

RECENTLY PATENTED INVENTIONS.

Engineering.

STEAM GENERATOR.—Alexis F. Gillet, Kearney, Neb. This generator comprises a fire box which is supported a shell in which is arranged a coil of pipe connected with a water supply, a steam generating block being connected with the discharge end of the coil and having a continuous water channel at the end of which is a steam chamber, there being a check valve in the discharge end of the coil of pipe, and a second check valve in its inlet, with a water pressure regulating valve in front of the latter. The arrangement is such that steam is generated in just the proportion that water is forced or supplied to the block, the volume and pressure of steam being governed by regulating the water supply, and the construction being very safe, simple, and economical.

BRIDGE GATE.—Benjamin Moore, Chicago, Ill. This inventor has designed a simple mechanism for use in connection with any swing bridge, to automatically close the approaches when the bridge is swung out of alignment, and automatically open the gates when the bridge is brought into normal position. The improvement operates without regard to the direction in which the bridge is turned, and the construction is simple, inexpensive, and not likely to get out of order. The gates are operated by the depressing of cranks depressed by the action of the bridge, a crank shaft being journaled, and the crank carrying a roller extending into the path of an inclined block secured to the under side of the bridge.

GAS HOLDER AND PURIFIER.—Donald McDonald, Louisville, Ky. The water seal tank or reservoir of this improvement has within it a supporting framework carrying at its upper side a stationary floor above the water level, and a vertically adjustable and balanced receiver is made in two sections detachably connected, the upper section being above the floor at all times and having side doors, while purifying boxes or trays are arranged upon the floor and adapted to be reached by wheelbarrows wheeled across the floor. The improvement is especially designed for fuel gas works, providing a very large generating capacity, and a purifying device which will treat a large volume of gas as fast as made.

Railway Appliances.

CAR FENDER.—William V. McMantis, Baltimore, Md. This improvement comprises a guide frame and a receiving frame having a sliding connection at its lower front edge with the guide frame, the sliding connection including an inclined bearing whereby the front edge of the receiving frame is depressed as it is pushed rearwardly. The operation of the fender is entirely automatic, requiring no attention on the part of the motorman or gripman, the fender, as it is pushed rearward by contact with an obstruction, being depressed or moved down close to the track and adapted to efficiently cushion the fall of a person upon it.

ELECTRIC RAILWAY SYSTEM.—Charles D. Thdale, Boston, Mass. This improvement provides for taking the current from the railway track rails or from conducting rails carried along with and parallel to the track. The truck motor has two paper car wheels and two iron or steel wheels, the paper wheels being on opposite ends of different axles and the metallic wheels arranged diagonally opposite each other, so that electrical contact is made with one of the railway rails through one of the metallic wheels, and with the other rail by the other metallic wheel. The device is designed to furnish the current to the motor and return it to the power station without the necessity of charging a great length of track or conducting rail.

Mechanical.

NUT LOCK.—Joseph Burrows, Globe, Arizona Ter. This is an improvement on a former patented invention of the same inventor, in which the nut of the bolt had recesses in its face adapted to receive keys or wedges of novel construction. The invention provides improved forms of recesses and keys, and better promotes facility of operation in locking and unlocking the nut.

FINISHING JOINT IN WOODEN WALLS OR CEILINGS.—George Knower, Greenwood, Wis. This is a cheap, simple and flexible batten, which may be made of paper and conveniently applied, folding up tightly when the joints are new and tight, and expanding with the shrinkage of the adjacent wood, keeping the joint tightly closed and absolutely air tight, without regard to the shrinkage.

OIL CLOTH PRINTING MACHINE.—William H. Schoenberg, Philadelphia, Pa. This is a machine for printing from long webs or strips, no hand work being necessary to effect the printing, the printing block being moved regularly up and down, and the color automatically applied as the web of material is continuously fed forward. The color boxes and printing blocks are arranged one after the other in series, their number corresponding with the number of colors usually printed, a box and its block being adapted to use one color only.

MEASURING INSTRUMENT.—Leonard M. Hodge, San Jose, Cal. This instrument is more especially designed for the use of carpenters and other mechanics, to readily obtain bevels for rafters and for similar purposes. It consists of a right angle triangle provided with two pivoted arms indicating on opposite sides of a graduated segment forming an integral part of the triangle.

WORKING BARREL PROTECTOR IN WELL DRILLING.—Charles E. Lasher, William J. Webster, and David L. Newton, of near Oakdale Station, Pa. This improvement is designed to prevent the loss of the working barrel in pumping wells, enabling the operator to quickly and conveniently draw up the casing containing the barrel, should the latter become disconnected from the tubing. The invention consists of an integral casing having a cap for the passage of the tubing, and an abutment inside of the casing, and carried by the tubing or the barrel, to engage the inside of the cap.

Agricultural.

BAND CUTTER AND FEEDER FOR THRASHING MACHINES.—George D. Lamm and William Sicard, Ackley, Iowa. This improvement is adapted for connection with the ordinary thrashing machine frames, the cutting and feeding mechanism having a conveyor frame formed in sections adapted to be folded up and under the front end of the thrasher frame proper in compact form, to facilitate carriage from place to place. The cutting blades are also arranged so as to have one of more of them passing through the sheaves at all times during the operation of the machine, there being also suitable shields or protectors for the blades, to prevent injury thereto and the grain from being carried over the cutter shaft.

COTTON SEED CLEANER AND SEPARATOR.—James W. Smith, Rome, Ga. The seed-receiving chamber of this machine has as its mouth the discharge end of the hopper, into which is projected a blastway connected with a blower, the blastway having its upper wall formed of a member hinged at its upper end to the hopper, while adjusting devices are connected to the free end of the hinged member, whereby its lower end can be set to adjust the lower opening of such blastway. The machine effectively cleans the seed and separates therefrom gravel, iron ore, nails, etc., the force of the blast being readily regulated.

FEED MILL.—John O. Smith, Nashville, Tenn. This is an improvement in mills for grinding corn, corn cobs, oil cake, and similar hard and tough food products, the mill being very strong and inexpensive, and so made that it can be operated with comparatively little power. The revoluble knives are so arranged that they may be reversed or renewed when necessary.

RATTLE RAKE.—Richard Keeling, Wall-halla, North Dakota. The construction of this rake is such as to afford a much larger surface for the exit of grain upon the lower stretch of the rake than at the upper surface or top stretch, thus permitting the material falling upon the rake to quickly leave it, and preventing the straw from winding around the rollers or drums carrying the rake.

Miscellaneous.

BICYCLE.—Thomas B. Hyde, Taylor, Texas. The driving mechanism of this machine is adapted to be operated by the hands or the feet of the rider or by both, the motion of the rider being similar to that of rowing. The propelling mechanism is so constructed and the rider's seat so located that he must assume a position on the machine corresponding to that taken by an oarsman in a boat, and is thus able to exert great energy and strength, while the seat can be rendered extremely comfortable.

LINE CHALKING APPARATUS.—Carl E. Anderson, Wood's Holl, Mass. This improvement comprises a two-compartment box, one compartment being V-shaped at the bottom and adapted to receive the chalk, while in the other compartment is a spool or reel carrying the line. The line passes from the reel over guide rollers, passing around a roller in the bottom of the chalk chamber, and has a ring on its outer end outside the box. The roller in the chalk chamber is removable, adapting the device for uses where the chalking of the line is not necessary. The box or casing has a hinged cover with suitable handle and fastening, and the device is a great convenience for holding and keeping in a cleanly and compact way the chalk line used by carpenters, gardeners, and other artisans, and automatically chalking the line.

DRYING KILN.—Adolphus Kimball and Phineas Kimball, Arkansas City, Ark. This kiln is an air-proof building, having at its green end a steaming room for softening the lumber by steam previous to drying it in the air chamber adjacent. Through the building run tracks to receive the lumber trucks and hold the lumber in inclined position, each pile of lumber on a set of trucks, and the sets of connected lumber trucks being moved along by an endless chain. The heated air passing through the lumber is received in a box with which is connected an exhaust fan or blower.

ENAMELING PAPER, ETC.—William H. H. Childs, New York City. A method of manufacturing imitation pebbled leather and other fabrics has been patented by this inventor, by applying heated pitch or similar material to paper or other fabric, then subjecting the fabric to heat. The invention provides for effecting the pebbling simultaneously with forming the enamel, and thus making a substitute for leather in the manufacture of pocket books, book covers, etc.

POSTAGE STAMP ATTACHING MACHINE.—Oscar J. Moe, New York City. Combined with a water tank and endless moistening belt is a reciprocating plunger and feeding mechanism for causing the stamps to pass downward past the plunger, when an envelope is passed down in proper position in a slot in the machine, there being operating connections between the plunger, the belt and the feeding mechanism.

DRUGGIST'S WEIGHING SCALE.—Edward Kelly, Lebanon, Ky. This inventor has devised a prescription scale, with which the apothecary may weigh the various denominations of both the metric and apothecaries' systems of weights, with one weighing poise and one series of markings on the weighing arm of the scale beam. And with this scale the equivalent in the United States apothecaries' system of any denomination of weight of the metric system, or vice versa, may be readily ascertained without calculation.

WASHING MACHINE.—Louise Kelly, Rosebank, N. Y. This is an improvement in that class of washboard attachments consisting of a sliding rubbing board arranged to work on rods held parallel to the rubbing surface of the washboard. The device is very simple and inexpensive, and may be attached to any board in a convenient manner.

COVER FOR FRYING PANS.—Mary E. Radtke, White Plains, N. Y. This cover for frying pans, gridirons, etc., has a pendent flange, which is upwardly and inwardly curved at its lower edge, forming

a groove or channel for the reception of any substance which may run from the inner face of the cover, so that when the cover is removed from the vessel all drip will be prevented.

BERRY CRATE.—Peter A. and Robert S. Wimbrow and Harry P. Dale, of Whaleyville, Md. This crate is made of horizontal rails or bottom strips, vertical and parallel side or slat strips, and horizontal top strips, the vertical side strips being made of veneer and being quite thin and flexible. The construction is such that a strong and light crate is made at a moderate cost, and one which will hold the berry baskets without injuring the berries.

NECKTIE.—Gustave Selowsky, New York City. This tie is so made that money and other valuables may be conveniently and securely carried in it. The improvement may be applied to "Tecks," "four-in-hands," "puffs," and other forms of scarfs, and comprises a pocket in the lower portion of one apron or end, the pocket being closed with a flap. The appearance of the tie is not injured, and the weight of the contents of the pocket tends to hold the scarf or tie down, so that no fastening is needed for this purpose.

CHALK SHARPENER.—George Hay, Pietou, Canada. To smoothly sharpen chalk for cloth cutters' use, and remove the cuttings or dust, this inventor has designed a simple and efficient device, in which a closed receptacle receives the shavings, the receptacle being adapted for use as a paper weight. The bottom wall of the base piece is heavy, rendering the chalk cutters stable, so that one does not have to hold the device in place when the chalk needs to be redressed on the edges.

SLIDING GATE.—William Woods, Frostburg, Md. This inventor has devised an improvement in that class of farm gates which are hung and adapted to run on elevated ways or tracks, the invention embodying a simple and easily operated arrangement of a fixed and a tilting track. The latter track is raised or lowered by pulling on cords, the gate being thus opened or closed with great ease and rapidity. The pull cords are easily accessible from a carriage on the roadway or by one on horseback.

SIGN PRINTER.—William E. Rose, New Carlisle, Ind. This device consists of a wheel having a handle and adapted to carry type or segmental printing blocks, with adjustable guide and stop devices. It is adapted for printing signs with paint upon fences, sidewalks, bridges, or any rough surface, or for printing any desired matter upon boxes, show cards, etc., the type surface of the wheel being rolled over a surface to which moist paint has been applied before applying the wheel to a surface to be printed.

SETTEE ARM.—William C. Bartol, Lewisburg, Pa. This improvement is especially adapted for use in connection with settees in colleges, schools or lecture rooms, the arm being so made that it can be readily attached to any settee. The arm may also have an adjustable table or paper support, enabling students to conveniently take notes of lectures, the table being turned to a vertical position to permit convenient access to or egress from the seats.

ROPE CLAMP FOR PULLEY LINES.—Thomas Bevan, New York City. This clamp may be easily applied, and one end of the rope may be loosened from the clamp and the slack taken up without danger to the operator, since the loosened end of the line is always in the direction of the apartment. A guide is also combined with the clamp to prevent the under stretch of the line from sagging from or leaving the upper stretch for too great a distance.

DISPLAY RACK.—Sylvester P. Denison, Belleville, N. J. This is a device which can be very cheaply manufactured, while its construction is durable, and it can be readily extended or folded so as to take up but little space. It is especially designed for use in stores and other places to support and conveniently display articles of merchandise, such as hats, hosiery, neckties, etc.

BUCKLE.—Arthur Morris, Rockefeller, Ill. This buckle is more especially designed for use with harness for farm horses, particularly for attaching the breeching to the other portions of the harness in such manner that the breeching may be readily removed when occasion may demand. The buckle may be removed with the breeching without removing the trace or trace loop, and it will also take the place of the ring strap, sheath and buckle common to farm harness, thus lessening the work of harnessing.

Designs.

FORK SCRAPER.—William J. Osterman, Richmond, Va. The scraper blade of this design is notched or serrated, to form teeth which enter between the prongs of the fork, against which the scraper is held by a shank rod attached by loops forming a spring tension to the handle of the fork.

BROODER.—Earl Barney, Schenectady, N. Y. The leading point of this design is in the novel conformation of the exterior of the brooder, the roof being composed of three panels or members of varying degrees of pitch.

HAMMER.—Zephiren Duchemin, Haverhill, Mass. The head of this hammer has two faces, one flat and round and the other convex and oval, the faces being at an angle to each other and extending at all sides beyond the lines of the shank or cross bar that joins them.

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.

ECONOMIC GEOLOGY OF THE UNITED STATES, WITH BRIEF MENTION OF FOREIGN MINERAL PRODUCTS. By Ralph S. Tarr. New York and London: Macmillan & Co. 1894. Pp. xx, 509. Price \$4.

Professor Tarr is known to many of our readers from

his contributions to the publications of the SCIENTIFIC AMERICAN. He possesses admirably the art of putting in popular shape the most advanced views of his science. The economic geology of the United States is a field well covered by the book, which not only treats of ores and fuels, but also of building stones, cements, precious stones, mineral waters and allied topics. One thing about it which may be termed a genuine feature is a most exhaustive index of nearly 40 pages, an example which it may be well for other authors to follow. A short appendix on the literature of the science is of interest also.

THERMODYNAMICS OF REVERSIBLE CYCLES IN GASES AND SATURATED VAPOURS. By M. I. Pupin. Arranged and edited by Max Osterberg. New York: John Wiley & Sons. 1894. Pp. v, 114. Price \$1.25.

This work is a synopsis of a ten weeks' undergraduates' course of lectures delivered before the engineering students of Columbia College by Dr. Pupin. Mr. Osterberg has put his notes of those lectures into shape, and in this book we find them published with the approval of the lecturer. The subject and its treatment combine in imparting to the book a character of special value and timeliness.

THE "PRACTICAL ENGINEER" POCKET BOOK AND DIARY. Edited by W. H. Fowler. Manchester: Technical Publishing Company, Limited. 1894. Pp. 293. Price 60 cents.

This very attractive little work contains over 200 pages devoted to general engineering topics followed by a diary for the year, with memorandum pages following the diary pages. It is one of the annual publications which have a very well recognized place in engineering literature and will be well received, we do not doubt, by the profession.

EXPERIMENTE MIT STROMEN HOHER WECHSELZAHL UND FREQUENZ. Zusammengestellt von Etienne de Fodor. Revidirt und mit Anmerkungen versehen von Nikola Tesla. Mit 94 Abbildungen. Wien, Pesth, Leipzig: A. Hartleben's Verlag. 1894. Pp. xvi, 291. Price \$1.

SCIENTIFIC AMERICAN BUILDING EDITION.

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1. Elegant plate in colors showing a handsome colonial residence just completed at Ashbourne, Pa, for Charles Salmon, Esq. Two perspective views and floor plans. Cost complete \$11,500. Frank R. Watson, Esq., Philadelphia, Pa., architect. An elegant design.
2. Plate in colors of a Chicago dwelling designed for an architect's home, and recently completed at Morgan Park, Chicago, Ill. Two perspective views and floor plans. Cost \$4,200 complete. Mr. H. H. Waterman, architect, Chicago, Ill.
3. Two perspective views, interior view and floor plans of the elegant residence of Judge Horace Russell recently completed at Southampton, Long Island. Mr. Bruce Price, New York City, architect. An admirable design in the colonial style of architecture.
4. An English cottage at Buena Park, Chicago, Ill. Two perspective views and floor plans. Mr. James Gamble Rogers, Chicago, Ill., architect. A unique design in the Gothic style of architecture.
5. A residence at Southport, Conn. Two perspective views and floor plans. A picturesque design in the modern colonial style of architecture. Mr. W. W. Kent, New York City, architect.
6. A cottage at Freeport, Long Island, erected at a cost of \$2,600 complete. Perspective view and floor plan. A unique design. Mr. W. Raynor, Freeport, L. I., architect.
7. A residence at Rogers Park, Ill. Two perspective views and floor plans. Cost \$3,948 complete. An attractive design. Mr. C. W. Melin, Chicago, Ill., architect.
8. Two perspective views and floor plans of a dwelling recently erected at Rogers Park, Ill., at a cost of \$3,730 complete. A unique design. Mr. Robert Rae, Jr., Chicago, Ill., architect.
9. A cottage at Morgan Park, Ill., erected at a cost of \$2,968 complete. Two perspective views and floor plans. An attractive design, treated in the English cottage style of architecture. Mr. H. H. Waterman, Chicago, Ill., architect.
10. The new St. James M. E. Church at Kingston, N. Y. Perspective and plans. Architects, Messrs. Weary & Kramer, of New York City and Akron, Ohio. Estimated cost, \$70,000. Style of architecture, Romanesque.
11. Miscellaneous Contents: Vibrations of tall buildings.—Artificial stone.—A simple and efficient dumb-walter, illustrated.—An improved woodworking machine, illustrated.—The New Era electrical gas burner, illustrated.—P. & B. Ruberoid roofing, sheathing papers, and paints.—Improved woodworking machine, illustrated.—Foot power mortising machine, illustrated.—A large sheet metal ceiling, illustrated.

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