RECENTLY PATENTED INVENTIONS.

Railway Appliances.

CAR COUPLING. — Ephraim H. B. Knowlton, Watertown, Dakota Ter. This invention covers a novel construction and arrangement of parts in which the drawheads are counterparts of each other, and each also provided with the ordinary coupling link and pin, the coupling hook provided by the invention being fitted to have a vertical movement on a pivotal pin.

RAILWAY CAR. — William L. Covel, Biloxi, Miss. The car or locomotive has at its end a three-sided platform, one side formed in line with the car body and the other side inclined to the direction of motion, so that cars or locomotives meeting will be directed off to opposite sides of the track, and the cars will be prevented from telescoping.

RAILWAY. — Robert P. Faddis, New Mexico Ter. According to this invention the rail seats are held in a crib frame, anchor rods being passed through openings in and secured to the base of the rail at opposite sides, and extended and secured to the lower portion of the crib frame, with other novel features, increasing the solidity and firmness of the construction.

TRACK CLEANER.—Augustus F. Priest, Fort William, Ontario, Canada. This device is made with two knives hanging on bolts so that the lower edges of the knife bars are about on a level with the bottom of the nose of the pilot of the locomotive, and adapted to clear the track entirely across between the rails, the apparatus being supported upon the pilot and forward truck in such way as to be readily raised by the engineer.

Mechanical.

LOOM.—John L. Aldinger, Syracuse, N. Y. This invention covers a warp tension regulating device for looms, specially adapted for wire looms, and by which the warp beam or drum is dispensed with, the warp threads being run from the spool to the harness, while at the same time the necessary tension is given to the warp threads or wires.

PRINTING MACHINE.—Henry H. Harrison, New York City. This invention covers a novel combination and arrangement of parts designed to provide a machine for printing cards, circulars, or other small matter, upon one side of the paper only, and cut the paper into sheets as rapidly as printed, the paper being printed from a continuous ribbon upon a drum.

WINDMILL. — Franklin B. Kendall, Turnwater, Washington Ter. Rods are connected with the spokes of the windwheel and with a sliding rod operating on a drum carrying the vane, with other novel features, whereby the windwheel is turned out of the wind automatically as soon as the wind blows with more than normal pressure.

DIAMOND CUTTING TOOLS. — Hugo Keller, New York City. The method of securing diamonds in the tools is covered by this invention, a longitudinal recess being provided in the cutting edge of the teeth for the insertion of the diamonds, which are held in place by a clamping plate riveted or brazed on, brazing material being used to fill up any spaces in the diamond socket, so that when the tool becomes worn the diamonds may be readily removed.

Agricultural.

CORN HARVESTER.—James McKivett, Garrison, Iowa. This is a machine designed to cut corn, whether it is planted in rows or not, as the machine is driven across a field, in the same manner as mower or reaper is driven through grass or grain, the machine also removing the husks, the latter remaining on the stalks, cleaning the husked ears, and delivering them into a bag or a wagon traveling beside the machine.

HAY STACKER.—Jesse Morris, Sioux Rapids, Iowa. This is a machine in which the fork is operated by ropes passing over pulleys at the top of inclined beams and thence under pulleys located near the bottom of the main frame, the hay being deposited upon the tines of the fork, and the ropes then drawn upon by a horse hitched thereto.

DIVIDER SHOE. — Charles W. Love, Fairpoint, Ohio. This invention covers an improvement in outer divider shoes for the cutters of mowers and reapers, to so construct the seat for the finger bar that the seat may be readily trimmed out to fit any of the ordinary finger bars now in use, the invention also embracing other novel features.

CULTIVATOR AND HARROW.—Thomas E. Carter, Augusta, Kansas. In this machine the cultivator teeth are so fixed as to effectually cultivate the ground adjacent to the corn, while a series of harrows may be projected from the body of the cultivator proper, the harrows being adjustable, and there being at the rear of the frame scrapers adapted to convey the loose dirt into the roots of the corn.

Miscellaneous.

HOT AIR FURNACE. — Benjamin F. Price, Bloomington, Ill. This furnace has a conical inner casing, bottom casing, and upright outer casing forming an inclosed air space, in combination with a dome, tube plate with short tubes, and other novel features, designed to secure perfect combustion of the fuel and thorough utilization of the hot air.

STEAM HEATER.—Daniel D. G. Langlands and Otis E. Moulton, Dover, N. H. The boiler of this heater has a large heating surface, large steam space, and comparatively small water space, and is not liable to become water-logged, the apparatus being adapted to be readily introduced into or incorporated with any casing.

GRAIN WEIGHER. — William H. H. Brunton, Elk City, Kansas. This invention covers various novel details and combinations in a machine designed to automatically measure and register the quantities of grain delivered by an elevator connected with a thrashing machine or grain bin.

GAS MANUFACTURE.—John C. Garvin and Henry Moody, Leadville, Col. This invention covers a novel construction and combination of parts for manufacturing gas from hydrocarbon and other liquids, such as oils of various kinds, and for cleaning the retorts and pipes used without disturbing them, the liquids being decomposed and converted into gas by being brought into contact with suitably heated surfaces.

SAW.—George H. Holmes, Ogdensburg, N. Y. This is a band saw for cutting wood, having an annealed back and the rest of the blade and cutting edge tempered with the ordinary temper of wood saws, the back of the blade being thin and the rest of it of even thickness, making a saw designed to work smoothly without being liable to crack or break.

WIRE TIGHTENER.—Louis S. Flatau, Pittsburg, Texas. This tightener is more especially designed for use in taking up the slack in wire fences, the frame having guides for the wire and a threaded bearing in which turns a screw with a hook to engage the wire, there being a shackle for keying the hook to the screw, the device being also capable of use in tying packages with wire and for other purposes.

THILL COUPLING.—Isaac Clark, Morris Plains, N. J. This coupling is adapted for use in connection with an ordinary clip, bolt, and nuts, the invention covering novel details of construction and arrangement of parts designed to afford a coupling that is simple, strong, and convenient in use, while being easy to couple and uncouple.

TRICYCLE. — Patrick Gallagher, New York City. This invention covers an improvement on a former patented invention of the same inventor, a fly wheel being applied to the driving mechanism and a brake capable of application to the driving wheels, whereby the operator can readily regulate the speed of the vehicle without changing his position on the seat.

HAT MARK.—Henry H. Wright, Paola, Kansas. This is a device, the use of which is designed to prevent parties taking the wrong hat, and consists of a frame adapted to be secured to the inside of the hat with a name-plate hinged on the frame and locked in place thereon by a pin, the device being adapted to be held permanently on the inside surface of the hat.

SUSPENDER BUCKLE.—James England, New York City. This buckle has a base plate with outwardly extending ears in which a bar is journaled having a longitudinal row of teeth, with one or more of the teeth in the row inclined at a different angle from the others, but so that both rows of teeth may be moved out of contact with the web.

BOTTLE FAUCET.—Felix Stefany, New York City. This faucet has two valves operated independently of each other, one serving to open or close the inlet and outlet pipe and the other adapted to open or close a vent, the device being specially designed for conveniently filling a bottle with a liquid under pressure, and for sealing the liquid in the bottle and discharging the contents as required.

CAN FASTENER.—Calvin Keeler and Harvey Lewis, Hobart, N. Y. This fastener consists of a grooved casting in which is fitted a sliding hook adapted to engage the wired rim of a can, a cam lever being pivoted in the casting and arranged to bring the hook into engagement with the wired ring, the device being especially adapted for use with milk cans.

MATCH BOX AND CANE.—Simon B. Simon, New York City. This is a box for use in connection with canes, umbrellas, and similar articles, and is made with a sliding lid, of such form that it will not readily open when the cane or umbrella is carried.

THEATRICAL APPLIANCE. — Fred Wilson, New York City. This invention combines with a stage a mechanical structure representing the interior of adjoining compartments, a chair having a balanced pivoted body with electric lamps sunk therein, and connected with electrical apparatus in the adjoining room, affording convenient means for flashing light and manipulating the chair.

AUTOMATIC ALARM. — Emil Meyer, Ottleben, Prussia, Germany. This invention provides an apparatus whereby watchmen, firemen, etc., may be reminded of recurring times to give attention to particular duties in connection with furnaces and other matters, and whereby, in the event of failure, an alarm bell will be rung, the latter to be connected, if desired, with an alarm bell in the office of the superintendent or manager.

SEWING MACHINE.—William C. Foster, Jersey City, N. J. This is a machine for forming a double row seam, or "whip stitch," wherein the side loops are bound at the lock formed by the chain stitch, the invention consisting principally of a hook and means for reciprocating it, whereby each side loop or stitch is shifted laterally to have the chain stitch loop thrust through it.

STITCHING FABRICS.—William C. Foster, Jersey City, N. J. This invention covers the method of stitching by the above machine, consisting of passing two loops through the fabric, a short distance apart, one to be formed into a chain stitch and the other into a transverse loop, the latter occupying a position between the chain stitch loops and the fabric.

PIANO KEY BOARD. — Enoch L. S. Osborn, Waxahachie, Texas. This key board has all the keys of uniform size and color, a sliding attachment being arranged above the keys with stripes to represent the usual white and black keys, the keys also having numerals and letters forming guides for the adjustment of the sliding attachment, whereby the scale may be transposed, the invention being intended to facilitate teaching.

SHADE FOR BURNERS. — James and William J. Stratton, Brooklyn, N. Y. The shade is formed with an elliptical top, and has a funnel-shaped ray conductor, a wire coil or ring carried by the shade being adapted to receive a burner tip, the construction being such that the flame will not impinge against the shade when the burner is inclined from the vertical position.

MUSIC OR BOOK HOLDER. — Herbert O. Brown, Auckland, New Zealand. This holder has an attaching portion with spring arms to engage a shelf, a finger being pivoted at the outer ends of the attaching portion to swing at right angles to the spring arms, and having on its lower end a weight.

CHIMNEY COWL.—David Teets, New York City. In this cowl a series of vertical equidistant strips separated by slots are combined with a series of semi-cylindrical plates arranged vertically, covering the slots and serving as smoke conductors, making a ventilator cowl designed to promote draught and avoid down draught.

VEHICLE SPRING.—James F. Thomas, Alexandria, Neb. This is a novel form of side spring, the springs being bowed at their centers, with means for securing them at their central portion to the framework of the vehicle, whereby they are restrained from torsion at their centers when the load is on, the invention being an improvement on a former patented invention of the same inventor.

SAW.—Nicholas Petry, Rockport, Mo. This is a device for sawing tenons and gains and to save the time and labor of measuring them, the heads or holders of the frame having slits in which saws are adjustably held, so that one saw can be dropped below the other, to permit cutting of tenons having one side longer than the other, or both saws can be lowered, when the frame will form a gauge.

HAY PRESS.—Michael McCarty, Montrose, Col. This press has combined with it a horse power mechanism for operating the plunger, and the hay or material to be compressed is fed in batches to the press box, where it is compressed by the reciprocating motion of the plunger, being compressed at each forward motion and pressed out of the opposite end of the press chamber.

WATER CLOSET.—John J. Balls, Jacksonville, Fla. This invention covers a novel construction and combination of parts in water closets of that class in which the bowl is flushed automatically by the action of the movable seat.

WIRE STRETCHER.—George R. Hughes, Savoy, Texas. This device has an essentially T-shaped body, the members of the head having a series of teeth, combined with a pivoted lever and clamping jaws, whereby the device can be readily attached to a post and engaged with the wires to be stretched.

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(411) R. G. D.—The so-called perpetual motions are not perpetual motions in a mechanical sense. They derive their motive power from some change in the physical elements, principally heat. The change of temperature during the day and night may be made to keep a machine or clock constantly running. There is power expended here, no matter if it comes from a natural change of temperature, the blowing of the wind, or falling of water. It is a derivative power, and not the mechanical perpetuity that has crazed too many otherwise good and useful minds. The deep sea soundings are made with a fine steel wire carrying a shot that is detached when it strikes the bottom. The wire is wound on a large reel driven by a steam engine.

(412) A. S. asks: What kind of a battery to use to explode gunpowder, and also how he could make one, and of how many cells it should be? A. Use two or three cells of a plunge battery, such as described in SCIENTIFIC AMERICAN, of December 17 or August 20, 1887. A small length of iron or platinum wire No. 36 must be placed in the circuit embedded in the powder.

(413) F. S. S. asks how to make a battery of sufficient power to run the simple motor? What would such a battery cost? Would it be practical to reduce said motor in all dimensions 50 per cent? Also could you mention a book, of reasonable price, on batteries of different kinds for different uses? A. See