

RECENTLY PATENTED INVENTIONS.

Engineering.

ELEVATOR AND CONVEYER.—Lewis A. Park, Townsbur, N. J. A centrally pivoted track is adapted to move horizontally on an upright portable open frame, a carriage running on the track past its pivot and through the frame, there being a gear and chain mechanism for moving the carriage and detachable braces for the ends of the track to support it at both ends at right angles to the frame. The invention affords a simple and strong machine for lifting and placing building materials or other heavy articles, the braces strengthening the extended portions, and the machine being in very compact shape to be hauled about.

ELEVATED RAILWAY.—John N. Valley, Jersey City, N. J. An improved traveling carriage or hanger has been designed by this inventor, suitable for suspending any desired form of car, and positively to prevent its derailment. The carriage has four standards, constituting with a bottom band and uniting bars a frame in which are journaled suspension wheels and safety wheels, the treads of the latter being spaced sufficiently below the running wheels to receive the rails between them, the flanges of both wheels being on the inside of the track rails. The invention also provides an improved track and support therefor, whereby the strain on the rails is distributed.

CENTRIFUGAL SHAFT GOVERNOR.—George S. Neely, Pacific, Mo. This invention consists principally of a pivoted eccentric disk adapted to move across the driving shaft of the engine, and connected with a central gear yieldingly connected with the hub of the governor wheel secured to the driving shaft, weighted and spring-pressed segmental gear wheels being mounted to turn on the governor wheel and in mesh at opposite sides with the central gearwheel. The device is of very simple and durable construction, and very effective and sensitive in operation, to accurately govern the motion of the valve and insure uniform running of the engine.

Mechanical.

SAW COTTON GIN.—Nathan Whalley, Fort Payne, Ala. In this machine a revoluble toothed huller is arranged near the saws and beneath the chute, and fingered or toothed huller bars near the saws and the back portion of the chute, a pair of carding rolls being arranged parallel above the saws, while there is a third carding roll between the pair of rolls and the saws, to clean the larger rolls. Ordinary gin saws are used, and the feed and speed generally be perfectly controlled, but the cotton may be cleaned of foreign matter before it is delivered to the saws, thus obviating danger of fire by friction and damage to the saws. The saws are not necessarily forced deeply into the roll of seed cotton, thus providing against kinking or otherwise injuring the lint.

CENTRIFUGAL MACHINE.—Leon F. Hauptman, New Orleans, La. Within a stationary shell or curb from which a discharge spout delivers to chutes is suspended a revolving basket with perforated sides, and permitting the free circulation of steam, air, or gas, between the basket and curb. Secured to the bottom of the basket is a fan comprising a plate turning above the annular channel in the curb bottom, and a number of curved blades secured to the underside of the plate, the fan blowing lightly to the inner periphery of the curb, and not allowing the escape of water, moisture, or steam, where it would come in contact with the dry sugar discharging from the basket. The machine is especially designed to facilitate the separation of liquids from solids in the sugarmanufacture.

WIRE SHEARS.—Louis Townsend, Evansville, Ind. This is a tool for the use of firemen and others who may have to cut electric wires. It has two heads, each having cutting jaws, and pivoted together centrally so that they coincide when in normal position, the shanks and attached handles being curved laterally from each other, so that when the handles are drawn apart the cutters meet. The handles are insulated, and the cutters are so arranged that they may be either pushed or pulled against the wires to be severed.

NUT LOCK.—John D. Fichtner, Uniontown, Pa. The bolt, according to this improvement, is provided with two sets of threads cut in opposite directions, with nuts fitting the threads, the main nut being provided with a chamber and a spring pawl, and the locking nut being fitted to the reverse thread and provided with a ratchet.

LUBRICATOR.—Nathaniel J. H. Duncan, Parkville, Md. A divided grease reservoir adapted to be secured to the connecting rod has tubes leading from its compartments into the box of the crank, reciprocating plungers sliding in the tubes resting upon the crank. The device is of very simple construction and is designed to automatically deliver just the right quantity of oil to the crank, without regard to the speed of the engine or the temperature of the oil.

LOOM.—William Britain, Jr., London, England. This invention relates to looms for producing coil yarn and similar fabrics, and provides pile yarn carriers passing between the reed plates of the batten and extending nearly to the fell of the cloth, together with means for causing each carrier to pass alternately on opposite sides of the ground warp which passes between the same reed plates. The loom is designed to produce a high grade fabric in which the tufts of the pile are looped around the ground warps instead of being caught by the weft, as in ordinary pile fabrics.

Agricultural.

CORN HARVESTER.—James E. Perkins, Brownwood, Texas. This is a machine capable of being attached to any farm wagon, so that when the wagon is drawn over the field it will cut the ears from two rows of corn simultaneously and deposit the corn in a receiver at the rear of the cutters. Power is afforded by pinions from the rear axle to operate levers which reciprocate knives with which the ears are brought in engagement by the pressing down of the corn stalks, the

ears dropping into chutes from which they pass to the receiving receptacle, to be removed from thence to the od of the wagon.

FERTILIZER DISTRIBUTOR.—Thomas W. Sample, New Washington, Ind. This is an improvement in devices to be attached to planting machines, to distribute the fertilizer at the time the seed is planted. It is adapted to evenly distribute the fertilizer in front of and behind each hill of corn or sow it in drills if desired. By means of a valve of novel construction the feed of the fertilizer is perfectly controlled, and means are also provided to regulate the speed of the distributor, to make it drop fast or slow.

Miscellaneous.

GAS METER CONNECTION.—Albert H. Gindele, Jersey City, N. J. This is an improvement intended for use as a substitute for the solder joints usually produced between the thimble of a union nut and the end of the lead pipe, and also between a common nipple that is used to join the lead pipe connection to an iron pipe. The lead pipe is radially flanged at the end, and on it is an externally threaded sleeve, while a threaded thimble is screwed into the pipe, and a junction nut threaded in two diameters engages the sleeve and thimble, a union nut connecting the thimble with a meter post.

PHOSPHATE SEPARATOR AND DISINTEGRATOR.—George Guild, Knoxville, Tenn. This invention provides a revoluble receptacle into which extend steam pipes, and in which the phosphatic earth may be agitated and simultaneously subjected to blasts of steam, the filtrate being then strained away from the nodules or pebbles. The apparatus is comparatively inexpensive, and the method is very efficient.

STEAMING APPARATUS.—Henry G. Hall, Blacksburg, S. C. A kettle with its base on a furnace, and circulating pipes extending under the base plate, whereby the water may be readily heated to a temperature of about 375° F., is arranged to accommodate a series of circularly traveling baskets containing filled cans or other articles to be steamed. Each of the baskets is engaged by an arm connected with a flange on a sleeve turning on the upper part of a central flue, and the wheels of the basket carriages travel in the bottom of the kettle, the wheeled baskets being conveniently lifted in or out of the kettle for filling or emptying or moving to and from the packing room.

METHOD OF PRESERVING WOOD.—Francis Hall, Tacoma, Washington. This invention relates more particularly to the treatment of wood for protecting it from the ravages of the teredo, as well as other forms of animal life, also rendering the wood less inflammable. It comprises subjecting the wood to the action of a solution of alkaline hydrates in connection with alkaline carbonates and one or more of the following salts: Alkaline aluminates, alkaline silicates, alkaline chromates, alkaline arsenates or arsenites, alkaline sulphides or alkaline sulphide solution of metallic sulphides, the processes varying with the wood and purposes for which treated.

CONSTRUCTION OF BUILDINGS.—William M. Myers, Hannibal, Mo. The wall, according to this improvement, is composed of brick laid longitudinally, wooden strips disposed between each course of brick and mortar courses between the faces of the strips and the brick, the outer edges of the wood sections being set back from the edges of the brick to form grooves in which the cement filling is placed. The main purpose of the invention is to lessen the cost of construction, reducing the quantity of brick and labor by about one-half as compared with ordinary building.

STORE SERVICE APPARATUS.—James R. Pollock, Mansfield, Ohio. This improvement relates particularly to the means of propelling the basket or car, there being a propelling line connected at one end with the fixed truck, at the other end of the propelling line being a ball or block and a fixed guide to be engaged thereby to take up slack. To send the basket, it is only necessary to pull upon a hand line and lift the ball to the top of the guide, he operating line not only serving to propel the basket, but also as a brake therefor.

CAMP STOVE.—George W. Mings, New Castle, Col. This is a stove which may be so closely folded up as to be carried in a saddle bag, and yet may be quickly set up for effective service. It has rectangular body sections hinged together at their ends and a series of triangular sections hinged at their bases to the upper edges of the body sections and provided with separable connections. The stove, as set up, is triangular in form, with a door in the front body section.

OVERALLS.—Philip J. Lonergan, Denver, Col. This is a garment in which the outer sides of the legs are open from top to bottom, having along their edges separable fastenings, while at the opposite ends of the front section of the waist portion are extended pull pieces, thus forming a garment which may be put on or taken off with great facility.

REFRIGERATOR.—Lansing Bonnell, New York City. The upper ice chamber and lower provision chamber of this refrigerator are connected by detachable flues, the parts being so arranged as to promote a constant circulation of air and an even distribution of the cold air which passes downward from the ice chamber. The ice chamber is covered by a swinging lid which has in the center a depressed condenser. Every flue and air discharge, as well as the trap, may be easily removed or thrown open for inspection and cleaning, so that every part may be readily kept clean and sweet.

SAW FRAME.—George M. Harriman, South Thomaston, Me. This is a frame in which the brace or central part of a buck saw is pivotally connected with the curved end piece of the outer end of the frame, allowing the end piece to tilt freely in straining the saw without weakening the frame.

HALF TONE NEGATIVE FOR PHOTO. PROCESSES.—Frederick J. M. Gerland, Bayonne, N. J. A sensitive plate is, according to this process, subjected a part of the time to a full exposure without a screen, and for the remainder of the time of full exposure with a screen between the negative and object. By this means

a negative is made which has a uniform tone in the high lights, producing a clear or non-printing space in the positive print on the stone, zinc or copper plate, so that the finished print shows clear white spaces in the high lights corresponding to the high lights on the object photographed. This work has formerly been done by the artist with tools or acid.

LEDGER INDEX.—Franklin A. Ransom, Farley, Ia. This is a device of simple form, constituting no part of the ledger itself, but arranged for readily posting the desired names and conveniently finding the desired page of any account, and also indicating the proper ledger where several are used. In a casing open at one side and at the top are pivoted L-shaped frames with arms and adapted to hold index leaves, transverse shafts in the casing having arms pivoted to the arms of the frames and with handles at their outer ends for turning them.

SLEIGH.—Friederich A. Schaefer, Truckee, Cal. This sleigh has drive wheels held vertically adjustable on the sides of its platform, whereby the sleigh may be conveniently propelled and steered over the ice and snow without danger of sinking the wheels too deep into the snow. Besides the main runners, this sleigh has auxiliary runners adapted to be fastened at their ends to the main runners, and near their forward end are fulcrum rudders connected by a cord with handles in easy reach of the operator. By means of wheels journaled in the front, the front end of the sleigh may be raised off the snow or ice, the wheels being normally folded back out of contact with the snow or ice.

SLED PROPELLER.—A further improvement of the same inventor provides a sleigh adapted to be readily propelled and steered over ice or snow, either by the occupant or by a suitable motor within the sleigh body. On each side of the sleigh box is a shaft carrying a paddle wheel operated by a crank arm by a person in the sleigh, the paddles engaging the snow or ice to propel and steer the sleigh.

BICYCLE.—Samuel A. Donnelly, Chicago, Ill. This wheel has a diamond-shaped frame formed of four metal rods bent to form a double diamond frame and having their rear ends arranged approximately parallel, there being link-shaped fittings upon the rods in advance of their rear extremities. The vehicle is very light and strong, while the frame is peculiarly adapted for a simplified driving gear in the parts most liable to get loose in bicycles, which are stronger, owing to fewer connections.

CHAIR.—Thomas S. King, Cincinnati, O. The combined folding and swinging chair designed by this inventor is of simple and inexpensive construction, quickly and easily set up and taken down, and when not in use it can be folded and packed in very small space. It has two upright side standards, and the chair frame as well as the uprights are made of flat metal, the frame comprising a seat frame, a back frame and a drop frame pivoted to the opposite ends of the seat frame. The back, seat and drop frames are covered by a single piece of cloth stretched over the sections and wound at opposite ends upon top and bottom crossbars, the cloth being so retained that it is impossible for it to sag in the back or seat.

WASHING MACHINE.—Mary A. Marks, Toledo, O. This machine is designed to facilitate the thorough washing of clothes without boiling, either before or after the washing, and in such manner as will avoid all possible injury to the garments. With this improvement the clothes are not rubbed, but receive first a saturating, then a pressing and then a rinsing to remove the dirt. A lever is pivoted on a standard in the middle of the suds box lid, plungers extending from the lever through apertures in the lid, there being clothing carriers on the lower ends of the plungers, consisting each of an open bottom casing with top apertures.

BRIDGE GATE.—William J. Brown and John K. Walker, Coal City, Ill. Combined with two gates and mechanism for moving them is a swinging brace on the outer end of one gate, while a rack and pinion mechanism is carried by the abutting ends of the two gates for automatically swinging the brace into and out of operative position when the gates are moved toward and from each other. The improvement is adapted to automatically close and open the approaches to drawbridges with the swinging of the bridge, and is a simple, strong and positively working apparatus to operate a fence or gates by the movement of the bridge.

HERNIAL INSTRUMENT.—Alexander Dallas, New York City. This is a very simple implement for use in inguinal and femoral hernia, consisting of a head and handle, the head flattened and its point smooth and blunted, while its anterior and posterior surfaces and outer edge are covered with fine, needle-pointed serrations, the inner edge being smooth and having a deep groove. The handle part has a movable cover, which covers the serrations as the implement is introduced.

EARTHENWARE SEWER PIPE JOINT.—Robert Ewing, 16 Shaftesbury Avenue, London, England. This is an improvement, especially in that class of joint with ordinary faucet, and with external shoulder or flange on the plain or opposite end of the pipe, made of the same material as and integral with the body of the pipe. The joint has ample internal space for the luting or grouting, and affords a double bearing to the spigot or plain end of the pipe, dispensing with the ring or annular rib at the lip of the socket. The joint is closely and evenly fitting, especially at the invert or floor of the tube.

BUGGY TOP FOLDING DEVICE.—Lacrotta L. Short, Russellville, Mo. Journaled in the vehicle box is a shaft with upwardly extending arms having a loose connection with the buggy top frame, and downwardly extending arms connected with foot levers, whereby a rocking motion may be imparted to the shaft. The arrangement is such that one sitting on the buggy seat can by pressure of the foot readily open or close the buggy top at any time while the vehicle is in motion. The improvement is readily applicable to all ordinary buggy tops.

DESIGN FOR FABRIC.—William S. Friedlander, Passaic, N. J. The leading feature of this

design consists of the representation of a fox skin in an outstretched position. The mat effect is produced by shadowy lines at the marginal portions of the skin, thus producing a relief effect.

NOTE.—Copies of any of the above patents will be furnished by Munn & Co., for 25 cents each. Please send name of the patentee, title of invention, and date of this paper.

NEW BOOKS AND PUBLICATIONS.

THE TRANSITION CURVE, BY OFFSETS AND BY DEFLECTION ANGLES. By C. L. Crandall, C. E. First edition. New York: John Wiley & Sons. 1893. Pp. v, 64. Price \$1.50.

This little handbook is designed for use by the civil engineer in laying out railroads. It refers more particularly to the change from the level straight track to the inclined circular track. This change must naturally be made an easy one in order to prevent disturbances to rolling stock and twisting of the trucks. The point is to make the inclination of the roadbed proportional to the centrifugal force at every point. This statement from the opening paragraph of the book is the keynote to the work, which, with its detailed description of methods and full tables, covers a very interesting field for the civil engineer.

A POPULAR HISTORY OF ASTRONOMY DURING THE NINETEENTH CENTURY. By Agnes M. Clerke. Third edition. London: Adam & Charles Black. 1893. Pp. xv, 573. Price \$4.

We have recently had occasion to review Professor Mach's work upon the history of physics. Miss Clerke's production does for modern astronomy what Professor Mach's has done for the kindred sciences. To the present work nothing but praise can be awarded. Its treatment is very thorough, its history is brought down to a recent day, and the chapters on spectroscopy and recent methods of investigation and on the attack of celestial problems are of the greatest interest. The book is very beautifully illustrated and forms an admirable compendium of the work done in our century by astronomers.

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3. A dwelling erected at Holyoke, Mass. Perspective view and floor plans. A model design. Cost \$6,900 complete. Mr. B. P. Alderman, architect, Holyoke, Mass.
4. A suburban cottage erected at New Haven, Conn., at a cost of \$2,854 complete. Floor plans, perspective view, etc. Messrs. Wilson & Brown, architects, New Haven, Conn. An excellent design.
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