

## RECENTLY PATENTED INVENTIONS.

## Railway Appliances.

**CAR COUPLING.**—Freeman Thompson, Dover, N. H. This invention provides a device by which cars may be automatically coupled together so that they cannot become accidentally uncoupled, the coupling being conveniently and safely operated from the top or the sides of the car. The invention covers a novel construction and combination of parts; the device may, if necessary, be coupled to an old-fashioned coupling, using the ordinary link and pin.

**CAR COUPLING.**—George W. Wilkinson, Chicago, Ill. This invention relates to devices having a movable knuckle and hooking with one another when coupling. The drawheads or couplers of adjacent cars alike have the hook form to engage with another, and occupy a horizontal position; each is composed of two parts, a stationary, partly hook-shaped head integral with the drawbar, and a movable or sliding hook-shaped knuckle of arc shape working through a corresponding hook-shaped slot in the fixed head part. This knuckle part, and a lever which engages and releases it, are the only two movable parts of each coupler.

**RAILWAY TIME SIGNAL.**—Walter Scott, Hot Springs, South Dakota. A time clock is provided by this inventor with a stopping mechanism for an auxiliary clock adapted to be released by an electro-magnet releasing mechanism of special construction, forming a time signal of simple and durable construction, very effective and automatic in operation, and arranged to positively and accurately record the time when the train passes the track on which the device is applied.

**FOLDING STEP FOR CAR BERTHS.**—Harry C. Stanley, New York City. A light, strong ladder is, according to this invention, made to fold into the form of an elongated bar, that is loosely secured to an upper berth of a car or steamer, being located in a slot in the front rail of the berth, so that when swung laterally out it will assume the form of a step ladder, reaching to the floor, thus affording convenient means of reaching the upper berths.

**MOVABLE STEP.**—Frank Forster, Etowanda, Cal. This is a simple form of step, adapted to be easily secured to the usual steps of a car, where it may be readily operated to drop beneath the lower stationary step, while it may be conveniently pushed up and held out of the way when not in use, so that there will be no danger of its coming in contact with any obstruction on the road.

**TANK FEEDER.**—Merritt Burt and John W. Skilton, Jacksonville, Fla. This is an invention especially applicable for use along railroad lines, or it may be employed for other purposes. Into a well or other water-reservoir extends a pipe open at its lower end, near which are lateral openings for the ingress of water, while just above the water level is an air inlet, there being at the upper end of the pipe a discharge spout leading into the tank. A valved piston is fitted to work in the pipe, descending by gravity, and being lifted by a wire rope passing over a drum and connected with a locomotive or a lifting mechanism, the piston on its upward movement lifting and discharging into the tank the body of water in the pipe above it.

## Mechanical.

**HOLLOW MANDREL CHUCK.**—Frederick A. Buck, Urbana, O. This is a chuck more especially intended for holding broom and like handles while the broom material is being tied, though also applicable for other purposes. Its main feature is a loose arrangement of the dies, which will turn in the cone whenever the handle held by the dies offers sufficient resistance, when, as the pressure at both ends overcomes the friction, all will turn together. The handles are thus firmly grasped while being revolved to secure the broom material on them, without that marring likely to occur when employing stationary dies in the hollow mandrel to hold the handles.

**DEVICE FOR CONVERTING MOTION.**—George E. Morrison and William A. Dye, Jr., Edgerton, Kansas. This is a device for converting rotary into reciprocating motion, especially where the reciprocating parts are not intended to move rapidly, being designed for use in connection with vibrating sieves and shake-feeders of roller mills, and with the shakers of wheat separators, middlings purifiers, sieve scalp-ers, thrashing machines, etc. It consists of a revoluble cam wheel and rollers journaled on a movable body on opposite sides of the cam wheel to press against it, one of the rollers having a sliding bearing and a spring for holding it against the cam wheel.

## Agricultural.

**PLOW FENDER.**—Gaston N. Spencer, Onachita City, La. This fender is readily applied to an ordinary plow or other implement used for cultivating between rows of growing plants, and has spring fingers to catch the heavy clods and large pieces which might be thrown upon and injure the plants, while causing the dirt to be partially sifted, so that only fine dirt and the requisite quantity will be thrown around the roots of the plants.

**PLOW ATTACHMENT.**—Curtis H. Warrington, West Chester, Pa. This is a device for preventing the share and mould board from becoming clogged with weeds and rubbish, the attachment being applicable to either right hand or left hand plows. A traction wheel journaled in a yoke frame adjustably attached to the front end of the plow beam actuates a bevel gear by which are operated sprocket wheels, carrying an endless chain belt and carriers, by means of which, as the plow is advanced, any trash in the path of its share is taken up and delivered into the furrow, where it will be covered up by the overturning earth.

## Miscellaneous.

**ICE MACHINE.**—Magnus J. Palson, Gloucester, Mass. This invention relates to absorption ice machines, in which aqua ammonia is treated to form anhydrous ammonia gas, which is condensed and then expanded into gaseous form in a refrigerator, the gas afterward being absorbed by weak ammonia liquor from the still, and the aqua ammonia thus formed being again utilized to produce ammonia gas, the process being continuous. The invention covers several features of the apparatus, which is designed to utilize to the highest degree the heat generated, the resultant economy being gauged by the proportion which the ice made bears to the fuel consumed.

**ORE WASHING MACHINES.**—Carl A. E. Meinicke, Clausthal, Germany. A device for regularly feeding a quantity of pulp to the machine is provided by this invention, the improvement consisting principally of a knife adapted to cut on the surface of the material held in a vessel or a tank, in conjunction with which is arranged a watering device to dissolve and wash away the material cut by the knife.

**OIL EXTRACTING APPARATUS.**—Charles Mann, New York City. This improvement includes a steam-jacketed extracting tank with a strainer in its bottom and a rotary stirrer, connected at its bottom with the top of a steam-jacketed evaporator at a lower level, there being a centrifugal spraying mechanism in the evaporator, from the top of which a vapor pipe leads into the top of the extractor, so that the vaporized extracting fluid will be conducted back to the extractor. The apparatus is adapted for use in extracting oil from cotton seed, linseed, and similar substances, at the same time deodorizing the oil.

**OIL PURIFIER AND RESERVOIR.**—Rudolph Metz, Philadelphia, Pa. The main tank of this combination device has a lower water inlet and outlet, a central well with outlets near the top, a hopper above the well having an outlet tube extending down into the well, in the lower portion of which is a steam coil, while hoppers, arranged beneath the well outlets, have delivery tubes extending into the lower portion of the tank. The oil accumulating in waste material, etc., may by this device be easily strained and filtered, the dirty oil being boiled in a separate receptacle from that in which it is finally stored.

**PUMP.**—William Peterson, Genesee, Minn. A pump especially adapted for use in tubular wells is provided by this invention, the pump having two pistons actuated from a single lever reciprocated simultaneously in opposite directions, the lever being operated by a hand, a wind wheel, or other power. The construction is simple, durable, and inexpensive, and the pump affords a continuous stream.

**STEAMING OR TEMPERING GRAIN.**—Rollin L. Rodman, Kingman, Kansas. This device is so constructed that if the supply of grain to the grinding machine or bin should be stopped, the supply of steam and material will both be automatically cut off, and when the supply is continued the grain and steam will both be admitted automatically. Within a suitable casing is a counterbalanced hopper, in which is a zigzag passageway or chute with steam inlets and a valve beneath the grain supply opening, there being another valved steam supply pipe and connection between the valves at the grain supply opening, whereby the movement of the hopper operates the valves.

**TILTING DEVICE FOR BARRELS OR CASKS.**—William Fullard, Brooklyn, N. Y. Combined with the barrel rack or stand is a transverse centrally-pivoted vertically and transversely tilting pillow block, with a spring mechanism for forcing the block upward. The device is simple, thoroughly automatic, and can be applied to any form of rack, its action being, as the liquid is drawn from the barrel, to raise the rear end of the barrel, so that the liquid always lies at the front end, near the faucet, permitting all the contents to be drawn.

**WIRE STRETCHER.**—Judson N. Hatcher, Montgomery, Mo. This invention is for an improvement in devices used for stretching fence wire, providing for the purpose a cheap, strong, and effective machine, which may be quickly fastened to a wire and easily operated to give the desired tension, while having no side draught, and enabling all the power used to be applied directly to the wire. The machine has a double ratchet bar, between the members of which moves the draw-bar, operated by a lever, there being pivoted on the draw-bar a wire clamp with a fixed jaw on one side and a cam lever pivoted adjacent to the jaw.

**BALANCE STAFF BEARING FOR TIME-PIECES.**—George Newton, New York City. This improvement provides a means whereby the pivots of the balance staffs of watches or chronometers, and the jewels, stones or bearings in which they work will be protected from breakage or injury when the watch or chronometer meets with a severe fall, shock, or blow. According to this invention the rings, beds, or bands in which the jewels, stones, or bearings are set are each mounted in the end of a reciprocating spring, so that they may recede or give way, to some extent, a peculiar form of balance staff being also employed, which is so adjusted as to take the shock from its pivots by coming in contact with the bridges.

**GAS BURNER ATTACHMENT.**—George Le Vesconte, Minneapolis, Minn. The burner is carried by the upper end of a vertical key, and a metallic band secured at one end to the gas pipe is curved upward over the burner and downward, there being operating connections between the lower end of the band and the key. The device is very simple and inexpensive, and operates to automatically turn off the gas when the gaslight is blown out by ignorance or accident.

**LIGHTING DEVICE.**—Bradford H. Pendleton, Evanston, Ill. By this device, lamps, lanterns, gas jets, etc., may be conveniently lighted without removing the chimney or globe, no matches being needed, and the device being ready at all times for immediate use. A small box, carrying a scratcher, is secured to

extend from near the burner down and outwardly, and in a circular casing, pivoted in the box, is a strip arranged in a roll and pivoted with igniting points, a shaft turning in the box winding up the igniting strip. The shaft is rotated by turning a knob, by means of which the ignition points are successively brought against the scratcher to light the wick or jet.

**BOOK INDEX.**—William B. Devin, Syracuse, N. Y. This invention relates to an index attachment, especially designed for indexes to letter books, providing a device by which an index may be flexibly connected with one of the leaves of the book, independently of the back. The index is flexibly connected, so that when the book is closed the index may be drawn out to lie flat in front of it, the leaves of the index being then readily turned.

**RUBBER DAM CLAMP.**—Asher I. F. Buxbaum, Walnut Hills, O. This invention provides a dental cervix clamp having arms with teeth or spurs adapted to embrace a portion of the neck of the tooth, the arms being pivotally connected to the clamp and made adjustable. The clamp is used for pushing and holding back the gum and rubber dam from the neck of the tooth, to permit of the treatment of decay cavities, and is adapted to fit the neck of any sized tooth.

**FLOUR SIFTER.**—Ida M. Ingram, Sedalia, Mo. This sifter has a cylindrical body with a sieve in its bottom, a series of connected spaced sieves being passed downward into the body and removable collectively therefrom, while a central shaft extending down through the connected sieves has an agitator for each of them and one for the lower sieve. A crank handle turns the agitator shaft, and this sifter at one operation practically sifts the flour several times, thoroughly mixing it with baking powder and other ingredients when this is desired.

**CUSHION FELLY AND TIRE.**—Charles Stein, Meadville, Pa. This felly may be a tube, crushed to the desired shape, and is preferably of spring material, while it has side sockets and a central bent portion shaped to fit against the main part, in connection with a hollow tire having a concave inner portion, and with shoulders to fit in the sockets of the felly. The cushion felly and tire together are designed to have a double spring action, thus rendering the wheel as easy as one provided with a pneumatic tire.

**DRAUGHT DEVICE FOR WHIFFLETREES.**—Quintis V. P. Day, Dinuba, Cal. This is a spring draught, designed to relieve the vehicle, harness, etc., of the jerk or jar of sudden starting, or from the vehicle striking a stone or other obstruction. The draught bar is arranged between springs located in a casing, lateral arms of the bar engaging the springs. The device is applicable to plows, etc., as well as to all kinds of vehicles drawn by horses.

**HUB-ATTACHING DEVICE.**—Michael F. Deiningner, Brooklyn, N. Y. The hub box has a notch in its outer end, and a nut screwing into this end has a spring-pressed locking pin projecting through a flange into the notch, there being an operating finger piece to retract the pin. The device is simple and durable, and is more especially designed for securely locking the wheel nut in place, and conveniently unlocking it for removal when desired.

**ROAD CART.**—Jesse Kimball, New Madrid, Mo. The box of this vehicle is freely suspended on the running gear, which is carried by a shaft journaled beneath the box, crank arms secured to the shaft being connected with the box, in connection with a lever mechanism for turning and adjusting the crank shaft by which the body may be held so as to be properly balanced to enable it to ride nicely. A vehicle so built is especially adapted for rough roads, as the body is free to swing in any direction, and is designed to ride very easily.

**VEHICLE RUNNING GEAR.**—James W. Taylor, Vermillion, South Dakota. This is an improvement whereby the front and rear axles are conveniently and securely connected without undue strain on the king bolt or bolsters, the axles being strengthened and arranged to permit of removing a worn-out thimble to replace it by a new one. The axle is formed of two independent side plates having their ends rounded to form spindles, a top plate fitting on the side plates, thimbles being shrunk on the spindles and heads, while a flanged nut screws on the outer threaded end of each spindle to abut against the end of the thimble.

**CASE CLEANER.**—Peter Trips, Lebanon, Ind. This is a simple and inexpensive machine for cleaning the entrails of animals, to adapt them for sausage cases. The machine frame has horizontal grooves in its inner wall in which slides a cross bar to which a case may be attached, rollers causing the case to be drawn through the machine while brushes scrape off its fat and filth, and spring-pressed toothed scrapers clean the brushes.

**BUCKSAW.**—Peter Woodring, Kansas City, Mo. Combined with the side or end pieces of the frame are centrally overlapping and crossing diagonal braces having slots through which passes a clamping set screw, adjustable from the exterior of the braces, for operation in connection with an adjustable stretcher. The improvement is designed to give a more rigid support to the saw frame, preventing it from getting out of shape or becoming racked, and largely removing strain from the stretcher while using the saw.

**STEAM MANGLE.**—Frank Baldwin, New York City. A plurality of stationary horizontally aligned irons are mounted on the frame of this machine, with a space between their adjacent edges, and with their lower faces convex and forming segments of a common circle, there being means for heating the irons, and an endless belt carried by rollers running against the lower convex faces of the irons. The belt serves as a carrier and also as a compressing agent, maintaining the clothes in positive and close engagement with the convex faces of the irons.

**EXTENSION TABLE.**—Henry Cobham, Jr., Warren, Pa. In connection with sliding rails the top of this table is formed of a central fixed section, to

which are hinged end sections formed of a series of slats hinged together, depending brackets carrying the end legs and receiving the slats of the end sections. The improvement relates especially to "roll top" extension tables, providing means whereby the ends of the table will present a square, flat appearance, while the table is designed to be very durable and of economical construction.

**BARREL.**—Emerson Cole, Brooklyn, N. Y. This invention provides a barrel or packing case made from pasteboard or thin wood sheets, with light and strong hoops. A novel method and means are provided for the removable attachment of the heads to the cylindrical or bilged body, to secure strength and lightness, and by the peculiar construction of the body, a variation in diameter at the ends is afforded by lap joints that remain tight if the diameter is altered.

**GAME COUNTER.**—William B. Herbert, Galveston, Texas. This is a tabular device for games, petty cash, etc., consisting of a card, slate, or tablet, ruled to form horizontal rows of counting squares, and perpendicular columns numbered to form multiple. The counter may be enclosed in a frame and covered in part or in whole with a plate of ground glass, or other transparent or translucent material adapted to be written on with a lead or other pencil.

**DESIGN FOR PRINTED FABRIC.**—Samuel M. Schwab, Jr., New York City. This is a pattern design, consisting of figures simulating dogs arranged in pairs, while adjacent are other figures simulating the lower body and leg portions of the animals represented on the fabric.

**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.

**TEMPERAMENT, DISEASE AND HEALTH.** By French Ensor Chadwick. G. P. Putnam's Sons. 1862. Pp. vi, 85. Price 75 cents. No index.

The author has produced this work, as he states primarily, to put forward two ideas. The first one is that there is associated with temperament a specific rate of change; the second one is that the failure to keep up that rate, which is a failure to have elimination keep pace with accession of material, is the principal cause of organic disease. Commander Chadwick treats this subject in a most practical and readable way, and we believe that his work will be found of considerable popular interest.

**PHOTOGRAPHY ANNUAL FOR 1892.** Edited by Henry Sturmev. London: Liffé & Son. 12mo. Pp. 898, 280. Price 2 shillings and 6 pence.

This annual, in addition to articles on the progress and practice of photography, contains a careful classified list of novelties and improvements in photographic apparatus and materials. This section of the work is finely illustrated and forms in fact a complete cyclopaedia of photographic apparatus up to date, when taken in connection with "Photography Annual for 1891" and "The Photographer's Indispensable Handbook." The plates illustrating the improvements in photo-mechanical processes are admirably executed and the subjects are well chosen. The list of English photographic societies, with their officers, is very complete. The advertisements render the work rather bulky.

**DIE ANWENDUNGEN DER PHOTOGRAPHIE DARGESTELLT FÜR AMATEURE UND TOURISTEN.** Von G. Pizzighelli. Halle, Germany: Wilhelm Knapp, publisher. 1892. Pp. 496. 8vo, paper. Price 8 marks.

This work on the applications of photography, for the use of amateurs and students, is accompanied by 284 well executed cuts. The two previous volumes of Pizzighelli's great work have treated respectively of the apparatus and the processes of photography, while the present work treats of the application of photography to science and art. Great attention is given to the selection and composition of subjects, and many new points are brought out in regard to such subjects as moonlight views, panoramaphotography, views from mountain heights, views in winter, views from the water, etc. Aeronautic photography occupies an important place in this work. The application of photography to physics, meteorology, microscopy, and astronomy are treated in a remarkably clear manner. Probably the most novel chapter is that relating to judicial photography, which contains a description of the method of photographing and measuring criminals as used by the police of Paris. Chromatography, though comparatively a new branch, assumed large proportions, and the section devoted is very complete. The work is accompanied by a full bibliography and shows the marks of care which are usually found in German scientific works. The book can be confidently recommended to all who read German.

**PHOTO-ENGRAVING.** A practical treatise on the production of printing blocks by modern photographic methods. By Carl Schraubstadter, Jr. St. Louis. 1892. Pp. 132, 8vo. Price \$3.

This new work is a welcome addition to the literature of photo-engraving. The book treats of the arrangement, equipment and maintenance of a photo-engraver's establishment. The work is illustrated with sixty engravings and contains chapters on zinc etching, half-tone work, single and double washout and swelled gelatino processes.

**COPY FOR PHOTO-ENGRAVING.** By Carl Schraubstadter, Jr. St. Louis. Pamphlet. Price 25 cents.

Treats of copy and its preparation and forms a necessary companion to "Photo-Engraving."