

RECENTLY PATENTED INVENTIONS.
Mechanical.

LATH SAWING MACHINE.—David S. Abbott, Olean, N. Y. This invention covers a novel combination and arrangement of parts in a machine whereby, by reason of the angle of the forward shafts, the feed rollers cause the material fed to draw toward the guide, even when the saw is dull, and prevent the tendency to draw the material the other way, preventing the ends of the laths from being made thin.

WINDMILL.—Edgar C. Beebe and Riley Stoner, Glen Elder, Kansas. This invention provides simple and efficient means for the automatic adjustment of the windwheel in accordance with the force and direction of the wind, without a vane, and for the automatic government of its work, so that the speed of the windwheel will remain practically constant.

LACE PAPER MACHINE.—Giuseppe Paci, New York City. Combined with a pattern wheel are two wheels having wooden rims, with means for holding them in frictional contact with the pattern wheel, together with a roller having an elastic rim held on top of the pattern wheel, the machine also having other novel features, while the paper is passed through a box containing soapstone powder, with which it is so coated that the cut strips are easily separated.

Electrical.

NIGHT SIGNALING APPARATUS.—Emil Kaselowsky, Berlin, Germany. This invention covers a means of signaling at sea by differently colored electric lamps brought to view singly or in groups, the current being switched to and from the lamps and a supplementary resistance to produce the signals, with means whereby the current may be maintained at a constant resistance, momentary interruption and extinguishment of the lamps being prevented.

ELECTRIC CLOCK WINDING.—Heinrich Rabe, Hanau, Germany. This is an electrical mechanism for winding clocks having torsion or rotary pendulums, the mechanism being adapted for raising the weight or resetting a spring which drives the clockwork, when the actuating power has been exhausted, the apparatus working automatically.

Metallurgical.

ZINC FURNACE.—Gustaf M. Westman, New York City. Combined with a reducing furnace are regenerators connected alternately therewith, condensers connected with the reducing furnace, coolers connected with the condensers, and a blast engine connected with the coolers and the regenerators, with other novel features, to promote the reduction of iron or zinc ores, and the manufacture of phosphor, sodium, and other substances.

DEPHOSPHORIZING IRON ORE.—Thomas F. Witherbee, Port Henry, N. Y. This is a process which consists in mechanically separating apatite or phosphorus holding compounds from iron ore, then dissolving the remaining small percentage of apatite with dilute sulphuric acid, and finally washing the ore with water.

HYDROCARBON BURNER.—Frank B. Meyers, Fort Plain, N. Y. This burner is provided with a casing to the front end of which is secured a bell-mouthed tube, usually passing through the mouth of the furnace, whereby air under pressure and atomized oil are vaporized to make a gas to produce a high heat in the furnace, the quantity of air and oil to be mixed being adjusted by a valve and regulator.

Miscellaneous.

CUFF HOLDER.—Stephen V. Thomas, West Branch, Mich. The holder is adapted to fit in the eyes or loops of a cuff button, and has an offset or shoulder that springs past the eye or loop of one button, while on the opposite side of this eye or loop it has a spring that flexes or bows outward to hold the offset or shoulder out of alignment with the button eye or loop.

REFRIGERATING TOWER.—Alfred R. Pechiney, Salindres, France. This invention covers a stone tower, in the interior of which are arranged glass tubes through which cold water is kept flowing for the cooling of free chlorine and vapor of hydrochloric acid, or any mixture of these bodies in the state of gas, the invention covering various novel details of construction and combinations of parts.

GRAIN METER.—Valentin Weber and James R. Harrison, Princeville, Ill. This is a device for use in connection with an elevator of any approved construction, whereby the grain box is automatically dumped whenever a certain weight is obtained, the tripping device acting automatically and receiving its motion from the continuous motion of the elevator shaft.

LAMP EXTINGUISHER.—Alexander E. McLeod, Hallock, Minn. This is a device of simple construction by which, when the light is extinguished, no gas or smoke can escape from the wick and pass into the room, and when the extinguisher is left in closed position there will be no evaporation of oil.

SIDE CURTAIN FOR BUGGIES.—Joseph W. Thomas, Sargent, Neb. This is a curtain constructed of independent upper and lower sections adapted for separate or united use, the sections having button holes along their upper and lower margins, and being made to overlap, making an effective rain curtain to protect the occupants of a vehicle in stormy weather.

WAGON BRAKE LEVER.—William A. and Enoch G. Haney, Media, Kansas. This lever has a slide mounted thereon and pivotally connected to a link, the connecting rod extending to the brake shoe, providing for the application of power to the greatest advantage at the time when the brake shoe is brought against the face of the wheel.

AXLE.—Edward M. Allen, Stafford, Md. This axle is made with connection blocks and upper and lower shafts secured rigidly thereto, with

other novel features, being intended especially for use in connection with automatic brake devices forming the subject of former patents issued to the same inventor.

CLEVIS.—Arthur W. Rumsey, Kiowa, Kansas. Combined with clevis bars or sections having extended portions lapped together, with coincident openings, is an elongated link secured in the openings and made to secure the sections snugly together or to permit their movement apart when adjusted relatively thereto.

GATE.—Thomas Tyson, Mound City, Mo. This invention covers novel features of construction and combinations of parts in a gate designed to swing outward from two sides, while the gate may be opened from a distance by a pedestrian or a party in a vehicle, the means for operating it being simple, durable, and readily manipulated.

WIRE FENCES.—Dwight H. Scott, Flora, Dakota Ter. This invention provides a device for expeditiously taking up the slack in wire fences and retaining the wire under tension, and whereby also a broken strand of wire may be united without injury to the hands, and such strand be put under any desired tension.

STORE ORDER.—Charles S. Hempstead, Fairchance, Pa. This invention covers a form of order to be used by merchants and others, mainly by retailers, who sell goods in small quantities that aggregate in value a limited and specified sum.

GOODS DELIVERY.—William H. Bailey, Salford, Lancaster County, England. This invention relates to improvements in machines for the delivery of prepaid articles in which a revoluble cylindrical or other shaped magazine is employed to hold the goods to be delivered, the improvement enabling the indicator dial to be set at an oblique angle to the machine, instead of vertically or horizontally.

CHEESE CUTTER.—Bernard Barry, Schenectady, N. Y. This is an improved knife formed of a thin flat plate, one of whose ends is beveled to serve as a straight cutting edge, while one of the longer side edges of the plate is extended laterally at a right angle and provided with an oblique cutting edge, the knife being especially adapted to cut wedge-shaped slices from the body of a cheese by one movement.

LOCK HINGE.—Benjamin F. Boughn, of Randolph, Neb., and William Cashner, of Pleasant Hill, Mo. This hinge consists of two sections connected by a pintle, the knuckles of one section being exteriorly non-circular in cross section, while the other section has a spring-actuated bearing plate pressing against the non-circular knuckles, with a casing in which the plate and its actuating spring or springs operate.

ADVERTISING DEVICE.—Andrew Dahlstrom, Ashton, Mich. This is a display device consisting of a cylindrical body having a series of openings and a tape or ribbon upon which are printed advertisements so placed upon the ribbon as to be always in alignment with one of the openings when the ribbon is revolved, one roller unwinding while an opposite roller winds up the ribbon.

DENTAL MATRIX.—Christ. A. Meister, Allentown, Pa. This is a matrix for teeth, consisting of a band having a body for engaging a tooth, and integral extension of the band consisting of slotted inclined side pieces, a crosshead engaged in the slots of the sides, with means for actuating the crosshead, to be used on a tooth while it is being filled.

SPECULUM.—William Molesworth, Brooklyn, N. Y. This invention provides an implement by means of which the wall of a passage or cavity may be dilated and access had to any portion of the wall while the passage or cavity is held in dilated position.

INSECT TRAP.—Jennie G. F. Johnson, Mont Vernon, N. Y. This invention covers a bait box or receptacle having a surrounding trough adapted to receive a poisonous substance, over which insects cannot readily pass, the whole being inclosed in a structure having an overhanging hood, the device being especially designed as a roach or ant trap.

EXTRACTING COPPER FROM PYRITES.—Josef Perino, Charlottenburg, near Berlin, Germany. This invention covers a process of obtaining copper from copper pyrites, by heating the pyrites mixed with nitric salts of iron to a temperature of about 300° Centigrade, whereby sulphate is produced, lixiviating the mass with water, and finally precipitating the copper.

ORE ROASTER.—Charles J. Fendel, Anaconda, Montana Ter. This roaster has an outer and an inner cylinder connected by tubes, with imperforate passages on both cylinders, the tubes alternately connecting the forward end of a passage on one cylinder with the rear end of a passage on the other cylinder, and the forward end of the latter passage with the rear end of the next one on the first cylinder, whereby a continuous serpentine passage is formed, making a roaster designed to economically calcine the most refractory ores.

PILE DRIVER.—Thomas J. Harriman, New Paris, Ind. This is an apparatus for driving piles, piles, and fence posts, the invention providing a machine of simple construction, which can be readily and effectively manipulated, and which is so designed that the hammer will at all times strike the pile squarely upon the top, and not miss a stroke by reason of the pile getting out of line.

TANK VALVE.—Nathaniel W. Krouse, Washington, Pa. This is a cut-off valve especially adapted for oil tanks, and serving to close the valve in the pipeline automatically as soon as the oil has been drawn off into the pipe line with which the tank is connected, a spring-pressed valve being located in the pipe line, a bolt engaging the stem of the valve, and a float operating on the bolt to withdraw it when the oil in the tank reaches a low level.

GASOLINE STOVE.—William P. Dunham, Belleville, Kansas. This invention covers a novel

construction and combination of parts in an improved gasoline stove, particularly with reference to the valve shaft lever and connection piece, whereby the latter will not slip when properly applied, the construction being simple and effective.

FRUIT DRIER.—Frederick Altman, San Jose, Cal. The drying chamber has a ventilating fine with damper at its top, a central vertical air pipe with apertures opening into the drying chamber, the upper end of the air pipe having an air discharge outlet, an air supply pipe having a regulating valve, a furnace at one side of the drying chamber, in which is a circular hot air flue, with a rotary fruit tray rack located above the hot air flue.

VIGNETTING ATTACHMENT.—Joseph R. Tewksbury, Fort Madison, Iowa. This is an attachment for photographic printing frames, in which an independent frame secured to the face of the printing frame is provided with masks of cardboard or other thin material, certain of which are adjustable in relation to the others, whereby the effect of the light will be broken or softened, a variety of changes being made in an easy and simple manner.

DYEING VAT.—James W. Greaves, Providence, R. I. Combined with a stationary vat is a perforated basket, with a pressure pipe extending from the bottom to the top of the basket, through which the dyeing liquid is forced by steam or pump pressure, the apparatus being adapted for dyeing wool, yarn, and slubbing, or other fibrous material, and to avoid piling.

WELL CURB.—John T. Lenoir, Columbia, Miss. This invention provides an attachment designed for use in connection with any well curb, whereby the water drawn may be delivered without spilling, while the well bucket and rope need not be handled in drawing and delivering the water to a pail, and whereby the well may be securely covered and the cover locked in position.

SCIENTIFIC AMERICAN
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APRIL NUMBER.—(No. 42.)

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1. Plate in colors showing elevation in perspective and floor plans for a dwelling costing about four thousand dollars. Sheet of details, etc.
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4. A cottage at East Orange, N. J. Plans and perspective.
5. Page engraving of a stairway in the Chateau de Chantilly. By Mr. H. Daumet.
6. Scenes at Zaandam, Holland, where the Czar Peter the Great learned shipbuilding in 1687.
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8. Perspective and plans of the new Biological Laboratory, Princeton College, New Jersey.
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13. Perspective view of the new Trinity Methodist Episcopal Church, Denver, Colorado.
14. Designs for wall paper decorations. Flower scroll, designed by A. F. Brophy. Strap ceiling, designed by G. A. Audsley. Arabesque panel decorations, paper for staircases, designed by Lewis F. Day.
15. Perspective and floor plan of an attractive carriage house in the Queen Anne style. Cost, nine hundred and fifty dollars.
16. Miscellaneous Contents: Something for architects and builders to remember.—Interior finish.—Sketch of Nathaniel J. Bradley.—Colored decoration of churches.—On estimating.—Crushing of masonry.—The oldest architectural drawing.—Mahogany.—Flexible foundations.—Treatment of the ceiling.—The teredo.—The oldest timber.—Compressive strength of bricks and piers.—Repetition of ornament.—The Thomson-Houston electric system for street railways, illustrated.—An excellent system of heating.—The Ball high speed engine.—Beading, rabbet, slitting, and matching plane, illustrated.—The Sturtevant system of heating and ventilating, illustrated.—H. W. Johns' liquid paints.—Soapstone laundry tubs and kitchen sinks, illustrated.—Carpenter's vise, illustrated.—Metallic hip shingles, illustrated.—Corrugated iron lath.—Weather vanes, roof ornaments, etc.

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NEW BOOKS AND PUBLICATIONS.

PUBLICATIONS OF THE LICK OBSERVATORY OF THE UNIVERSITY OF CALIFORNIA. Edward S. Holden, LL.D. Vol. I. 1887. Sacramento: State Printing Office. 1887. Pp. 312. With illustrations.

This elegant quarto brings the story of the work of the Lick Observatory up to a recent date and leaves the ground clear for annual publications that shall keep its achievements more promptly on record. It gives the history of the founding and building of the observatory, the description of its buildings and instruments, and details of the work done from 1830 to 1885. The large telescope is of course not included, the contract for its construction only being given. Among the meteorological instruments illustrated, we notice the counterpart of the SCIENTIFIC AMERICAN registering barometer. The early observations, astronomical and meteorological, are given, together with elaborate tables of contents. The instruments described are illustrated by a number of well executed cuts, and a view of Mount Hamilton forms the frontispiece. The publication reflects much credit on Professor Holden, who edited it, and is a happy augury for the future.

Notes & Queries

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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.

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