

RECENTLY PATENTED INVENTIONS.

Engineering.

STEAM ENGINE VALVE.—Joshua Rose, Twickenham, England. This invention relates to slide valves, and provides for prolonging the period of the expansion of the propelling fluid for all points of the cut-off in engines whose steam admission is effected or controlled by a single valve, by allowing the steam, during certain periods of the valve travel, to hold one part of the valve stationary on its seat while the other part of the valve is actuated positively, the invention also covering other novel features.

Railway Appliances.

RAIL.—Michael A. Glynn, Havana, Cuba. This rail is made with a scalloped flange, and is adapted for use in connection with a sleeper having a transverse dovetail slot to fit the widened portions of the rail flange, whereby the rails and sleepers may be quickly adjusted in position, and will not be liable to be accidentally displaced.

Mechanical.

WINDER FOR SPINNING SPINDLES.—Ernst Gessner, Aue, Germany. This invention covers an improved form of the guiding piece of winders in continuous spinning machines forming the subject of a former patent issued to the same inventor, so as to make the winder of as little weight as possible to make it capable of running at a high speed.

NIPPLE HOLDER.—Daniel A. Holland, Boston, Mass. This invention provides means whereby a section of pipe from which the nipple is to be cut may be firmly held to place while the completion of the nipple is being effected, while the device is so constructed that the nipple when finished may be conveniently removed in perfect shape.

Agricultural.

CULTIVATOR AND PULVERIZER.—Charles C. Crumb, Burlingame, Kansas. This is an implement designed to remove all weeds from the surface of the ground, and pulverize and leave the soil fine and mellow, the pulverizing or cultivating surfaces being interchangeably arranged, permitting the soil to be thrown toward or away from the plants, and the machine being quickly adapted to any irregularities in the depth of the rows.

Miscellaneous.

ALBUM.—Thomas Kelly, New York City. This is a device consisting of a hollow base with compartments closed by a lid, the latter supporting the book containing the pictures, affording a secret drawer for loose pictures, while one of the covers can be used as a writing desk.

THILL COUPLING.—Olaus A. Dahl, Mona, Iowa. The thill iron of this coupling is pivoted upon conical bearings capable of being readily oiled, while the parts may be easily tightened when worn, the construction being simple, durable and economical, and the coupling being also a thorough anti-rattler.

WHIP SOCKET SUPPORT.—Alexander E. Tulloch, Leadville, Col. A bracket with a stem having an integral lateral flange is provided by this invention, the flange being downwardly bent and split in its end portion, making a simple and neat bracket support for the attachment of a whip socket to a vehicle body or seat.

TANNER'S TOOL.—Robert H. Houk, Morris, Ill. This invention covers a novel form of clamping device adapted to hold hides of different thicknesses for suspension in the tan pits or elsewhere, the points of the jaws being arranged to come together to hold the hide without cutting a hole therein, whereby the necessity of cutting loops or punching holes in the hides is avoided.

TRICYCLE.—Frank Searle, Virginia City, Montana. This invention covers a novel construction and combination of parts in a machine designed to be very powerful, and to be readily propelled by the operator manipulating crank arms with the hands, the steering being accomplished by the feet of the rider.

BLACKING BRUSH.—James S. Moore, Bar Harbor, Me. This brush is so made that the blacking may be located in its back and completely hidden from view when not in use, means being also provided for conveniently drawing the blacking out from the back of the brush, without its being detached, and for its effective application in a neat and convenient manner to the dauber.

CARBONIZING APPARATUS.—Adolf Silverberg and Cunibert Detering, Bedburg, Germany. Combined with a revolving drum and hollow shaft, to which is fixed a retort, under which is a fireplace, is an acid receptacle, a tube from which opens into the retort, whereby the quantity of acid introduced may be regulated as desired and the vaporized acids will be prevented from escaping.

STRINGED MUSICAL INSTRUMENT.—George W. Van Dusen, Norwood, N. Y. This invention covers novel features of construction of string supports relatively to the plate or frame and sounding board of the instrument, being applicable more particularly to pianos, and designed to maintain perfect pitch and harmony of tone from the strings, irrespective of changes of temperature or long-continued use of the instrument.

MAIL INDICATOR AND ADVERTISING BOARD.—Thomas B. Peacock, Topeka, Kansas. This is a board with movable slides for advertisements, while embedded intermediately in the board is a box with a transparent front wheel, a series of cubical blocks having different letters on their faces being arranged in the box to indicate undelivered mail.

KEY BOARD ATTACHMENT.—Casper De Vitbiss, Shellsburg, Iowa. This is a device to be removably attached to any cabinet organ or piano, to furnish means for the mechanical execution of any tune the attachment is adapted to play by periodical movement of the keys of the musical instrument.

COPY PRESS.—Richard A. Brown, New York City. Combined with a bed on which a platen is held to slide is a hollow slotted paper-carrying cylinder with an exterior pad adapted to contact with the platen, the press giving the impression of a letter by one revolution of a crank arm, while the cylinder will carry a stock of copying paper, which is automatically dampened and cut to a proper length as the impression is taken.

AUTOMATIC GATE.—Alibert Edwards, Lanesville, Va. This is more particularly a roadway gate, of simple and inexpensive construction, to be easily operated by a passing vehicle or by a person riding on horseback, the devices patented being also applicable for use with railroad gates by placing the triggers provided adjacent to the track to be operated by the car wheels.

WIRE FENCE AND FENCE POST.—Samuel H. Gregg, Crawfordsville, Ind. Three patents have been granted this inventor on the above subject, the improvements combining in one fence some of the advantages of both a barbed and smooth wire fence, and avoiding the objectionable features of both. The strands are made of unannealed spring wire, preferably spring steel, but the wire is crimped to make it more plainly visible, and also to allow for expansion and contraction, while between the posts are stays usually arranged about five feet apart, and secured to anchor posts or plates driven into the ground. The terminal posts are designed to be made at a small cost and easily set in place, while their peculiar construction is such as to admit of the ready connection therewith of simple wire-tightener means, which can be readily put in position and detached from the post.

HOOP FOR COOPERS' WARE.—Leonard L. Frost, Barada, Neb. This hoop has at one edge an inwardly projecting portion or flange and a plain opposite edge, the lower edge of the hoop being designed to rest in yielding contact with the face of the receptacle in connection with which it is employed, being more especially designed for use with pails and tubs.

HOGSHEAD MAKING MACHINE.—Robert E. King, Louisburg, N. C. This machine has a central bed piece to which horizontal semicircular formers are hinged carrying at their free ends fastening and compressing devices the machine requiring but little skill in adjusting the staves, and being one in which it is impossible for the staves to collapse while hooping the hogshead.

SINGLE TREE SUPPORT.—Robert C. Allen, Grove City, Pa. This invention consists of a block adapted to carry the singletree, a strap for supporting the block from the cross bar of the shafts, and arms connected with the block and pivoted on the axle of the vehicle, the device being especially designed for one-horse vehicles having bent shafts, and calculated to relieve the animal from all strain on its back.

WARDROBE TRUNK.—Sarah M. McCormack, Cold Spring, N. Y. This is a combined wardrobe and trunk, having two sections hinged together at the top, each section provided with shelves and drawers, and an elastic packing strip being secured to the outer surface of the sections and extending across the top above the joint between them.

OVERALLS.—Isaac M. Appel, Baltimore, Md. Two patents have been granted this inventor, the garment having the front portion of the leg folded upon itself above and below the knee, forming triple thicknesses at and adjacent to the knee portion in front, but not showing upon the outside, while there are also knee re-enforce pieces, forming also braces, which can be readily cut and easily applied, made with strips of different lengths to fit different sizes of overalls.

SCISSORS SHARPENER.—Wales E. Woodruff, Essex, Conn. This device has a box clamp with a seat or recess in its top for a file, the seat being beveled to the angle usually given to the cutting edge of scissors or shears blades, while a top plate has a bearing coinciding with that of the seat, the outer edge of the top plate forming a straight edge or guide for the blade.

CONVERTIBLE FURNITURE.—Frank A. Thomas, Brooklyn, N. Y. This invention provides an article of furniture designed to be used as a chair, cradle, or lounge, at pleasure, there being a main body and a sliding section, each composed of intermeshing sliding slats at the back and bottom, with a removable back section to form the front of the cradle, and means for preventing accidental extension and detachment of the parts.

WINDOW SHADE AND CURTAIN POLE.—Rinaldo A. Batte, Norfolk, Neb. This invention covers a novel construction and combination of parts providing a simple and efficient window shade support, with peculiar means for adjustment of the shade thereon, and also affording a bracket on which the hangers of a curtain pole may be held.

EGG BOILING DEVICE.—Jacob Verdamm, Alkmaar, Holland. This device consists of loosely connected vertical wire links and a yoke loosely suspended thereby and having rings at its ends, for holding or retaining eggs while being boiled in a kettle.

HOUSEHOLD WATER HEATER.—Henry C. Steinhoff, Union, N. J. This is an attachment for stoves or kitchen ranges, consisting of an efficient system of water pipes applied independently of the ordinary water back, and adapted to heat water and maintain its circulation through radiators, no change being required from the ordinary setting, and the device being operated by the manipulation of a damper.

HAND FOR DOLLS.—Matthew W. Alderson, Bozeman, Montana. According to this invention the hands of the doll are preferably made integral with hollow forearms of a jointed arm, combined

with which is a pivotally mounted finger section and an elastic cord extending through the arm and normally holding the fingers closed by its tension, permitting the doll's hands to hold articles.

COMPLEXION MASK.—Nettie E. Jenkins, Auburn, N. Y. This is a medicated mask or glove of purely vegetable substances, designed to heal, purify, soften, and beautify the skin, and is made of a compound possessing the merits of rubber, yet free from the disadvantages attending the use of that material.

LEATHER DRESSING.—John M. Jolly, Marlin, Texas. This is a stuffing or filling compound in which are employed neat's foot oil, beeswax, extract of logwood, borax, castile soap, and other ingredients, in specified proportions, in order to soften and polish as well as preserve leather, being particularly applicable as a dressing for harness, boots and shoes, etc.

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.

ELECTRO-CHEMICAL ANALYSIS. By Edgar F. Smith. Philadelphia: Blakiston, Son & Co. 1890. Pp. 116. Price \$1.

This work is exactly what it purports to be, a laboratory guide for the utilization of the electric current in analysis. Under each metal is given a brief extract of the literature relating to its analytical determination by electricity, so that the work, small and compact as it is, is really of very great value, and embodies all leading authorities. It has numerous illustrations which add to its attractiveness.

A SISTER'S LOVE. By W. Heinburg. Translated by Margaret P. Waterman. Illustrated. New York: Worthington Co. 1890. Pp. 319.

This novel, in printing, binding, and numerous illustrations, fully maintains the high standing which the Worthington series of novels has won in the publishers' world.

A BOY'S HISTORY OF THE UNITED STATES. Worthington & Co., New York. Price 50 cents.

A RUSSIAN COUNTRY HOUSE. Translated from the German. Illustrated. Worthington & Co., New York.

INCANDESCENT ELECTRIC LIGHTING. A description of the Edison system. D. Van Nostrand & Co., New York. Price 50 cents.

SCIENTIFIC AMERICAN BUILDING EDITION.

DECEMBER NUMBER.—(No. 62.)

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6. Country house at Wayne, Pa. Cost complete \$9,000. Perspective elevation and two floor plans.
7. An attractive cottage in Buena Park, Chicago. Estimated cost \$4,500. Photographic view and two floor plans.
8. Residence at Graceland, Chicago. Estimated cost \$4,000. Photographic view and two floor plans.
9. Photographic view and two floor plans of a handsome residence at Auburn Park, Chicago. Estimated cost \$7,000.
10. A picturesque example of a bungalow at Bellagio. Cost £900. R. A. Briggs, London, architect. Plans and elevation.
11. Attractive country house at Narberth Park, Pa. Cost complete \$18,000. Two photographic views and floor plans.
12. Miscellaneous contents: Some of the merits of the ARCHITECT AND BUILDERS EDITION OF THE SCIENTIFIC AMERICAN.—How to catch contracts.—Improve your property.—The education of customers.—THE SCIENTIFIC AMERICAN a help to builders.—Setting back houses in new streets.—Plumbers' materials.—"Adamant" wall plaster.—Inside window blinds, illustrated.—Employers' liability and accident insurance.—An improved scroll saw, illustrated.—Embellishments of suburban station grounds.—Repeated building from the same plans.—Mortar colors for builders.—Builders' ornamental iron work.—Improved spring hinges, illustrated.—Improved two-speed boring machine, illustrated.—Oil and wax in painting.—Mineral wool in house construction, illustrated.

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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.

(2610) H. E. McC. asks how to tan calf skins thoroughly on both sides by the use of chemicals or otherwise, and produce the best results. A. You cannot learn how to tan calfskins well by any treatise or book. It is a technical trade requiring knowledge, experience and acquired skill. We sell a large, fully illustrated book, Davis on "Tanning," containing much information on the making of calfskins and other kinds of leather. Price \$10 by mail, postage paid.

(2611) W. H. D. asks: Would you kindly inform me through your paper what kind and size battery to use on silver plating solution? A. Use four or six cells of Bunsen battery. See SUPPLEMENT, No. 310.

(2612) A. M. F. asks: What is the whitish powder that adheres to rubber belting and uncolored rubber goods in general, when new, and what is its use in rubber making? A. Talc or some equivalent used to prevent India rubber adhering to the moulds in which it is vulcanized.

(2613) C. A. S. asks: What ingredients would you recommend for hardening and waterproofing mechanically ground wood pulp? A. We would suggest a solution of shellac in wood alcohol.

(2614) R. A. asks: 1. What causes the foliage to change color in the autumn? Is it a chemical change? A. It is a chemical change. 2. How many elements are there at present known? A. 67; but the number may be modified at any time from new investigations. 3. Is not the idea of sight without light erroneous, that is, can a cat or any other animal see in the dark, and what makes their eyes appear luminous in apparent darkness? A. There must be some light for sight to exist. A cat's eyes reflect light. In absolute darkness they are invisible. 4. What form of battery (and how constructed) is best for a small pocket battery used for running an incandescent electric light scarf pin? A. Use a small storage battery, which is best bought. 5. What battery is best for doing small jobs of gold, silver and copper plating (two or three pints of solution), also for nickel plating? What are some of the best books on electro-metallurgy? A. Smees or Daniell batteries are good. See SUPPLEMENT No. 310. We recommend Watt's "Electro-Deposition of Metals," \$3.50. 6. What takes place when soldering (both hard and soft solder)? Is an alloy a mechanical or a chemical combination? A. An alloy is supposed to be formed with the surface of the metal united. The exact status of an alloy is hard to fix. It probably partakes of both characters. 7. How can rubber (such as rubber bands, etc.), be united? A. If unvulcanized, by simply cutting