RECENTLY PATENTED INVENTIONS.

Railway Appliances.

CAR COUPLING.—Clement Mire and Paul Judice, Jr., Donaldsonville, La. The drawhead of this coupling may be of the ordinary form, and the coupling bar has at each end an arrow-like head adapted to engage pivoted coupling hooks, which are arranged in pairs in each drawhead, adjacent to pivoted detachers. The latter are formed with ejecting portions for forcing the coupling bar out of engagement with the coupling hooks, and the coupling hooks have rear arms engaged by operating levers with connections which may be extended to the top or side of the car.

SWITCH.—John M. Perkins, Brooklyn, N. Y. This inventor has devised a switch of simple and inexpensive construction, the actuating devices acting directly upon the switch point, the movement of which may be effected from a moving train. In connection with outer and inner guards adjacent to the main rail and the switch point, in a block at each side of the latter, is pivoted a somewhat crescent-shaped lever, the levers engaging opposite sides of the switch point, and being adapted for engagement by any trip which may be pressed downward from a moving train. To locate the shifting device centrally between the track rails, a shifting tongue is pivoted on a plate between guards, in each of which a triangular lever is pivoted, the free end of the tongue being connected by a link with the switch point, and the movement being likewise effected from the train.

SWITCH.—William L. Geisler, Hempstead, N. Y. This improvement is especially adapted for street railway service, the switch being readily shifted by an operator on a moving car. A switch tongue is pivoted on a slotted cover plate, two pivoted bent levers extending through the slots, while a pivoted tilting arm supported from the plate has near each of its ends an anti-friction roller, there being a connecting device between the tilting arm and the switch tongue. In a bracket depending from the car are held rollers which may be depressed by foot pressure on a presser bar at either side to throw the switch tongue in the direction desired to switch the car from one track to another.

Electrical.

CONDUIT RAILWAY.—Michael F. Flynn, Stamford, Conn. According to this improvement a small surface conduit on which is the trolley rail carries the live wire in such a way as to prevent grounding and loss of current, tilting levers being arranged below the live wire to carry it upward against contact screws, while an operating mechanism extends up through the conduit whereby the levers are actuated by a passing trolley. The construction is very simple, and the trolley rail is entirely out of circuit except the moment that the car is in connection with a certain section.

Mechanical.

CENTRIFUGAL PUMP.—Warren P. De Remer and Josiah Peeper, Western Union, Wis. This invention provides self-adjusting movable nozzles on the ends of the pump discharge pipes, the arrangement being such that the priming-holding nozzles automatically adjust themselves to securely hold the priming in place until the centrifugal force becomes greater than the atmospheric pressure, and then permit a free and natural escape of the water without undue friction and resistance, effecting a saving in the power required to drive the pump.

MACHINE FOR TAPPING MAINS.—John Hearne, New York City, and Elmer E. Cisco, Brooklyn, N. Y. This is a gas-tapping machine, adapted to be fastened upon a pipe for drilling, reaming, and tapping a hole without allowing any gas to escape, the tapped hole being closed by a plug. It has a hollow, exteriorly threaded body adapted for air-tight connection with the pipe, there being a feed mechanism and a tool operated therefrom in the hollow body, and a hand wheel screwing on the exterior screw thread of the body. The machine is light and strong and may be readily applied to and disconnected from a pipe.

Agricultural.

CULTIVATOR.—Horace S. Overstreet, York, Neb. This is a machine for cultivating an unplanted field, serving substantially as a harrow, or it may be employed for cultivating two rows of corn at one time. It has gangs of cultivators which may be independently raised or lowered, the outer gangs adjusted as to depth and the intermediate gangs serving as a drag, and its draft mechanism is so arranged that the poles may be directed to the right or left, causing the team to properly guide the machine. The gangs of cultivators are firmly held, so that they will not have lateral movement, and a draft equalizer is utilized, whereby undue tension will be removed from the team, the three horses employed each drawing equally.

MOWING MACHINE ATTACHMENT.—William C. Carlton, Rockville, and Charles H. Sebree, Caldwell, Idaho. This is a cutter attachment, applicable to an ordinary mower or reaper, in which a vertically reciprocating cutter bar is arranged at the outer end of the ordinary horizontal cutter or sickle bar. In its operation, while the machine is moving in the ordinary way, the vertically reciprocating cutter divides the grass at one end of the main cutter or sickle, so as to leave the swath clear and well marked, the grass being cut vertically at the end of the main finger bar, obviating the difficulty experienced with the ordinary mowing machine, where heavy grass drops down over the swath which has been cut.

Miscellaneous.

CARBURETOR.—Harry B. Cornish, Hampton, Iowa. For carbureting air, that it may be burned as a gas for an illuminant, this inventor has devised a simple apparatus for use in connection with a gasoline tank, to incorporate with the gasoline a volume of air, the apparatus being safe and easily controlled. An upper gasoline tank is connected by a valved pipe with a lower tank, to which air is supplied under pressure, the gasoline dripping down through the pipe by gravity to the lower pipe, passing through a series of screens in the lower tank, and both tanks being connected by a valved pipe arranged to maintain an equal air pressure in both the upper and lower tanks, there being an outlet for the carbureted air in the pipe connecting the tanks.

DISTILLING AMMONIA.—Samuel J. Whiteside, Savannah, Ga. An apparatus for use in connection with absorption ice machines has been devised by this inventor, whereby the ammonia is economically and thoroughly rectified before being expanded into the bath, and the boiler feedwater raised to a high temperature, thus saving fuel. The apparatus comprises a stack of three sets of novel rectifying pans in a rectifier set on top of the ammonia boiler, and is provided with a heater through which passes the feedwater under boiler pressure, there being in the heater a steam coil connected with the heating coil in the ammonia boiler, a second coil for the ammonia gas and connected with the rectifier, and a third coil connected with the weak ammonia in the ammonia boiler.

COAL DISCHARGING TRAMWAY.—John B. Honor, New Orleans, La. This is a sectional construction which may be set up anywhere and made as long or short as required, being primarily adapted for unloading coal from steamers along a river front. The dump cars for operation in connection with the tramway are so connected with a winch that, when one car has been unloaded, a return of the empty car will cause the loaded car to travel to its destination, the cars being automatically dumped on reaching the desired point and held open until all of the contents have been emptied.

WINDMILL REGULATOR.—Richard T. Skinner, Eldora, Iowa. This is a simple and positively working apparatus governed by the movement of a float, the lowering of which sets the windmill and pump working, while its raising throws the mill out of gear, the movements in both cases being gradual and easy. An arm projecting from a ratchet wheel engages a controlling wire of the mill and an oscillating lever is connected with the pump rod, a pair of pawls on opposite sides of the fulcrum of the lever being adapted to engage the ratchet wheel, while a notched tie bar connects the pawls and a tilting latch is adapted to engage the notch of the tie bar and hold the pawls released. A swinging float-controlled lever strikes and releases the latch.

DEVICE FOR DRAWING ALE.—Charles G. Reers, Jersey City, N. J. This improvement is designed to facilitate the drawing of ale in a glass without foam. A suitable receptacle is divided by partially perforated partitions into three compartments, the upper one normally for gas, the second one for foam, and the lower and larger one for the solid ale. The middle compartment is connected by pipes with supply casks of ale or with the ale pump, so that the ale passing down to the lower compartment will be almost without foam, and from low down in this compartment a pipe having a draw faucet is extended to the bar. The upper compartment is provided with an air and gas vent, to be opened from time to time as may be necessary.

PAPER PERFORATING MACHINE.—Clay W. Holmes, Elmira, N. Y. This invention relates to slot perforators in which a circular female die has a peripheral slot receiving a series of short cutters carried by another circular die to punch elongated slots in straight line series from a sheet of paper. The improvement provides for a series of clearing blades arranged to run in the slots of the female die in tangential position, being adjustably held therefor by means of collars on a countershaft. These blades may be applied to any set of dies working on the continuous slot principle, and operate to effectually remove the little bits of paper cut out, which tend to pack in the slot so as to stop the operation of the machine.

ATOMIZER.—Albert Heinz, Brooklyn, N. Y. This is a simple device designed to be especially serviceable to physicians desiring to spray an affected part of the body for a short time only, in cases where only a single spray is required or desirable. It is arranged to cause the spray to cease immediately whenever the operator releases the pressure on the bulb, the liquid in the discharge nozzle then receding slightly from the orifice.

BICYCLE LANTERN BRACKET.—John C. Wells, East Hampton, Conn. This device comprises a length of wire doubled upon itself and bent outwardly at its closed end to support a lantern, a clip having eyes at one end receiving the bracket arms, while at its opposite end is a swinging bolt with a saddle, a nut clamping the saddle on the bracket ends. The device is very simple and may be readily adjusted to various sized heads or quickly detached therefrom.

LAMP BURNER.—Daniel T. Fox, Mount Pleasant, Pa. This invention relates to burners formed in two sections, one section carrying the wick tube and the other the chimney, and provides means for conveniently adjusting the top section to an elevated position and locking it there. By means of a lever pivoted to the lower section a combined lifter and prop may be made to elevate the upper section and chimney so that it will not accidentally drop as the lamp is being lighted or extinguished.

DUST PAN.—Kent W. Gress, San Francisco, Cal. This pan has a long handle which may be adjusted for different positions by means of a spring wire connected with the rear of the pan and formed with fingers which slide in grooves low down in the handle, there being transverse holes at each end of the grooves. The pan is preferably formed of a single sheet of metal, the back and top being formed of a continuation of the metal of the bottom, thus making a dust pocket in the rear.

SHOE FASTENING.—Alfred J. Waggett, Brighton, England. According to this improvement a knob-headed stud is movable in a slot coinciding in direction with the line of strain, a plate pivoted in or near the line of strain having notches at different radial distances to engage with the neck of the stud, and both stud and locking plate being applied to one flap, while a rod or arm is fixed along the edge of the other flap and a button hole is made in the flap behind the rod to engage the stud.

PRICE CARD HOLDER.—John Koehler, New York City. This device comprises a clamping section with slotted head at its upper end and an integral pintle, while a ticket-carrying section has an integral knuckle entering the slot and turning on the pintle. It is adapted for attachment to various articles, especially to cigar boxes, to indicate the name and price of cigars.

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.

ELEMENTARY LESSONS IN ELECTRICITY AND MAGNETISM. By Silvanus P. Thompson. New edition, revised throughout, with additions. New York and London: Macmillan & Company. 1895. Pp. xv, 628. Price $1.40.

Professor Thompson's previous edition of this book had so wide a circulation and was so popular and useful that the present very elegant new edition, brought very well up to date, will be warmly welcomed by electrical students. In turning the pages over the appositeness of the illustrations and the way they are applied to illustrate the subject immediately appear in the most favorable light. A quantity of problems and exercises and a most excellent index close the work. It is always a comfort to find a work of this sort published in England with no reference to such a thing as a syllabus.

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SCIENTIFIC AMERICAN BUILDING EDITION.

MARCH, 1895.—(No. 113.)

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1. Elegant plate in colors showing a cottage at Mount Vernon, N. Y., three perspective elevations and floor plans. Mr. H. R. Rapelye, architect, Mount Vernon, N. Y. An attractive design.
2. "The Gables," a half timbered cottage recently completed at Glen Ridge, N. J. Perspective elevation and floor plan. Mr. Charles E. Miller, architect, New York City.
3. A cottage at Great Diamond Island, Me., recently erected for H. M. Bailey, Esq., two perspective elevations and floor plans. A unique design for an island cottage. Mr. Jno. C. Stevens, architect, Portland, Me.
4. A dwelling at Armour Villa Park, N. Y., recently erected for J. E. Kent, Esq., at a cost of $5,200 complete, two perspective elevations and floor plans. A very picturesque design.
5. A colonial cottage at New Rochelle, N. Y., recently erected for C. W. Howland, Esq., two perspective elevations and floor plans. Mr. G. K. Thompson, architect, New York City. A unique example of a modern dwelling.
6. The residence of Charles N. Marvin, Esq., at Montclair, N. J. A design successfully treated in the Flemish style. Two perspective elevations and floor plans. Mr. A. V. Porter, architect, Brooklyn, N. Y.
7. A fine Colonial house at Elizabeth, N. J., recently completed for Henry A. Haines, Esq. Perspective elevation and floor plans. Architects, Messrs. Child & De Goll, New York City.
8. A residence at Flatbush, L. I., recently erected for C. H Wheeler, Esq., at a cost of $11,000 complete. Two perspective elevations and floor plans. Architect, Mr. J. G. Richardson, Flatbush, L. I. An attractive design.
9. A cottage at Plainfield, N. J., erected for Chas. H. Lyman, Esq., at a cost of $5,000 complete. Two persective elevations and floor plans. Architect, Mr. W. H. Clum, Plainfield, N. J. A picturesque design.
10. An elegant house at Scranton, Pa., erected at a cost of $15,000 complete. Two perspective elevations and floor plans. Architect, Mr. E. G. W. Dietrich, New York City.
11. Engraving showing the new building of "The Bank for Savings," recently erected on 22d Street, New York City. Mr. C. L. W. Eidlitz, architect, New York City.
12. Foundation piers of the American Surety Company's building, New York City. Four illustrations, showing the most advanced methods of caisson construction for city buildings.
13. Miscellaneous contents.—An automatic gas saving governor, illustrated.—Heating a residence with open grates, illustrated.—Arranging effective interior, illustrated.

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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.
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Minerals sent for examination should be distinctly marked or labeled.

(6446) E. L. K. asks: 1. How would you graphically represent the potential wave in secondary of an induction coil? A. It depends on the construction of the coil, and the determination may involve quite delicate calculations. For general alternating current work we recommend and can supply Kapp's "Alternating Currents of Electricity," price $1; Blakeslee's "Alternating Currents," price $1.50; Tesla's "Experiments with Alternating Currents," price $1, by mail. 2. How is the permanence of different kinds of iron measured? A. By determining the relative traction in identically shaped samples under identical conditions of magnetizing force (ampere turns). See S. P. Thompson's "Lectures on the Electro-Magnet," $1 by mail.

(6447) A Tropical Plant Sent from Nebraska.—The fleshy leaves and peculiar bell-shaped flowers of greenish hue, with purplish shadings, sent by Mr. J. F. Schmalzried, of North Platte, Neb., is the Bryophyllum calycinum. It is a tropical plant, occurring abundantly in the West Indies and in Madagascar, Mauritius, etc. It grows in dry situations, often in clefts of the rocks, and a closely related species is found covering the stone fences in Jamaica, producing a rather pretty effect, seeing that the leaves frequently become bright yellow and purplish. The plant really belongs to the leek family, Crassulaceae, of which the common house leek furnishes a familiar example, and the fleshy leaves bud and root readily when stuck into the soil. In Mauritius the plant is said to be used as a fomentation or poultice in intestinal complaints. It is not uncommonly grown in greenhouses for the rather odd panicles or flowers.—Answered by Professor C. V. Riley.

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AND EACH BEARING THAT DATE.

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