

AGRICULTURAL INVENTIONS.

A harrow has been patented by Mr. George Coffman, of Spearville, Kansas. The body of the harrow is made in two sections, each consisting of a series of parallel bars, held apart by inclined transverse end braces and a straight bar, making a harrow of light draught, adjustable to unevenness of surface, and which may be utilized to carry a plow or sacks of grain to the field.

A grain drill has been patented by Mr. William Nighswonger, of Peotone, Kansas. It is so constructed that a series of colters are made to act in conjunction with a series of hoes to pulverize the ground and cut down weeds in advance of the seed depositors, the seed box having a double row of seed openings whereby the feed may be operated in opposite directions within the box to insure an even distribution of seed.

MISCELLANEOUS INVENTIONS.

A buckle has been patented by Mr. James England, of New York City. It is so made that the greater the tension, the more firmly will a clamp be pressed against the clasped end of a strap, while by pulling on the free end of the strap, slack may be taken in as desired, the buckle affording great facility for adjustment with security of fastening.

A cleaner for blackboard erasers has been patented by Mr. James S. McClung, of Pueblo, Col. The eraser has a handle adapted to fit into a box with a slotted side and with a false bottom of wire cloth, the side slot of the box having elastic lips for inclosing the handle, whereby the eraser may be cleaned without the escape of chalk dust.

A sewing machine table has been patented by Mr. Joseph Wertheim, of Frankfort-on-the-Main, Germany. The table top has in its upper surface a connected series of ramifying grooves to contain a liquid, the grooves being covered by a thin wooden plate, the object being to render the working of the machine noiseless.

A show case has been patented by Mr. James J. Kelly, of Albany, N. Y. It has a sectional cover, one part sliding over the other, and a detachable auxiliary outer bottom in which a shelf slides, a cord or chain connecting the shelf and sliding cover, whereby when the shelf is drawn out the sliding cover is raised, and *vice versa*.

A step ladder has been patented by Mr. Alfred M. Whiteley, of Brooklyn, N. Y. It is so constructed that the two hinged main limbs are capable of simultaneous expansion and contraction in an upward or downward direction, giving great stability, with increased facility for raising and lowering the ladder, and locking it at different heights.

An ore washer has been patented by Mr. Thomas Sharp, of Nashville, Tenn. It consists essentially of a water supply tank with regulating attachment, a chute with counterbalanced swinging barriers, and a means for discharging the water above the lower end of the chute, being more especially applicable for washing ores embedded in a clay matrix.

A feed trough has been patented by Mr. Alvin N. Main, of Pittsfield, Ill. It has upwardly extending pins and inclined sides having hinged bars on either upper edge, the hinged bars being provided with upwardly projecting pins, whereby animals are prevented from spilling the feed and the seed contained in the hay, clover, etc., are saved.

A neck scarf has been patented by Mr. Gustave Selowsky, of New York City. It has a band provided with a leader or tip secured to its outer extremity, the tip being of peculiar construction and of an approximate external length equal to the neck band passage, whereby a saving of material will be effected in making the band.

A portable fire escape has been patented by Messrs. George Gavin, Lawrence W. Cromer, and Frank Gilmor, of Eureka, Nevada. It consists of a casing with attached hook and carrier journaled therein, a cap bearing on the casing and compress to produce friction between the casing and carrier, and other novel features, making a strong and simple device which can be readily carried in a trunk or valise.

The construction of buildings forms the subject of a patent issued to Mr. Addison Smith, of New York City. The invention covers a form of construction for buildings on a diagonal street whereby the front of one building will not interfere with the view of another, the front entrance being at right angles to the side walls, and affording advantageous show window space.

A wrench has been patented by Mr. Walter L. Gibson, of Oviedo, Fla. The fixed jaw has a projection, and a movable jaw is pivoted to the fixed jaw, a block being formed with bearing surfaces approximately at right angles to each other, being pivoted to the fixed jaw, the parts being so arranged that if desired the device may be used as a pair of pincers or pliers.

A jersey stay has been patented by Messrs. Samuel Kramer and Jacob Levy, of New York City. It consists of a pin hook or a number of pin hooks of peculiar form fastened to the interior of the garment at its lower edge, with their prongs projecting upward and adapted to be caught in the undergarment, to prevent the jersey from working upward on the body of the wearer.

A wrench has been patented by Mr. George Gavin and Lawrence W. Cromer, of Eureka, Nevada. It has a stationary jaw with longitudinal recess and intersecting slot, a rod carrying a movable jaw working in the slot, having an outer screw-threaded end and internally screw-threaded sleeve, with collar connected to the sleeve, whereby the jaws are made to approach each other or separate.

A window screen and fixture has been patented by Mr. George H. Gould, of West Lebanon, Me. It is provided at opposite sides with deep grooves,

and has series of holes in its side bars, in combination with side strips fixed to the window frame, and pins passed into the holes to bear on the guides, with other novel features, making a screen which can be readily fitted to windows of varying widths.

A velocipede has been patented by Mr. Allen M. Stoner, of Topeka, Kansas. The rear axle is arranged to support a vehicle body, while the forward axle is connected to this body by a novel form of swinging connection, the forward axle being arranged to be driven by treadles operated by the rider of the vehicle, and so that it may be turned as desired to carry the vehicle to the right or left.

A system of bailing wells has been patented by Mr. Solomon C. Rhodes, of Bradford, Pa. This invention covers an automatic bailer discharging device, for use in connection with water, oil, or other wells, whereby any two wells of a group within a distance of six hundred to a thousand feet of each other or from the driving power may be bailed out at once, and the operation be attended to by one operative.

A machine for making upholsterer's nails has been patented by Mr. Franz J. Bergmann, of Neheim-on-the-Ruhr, Westphalia, Germany. Combined with an anvil is a pivoted lever carrying a punch, a reciprocating head and an arm connected therewith provided with a lug engaging the free end of the punch-carrying lever, with other novel features, forming an improved machine for making nails with an iron shank and a brass head.

A gauge attachment for cane shaving machines has been patented by Mr. Louis Janson, of Brooklyn, N. Y. Combined with a pair of knife disks and gears for turning them is a longitudinally moving rack bar engaging the gears, a movable block to which the rack bars are connected, and means for adjusting the block to move both bars simultaneously lengthwise, by which the knife disks are adjusted to present a new edge to the work and laterally to gauge the width of the strips.

SCIENTIFIC AMERICAN BUILDING EDITION.

MARCH NUMBER.—(No. 29.)

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Curtis Pressure Regulator and Steam Trap. See p. 77.

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NEW BOOKS AND PUBLICATIONS.

THE WOMAN'S WORLD. From Cassell & Co., of New York and London, we have received copies of this new magazine, edited by Oscar Wilde, the apostle of personal æstheticism. It has upward of forty large octavo pages to each number, containing a variety of articles all more or less pertinent to the subject. As frontispiece in the last issue is a portrait in fac-simile of red crayon of Christina Rossetti by Dante Gabriel Rossetti, a pensive face, which from its associations with the life of the artist-poet is of peculiar interest. We also note a collection of literary and other notes by the æsthetic editor.

POCKET ATLAS OF THE WORLD. By John Bartholomew. New York: G. P. Putnam's Sons. Price \$1.

This beautiful little volume, with 42 clearly printed maps, is necessarily restricted to giving the main features of the geography of the world, but it will be found to answer the purpose in a great majority of cases where one requires an atlas for general use, and save the necessity of the more troublesome reference to a large work. It contains also a very complete index, so made that any place mentioned can be readily found on the map, with a limited amount of the most commonly required statistical matter.

DISEASES OF THE DOG. By John Henry Steel. New York: John Wiley & Sons. Pp. 287. Price \$3.50.

The author, a professor of veterinary science, has written this book as a manual of canine pathology, especially adapted for the use of veterinary practitioners and students. It aims to give a digest of such facts of anatomy, physiology, pathology, and other accessory sciences as bear on the actual details of diseases, all arranged in the form of a systematic text book. In the introduction the author says: "There is a delicacy of manipulation and a refinement in practice needed in the medical treatment of dogs which is not required so much in the larger animals; the tissues are very delicate, the nervous organization is high, while the patients can be more readily handled and controlled than the larger forms;" and although the author treats all questions from a professional standpoint, these lines indicate the spirit in which the book is written.

STAIR BUILDING IN ITS VARIOUS FORMS. Quarto. By James H. Monekton. New York: John Wiley & Sons. Price \$6.

The author, a teacher for many years of the mechanical class in the General Society of Mechanics and Tradesmen's Free Drawing School of the City of New York, here presents a practical description, with working drawings, of the general field of stair building and hand railing. The book gives the one-plane method of hand railing as applied to drawing face moulds, unfolding the center line of wreaths, and giving lengths of balusters under all wreaths. The student or apprentice will here find detail instruction in stair building, from a step ladder to expensive and difficult staircases, and the experienced stair builder and expert rail worker will find simple rules for laying out the most complicated work, while the professional architect cannot fail to find valuable suggestions in design and construction from the 74 large plates of drawings with which the volume is illustrated.

ASTRONOMY FOR AMATEURS. By J. A. Westwood Oliver. London and New York: Longmans, Green & Co. Pp. 316. Price \$2.25.

For those possessing small telescopes, and wishing to do something more than mere desultory star gazing for recreation or amusement, this volume affords an excellent practical manual. It especially advises and points out the methods of close and persistent scrutiny of individual objects or classes of objects in the heavens, either in solar, lunar, or planetary work, comet seeking, double stars, etc., according to the power of the instrument within reach of the amateur, in the hope that our sum of astronomical knowledge will be advanced by the efforts of such an army of observers as this class now includes, while the amateurs will in this way themselves receive more benefit than they would by the usual unsystematic work. A map of the moon is given, with its mountains, valleys, clefts or rills, craters, walled plains, etc., so designated that the amateur can readily find them with an instrument of quite moderate power.

CHEMISTRY, INORGANIC AND ORGANIC. By Charles L. Bloxam. Sixth Edition. Philadelphia: P. Blakiston, Son & Co. Pp. 788. Price \$4.50.

Bloxam's Chemistry has been for too long a time a recognized standard among chemists and teachers of chemistry to call for any detailed review at our hands at this time. Especial interest, however, at