

## ENGINEERING INVENTIONS.

A car axle lubricator has been patented by Messrs. William H. Sterling and Dyson D. Wass, of New York city. This invention consists in a spring wire frame of novel construction, carrying oiling rollers intended to give a constant and uniform lubrication of the journals of car and other axles by devices that can be readily inserted into and removed from the box.

An electric grip for railways has been patented by Mr. John C. Henderson, of New York city. This invention consists in a novel combination of adjustable gripping and contact making devices and conducting bars or rails, combined within a longitudinally slotted box or tube arranged between the rails of the track, and is an improvement on a former patented invention of the same inventor.

A car coupling tool has been patented by Mr. Edward A. Hamilton, of New Bethlehem, Pa. It is an implement for holding up the free ends of car coupling links, so train men can do the coupling without going between the cars, and consists of a link holder with arms held to a shank adapted to slide along the handle, but which may be set, and a spring to draw the arms backward from between the drawheads.

A means for coaling locomotives has been patented by Mr. Henry McLaughlin, of Bangor, Me. It consists of an elevated track crossing the track on which the locomotives run, and tracks leading to the coal heaps, a traveling derrick frame running on the elevated track, provided with a hoisting apparatus, making an advantageous combination of tracks, ways, cars, cranes, etc.

A feed water heater and purifier has been patented by Mr. Dyson D. Wass, of San Francisco, Cal. The heater is suspended in the boiler above the water level, with a feed pipe dividing into two branches, each with a check valve, an extension of the feed pipe attached to one of the branches, and a blow off pipe and valve, so that impurities will be delivered at any desired point of the boiler, and to scour and clean the heater by water contained in the boiler.

## AGRICULTURAL INVENTIONS.

A plow and cultivator has been patented by Mr. Robert M. Henderson, of Leesville, Ind. This invention relates to plows used by corn growers, in which the driver's seat is supported forward near the team, while the weight of the driver is almost entirely removed from the necks of the team, with various other novel features of construction and arrangement of parts.

An adjusting mechanism for harvesters has been patented by Mr. Newton W. Miller, of Marshall, Ind. Combined with a drive wheel and hollow axle is a shaft working therein, a guide plate and bearing carrying a sliding bar, with other novel features, to facilitate the vertical adjustment of harvesters and other machines mounted upon wheels.

A corn harvester has been patented by Mr. Samuel H. Young, of Bankston, Iowa. This invention covers a construction to facilitate guiding the machine along a row of corn hills, so the front of the machine can be readily adjusted to the height of the corn, so fallen stalks will be raised, and whereby bunches of stalks are drawn against the dividers, with other novel features.

A cutting apparatus for mowers and reapers has been patented by Mr. Luman Rundell, of New Baltimore, N. Y. The cutting teeth throughout one-half the length of the cutter bar, when moving in either direction, are, by this invention, made to complete or nearly complete their cut before the cutting teeth on the other half of the bar come into cutting position with the fingers or guards, thus dividing up and easing the cut to reduce shock and jerk.

## MISCELLANEOUS INVENTIONS.

A device for handling boxes has been patented by Mr. Alfred Ayer, of Lake Weir, Fla. Combined with two side bars are clamps pivoted to their ends, with a strap uniting the clamps, making a device especially applicable to the handling of orange and lemon boxes, and other such packages too cheaply constructed to have handles.

A horse block or step has been patented by Mr. Martin B. Duncan, of Angelica, N. Y. The framework upon which the treads of the steps are mounted is formed of hollow tubes or pipes, united by T and elbow couplings, the uprights being fastened in buried anchor blocks, the whole making a cheap and durable device.

A plane guide has been patented by Mr. William W. Preston, of Coldwater, Mich. This invention provides an improved guide for attachment to planes to enable the edges of lumber to be squared or beveled at any desired angle either way by the planes, with accuracy, and without the aid of a try square or level.

A fastening for blind slats has been patented by Mr. George F. Evans, of Corpus Christi, Tex. It consists of brackets adapted to be secured to the lower rail of the blind and to receive the slat rod between them, together with a binding screw projecting through one of the brackets, to hold the slats more or less open or closed as desired.

A tree ladder has been patented by Mr. James M. Cuning, of Haskins, Ohio. Combined with upright bars are top bars hinged to the upper ends of the uprights, and having hooks projecting from the bottom edges, with braces so pivoted that the ladder can be swung around a tree, and the outer ends of the branches reached thereby.

An ice cream freezer has been patented by Mr. Albert L. Platt, of Bowling Green, Mo. The freezing cylinder has a hollow trunnion fitted to admit the refrigerant, and having a hopper supported on and revolving with the trunnion, with other novel features to facilitate quick freezing, and convenient for taking apart for repairing, replacing, and cleansing.

A wagon standard has been patented by Mr. Jeffrey Starmer, of Levering, Ohio. It is a removable bolster standard or stake for wagons or sleds,

consisting of a novel construction of locking device and catch, the standard being quickly and easily attached to and removed from the bolster, staying firmly in place when locked, and being cheaply made.

A cutter head has been patented by Mr. Benjamin R. Hand, of Camden, N. J. This invention relates to wood planing machinery in which the knives are held by a revolving head in connection with the mechanism for moving the material to be planed, and is intended to provide a cutter head which will firmly hold the knives after their adjustment.

A necktie fastening has been patented by Mr. Benjamin F. Hutches, Jr., of Galveston, Texas. Combined with an apertured collar button is a disk with a spring loop, the disk being adapted to be secured to the back of the cravat shield with a loop projecting through an aperture in the same, making a device to be used in place of the elastic loop and other means.

A stack cover has been patented by Mr. Albert Cooley, of Osceola, Iowa. It consists of sections with projecting cross bars, bars on adjacent sections being at different distances, and the sections having edge notches to receive locking bars, so the cover may be put on and taken off in sections, and may be extended to any desired length.

A coal hoisting machine or dredge has been patented by Mr. Bernard M. Munn, of Elizabeth, N. J. The machine has a drum, cable, boom, and means for revolving the drum, in combination with vertically movable plates, arms, and scoops, the whole so arranged as to facilitate the handling of coal or other material without the use of shovels.

A faucet has been patented by Mr. Frank F. Wolff, of New York city. Combined with a bushing adapted to be held in a barrel or cask head is a valve for closing the outer end and a plate for closing the inner end of the bushing, or a tube held on the same, both the valve and plate being held on the same spindle, the device being intended to facilitate the drawing of liquids from casks or barrels.

A fanning mill sieve has been patented by Mr. Siver J. Aasen, of Republican, Dakota Ter. The construction is such that fine seeds are deposited in a receiving box under the sieve, and larger seeds, such as buckwheat, cockle, oats, etc., slide down over the sieve into a suitable box, making possible the separation of the seed into four lots of different sizes, while thoroughly cleaning the seed.

A dental jaw brace has been patented by Mr. Willis J. Bickford, of North Attleborough, Mass. This is a device for keeping the mouth of a patient open when gas is administered, and consists of a tube inclosing a spiral spring on the end of which is a slide spring to force and hold the mouth open, the prop thus formed being properly cushioned at top and bottom.

A canal convoy has been patented by Mr. William F. Cowden, of Cumberland, Md. This invention covers novel constructions and combinations so the convoy may be allowed to drop some distance astern, means for maintaining a given distance between the boats, and means whereby the separating device may be disengaged and the boats drawn close together for passing through locks.

A sash holder has been patented by Mr. Henry Staib, of Jeffersonville, N. Y. A face plate is formed with side flanges having spindle perforations and recesses on their inner faces extending from the face plate to the perforations, with eccentric, removable spindle, and other novel features, making a simple mechanism for supporting and locking window sashes in any desired position.

An oil strainer has been patented by Mr. William Connolly, of South Norwalk, Conn. It is made with an outer case and one or more filtering chambers with perforated side walls, and an imperforate bottom tapering downward, the device being especially intended for use in connection with the oil drip pans for sewing machines formerly patented by the same inventor.

A machine for cleaning and repairing roller skates has been patented by Mr. Rufus F. Hull, of Fonda, Iowa. It has a rotary shaft with a pair of wheels having a space between them equal to the distance between a pair of skate wheels, the wheels having inclined grooves whereby the rollers may be cleaned and evened, while there are chucks, abrading disk, and drill, for leveling, reboring, and repairing.

An automatic swinging chair has been patented by Mr. John C. McMullen, of St. Augustine, Pa. By this invention the lever through which the chair is moved is not connected with the supporting hangers of the chair, being thereby freed from the weight of the operator and giving a greater movement to the chair, so the occupant can originate and easily maintain a continuous swinging motion.

A chain saw has been patented by Mr. Walter S. Shipe, of Minerva, Ohio. Each link of the chain is made to displace the whole chip, and effect a ready clearance, which is done by a single cutter of peculiar construction applied to each link, the saw, in cutting logs or felling trees, being started by placing its front end partially around the tree or log, and then drawing the chain over the timber.

A door has been patented by Mr. Jeuleos Gamblee, of Creskill, N. J. Combined with a door having top and bottom openings are slides for closing and uncovering them, and a mechanism for operating the slides automatically and by hand, so the door can be opened and closed without affecting the covers of the openings, or the openings can be uncovered and closed while the door is shut.

A sheep shears has been patented by Mr. Elijah Kellogg, of Reno, Nev. Combined with a handle having on the forward end of its under side a slotted stud is another handle having a stud at the rear end of its outer side, with a strap secured to both studs, making a pivoted joint with large bearing surfaces capable of supporting the shear blades and preventing them from being separated when doing heavy shearing.

A lime distributor has been patented by Mr. John Hotham, of Hillside, Pa. It has wheels pivoted beneath the discharge openings of the hopper

with curved radial flanges and connected by gearing with a rear wheel of the machine, the size of the discharge openings being regulated by sliding plates, the lime in the lower part of the hopper being agitated and made to pass out freely by a shaft with radial pins.

A cracker machine has been patented by Messrs. William H. Bromley and Philip J. Gately, of Brooklyn, N. Y. It has an elastic bed plate resting upon eccentric rollers, so that by turning the latter the bed plate can be readily adjusted according as the desired thickness of the sheet of dough or the wear of the cutters may require, the rollers having worm wheels and a worm to facilitate their operation.

A car starter has been patented by Mr. Theodore F. Bourne, of Bloomfield, N. J. A ratchet wheel is fixed to the car axle, and a lever is pivoted to a swinging support and carrying a pawl adapted to engage the ratchet wheel, a chain or coupling connecting the lever to the draught bar, there being a stop between the lever and the swinging support, the lever operating to help turn the axle on a continued draught strain.

A plaster of Paris splint has been patented by Messrs. John W. Bender and James C. Hinkle, of Shippensburg, Pa. It consists of segmental sections moulded internally to the shape of the limb, and having on their meeting edges interlocking projections and sockets, with coincident strap grooves in their outer sides, the sections to be made in any desired number of pieces, so that one or more may be removed at a time by the surgeon or nurse.

A roving frame has been patented by Messrs. Richard Curtis and William H. Rhodes, of Manchester, Eng. This invention relates to slubbing, intermediate, and roving or jack frames, and is intended to improve the mechanism for imparting a gradually decreasing speed to the bobbins, so they will always draw the slubbing or roving from the front rollers at a uniform speed, notwithstanding the increase of the diameter of the yarn on the bobbins as they become filled.

A horseshoe has been patented by Mr. Lawrence Schwaab, of New York city. This shoe is intended to be fastened to the horse's hoof without nails, and is made in two parts hinged to each other at their forward ends with an inwardly inclined rim on their outer edges, and having a plate formed on one part to overlap the other part; the shoe has a pad with a buckle and strap at its rear end, and projections on its sides to engage with apertures in the sides of the rim of the shoe, to protect the hoof from jar in traveling.

A candy machine and a cake machine are the subjects of two patents issued to Mr. Daniel M. Holmes, of Arlington, N. J. The first machine has a steam heated chamber, which keeps the candy in a melted condition, and from this chamber definite quantities are fed, either upon plates on an intermittently moved endless apron or into pits or moulds formed in starch trays, in an automatic and continuous manner, for the rapid and economical production of formed or moulded candies; the cake machine is of that class in which the dough is fed down from a hopper into a series of cylinders, whence it is forced by reciprocating plungers in small lumps upon pans carried by an endless apron, and the invention covers improvements in the several parts of the machine to increase its efficiency and range of use.

## NEW BOOKS AND PUBLICATIONS.

MAGNETO AND DYNAMO ELECTRIC MACHINES. From the German of Glaser de Cew, by F. Krohn, and edited with many additions by Paget Higgs, LL.D., D.Sc. London: Symons and Co., 1884.

This volume is the first of a new Specialists' Series edited by Dr. Paget Higgs and Professor Charles Forbes, and intended to present in popular form the latest information in regard to recent technical subjects. It is the object of the series to provide practical hand-books, both thorough and easily understood, and, though treating of apparatus in the market, entirely devoid of any commercial advocacy. It is admittedly hard to be perfectly impartial, but the high character of the editors will insure a belief in the honesty of their criticism, if not always in its correctness. The present volume treats of a comparatively new subject, where our experience is necessarily limited, and is, therefore, particularly welcome as a conscientious effort to acquaint the public with the principles underlying the construction of electrical machines. The introduction will be found useful to those but little familiar with the theories of induced currents, as well as interesting historically to all readers. The subject has been divided under the head of machines generating alternating or direct currents rather than in strict accordance with the differences between magneto-electric machines and dynamos. The chapter on storage batteries is of special interest just at this time, as the subject is attracting such general attention. In the appendices is given considerable information in regard to the practical construction of dynamos, and a comparison between the principal ones now in use. The series is introduced in this country by Van Nostrand.

CANOE AND CAMP COOKERY. A Practical Cook Book for Canoeists and Outers. By "Seneca." Forest and Stream Publishing Company, New York.

At this time of year, such little books as this seem to introduce the urban resident, and worker in store and counting room, at once to the realities of a roving and camping-out life, for it brings one directly to the practical details on which the comfort and solid enjoyment of such summer excursions perhaps most largely depend. The author speaks from experience, and his suggestions as to outfit, choice of menu to lay out for different kinds of expeditions, management of the fire, and the best ways of cooking afford sufficient variety to satisfy a taste with a good deal of discrimination, while the directions are so simple that the veriest novice in such matters cannot fail to quickly acquire therefrom the knack of preparing his own food. Take nothing but what is necessary and which can be compactly stowed, is the author's rule, and this little book, which can be easily tucked in a side pocket, might well be counted an essential of a perfect outfit.

## Business and Personal.

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