

## RECENTLY PATENTED INVENTIONS.

## Railway Appliances.

**CAR COUPLING.**—Abner J. McGehee, Jackson, Tenn. This invention covers a novel construction and arrangement of parts, making a simple and effective coupler designed to operate automatically, and one which will not be liable to become accidentally uncoupled.

**EXTENSIBLE CAR STEP.**—James F. and John F. Wood, Wilmington, Del. This step is mounted in ways secured to the under side of the permanent car steps, the extensible step being normally held in position just beneath the lower car step, but arranged so that the steps may be extended downward to form a continuation of the permanent steps.

**SWITCH.**—George L. Worth and John B. Wyatt, Wymore, Neb. This is a three-throw open split switch, employing only one pair of main or outer switch points, the main switch points being normally open with the main line clear, and at the same time permitting trains on the sidings to pass out of either side track on to the main line without operating the switch.

**BRAKE.**—James K. Hardwicke, Marshall, N. C. According to this invention a rotary shaft extends from end to end of a train, and is coupled between the cars, the brake frames having a screw-threaded connection with the rotary shaft, and the hand brake mechanism of the several cars being geared with the rotary shaft, with other novel features, whereby an entire train may be braked from the tender.

**SAFETY GATES.**—William M. Brown, Jr., Sacramento, Cal. This invention consists in mechanism for operating safety gates inclosing the platforms of cars to prevent passengers from falling off, and provides an apparatus therefor controlled and operated from the engine of the train.

## Electrical.

**INCANDESCENT LAMP.**—James Stewart, New York City. Combined with the carbon filaments and wires attached thereto is a clamping device for holding the wires in contact with the conductors of the lamp socket, with other novel features, the construction being such that the carbon filaments may be removed and replaced without injury to the lamp globe or socket, permitting the renewal of worn-out lamps at a slight cost.

**ELECTRICALLY HEATED VACUUM PAN.**—Gail B. and Milbank Johnson, Elgin, Ill. This pan is more especially designed for use in condensing milk, and has a rounding jacketed bottom, an insulating heat-conducting material within the jacket, an electric resistance wire passing spirally around the jacketed space and inclosed in the material, while a horizontal coil of pipe within the can contains an electric resistance coil.

## Mechanical.

**LOOM ATTACHMENT.**—Fred Lacey, Adams, Mass. This invention relates to an attachment for looms upon "splits" or more than one width of cloth are woven at the same time, the object of the invention being to produce center selvages, and the invention covering a novel construction and combination of parts.

**LOOM.**—Joseph Jagger, Glenham, N. Y. This is a loom for weaving Brussels velours, the invention consisting of a section wheel operated and locked from the main shaft and connected with cams and levers operating the healds, the jacquard, and the picking devices, together with a device for insuring regular measurement of each pattern woven.

## Miscellaneous.

**FENCE.**—John M. Fellows, Burlington, Ind. The posts are connected with cross sills having a vertical mortise therefor, a brace also connecting the post and sill, making a substantial fence which can always be kept plumb, irrespective of unevenness of the ground surface, and which may easily be removed and set up elsewhere.

**AIR PURIFIER.**—Benjamin S. Benson, Baltimore, Md. This invention relates especially to means for purifying the air of sick rooms or sleeping rooms, and consists in extracting the poisonous moisture and gases by forcing the air in contact with antiseptics, the invention covering a filtering case with detachable filtering webs, air inlets and outlets, a heating case or drum having a hot air chamber, and various novel features of construction and combinations of parts.

**SCARF FASTENER.**—Carl Strauss, New York City. This device consists of a spring clamp with pivoted tongue, slotted spring plate, and a base plate having a spread flat portion provided with stitching perforations, the device being designed for use in connection with scarfs having a portion of the shirt bosom exposed by the vest of the wearer, and preventing the scarf from riding up or getting out of place.

**WHEEL.**—George E. Crutchfield, English, Ark. This is a wheel of superior strength, wherein the hub extends to within a short distance of the felly, and the spokes are short, the invention providing a simple and efficient box for the wheel, and the tire being so made that it will serve for both tire and felly.

**VEHICLE SPRING.**—George E. Bartholomew, New Haven, Conn. Two pairs of leaf springs are connected to the hind axle and to clips secured to the under side of the vehicle body, the two springs of each pair being held under tension by a central link to prevent rattling, and each pair of springs being connected to a central spring bar, the object being to dispense with the ordinary forms of platform or elliptic springs.

**VEHICLE SPRING.**—Edward Hutchinson, New York City. This is a spring especially adapted for attachment to a head block and the sup-

port of side bars, the spring being designed not to strike the head block or be compressed to a disagreeable extent when the weight of a person mounting is brought to bear upon one side.

**HEAD BLOCK FOR VEHICLES.**—This is also another invention of the same inventor, providing a combination of head block, fifth wheel, and springs, whereby the body of the vehicle is allowed to drop a greater distance than usual, the peculiar shape of the head block and perch plates allowing the fifth wheel to be secured to the under side of the head block.

**STOVE PIPE THIMBLE.**—Alexander Staub, Fort Wayne, Ind. This thimble is constructed with cast iron annular heads, held together with the rest of the thimble by wires or thin metallic strips, the construction being such that the heads will be held firmly in place and not become loose, while the thimble may be readily put together and taken apart, and can be adjusted in length.

**PHOTOGRAPHIC CAMERA.**—Erastus B. Barker, Newark, N. J. This invention consists in novel means for using the sensitive plate of greater length than width, as usual, so as to give either a longitudinal or transverse exposure, without restriction to the angularity of the plane in which the plate holder lies.

**GROUND GLASS ATTACHMENT FOR CAMERAS.**—Max Bauer, Brooklyn, N. Y. A back frame is provided with springs secured thereto, a ground glass being secured to the ends of the springs, the latter supporting the ground glass on the back frame of the camera, at the same time holding the plate holder in place, the springs being out of sight, and the whole presenting a neat appearance.

**BROWN LEATHER.**—Edward Frid, New Hamburg, N. Y. This invention covers a compound for cleaning and restoring to its original color all kinds of brown leather, such as russet boots and shoes and harness, and has an acid which removes all stains and discoloration, mixed with a coloring agent dissolved in boiling water.

**METALLIC SHINGLE.**—Joshua Mills, Ottawa, Ill. This shingle has a triangular rib at each longitudinal side, the edge of one rib being carried horizontally inward and the edge of the other rib horizontally inward and vertically, the object being to check the effects of a driving wind and to secure the shingles without perforating or otherwise puncturing them, dispensing with the necessity of soldering.

**PRESERVING LUMBER.**—Thomas H. Sampson, New Orleans, La. This invention is to facilitate the use of woods now useless for furniture making, and prevent their warping and twisting, and consists in first removing the sap, then dissolving the cellular tissue by an alkaline solution and extracting it by a vacuum, precipitating the remaining matters in the wood in an insoluble state by a basic metallic salt, and drying.

**WINDOW CLEANER.**—Henry C. Rose, Leadville, Col. This is a fountain device for cleaning windows without removing the curtain or draperies, and has a framing with a water receptacle at its upper end, a jet tube, and an elastic roller journaled in the sides of the frame, arranged to normally close the apertures in the jet tube, a receiving chamber being arranged below the roller.

**CALF WEANER.**—Ernest H. Geisler, Deshler, Neb., and Moses Simpson, Monden, Kan. This weaner consists of a number of wire rods bent to form a halter-like frame and united at a point near their forward ends, the wires being extended forward beyond the point of their connection to form prongs, the weaner being readily fastened in place and removed when desired.

**OIL WELLS.**—John P. Firth, Titusville, Pa. This invention consists of a receptacle having openings and held to slide in the rock, being connected by a conducting pipe with a steam supply to discharge steam on the oil rock, for removing the gummy matter and other substances, thereby permitting a free flow of oil and increasing the production of the well.

**RIBBON HOLDER.**—Osborne E. Sully, Spencer, Iowa. This holder is formed of a single piece of wire comprising a middle part and having longitudinal arms, straight sides, and springs formed on the sides, and provided with transverse projecting inward from the springs, the invention being an improvement on a former patented invention of the same inventor.

**SUPPORTER FOR BELTS.**—Louis Sanders, Brooklyn, N. Y. This is a device capable of expeditious attachment to or detachment from a pair of trousers at the waistband, and passing over a belt, when worn with the trousers, to prevent the belt from sliding upward above the waistband.

**BOX END.**—John F. Simpson, Foster Park, Fla. This invention particularly relates to the end pieces of boxes used for packing and shipping oranges, etc., and provides means whereby narrow or small timber may be used, and a better hold secured for the nails which hold the sides and ends of the box together, while splitting is avoided, and a more convenient means afforded for handling and ventilating the box.

**COAL AND WOOD CABINET.**—Henry Brandt, Brooklyn, N. Y. This is designed as a convenient piece of furniture for the kitchen, store, or elsewhere, and has a coal bin, a communicating coal delivery chamber, with a dust outlet and valve, and other novel features, to supply fuel for making and replenishing coal fires, while being a simple, cleanly, and serviceable structure.

**CHIMNEY COWL.**—Isaac J. Turner, Princeton, N. J. Combined with a number of outwardly swinging doors located on the cowl for the escape of down draughts is a deflector arranged within the cowl for directing the down draughts to the doors, the chimney flue having a contracted top, over which a cover is placed in close proximity, the outer flange or casing extending around the mouth of the flue.

## NEW BOOKS AND PUBLICATIONS.

**PROFIT SHARING BETWEEN EMPLOYER AND EMPLOYEE.** By Nicholas Paine Gilman. Boston and New York: Houghton, Mifflin & Co., The Riverside Press, Cambridge. 1889. Pp. x, 460. Price \$1.75.

This work, from its very full treatment of the subject, and its length, cannot well be reviewed in these columns. A very elaborate treatment of the subject is given from product sharing, through the wages system and its various forms, to profit sharing, industrial partnerships, and arguments in favor of the sharing of the results with operators. The experience of different houses is given under their names, a peculiarly interesting chapter being devoted to the Father of Profit Sharing, and his house, M. Leclair, a Parisian house painter and decorator. In the present day of labor troubles and strikes it is needless to remark on the peculiar appositeness of the appearance of this treatise. It is well indexed, and the printing, paper, etc., are very elegant.

**SECOND ANNUAL REPORT OF THE BOARD OF MEDIATION AND ARBITRATION OF THE STATE OF NEW YORK.** Albany: The Troy Press Company, Printers. 1889. Pp. 434.

In the same line with the work just reviewed comes this report upon the labor troubles of the State of New York. It consists of a transcript of the testimony given before the State Board by different experts in industrial affairs, and contains a large amount of interesting matter referring to trade troubles as recited by witnesses viewing it from different standpoints furnished by their personal experiences.

**ANNUAL REPORT OF THE HEALTH DEPARTMENT OF THE CITY OF BALTIMORE.** For the fiscal year ending December 31, 1888. Baltimore, 1889. Pp. 286.

This report is made up of tables regarding the death rate and diseases of the different classes of the population, forming a valuable contribution to the census of health.

**A THEORETICAL AND PRACTICAL TREATISE ON THE STRENGTH OF BEAMS AND COLUMNS.** By Robert H. Cousins. E. & F. N. Spon. New York, London. Pp. ix, 170. Price \$5.

This book is devoted to formulae for the determination of the strains that beams and columns of all classes are subjected to in construction. In bringing up to date the science of the strength of materials in this division, and in discarding much of the old and impractical, a good service is done. Calculus is made sparing use of, most of the formulae being based on algebra only. Diagrams are given when necessary to elucidate the text. An index and full table of contents complete the work.

**THE NONPAREIL SYSTEM OF HAND RAILING.** By John V. H. Secor. New York: Office Publishing Company. 1889. Pp. ix, 78. Price \$2.

In this work, Mr. Secor, who is a practical stair builder of long experience, has explained the methods which he has used for laying out hand railing. The method of ascertaining the length of the mould and the system of bevelling used by the author are presented in the shortest possible style, and the work will be a contribution of value to the library of all progressive builders. The work is illustrated by cuts, is preceded by a glossary of terms, and an index is given at its end.

**ELEVENTH ANNUAL REPORT OF THE STATE BOARD OF HEALTH OF THE STATE OF CONNECTICUT.** For the year ending November 30, 1888. New Haven. 1889. Pp. xiv, 360, 200.

In this work are bound together the general report and the report of the Bureau of Vital Statistics. The latter is principally tabular, and contains a large amount of very valuable and carefully expressed statistics arranged in full detail. The State Board report is of value from the special reports contained in it by experts upon such subjects as the health of towns, pollution of rivers, Bridgeport sewer age, public sewers of New London, etc. The work comes up to the high standard which the health board reports of this State have in the past attained.

**THE PRACTICAL OSTRICH FEATHER DYER.** By Alexander Paul. Revised and corrected by Dr. M. Frank. Published by Mrs. Dr. M. Frank. Philadelphia. 1888. Pp. ii, 190. Price \$10.

The titular subject is very fully treated in this work, and it is easy to believe that the desired information for any class of coloring can be obtained from it. In addition to the text a quantity of dyed ostrich feather filaments are bound into the work, in order to illustrate fully the results obtained by the different formulae. The work will be indispensable to the intelligent dyer, and its character throughout is eminently practical. Several illustrations of apparatus, etc., are given.

**HOG CHOLERA.** Its history, nature, and treatment, as determined by the inquiries and investigations of the Bureau of Animal Industry. Washington: Government Printing Office. 1889. Pp. 193.

This is a publication by the Bureau of Animal Industry, containing the results of experiments conducted by the chief of the bureau, Dr. D. E. Salmon. The experiments definitely determine certain facts in regard to the contagiousness of the disease, bacteria, readiness of cultivation of the germ in various media, modes of checking outbreaks, rendering infected premises safe, etc. The book is illustrated by 16 colored plates. It is a work which should be possessed by every one interested in this kind of stock raising.

**PSYCHOLOGY AS A NATURAL SCIENCE.** By C. G. Raue, M.D. Philadelphia: Porter & Coates. 1889. Pp. 541.

This work is devoted to an exhaustive review of the hypnotic state, mesmerism, and all the unexplained psychological phenomena now so much discussed. It is divided into six sections, each subdivided again. Opening with the intellectual sphere of the mind, and beginning with the senses, the work goes systematically through the entire range embraced by its very suggestive title. Somnambulism occupies considerable space, while occult phenomena, such as clairvoyance or second sight, action at a distance, etc., have an entire section devoted to them, and toward its end the entire subject of phantasms of the dead and haunted houses is treated. While the book lacks an index, a very full table of contents in great part supplies that want.

**HOT WATER HEATING, OR WARMING BUILDINGS BY HOT WATER.** By William J. Baldwin, M. Am. Soc. C. E. New York: The Engineering and Building Record. 1889. Pp. 385. Price \$4.

This work treats in very full detail of the different methods of heating houses by means of hot water. The subjects of the laws of hot water circulation, motion in pipes, methods of finding the flow of water in the pipes of an apparatus, and special forms of apparatus for manipulation of pipes are all treated. Many points in practice, such as the use of long radius special elbows for preventing resistance to flow, are given. The direct radiating surface for buildings and how to find it, with Mr. Hood's and others' experiments, are given. The different forms of boiler on the market are spoken of, each under its name, with automatic door and damper regulators and special fittings. Toward the end the method of testing radiators, etc., scientifically is given. 193 illustrations are contained, and add very largely to the attractiveness of the book. An index closes the work.

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3. Design for a bank building, with plan and view of interior.
4. Perspectives and floor plans of an elegant residence at Bell Haven Park, in Greenwich, Conn. S. Edwin Tobey, Boston, Mass., architect.
5. A mountain cottage lately erected at St. Cloud, Orange, N. J. Elevation and floor plans. Architect Mr. Arthur D. Pickering, New York.
6. A dwelling at Springfield, Mass. Plans and perspective elevation. Cost eight thousand five hundred dollars.
7. Engraving showing perspective elevation of a cottage erected at Roseville, N. J., at a cost of six thousand seven hundred and fifty dollars. Floor plans. F. W. Ward, architect, New York.
8. Illustration and floor plans of a combined school house and country cottage erected at St. Cloud, Orange, N. J. Arthur D. Pickering, New York, architect.
9. A residence at Springfield, Mass. Perspective elevation and floor plans. Cost three thousand five hundred dollars. J. D. & W. H. McKnight, architects.
10. A cottage built at Roseville, N. J., for six thousand seven hundred and fifty dollars. Elevation and floor plans.
11. A cottage at Holyoke, Mass., lately erected for Howard A. Crafts, at a cost of three thousand one hundred dollars.
12. View of Auburndale Station, Boston and Albany Railroad, with plan of station grounds. H. H. Richardson, architect.
13. Miscellaneous Contents: The final payment clause in building contracts.—The plan.—Bending wood.—The Stanford tomb.—Experiments with cement mortar.—The railroad in horticulture.—The improved "Economy" furnace, illustrated.—The Academy at Mount St. Vincent on the Hudson, N. Y.—Wrought iron and cement lined pipes, illustrated.—Sheathing and lath combined, illustrated.—Artistic wood mantels.—A new ventilating furnace, illustrated.—Creosote wood preserving stains.—Large trees.—Rotary cutting tools for working wood, illustrated.

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