

## ENGINEERING INVENTIONS.

A car coupling has been patented by Mr. Alexander M. Fraser, of Bathurst, N. B., Canada. The invention consists in the peculiar construction and arrangement of a sliding coupling hook combined with adjusting devices, so the ordinary drawbar and link may be used, and the action is automatic.

A car coupling affords the subject of a patent issued to Mr. A. Judson Chapel, of Arkansas City, Kan. It is automatic, and the drawbars are of ordinary construction, with flaring mouths to receive the link, but there is a special form of holes in the upper and lower faces of the drawbar, conforming to a peculiar shape of the coupling pin.

A gas pump has been patented by Mr. William J. Ferguson, of Baltimore, Md. The piston has a valve incorporated in it, and there are improved means for tightening up the stuffing box in the lower end of the cylinder, making a pump especially adapted for changing the tension of a gaseous medium in refrigerating machinery.

A car coupling has been patented by Messrs. Franz F. Von Aibach, of Hautzenbuch, and Anton Hauger, of Judenburg, Styria, Austria-Hungary. The coupling includes specially devised coupling cylinders and pistons, fastened to the cars by ball and socket joints, the drawbars having hooks, or mouths for receiving the links, so as to form a yielding connection, with other specially devised and arranged parts.

A ditching machine has been patented by Mr. Elmer H. Smith, of Quinton, N. J. The invention covers an improved plow shifting and elevator belt tightening apparatus, giving an endless elevator that may be shifted up and down with the plow, and there is a contrivance for shifting the plow and lower roller frame and belt tightener by one hand wheel, making the machine very simple.

A water tube steam generator has been patented by Mr. Charles Ward, of Charleston, West Va. This invention is an improvement on a former patent issued to the same patentee, and consists principally in placing the "separator" inside the circulating system of pipes and inclosing it with firebrick, so that it serves as a radiator, and space, heat, and cost are economized.

A car coupling has been patented by Mr. George C. Loar, of Quincy, Ill. On top of the drawhead is a housing, in which is a vertical bolt with its lower end beveled, so that when the link enters the throat it forces up this bolt against a spring, and as soon as the hole in the link passes under the bolt the spring forces the latter down, with other devices to make a simple and economical automatic coupler.

## MECHANICAL INVENTIONS.

An improved nut lock has been patented by Mr. Jacob McAfee, of Dallas, West Va. The invention consists of a split nut, with an inclosing band, and a key or wedge to be inserted between the band and the nut, to force the two sections of the nut to closer embrace upon the threaded bolt, so as to hold thereto firmly.

A machine for reciprocating tools has been patented by Mr. Fred. R. Patch, of Sutherland Falls, Vt. The invention consists in the combination with two cylinders, each with an open and closed end, and the ends of the cylinders connected by a tube, of pistons and piston rods, one of the pistons being reciprocated, and the pressure of the one reciprocating the other to which the tool is fastened.

A forge hammer has been patented by Mr. James H. Baker, of Westville, Ohio. The invention relates to improvements in die blocks, and consists in the peculiar construction and arrangement of parts; the rack and pinion can be combined by suitable mechanism with the hammer to shift the die block automatically after each stroke, so that the stock will be struck in a different place each time if desired.

## AGRICULTURAL INVENTIONS.

A fertilizer distributing attachment for rollers has been patented by Mr. Sandford C. Meddick, of Ovid, N. Y. A reciprocating bar with plates on its lower and prongs on its upper edge is so arranged in the hopper and geared with one of the roller shafts, by simple mechanism, as to effect a uniform distribution of the fertilizers as the land is rolled.

A milking stool has been patented by Messrs. Czar D. Goodman and Frederick J. Smith, of Grauby, Conn. The invention covers an improved milk pail holding attachment, contrived for ready and convenient adjustment to suit various conditions and requirements, and so the pail may be readily lifted off the holder for emptying and replaced without changing the fastening devices.

## MISCELLANEOUS INVENTIONS.

A bottle stopper has been patented by Mr. Max Rubin, of Philadelphia, Pa. This invention covers an improved construction and arrangement to facilitate the discharging of liquids from bottles, with security against evaporation and spilling.

A faucet has been patented by Mr. Edward Myers, of Webb City, Mo. It has auger points to bore their own way into a barrel, and is so contrived as to keep the borings out of the faucet, thus boring its own hole of entrance and straining the fluid from the shavings so made.

An eight day clock alarm has been patented by Mr. C. Fred. Luquer, of Montgomery, N. Y. It has a dial and cam so connected with the clock work as to sound an alarm once each day for eight successive days without winding, the alarm mechanism having to be wound only once a week.

A trunk has been patented by Mr. William J. Large, of Brooklyn, N. Y. In this trunk the tray is hinged to suitable arms or links, so the tray may be swung upward out of the trunk, while at the back is an auxiliary tray with the front or movable tray hinged to it, with means for securing it to the body of the trunk.

A spring bed bottom has been patented by Mr. John McIlhone, of St. Louis, Mo. It is a one piece bed bottom spring, with two conical coils and a tie formed of elongated loops, with specially shaped arms and crosshead, the parts being easily made and assembled, and giving great elasticity, with a large surface support for the mattress.

A rein fastener has been patented by Mr. Norman N. Hazleton, of Lamoni, Iowa. It is an improved hook and catch device for connecting harness straps, particularly tags and reins, being contrived for attachment to the straps without stitching or riveting, and more substantially than with buckles, and one that can be made very cheaply in malleable iron.

A heating stove has been patented by Mr. William A. Winfree, of Elizabethtown, Tenn. The stove is composed of inner and outer cylinders, with the space between divided by an inclined flange, so the smoke and other products of combustion are distributed between the two cylinders, and traverse an extensive heating surface before passing to the flue.

A shifting buggy top has been patented by Messrs. George Engelhart and Charles Weidner, of Attica, O. The buggy top supporting rail and the "lazy back" supports are so made that the rail may be readily taken off without taking off the lazy back when it is desired to remove the top and use the vehicle as an open buggy.

A bird cage has been patented by Mr. Jabez S. Musgrave, of Bloomfield, N. J. The invention consists of making an inclosure, of any suitable material, suspended within or attached to the inside of the cage, in such way as to afford quick and easy access thereto for the bird in case the latter be attacked by cats, or other birds or animals.

A fire escape has been patented by Messrs. David Ware and Charles W. Richman, of Philadelphia, Pa. The invention relates to that class of fire escapes in which the rope runs over friction devices in a casing, a rod being secured on one of the side surfaces of the block, holding a traveler, to which a band or belt is fastened, with a hook or like device at its free end.

A wagon tongue support has been patented by Mr. Jacob Bower, of Lafayette, Ind. It is an improved front wagon gear, in which the tongue has a pivoted button on its upper side near the wagon, in connection with a spring, hook, and chain beneath, by which the tongue may be held up so the horses will not feel its weight, or by unhooking the chain it may be dropped.

An enlarging camera has been patented by Mr. Thomas C. Roche, of Brooklyn, N. Y. This is a camera box specially devised for the use of sensitive bromide of silver gelatine paper, as a substitute for the more expensive solar cameras heretofore used, and in which artificial light may be used; it also provides increased facilities for focusing and enlarging portions only of the negative.

A fire escape has been patented by Mr. Francis D. Parmelee, of Hillsdale, Mich. This invention covers a special arrangement and construction for controlling the movement of a rope by means of a case in which are friction pulleys, an attachment being made in an upper story of a house, and one or both ends of the rope having a harness attachment which may be fastened about the body.

An improved plastering has been patented by Mr. James Morrison, Jr., of New York city. The invention covers a plastering slab, that can be fastened to walls and ceilings and is fire and water proof; there are long strands of cocconut fiber extending longitudinally the length of the slab, and embedded therein, the slab being made of plastic plastering material, and its upper face being roughened to receive a hard finish.

A method of and means for cultivating fruits and vegetables has been patented by Messrs. John W. Groves and Valentine Minich, of South Oil City, Pa. The invention covers a method of growing, through holes in a tank, barrel, etc., and in the arrangement of such vessel to rotate horizontally, with a perforated water supply tube in the vessel, and various other combinations.

A trunk lock has been patented by Mr. Edward A. Judd, of New Britain, Conn. The invention is in that class of locks in which a stop holds the bolt, or the bolt is released upon the closing of the lid, but it is novel in construction and arrangement, making a very convenient and cheap lock, with no protruding parts, so that it is especially adapted for roll desks, pianos, etc.

A die for pressing clay fence posts has been patented by Mr. Ephraim Ivett, of North Ferrara, O. In order to make such posts with an ordinary brick or tile machine, a die is provided with an apertured plate on which sliding plates are so held that they can be adjusted for making posts of a greater or less diameter, or any shape, rods being so fitted as to make longitudinal apertures also.

An adjustable proscenium has been patented by Mr. Imre Kiralfy, of New York city. In combination with the proscenium wall of a theater is an adjustable frame for decreasing the size of the stage opening as much as the nature of the play may require, it being adjustable for height and width as desired for ballets, society plays, or spectacular pieces, according to the number of persons to appear.

A fire escape has been patented by Mr. George Sinfeld, of Portland, Oregon. This invention provides for raising a rope ladder by means of a pole, and so that when a cross bar reaches the desired window it will be pushed through the window opening, and the bar will catch on the edges thereof, or a hook will catch on the sill, the apparatus being mounted on a specially devised truck therefor.

An improvement in calendars has been patented by Mr. Joshua F. Tannatt, of Springfield, Mass. A peculiarly slotted and perforated flat holder, of card or other material, holds by friction and exposes a folded calendar sheet, which may be printed on both sides, so that by suitably turning the sheet and changing the positions of its folded portions the different months are presented in succession without tearing off or detaching any portion of the sheet.

A hose coupling has been patented by Messrs. Garritt M. Van Riper and James O. St. Clair, of Republic, Mich. The invention combines, with a handle piece, links connecting it with side pivots, and an elastic packing between the meeting end portions of the coupling sections, so that when the handle piece is closed to lock the sections it compresses the packing, and the handle piece goes into a locked position.

A tension device for sewing machines has been patented by Mr. Hiram Holden, Jr., of Spencer, Mass. This invention is applicable to wax and dry thread machines, and is particularly intended to slack the tension while the needle is passing the thread through the work, and the tension device is arranged in duplicate, both tension wheels being on one supporting stud, and so contrived that either may be adjusted without interfering with the other.

A fire escape has been patented by Mr. Charles I. Pittman, of Halifax, N. S., Canada. The invention consists of a brake block with a sling suspended, and a friction block through which the rope on which the descent is made is rove, so the weight of the rider produces pressure on the rope to graduate the descent, making a simple and efficient device, adapted to be placed in a small case attached to the wall at the side of a window.

A process of and apparatus for the treatment of ramie and jute have been patented by Mr. Nicholas Arthurs, of New Orleans, La. Specially contrived floating wharves are made to carry a raft, which, loaded with the stalks, may be sunk for their thorough wetting, then raised and the water pressed out by rollers; from thence the partially dried material is pressed between corrugated rollers to further dry it and break up the woolly fiber, after which a scratcher or beater, with blades or knives on drums, beat the broken up stalks to separate the lint or fiber from the woolly material.

## NEW BOOKS AND PUBLICATIONS.

## THROUGH SPAIN ON DONKEY BACK.

W. Parker Bodfish has illustrated, for D. Lothrop & Co., a very attractive little volume on travels in Spain. The sketches which embellish the book are numerous and well executed, and the descriptive notes accompanying the drawings enable one to form a very good idea of the peculiar manners and customs of the Spanish people.

## THE UNITED STATES ART DIRECTORY AND YEAR BOOK. Compiled by S. R. Koehler, Cassell and Company, New York, London, and Paris.

The design of this book is to furnish a practical guide for art patrons, students of art, etc., by pointing out the more notable art objects of the United States, and the facilities for study in, and the commerce of art. It has an art chronicle of exhibitions held during the year, recent monuments, notable buildings, the growth of museums, etc., with detailed mention of national and local institutions, and has a list of 76 illustrations.

## THE ENGLISH ILLUSTRATED MAGAZINE. Macmillan &amp; Co., New York.

This is an attractive monthly profusely illustrated with finely executed views of English scenery, manufacturing towns, etc. The May number contains a description of Nottingham and its lace industry, with engravings of the different kinds of lace manufactured there, and descriptions of the processes by which the different varieties are produced.

## GLUE; ITS RAW MATERIALS AND THEIR FABRICATION. Covering also gelatine, gelatine veneers and foils, isinglass, cements, pastes, mucilages, etc. By F. Dawidowsky. Henry Carey Baird &amp; Co., Philadelphia. Price \$2.50.

The author of this book, a German technical chemist, made a thoroughly practical treatise, based upon actual experience, which was easily comprehended by the ordinary workman, and met with great success in Germany; but the translator, Mr. William T. Brann, has made extensive additions to the original, including a description of the most recent American processes. The subject is taken up, at the beginning, with an account of the different sources of the raw material and the methods of preparing it for the manufacture; the operation of a glue factory is described in detail; the different ways of preparing gelatine are given; the various kinds of glue and gelatine, with special directions for their preparation, are mentioned with a degree of fullness which cannot fail to be of value to all who use either to any extent, while there are more than fifty pages on cements and pastes, giving a great number of receipts. The book seems to be the product of a thorough acquaintance with all the established methods of conducting the business, both in this country and Europe, but the author says the glue industry has reached its highest development in the United States, adding that "many improvements which would be derided as chimeras in Europe have been introduced here, and give to the American glue industry an ascendancy which will render competition by the European glue boiler impossible for at least ten years to come." It is interesting, in this connection, to recall the fact that the late Peter Cooper made great improvements in this industry, in which he laid the foundation of his fortune, and there are New York leather merchants of the present day who well remember how he used to visit the hide and leather stores in the Swamp, half a century ago, gathering up the horns and offal of hides and skins to make into glue and gelatine. Owing to the improved manufacture and extended use of glue, tanners are now able to obtain more than the nominal sum Mr. Cooper used to pay for this glue stock, and all who are interested in learning the details of the manufacture, and the various kinds and qualities of product, can find in this book the best presentation of the whole subject that has ever yet been made.

## 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.

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60 Lathes, new and second-hand, 12' and 14' swing, plain and screw cutting. J. Birkenhead, Mansfield, Mass.

Blacksmith Drilling Machines for 1/4 to 3/4 inch diameter, \$22.50. Pratt & Whitney Co., Hartford, Ct.

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The Hyatt filters and methods guaranteed to render all kinds of turbid water pure and sparkling, at economical cost. The Newark Filtering Co., Newark, N. J.

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Steam Boilers, Rotary Bleachers, Wrought Iron Turn Tables, Plate Iron Work. Tippet & Wood, Easton, Pa.

Iron Planer, Lathe, Drill, and other machine tools of modern design. New Haven Mfg. Co., New Haven, Conn.

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Best Squaring Shears, Timmers', and Canners' Tools at Niagara Stamping and Tool Company, Buffalo, N. Y.

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.

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Curtis Pressure Regulator and Steam Trap. See p. 286. Woodwork'g Mach'y. Rollstone Mach. Co. Adv., p. 286.

C. B. Rogers & Co., Norwich, Conn., Wood Working Machinery of every kind. See adv. page 286.

Job lots in Rubber Belting, Packing, Tubing, and Hose. 75 per cent off belting. John W. Buckley, 158 South Street, New York.

Drop Forgings. Billings & Spencer Co., Hartford, Conn.

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