of a coarse file cut, and the beveled surfaces finer, to rapidly cut away and afterward give a smoother finish to the pencil point.

A calf weaner has been patented by Mr. Edward P. Henry, of Eagle Rock, Idaho Ter. It is for attachment on the nose of a calf, and consists of two plates pivoted to each other at the edges, each plate having a curved prong at the upper inner corner, preventing the calf from sucking, but permitting it to eat grass.

A package has been patented by Mr. James McCrodden, of New York city. Its body is cylindrical, made of straight staves, the lower ends adapted to receive a head and the upper ends beveled to receive a cover, the outer surface to be covered by paper or pasteboard, and the whole making a package especially fitted for grocer's use.

A peach stoner has been patented by Mr. Cager Hardgrave, of Clarksville, Ark. It has vertically standing steel blades to split the peach, and spoon shaped blades acting in connection therewith to open the peach, with other novel features, whereby peaches may be halved and freed of their stones quickly and neatly.

A boot or shoe protector has been patented by Messrs. Thomas Gribble and Robert Abraham, of Calumet, Mich. It consists of a malleable metal bottom plate with studs, and formed with side and toe flanges, which inclose the sole edge and the lower portion of the upper, the invention being especially applicable for miner's boots.

A grinding mill has been patented by Mr. Henry Cutler, of North Wilbraham, Mass. This invention relates to portable mills of the vertical disk type, and provides novel means for the accurate setting and adjustment of the stones to compensate for their wear and to allow of the stationary stone being dressed without removal from the case.

A bridle blind has been patented by Mr. Emory Q. Darr, of Shelbyville, Ind. It is made with a marginal stiffening wire, with a projecting loop

to receive the winker stay, and with a stiffening plate pocketed between the facings of the blind and separated from the wire by a row of stitches, all the stitching being done before the plate is put in place.

A gin saw gummer has been patented by Mr. Wesley F. Collier, of Barren Fork, Ark. Combined with a handle is a cross bar integral therewith, and flat teeth riveted to the under side of the bar, and beveled or pointed at their outer ends, the implement being used by slipping it in between the saws while the motion of the latter is reversed.

A method of forming packages of paper has been patented by Mr. Willis M. Hunt, of Glen Gardner, N. J. It consists in providing the bags in corresponding edges with slits, and placing therein a cord covered with glue or other adhesive material, so the bags can be readily pulled from the package, and the package hangs well, occupying little space.

A flat wire netting has been patented by Mr. Emil Rattey, of New York city. It is formed of a series of flat wires or rods woven together, so that at the intersections each wire is bent to form a part which is at right angles to the remaining part of the wire or rod, the netting to be used for office railing, window screens, etc.

A machine for removing snow and ice from sidewalks has been patented by Mr. Edmund R. Angell, of Derry, N. H. It is made with wheels, axle, and handle, and a spring held shovel hinged to a ball rigidly attached to the axle, a cylinder with cutters being connected with the drive wheels whereby ice and crust can be readily loosened.

A combined blackboard and desk has been patented by Messrs. James G. Smith and Hiram E. Butter, of Jamestown, N. Y. The construction is such that the combined article when open may be used as a writing desk and when closed as a blackboard, the board forming the table to the desk when open, and front or door of the desk when closed.

A pencil sharpener has been patented by Mr. Eugene Fitch, of Des Moines, Iowa. Combined with a shell or hollow head is a knife held within its sides, and a clamping spring and handle, with other novel features, making a device which can be conveniently held and manipulated, and will be very securely held on the pencil when not in use for sharpening.

An ointment for the cure of diseases of the hair or scalp has been patented by Mr. Daniel M. Allen, of Fort Wayne, Ind. It is composed of Peru balsam, benzoic acid, oil of cloves, alcohol, creosote, iodine, iodide of potassium, water, vaseline, and calcined magnesia, the ointment to be applied by means of the finger on the scalp.

An apparatus for taking soundings has been patented by Mr. Herman Schoening, of Antwerp, Belgium. The construction is such that as the apparatus is lowered in the water the water rises in a groove and compresses air in proportion to the depth to which the apparatus is lowered, this being indicated by a properly prepared gauge strip to be affected by the wetting.

A thill coupling has been patented by Messrs. Benjamin C. Smith and Charles W. Pride, of Boston, Mass. It has a specially devised frame attached to the axle of the vehicle by a clip, with other novel features which allow of easy coupling and uncoupling, while it cannot be uncoupled when the vehicle is in motion, and is neat and compact.

A spindle for cap spinning and twisting machines has been patented by Mr. William Wardman, of Bristol, Pa. The construction is such that the bobbin can be made longer and have a longer traverse than heretofore, so as to hold more yarn and increase the amount of work done by the machine, as well as improve the quality and lessen the expense.

A bottle cork attachment has been patented by Mr. John W. Hayward, of St. Johns, Newfoundland. Combined with a cord having slits on its sides is a cord or band in these slits, and passed over the inner end of the cork, so the cork can be readily removed without a corkscrew, or the attachment may be used as a seal to tie the cork in the bottle.

An adjustable window screen has been patented by Messrs. Forest M. Lampson and George W. Hogben, of Ripon, Wis. The screen frame has staples and strips arranged at the side of its end portions, headed pins being secured in the strips and working in the staples, the device being intended to fit screens to window frames of different widths.

A washing machine has been patented by Mr. James S. Jones, of Crutchfield, Ky. It consists of a tank in which is hung a drum that is made to oscillate and dip in the water of the tank, the head of the drum carrying a series of internal ribs, and the drum carrying pins for separating the clothes and prevent them from falling down in a solid mass.

An animal trap has been patented by Mr. Sylvester S. Green, of Lead City, Dakota Ter. It is made with a box having a platform and a trap door supported by a spring held lever, engaging a crank driven by a cord and weight, the crank working in a slotted cross head at the inner end, the device working to project the animal caught into a secure inner chamber.

A coal and rock drill has been patented by Mr. James F. Loftus, of Winton, Pa. It is adapted to bore or drill holes horizontally, perpendicularly, or at any desired angle, and is an improvement on that class of drilling machines in which the stem or shank of the drill proper is screw threaded and works through a nut hinged or swiveled to a suitable support.

An aerial railway and car has been patented by Mr. Andrew J. Morrison, of Buffalo, N. Y. It consists of a wire cable supported at intervals by balloons anchored to the earth, a car being suspended from the cable and made to travel thereon by its own gravity, the balloons being arranged to raise and lower the cables so as to give them the proper inclination.

A carpet stretcher has been patented by Mr. George M. Robison, of Leadville, Col. Combined with a plate having teeth on its front edge is a swinging piece above the teeth, a rack bar resting on the plate with a pin on one end, a pawl spring on the plate, and a handle piece for moving the plate and

pressing the swinging piece upon the teeth, with other novel features.

A rod and bolt clipper has been patented by Mr. Harry W. Parker, of Omaha, Neb. The stock has a fixed lever with a vertical end aperture opposite a bent hook forming a cutting edge near its outer end; in connection therewith is pivoted a movable lever to move a cutting blade along a cavity, so that its cutting edge will operate with that of the bent hook, to cut wires, bolts, etc.

A fire screen hinge has been patented by Mr. James M. B. Robinson, of New York city. It is made with plates having horizontal slots, vertical recesses, and rounded outer edges, with bolts and nuts, and a connecting plate fitting into the slots of the hinge plates, with pins working in their recesses, whereby the edges of the plates will be kept in contact with each other as the hinges are worked.

A mechanical telephone has been patented by Mr. Francis R. Shaw, of Chatham Center, O. Combined with a diaphragm of fibrous material, having small loops held on its back, are fibrous line wire connecting strips, crossing each other and having their ends secured to the loops, the design being to avoid the harsh metallic ring produced by connections of metal between the line wire and the diaphragm.

## NEW BOOKS AND PUBLICATIONS.

LOUIS AGASSIZ: HIS LIFE AND CORRESPONDENCE. Edited by Elizabeth Cary Agassiz. 2 vols., pp. 794. Boston: Houghton, Mifflin & Co.

Although Professor Agassiz was among the greatest of American naturalists, he already had a wide reputation in this field before coming to America in 1846, when he was 39 years old. He was of French descent, born at Motiers, Switzerland, and from his 20th year, while yet a student at the University of Munich, to the end of his life, in 1873, his name occupied a place of steadily growing prominence among the leading naturalists of this century, such as Humboldt, Cuvier, Buckland, Owen, and Murchison. Beginning with the organization of plants and their geographical distribution, he afterward took up the history of fresh and salt water fishes, and in 1833 began the publication of his great work of five volumes on fossil fishes, which was followed by numerous volumes on history and geology, including special studies of glaciers. From 1846 his biography belongs more particularly to the scientific history of the United States. The principal object of his coming here was to study the natural history and geology of the country, as well as to deliver a course of Lowell lectures in Boston. To further his aims, Professor Bache, of the Coast Survey, invited him to use the facilities of that department, to visit every point of the coast in its well equipped vessels. Agassiz deemed this offer so liberal, and of such importance in a scientific point of view, that it had great weight in determining him to remain to the end of his days in the United States; and he accordingly, in 1847, accepted a professorship in the Cambridge Scientific School, founded by Mr. Abbot Lawrence. What he subsequently accomplished is matter of too recent history to call for special mention here, but its influence in stimulating thorough scientific examination in the United States has been profound and far reaching. The two volumes now published by Mrs. Agassiz afford a most charming biography of her distinguished husband, with just enough about the many great works in which he was engaged to be intensely interesting, without ever becoming tedious. These references are, in fact, principally in the letters of eminent men, the correspondence with Humboldt alone giving the means for a fairly comprehensive review of the most important work undertaken by Agassiz, while the biographical portions show the difficulties under which he worked, his great perseverance and indefatigable industry, and well depict the engaging personality of one who for the last half century has occupied a large place among original workers for the advancement of science.

## 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.

Wanted.—Location on R. R. for an established machine business requiring 12,000 feet floor space and 25 H. P. Address A. T. Co., Woonsocket, R. I.

For Sale.—Punch Presses, \$15.00. Extra Portable Forges, \$16.00. Lathes, Planers, Drill Presses, etc. York & Benton, Cleveland, O.

Woodworking Machinery, Engines, and Boilers. Largest and most complete stock in the U. S. Prices to meet the times. S. C. Forsaith Mach. Co., Manchester, N. H.

Modern Machine Tools a specialty. Abbe Bolt Forging Machines, Bolt and Nut Machinery, Palmer Power Hammers, Lathes, Planers, Drills, Shapers. Send for estimates. S. C. Forsaith Mach. Co., Manchester, N. H.

## Corn Sheller Wanted.

We wish to build the latest and best Corn Sheller in the world on royalty. Send cut and copy of patent with royalty asked immediately. Manufacturer, Lock Box 267, Columbus, Ohio.

The Scroll Saw advertised by A. H. Pomeroy in this issue is a thoroughly practical machine. He agrees to refund the money paid for all machines sold not satisfactory after testing.

Wanted.—Situation, on commission or salary, to sell machinery and mill supplies by a man of nine years' experience. References given. Box 467, Waverley, N. Y.

Blake's 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. 46.

Wanted.—Novelties or patented specialties to manufacture on contract. Burekhardt & Schneider, makers of fine tools, models, and light machinery, 211 and 213 Mulberry Street, Newark, N. J.

Acme Sash Cord (coiled wire). Cheaper; ten times more durable. C. W. Belting Co., 33 Cliff St., New York.

Applegate (burglar) Invisible Electric Matting. 1512 Chestnut, Philadelphia.

"Bookkeeping Simplified." The double-entry system briefly, simply, and practically explained. Nothing like it in print. Sold by booksellers and by Chas. R. Deacon, publisher, 1017 Chestnut St., Philadelphia. Price, \$1.00.

Hercules Lacing and Superior Leather Belting made by Page Belting Co., Concord, N. H. See adv. page 270.

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.

Grimshaw.—Steam Engine Catechism. A series of thoroughly Practical Questions and Answers arranged so as to give to a Young Engineer just the information required to fit him for properly running an engine. By Robert Grimshaw. 18mo, cloth, \$1.00. For sale by Munn & Co., 361 Broadway, N. Y.

The Knowles Steam Pump Works, 44 Washington 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.

Coiled Wire Belting takes place of all round belting. Cheap; durable. C. W. Belting Co., 93 Cliff St., N. Y.

Air Compressors, Rock Drills. J. Clayton, 43 Dey St., N. Y.

Haswell's Engineer's Pocket-Book. By Charles H. Haswell, Civil, Marine, and Mechanical Engineer. Giving Tables, Rules, and Formulas pertaining to Mechanics, Mathematics, and Physics, Architecture, Masonry, Steam Vessels, Mills, Limes, Mortars, Cements, etc. 900 pages, leather, pocket-book form, \$4.00. For sale by Munn & Co., 331 Broadway, New York.

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

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

Shafting, Couplings, Hangers, Pulleys. Edison Shafting Mfg. Co., 36 Goerck St., N. Y. Send for catalogue and prices.

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. 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.

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

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.

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

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.

Wood Working Machinery. Full line. Williamsport Machine Co., "Limited," 110 W. 3d St., Williamsport, Pa.

Walrus Leather for polishing. A choice invoice English tanned just arrived. Greene, Tweed & Co., N. Y.

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

Send for descriptive circular on lubrication. Charles H. Besly & Co., North American Agents for Reiser's Celebrated Solid Oil, 175 & 177 Lake St., Chicago, Ill.

Planing and Matching Machines. All kinds Wood Working Machinery. C. B. Rogers & Co., Norwich, Conn.

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

Bradley's improved Cushioned Helve Hammer. New design. Sizes from 25 to 500 lb. Bradley & Co., Syracuse, N. Y.

Curtis Pressure Regulator and Steam Trap. See p. 222.

Universal and Independent 2 Jaw Chucks for brass work, etc., both box and round body. Cushman Chuck Co., Hartford, Conn.

Crescent Steel Tube Scrapers are made on scientific principles. Crescent Mfg. Co., Cleveland, Ohio.

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

Hoisting Engines. D. Frisbie & Co., Philadelphia, Pa.

Tight and Slack Barrel Machinery a specialty. John Greenwood & Co., Rochester, N. Y. See illus. adv., p. 226.

Cure for the Deaf.

Peck's Patent Improved Cushioned Ear Drums perfectly restore the hearing and perform the work of the natural drum. Always in position, but invisible to others, and comfortable to wear. All conversations and even whispers heard distinctly. We refer to those using them. Send for illustrated book with testimonials, free. Address F. Hiscox, 833 Broadway, New York. Mention this paper.

Pays well on Small Investment.—Stereopticons, Magic Lanterns, and Views illustrating every subject for public exhibitions. Lanterns for colleges, Sunday schools, and home amusements. 136 page illustrated catalogue free. McAllister, Manufacturing Optician, 49 Nassau St., N. Y.

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

Catechism of the Locomotive, 625 pages, 250 engravings. Most accurate, complete, and easily understood book on the Locomotive. Price \$2.50. Send for catalogue of railroad books. The Railroad Gazette, 75 B'way, N. Y.

"To Mechanics."—When needing Twist Drills, ask for "Standard," or send for catalogue to Standard Tool Co., Cleveland, O. See page xi., Export Edition.

Steel name stamps, 15 cts. per letter; steel figures, \$1 per set. F. A. Sackmann, 1099 First Ave., Cleveland, O.

Seam and Looping Machines, patent Burr Wheels, Brushing Machines. Tubbs & Humphreys, Cohoes, N. Y.

Machinists' Pattern Letters. Pattern Letters to order. Vanderburgh, Wells & Co., 110 Fulton St., New York.

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