

ENGINEERING INVENTIONS.

A track lifter has been patented by Mr. James W. McDonald, of Winnipeg, Manitoba, Canada. The invention consists of one or more jacks attached to a plank and operated by levers, a device for raising the plank and jacks, and an automatic grip, all mounted on a hand car, and adapted for raising railroad tracks in repairing and constructing.

A boiler or tube covering has been patented by Mr. William M. Suhr, of New York city. It consists of a shell with solid annular strips resting on the boiler or tube, covered and placed a suitable distance apart from each other to form separate closed annular air spaces between the boiler or tube covered, the shell, and the strips.

A car coupling has been patented by Mr. John L. Setty, of North Uniontown, O. The invention consists of a sliding plate moved forward to come beneath the point of the coupling pin by the action of the lever employed to raise the pin, with other novel details, designed to make an automatic coupling, and one which may be used with other couplers.

A car coupling has been patented by Mr. Alexander H. Stephens, of Thompson's Station, Tenn. It is so constructed that an approaching link will strike a trip projection and adjust a grapple parallel with the drawbar, which latter is pushed back until held by a detent, with other details, whereby an automatic coupling and uncoupling of parts is effected without involving the necessity of the operator going between the cars.

A railway signal has been patented by Messrs. Clement P. Willshaw, of Brooklyn, N. Y., and Alexander Willshaw, of New York city. A shaft that operates a gong striking mechanism is so constructed as to automatically assume a position for striking the gong, in case the switch operating connections are broken or get out of position or release the switch, the signal being adapted to be sounded by passing trains.

A tunneling machine has been patented by Mr. Frank O. Brown, of New York city. It is a shell of plate iron bolted together, its forward end beveled with longest side upward, having an airtight transverse partition with man holes and pierced by a conveyor tube with spiral flange projecting beyond its forward end, with other novel features, whereby the machine can be forced forward through the ground and allow brickwork to be readily laid.

MISCELLANEOUS INVENTIONS.

A lining for refrigerators has been patented by Mr. John S. Fairly, of Charleston, S. C. The invention consists in the use of an insulating filling consisting of cottonseed hulls, and the making of a refrigerating package with such filling.

A wind wheel toy has been patented by Mr. Frank G. Gollon, of Hoboken, N. J. It is a device of tube in place of the stick on which a child's pin wheel is usually held, so arranged that the wheel may be revolved by blowing in the tube.

A mechanical toy for children has been patented by Mr. Peter J. Owens, of New York city. It consists of a rectangular oscillating tray mounted at a suitable incline upon a stand or support, with hinged strips, so that a ball starting from the bottom may be made to ascend to the top of the tray, when it will reach a return channel to conduct it again to the bottom.

A plumb level has been patented by Mr. Michael S. Weller, of Charlestown, W. Va. Combined with an index and pivot shaft is a tubular bearing having a glass lining, the device being an improvement on carpenters' levels where the spirit bulb is more commonly employed.

A music leaf turner has been patented by Mr. Louis L. White, of Portland, Oregon. It has a ruff, cogwheel, and a series of pinions carrying each a rod, a paper holding clip, and other features, making a convenient device for turning the leaves of sheet music rapidly and perfectly.

A ruling machine has been patented by Mr. James W. Dickieson, of Brooklyn, N. Y. It is for producing diagonal lines at any desired inclination over the usual ruling, to effect which the invention covers a construction involving a novel combination of parts and details.

A wagon box brace has been patented by Mr. Matt. F. Allen, of Nashville, Tenn. It is a double legged strap brace, with its legs perforated to receive fastening bolts or screws, so made as to hold the sides and bottom of the box more firmly together, to keep them straight, and prevent the timber from warping.

A syringe attachment for bottles has been patented by Mr. Anaximander B. Tutton, of Sioux Falls, Dakota Ter. It is so made that when not in use a rubber cap covers the bottle, the tube and nozzle being sheathed therein, while the device furnishes a syringe and stopper for bottles or vials of any size.

A dry closet has been patented by Mr. George F. McMurry, of Eureka Springs, Ark. It is made of strong tin, sheet iron, or zinc, but light enough to be conveniently carried from room to room, and has some novel features, making it especially applicable for use in hospitals, prisons, and private dwellings.

A trunk lock has been patented by Mr. William H. Plant, of Brooklyn, N. Y. It is of novel construction to the end that hasps so made will accommodate themselves to the shrinkage of the trunks, and allow their hooks to be readily inserted in the aperture of the lock, while being strong and durable.

A wagon axle nut has been patented by Mr. Frank O. Slanker, of Pomona, Cal. It has a gravitating dog eccentrically pivoted to the axle arm, to engage the interior of the wheel retaining nut, thus providing a simple and inexpensive device whereby the unscrewing and loss of the nut will be prevented.

A school desk has been patented by Mr. Joseph A. Wilson, of Hood River, Oregon. It has a

novel combination of parts for holding the cover raised and for clamping a book or drawing thereto, at any desired angle, for more convenient use in reading, writing, drawing, etc.

A folding baby carriage has been patented by Mr. Charles Haller, of New York city. This invention covers various novel details of construction whereby a baby carriage so made can be completely folded, to be readily taken in and out of houses and up and down stairways, and be stored in a comparatively small space.

An ice planing and ridging machine has been patented by Mr. Stephen L. Smith, of St. Louis, Mo. It is for planing the snow and soft ice from the tops of ice blocks, and ridging the top faces so the blocks will not freeze together, being an improvement on a machine for this purpose formerly patented by the same inventor.

Artificial fruit making forms the subject of a patent issued to Marie Ginoris, of New York city. The process consists in forming a mould of the fruit to be imitated, covering the surface with cloth wet with cement, drying and removing the cloths and cementing together their edges with wire stem inserted, and painting the body.

A rein ring has been patented by Mr. Julius C. Hobbs, of Hobton, N. C. It consists of a grooved wheel or roller mounted in bearings formed in a frame of peculiar and novel construction, in which the line or rein may be readily inserted, when it will be prevented from being chafed, fretted, or worn by being rubbed.

Paper making devices form the subject of a patent issued to Messrs. Frederick W. Miller and John J. Newman, of Elkhart, Ind. They are to be made a part of a paper machine for applying paraffine, wax, or other substances to and incorporating them into and through a web of paper during the making and finishing, to make it waterproof, etc.

A bark mill has been patented by Mr. Benedict Ott, of La Crosse, Wis. It is of that class in which the bark is rapidly revolved by a carrier operating within a cylinder with radial openings and cutters, and it is made with sectional cylinders, so one can be repaired while the other is in use, and the mill thus practically run all the time.

A riding saddle has been patented by Mr. John W. Newman, of Decatur, Tex. This invention relates to devices intended for use in coupling or connecting girths to saddles where it is desirable to quickly adjust the saddle, as in stock countries, in case of a stampede of cattle, providing an efficient and economical construction therefor.

A truss has been patented by Messrs. Edward Williams, Jr., and Ralph M. Lashell, of Centralia, Pa. It consists of a rod or wire curved to encircle the body, having at the back two eyes carrying pads, with an adjusting strap and buckle, and at the front two or more loops inclosed by the truss pad, being designed as an efficient but inexpensive device.

A domestic hand press has been patented by Mr. John W. Condon, of Logansport, Ind. It is designed to facilitate pressing fruits, making jellies, etc., and has a hase plate with vertical overhanging standard carrying a screw shaft which bears upon a platen to fit inside a perforated chamber, the parts being readily detachable for easy cleansing.

A self-fastening skate has been patented by Messrs. Eugene M. Florentin and Albert T. Falvey, of Taunton, Mass. The skate stock is a metal plate with a curved flange on its rear end, and clasps on its forward part which slide in keepers and are held apart by a spiral spring, with other novel features, whereby the skate will fasten itself to the shoe as soon as put on.

A plumber's trap has been patented by Mr. Frederick S. Gerstner, of Astoria, N. Y. It is a D-trap, open at one side, with a rabbit around the edge of its open side, a horizontal valve and weighted bell crank lever, to close the valve when there is little or no pressure of water, and so arranged that any pressure of sewer gas will tend to close the valve more firmly.

A machine for separating flaxseed has been patented by Mr. Jeremiah Bates, of Sherburne, Minn. It has a vibrating box with inclined sieve, the lower end forming a spout, a partition extending in an inclined direction reverse to that of the sieve, another partition extending under the sieve, and other novel features, for separating flaxseed according to its size.

An explosive compound has been patented by Mr. Max Bielefeldt, of Kalk, near Cologne, Germany. It consists of nitro-cellulose in a solution of nitrate of ammonia in water of ammonia, or of nitro-glycerine and nitro-cellulose with nitrate of ammonia in water of ammonia, prepared after a special manner and with varying proportions for differences of explosive force.

A fire arm has been patented by Mr. Salvatore J. Buzzini, of New York city. It has novel means for securing the barrel in its place, and for its ready detachment and replacement, and for a more accurate return of the barrel to its normal position than is practicable when the barrel is secured to its place by screwing it into the stock, without having recourse to a gunsmith or other skilled artisan.

A lamp extinguisher has been patented by Mr. Jacob Philippi, of New York city. The construction is such that when the wick is turned down, a weight causes a plate to swing over the upper end of the wick tube, and the flame will be immediately extinguished, with other novel features, the invention being an improvement on a former patented invention of the same inventor.

A baker's oven has been patented by Mr. Solomon M. Raines, of Logansport, Ind. The grate is on a level with the bottom of the oven, a wall projecting upward between the bottom and the grate, and the vent pipe extends from directly over the grate to the outside of the oven, and thence across to the chimney, making an oven that is simple in construction and bakes rapidly.

A star time chart has been patented by Mr. Joseph B. Morse, of Brandon, Vt. It is a pivoted disk divided by radial lines into twelve equal spaces representing the months of the year, the twelve spaces being divided to form twenty-four spaces for the hours of the day, with a movable index, pointer, etc., for determining mean time by an observation of one of the circumpolar constellations and the pole star.

A band cutter and distributor for thrashing machines has been patented by Messrs. Benjamin F. Applegate and Benjamin F. Lagel, of New Albany, Ind. The feed board of the machine has a feeding chute with sloping bottom, and rotary band cutters extend across the chute, slotted spring guards being arranged over each cutter, on which guards the attendant places the bundles, so the bands will be cut, and at the same time pushes the bundles along the chute to the thrashing cylinder.

NEW BOOKS AND PUBLICATIONS.

KROEH'S DRILL BOOKS. III. The Pronunciation of French. IV. The French Verb. By Professor Charles F. Kroeh, Stevens Institute of Technology. Hoboken: Published by the author.

The French student is at present offered the choice of two methods—the conversational, in which he acquires a knowledge of the language simply by practice, or the grammatical, in which he devotes himself to the rules and structural part before attempting to converse. Both methods have their advocates. It depends largely upon the age and mental habits of the student which would be the more suitable, but it seems to us that a mixture of the two is the true method. We therefore find much to commend in Professor Kroeh's drill books, for he has endeavored to combine the ready facility of the one with the precision of the other. It is too often the case that the conjugation of the verbs is memorized as a whole, and the student finds it impossible to employ the proper person and tense when isolated, without an awkward pause. It is a distinguishing feature of these little text books that the idea is always inseparable from the words. To accomplish this, the verbs are taught by persons instead of tenses, which we can easily imagine will produce happier results than the older method of tabular instruction. The study in pronunciation will be found equally practicable.

INSECTS AFFECTING THE ORANGE. By H. G. Hubbard. With plates and wood cuts. Washington: Government Printing Office. 1885.

For nearly four years Mr. Hubbard has devoted his time to the study of the insects affecting the orange tree, and has given particular attention to practical experiments for counteracting their injuries. The trees belonging to the Citrus family are especially subject to the attack of insect pests, and so extensive are their ravages that it has been stated there are absolutely no orange trees in the whole State of Florida which are entirely free from their presence. The present report is a special one ordered by Congress, and has been prepared with the sole purpose of affording a practical guide to orange growers. While it is based almost entirely upon observations made in Florida, this being our largest orange-growing State, much of the information will be equally applicable to other districts undertaking the culture of the fruit. The work also contains several handsome colored plates and numerous wood cuts. Those desiring copies of the report should address the Commissioner of Agriculture, Washington, D. C.

THE SUBURBAN COTTAGE: ITS DESIGN AND CONSTRUCTION. By W. B. Tuthill. New York: William T. Comstock.

This is a brief treatise, intended to lay before the student the process of systematic design, and at the same time treat of elementary details in construction and finish. The scope of the volume is not a very wide one, but those who have the designing and building of summer houses will find here some important suggestions, and the author's views are set forth with great clearness.

THE NEW AGRICULTURE; OR, THE WATERS LED CAPTIVE. By A. N. Cole. New York: The American Angler.

The author describes in this volume a success which seems almost wonderful in overcoming the sterility of a forbidding location, and making his "home on the hillside," in Allegany County, N. Y., one of the most productive spots anywhere to be found. He has done this by a system of underground irrigation, which he has patented, whereby the natural length of the season is prolonged from forty to sixty days, the crop yield of everything grown is greatly increased, and the quality correspondingly improved.

FOOD MATERIALS AND THEIR ADULTERATIONS. By Ellen H. Richards. Boston: Estes & Lauriat.

The author is an instructor in sanitary chemistry in the Massachusetts Institute of Technology, and although this little volume is altogether too small for much of a statement of the subject, all that is here given is valuable, and presented in a plain and sensible manner.

Alpine Winter in its Medical Aspects is the title of an attractive pamphlet by Dr. A. Tucker Wise, touching the curative and health-giving properties of the air and springs of that locality for various kinds of invalids, the whole being written with especial reference to the facilities afforded in this way by the Hotel Kursaal de la Maloja.

A Directory of the Tanning and Boot and Shoe Trades, and the branches collateral thereto, forms a convenient and what would seem to be a specially useful volume to all connected with such business which has recently been issued from the press of the Shoe and Leather Reporter, New York city. It embraces the United States and Canada, together with the most prominent foreign houses.

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Curtis Pressure Regulator and Steam Trap. See p. 142.

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