

Improved Signal Lantern.

James C. McMullin, Chicago, assignor to himself and William H. Masterman, and John Adams Jackman, Jr., Bloomington, Ill.—This invention relates to improvement in the signal lights of locomotives, railroad cars and stations, vessels, docks, lighthouses, and other objects, by which the light is thrown out in such a manner that portions of it are seen at greater, and other portions at lesser, distances, permitting, thereby, the approximate determination of the distance of the lights from the points of observation, and avoiding, to some extent, the danger of collisions or other accidents. The invention consists, mainly, in the construction of the front part of the signal light with a number of lenses of different sizes, arranged with or without colored glasses, or the arrangement of the front part with suitable designs of colored glasses, so that a similar graduation in the intensity of the emitted light is produced.

Improved Compound for Coating Iron Ships' Bottoms.

Samuel Williams, New York city.—This is an improved compound for the outside of iron vessels below the water line, formed of shellac, wood alcohol, Venetian red, and sulphate of lime. The paint is applied with a brush in the ordinary way, and will dry instantly, so that the vessel may be lowered into the water within an hour after the paint has been applied.

Improved Bag Fastener.

Daniel Jones, Hortonville, Wis.—Upon the edge of an arc-shaped plate are formed hooks, the concavities of which connect with fulcrum notches by inclines. To one loop is pivoted the plate, and to another loop a lever, the loops being jointed together and being of such a length that the lever may be fastened on the hooks. The lever is so curved that its short loop may be easily placed in a fulcrum notch, and will allow the long loop to be turned over at great advantage of leverage, drawing the fastener tight around the bag. As soon as this is effected, the loops slip back out of the notches, over the incline, and into the concavity of the hook, where they are securely held.

Improved Watch Chain Hook.

Henry T. Salisbury, Pawtucket, R. I.—This is an improved watch chain hook, by which the watch chain remains always securely attached to the vest without being liable to detachment by accident or pickpockets. The invention consists of a circular pivoted guard hook, which is locked to its stem by means of a central bolt sliding in a tubular sleeve at the inside of the stem. The sleeve is slotted for guiding a projecting rib of the central bolt, which rib is notched and locked by two or more annular bands or rings, and detached from the same when a notch of their inner circumference is brought in line with the slot of the sleeve, so that the bolt may be withdrawn and the hook opened.

Improved Reamer for Earth Borers.

John A. Chandler, Monticello, Iowa.—This invention is a reaming attachment to earth-boring apparatus, by which the lower section of a well below a stratum of quicksand may be quickly enlarged or extended, for the purpose of carrying the curbing down to the bottom of the well, and producing a well of uniform width. After the cut has been continued with the smaller auger till water is obtained, a reaming attachment to the shaft is used, having adjustable guide plates and sliding cutters, for enlarging the narrower section of the well below the curb gradually, from the bottom upward to the full width of the same, so that the curb slides down to the bottom of the well, and produces thereby, after the earth has been removed, a well of equal width.

Improved Saw Table.

Edward H. Hanna and Charles W. Hanna, Dover, Ky.—The pitch board is supported on the bed by means of two screws which are jointed to the board, and work through stands, and are confined in any desired position by nuts. One of two adjusting bars is jointed to the pitch board, and the other to the bed. These bars have each a serrated edge, and lap past each other, so that the serrated edges engage with each other, and are confined by means of a screw clamp when the board is properly adjusted. The pitch board rests on the bed at one end, and is made to stand at any desired angle to the saw. The plank is lapped over the edge of the pitch board, and is sawed by turning the pitch board and bed on the pivot bolt, the desired wind being given by means of the inclination and position of the pitch board.

Improved Burglar Alarm.

George A. Beaver, Richmond, Ind.—This invention consists of the combination of a series of register keys, which are connected in suitable manner to the windows, doors, etc., with a spring match holder, which lights the lamp, sets a clock train and bell in motion, and discharges percussion caps as soon as any one of the register keys releases the spring holder from the catch plate. The change of position of the key indicates the room in which the alarm originated.

Improved Saw Tooth Swage.

Andrew J. McCollum, Indianapolis, Ind., assignor to himself and George D. Emery, same place.—The object of this invention is to provide means for swaging the teeth of circular saws, square or parallel with the saw arbor, so that the saw will run true; and it consists of a slotted arm attached to the saw arbor extending out beyond the saw, having attached to it an adjustable curved arm which carries the swage.

Improved Machine for Cutting Rubber Soles.

George H. Ives, New Haven, Conn.—The object of this invention is to produce for manufacturers of rubber goods an improved machine for cutting out soles, fillings, or any other article from rubber cloth. The usual form of cutters or stamps may be employed. A spring board attached in front of stamps raises the cloth slightly above the stamp after each stroke. The pieces, after being cut, drop on an endless belt or apron, which carries the same off. The rubber cloth is fed from the cloth roller by reciprocating sliding feed blocks, which are operated by the driving shaft, their extent of motion being regulated by adjustable guide pieces. The feed blocks take hold of the cloth after each stroke, and feed the same to the stamp, releasing it on the return motion by passing along inclined guides, which raise the upper feed block.

Improved Rotary Engine.

Truckson S. La France, Elmira, N. Y.—This invention relates to that class of rotary steam engines and pumps in which two revolving cog wheels are employed in a case with semicircular ends, the teeth of the wheels meshing together to cut off the passage between them; and it consists of constructions of the teeth whereby pressure is balanced on the cutting-off teeth to better advantage than in the ordinary arrangements, and water of condensed steam is allowed to escape at the starting of the engine.

Improved Carbureter.

John M. Cayce, Franklin, Tenn.—This invention relates to means whereby air may be carbureted and supplied to the burner with greater uniformity of illuminating power than usual, and in a more economical manner. The invention consists in an air-supply governor that automatically maintains any definite pressure and supply of air; of means by which an over supply of carbon to the air may be prevented, and the relative proportions of oxygen and carbon accurately gaged; in making the carbureter sections held to joint band by a cohesive that will quickly melt during a fire and enable the apparatus to be easily handled and removed; and finally in means for obviating the jerking movement of a double action air pump, and causing it to move with great uniformity of motion.

Improved Portable Steamer for Potatoes, etc.

Carey K. McDonald and John W. Dewees, Philadelphia, Pa.—This is an improved device for outdoor and street trade, for steaming potatoes, ears of corn, oysters, &c. It is made in the general form of a locomotive engine, and is mounted upon wheels. There is a fire chamber, the flue from which passes back beneath the boiler. Steamers, which pass in through the top of the shell of the latter, receive wire baskets, in which the articles are placed to be steamed. In the rear end of the shell is formed an oven. When the articles are removed from the steamers they are placed in the oven to drive off the moisture, and are then placed in the upper compartment to be kept hot until sold.

Improved Blower for Fire Grates.

William D. Guseman, Morgantown, West Va.—This invention relates to counterbalancing the blower by a weighted lever, and operating it by means of a knob projecting through the front of the fireplace, and applied to the lever fulcrum.

Combined Table Castor and Fly Expelling Fan.

William R. Fowler, Baltimore, Md.—This invention relates to fans turned by clock mechanism for the purpose of frightening flies from the family table at meals, and consists in connecting a fan, castor holder, and clock mechanism so that the fanning device and clock mechanism can be laid aside when fly time is over, and the castor employed in the usual way, the appearance of the latter being graceful and acceptable under either contingency.

Improved Gin Saw Filing Machine.

Louis Monroe Asbill, Ridge, S. C.—This invention relates generally to machines that are used to facilitate the filing of gin saw teeth and to supersede the old means of performing the work by hand. The improvement consists in means for giving a variable adjustment to the pile stroke without changing the position of the forward end or point of the file.

Improved Middlings Purifier.

William Daniels, Brooklyn, N. Y.—There is a vertical tube, of large size, into which the middlings are fed, after being dusted, to be subjected to a blast from the fan, for separating the lighter matters from the heavier by carrying them upward, while allowing the latter to fall to the discharge spout. There is an offset in the upper part of the tube, where it is designed that matters light enough to be carried up by the blast, but containing seconds worth saving, together with some refuse, shall fall, to be conducted into another vertical tube, to be subjected to another blast from the fan, by which the lighter matters are again to be separated and carried upward, while the heavier are allowed to fall to a closed receptacle. Above the blast is turned to a horizontal course, so as to further facilitate the falling of whatever matters of value for flour may yet be in the escaping current, and below is a wide laterally descending portion of the lower wall of the passage, for receiving as much of the droppings as may be of value, and conducting them into a third upright tube, when they are again treated to a vertical blast, and the heavier matters let fall, while the refuse is carried off through a horizontal discharge spout. This upright tube receives a separate blast from the fan. The spouts may all return into one receptacle, for conducting the purified middlings to the stones to be reground together, as the object is not so much to make different grades, as it is to apply blasts in the purifier adapted in force to the gravities of the different grades, for thoroughly purifying both the heavy and light matters of value without waste.

Improved Dress Elevator.

Margaret H. Bergen, Brooklyn, N. Y.—This invention consists of a tape of proper length, having rings attached at proper intervals to receive a cord, the middle of which is attached to the center of the back. The tape is sewed at the proper distance from the bottom, following the curve of the dress. From the center of the tape the ends of the cord pass through the eyelets or rings in opposite directions, and are carried up through slits in the dress to the front, where they are passed through a cord holder, which confines them when they have been drawn to the desired degree of tension for the proper support of the dress. The ends of the cord are then confined in a clasp, which is hooked up at one side of the dress.

Improved Fire Extinguisher.

Isaac C. Andrews and Amzi S. Dodd, New York city, assignors to Home Fire Extinguisher Company, same place.—This invention has for its object to improve the construction of fire extinguishers in such a way that the acid vessel may be securely held and readily and surely disengaged to discharge the acid, which cannot be tampered with without indicating it, which will give warning should any one attempt to remove the head while the apparatus is under pressure, and which shall be light and at the same time strong.

Fire Extinguishing Water Pipe Attachment for Buildings.

Thomas Miller, Jersey City, N. J.—This invention relates to utilizing the fire extinguishing water pipe attachments used to conduct the water to the upper stories and the roofs, for fire ladders also; and it consists of, preferably, two pipes side by side, or one separated into two branches above the lower story, with rungs for a ladder crossing from one to the other and connected to them. The rungs are made of tubes, for allowing the water to circulate through them to keep them cool when exposed to fire in the building, and thus form the ladder, available when it would not always be with solid rungs, which heat when solid, so as to render the ladder useless.

Improved Perch for Bird Cages.

Edward Hutchinson, New York city.—This perch is composed of a tubular piece of wood and a cylindrical piece, the latter being for the most part of its length of the same size as the former, but considerably longer, and having a portion of about equal length of the tube reduced sufficiently to enter and fit snugly, and so that the end of the tube and the shoulder of the cylinder will not quite meet together. The reduced portion of the cylindrical piece is provided with small grooves, both longitudinal and circumferential, to afford hiding and nesting places for the small insects which infest birds. By this means the insects may be readily destroyed and cleaned off from the perch by taking it out of the cage from time to time, plunging it in boiling water, and then separating the parts and removing the insects.

Propelling Canal Boats.

H. B. E. Von Elsner, St. Louis, Mo.—This improvement relates to the arrangement of slotted guides and adjustable collars with the paddle levers for the purpose, respectively, of maintaining them in a vertical plane while vibrating, and adjusting the leverage of the paddles, and also the depth to which they shall work in the water.

Improved Gas Regulator.

Charles H. Gartrell, Paducah, Ky.—The object of this invention is to produce an improved gas burner and regulator, which feeds the gas steadily and equally to the flame, and economizes its consumption. The invention consists in forming the burner of different chambers, to which the admission of the gas is regulated, and the flow steadied by means of a distributing cap piece, which spreads the gas and supplies it to the flame.

Improved Circular Sawing Machine.

Oscar A. Dean, Bethel, Vt.—This invention has for its object to improve the construction of circular saw machines, so as to prevent the lumber and slivers from being thrown against the operator, to prevent the operator's hands from being cut while attending the saw, and to prevent the operator from being injured by the saw flying into pieces when running free and when sawing thin lumber; and is an improvement upon the patent granted to the same inventor August 12, 1873. A circular spreader enters the kerf and opens the lumber, so that the same may not bear against the sides of the rear part of the saw. A guard fits over the upper part of the saw, and prevents anything from coming in contact with the upper part of the saw, and also prevents slivers from being thrown by the saw against the operator. It may be raised and lowered as the thickness of the lumber may require, and can be adjusted without disturbing the gage, while the gage can be adjusted without disturbing the guard.

Improved Mincing Machine.

Edward Cluney, New Bedford, and Charles Leptine, Boston, Mass.—This is an improved mincing machine for whalers, for mincing or slicing blubber before putting it in the trying kettles. It consists in a carrier and self adjusting holding device in combination with each other, for feeding the blubber forward to the knives, and in knives for slicing or mincing the blubber as it is carried forward by the carrier. The blades are curved, and are twisted spirally, to correspond with the rapidity of feed, so that the cutting point of the blades may move forward as the piece of blubber, being operated upon by the said blades, is carried forward. The shaft is so arranged, in connection with the carrier, that the blades will cut the slices of blubber not quite off, enabling the blubber to be handled with forks.

Improved Baby-Exercising Corset.

Catherine Tardy, Paterson, N. J.—This is a device which will enable mothers, nurses, and others having the care of children to let them exercise by moving their limbs without creeping about the floor. It consists in an improved baby-exercising corset formed of two parts, connected in front by a cord or lace, and in the rear by cords, straps, or ribbons, and provided with long loops at their upper edges. The long loops enable the attendant to support the child while standing in an erect position.

Improved Carriage Curtain Fastener.

Aaron T. Rice, Reaville, N. J.—This invention relates to an improvement in the class of carriage curtain fastenings formed of annular metallic plates, and a slitted or apertured elastic disk. The improvement consists in providing the elastic disk with a tongue (formed by slitting it diagonally), which engages with the head of the knob; also, in providing the annular plates with coincident notches to adapt them to receive or fit the shank of the button; and in a protective covering applied to the inner metallic plate or ring, to prevent abrasion or wear of the carriage top bow.

Improved Pipe Wrench.

Adam Collis, Altoona, Pa.—The head has a central hole, which allows it to be slipped over the stud which is to be turned. A projecting steel die is placed in one side of the hole, and passes entirely through the head. Its edges are designed to penetrate the stud and prevent the wrench from turning on it. The working lever works loosely in the head. Its end is serrated, and projects into the hole and engages with the bolt. The end of a screw enters a slot in the lever, which allows it to play back and forth. In gripping the bolt, a lip which works through a side slot bears upon the side of the slot, by which a short and most powerful purchase is obtained.

Improved Furnace for Steam Boilers.

Daniel T. Casement, Painesville, Ohio.—This invention consists in a system of inclined tubes in the upper part of the furnace for supporting metal balls, to facilitate the combustion of the gases by their impinging on the red hot surfaces of the balls, in which heat is stored up. The said tubes are arranged in two series, extending from the top or near it on opposite sides diagonally across and downward, crossing each other at the middle forming chambers for storing the balls. They are arranged in this way to facilitate the fastening of them in the furnace walls; also, the cleaning of them from time to time of the deposit that may result from the use of salty or limy water.

Improved Composition for Blackboards.

Richard Sharp, Pittsburgh, Pa., assignor to himself and Robert W. Hare, of same place.—This is a compound composed of ground or powdered pumice stone, colored to the proper shade by ivory black or similar material. The pumice stone thus colored is mixed with coach varnish and turpentine in sufficient quantity to form an adhesive plastic mass, with which wood, stone, metal, or other material is covered. The composition adheres firmly and soon dries, leaving a hard, smooth surface, admirably adapted for blackboards and slates, and for many other purposes.

Improvement in Converting Motion.

James Vivian and Henry S. Mackenzie, Falmouth, England.—This invention relates to means whereby two screw propellers on the same shaft may be conveniently rotated in the same or opposite directions. A shaft is rigidly attached to the screw propeller, and a sleeve, on which is made fast a second propeller, is itself loose on the shaft. There are two wheels, one fast on the shaft and the other on the sleeve, having, respectively, the wrist pins placed on their opposite faces, and each pivoted in sliding blocks. The piston is bifurcated to straddle the shaft, and provided with confined guide boxes placed side by side, and formed by plates and a partition. In these boxes the wrist pin blocks slide from one end to the other at each half revolution of the shaft, going back on the second half revolution. If these blocks are on the same side of the shaft when the piston is operated, the propellers will both move in the same direction, while if placed on opposite sides they will be carried in opposite directions.

Improvement in Preserving Beer and Wine.

William Leist, Milwaukee, Wis.—This is an improved vent attachment, to be used in connection with barrels containing fermented liquors, by which the back pressure of the liquids in the casks and their commingling with the liquid in the seal cup are prevented, together with the drawing-up of the liquid of the seal cup into the cask, so that the uninterrupted and effective action of the vent cup is produced. The invention consists in the arrangement of a liquid sealed vessel, provided with an open air pipe and flap valve at the bottom, with a secondary flap valve in the upper part thereof, so that the air enters into the barrel without allowing the liquid in the cask to be forced in the seal cup by the pressure of the gases.

Improved Eaves Trough Hanger.

Lewis E. Gould, Nashua, N. H.—The object of this invention is to furnish an improved eaves trough support which is readily applied to the wall below the roof, and admits of adjustment in horizontal and vertical direction for obtaining the exact position of the trough. The invention consists of a horizontal slotted arm, which is screwed into the wall, and which has adjusted thereon, in horizontal and vertical direction, the upright arm with forked end, for supporting firmly the trough. The connection of the horizontal and upright arms is made by a clamping screw.

NEW BOOKS AND PUBLICATIONS.

ARIADNE FLORENTINA: Six Lectures on Wood and Metal Engraving. Given before the University of Oxford, by John Ruskin, LL.D., Slade Professor of Fine Art. Price \$1. New York: John Wiley & Son, 15 Astor Place.

The subtle criticism and ornate rhetoric of the eminent Oxford Professor are well shown in these six lectures, which exhibit, in every page, the author's marvelous perception of whatever is genuine in all works of ancient and modern art. It is illustrated with facsimile wood cuts, in every respect worthy of the text.

MY VISIT TO THE SUN: or Critical Essays on Physics, Metaphysics, and Ethics. Volume I: Physics. By Lawrence S. Benson, Author of "Benson's Geometry." New York: James S. Burton, 149 Grand street.

The author of this work confesses his "respect for the treasured wisdom of ages, but must say that it will amount to nought if it shrinks from the wand of truth, or if it avoids the light of inquiry." The antagonism between the wisdom of philosophers on the one hand, and truth and inquiry on the other, is implied throughout the book; but the author is not likely to disturb the general belief of educated people that the wisdom of Science is the result and not the enemy of enquiry, and that the organic growth of human knowledge is not likely to shrink from its own "wand," which is that of truth. Certainly, if the accumulated knowledge of the ages is ever to be uprooted by some empirical system of philosophy, it will not be by so discursive and pointless a sketch as the one which we so willingly lay down.

NEW ENGLAND HARDWARE DIRECTORY, containing a Complete and Correct List of Importers, Dealers, and Manufacturers of Metals in the New England States. Boston, Mass.: Edward H. Adams, 82 Washington street.

The information promised in the title of this book is fully given in its pages.

THE AQUATIC MONTHLY AND NAUTICAL REVIEW. Edited by Charles A. Peverelly. \$4 per annum. New York: August Brentano, 33 Union Square.

This magazine maintains the excellent reputation it has in a short time acquired, and its pages will be read with interest by all lovers of the manly sports of yachting and rowing, the season for which is now fairly on its way.

Inventions Patented in England by Americans.

[Compiled from the Commissioners of Patents' Journal.]

From April 21 to April 28, 1874, inclusive.

BOILER AND FURNACE.—W. H. Richardson, Cincinnati, Ohio.

BOILER AND GRATE BAR.—A. O. Denis *et al.*, Wilmington, Del.

FIRE PLACE, ETC.—M. A. Cushing, Aurora, Ill.

FURNITURE SPRING.—W. T. Doremus, New York city.

KNITTING MACHINE.—D. Bickford, New York city.

LUBRICATOR.—E. S. Fassett *et al.*, Ann Arbor, Mich.

NAIL MACHINERY.—W. Haddock, Pittsburgh, Pa.

REGULATING SPEED OF ENGINE.—K. H. Loomis, New York city.

SPEED INDICATOR.—E. Brown, Philadelphia, Pa.

TREATMENT OF DISEASE.—W. D. Ludlow, New York city.