

RECENTLY PATENTED INVENTIONS.

Engineering.

ENGINE GOVERNOR.—Robert H. Thurston, Ithaca, N. Y. This is a centrifugal governor of very simple and durable construction, to uniformly and accurately govern the speed of the engine according to the load. It consists of a single flexible arm secured at one end to a wheel or arm on the main driving shaft of the engine and carrying at its free end a weight, this arm being directly connected with the valve gear of the engine at a point in a circle passing through the center of the wheel, the center of the circle being the fastening point of the arm on the wheel.

GRAVITY PUMP.—William A. Hartt, Tucson, Arizona Ter. This improvement comprises two sets of cylinders, each set containing two cylinders of different diameters, one set being located beyond the other, and connected pistons of different diameters traveling in each set of cylinders, while pipes of varying diameters and length connect the two sets of cylinders with each other. This pump operates automatically, and is more especially designed for raising water, etc., out of mines and reservoirs, and discharging at a lower point.

Railway Appliances.

CAR COUPLING.—Samuel A. Yeager and Wilson I. Luckenbach, Bethlehem, Pa., and Alfred P. Balliet, Coplay, Pa. This coupler is of the knuckle type, but provides for coupling in the ordinary way with an opposing knuckle drawhead, and also for quickly shifting the knuckle to convert the coupler into one of the Miller type, in which a spring-controlled hook is located near the center of the drawhead, a spring in the drawhead adapting the coupler for the latter use, but not interfering with it as a knuckle coupler. The construction is very strong, and the pivot pin and knuckle may be readily shifted to one side or to the central portion of the drawhead, while the locking pin may be readily manipulated from the sides or the top of the car.

TRACK JACK.—Joseph McMurrin, Shoshone, Idaho. According to this invention a ratchet slide moves upon a standard toothed on opposite sides, the ratched carrying spring-controlled dogs engaging the teeth, and the slide and the dogs having registering openings for the reception of a railroad pick or like tool. The device is very strong and of simple construction, and is especially adapted for lifting rails, being readily movable from place to place and operated by one person with no other lever than a railroad pick or similar tool.

Mechanical.

BENCH DOG.—Charles L. Bronk, New York City. This device comprises a bottom plate adapted to be screwed upon the bench and having raised ears between which freely slides a locking dog actuated by a cam lever, the latter having a curved slot near its forward end, a screw stud in which engages the locking dog, while a screw bolt is passed through a central longitudinal slot of the cam lever to engagement with a threaded perforation in the bottom plate. The device is inexpensive, and well adapted to conveniently lock upon the bench a board or other piece of wood to be planed.

WORK HOLDING CLAMP.—William J. Avey, Cincinnati, Ohio. This is a strong and readily adjustable device for application to and to hold the work in place upon wood-working machines where the knives work up through the table, and the wood is passed over them upon the table top. It comprises an edge-wise-held spring plate, opposite and adjustable to and from which are clamping rollers, while yieldingly supported rollers engage the top of the work, and means are provided for adjusting both sets of rollers horizontally and vertically. The device may be quickly adjusted to different shapes, circular and straight, preventing the workman's hands from coming into contact with the cutters, and forming a convenient guide, when once adjusted to one piece, for other similar pieces.

SELF-TRIPPING PULLEY BLOCK.—Colin Matheson, Eureka, Cal. This block has an open side, a pulley being journaled above and another below the opening, the second pulley having a grooved face to receive the cable and projecting cogs at its outer edge. The improvement is designed for use in connection with cables for drawing logs, cars, etc., tripping the branch cables which carry the load directly in passing around curves, so that the cables may swing outward and facilitate a good turn, obviating the necessity of dragging the cables on the ground.

NUT LOCK.—Edward E. Poole, For-dyce, Ark. This device comprises a washer plate through which the bolt passes, and provided with two slits forming a tongue and pawl in the plate, both the pawl and tongue being bent forward at their free ends, and both pointing and facing in the same direction with respect to the revolution of the nut. The plate is slipped on the bolt in advance of the nut, and the latter turned up against it will turn on past the pawl and tongue, and when turned home will be held by these parts from jarring loose and coming off.

Agricultural.

THRASHING MACHINE ATTACHMENT.—Hermann A. Stollenberg, Hollyrood, Kansas. This is a device especially adapted for feeding banded grain, and may be attached to a machine of any size or capacity. It has a series of reciprocating feed arms carrying knives, and a feed device consisting of a grating pivoted at one end and located over the arms, there being a rock shaft below the opposite end of the grating, the shaft and grating being pivotally connected by links, and a pawl and ratchet mechanism connected with the shaft. The bundles of grain thrown on the feed table are automatically carried forward, separated, their banda cut, and the grain and straw delivered to the machine in proper condition to be thrashed.

STALK CUTTER.—William M. Mueller and Oskar F. Burford, Elmwood, Neb. This is a ma-

chine adapted to be driven over a field where the stalks are left lying upon the ground, and cuts the stalks into such lengths as may be desired to enable them to be plowed under. The machine has a skeleton straightening frame from which are supported hooks which travel on the ground to straighten the stalks, after which they are pressed upon by a roller which holds them while they are cut by a vertically reciprocating knife at the rear of the machine, the lengths in which the stalks are cut being regulated by the length of the stroke of the cutting frame.

Miscellaneous.

COTTON BALING APPARATUS.—Edmund M. Ivens, New Orleans, La. This is an apparatus for baling lint or condensed cotton direct from the gin without tramping it in the press box, and packs the cotton in a seven foot instead of a twelve foot box, thus lightening the weight of the box and shortening the travel of the main screw presser platen. It has a swinging press box with two chambers, a junior presser follower mechanism giving the cotton an initial pressure in the receiving chamber, while a senior or cumulative pressure platen gives the second and final compression to the partially compressed bale after the box is swung to change the position of the chambers, the operations in both chambers going on simultaneously.

SAFETY JOINT FOR ELECTRIC CONDUCTORS.—James H. Curry, Wilkinsburg, Pa. This is an automatic joint consisting of an insulated containing case, through the ends of which pass conducting stems forced inwardly by springs, while sliding electrical contact surfaces are arranged upon the inner ends of the stems and adapted to break circuit by being moved inwardly past each other. Insulation is disposed of between the conducting stems and the contacts on the one hand and the containing case on the other to maintain a permanent insulation for the containing case in all positions of the parts. The outer casing is always insulated from the line currents, and is never a live surface, thus reducing danger to line men.

ORE SEPARATOR AND CONCENTRATOR.—Ira F. Monell, Sugar Loaf, Col. This is an improvement on a formerly patented invention of the same inventor, and provides an effective separator and concentrator of very simple and durable construction. It has improved means for conveniently adjusting the mechanism for bumping a depending swinging table beneath the belt upon which the ore is passed, whereby the concussion may be regulated according to the nature of the material being treated, too heavy a concussion sometimes shaking the mineral up into the current to be carried away with the sand.

FIRE EXTINGUISHER AND ALARM.—Edward Livingston, New Orleans, La. This is an automatically working apparatus, comprising a series of pipes arranged in the rooms of a building and filled with fire-extinguishing fluid of liquid, gaseous or compressed gaseous form, the pipes being connected with a supply tank and fitted with fusion valves adapted to open at a temperature of about 160° F. Connected with the system is a tank for generating a fire-extinguishing gas, the devices for generating the gas being under the control of the fluid contained in the pipes. The apparatus is also electrically connected with an alarm, located where desired, and arranged to give warning when one or more of the fusion valves are opened by heat.

SLEIGH.—Charles G. Regnstrom, Ishpeming, Mich. This is a sleigh especially for coasting purposes, of very light construction, with a seat having arms and firmly attached by rods and braces to the low runners. Back of the seat on each of the low runners is a foot rest, on which a person may stand with one or both feet, using one foot when desired to push or steer the sleigh, the seat being occupied by another. A handle bar connects the tops of the seat posts, to be taken hold of by one standing on the foot rests.

BRIDLE BIT.—Herman Zahl, Momence, Ill. Two separate and independent longitudinally slotted side links have transverse slots at their upper and lower ends, the upper slots being for the cheek straps while a chin strap is secured in the lower slots, the bit proper extending through the longitudinal slots and having rings at its ends. A simple and effective bridle attachment is thus formed for more readily restraining vicious horses.

HALTER HITCH.—Richard H. Bacot, St. Louis, Mo. This is an extremely simple attachment to enable the straps to be quickly secured without tying a knot, and so that they cannot be unfastened except by turning the free end of the strap into a peculiar position, thus guarding against accidental releasing. A link with projecting loop is secured to the free end of the strap, on which loosely slides a sleeve, having on one face a headed stud or button, adjacent to which is an undercut projection or tongue.

SOLE AND HEEL PLATE.—John I. E. Nelson, Cedar Home, Washington. This is an improvement in footwear for lumbermen and others engaged in heavy work where the boots or shoes are frequently wet, rendering them more durable and keeping the soles to the desired stiffness and firmness. It consists of a metallic sole piece, with tread shank and heel seat, the treads having openings for spike shanks and a spike plate fitting in a heel mortise. The metallic bottoms are preferably of aluminum and steel, and the tread is formed with corrugations or ridges, the ribbed surface preventing slipping when the spikes are not needed.

LATCH.—John L. Dale, Whaleyville, Md. This latch comprises a spring rod or bar with an eye or handle at its outer end where it engages the catch, while its inner end is held in an elongated clip, a lateral bent portion or stud on the rod entering an opening or seat in the clip. The device is of very simple and inexpensive construction.

FOLDING STEP.—Henry J. Climer, Anna, Ill. A simple flight of steps, to be cheaply and conveniently attached to a vehicle, cars, etc., is provided by this improvement, the steps when not in use being collapsed or folded to occupy but little space and be entirely out of the way. The steps are suspended one beneath the other from a fixed step by means of flexible hangers, while a lever fulcrumed on the vehicle extends

beneath the lower step, whereby the steps may be readily opened out or folded up.

WINDOW SHADE SUPPORTER.—Stephen T. Stuver, Puyallup, Washington. This is an improvement on a formerly patented invention of the same inventor for an adjustable device consisting of a sectional wire truss frame, the upper and lower wires sliding upon each other, and locking devices holding the sections at their adjustment. Suspension eyes insure the straight hanging of the shade, and the construction is such that all soldering of parts together is avoided. Provision is made to accommodate a spring roller shade or a curtain pole, forming a combined roller shade and curtain supporter.

WINDOW BEAD FASTENER.—Henry A. Green, Montrose, Col. A locking device for window strips is provided by this invention, comprising a bracket plate having ears, a clamping limb pivoted at one end between the ears, and a pivoted locking dog adapted to press on the pivoted end of the clamping limb. The improvement dispenses with the use of screws or nails in the bead strips of a window, affords a reliable lock which permits the quick release of the strips, and may be manufactured to be ornamental as well as useful.

SHUTTER FASTENER.—August F. Gustafson, New York City. A combined latch and catch is, according to this improvement, pivoted near the outer edge of the blind and operated by a pull rod or drawbar. The latch is spring-actuated, and is pivoted in a plate attached to the inner side of the blind, having a terminal catch or shoulder projecting outward from the blind hinge, while the drawbar has a rigid laterally projecting handle and is arranged in a recess in the blind, being also pivoted to the latch at a point between its pivotal point and catch.

SEAT.—George A. Ennis, Livingston, Montana. This is a simple and substantial seat suspended on springs in such a way as to be very easy and comfortable. It is especially adapted for use in a locomotive cab. It may be quickly and nicely adjusted for height, has an adjustable back which may be held at any desired angle to the seat bottom, and has an arm which may also be adjusted vertically to suit the occupant.

DISPLAY RACK.—Mathew R. Dickson, New York City. A post mounted on a suitable base has one or more square portions having transverse pivots on which turn keepers, the latter being each provided with a number of supporting arms, a spring catch locking the keeper in place to extend the arms horizontally. The device is readily foldable, and when the arms are extended it is well adapted for the display of neckties, hats, etc.

PENHOLDER.—James B. Geissinger, New York City. This is a thimble device, to hold on the end of the finger, and has hollow walls forming an annular ink reservoir, there being a threaded tubular extension on the closed end of the thimble which receives a screw plug having a slot to receive the pen, to which a conducting tube leads from the ink reservoir.

DENTAL MALLET.—John H. Demonet, Brooklyn, N. Y. This is a device having a central shaft to be connected with a source of rotary motion and power while the shell or handle of the instrument is grasped by an operator, in using it to consolidate fillings. It is a neat, simple, and portable device, adapted to strike a proper blow on a supported plugging tool by a rotatable movement of parts in either direction, and its action may at any time be instantly stopped when desired.

TICKET AND CHANGE POCKET.—Martin Ralph, New York City. This pocket is preferably made of cloth-lined paper, and has in one side perforations to permit of the inspection of a coin through them, while its back side is formed of overlapping flaps, constituting receptacles in which tickets may be carried. It is especially intended for use at railway ticket offices, where it is necessary to make change often, or it may be conveniently applied to a pocket, or pocketbook, card case, etc.

CAT BARRIER.—George S. Niles, Brooklyn, N. Y. This device consists essentially of a wheel, whose shaft runs lengthwise of and just above the top of the fence or wall. The wheel readily revolves when touched, so that the animal can obtain no purchase thereon, and cannot walk along it, in either effort being precipitated to the ground.

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.

HENDRICKS' ARCHITECTS' AND BUILDERS' GUIDE AND CONTRACTORS' DIRECTORY OF AMERICA. For the years 1893-94. New York: Samuel A. Hendricks Co. 1893. Pp. 647. Price \$5. Index not paged.

This work under different countries, States, and the towns therein gives the names of a large number of classes of professional men and dealers in supplies connected with the building industry of the United States and Spanish America. Thus the book starts with a section of over 20 pages devoted to architects alone. Going further through the book, we find a section of about 150 pages devoted to carpenters and builders. In this way, under a great many titles, the addresses are given of representative houses in the many trades relating to contracting and building. It is a most useful work and among those interested it will meet with a welcome reception. An index gives the different titles of business under which the names are given and the work itself, arranged as it is alphabetically, is in some sense an index.

A PRACTICAL HAND BOOK OF MODERN PHOTOGRAPHY FOR THE USE OF AMATEURS. By Edward T. Bubier, Second. Bubier Publishing Company, Lynn, Mass. Pp. 65. Illustrated. 50 cents.

A compact, well printed little book containing useful hints and formulas for the practice of photography by amateurs, divided into four chapters.

RATHEBER FÜR ANFÄNGER IM PHOTOGRAPHIREN. By L. David. Halle a. S., Germany: Wilhelm Knapp. 65 cuts, 2 plates. Pp. 122.

This little book gives advice to amateurs in photography, is well illustrated, and written in popular style for any one to readily understand and comprehend the art of photography.

BULBS AND TUBEROUS-ROOTED PLANTS. Their history, description, methods of propagation, and complete directions for their successful culture in the garden, dwelling and greenhouse. By C. L. Allen. New York: Orange Judd Company. 1893. 12mo. Pp. 320, illustrated, cloth. Price \$2.

Hardly any other class of plants occupies so important a place in the field of agriculture as do the various kinds of flowering bulbs and is at the same time so little understood. The present work describes the varieties to plant, the soil, losses, etc. The author of this book has for many years made bulb growing a specialty, so that the statements in regard to bulb growing may be relied upon.

GUIA AUTENTICA DE LA EXPOSICION UNIVERSAL COLOMBIANA DE CHICAGO, 1893. Traducida por Joaquin A. Vargas. Chicago: Poole Bros. 1893. 18mo. Pp. 88, cuts, maps.

A small guide book not only to the Fair itself, but also to Chicago. A large amount of information useful to foreigners is given. No Spanish visitor to the Fair should be without this little work.

A LABORATORY MANUAL. By W. R. Orndorff, Ph.D. Boston: D. C. Heath & Co. 1893. 16mo, boards. Price 40 cents.

This interesting little work is intended as an adjunct to Ira Remsen's "Introduction to the Study of the Compounds of Carbon." The metric system is used throughout. The right hand pages are reserved for students' personal notes. The questions after each experiment are excellent. Among the experiments are the preparation of acetylene, benzene, aniline, starch, phenol, cellulose, salicylic acid, Fehling's solution, oxalic acid, flashing point of kerosene, saponification, acetic acid, alizarin, etc.

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SCIENTIFIC AMERICAN BUILDING EDITION.

SEPTEMBER, 1893.—(No. 95.)

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3. A colonial dwelling erected at Rutherford, N. J. Perspective view and floor plans. A model design. Cost \$3,476 complete. Mr. H. G. Ten Eyck, architect, Newark, N. J.
4. A cottage erected at Bridgeport, Conn., at a cost of \$2,775 complete. Floor plans, perspective view, etc. Mr. A. M. Jenks, architect, Brooklyn, N. Y. An excellent design.
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