

ENGINEERING INVENTIONS.

A car coupling has been patented by Mr. Abraham G. W. Foster, of Newman, Ga. This invention covers novel features of construction and the combination of parts whereby the coupling may be effected from the sides of the car, and the link may, from the same point and with the same lever, be adjusted to enter an opposing coupler of greater height.

A car coupling has been patented by Mr. David L. Vess, of Spokane Falls, Washington Ter. This invention provides a device wherein the coupling block may be set for automatic coupling with the link, and in which the uncoupling may be effected from the top of the car, the device being easily adaptable for coupling with cars having ordinary pin and link coupling.

A snow plow has been patented by Mr. Oliver U. Guinand, of Excelsior Springs, Mo. It is for removing snow from railroad tracks by loading from the drift upon the plow and removing to a convenient place for dumping, and has a plow movably mounted on an inclined platform, with segmental guides on each side carrying a swinging end gate or cutter.

A stock car has been patented by Mr. John Westfall, of Lawrence, Kansas. It has a tank in its top, arranged transversely at the ends and with funnel-shaped inlet pipe, spray pipes with suitable valves, hay racks hinged on the side of the car at the bottom, pivoted and tilting troughs, partition gates, and other novel features, to facilitate the more comfortable and humane transportation of cattle.

A reaction wheel has been patented by Mr. Hippolyte J. Seigneure, of Henderson, Minn. This invention covers a novel construction of wheel, means for combining gas and air to produce an explosion, means for vaporizing oil from which the gas is made, and means for relighting the exploding jet if it should be extinguished, the force obtained operating upon and in connection with the wheel, so that the power may be transmitted as desired.

An apparatus for heating cars has been patented by Mr. Oliver Bryan, of New York City. A counterbalanced damper is pivoted in the mouth of the smoke stack, and a section of pipe is attached to the stack extending rearwardly, flexible couplings forming extensions therefrom by which a series of direct horizontal pipes are obtained through the length of a train, through which the products of combustion ordinarily escaping from the smoke stack will be passed, subject to the regulation of the damper, and be discharged from the rear of the last car.

AGRICULTURAL INVENTIONS.

A cotton chopper has been patented by Mr. Heinrich W. Sacks, of Round Top, Texas. It is for chopping growing plants to a stand, and has a hoe which may be operated either by hand or foot power to give lateral motion as the machine is drawn along, to chop the plants to a stand at any desired distance apart, while the entire machine is light and strong.

A seed planter has been patented by Mr. Roemer Johnson, of Tallechee, Miss. It has a wheel running upon the ground which imparts through pitmen a reciprocating motion to feed slides in the seed box, these slides being adjustable to regulate the dropping of seed at such different distances apart as may be desired, the whole machine being simple and easily kept in repair by any farmer.

A cotton chopper and cultivator has been patented by Mr. Edward Franklin, of Thomasville, Ga. It is a machine to be driven by hand, carrying a circular chopper or knife which can be raised from the ground to save particular or special plants, and standards carrying cultivator shovels are mounted at the rear of the machine, which are arranged so they may be used or not, as desired.

MISCELLANEOUS INVENTIONS.

A folding invalid chair has been patented by Mary A. Hendricks, of Charleston, S. C. It is designed for use as a commode or as an upright reclining chair, or both at pleasure, and when not in use may be folded in small compass for transportation or storage, while it is simple in construction and durable.

A school desk has been patented by Mr. John M. Abbott, of Silver Plume, Col. In this desk the writing leaf, or desk proper, can be folded back out of the way, a receptacle being arranged for the scholar's books at one side of the seat, and a novel form of ink well being provided for in connection with the folding leaf.

An ironing table has been patented by Mr. Lafayette D. Rose, of South Carrollton, Ky. It is so made that it can be quickly and compactly folded and will be firmly supported when in use, while the bosom and sleeve boards are made easily detachable and interchangeable, and capable of secure attachment to the ironing table.

A revolving soap holder has been patented by Messrs. Herbert M. Avers and John M. Pease, of Chicago, Ill. It consists of a revolvable soap cage, in connection with a handle and shaft giving a double rotation to thoroughly and evenly distribute the soap in making soapy water or suds, without slopping over the water.

An ornamental veneer has been patented by Mr. William H. Hoyt, of Stamford, Conn. This invention relates to the utilization of the pith of cornstalks and similar material for ornamental and useful purposes, the veneer being made by forming a layer of such substance upon a suitable backing or stiffening, for surfacing picture frames, walls, panels, etc.

A shutter for photographic cameras has been patented by Mr. John J. Higgins, of New York City. It has a circularly adjustable open-faced cap or ring, combined with an apertured rotary shutter, with a spring catch, a handle or bearing, a tube and

its apertured diaphragm, and a spring with graduated scale to regulate the speed of the throw of the shutter.

A tricycle has been patented by Mr. James Bate, of Newark, N. J. It is to more conveniently arrange the driving and steering mechanism of such devices as are used by children, providing for the driving of the tricycle from a saddle or seat, so that the rider may use his weight as the chief motive power, and the steering will be conveniently effected.

A roofing cement has been patented by Mr. Henry Frei, of Kansas, Ill. It consists of three parts of white or red lead pigment, with one part of plaster of Paris, and sufficient oil to form a plastic mass, making, when prepared as specified, a cement that is proof against cracking in the frosts of winter or heat of summer, while being waterproof and durable.

A furniture pad has been patented by Mr. E. Lanson Dunklee, of Wyalusing, Pa. It is made with a flexible metallic frame having a central opening, with teeth or spurs at the margin of the opening, and a cushion held at the opening by the teeth, it being designed for attachment to the backs of furniture frames to prevent damage from anything liable to strike the furniture.

A ruling pen has been patented by Mr. Christian A. F. Oriob, of Salt Lake City, Utah Ter. It is especially designed for ruling a double and a single line simultaneously, and consists of two ruling pens, one double and one single, in combination with a cross piece and handle, the thickness of the lines being readily regulated and varied, while either of the pens may be used separately if desired.

A wheeled scraper has been patented by Mr. Patrick Diney, of Dudley, Iowa. The crank axle has a suspended scraper bowl, connected with which are manipulating and locking levers, to control the height and angle at which the bowl shall hang, and devices whereby, when the bowl is filled, it may be properly held to hold its contents to carry them off and then be conveniently dumped.

A filling attachment for hot water bags has been patented by Kate Ryan, of Brooklyn, N. Y. It is for filling common rubber hot water bags without danger of scalding the hands, and consists in an arm with a clasp at its lower end, in combination with another arm attached to the first one, the funnel being turned back out of the way when the device is being attached to the bag.

A show case has been patented by Messrs. Samuel Steinfield and William R. Foust, of Leetonia, Ohio. It has inclined sides and a series of compartments for containing shirts, collars, etc., with a sliding sash for the glass and sliding shelf for the convenience of the salesman in handling the goods, and notched bars in the upper and lower part of the case to receive a board for holding shirts up to the front of the case.

An extension ladder has been patented by Mr. George Albee, of Susquehanna, Pa. The ladder sections are similar, and may be slid upon each other to shorten or extend the ladder, the sections having clips on opposite sides near their ends, the clips of each section being bent over to engage side bars on the other section, in connection with hooks and pins for automatic fastening, but which may be readily unfastened when the ladder is to be shortened.

A spirit level has been patented by Mr. George P. Evelyn, of Pall Mall, Middlesex County, Eng. The tube or vessel of the level is made in the form of a semicircle or other arc of small radius, or as the segment of a sphere, with correspondingly curved graduated scale, with reference to an air bubble that indicates by its position the angular measurement to be ascertained, the invention covering various novel features and variations of construction.

A stirring or mixing apparatus has been patented by Mr. Louis Stauffert, of Dinglingen, near Lehr, Germany. A crank arm and wings or blades are pivoted on a shaft, in combination with a sleeve within which the shaft slides, links being pivoted on the sleeve and on the blades, and a cone-shaped shell surrounding the sleeve, the apparatus being designed for stirring and mixing the contents of barrels stored in cellars and other places.

NEW BOOKS AND PUBLICATIONS.

A PRACTICAL TREATISE ON PETROLEUM; COMPRISING ITS ORIGIN, GEOLOGY, GEOGRAPHICAL DISTRIBUTION, HISTORY, CHEMISTRY, MINING, TECHNOLOGY, USES, AND TRANSPORTATION. Together with a Description of Gas Wells, the Application of Gas as Fuel, etc. By Benjamin J. Crew. With an Appendix on the Product and Exhaustion of the Oil Regions and the Geology of Natural Gas in Pennsylvania and New York. By Charles A. Ashburner, M.S., C.E., Geologist in Charge Pennsylvania Survey, Philadelphia. Illustrated by 78 engravings and two plates. 8vo, pp. 508. Philadelphia: Henry Carey Baird & Co. Price, \$4.50.

As its very ample title page indicates, this treatise covers the whole subject of petroleum, dealing with every phase of the industry, and is very thoroughly and well illustrated. Such a treatise has long been wanted, and this one, we are glad to know, has already met with substantial success, having found a good market, not only in this country and in England, but on the Continent of Europe and Asia. Although the book labored under the disadvantage of the death of the author shortly before it was put to press, it has been brought before the public in a most creditable manner. An English writer who has devoted much attention to the subject of petroleum, in a private letter says: "I looked through the book, before reading the preface, and had made up my mind to write and congratulate Mr. Crew upon the success I considered he had achieved, when to my regret I found in the prefatory pages that he was dead. This is indeed

very melancholy. Few authors of such solid books ever receive their due meed of praise, even if they survive them a lifetime, but to die without knowing the fate of one's labors is a hard and distressing lot." The papers contributed by Mr. Ashburner, of the Geological Survey of Pennsylvania, on the Oil Regions and Geology of Natural Gas, are a substantial addition to the value of this treatise, and give it a completeness which it otherwise would lack. The volume is supplied with an admirable index, making every important item within the book easy of reference.

THE CIVIL ENGINEER'S POCKET BOOK. By John C. Trautwine, C.E., revised by John C. Trautwine, Jr., C.E. New York: John Wiley's Sons. 1887. Pp. 866.

The eleventh edition and twenty-seventh thousand of this classic pocket book has just been received. It is so well known that no review is needed, except to note changes. In a series of prefaces the successive editions and emendations to the various editions are set forth. In the present revised edition, formulae for thicknesses of cylinders under internal pressure, and new and fuller tables of the values of foreign coins, may be noted. Mr. Pegram's suggested uniform loading for railroad bridges to be substituted for the usual wheel loads in specifications is inserted. Other changes, such as the addition to the table of locomotive weights of some of the newer and heavier ones, are noted. The author and reviser have shown every desire to keep the work up to date, and we take pleasure in noticing their success.

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