ENGINEERING INVENTIONS.

A car coupling has been patented by Mr. Edward A. Olmstead, of Buffalo, N. Y. The main objects of this invention are to relieve the car body timbers of buffing or pulling strain, and to so mount the drawbar that no actual strain will fall upon the king pin or bolt, the invention covering various novel details of construction and combinations of parts.

A frogless switch has been patented by Mr. Frank Nemacheck, of Appleton, Wis. Combined with the main line rails, an intermediate rail section and siding rail section, is an auxiliary rail connecting with either of the intermediate rail sections, an operating lever connected to a rod, and S-shaped crank connections, to dispense with the use of the ordinary form of frog.

A car coupling has been patented by Mr. Carlos J. Warren, of Jamestown, Dakota Ter. A spring-actuated bumper bar is held to slide at one side of the drawhead, a dog being pivoted upon the bar and a lift bar pivoted below the bar, with a crank arm adapted to engage the dog, with other novel features, making a coupling which can be operated without passing or standing between the cars.

MISCELLANEOUS INVENTIONS.

A combination tool has been patented by Mr. Joseph Brouse, of New Berlin, Pa. It consists of a hammer, saw, square, nail puller, and plane, all mounted on a single handle, in a novel way.

A saw file adjusting weight has been patented by Mr. William Moore, of Mooney, Ind. The invention consists in combining with a file handle a pendent weight by which the file may always be held at the same angle, thus insuring uniformity in the angles of the teeth.

A machine for winding bobbins for sewing machines has been patented by Mr. George H. Willey, of Abington, Mass. This invention covers a novel construction and combination of parts, making a machine which is simple, and easily and quickly operated for winding one bobbin at a time.

A snapper attachment for whips has been patented by Mr. William Becker, of Brooklyn, N. Y. It is designed to form a rigid and durable connection with the whip tip, and consists of a stiffening piece of tubular section of a quill, embracing the tip, a plaited covering extending over the whip tip and strengthening piece, and forming a loop.

A mechanical movement has been patented by Mr. Abraham L. Akins, of Larimer's Station, Pa. The invention covers a novel construction and combination of parts, so arranged as to be operable by hand or foot, and applicable for use in the transmission of power to almost any form of light machinery.

A measuring faucet has been patented by Mr. Ole Martinson, of Meridian, Wis. The invention covers novel combinations and constructions of parts for use in relation to a suitable supply, whereby accurate measuring is accomplished without waste, or the entrance of dirt or insects to the liquid or commodity being measured.

A coffee pot has been patented by Mr. Harry B. Cornish, of Blue Earth City, Minn. It is of that class having an inner vessel to hold the ground coffee, into which boiling water is poured and allowed to percolate through the coffee and a strainer into the main outer vessel, the invention covering novel details of construction and combinations of parts.

A rounding jack for hat brims has been patented by Mr. Michael Hild, of Philadelphia, Pa. This invention relates to a former patented invention of the same inventor, and covers a sectional rod for operating the knife stock, whereby, when the stock is drawn back nearly to the end of the jack, the rod may be contracted so as not to be in the way when using the jack.

A surgical splint has been patented by Miss Annie Caller, of Albany, N. Y. It has extensible side rails, a plate connected thereto forming rests for both legs of the patient, straps for securing the patient, and other novel features, making a simple and inexpensive apparatus, which may be quickly and easily applied.

A ticket holder has been patented by Mr. Moses H. Straus, of Columbus, Ohio. It consists preferably of a single piece of wire bent upon itself in novel form, making a device capable of ready and easy attachment to a bolt or piece of goods to retain a label, and also for attaching a ticket to articles of apparel or goods.

A wagon seat has been patented by Mr. Charles Van Horn, of Bethlehem, Pa. Springs are secured to the longitudinal center of the seat, in combination with pivoted boards provided at the center with arms linked together and to the springs, in combination with supporting irons, so that the seat will have only a level up and down motion.

A lock for firearms has been patented by Mr. Jacob Nicely, of Enon Valley, Pa. It is a combination of two locks, the sears of which have lugs projecting inwardly and arranged in different planes, a trigger being centrally located in the stock between the locks, whereby provision is made for releasing either of the hammers or both in rapid succession.

A device for weighing and sacking grain has been patented by Mr. Charles E. Cole, of Somerville, N. J. The invention covers a novel construction and combination of parts, affording means whereby the grain is automatically weighed and sacked on passing from the thrashing machine, the grain being delivered continuously without interfering with the weighing.

An indicator for non-transparent receptacles containing liquids has been patented by Mr. Frank H. Palmer, of Long Island City, N. Y. Combined with a reservoir is a tube secured to the top and extending inwardly, a transparent cover being secured to the top of the tube, and a float adapted to slide freely in the tube, the float being seen only when the receptacle is nearly full.

A washing machine has been patented by Mr. Marvin Newton, of Girard, Pa. A rocking rack or open bottom is journaled in a tub, a rocking presser being journaled above the rocking bottom and made hollow at the under side, and having air holes and valves closing them, to induce suction, whereby the washing of clothes may be accomplished thoroughly and quickly.

A washing machine has been patented by Mr. Jeremiah Biddison, of Moscow, Idaho Ter. Combined with a tub having a reciprocable pounder is a frame with a mortise in one of its cross bars centrally mounted upon the heads of the pounder and adapted to be reciprocated between the sides and over the ends of the tub, with over novel features, making a machine of simple construction and very efficient in operation.

A brick kiln has been patented by Mr. Jacob Buhrer, of Constance, Baden, Germany. It is provided with a series of chambers, gas generators and gasometers, and with air and gas conduits, arranged in a novel way, whereby one portion of the kiln may be isolated from other parts, and two chambers may be fired at once, securing a larger production of brick, tile, terra cotta, etc.

NEW BOOKS AND PUBLICATIONS.

THE ENGINEER'S CATECHISM, A PRACTICAL TREATISE FOR THE USE OF THOSE IN CHARGE OF STEAM PLANTS. By George L. Fowler. New York: American Railway Publishing Company. 1888. Pp. 183. Price 50 cents.

This work is intended as a book of instruction for engineers in charge of steam plants, as to the most approved methods to be employed in the prosecution of their duties. It is in the form of question and answer, and will prove a useful little work for regular engineers as well as for those preparing for examination. Its low price should assure it a large sale.

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 Written Information on matters of personal rather than general interest cannot be expected without remuneration.
Scientific American Supplements referred to may be had at the office. Price 10 cents each.
Books referred to promptly supplied on receipt of price.
Minerals sent for examination should be distinctly marked or labeled.

(1) G. W. S. asks: 1. What material can I use to make a small model engine, that is easier cast than cast iron, and will work equally as well in the lathe and in the engine? Of what material, and in what way, can I make a small air tight valve, that will hold without leaking a cold air pressure of 10 to 15 pounds? A. For model engine and air tight valve use brass or type metal. The valve may be given a metal seat perforated with a number of small holes and closed by an India rubber flap. 2. What is the simplest chemical I can use that will be affected by light passing through a negative placed over it? Don't want a perfect image, or any shading or half tints. A. For chemical affected by light, you may use chloride or bromide of silver, or a solution of gelatine containing 10 per cent of bichromate of potash dissolved in it. 3. What is the best form of condenser now in use in connection with the steam engine for producing a vacuum in the cylinder? A. The surface condenser is the general type of condenser now adopted. 4. Was the device for cooking with the heat of an ordinary oil lamp, where the food was placed in an air tight vessel surrounded by water kept hot by the lamp, a practical arrangement, or mere supposition? An account of it was published some time since by Mr. Atkinson, I believe. A. The device for cooking was considered practical by its originator. 5. What material can I use to cast small articles, that is somewhat stronger than Babbitt and will bear being drilled and tapped? A. For small castings use brass or bronze for good work, and type metal where easy fusibility is an object.

(2) R. C. asks: 1. How to make say a half gallon of the solution for nickel plating as described on page 10 of the present volume of the SCIENTIFIC AMERICAN? A. For slightly over a half gallon solution, use nickel sulphate one-fifth pound, ammonium tartrate one-seventh pound, taunic acid one one-thousandth pound, water one-half gallon. 2. Would four cells of Grenet battery with zincs 2 inches by 2 inches and six electric light carbons each be large enough for plating small articles? A. Yes; connect in series, zinc to carbon. 3. What solution would I need for dipping the articles to be plated in, to make the plating adhere? A. The articles must be scoured with ground pumice, whiting, or similar material and water, then dipped in warm potash solution, again scoured, and immediately before insertion in the bath dip into an acid solution or cyanide of potash solution. For