

RECENTLY PATENTED INVENTIONS.

Engineering.

BOILER.—Samuel P. Hedges, Greenport, N. Y. This boiler is designed for a stationary or marine boiler, which will not be top heavy, and in which the fire box is mainly composed of water tubes, and wherein other tubes affording circulation for water will be located immediately over the tubular fire box. The fire box tubes, etc., are arranged so as to permit of an even circulation and to permit of repairs being made with the minimum loss of time and money. The circulating pipes are so grouped that any one or more of the sections may be taken out into the fire room without disturbing any portion of the boiler, a blank header being introduced in its place, so that the boiler can be fired up at once and continued in use until the repairs are made in the section to be replaced. The fire tubes can all be reached from the fire box, taken out and others substituted, and the holes plugged with the tools ordinarily carried on steam vessels or usually at hand in the boiler room.

Mechanical.

HOSE REEL.—Clifton Giles Petherbridge, Rico, Col. The object of this invention is to provide a new and improved hose reel which shall be simple and durable and is arranged in such a manner that the hose is always attached to a water supply, and by unreeling the hose the water is automatically turned on, so that, in case of a fire, for instance, considerable valuable time may be saved. The inner end of the hose extends through the aperture in the reel, and connects with the vertical member of a T-pipe, which connects with the horizontal supply pipe. When the hose is unreeled, a valve mounted on the inner end of the horizontal supply pipe is opened, and the water flows through the vertical member of the T-pipe, which is coupled to the hose.

ROLLER COTTON GIN.—James Doig, Gainesville, Fla. The object of this invention is to remedy the defects in what is known as roller, sea island, or long staple gins. This is effected by reducing the number of parts by assembling what have hitherto been separate parts into groups, each part in a group being permanently fixed in its true position, relative to the other parts of the group, and the required elasticity or pressure is given by applying springs to each group as a whole, the groups being made adjustable to each other, whereby is obtained a gin having a wider field of usefulness, an improved quality of work and an increase of useful output, with less loss of time in adjusting and expense for repairs, and by which also the gin, while working, is brought under full control of the operator.

AXLE BOX.—Michael F. Deininger, Brooklyn, N. Y. This invention relates to axle boxes, and more particularly refers to improved means of lubricating the same. The device consists of an axle having an annular recess and longitudinal channels communicating therewith and of a cap to cover the recess and form an annular chamber. The cap is provided with an aperture through which a lubricant may be supplied. The axle box is provided with an interior recess adjacent to one of its ends. This end is adapted to engage a collar on the axle. The lubricant has access to the recesses in the axle and axle box and to the longitudinal channels of the axle.

FLOOR SANDPAPERING MACHINE.—John Mack, Newport, Ky. This invention relates to that class of machines which are used for smoothing and polishing floors. The object of this improvement is to produce a machine of this class which may be run either by hand or power, which has a convenient means for raising and turning its rollers so that it may be readily moved to one side, which has a revolvable sandpaper drum adapted to come into contact with the floor, which has a convenient means for fastening the sandpaper to the drum and which is provided with a fan to carry away the dust.

Railway Appliances.

SNOW PLOW.—Patrick Henry Craddock, Leadville, Col. This is an improvement upon the snow plow formerly patented by the same party, and the object of the present invention is to simplify the construction of the snow plow and to provide a means whereby the tread and flange face of the rails will be cleaned from ice adhering thereto simultaneously with the removal of the snow, and whereby also the weight of the plow will be held from off the track, thus permitting the engine to readily propel the plow forward or backward.

RAILWAY BLOCK SIGNAL LOCK AND REGISTER.—John Dean, New York City. This invention consists principally of a local lock for the signal, adapted to be unlocked from the next following station. In brief, it comprises a lock for the signal, a main lock circuit controlling the lock and operated from a distant point, a local lock circuit controlling the lock; the main circuit and the local lock circuit being provided with a movable portion, and a track circuit arranged in relation to the movable part, so that the latter will normally close the gap in the main lock circuit and enable the latter to be closed, and open the gap in the local lock circuit, the track circuit being also arranged in relation to passing trains as to cause a movement of the movable sections of the lock circuits which will open the gap in the main lock circuit so that this circuit cannot be closed, and close the gap in the local lock circuit.

CAR COUPLING.—Edward C. Inderlied, Rock Rift, N. Y. The object of this improvement is to provide a car coupling arranged to securely couple the cars and prevent accidental uncoupling, at the same time holding the non-engaged link of one of the cars in a proper resting position and without danger of interfering with the coupling parts. The invention consists principally of a drawbar, provided with a forward hook and a rear hook connected by an incline at its bottom with the bottom of its forward hook. The invention further consists of a drawbar, provided on its sides with inclined resting lugs adapted to support the link.

Miscellaneous.

REVERSIBLE GUTTER.—John Andy Freeze, Mason, Texas. The object of this new invention is to provide a reversible gutter which is comparatively

simple and arranged in such a manner as to permit of conveniently cleaning and painting the same. The essential features of the invention are a reversible gutter comprising brackets and a channel adapted to be seated in the brackets and an arm pivoted on the said brackets and rigidly connected with the channels.

BOTTLE TOP.—Albert Wanner, Jr., Hoboken, N. J. This new invention relates to covers or caps for salt cellars, pepper boxes, etc. In this new bottle top, the top is a permanent fixture on the mouth of the bottle and is arranged to permit of filling the same with the desired substance and to form a perforated cap for the exit of the contents of the bottle in a divided state. It consists of a neck band having its upper end unbroken throughout its circumference and provided below said end with a lateral opening or slot, and perforated and imperforate plates pivoted at one edge and movable through the slot, independently into and out of register with the neck band, and provided with edge finger holds whereby either or both may be swung.

METAL FRAMED TRIPLE MIRROR.—Albert Wanner, Jr., Hoboken, N. J. In order to avoid excessive weight, the rectangular frames of triple mirrors are usually formed of light sheet metal struck into shape, the three similar frames being hinged together at adjacent side edges, thus leaving an objectionable gap between the mirrors when they are opened. It has been found that the heavy plate glass mirrors strain the hinges and parts of the frame to which they are attached, so that the three sections will not correctly fold nor all stand in a vertical position when so strained. The object of the present invention is to remedy these defects by an improved method of construction, thereby strengthening the triple mirror and closing the gaps between the mirrors.

WASHING MACHINE.—King E. Stoker, Logan, Utah Territory. The essential features of this washing machine are a curved slotted bed or false bottom and two independently swinging rubbers arranged side by side above it, and having semi-elliptical or half oval rubbing faces on their lower sides, and means for operating these rubbers whereby the portions of the rubbers on the same side of the axis are made to alternately approach and recede from the bottom in their reversed rubbing movements.

MACHINE FOR AFFIXING STAMPS.—Adolph Sanders, New York City. The object of this invention is to provide a machine for stamping letters, and is so constructed that the stamps may be placed in removable holders, so that holders for any denomination of stamps may be attached to the machine. The operation in brief is as follows: A letter is laid on the table, a moistening device moistens the surface upon which the stamp is to be affixed and recedes. Immediately thereafter a follower enters into engagement with the stamp receptacle, carrying the receptacle downward and forcing a stamp therefrom and pressing the same to a firm contact with the surface previously moistened, and thereby upon releasing the plunger the stamp receptacle and follower will be carried to their normal position. This entire operation is performed with one stroke of the plunger.

ANIMAL TRAP.—Estanislao Caballero de los Olivios, New York City. This new animal trap is provided with an opening for the entrance of the animal, an outlet through which the animal may be thrown out and an inclined belt arranged adjacent to the outlet and adapted to travel downward under the weight of the animal, to throw the latter into a suitable receptacle.

BILLIARD CUE CUTTER.—James B. Olney, New York City. The object of this invention is to provide a device which shall be simple, durable and capable of being operated with one hand, the cue being held in the other. A further object of the invention is to provide a billiard cue cutter with a stationary knife, so located in a holder that when the end of a cue is brought into contact with a knife and the holder or the cue is rotated, the said end of the cue will be trimmed expeditiously, smoothly and evenly.

ROASTER.—Norval H. McAuslan, Sutter City, Cal. The object of this new invention is to provide a roaster which shall be simple and durable in construction and is specially designed for use on ordinary stoves and ranges for roasting coffee or other articles. It is also arranged for the ready sampling of the article which is being roasted without stopping the machine and is devised to carry off the fumes arising from the roaster into the stove or range instead of allowing them to escape into the room. The principal feature of the invention is an exterior casing adapted to be placed on the stove and opening into the same at its bottom, and a drum provided with a damper adapted to open into the exterior casing to cause the fumes to pass through the casing into the stove. This sampling feature has been referred to above.

SASH HOLDER.—Joseph J. Kelley, Great Falls, Montana. This improvement relates to a simple form of sash holder which is peculiarly adapted for use on car windows, but which may be applied to any window sash. Sash weights may be dispensed with and the sash may be held at any desired height. The device consists of small wheels of elastic material mounted in proper casings on the window. These wheels are arranged to cause the sash to remain stationary in any position in which it may be left by friction against the casing. The wheels can be readily adjusted and are not likely to get out of order.

CLOTHES LINE.—Jesse G. Work, Red-dyffe, Penn. This invention provides for a new and improved clothes line, which is arranged to securely suspend clothes without the use of pins, hooks or other separate devices, and is adapted to be conveniently drawn taut at any time. The wire clothes line is formed of sections that are pivotally connected and so constructed as to clamp the clothes and thus dispense with pins or other supplemental fastening devices. Any desired number of sections may be arranged between two posts.

DOOR FOR REFRIGERATORS.—Carl Santer, Brooklyn, N. Y. The object of this invention is to provide a means whereby the door of the refrigerating compartment when opened may be carried to a horizontal position and slid within the compartment, whereby the escape of the cold air from the ice compartment is prevented, thus reserving all of the cold air for service in re-

frigeration. The device also provides means whereby when the door is closed it will automatically adjust itself to form an air-tight connection with the wall of the opening it is adapted to cover. The door may also be easily removed from the body of the refrigerator for purposes of cleaning, repairs, etc.

TRIGONOMETRICAL CALCULATING AND MEASURING INSTRUMENT.—Adolphe L. Lacoste, Nat-chitoches, La. This invention relates to calculating and measuring instruments, and its object is to provide a new instrument which is comparatively simple and durable in construction, easily manipulated and is specially designed to enable surveyors and others to readily obtain the sine or cosine corresponding to a given distance and to a given angle without the aid of tables. The same device also forms a mechanical traverse table, giving for any angle and any distance the projections of the distance corresponding to the angle and also forms a mechanical table of natural sines and cosines. The results are obtained by the proper manipulation of scales and verniers which is rendered possible by the ingenious construction of the instrument.

CANOPY.—Milton T. Weston, Kenton, Ohio. This invention relates to an improvement in canopies, especially to a canopy adapted as a covering for a carousel or like machine, the object being to provide a canopy which may be supported without the aid of a center pole. The canopy comprises a center block to which the arms are secured at their inner higher ends to the block and are provided with eyes at their ends through which passes a rope which connects the various arms or ribs, a cover having a central opening for the pin in the block and secured around its margin to the rope. The canopy is supported by independent vertical posts provided at their upper end with pins extending removably through eyelets. These posts are attached to the ground or an adjacent support in the customary manner.

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.

SCIENTIFIC AMERICAN BUILDING EDITION.

APRIL, 1895.—(No. 114.)

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1. An elegant plate in colors, showing a Colonial cottage recently completed for Frank L. Purdy, Esq., at Glen Ridge, N. J. Two perspective elevations and floor plans. An attractive design. Architect, Charles P. Baldwin, Esq., Newark, N. J.
 2. Two perspective elevations and floor plans, showing a residence recently completed for George N. Tyner, Esq., at Holyoke, Mass. An elegant design in the Romanesque style of architecture. Mr. H. H. Griedley, Springfield, Mass., architect.
 3. A cottage at Nutley, N. J., erected at a cost of about \$4,000. Perspective elevation and floor plans. Architect, Mr. E. R. Sifton, N. Y. A simple but tasteful design.
 4. A Colonial residence at Orange, N. J., recently erected for John Hammond Bradshaw, M.D. A pure example of modern Colonial architecture. Two perspective elevations and floor plans. Messrs. Rossiter & Wright, New York City, N. Y., architects.
 5. An attractive residence at Indiana, Pa., recently erected for Mr. Harry McCreary, at a cost of \$4,350 complete. Perspective elevation and floor plans. Architect and builder, Mr. E. M. Lockard, Indiana, Pa.
 6. Two perspective elevations and floor plans of a handsome residence erected for Samuel S. McClure, at Armour Villa Park, Bronxville, N. Y. A good example of a square rigged house. Cost \$8,000 complete. Mr. Henry S. Rapelyea, architect, Mount Vernon, New York.
 7. A cottage at Glen Ridge, N. J. An attractive residence in the Elizabethan style. Two perspective elevations and floor plans.
 8. A carriage house at Orange, N. J., recently erected for John Hammond Bradshaw, M.D. The design is treated in the modern Colonial style to correspond with the architecture of his residence. Ground plan and perspective elevation. Messrs. Rossiter & Wright, architects, New York.
 9. An elegant residence at Flatbush, L. I., recently erected at a cost of \$11,000 complete. Two perspective elevations and floor plans. Architect, J. G. Richardson, Esq.; builder, J. C. Sawkins, Esq., both of Flatbush, L. I. An attractive design.
 10. A house at Park Hill, N. Y., recently erected for Messrs. Loreni & Morrow, at a cost of \$6,500 complete. Perspective elevation and floor plans. Mr. Edmund J. Maurer, architect, New York.
 11. Miscellaneous Contents: Moderne Innen-Decoration.—The evolution of an old building, with 4 views.—Wood stains.—Wood finish chemically and microscopically examined.—A tubular frame house.—To destroy house insects.—Venetian blinds, illustrated.—An improved spring hinge, illustrated.—Cement mortar.—A blind architect.—Frozen water closets.—An electrical mail box, illustrated.—The anchor fence post, illustrated.—Hardwood matching heads, illustrated.—Porcelite.—The Rider engines, illustrated.—The Security sash balance, illustrated.—Improved woodworking machinery, illustrated.
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NEW BOOKS AND PUBLICATIONS.

THE SLIDE RULE. A practical manual. By Charles N. Pickworth. Manchester and London: Emmott & Company, Limited. Pp. 56. Price 80 cents. No index.

There is always something attractive in what may be termed the gymnastics of the slide rule, and the 56 pages of this little work contain an excellent resume, with practical examples, of what can be done by this instrument of the engineering shop.

A STANDARD DICTIONARY OF THE ENGLISH LANGUAGE. Prepared by more than two hundred specialists and other scholars, under the supervision of Isaac K. Funk, D.D., Editor-in-Chief; Francis A. March, LL.D., L.H.D., Consulting Editor; Daniel S. Gregory, D.D., Managing Editor; Associate Editors Arthur E. Bostwick, Ph.D., John Denison Chapman, M.A., Rossiter Johnson, Ph.D., LL.D., New York, London, and Toronto: Funk & Wagnalls Company, 1893. Printed in the United States. 2 vols. Pp. xx, 2318.

The announcement in these columns that space does not permit us to do justice to some book which is under review has become perhaps too familiar to our readers. But when we find ourselves confronted with such a mass of erudition and labor as is represented by the two volumes of the Standard Dictionary, the old excuse must be brought forward again. The work is a monument to the enterprise of the publishers and to the judgment of the editors. The editorial function seems to have been carried out with unusual judgment both as regards omissions and classification. The treatment of words of two or more meanings is uniform, the most common meaning being always given first, while the extinct meanings are given last. The compactness of arrangement is secured by system. Thus under such words as apple, colors, etc., long lists are given, often of a hundred or more different terms coming under this head. The particular list under apple still further exemplifies the admirable system of the work. After each name of a variety given in columns its size, form, color, quality, use, season, and ratings of adaptation for cultivation in the Northern, Central, and Southern divisions of the United States. Some three hundred varieties are in the table, and for each one the nine specific data specified are given. This one table contains therefore nearly three thousand separate data relating to apples. Many similar instances could be cited, but this will suffice to illustrate the methods. The list of specialists engaged as editors is a formidable one, nearly two hundred of such figuring on the staff. The tendency of the day is in the direction of cyclopedic dictionaries, and the Standard is as much of a cyclopedic as it is of a dictionary. Many of our readers remember the stir made by the introduction of illustrations in the old Webster unabridged. The Standard is finely illustrated, not only with cuts, but with a number of beautiful colored plates. Beautiful examples of the latter are used to elucidate familiar flowering plants (under the word "PLANTS") or gems and precious stones (under the word "GEMS"). We are strongly tempted to continue, but will stop here, leaving to the users of the book the appreciation of its extraordinary merits and value. The two volumes are easily handled and fitted for every day use. They are provided with thumb notches for the letters, so that any letter can at once be turned to. The list of editors, each for his own department, enables the consultant to feel the weight of authority for each specific word. The appendices of disputed pronunciations and spellings and other more or less extraneous matter are of the highest value and interest. The list of foreign words and phrases is excellent. "Deus ex machina" (II, 2255) is an illustration of the treatment. "Obra de comun, obra de ningun" (II, 2260) is an instance of faulty spelling. As a suggestion of an omission, "Lucus a non lucendo" might be given.