

Recent American and Foreign Patents.

Improved Cotton Bale Tie.

James H. Lane, Waco, Tex.—This invention relates to an improved form of tie or buckle for cotton bale bands, the same consisting of a metal plate provided with a hook at either or both ends, and with one or more hooks located intermediately at the ends. These hooks are made by cutting away the ends of the plate so as to have central tongues, which are bent over.

Improved Building Blocks.

Thomas B. Rhodes, Leetonia, Ohio.—Hollow spaces extend through the blocks from bottom to top, to make hollow walls. The parts by which the two sides of the blocks are connected are arranged sufficiently distant from the ends to form grooves therein, in which tongues on other blocks will fit to lock the blocks firmly together. These grooves and tongues may be in dovetail form. The parts will, in some cases, extend to the top of the blocks, and in others not; and in such cases binders may be used to lock the blocks together by placing them on the upper ends of said parts, so that the adjacent parts of the two blocks to be locked together are received between the parts of the binders. It is proposed to deepen and otherwise form the grooves, both horizontally and vertically, so as to use long binders of wood or iron, extending from end to end of a wall at the top, or from bottom to top. It is also proposed to arrange the openings in the top blocks so that hot air admitted to them may circulate throughout the spaces in all outside walls, and in partitions, if preferred, for heating the rooms, and connect said spaces with furnaces or other heating apparatus for the introduction of heat. By molding these blocks they can be readily and cheaply made, in any approved form and size, both plain and ornamental, and thus afford desirable building material for less cost than bricks or wood. Holes may be formed in the blocks when molded, to make continuous passages, where the blocks are joined, for conducting water from the eaves trough to the ground; also for speaking tubes, and the like. In laying up a wall with these blocks, each layer is temporarily enclosed in a casing of wood, and hot cement is poured in, to flow into the interstices and fill them up and unite the blocks.

Improved Middlings Purifier.

Reuben Royer, Ephrata, Pa.—A reel receives the middlings through a spout. There is a partition in the chest, cutting off returns before the middlings are taken off. A fan blows into the chest upon the reel to cool and clear it, and there are chutes forming a hopper below thereof to discharge the middlings on the reciprocating sieve, and for preventing the blast from the fan below from blowing up into the reel space. The blast from the upper fan also aids to prevent the blast from the lower fan from passing upward. The fan at the bottom of the chest blows in through one side of the chest, up through the sieve, and out at the other side through a passage, which is regulated by a valve, to control the blast. The second fan and the passage are as long as the sieve, to cause the blast to act alike throughout the length of the sieve, by which the action is uniform and very efficient in separating the light fuzzy matters which do not contain flour.

Improved Auxiliary Heater for Steam Fire Engines.

Absalom B. Hallock, Portland, Oregon.—This invention consists in so arranging an auxiliary heater on the hearth or foot plate of a steam fire engine, and so connecting its heating coil with the boiler thereof that the two shall form one compact and portable machine, capable of performing the functions of a steam fire engine of the ordinary kind in a more effective manner.

Improved Saw Grinding Machine.

William Dreyer, Newark, N. J., assignor to himself and George B. Sharp, New York city.—The stone is mounted in the middle of the frame near one end, between the parts of the housing frame, whereon strong blocks, having the guide ways for the reciprocating frame, are mounted. The ways are outside of the blocks, where the grit from the stone will not get in and cut them and the slides out to any material extent. The slides of the saw-carrying frame are geared to the crank shaft in a simple and inexpensive arrangement. The wrists are adjustable to change the length of the throw, and the connecting wrists are also adjustable along the slides, to change the bar, to which the saw plates to be ground are attached, toward or from the stone. There is a presser block above the stone for pressing the saw down on it, which is attached to a long bar fitted to slide up and down, and provided with levers for raising and lowering it. Under the ends of the block are springs for holding the block off the stone when the saw plate is removed.

Improved Bale Tie.

Abram B. Hagaman, Jackson, La.—This is a band for baling cotton and other commodities or articles, whereby a separate buckle or tie is dispensed with; and it consists in one or more projections on the edge or edges of the band, in combination with slits for locking the band around the bale. In locking the band, the end in which are the small slits is passed through a V shaped opening, which opening is re-enforced by one of the projections. The friction thus produced keeps the band in place, and protects the joint as the bale is tumbled about, and also facilitates the operation of locking the band.

Improved Shaft Coupling.

Edward G. Shortt, Carthage, N. Y.—A cylindrical body is cast with an eccentric recess, forming a seat for the wedge to slide on along the circumference of the recessed part. The curved wedge is of eccentrically bored shaped, of less length than the recess, and is provided with grooves fitting into corresponding ribs of the body, to prevent the sliding of the same on the shaft in longitudinal direction. A wedge-shaped key is driven in at the broader end of the recess, and forces the wedge around the shaft, securing a rigid connection of the parts in either direction. The parts may, however, be quickly and easily detached on taking out the key which gives play to the eccentric wedge and shaft.

Improved Mitering Machine.

Benjamin Bernstein, Max Hamburger, and Achille Klein, New York city.—In the frame are formed two grooves to receive brackets, said grooves being arranged at right angles with each other, and at an angle of forty-five degrees with the length of the table. The said brackets may be moved forward or back, to adjust them. In the upper ends of the brackets revolve the mandrels, to which the saws are secured. By this construction the saws, as they become smaller, may be so adjusted that their forward sides may meet. By suitable construction, by pressing a treadle downward, the table will be raised, pressing the molding upward against the saws, so that the saws will begin to cut upon the face of the molding, causing the same always to present a clean, smooth cut, and preventing all breaking out or splintering of said face. A gage may be moved forward and back to adjust it to the width of the molding to be mitered by moving a rack outward or inward longitudinally, the arrangement of the operating mechanism keeping the beveled ends of the parts of the gage all the time close to the saws.

Improved Harvester Rake.

Jacob Graybill, Akron, Ohio.—The essential feature of this invention is that the rake head is drawn across the platform, sweeping the grain before it, and upon its return movement is carried above the said platform, so as not to disturb the grain, the roller of a slotted guide acting as a fulcrum to support it.

Improved Pocket Book.

Gabriel Jasmagy, Brooklyn, N. Y., assignor to Morris Rubens, New York city.—This invention improves the manufacture of pocket books, of all sizes, so that the stitching hitherto employed for the connection of the folding side flaps with the partitions is entirely done away with, and a neater, stronger, and more durable connection of the same substituted. The invention consists in the construction of an inside lining for the folding side flaps of the pocket book, cut or stamped in such shape that, on folding, a semicircular or semi-oval piece, with as many folded projecting flaps or tongue pieces, is produced as partitions are used. The connection of the latter with the folding side flaps is obtained by giving the semicircular pieces to the side flaps and the tongues between the double partition strips, so that, on folding them into regular shape, a strong and superior pocket book is furnished.

Improved Cutter Head.

Henry Buchter, Louisville, Ky.—This machine consists of a head having two curved wings, formed with a vertical shank, for attaching to a mandrel or head block of a lathe, and having a removable center. These wings are arranged to receive extra cutters to vary the size and patterns and blank plates for balancing the extra cutters. The cutting edges of the wings may be in any form so as to cut a rosette of any desired style when revolved on a lathe or mandrel. Other cutters of triangular form, for cutting rosettes of different diameter, may be attached to the wings, and plates may be secured so as to counterbalance them.

Improved Coffee Pot.

Alexander P. St. John and William P. St. John, Mobile, Ala.—This invention consists of a coffee pot or urn with an upper and a lower compartment, so contrived that, when steam is generated in the lower compartment, the water will be forced up through the coffee into the upper compartment. When the boiling ceases and the steam condenses in the lower chamber, the vacuum formed will cause the hot water to pass through the coffee again into the lower chamber, from which it will be poured for use; or, if need be, the operation can be repeated by setting the pot on to boil again to increase the strength of the decoction.

Improved Mitten.

John L. Whitten and J. Hermon Whitten, Burlington, Vt.—The object of this invention is to increase the durability and usefulness of mittens and gloves, and consists in the peculiar arrangement of the back and palm pieces, and the ball and back pieces of the thumb. A seam starts at the wrist, and runs entirely around the hand and finger part of the mitten, and over the sides of the thumb to the wrist piece. The ball piece of the thumb is attached by this seam to the back piece, and to the palm piece by another seam. The latter seam is carried down from the thumb toward the palm of the hand, so that it does not affect the crimping of the leather at the curve under the thumb, and is consequently not subjected to much wear, and does not rip or fall.

Improved Cap for Glass Syringe.

Patrick F. Slavin, New York city.—This is an improved cap for glass syringes, so constructed that it cannot be pushed into the barrel of the syringe. The invention consists of a cap formed of the cork and a metallic tube having a flange formed upon its upper end, the end of which is spun over to clasp the upper end of the said cork and form a lip, and having the lower end spun outward to overlap the inner end of the said cork.

Improved Starting Bar for Link Motions.

Frederick Wellington, Saginaw City, Mich., assignor to himself and Wilbur H. Hill, same place.—A swivel is connected to the starting bar in a slot, to allow it to work forward and backward along the bar by the vibration of the link. The swivel is pivoted to the yoke to allow the link to turn on the swivel, and the bar is prolonged beyond the link for a handle by which to work it for shifting the link. To stop the engine the link is shifted on the valve rod coupling to its center, and to start the engine it is shifted either way along said coupling, according to which way the engine is to be worked.

Improved Ash Sifter.

Marcus P. Nichols, St. Paul, Minn.—This invention is an improvement in ash sifters of the class in which the ash holder has a reticulated or sieve bottom, and is attached to and revolved on a vertical shaft or axis. The improvement consists in a revolving circular table constructed of a flanged ring supported by radial arms having the removable ash pans reticulated on the sides and bottom.

Improved Guide for Spooling Machines.

Lewis Leigh, Mansfield Center, Conn.—This is a water-circulating attachment for spooler guides for maintaining a circulation to prevent the heating of the guide by friction, so as to burn the thread. The invention also consists of a contrivance of buckets for utilizing a small quantity of water for cooling the guide, by shifting the buckets relatively to each other in respect of their height, so that whenever one bucket has emptied into the other the water will be returned again from the full to the empty one, and thus a continuous current will be maintained through the guide.

Improved Domestic Boiler.

Ernest B. Beaumont, Ann Arbor, Mich.—The handle is hinged to the vessel so as to swing upon the top and avoid being heated, and has plates or bars to brace it and to prevent its spreading.

Improved Car Coupling.

Moses A. Keller, Littlestown, Pa.—The top part of the drawhead is recessed at the inside, and a coupling pin is pivoted therein, which is straight at the sides, slightly curved at the lower part, and provided with a slot at its upper part. The slot is arranged under some inclination toward the longer axis of the pin, so that the same is prevented from detaching, when coupled by sudden jars. A lever is pivoted to the drawhead, swinging in a longitudinal slot of the same, and arranged with a hook-shaped projection at its front part, and with a curved arm at its rear part. The hook locks over the front end of the pin, and couples thereby the coupling link. A pendent link is pivoted back of the fulcrum of the lever, being weighted by a roller at the lower end thereof, with the curved arm passing through said link. When the latter link is pending in vertical position, it presses the arm down, raising thereby the hook part. The pin slides on the arm till it is engaged by a recess, by which the regular position of the link and lever is secured. When the link is swung back by means of a connecting treadle chain, so that a roller strikes the curved arm, the hook is thereby carried down, detached from the pin, and the link uncoupled. In whatever position the lever may, therefore, be placed, whether in position for uncoupling or coupling, the entering link will, with equal certainty and security, engage the pin, which, on being locked by the hook, produces a firm and substantial connection, while the uncoupling may at any moment be performed by carrying the lever back and releasing the pin.

Improved Dentist's or Barber's Chair.

Francis J. Coates, Cincinnati, O.—The seat and back are coupled together by a universal joint, so that the seat may be turned simultaneously with the back, and by it, the back being turned by hand. The back is fastened by a spring bolt and the seat by another spring bolt, which engage projections respectively. Both can be pulled back by pulling on the projecting part of the bolt. The foot rest is supported on long arms held at the front by an adjusting screw. This adjusting screw is connected, by a universal joint, with the crank shaft, which extends out through the chair at or about the right hand rear corner, where it is most convenient for the attendant to reach it, from his position behind the chair, to operate it.

Improved Reed Organ.

Thomas H. Pollock, Richmond, Va.—Valves are arranged directly above the reeds in an organ operated by suction from below, so that the wind will have the most direct and unobstructed flow to the reeds, and, particularly, so that the passage from the reeds to the wind receiver will be entirely unobstructed, and the full measure of the sound will be utilized. Inclined reflectors in the air passages are used below the valves for directing the air upon the free ends of the reeds as much as possible, by which more powerful tones are produced. A plate or bar is placed under the levers at the stands, arranged on pivots, so as to swing down and let the levers fall, to be out of action while the other series is in action. Means will be used with said bar to restore the levers again whenever required. In order to throw the other set of reeds out of action while working the reeds governed by the levers, there is a sliding stop to cut off the supply of air to them. Devices are added to bring the wind receiver near to the reeds, to receive the sound directly from the reeds and as soon as possible, by which the full power of the reeds is obtained. The bagging leather valves heretofore used, which flap against the seats when the suction begins and make considerable noise, are dispensed with, and springs, which always close the rigid valves against a little pressure of air, are substituted. These prevent noise, and keep the valves closed and prevent them from falling, as the leather valves do. The tremolo fan is in the wind receiver at the issues of said pipes, which gives additional merit to the tremolo attachment. The explosive swell consists of valves on the wind receiver, either back or top, to be suddenly opened at anytime, by any suitable action, to produce explosive sound.

Improved Clothes Hanger.

Robert McCoy, New York city.—The common practice in laundries is to hang the shirts up by the flaps on hooks, which are thrust through them. The hooks are sometimes large and clumsy, and make large holes, and the flaps are sometimes torn and damaged, particularly when the shirts are frequently so hung. The present invention is a spring hanger, in which the garments are held between jaws. The tension of the latter is regulated by screws which secure them to the main portion of the device.

Improved Car Coupling.

Levi Sutton, Ottawa, O.—The ends of the coupling bar are beveled upon their upper sides, so that, as they enter the cavity of the drawhead, they may raise the coupling bolt, and pass beneath its lower end, allowing it to drop through the slot in said drawbar. To the upper end of the bolt is swiveled a rod, which passes up through guides to the platform or top of the car. One of the guides is tubular, and has a notch formed in its upper end, straight upon one side and inclined upon the other, in which rests a pin attached to the rod, so that by turning the rod the pin may slide up the incline and thus raise the bolt out of the drawbar, thus uncoupling the cars. To the upper end of the rod is rigidly attached a lever by which the rod may be conveniently turned. A coiled spring placed upon the shaft rests upon the upper end of the bolt, and against the keeper, so as to force the bolt down when the rod is released, and prevent said bolt from being jarred out of place. A lever is pivoted to the end of the car in such a position that its forward end may rest beneath a toe formed upon the bolt, so that the latter may be raised to uncouple the cars by a person standing upon the ground at the side of the track.

Improved Clothes Pounder.

Michael W. Fry, Guyandotte, West Va.—This invention relates to means whereby water and soapuds or washing fluid may be forced through clothes and the dirt eliminated therefrom without using the ordinary washboards or rubbers. The invention consists in a clothes pounder whose parts are combined in a novel and peculiar manner.

Improved Green Corn Cutter.

Henry B. Kelley, Foster's Crossing, O.—This invention consists of a series of three longitudinal concave knives, of different sizes in respect of their curves, arranged on a support, in combination with concave guides, to which the ears of corn, being held by a fork thrust into the butt of the cob, are presented endwise against the edges in succession, beginning with the knives having the largest curve, and passing to the others in the order of their decreasing size. The effect of this is to divide the corn into two or more parts by the knives in advance of the hindmost one, and to remove the remaining part from the cob by the last one, about a third or a quarter of the kernels being removed at one operation, and each ear being presented three or four times, and turned partly around each time.

Improved Zinc Molding for Coffins.

George S. Eaton, Williamsburgh, N. Y.—This is an improved shell molding for use upon coffins and for other uses, which is so constructed that it may be bent around a curved surface without wrinkling at its edges. Strips of zinc are made a little wider than the curved surface of the discharge orifice of the die through which they are forced, so that the surplus metal may be forced inward by the flat surface of the cavity of the die to form flanges. This may be bent around a curved surface, and, being without elasticity, will fit upon said surface without any tendency to spring off.

Improved Sash Fastener.

Bernard Almonte, Great Barrington, Mass.—This lock, which is mortised into the frame of the sashes, consists of a casing of metal, to which is attached the stop wheel, which is revolved on a central pivot. By raising a lever a stop is thrown back, so that the wheel can readily revolve. When the lever is down, it is held in position by a spring, and the stop bar is held in position by a pivoted finger connected with the lever. The end of this finger works against the projecting flange of the stop bar, but is raised when the finger lever is raised to unlock the sash. A cast metal rack is attached to the jamb casing of the window, with which the wheel engages. The lock is attached to either the lower or upper sash. When the lower sash is down, or the upper sash up, they are securely fastened, as well as when they are in any intermediate position.

NEW BOOKS AND PUBLICATIONS.

LEVEY'S SOUTH AMERICAN, ASIATIC, AND OCEANIC BUSINESS DIRECTORY of the Principal Cities and Towns in the West Indies, Mexico, South America, Australia, New Zealand, India, China, Japan, and British Columbia. New York: The Foreign Directory Company, 2 Wall street.

The rapidly growing demand for American productions, especially for mechanical devices and tools, has rendered a directory of merchants and purchasing agents resident abroad a positive necessity to our manufacturers and shippers; and laborious and costly as the work must inevitably be, it has been thoroughly done by Mr. Levey in the volume now before us. The names and addresses of the dealers in each class of merchandise, in the principal importing countries of the world, are given with such detail and completeness as to raise wonder at the labor expended in the compilation of the book; and each section is preceded by a copy of the tariff of the country, and a short description of its features and the necessities of its people. We recommend this work to all who have goods for which they are seeking a market.

SANITARY ARRANGEMENTS FOR DWELLINGS, intended for the Use of Officers of Health, Architects, Builders, and Householders. By William Essie, C. E., Author of "Healthy Houses," etc. Price \$2.25. New York: G. P. Putnam's Sons, Fourth avenue and 23rd street.

This book is a concise treatise on one of the most important subjects on which scientific men and the public can bestow their attention. It cannot be too carefully read by those to whom it is especially addressed, particularly during the present inception of hot weather and its concomitant train of evil smells and tainted food, and the consequent zymotic diseases.

THE STEPPING STONE TO ARCHITECTURE, a Catechism of the Principles and Progress of Architecture from the Earliest Times. By Thomas Mitchell. Illustrated. Price 60 cents. New York: A. J. Bicknell & Co., 27 Warren street.

A much needed little handbook for beginners in a science which is too seldom understood by ordinary readers.

RESEARCHES IN THE LIFE HISTORY OF THE MONADS. By Rev. W. H. Dallinger, F.R.M.S., and J. Drysdale, M.D., F.R.M.S.

These treatises, reprinted from the *Monthly Microscopical Journal* and accompanied by the original illustrations, are very interesting accounts of persevering investigations of the nature of the lowest forms of life. We cordially commend them to the reader, not only on account of their general interest, but in the belief that they will encourage the use of the most fascinating of all scientific apparatus, the microscope.

THE ENGINEER, ARCHITECT, AND SURVEYOR. Nos. 1 & 2, Volume I. Subscription \$2 a year. Chicago: Frost and Moore, 168 Washington street.

The prospectus of this new claimant for public support states that it is "sent forth to fill a vacancy existing in the engineering literature of the country;" and its first issues are promising, not only as to the manner in which the publication will be edited, but also as to the very extensive field it proposes to cover.

PROCEEDINGS OF THE ANNUAL CONVENTION OF THE AMERICAN INSTITUTE OF ARCHITECTS, held in Chicago, Ill. October 15, 16, 17, 1873. A. J. Bloor, F.A.I.A., Editor.

An interesting account of the annual gathering of one of our most valuable professional societies.