

RECENTLY PATENTED INVENTIONS.

Railway Appliances.

CABLE GRIP.—James S. Patten, Baltimore, Md. This is a gripper of simple construction and easy to manipulate, which is adapted to grip the cable by lateral pressure and drop it vertically when released, while the grip can be quickly adjusted to again pick up the cable without the aid of lifting levers or other additional means. When a cross cable is reached, the grip automatically lets go its cable, rides over the other cable, and drops into position to again pick up its cable on the application of the gripper's lever. The clamp jaws are incapable of slipping or loosening their hold on the cable after they are applied, thus saving frictional wear.

ELEVATED CABLE RAILROAD.—William R. Heylman, Rich Hill, Mo. According to this invention, the cars are suspended below the rails, which form a duct for the cable propelling the cars. A novel means of switching onto side tracks is provided, with means for actuating the grip to engage or release the cable. This road can be set up at a moderate cost on sea beaches, etc., and is more especially designed for pleasure trips, but can be readily arranged to carry freight.

Mechanical.

MORTISING MACHINE.—Simeon J. Hicks, Englewood, Ill. This is a machine especially adapted to make mortises in the stiles of doors, although useful for other purposes. It has a longitudinally reciprocating carriage carrying work-holding clamps, a transverse reciprocating frame with chisels moving above the carriage, and a clutch-controlled driving mechanism reciprocating the frame and carriage. The machine is designed to perform its work very nicely and rapidly, the mortising chisels operating from both sides of the work, while the article to be mortised may be quickly placed and removed.

SUPPORTING JOURNAL BOXES.—J. Friedrich Hey, Strasburg, Germany. The bracket or hanger is provided with a disk having a circular recess, while the bearing support is provided with an eccentric disk or flange having an offset projecting into the recess of the disk of the bracket. A ring clamp secured to the bracket engages the front face of the eccentric flange or disk. The device is simple and durable, and permits of a wide range of adjustment.

Agricultural.

PLOW.—Agustin M. Chavez, Mexico, Mex. This is an improvement in plows whose beams are attached at their front ends to a truck or wheeled frame. A stirrup is fastened to be attached to the straight section of the plow beam, and by sliding this stirrup toward the rear curved portion of the beam, the plowshare may be made to enter the ground more or less deeply, the nearer the stirrup is carried to the share the deeper being the furrow. In connection with the plow a sod cutter is employed, clipped upon the plow beam in such a manner that the turner will be adjustable.

STOCK WATERING DEVICE.—Anson Carey, Ashland, Neb. This is a device for watering hogs and other stock, and consists of a trough with a water supply pipe in its rear, a gravity lid or nose gate hinged in its rear being adapted to close down on the trough, and having an upwardly and outwardly inclined lip at its forward end arranged, when the lid is down, to leave the top of the trough open in front. A stopper to the supply pipe is pivotally connected with the hinged nose gate for operation by the latter in both directions. According as the nose gate is raised is the flow of water to the trough, and the animal always has a fresh supply of water, but none is wasted, the flow stopping when the nose gate closes itself.

Miscellaneous.

WIND WHEEL.—Benjamin J. Sykes, Skylesville, Pa. This invention relates particularly to improved connections between the power shaft and plunger rod, facilitating the utilizing of the power of two wheels simultaneously, and equalizing any difference of speed between the wheels, preventing jerking or binding upon one side of the plunger rod. The construction is such that the entire machine is designed to be perfectly balanced, thus having great strength and durability. In operation, one of the wheels is turned to face the wind, and the back of the other wheel corresponds with the face of the one in the wind, the wheels revolving simultaneously in opposite directions.

VEHICLE SEAT.—Jacob Ruch, Mount Eaton, O. This invention provides improved connections between the seat and the vehicle body. The seat has a hinged back, and a crank rod mounted on the under side of the seat has arms pivoted to its cranks and secured to the seat back, a lever being secured to the crank rod and a fastening device to fix the position of the lever. The seat is especially adapted for two-wheeled vehicles, the position of the seat back being readily shifted to make the seat easy, and also for its adjustment to bring the weight of the load in the right position in relation to the wheels, thus enabling the vehicle to be properly balanced, so that it will ride and draw easily.

DISINTEGRATING BITUMINOUS ROCK.—Ben Hager, Salt Lake City, Utah Ter. This is an apparatus especially designed for disintegrating rock or dry asphaltum, and the kettles in which the material is placed have each a stationary grate, between the bars of which oscillating bars are made to swing, a steam pipe delivering steam beneath the grate while another pipe delivers steam above the grate. As the steam disintegrates the asphaltum the oscillating bars force it down to the bottom of the kettle, from which it may be drawn out as desired, the operation being preferably carried on in two connected kettles, so that the work is continuous.

POST HOLE DIGGER.—John Tipton, Hymers, Ind. This device has a cylindrical body of iron or steel, with its lower edge notched and beveled to form cutters, and within the cylinder is an adjustable or sliding disk having a central opening, the disk being rigidly attached to a rod, which extends upward, and ends in a ring surrounding the handle. When the digger is forced

into the ground, the dirt is tamped inside the cylinder by the operator pressing with his foot upon the ring, thus forcing the disk down upon the dirt, and enabling the latter to be lifted with the digger out of the hole.

FLOOR CLAMP.—Mathias Lutgen, West Bend, Ia. This device has a base plate carrying a lever, and means for fulcraming the body of the implement on a joist, a rocking dog being movable with the plate in response to the throw of the lever, the latter serving to rock the complete implement on its fulcrum. The device greatly facilitates the clamping and pressing up of the boards of a floor while it is being laid, to close the joints between the boards, and provide for nailing the boards while so closed and held one against the other.

FENCE.—William P. Sharp, Lowell, Kas. This is a fence designed to be conveniently set up and taken down, and is well adapted for use upon even as well as upon uneven ground. It consists principally of supports and panels, the supports being formed of two posts crossing each other near the upper end and connected at about the middle by a cross bar. The panels have at each end a post or batten, to which are secured longitudinal rails adapted to engage the supports, the adjacent panel posts being connected with each other at their upper ends by a link.

SUPPORT FOR BRACKET TABLES.—John N. Tiffany, San Diego, Cal. A novel, convenient, and substantial support is provided by this invention for a small table top that may be adjustably attached to a chair or bedstead for the use of an occupant, affording means for holding an open book at any desired angle before a reader, and projecting the book support over the bed or the chair, as may be desired. The table top is also available to hold writing materials and to write upon. When not in use the support may be packed together in compact form.

SASH FASTENER.—Emanuel and Henry S. Ensminger, Bloomington, Ill. This is a cheap lock, quickly applied to any window, so that it cannot be accidentally unlocked by the rattling of the sashes. The invention is an improvement upon a former patented invention of the same inventors. The latch is pivoted on the top of the lower sash, and a spring concealed in a transverse recess in the under side of the latch engages a stud to press the latch normally inward to lock the sashes. The sashes may be held at any desired height, or the lower sash may be raised and held as desired without moving the upper sash.

FOLDING TABLE.—John C. and Hiram A. Carl, Allentown, Pa. This invention provides an extremely cheap and simple table to which any kind of a table top may be applied, which may be extended when desired to form a long table or an ironing table, or be folded into small compass to make a neat and compact stand. The table, whether extended or folded, is very strong, and the invention covers various novel features of construction and combinations of parts.

HAND STAMP.—Samuel A. Harrison, New York City. This is a registering or counting stamp, which will positively count every impression and display the amount so that it may be easily read. Its construction is simple, and such that it is not likely to get out of repair, and it may be conveniently reset whenever necessary or desirable. The dial is in a glass-covered case in the top of the handle, and the hands are moved every time the stamp is pushed down to make an impression.

LAP RING.—George Bobb, Yokena, Miss. According to this invention the two members of the ring are connected by a loose universal or swivel joint, which adapts it to be easily and quickly applied to or detached from single and double trees, chain links, etc. The ring thus made is very strong and durable, since the joint between the two hooks is not formed by aid of a pin, rivet, or pindle, as usual in such devices, but by circular eyes, which are integral portions of the hooks.

Designs.

HEAD FOR FUR COLLARS.—Bernard Cohen, New York City. This design represents an animal's head, to be used as an ornament, a rib-like figure being produced in relief upon the muzzle and extending around the edge of the mouth, and the curved tongue lying upon the under jaw.

RUG FASTENER.—George B. Shellhorn, Montgomery, Ala. This fastener is a triangular-shaped body, having concave edges and tapering extensions projecting at right angles from the body, one of the extensions projecting oppositely to the other two.

HEEL OR SOLE PLATE.—George J. Davison, Richmond, Va. The leading feature of this design consists in the shape and ornamentation of the completed article, of segmental shape, and with V-shaped openings with prong-like projections.

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.

AIDE-MEMOIRE PRATIQUE DE PHOTOGRAPHIE. Par Albert Londe. Paris: J. B. Bailliere et Fils. Pp. 337.

THE DAILY NEWS ALMANAC AND POLITICAL REGISTER FOR 1893. Compiled by George E. Plumbe. Ninth year. Issued by the Chicago Daily News Company. Pp. 424. Price 25 cents.

From the Chicago Daily News we have received its almanac. It is a work containing in excellent shape the exhaustive data now found in the different newspaper almanacs.

TIPS TO INVENTORS. Telling what inventions are needed, and how to perfect and develop new ideas in any lines. By Robert Grimshaw. New York: The Practical Publishing Company. 1893. Pp. 84. Price \$1.

Dr. Grimshaw is well known as a very bright and graphic writer. In these hints to inventors he makes a

number of suggestions of what people might invent, and many of them seem exceedingly well put. Exactly what he means by the following "tip," however, is not very clear: "The chemist who will make from cotton seed either a drying or a non-drying oil should not want for cash if he manages his affairs properly" (pp. 21, 22). Exactly how this is to be considered a tip to inventors is not clear. The advice on perfecting and developing patents and on selling patents makes very good reading.

MARKET GARDENING AND FARM NOTES. Experiences and observations in the garden and field, of interest to the amateur gardener, trucker and farmer. By Burnet Landreth. New York: Orange Judd Company. 1893. Pp. iv, 215. Price \$1.

The subject of truck farming in this work seems treated thoroughly up to date. The author is not restricted in his knowledge to American gardening operations, but he is able to contrast American processes and customs with those of other lands. This gives the work an international character which makes it really attractive reading. We believe that it should be in the hands of every enterprising cultivator of vegetables.

HOW TO MANAGE THE DYNAMO. A handbook for ship engineers, electric light engineers, and electro-platers. By S. R. Botton. New York: Macmillan & Co. 1893. Pp. 63. Price 60 cents.

This very short treatise is designed as a handbook for ship engineers, electric light engineers, and electric platers. It is elementary, therefore, and quite practical in its treatment. Of its 63 pages, 17 are devoted to definitions, so that altogether the amount of matter given is not very large. It has no table of contents, but has an index adequate for its size.

THE "PRACTICAL ENGINEER" POCKET BOOK AND DIARY. 1893. Edited by W. H. Fowley. All rights reserved. Second edition. Technical Publishing Company, Limited, London. John Heywood, Manchester. Price 60 cents.

In addition to very numerous horse power tables, notes on heat, waste of materials, and the usual data given in works of this character, a memorandum diary is found, making the work a useful compact companion for the civil or mechanical engineer.

Any of the above books may be purchased through this office. Send for new book catalogue just published. MUNN & CO., 361 Broadway, New York.

SCIENTIFIC AMERICAN BUILDING EDITION.

MARCH, 1893, NUMBER.—(No. 89.)

TABLE OF CONTENTS.

1. Elegant plate in colors, showing an attractive dwelling at Springfield, Mass. Floor plans and perspective elevations. Cost \$9,750 complete. E. L. Chesebro, architect, Springfield, Mass.
2. Plate in colors showing the residence of the Hon. John J. Phelan, at Bridgeport, Conn. Two perspective views and floor plans. Mr. A. H. Beers, architect, Bridgeport, Conn. An excellent design. Cost \$6,000 complete.
3. A dwelling at Springfield, Mass., erected at a cost of \$4,000 complete. Perspective views and floor plans. Messrs. Granger & Morse, architects, Springfield, Mass. A model design.
4. A cottage erected near Brighton, Mass., at a cost of \$2,800. Floor plans, perspective view, etc. A. W. Pease, architect.
5. Engravings and floor plans of a residence at Greenwich, Conn. A beautiful design in the Colonial style of architecture. Mr. W. S. Knowles, architect, New York.
6. A dwelling recently erected at Brookline Hills, Mass., at a cost of \$5,300 complete. A picturesque design. Perspective elevation and floor plans. Messrs. Shepley, Ruton & Cooledge, architects, Boston.
7. Sketch of a tasteful design for a three-family cottage, to cost about \$4,500.
8. Plans and elevations of an English cottage of quaint and pleasing design.
9. View of the Fifth Avenue Theater, New York. A splendid example of modern architecture in the style of the Italian Renaissance. Together with a portrait and biographical sketch of Francis H. Kimball, architect, New York City.
10. Miscellaneous contents: Paving estimates.—World's Fair items.—Painting the World's Fair buildings.—Drawing instruments for colleges, etc., illustrated.—A tasteful fireplace design, illustrated.—An improved steelspring hinge, illustrated.—Vegetable growth in water mains.—American machinery in London.—A foot radiator valve for hot water radiators, illustrated.—New tin plate plant.—An improved furnace, illustrated.—Cincinnati woodworking machinery.—An improved door hanger, illustrated.—A big heater company.

The Scientific American Architects and Builders Edition is issued monthly. \$2.50 a year. Single copies, 25 cents. Forty large quarto pages, equal to about two hundred ordinary book pages; forming, practically, a large and splendid MAGAZINE OF ARCHITECTURE, richly adorned with elegant plates in colors and with fine engravings, illustrating the most interesting examples of Modern Architectural Construction and allied subjects.

The Fullness, Richness, Cheapness, and Convenience of this work have won for it the LARGEST CIRCULATION of any Architectural Publication in the world. Sold by all newsdealers.

MUNN & CO., PUBLISHERS, 361 Broadway, New York.

Business and Personal.

The charge for insertion under this head is One Dollar a line for each insertion; about eight words to a line. Advertisements must be received at publication office as early as Thursday morning to appear in the following week's issue.

Acme engine, 1 to 5 H. P. See adv. next issue.

"U. S." metal polish. Indianapolis. Samples free.

Improved iron planers. W. A. Wilson, Rochester, N. Y. Patent Open-Side Planing and Shaping Machines. Pedrick & Ayer, Philadelphia, Pa.

Lathes 20' swing, planers 24' x 24', at special prices. F. C. & A. E. Rowland, New Haven, Conn.

Have you tried "aluminum Babbitt metal"? Write A. W. Cadman Mfg. Co., Pittsburgh, Pa., about it.

Steam Hammers, Improved Hydraulic Jacks, and Tube Expanders. R. Dudgeon, 24 Columbia St., New York.

Stow flexible shaft. Invented and manufactured by Stow Mfg. Co., Binghamton, N. Y. See adv., page 174.

Screw machines, milling machines, and drill presses. The Garvin Mach. Co., Laight and Canal Sts., New York.

Centrifugal Pumps. Capacity, 100 to 40,000 gals. per minute. All sizes in stock. Irvin Van Wie, Syracuse, N. Y.

Steam engine, electric motor, and dynamo castings. Send stamp for catalogue. C. A. Sturtevant, Hartland, Vt.

For Sale—Patent on improved mine car. See illustrated notice on page 180. For terms and particulars address Homer Durand, Starkville, Col.

To Let—A suite of desirable offices, adjacent to the Scientific American offices, to let at moderate terms. Apply to Munn & Co., 361 Broadway, New York.

Hydrocarbon Burner (Meyer's patent) for burning crude petroleum under low pressure. See adv. page 381. Standard Oil Fuel Burner Co., Fort Plain, N. Y.

Fine Castings in Brass, Bronze, Composition (Gun Metal), German Silver. Unequaled facilities. Jas. J. McKenna & Bro., 424 and 426 East 23d St., New York.

For Sale—New 5 horse power upright engine, 5' x 6' cylinder and 30 x 5 ft. boiler, upright, new. All guaranteed. Spot cash, only \$181. Wm. C. Codd, Baltimore, Md.

The best book for electricians and beginners in electricity is "Experimental Science," by Geo. M. Hopkins. By mail, \$4; Munn & Co., publishers, 361 Broadway, N. Y.

For the original Bogardus Universal Eccentric Mill, Foot and Power Presses, Drills, Shears, etc., address J. S. & G. F. Simpson, 25 to 36 Rodney St., Brooklyn, N. Y.

Canning machinery outfits complete, oil burners for soldering, air pumps, can wipers, can testers, labeling machines. Presses and dies. Burt Mfg. Co., Rochester, N. Y.

Will sell or lease foundry and machine shop, with tools and stock. Good waterpower. No steam required. Rare chance for general or special work. Box 230, Milford, Del.

Competent persons who desire agencies for a new popular book of ready sale, with handsome profit, may apply to Munn & Co., Scientific American office, 361 Broadway, New York.

For Sale—Electro-plating dynamos. Three 12 inch Weston for silver or nickel, one 8 inch Weston for silver, and one American Giant No. 4. Address Crane & Breed Mfg. Co., Cincinnati, Ohio.

Any Manufacturer of hardware or machinist's specialties, desiring to be represented in New York City or vicinity, will find it to his interest to address E. J. Hussey & Co., 80 John Street, New York. We are centrally located, active workers and can furnish best of references.

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.

(4787) G. W. V. asks how to make a Lalande oxide of copper battery in the cheapest way possible. I heard that they could be made of tin tomato cans. A. See SUPPLEMENT 732.

(4788) F. T. G. asks: If one heat unit raises the temperature of one pound of water one degree, how many heat units will be required to raise the temperature of one cubic foot of air one degree? A. One heat unit will raise one pound of air one degree. One pound of air at sixty degrees is equal to thirteen cubic feet. Then one-thirteenth of a heat unit will heat one cubic foot of air one degree.

(4789) F. W. Q. asks whether he can get the same amount of electricity from a battery by immersing the zinc half way into the solution instead of all the way; as, for instance, in the Grenet battery described in SCIENTIFIC AMERICAN SUPPLEMENT, No. 157. A. By immersing the zinc one half way into the solution, you will get less current than you will if it is entirely submerged; the electro-motive force, however, will be the same in both cases.

(4790) A. P. J. asks what wash or prevention, if any, may be used to arrest powder posting in a chestnut bookcase. Fine powder issuing from small holes in the shelves is a constant annoyance. Reply by Prof. C. V. Riley.—Without having seen specimens of the author of the injury described by your correspondent, it is impossible to definitely determine the insect which is injuring his chestnut bookcase. There are several coleopterous insects of the family Ptinidae which are notorious as infesting the hard wood used in the manufacture of desks,