

RECENTLY PATENTED INVENTIONS.

Railway Appliances.

CAR COUPLING.—William P. Clark, Elberton, Ga. This is an improvement in automatic couplers in which a latching drawbar is employed, the drawbar being preferably cast from metal with an interior recess to receive the working parts, and the object being to provide a simple, practical device whereby the coupling may be effected without danger to the operator.

EXTENSIBLE CAR STEP.—James F. and John F. Wood, Wilmington, Del. This step has a piston rod angular in cross section, with a piston and a cylinder in which the piston works, provided with a head having an opening corresponding to the shape of the piston rod, whereby the step will be prevented from tilting, the invention being an improvement on a former patented invention of the same inventor.

SIGNAL.—Albert C. White, Afton, Iowa. This invention provides a signal capable of being manipulated to positively display any desired colored side of the signal to the train when employed as a semaphore, and any desired colored light at night, providing means also whereby the signal may hang very high, and the lantern may be conveniently lowered for lighting and cleaning.

AUTOMATIC AIR BRAKE.—George B. Williams, Portland, Oregon. This improvement provides for the recharging of the auxiliary reservoir with a single line of train pipe, either with or without the release of the brakes, as desired, and means whereby the pressure in the brake cylinder can be reduced to any desired extent, and the brakes only partially released coincident with a partial recharging of the auxiliary reservoir, with other novel features.

RELEASING ATTACHMENT FOR AIR BRAKES.—This is another patent of the same inventor for an improved construction and arrangement of parts connected with the triple valve and train pipe and governing the discharge passage from the auxiliary reservoir to the pipe, to effect a rapid and immediate equalization of the air pressure when that is increased by the engineer to release the brake.

RAILWAY SPIKE.—Samuel Emrich, Reno, Nevada. This spike has a longitudinal cavity with lateral mortises in which fit plates, a bar with wedge-shaped end being fitted to the cavity for forcing the plates outwardly in the mortises and causing them to project into the wood at the sides of the spike, whereby the spike is held in place in the wood into which it is driven.

FREIGHT HANDLING MACHINE.—Isaac Henderson, Vancouver, Canada. This invention consists of an endless double track arranged vertically, with cages traveling on the track, and conveyers connected with the track to move articles to and from the track, forming a portable machine specially designed for elevating and lowering and transporting freight from and to cars, ships, docks, etc.

Mechanical.

LUBRICANT.—John J. Stock, Watertown, N. Y. This is a compound consisting of pulverized talc, beef tallow, paraffine oil, potash lye, vermilion red, and other ingredients, mixed and boiled together to form a reddish paste, and designed to be mixed with other lubricating oil to bring it to the desired gravity.

DIE FOR LEAD PRESSES.—Christopher C. Tracy, Brooklyn, N. Y. This die is designed more particularly for covering wire with lead and for making traps, and is so constructed as to enable the attendant to prevent "buckling" of the lead as it issues from the die if a straight and uniform product is to be produced, or to augment the flow if a curved pipe or trap is to be made.

AMALGAMATOR.—Samuel L. Townsend, Ohio, Col. This is of the so-called "pan" type of amalgamators, and is constructed to form closed helical channels in which mercury is held, and through which channel the pulp flows, being admitted at the center and discharged at the periphery of the apparatus.

PNEUMATIC ORE CONCENTRATOR.—Charles Ballard, Pueblo, Col. This invention provides a machine designed, by means of an exhaust blast, to concentrate pulverized ores such as are usually passed through water jigs, the ore to be treated being previously sized by suitable means, and only sufficient blast being used to carry off the light particles.

BELT FASTENER.—George W. Southwick, Stamford, Conn. This fastening consists of a plate having at each end arms of unequal length, with downwardly projecting spurs on their ends, the long arms at each end being opposite the short arms at the other end, and vice versa, and short spurs at each end between the arms.

SEPARATOR.—Edward Leslie, Orangeville, Ontario, Canada. This invention relates to machines for separating grain, gravel, etc., and consists mainly of a screen mounted to swing and having an intermittent fast and slow motion, the invention also covering various novel details and combinations of parts, and being simple, effective and durable.

Agricultural.

CULTIVATOR.—John D. Burkhardt, Dayton, Washington. The plows of this machine are each made with lateral wings having a wide open space, the plows being secured to the lower ends of curved beams, to the upper ends of which are bolted the rear converging ends of connecting rods, and there being a lever by which the driver can readily raise all the plows clear of the ground.

FARM GATE.—John C. and Luther Merrill, Westphalia, Kan. This is a balanced sliding and swinging gate, designed to be simple in construction, inexpensive and easy to manipulate, the invention covering various novel features and peculiar combinations of parts.

PLANTER.—Frank F. Shanks, La Cygne, Kansas. This invention consists essentially of a planter wheel provided with hill openers arranged to be thrown beyond the peripheral face of the wheel, and deposit a certain required number of grains at stated intervals in ground that has not been prepared by plowing.

HAY RACK.—John L. Wilkerson, San Marcos, Texas. This is a rack adapted for application to a wagon body, standards or uprights being connected with the base bars, the standards having stop shoulders or hooks, while side arms have their inner sections pivoted to the uprights at a point in from the stop shoulders and arranged to rest on the shoulders when turned outward.

Miscellaneous.

ORDNANCE.—James A. Longridge, Greve d'Azette, Isle of Jersey, Great Britain. This invention covers a wire gun, the breech portion having an inner tube on which are wound coils of wire, a jacket inclosing the coils and receiving the breech-closing plug, with various other novel features designed to obviate prejudicial strains, first, affecting principally the jacket, and second those affecting principally the inner tube.

PERCUSSION FUSE.—Abraham Martin, Birmingham, Warwick County, England. This fuse is of that class in which the plunger acts by its inertia and momentum to bring into position and give force to a part not integral with it, but so connected as to admit of a change of the position of the parts to bring them from the safety to the firing position, such change being effected by the impact of the plunger and the sudden motion of the projectile.

WALL FOR SHIPS.—Carl W. M. F. Busing, Oldenburg, Germany. By this invention the walls forming the hull of the ship, and its partitions, are provided with a lining of compressed sponge, forming a water absorbent material, to prevent water from entering the hull through a defective part or a hole made by a projectile or other means.

PADLOCK.—David M. Thomas, Audubon, Pa. This lock is designed to be so constructed as to form a safe and durable fastening, not liable to be picked, and which can only be unlocked by those familiar with its workings, the invention covering various novel features of construction and arrangement of parts to form a simple and effective lock, readily understood and operated.

METALLIC CEILING.—George H. Burt, Philadelphia, Pa. This ceiling consists of metallic plates adapted to be secured to the under sides of the joists and projecting on each side of them, arched bars being supported at suitable intervals on the projecting sides of the plates, and a sheet metal covering supported on the arched bars between the joists, making a fire proof and ornamental construction adapted for all kinds of buildings.

VEHICLE WHEEL.—Gabriel J. De Cordova and Percy A. Isaacs, Kingston, Jamaica, W. I. In this wheel the nave has an annular recess holding a projecting elastic band upon which rest spokes, there being flanges to hold the spokes from lateral displacement, making a wheel designed to prevent jar and noise when traveling, and decrease wear and tear on the vehicle, and also one that can be readily repaired.

ANTI-RATTLER FOR THILL COUPLINGS.—Robert J. Mitchell, Girard, Ill. This anti-rattler is formed from a single piece of spring wire, bent into a described shape, the wire being sufficiently stiff to hold the thill iron and bolt in position, but not so stiff but that it may be easily applied, and designed to be durable and cheap, while little affected by wear.

ANTI-RATTLER FOR THILL COUPLING.—Clarence A. Carman, Wyandance, N. Y. This invention relates to anti-rattlers in which provision is made for adjusting the spring to increase its pressure on the thill when desired, or to remove the pressure in taking out and replacing the thill, the hanger being adjustably supported from a plate, and a spring pivotally connected with the hanger.

METALLIC POST.—Foster Milliken, New York City. This invention is for a post adapted for use when the post or strut is subjected to a pull or strain at a point above the base, and has an additional diameter at the base from the partial spreading of its segments, the post being designed to be readily climbed, to be of neat and ornamental design, and to be open for convenient inspection, painting, and ventilation.

WASHING MACHINE.—William J. Brackney, Coyleville, Pa. This machine has a rectangular suds box, with two oppositely pivoted rocking levers connected by a cross bar, and an upper rubber frame with slotted standards engaged by studs on the rocking levers combined with a lower rubber frame having open slots engaged by pivot studs on the lower end of rocking levers, with other novel features designed to make a durable and efficient device.

SHUTTER FASTENER.—Willie O. Whitney, Glens Falls, N. Y. This is a blind fastener designed to automatically latch fast to and secure a closed window blind when the lower window sash is raised, and also afford additional security by engagement of a portion of the blind fastener with the lowered and locked window sash.

SWING.—John Hannen, Chicago, Ill. This invention relates to swings in which suspension rods instead of ropes are used, a movable pyramidal frame being employed in which are two swinging suspension rods carrying a slightly tilting spring seat, the device occupying but little space and being one that can be easily operated by the person swinging.

LEAF TURNER.—Cyril P. Brown, Spring Lake, Mich. This is an instrument adapted for attachment to either a vertical or horizontal surface, without marring the latter, and to be folded into small space when not in use, while designed to positively turn the leaves of music, books, manuscripts, etc., either way, by means of a conveniently located lever actuated by a careless stroke of the hand.

ALMANAC OR CALENDAR.—Zeboim C. Patten, Chattanooga, Tenn. This invention relates to almanacs and weekly, monthly or yearly calendars, to be used in either book form or on independent pieces of cardboard, etc., combining therewith a code of signals indicating the phases of the weather or changes in temperature.

CUFF FASTENER.—Charles E. Candee, New York City. This fastener consists of a U-shaped bar forming two members, carrying at its inner end a spring clip and having at the outer end of one of the members an apertured post, the opposite member carrying a pointed slide adapted to move laterally and engage the aperture of the post.

BUTTON HOLDER.—Eugene T. Elliott and William O. Lyles, Danville, Va. This is an attachment for the drawers of a button cabinet to hold the sample button, whatever its size or shape, the button to be adjusted instantaneously, and the arrangement being such that it cannot be separated, while the price mark will always appear on a slate provided therefor, enabling dealers to display stock to advantage.

WICK MATERIAL.—Myron H. Chapin, Chicago, Ill. This is a new article of manufacture made of raw fibrous material, having its interior stiffened and held with adhesive substance and its exterior surfaces formed with a protective skin of compressed fibers and adhesive substance, the wick being designed to be less expensive, more lasting, and more efficient than the ordinary woven cotton wick.

EXTRACTING BAD ODORS FROM VEGETABLES, ETC.—Gysbert D. Nellensteyn, Amsterdam, Netherlands. This invention covers a method whereby the substances are first treated with a volatile solvent, as ether, petroleum, etc., then exposing the substances in a vacuum, to evaporate the volatile elements and those of the solvent, and subsequently condensing the extracted parts to recover and utilize them when required.

NEW BOOKS AND PUBLICATIONS.

PRACTICAL ELECTRICS: A UNIVERSAL HANDY-BOOK ON EVERY-DAY ELECTRICAL MATTERS. New York: E. & F. N. Spon. London. 1889. Pp. 135. Price, 75 cents.

This work is a reprint of a chapter on electrics given in the third series of "Workshop Receipts," a work with which many of our readers are already familiar. It forms a convenient compendium of practical electricity, and as such may be recommended to experimenters and those who are not very deeply versed in electrical lore.

THE CHRONICLE FIRE TABLES FOR 1890. An invaluable compilation of fire statistics. New York: The Chronicle Company, limited. 1890. Pp. 297.

A most complete resume of location, causes, and other facts in regard to fires in the United States during the year 1889 fills the body of this work. The classes of risks, numbers of fires, property lost, insurances and causes of fires are given. The tabular statement of these facts fills a large number of pages. This is supplemented by other tables and by diagrams showing the proportions between fires of exterior and interior origins, comparison by areas being used for the purpose. A very striking diagram gives the property lost by fires from electric lights and wires for the last successive four years, the amount rising from \$460,259 in 1886 to more than 5½ millions of dollars in 1889.

THE FAIRYLAND OF FLOWERS. A popular illustrated botany. By Mara L. Pratt. Boston: Educational Publishing Company. 1890. Pp. 154.

A botany for children, admirably arranged and diversified in the most pleasing manner with numerous illustrations, is presented in the "Fairland of Flowers." The book does not well lend itself to a review, and the most that can be said is that it is very complete and that it is surprising how interesting it has been made by the insertion throughout the family grouping of legends and poetry referring to the different flowers. It is calculated in every way to make botany seem a living thing, instead of a dry and abstract science.

REPORT OF THE ROYAL COMMISSION ON THE MINERAL RESOURCES OF ONTARIO, AND MEASURES FOR THEIR DEVELOPMENT. Toronto. 1890. Pp. xxiv, 566.

The titular subject of this report, which is due to the investigations of the Royal Commission, is treated in a very general manner. The geology of Ontario, notes on mines, locations and works visited by the commission, influence of commercial conditions upon the mining industry, mining laws and regulations, the smelting of ores, legislation for encouragement of mineral development, are the principal headings of the work. It will be of interest to all students of mining and metallurgy, and is of economic interest as showing what our colonial neighbor is doing in the production of metals.

"THE ELECTRICIAN" ELECTRICAL TRADES DIRECTORY AND HAND BOOK FOR 1890. London. 1890. Pp. xcix, 704.

The vast impulse which industrial electricity has received is well exemplified in this directory, which includes a calendar of electrical news arranged in months, obituary notices and biographical notices, in many cases accompanied by portraits. As its scope is not confined to Great Britain and its dependencies, but extends also to America and the colonies, it is of interest and value to all electricians, and not merely to those connected with the industries of the British Isles.

A SHORT COURSE OF BUSINESS SHORTHAND. By David Philip Lindsley, author of Tachygraphy. Chicago: D. Kimball. Boston: Otis Clapp & Son. New York: Fowler, Wells Co. 1888. Pp. 95. Price \$1.25.

A simple style of shorthand adapted to many professional writers purports to be given in this book. It

is not claimed to give a style rapid enough for the court reporter, but is supposed to give a simple method which will suit very many. Numerous examples and exercises are embodied in the work.

THE ELEMENTS OF TACHYGRAPHY. Rewritten and re-engraved. By David Philip Lindsley. Boston: Otis Clapp & Son. New York: Fowler, Wells Co. 1889. Pp. 115.

This is a work similar to the one just reviewed, the aim of the author being to supply a simple shorthand for the use of non-professional people.

SLIDE VALVE GEARS. An explanation of the action and construction of plain and cut-off slide valves. By Frederic A. Halsey. New York: D. Van Nostrand Company. 1890. Pp. viii, 135. Price \$1.50.

The drawing board practice in designing a valve gear, the graphical treatment of a complex problem, is given here by the author, rejecting formulae and higher mathematics. The subject of lap and lead is also treated graphically. Numerous diagrams and a full index are included.

THOMAS JEFFERSON'S VIEWS ON PUBLIC EDUCATION. By John C. Henderson. New York and London: G. P. Putnam's Sons. 1890.

The views of the great statesman on university education are here brought forward, partly as an original work and partly as made up from Jefferson's letters and other writings. It is a work which is very timely, at the present day, in view of the great interest manifested in the higher education as well as in the development of the youthful mind in the kindergarten and by grammar school training.

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TABLE OF CONTENTS.

1. Elegant colored photographic plate of the residence of Henry R. Towne, at Stamford, Conn. H. H. Holly, of New York, architect. Perspective elevation, floor plans, sheet of details, etc. Cost \$20,000.
2. Plate in colors of a dwelling at Tremont, N. Y. Floor plans, perspective elevation, sheet of details, etc. Cost \$6,000.
3. Perspective elevation and floor plans of a residence at Monclair, N. J. J. C. Cady, of New York, architect. Cost complete \$10,000.
4. Photographic view and floor plans of a residence at West Brooklyn, N. Y. Cost \$4,500.
5. A cottage at Dunwoodie, N. Y. Floor plans and perspective elevations. Cost \$5,000 complete.
6. A dwelling at Holyoke, Mass. Perspective and floor plans. Cost complete \$5,500.
7. Sketch of a residence at Surbiton.
8. Design for a one story house to cost about \$1,000.
9. Engravings representing the exterior and plan of a large pigery.
10. A dwelling erected for Mr. C. D. Danforth, Yonkers, N. Y. Floor plans and perspective. Cost \$9,000 complete.
11. Photographic perspective view and floor plans of a neat and desirable cottage recently erected at Griswold, Iowa, from plans and perspective published in the SCIENTIFIC AMERICAN. Cost \$1,075.
12. A handsome residence at Springfield, Mass., erected for Mr. E. W. Shattuck. Perspective and floor plans. Cost \$15,000.
13. Floor plans and photographic perspective of several cottages erected for the late Hon. Chas. Crary, at Chester Hill, Mount Vernon, N. Y. Cost \$4,000 each complete. Mr. J. C. Brown, of Mount Vernon, architect.
14. Sketch of a chapel and village hall. Estimated cost \$20,000.
15. Page engraving of the Ripon Cathedral, Yorkshire, England.
16. Miscellaneous contents: Steam and hot water heating.—The garden.—European health resorts.—Fireproof paint.—Testing well water for sewage.—The carpenter.—Fire clay in Montana.—The Spence hot water heater, illustrated.—Improved sliding blinds, illustrated.—Prepared building paper.—An improved separator and trap for steam boilers, illustrated.—Lyle's storm and screen door, illustrated.—A sheet copper statue thirty-five feet high, illustrated.—A boiler for greenhouses, dwellings, etc., illustrated.—An efficient ventilating fan, illustrated.—An improved door hanger, illustrated.—Taste in selecting paint.

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