

## AGRICULTURAL INVENTIONS.

A harrow has been patented by Mr. Philip Nelson, of Las Vegas, New Mexico Ter. This invention covers improvements on a former patented invention of the same inventor for the support and adjustment of a plate through which the harrow teeth pass, the plate serving as a gauge to regulate the depth of the teeth in the ground, or as a smoothing plate for pressing the surface of the ground.

A combined cultivator and weed cutter has been patented by Mr. Lundy B. Hogue, of Carpentaria, Cal. It has a beam with standards and teeth connected with the axle by hinged drawbars, with a long cutting plate secured to the standards, with other novel features, whereby weeds can be destroyed without loosening the soil, and to facilitate the cultivation of fruit trees and plants.

A cane scraper has been patented by Messrs. Alfred R. Gourrier and Joseph M. Thompson, of Dorcyville, La. Combined with a frame having runners and a double winged scraper is a bar attached to the scraper frame, and operated by a lever, so the forward end of the plow bar and scraper can be raised or lowered as desired, to remove the soil to any desired depth and leave the tops of the ridges smooth.

## MISCELLANEOUS INVENTIONS.

A reservoir stove has been patented by Mr. George H. Matthews, of Leavenworth, Kan. This invention consists in a novel arrangement of flues in connection with the ordinary three flue stove, to heat water in the reservoir more rapidly and to a higher temperature than heretofore possible.

A horse blindfold has been patented by Mr. James Brick, of Clifton, N. J. The device consists in a strap having muzzle and blinders attached to it, in combination with a strap connecting the blinders and strap supporting them, for convenience in blindfolding a horse in case of fire.

A grading and ditching machine has been patented by Mr. Benjamin Tobias, of Washington, Ill. It consists essentially of a cart with a tilting bottom, a plain wheel and a bucket wheel, a plow being arranged to fill the bucket wheel, and a lever mechanism for raising and lowering it.

A flexible match lighting device has been patented by Mr. Daniel E. Carroll, of New Orleans, La. It is a simply made box for a fulminating tape, so made that in case of breaking the box the sectionally formed tape match may be used separately on any suitable igniting surface as a series of independent matches.

A vehicle shaft support has been patented by Messrs. Dewitt Ellsworth and Morris Rogers, of Riverdale, Mich. This invention covers improvements in shaft supporters where a spring catch on the shaft engages a lug or roller on the axle clip, for holding the shafts erect when not in use.

A washboard holder has been patented by Mr. Henry M. Wines, of Center Moriches, N. Y. It is a combination of socket lugs and locking hooks with the washboard and washboard, by which the latter may be held securely in place while being used, and prevented from jumping up in the tub.

A carpet stretcher has been patented by Mr. John M. Hurst, of Coalville, Utah Ter. Combined with a hinged bar having pins is a hasp, staple, hook latch, bands, frames, and pulleys, for conveniently stretching a carpet as desired, while the device may be folded compactly when not in use.

A barbed fence has been patented by Mr. George M. Beerbower, of Cherry Vale, Kan. It has a flat central portion and two pointed ends standing nearly at right angles to the plane of the flat portion, the design being to make a fence that will not mutilate or injure animals and that can be cheaply made.

A carriage pouch has been patented by Mr. Charles McClure, of Champaign, Ill. Combined with a pouch provided with tubes are mouth pieces on the ends of the tubes, having their lower ends beveled, with springs in the mouth pieces for preventing the cartridges from sliding out of the tubes.

A wire fence post has been patented by Mr. John Schafer, of Marine, Ill. This invention covers a special construction and combination of parts, including a novel form of corner and intermediate posts and diagonal supports, together with a convenient arrangement for readily tightening or making slack the wires.

A gate latch has been patented by Mr. Felix A. Harvey, of McLeansborough, Ill. The frame has corrugated parts, with a slide having corrugated flanges, a prong projecting from the slide, and a screw locking the slide in place, making a latch which can be readily adjusted to operate when the gate sags or shrinks.

A portable desk has been patented by Mr. Charles Newbourg, of Brooklyn, N. Y. This invention covers a novel construction of desk which may be readily folded flat, and if small be carried in the pocket, and which may be readily adjusted to the back of a chair or pew, with its upper surface at a proper inclination for writing or reading.

A corset has been patented by Mr. Sherwood B. Ferris, of Lakewood, N. J. This invention covers the use of plaited sections in the body of the corset, with the plaits confined at suitable points by stitching, so the sections are adapted to receive padding, and the corsets are suitably expandible to fit the bust.

The manufacture of flat brushes forms the subject of a patent issued to Mr. Henry Rosenthal, of New York city. The method consists in placing the bristles around a core, passing a metal band or ferrule around the upper end of the bristles, which are cemented together, and then forcing out the core by introducing the handle.

A calculating device has been patented by Mr. Charles M. Bradt, of Newton, Kan. It is made with a plate having flanges with a series of pivoted rollers and cross strips, the strips and rollers having tables prepared for instantly finding the number of bushels in a given number of pounds, and thus quickly measuring grain.

A stanchion has been patented by Mr. Jackson A. Barber, of North Adams, Mich. It is for securing cattle in stables, and is designed to secure them quickly and so they may turn their necks freely while standing or lying down, the construction being such that a boy can readily secure or release the stanchions.

A fire escape has been patented by Mr. Theodore B. Woodward, of Norway, Pa. This invention provides means whereby a car may be hung upon a house to descend in front of the windows, and so it may be raised and its descent controlled either by its occupants or by persons on the ground or on any floor of the house.

A joint for umbrellas has been patented by Mr. Samuel W. Staats, of Grand Bay, Ala. Combined with an umbrella ring or runner having its top bent over to form a hollow bead with apertures, are ribs or braces passed through the apertures, with cross pieces held within the bead and a sleeve surrounding the slide for holding the bent folded parts in place.

A sash holder has been patented by Mr. George W. Naylor, of Jersey City, N. J. It is a spring holder, with a U-shaped bend in its outer part, holes in the corners of its short arm to receive fastening screws, and recesses over the screw holes to give access to the screws, the object being to prevent the rattling of sashes of cars, stages, etc.

An oil can has been patented by Mr. Henry E. Wolcott, of Syracuse, N. Y. Its construction is such that the body may be filled, and the height of the contents readily ascertained without removing the top, or the top may be removed conveniently to cleanse the can or permit the contents to be more rapidly discharged than by the pump.

A bee hive has been patented by Mr. Joseph J. Pearson, of Batesville, Miss. The walls of the hive carry bars, with recesses in their upper ends to receive pins attached to the upper corners of the comb frames, affording a free passage way for the bees over all parts of the inner surface of the hive, while furnishing a firm support for the comb frames.

An adjustable bedstead has been patented by Mr. Conrad H. Matthiessen, of Odell, Ill. It has a supporting frame, provided at the foot with toothed plates for holding a rod that supports the foot end of the bedstead, so the foot end can be adjusted higher or lower, and any desired inclination can be given to the bedstead from the head to the foot.

A nut lock has been patented by Mr. Lewis J. Williamson, of East Fairfield, Ohio. The nut has a recess in its face in which is pivoted a latch, one end projecting a short distance into the central aperture, and the inner end adapted to engage the threads on the bolt, a spring held on the nut acting on the latch to press the free end into the central opening.

A steam trap has been patented by Mr. Isaac Cumberbatch, of Newark, N. J. Combined with an expansion chamber and the head of its inclosing case is a rounded nut with concave seat, whereby a perforation in the head will be opened and closed by the expansion and contraction of the chamber, for automatically withdrawing the water of condensation from the pipes of steam heaters and other steam pipes.

A range boiler has been patented by Mr. Nicholas Styne, of Brooklyn, N. Y. This invention relates to a specially constructed valve, whereby the circulation pipe can be connected with the boiler or the waste pipe, to facilitate the washing out of range water backs, and to promote convenience in testing the circulation, to see if the pipes or water back are frozen or otherwise obstructed.

A combined adjustable chair, invalid bed rest, and stretcher has been patented by Mr. Frederick T. Dodge, of Carleton, New Brunswick, Canada. The back rest is hinged to the rear end of the seat frame and a leg rest to the front end, and combined with the back rest is a transverse shaft held removably thereon, which can be locked in place, with various other novel features.

A terry loom has been patented by Messrs. Thomas Holt, Jr., of Midland Park, and James Mellor, of Paterson, N. J. Combined with a loom frame and lay are projections on the breast beam, a swinging reel having projections and means for raising and lowering them to bring them into or out of line with the projections on the breast beam, with other novel features.

A boat propelling device has been patented by Messrs. Newton C. Corckran and Robert J. Thompson, of Doniphan, Mo. Combined with a stern wheel are crank arms on the ends of its shaft, with sliding racks in front connected therewith by pitmen, levers with segmental gear teeth, with other novel features, in a boat to be operated by turning a crank in the boat.

A bracket has been patented by Mr. James A. Van Kirk, of New Brunswick, N. J. The bracket has spurs to facilitate securing it in place, and has a slot through which the screw passes for holding it, so that by loosening the screw the bracket can be adjusted without entirely removing the screw, the device being more especially designed for holding window shade rollers.

A churn has been patented by Mr. Abraham C. Gandee, of Syracuse, Ohio. The cream receptacle and its cover form a cylindrical vessel placed upright on a base, a shaft being journaled in one side of the box and in a neck of the other, the shaft operated by a crank, and carrying wings or blades, each of which has an aperture, there being also a drip pan for butter-milk, and other novel features.

A grain measure, register, and sacker has been patented by Mr. John F. Porter, of Mount Washington, Ky. It has a casing with open front and a discharge opening in its bottom, within which is pivoted a wheel divided into compartments by radial partitions, the wheel receiving grain through a feed hopper at the top, so the grain can be measured and discharged from the machine by turning the wheel.

A time signal has been patented by Messrs. Stephen J. Swayze and John C. Lane, of Sag Harbor, N. Y. It consists of an independently acting

signal board, which when set will remain wholly displayed the required length of time and then drop suddenly into the signal inclosure, the invention covering an improvement on a former patented invention of the same inventor.

The manufacture of paint from metallic lead forms the subject of a patent issued to Mr. William E. Harris, of New York city. This invention consists in burning the metallic lead with coal, coke, or charcoal, at a temperature of about 2,700° F., whereby the fumes are united and the vapors condensed, the product being in a finely divided condition, ready to be mixed with oil without grinding.

A station indicator has been patented by Mr. Wiley Jones, of Norfolk, Va. This invention consists mainly in the peculiar construction and arrangement of the friction brake, whereby thrust on the bearings of the rollers and unequal wear are avoided, while the mechanism can be readily taken out of the case, the device being also applicable as a revolving calendar or for bulletins.

A stop motion has been patented by Mr. Chester E. King, of Phenix, R. I. Combined with the draught rolls and a belt shifting spring-actuated lever is a pivoted lever having a plate or arm, with other novel features, for stopping a railway head or drawing roll when the sliver breaks, and preventing the broken sliver from winding on the draught rolls and injuring their covering.

A metal splice for uniting the ends of cane strips for chair seatings has been patented by Mr. Francis A. Sinclair, of Mottville, N. Y. It consists of a plate having side flanges and transverse slots, to be used by two cane strips having their ends passed over the plate and through the middle slot, then under the plate and through the end slots from the bottom upward, by which the ends are firmly held.

A mechanical movement has been patented by Mr. Mark B. True, of Newburyport, Mass. Combined with a rotatable disk, and spindles or axles carried by it, is a circular rod or ring arranged to occupy an eccentric position in relation with the disk, cranks connecting the rim and disk, the invention being applicable for giving a parallel and straight motion from a revolving disk in a reduced space.

A saw setting machine has been patented by Mr. John H. C. Winston, of Lynchburg, Va. It has a driving shaft carrying opposite cam disks to lift oppositely arranged pivoted hammers driven by an elastic band against punches, for setting a pair of adjacent teeth at once in reverse ways, against anvils or set blocks held in the jaws of the vise in which the saw blade is clamped, while the punches act on the teeth, with other novel features.

A type writing machine has been patented by Mr. Andrew P. Hansen, of London, Eng. This invention covers a character bar or device adapted to travel across the table to space apart the letters, with mechanism for moving the paper, or in lieu of the oscillating index lever the type rack may be made to act as the index lever, the invention admitting of various modifications in the construction of an effective type writer. (Address Theo. Bourne, 100 William St., New York city, concerning this patent.)

## NEW BOOKS AND PUBLICATIONS.

MINERALOGY SIMPLIFIED. Easy methods of identifying minerals, including ores. By Henri Erni, A.M., M.D. Philadelphia: Henry C. Baird & Co., 1885.

In this second edition of Dr. Erni's Elementary Mineralogy, the work has been revised and considerably enlarged. It is divided into two parts, treating of modern chemistry and of determinative mineralogy. In the introduction to the mineral tables is given a glance at chemical philosophy; a description of the apparatus and manipulations of the laboratory; the preparation of the common reagents; blowpipe analysis and apparatus; the reactions of the oxides with general reagents; flame reactions; special methods for the detection of certain elements; and finally the operations of fusing and fluxing. The descriptions are for the most part clear and intelligible, though the desire to abbreviate has occasionally produced a little obscurity. The part treating of determinative mineralogy is based upon Professor von Kobell's well known tables, and shows no particular originality of arrangement. It is not so compact as Dr. Frazer's translation of the same authority, nor so clear and easy of reference as the tables compiled by Professor Brush. The characteristic behavior of the most important ores before the blowpipe and with solvents is also given, together with some information regarding the coals and natural hydrocarbons. The work is well printed and illustrated. It is intended chiefly for practical people and amateurs, whose presumed knowledge of chemistry is somewhat limited, and, in spite of some faults, is nevertheless worthy of their attention.

LECTURES ON THE PRINCIPLES OF HOUSE DRAINAGE. By J. Pickering Putnam, Architect. Boston: Ticknor & Co., 1886.

Mr. Putnam's brief summary of the essential features of good house drainage comes to us very well recommended by Colonel Waring and other authorities in sanitary engineering. It consists of lectures delivered before the Suffolk District Medical Society and the Boston Society of Architects. The book is divided into three parts, treating respectively of traps, of lavatories, baths, etc., and of soil and drain pipes. Under these headings the main features of house plumbing are carefully discussed, and a number of sensible suggestions are offered. The merits of the author's patent "Sanitas" apparatus claim, however, almost too much attention in a work which is presumably not an advertisement. The publishers have anticipated the year of grace 1886, but have omitted to supply a table of contents or an index. The work is well illustrated by seventy woodcuts.

## 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.

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

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

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.

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

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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.

Wanted.—Patented articles and novelties to manufacture and introduce. R. M. Downie & Bro., Fallston, Pa.

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., 38 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., 361 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.

Where can I get gum nipples molded to a pattern in quantities? Address E. Roth, New Oxford, Pa.

Shafting, Couplings, Hangers, Pulleys. Edison Shafting Mfg. Co., 86 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.

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

Wood Working Machinery. Full line. Williamsport Machine Co., "Limited," 110 W. 3d St., Williamsport, Pa. Keystone Steam Driller for all kinds of artesian wells. Keystone Driller Co., Limited, Box 32, Fallston, Pa.

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

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

Iron and Steel Drop Forgings of every description. Billings & Spencer Co., Hartford, Conn.

Cushman's Chucks can be found in stock in all large cities. Send for catalogue. Cushman Chuck Co., Hartford, Conn.

Cyclone Steam Fine Cleaners are the best. Crescent Mfg. Co., Cleveland, O.

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. 254.

The "Improved Engine" can be obtained only from the sole builders, Providence Steam Engine Co., R. I.

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