RECENTLY PATENTED INVENTIONS.

Railway Appliances.

CAR COUPLING.—George A. La Fever, Selkirk, N. Y. This coupler has a pneumatic cylinder open at one end and with spring hooks extending through its sides, a piston head being adapted to enter the cylinder, and its rod carrying a spring-actuated disk, the device being adapted to deaden the effect of collisions and prevent derailment of the cars when such accidents occur.

CAR COUPLING. — Simon J. Freeman, Bradford, Pa. In this coupling a horizontal hook adapted to swing vertically is pivoted on the drawbar, to which also is pivoted a locking plate adapted to abut against and lock the hook in a horizontal position, the device being adapted for use with the ordinary link and pin coupling, the hook being so locked when the cars are coupled as to prevent accidental uncoupling, and the invention being an improvement on a former patented invention of the same inventor.

RAIL JOINT SUPPORT.—Phillip Riley, Marion, Iowa. By this invention opposed inclined rail braces are used having flanges on their lower ends fitting in a longitudinally slotted plate, to make the joints of ordinary rails abut in such a manner that they cannot spread and get out of place, while the weight upon the rails will act to hold the parts together.

DUST GUARD FOR CAR WINDOWS.—Joseph B. Ballard, Ballardsville, Mo. This is an attachment embracing a novel construction and combination of parts, and designed also as a ventilator, for excluding smoke, dust, cinders, etc., from the car while being ventilated, and designed also to prevent the passage of very strong currents of air into the car when the windows are raised while the car is in motion.

Miscellaneous.

PULLEY.—Joseph T. Mitchell, Shelbyville, Tenn. This pulley has arms or spokes with a U-shaped bend near the middle of the length of each, these spokes being preferably formed of wrought iron, with their ends fitted to receive apertured patterns, which form cavities in the mould for bosses on a cast rim and cast hub, the pulley being made according to a method patented by the same inventor, and noticed in the SCIENTIFIC AMERICAN of March 22, 1890.

ELECTRIC CIRCUIT CLOSER. — Joseph A. Dempf, Washington, D. C. In this device a non-conducting block of wood or similar material is used, bored in three different diameters, in connection with a hollow metal stem surrounded by a spiral spring, to permit the closing of an electric circuit by pulling on a suspended tassel instead of by pressing on a push button, as is the ordinary custom.

LOOM MECHANISM.—Peter C. Stadler, Paterson, N. J. This is a take-up mechanism consisting of an improved compensating attachment for the cloth beams, serving to regulate the movement of the cloth beam in relation to the picks to compensate for the enlargement of the beam when the cloth is wound up, the device being simple and readily applicable to any loom now in use.

WIRE TWISTER. — Joseph S. Locke, Spartanburg, Ind. This is a device for twisting or wrenching the wires of combined wire and picket fences, there being combined with the handle bar a twister bar formed with an open slot and pivoted to the handle bar, so that the latter when turned presses on the wires in a straight direction toward the head of the slot.

GLASS WASH BOARDS. — Charles Cornelius and Henry Schildhauer, Neillsville, Wis. This invention provides a press or apparatus for making glass plates corrugated on both sides, and with plain margins, with special features whereby an extended series of such plates may be made at one operation and the glass made to readily free itself from the surface on which it is pressed.

METALLIC SHINGLE. — Thomas Toner and John E. Carroll, Philadelphia, Pa. This is a shingle having at either side a doubled-up ridge extending into a nailing flange having a bead located under the doubled-up ridge, the shingle being easily and securely interlocked, and permitting of being shifted sidewise at one or both ends, to facilitate laying on conical roofs, towers, etc.

SPIKE FINISHING MACHINE.—Wilhelm Boecker, Schalke, Prussia, Germany. This machine consists of a rotary wheel having outwardly tapering sockets in its periphery, with sectional matrices therein for spike blanks, an eccentric disk in the wheel acting on the rear of the matrices, while there is a die with operating mechanism and a catch for holding the rotary wheel in fixed position.

DOOR HANGER TRACK. — Henry P. Talbot, Portland, Oregon. This track consists essentially of a trussed bar to which a track or way is rigidly connected, the door hanger trucks being arranged to run upon the track, while there are adjustable levers by means of which either end of the track may be adjusted to the required height.

EYEGLASSES. — Herbert D. Martin, Philadelphia, Pa. This invention relates to a spring for eyeglass frames, which is made of a form to fit comfortably upon and conform to the contour of the nose, causing the bridge of the nose to sustain most of the weight of the lenses, and is designed under all conditions to retain the lenses in a proper horizontal plane.

PENDANT SET WATCH. — Frank G. Faxon, Mount Morris, N. Y. In this set a loose collar is bored centrally to receive the winding bar, with one or more arms acted upon by the periphery of and engaging in slots or recesses in the ends of the bow, an armed collar regulating the outward movement of the winding bar, to permit the setting of the watch only when desired, and render it impossible to pull out the winding stem inadvertently.

WATCH WINDING MECHANISM.—Lewis and Morgan Donne, London, England. This invention provides an improved motive power for watches and clocks, permitting of the use of a long and broad main spring, the winding up and unwinding of which are recorded, the mechanism being arranged on the top plate and the pillar plate, located a suitable distance apart and connected with each other by posts.

RING. — William M. Kaas, Newark, and Paul Jeanne, Jersey City, N. J. This is a ring made in two sections, each having a shank and a crown, and one crown being adapted to receive the other, the two sections when connected together being worn as and having the appearance of a single ring, and the construction being also adapted for bracelets and similar jewelry.

STOCK TABLET. — Joseph Dick, New York City. This is an improved form of memorandum tablet for storekeepers and others, divided into want and stock columns, each having a series of openings and provided with slides for exposing the names of articles of merchandise either in the want or stock column, thus giving a ready view at all times of the state of the stock.

SEALING GUMMED PAPER. — Thomas H. Hathaway, New Bedford, Mass. This invention covers an apparatus for moistening and sealing gummed articles, consisting of a suitable frame carrying an absorbent roller, a receptacle for delivering liquid to the roller, and a sealing roller, making a convenient device to facilitate the sealing of letters, envelopes, etc.

WINDOW.—John P. Clark, Jr., Jackson, Mich. This invention provides means for adjusting, sealing, and securing the sashes of a window in their casement or frame, the window frame having opposite vertical bead strips, while the sash frames have their edges hinged to permit inward folding of either frame, in connection with spring catches and slotted links adapted to make sliding engagements.

JACK FOR SUPPORTING CLAPBOARDS.—Edwin W. Brown, Vining, Kansas. This is a device to enable one man to rapidly secure clapboards in place on the side of a house, consisting of a block with an adjustable shoulder having sprags projected from its face, and an upper shoulder on which the clapboard rests, combined with a thin metallic plate perforated to receive a nail.

WAGON END GATE. — Lewis Brodsky and Samuel A. Ott, Plover, Iowa. This invention is designed to provide an end gate that can be quickly inserted in or removed from the wagon box, and in which the fastening device cannot work loose or easily get out of repair, the invention covering novel features of construction and combinations of parts.

HARNESS. — Thomas Rosekrans, Esopus, N. Y. This harness consists of a pair of rigid traces adapted to be held on and projecting in front of the hames, a short neck yoke connecting the ends of the traces with each other, and a belly band connecting the rear ends of the rigid traces with each other, whereby the animal will not be burdened with numerous straps, and the power is applied in front of the animal in pulling the wagon.

HORSE CHECKING DEVICE. — Joseph Darling, Baldwin, Pa. Combined with the saddle or support receiving the check hook bar is a dog for engaging the bar and a laterally moving detent for securing the dog out of such engagement, so that the driver may uncheck the horse and check him up again without leaving his seat in the vehicle.

THREAD CASE.—Charles Cobb, Albion, Idaho Ter. This is a case having a series of compartments especially adapted to hold spools of thread of different sizes, and so made that a spool may be quickly and conveniently drawn from any of the compartments by the simple pressure of a knob located on the exterior of the case.

CORSET. — Milton J. Roberts, New York City. This is a braided wire corset made in a novel manner, the braided wire being made to conform to the shape of the bust, when the interlacing wires are caught by solder or molten metal where they intersect or cross each other to hold the corset in form.

KEY.—Hermann C. Fischer, New York City. This key consists of a blade made of two or more spiral flanges standing at angles to each other and provided with bittings in their edges for engagement with the pins or tumblers, the flanges being beveled at their front ends, the key fitting a slot whose shape cannot be detected from the outside.

RETAINING PIN FOR NECK WEAR.—Gustave Selowsky, New York City. This pin has a head provided with an inverted U-shaped slot, open at one end and closed at the other, and with an open loop at the open end of the slot, and is designed to be quickly applied without sewing, interlocking with the material in such way that the pin is securely fastened in place.

BOOT. — James F. Shaw, Jackson, Mich. This boot has a felt foot piece formed of side sections having their meeting edges arranged close together at the front and rear, the leather leg piece being fitted over the leg portion of the foot piece and having its rear portion extended down and secured under the heel of the foot piece, the leather thus strengthening and protecting the felt around the heel and ankle.

LEAF TURNER. — Edmund Wilkoshesky and Lee Van Orton, Butte City, Montana. In this device a rack is supported by a frame which has a centrally journaled shaft upon the upper end of which are loosely pivoted arms having clips at their outer ends for engaging the sheets, there being a carrier adapted to engage the several arms in succession, for turning the leaves of books, music, etc., on instruments, and for attachment to orchestral music stands.

CRATE. — James W. Brook, Lynchburg, Va. This is a crate to facilitate the transportation of fruit and vegetables, eggs, live and dressed chickens, etc., the invention covering a novel construction and combination of parts making it strong and rigid, while insuring the access of air to the contents, and allowing for its being readily put together, taken apart, and used again.

NEW BOOKS AND PUBLICATIONS.

A HANDBOOK OF ENGINE AND BOILER TRIALS AND OF THE INDICATOR AND PRONY BRAKE. By R. H. Thurston. New York: John Wiley & Sons. 1890. Pp. xii, 514. Price $5.

The title of this book expresses its contents. It forms a very full treatise on tests of all kinds of engines, gas and steam, and boilers. The different instruments used for the purpose, planimeters, speed indicators, dynamometers, etc., are all treated. Even the chemical analysis of furnace gases is included, and all that will make the treatment of the subject a complete one is to be found in the book. Illustrations are used wherever needed, and a very complete table of logarithms and other factors is given at the back. It makes a most valuable contribution to science, and one fully worthy of its eminent author.

A TREATISE ON THE ARC INDICATOR. By Thomas Hawley. Boston: *Journal of Commerce* Publishing Company. 1890. Pp. 88. Price 25 cents.

What Professor Thurston's work just noticed does in detail, this work does in the abstract. It simply treats of the indicator, its attachment to the engine, etc. Numerous illustrations are given, and it forms a good compendium for the engine room.

A TEXT BOOK ON ROOFS AND BRIDGES. Part II. Graphic Statics. By Mansfield Merriman and Henry S. Jacoby. New York: John Wiley & Sons. 1890. Pp. vii, 124. Price $2.50.

All that is to be said of this book is that, while it is designed to cover the course of instruction given to the classes in civil engineering in Lehigh University, it is really a manual of general utility, as embodying the recent methods of determining the strength of trusses. Interleaved blank pages are given to contain the personal notes of the reader or student.

THE SCIENCE OF METROLOGY, OR NATURAL WEIGHTS AND MEASURES. A challenge to the metric system. By the Hon. E. Noel. London: Edward Stanford. 1890. Pp. 83.

The author of this work endeavors to substitute the semi-diameter of the earth for the quadrant as a basis of measurement. It enters a protest against the metric system, and one which, for the sake of science, it is to be hoped, will not have much force, and which will probably be without effect in preventing the rapid spread of the recognized system of scientific measurement.

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Notes & Queries

HINTS TO CORRESPONDENTS.

Names and Address must accompany all letters, or no attention will be paid thereto. This is for our information, and not for publication.
References to former articles or answers should give date of paper and page or number of question.
Inquiries not answered in reasonable time should be repeated; correspondents will bear in mind that some answers require not a little research, and, though we endeavor to reply to all, either by letter or in this department, each must take his turn.
Special Written Information on matters of personal rather than general interest cannot be expected without remuneration.
Scientific American Supplements referred to may be had at the office. Price 10 cents each.
Books referred to promptly supplied on receipt of price.
Minerals sent for examination should be distinctly marked or labeled.

(2086) H. W. M. writes: I have some printed brown paper that I wish to turn to a yellow. What kind of chemicals shall I use to effect this? A. You may succeed by bleaching with javelle water or oxalic acid, and then dyeing with picric acid or turmeric. Or saturate with indigo in solution in sulphuric acid after bleaching and then treat with nitric acid.

(2087) G. F. D. asks: 1. What distance should be between the diaphragm and magnet core of a telephone receiver? A. The distance should be as small as possible without permitting the diaphragm to come in contact with the pole of the magnet when the diaphragm is strongly vibrated. 2. In the number of your paper published January 25, you stated that the wire on bell magnets should have a depth equal to the core. Does this rule hold good for all magnets? A. Yes. 3. Are the alternations of the secondary in an induction coil of equal strength? A. No; the impulse on breaking the primary circuit is greater than that of closing. 4. Which is the more dangerous to life—the direct or alternating current of equal strength? A. This matter has not been determined as yet.

(2088) J. C. writes: Is there a law in the United States regulating the use of wine measure? If so, what does the act demand in order to make such measures thoroughly legal? A. The legal liquid measure is the gallon of 231 cubic inches, by congressional enactment of 1824, subsequently ratified by the State of New York.

(2089) F. B. M. asks: Can an electrical current be said to have a taste? A. No; it may produce a taste by decomposing the fluids of the mouth.

(2090) F. M. writes: In using the ordinary commercial glue for fastening metals together, will it in the case of zinc foil and copper act as an insulator between the two, when used to hold them together? A. It will be a very poor insulator, and will be worse in damp air than in dry air. Shellac is the proper substance to use.