

first produces the design or mark in wax, and reproduces the impression on a stamp, with which he marks the various articles, their genuine character being thus insured by having the real mark on each.

This improved product may also be applied for electro-chemically coating or plating lead and other metals or alloys in any thickness for making cartridge cases, percussion caps, capsules for bottles and other vessels, covers used for preserves and other purposes, wrappers for éatables, and generally in all cases where pure tin and its alloys are employed.

Alphabet for the Blind.

REV. C. H. Carpenter American Missionary at Harpoot, Eastern Turkey, has invented a novel alphabet to be used in the instruction of blind Armenians, of which many are found in his field of labor.

A very small round-topped tack, thrust upright into a piece of pine board, represents the first letter. The same tack inclined to the top, represents the second, and leaning to the bottom, the right hand and the left by turns, the next three.

NEW PUBLICATIONS.

A SYSTEM OF MINERALOGY. By James Dwight Dana, Siliman Professor of Geology and Mineralogy in Yale College, aided by George Jarvis Brush, Professor of Mineralogy and Metallurgy in the Sheffield Scientific School of Yale College.

This work might have been aptly entitled a cyclopeda of mineralogy, as it seems to comprise all the facts relating to it both in mineralogy proper and in the collateral sciences, and lacks nothing except the usual arrangement which is generally expected in a work bearing that title.

ANILINE AND ITS DERIVATIONS. A Treatise upon the Manufacture of Aniline and Aniline Colors, by M. Reimann, P. D. L. A. M., to which is added in an Appendix, the Report on the Coloring Matters derived from Coal Tar, by Dr. A. W. Hofmann, F. R. S.

THE LATHE AND ITS USES. This is the title of an octavo volume of 284 pages published by John Wiley & Son, No. 2 Clinton place, New York city, which is profusely illustrated, and is one of the best compendiums of information relative to the lathe and to lathe work we have yet seen.

Recent American and Foreign Patents. Under this heading we shall publish weekly copies of some of the most important new patents.

MANUFACTURING, MINING, AND RAILROAD ITEMS.

The Erie railroad company have contracted for 8,000 tons of steel rails. The total value of livestock and agricultural productions in the United States in 1867 was \$2,507,257,065.

Recent dispatches announce another terrible colliery explosion at Jemmapes, in the province of Hainault, Belgium. Fifty-one persons were killed and a great number injured.

GEORGIA AIR LINE RAILROAD.—A bill has been introduced into the Legislature of the State of Georgia to aid in the building of the Georgia Air Line Railroad.

POLYTECHNIC SCHOOL IN CHICAGO.—An ordinance appropriating \$25,000 to aid in the establishment of a polytechnic school in Chicago was recently passed by the common council of that city.

EIGHT-HOUR LABOR.—Fifty-one buildings are being erected on the west side of the city, on which one hundred and fifty workmen are employed on the eight-hour system.

GOLD DISCOVERIES ON THE CIMARRON RIVER.—The New York Daily Tribune says: "The discoveries of gold on the Cimarron River, near the corners of Colorado, Kansas, New Mexico, and Texas are creating great excitement, and miners are rushing into the new diggings.

THE ELEVATED RAILWAY.—The experiments on the elevated railway in Greenwich street have proved satisfactory to the engineers appointed to test it. It is expected that by the 1st of January next, the road will be finished to the thirteenth street.

RAPIDITY IN BRIDGE CONSTRUCTION.—Time is money, and railroad men know it. On Monday evening, July 27, the bridge on the Toledo, Wabash, and Western Railroad, over the Vermillion railroad at Danville, Ill., was entirely burned up. On August 8, a new bridge was completed, and trains crossed on it.

SUGAR IN RUSSIA.—The American Consul at Moscow, states in a letter to the Commissioner of Agriculture, that beets are there very largely cultivated for sugar. Almost all the sugar used in Russia is produced in the country.

REMOVAL OF OBSTRUCTIONS AT HELL GATE.—The estimated cubic contents of the rocks known as "Frying Pan" and "Pot Rock" at Hell Gate to be removed are, respectively, thirteen hundred cubic yards over an area of twelve hundred square yards, and five hundred and seventy cubic yards over an area of thirteen hundred square yards.

In the last year, the Marquette district of Lake Superior produced 500,000 tons of ore, or an amount equal to one quarter of the entire product of the iron mines of the United States.

Missouri is literally on her metal. Lead has been discovered in over two hundred different localities, zinc and copper frequently, while the iron under the soil is estimated capable of yielding a supply of one million of tons for over 200 years at least.

The Pittsburg Fort Hill Works have recently made a trip hammer of twenty-one tons, for a new iron shop in the same city. One of the Pittsburg machine shops have made a locomotive weighing only one ton, for use in a coal mine.

Two monster furnaces have been constructed at Ferry Hill, England, and have operated to a charm. They are both 105 feet high, and 28 feet in diameter and give the works of the company to whom they belong, a capacity of 180,000 tons of pig iron a year.

A gas and water pipe factory at Newport, Ky., obtains the crude ore from Iron Mountain, Mo., and transmits the ore of one morning into castings on the way to market by the next day at noon.

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Recent American and Foreign Patents

SUBMARINE LANTERN.—Michael Vander Weide, St. Petersburg, Russia.—This invention relates to a new apparatus for submarine lighting for the use of divers, and for other purposes, whereby the difficulties of submarine exploration are greatly diminished.

CONVERTIBLE AGRICULTURAL IMPLEMENT.—J. H. Heald, Columbus, Miss.—This invention relates to a new and improved device whereby various implements are formed by different combinations of the parts.

VARIABLE NOZZLE.—James A. Cushman, Seneca Falls, N. Y.—This invention relates to the discharging end of a fire engine hose pipe, and especially to the nozzle which is attached thereto, and the invention consists in so constructing the nozzle that the stream of water discharged therefrom may be raised at will by a simple movement of the hand of the operator.

TOOL HOLDER FOR PLANING MACHINES.—W. J. Linton, Detroit, Mich.—This invention consists in a bracket which may be secured to the tool slide, and having a right angled arm projecting forward from the cross plate a sufficient length and provided with a pivoted holder for the tool.

BELT TIGHTENER.—Samuel Patton, Chatsworth, Ill.—The object of this invention is to provide a simple and effective attachment to belt pulleys, by which the belt can be tightened to any required degree without difficulty.

COMBINED CORN PLANTER AND CULTIVATOR.—Geo. W. Kinzer, Linden Station, Ohio.—The object of this invention is to provide a combined corn planter and cultivator which shall be economical in construction and convenient in operation.

FRUIT CRATE.—W. G. Goodale, Centralia, Ill.—In this invention the fruit is packed in a crate in well ventilated boxes, supported upon springs to prevent their bruising it. The whole crate is very simple, cheap, and durable, and will effectually protect the fruit from injury.

SCREW DRIVER AND COUNTERSINK.—Peter N. Jacobus, Flatbrookville, N. J.—The object of this invention is to construct a screwdriver in such a manner that it shall grasp the screw by the head and hold it firmly while inserting it into the wood or removing it therefrom; and while inserting the screw, shall cam away the wood around it, so as to form a countersink for its head.

CUTTER ATTACHMENT TO PLOWS.—T. E. Marable, Petersburg, Va.—This device is a neat, simple, and cheap cutter, which can be readily attached to the beam of any plow, in front of the colter moldboard, or shovel, and which will graze along the surface of the ground in advance of the plow, cutting up all weeds, grass, etc., and throwing them out of the way on the side opposite to that on which the plow throws its dirt.

SHOVEL PLOW.—B. F. McColester, California, Mo.—The object of this invention is so to construct and attach shovel plows to their standards or beams that they can be adjusted at any inclination, and, when worn out or injured in one end, can be reversed without difficulty.

MEDICAL COMPOUND.—A. V. Lee, Clayton, Ala.—This invention relates to a combination of ingredients for forming a medium for the cure of diseases which prevail in almost all climates to a greater or less extent, and which diseases have generally baffled the skill of the medical faculty—more particularly bilious diseases, and especially what is known as fever and ague.

ELEVATOR.—Erwin T. Hope, Philadelphia, Pa.—This invention consists of an arrangement of a series of vertical telescopic tubes and a plunger, on the top of which the carriage is supported, and moved between suitable vertical guides, when the said telescopic tubes are extended by the action of water forced in at the bottom to the lower tube, which is stationary.

WINDOW VENTILATOR.—R. H. Long, Milwaukee, Wis.—This ventilator for windows consists of a frame carrying a pane of glass, so as to be transparent, which frame has an elliptical or other spring applied to one of its sides, and is arranged to move up and down within a frame made of metal or other suitable material, attached to the inside of that section of a sash frame where it is to be located, the glass of which has been cut out to a degree corresponding to that of the supplementary frame having the glass thereon arranged to move or slide.

MACHINE FOR SAWING SHINGLES OR HEADINGS.—L. C. Robinson, Shepardsville, Mich.—The nature of this invention relates to improvements in machines for sawing shingles or headings, or other similar articles, whereby it is designed to provide a more simple and effective machine than any now in use, and that will either saw them in a straight or tapered form, cut off the ends and plane the edges, and it consists in the combinations and arrangements of the parts whereby the same is effected.

CONSTRUCTION OF SCOWS.—E. J. Allen, Rondout, N. Y.—This invention relates to a new manner of constructing scows, with an object of strengthening the same, and consists first in strengthening the fore and aft partitions by means of trestle work; second, in arranging cross keelsons above and at right angles to the fore and aft keelsons, and in the use of cross beams on head of fore and aft keelsons, and parallel to the cross keelsons; the fore and aft partitions are not only made substantial by means of the trestle work, but still more so by the cross keelsons and beams.

GATE.—William E. Nichols, Baldwin, Mo.—This invention consists in an arrangement of cords and pulleys for effecting the above-described object and the necessary posts for supporting the same.

RAT TRAP.—M. D. Fowler, Vincennes, Ind.—This invention has for its object to furnish a simple, convenient, and reliable rat trap, which shall be so constructed and arranged as to catch, without fail, any animal that may enter the trap and try to eat the bait.

IMPROVED FASTENER FOR VEHICLE SEATS.—Charles Dixon, Weedsport, N. Y.—This invention has for its object to furnish an improved fastener, by means of which the seats of wagons, sleighs, and other vehicles may be conveniently, securely, and detachably secured in place.

MACHINES FOR UNHAIRING HIDES.—Elias Brock and Judson Schultz, Ellenville, N. Y.—This invention has for its object to improve the construction of the unhairing machines, patented by Elias Brock June 25, 1867, and numbered 66,124, and by Judson Schultz, June 25, 1867, and numbered 66,176, so as to make said machines more convenient in use and more satisfactory in operation.

WAGONS.—Samuel Seitz and L. D. Arnold, Melmore, Ohio.—This invention has for its object to furnish an improvement in the construction of wagon boxes, by means of which the end boards of the box may be securely held in place, and which shall at the same time be durable and allow the end boards to be conveniently and quickly put in and taken out.

POTATO DIGGER.—B. D. Vanderveer and Daniel Riddle, Freehold, N. J.—This invention consists in the arrangement of a plowshare to raise the potatoes from the ground and shakers for separating them from the soil, and in a device for cleaning the machine of vines.

SKATE.—Charles Gooch, Cincinnati, Ohio.—The present invention relates to that class of skates which are provided with a fastener, that acts upon the boot or shoe hole in the direction of its length and from end to end, and it consists in a novel construction and arrangement of the toe and heel clamps of such fasteners, whereby the skates can be adjusted to more fully and perfectly accommodate the various lengths of boots, and thus the fastener rendered more general in its application or adaptation to the varying sizes on the length of the boots.

CAR BRAKE.—J. L. Miller, De Witt, N. Y.—This invention relates to a new and improved car brake, which is applicable to either horse or steam cars, and it consists in a novel construction and arrangement of the brake, whereby it is rendered capable of being operated through the medium of a friction wheel, and the brake operated on a single car, or all the brakes of a series of cars comprising a train operated simultaneously.

CURTAIN FIXTURES.—J. D. Legg, Long Eddy, N. Y.—This invention relates to a new and useful improvement, or a curtain fixture for which Letters Patent were granted to J. D. and I. W. Legg, May 5th, 1868. The object of the present invention is to obviate the difficulty attending the lowering or drawing down of the shade, and the winding up of the coil springs, the inner ends of the latter being attached to the cylindrical boxes out of or at a short distance from their centers, a necessity in the old arrangement, and which causes the springs to bind after a few convolutions have been drawn together by a few revolutions of the cylindrical boxes, so that the springs cannot be fully wound up.

APPARATUS FOR ROASTING NUTS.—D. A. T. Gale, Poughkeepsie, N. Y.—This invention consists of a rotary cylinder suitably confined in a hot-air case and provided with gas burners, and of a warming apparatus to which the tube which supplies gas to the roasting apparatus is connected for supplying heat to it and so arranged that after the nuts have been roasted and placed in the said warming apparatus the flow to the roasting burner may be stopped while that to the warming apparatus continues.

ROTARY STEAM ENGINES.—John Woody, Mount Vernon, Ind.—This invention relates to that class of steam engines, known as rotary engines, where the steam acts continuously and the pressure is applied without intermission and with uniform effect.

EXTENSION CLOTHES-LINE SUPPORTER.—Francis W. Tilton, and Moses C. Swift, New Bedford, Mass.—The object of this invention is to provide means for supporting clothes lines and elevating the same.

BUCKLE.—H. C. Wessel, Indiana, Pa.—This invention relates to a new and improved buckle designed for bridles and other parts of harnesses, and also for other purposes. The object of this invention is to construct a buckle in such a manner that it may be applied without any stitching or sewing and also without the aid of rivets and other permanent fastening and still be readily applied to and detached from the straps which it joins or connects.

EASY CHAIR.—Dumont Mareau, Hubbardstown, Mass.—This invention consists in attaching the seat to two or more springs and in connecting it with the legs or seats of the chair by links which form joints whereby great elasticity and flexibility are obtained.

TOOL HOLDER.—William J. Linton, Detroit, Mich.—This invention consists in a holder having a rectangular slot through a flattened central portion in which are arranged two clamping jaws, one stationary and one movable, and provided with two handles one of which screws into the said flattened central portion for adjusting the movable jaw in a manner similar to the construction of die plates for cutting screws.

WAGON COUPLING.—James M. Wynn, Scipio, Ind.—The object of this invention is to provide a simple and effective means of coupling the rear axle of a wagon to the reach pole or perch of the same. It consists of a plate at