

LOCK.—E. L. Gaylord, Terryville, Conn.—This invention relates to a lock of that class which are designed for articles having lids, such as pianofortes, sewing machines, etc.

SCREW PLATE FOR CUTTING SCREWS.—Henry Gill, Mansfield, Ohio.—This invention consists in providing a screw plate with circular dies fitted in sliding or adjustable plates which are placed on guide rods secured in a stock and all arranged in such a manner that the dies may be turned so that a fresh or new cutting surface may always be obtained whenever the dies become worn at one point. These circular dies are flattened or cut off so as to have plane surfaces, to admit of the dies working or cutting up to a shoulder on a bolt or rod.

LOCK.—W. H. Murphy, Versailles, Ohio.—This invention relates to a novel arrangement of parts within the lock, whereby to draw in the bolt a certain combination of movements must be performed with the key.

TANNING COMPOSITION.—William Johnson, Shirlsberg, Pa.—This invention has for its object to furnish an improved composition for tanning which will tan the skins thoroughly in a very short time.

COMBINED SNAP HOOK AND BUCKLE.—Seth W. Perkins, Geneseo, Ill.—This invention has for its object to furnish an improved combined snap hook and buckle, simple in construction, strong and durable, easily attached and detached, and which can be manufactured at a comparatively small expense.

YARD FOR SHIPS.—E. Masters, Cleveland, Ohio.—This invention has for its object to furnish an improved yard for ships, stronger, lighter, more durable and more easily repaired than those constructed in the ordinary manner.

SPRING BED BOTTOM.—J. S. Grant, Sidney Center, Me.—This invention has for its object to furnish an improved spring bed bottom, simple, effective, and reliable in construction, and which can be so adjusted as to form a spring bolster or elevated back support for an invalid.

MACHINE FOR GATHERING AND HUSKING CORN.—J. D. Hill, Fort Scott, Kansas.—This invention has for its object to furnish an improved machine by which corn may be gathered and husked automatically as the machine is drawn through the field.

BOTTLE STOPPER.—H. S. Carley, Cambridgeport, Mass.—This invention consists in securing to the stopper two or more wire rods which project from the under side of the stopper and are inserted into the bottle. The rods are spread apart by their own spring so that their lower ends press against the inside of the neck of the bottle. At their lower ends they are bent out so that they can catch under a shoulder formed on the inside of the bottle.

WAGON SEAT AND SPRING.—R. L. Allen, New York City.—This invention relates to a new manner of hanging seats on heavy one or two-horse trucks, or other device, and consists in so arranging springs under the seat that they are made perfectly elastic and in hinging the springs to the supporting posts so that the seat and all its appendages can be swung forward and out of the way whenever desired.

STEAM ENGINE GOVERNOR.—John Eddy, Barnesville, Ohio.—The object of this invention is to render the action of the ordinary centrifugal governor more sensitive to variations of speed in the engine than is usual by the common method.

HAND PLOW AND HOE.—Daniel W. Colburn, Loami, Ill.—This invention consists in constructing the blade of a hoe with a curve or bend somewhat similar to the mold board of a plow so that it will, when in use, cast or throw the earth to one side. It also consists in attaching the blade to the handle in such a manner that it may be reversed and used either like an ordinary hoe or by shoving it forward operate like a plow and make a continuous furrow to receive seeds.

CRANK MOTION.—A. Bicknell, Boston, Mass.—This invention consists in arranging two or more auxiliary connecting rods with the pitman and cross head of a steam engine for the purpose of enabling the engine to start from any point at which the piston may have been stopped or any position of the crank, and also to enable the piston to exert its power more advantageously and economically in passing the dead centers than can be done with a pitman alone in the ordinary connection.

DIAL PLATE BUTT HINGE MACHINE.—Adrian Rais, Waterbury, Conn.—This invention relates to improvements in machinery for making butt hinges and consists in mechanism so constructed that the two right and left match blanks which form a butt or hinge shall be conveyed from feed boxes respectively by automatic devices to and upon the periphery of dial plates or disks which rotate and first present the blanks to dies for bending the knuckles, after which operation they are presented to the mills and after they have been milled are carried opposite and introduced into a nailing device where the match blanks are united and fastened together by the nail or rivet and when thus finished are discharged from the machine. The whole operation is therefore automatic and continuous from beginning to end.

WAGON LOCK.—Andrew Downer, Hammondsville, Ohio.—This invention has for its object to furnish an improved lock or brake for attachment to wagons with which the action of the horses in holding back and drawing will apply the brake to and remove it from the wheels, and with which the reverse movement of the wheels in backing the wagon will remove the brake shoes or rubbers out of the way.

APPARATUS FOR RAISING SUNKEN VESSELS.—Richard W. Hallett, Hudson City, N. J.—This invention has for its object to furnish an improved apparatus by means of which sunken vessels may be easily raised to the surface of the water and floated to any desired place.

WISE.—H. E. Long, Plymouth, Mass.—This invention has for its object to furnish an improved wise, the head of the movable jaw of which shall be so constructed that it will adjust itself to the various forms and thicknesses of the objects held without its being necessary to adjust the position of the lower end of the movable jaw every time a different article is placed in the vise.

HAY ELEVATOR.—G. F. Hipp and J. B. Fast, Nova, Ohio.—This invention has for its object to furnish an improved machine for operating a hay fork or elevator more conveniently and satisfactorily.

SLID.—Jacob Shaaber, Reading, Pa.—This sled is so constructed that its two sides with the seat, which is made of flexible material, can be folded together and opened from each other, and in the latter position, by the simple weight of the person upon the sled, is there held and sustained.

CLAMP FOR HINGES.—Eli L. Seger and Samuel L. Smith, Yonkers, N. Y.—This clamp is intended for butt hinges, more particularly, and is so constructed that it can be placed over the leaves of a hinge when closed and so operated as to firmly and tightly hold and bind them together, thus preventing their being opened one from the other until the clamp is released.

FIRE ESCAPE.—T. S. Diblin, New York City.—This invention relates to a fire escape of that class in which a flexible ladder is employed. The invention consists in an improved manner of constructing a flexible ladder for the purpose, and in a peculiar manner of securing the windlass to the window sill, whereby the windlass, with the ladder secured upon it, may be adjusted and firmly secured in an open window very expeditiously wherever the device is required for use, the flexible ladder being unscrewed from the windlass so that the occupant of a building may descend from the open window to the ground or pavement.

CULTIVATOR.—W. A. Moody, Montezuma, Iowa.—This invention consists in an improved manner of applying the plow beams to the frame of the machine, whereby the same may be moved or adjusted with facility and be under the complete control of the device or operator. The invention also relates to an application of the double tree to the machine whereby the same may be balanced in order to relieve the necks of the draft animals of any undue weight.

ALARM MONEY DRAWER.—Ira Robbins, Hughesville, Pa.—The nature of this invention consists in constructing an alarm money drawer, which, in order to be opened, is operated upon by keys on the under side of the drawer which will cause the bolts to fall and allow the drawer to be opened by turning and pulling the handle thereof.

MILLER'S ALARM.—C. N. Taylor, Cookstown, N. J.—The object of this invention is to so arrange a miller's alarm, that as soon of the corn in the hopper descends to a certain mark the alarm will be sounded.

DIAMOND KEY.—B. F. Southgate, Bridgewater, Vt.—This invention relates to an improved key for holding cranks, shafts, and other machinery, and consists in a wedge shaped key, the section whereof is a diamond fitting into

a V-groove in the crank or shaft and into a V-groove corresponding thereto in the bearing.

PUMPS.—E. C. Kellogg, Rome, N. Y.—This invention relates to cattle or stock pumps, and is adapted for forcing water from wells by the weight of the animals when standing upon the platform suitably connected with the pump therefor.

PITCHER.—W. S. Rooney, Albany, N. Y.—This pitcher is more especially designed for sirups, and is so constructed at its nozzle as to prevent the drippings from running down the outside of the pitcher, and to convey them back into the body or reservoir of the pitcher.

CHARGES FOR SHOT POUCHES.—Columbus Johnson, Clarksville, Mo.—This charger is constructed with two tubes, one arranged to slide within the other and with the outer one provided with an opening communicating with the pouch, and an opening communicating with the discharge spout or tube, and with the inner so constructed and arranged that by pushing or forcing it in, the opening to the pouch is closed at the same time the opening to the discharge is opened, so that the shot contained within the inner tube between the openings of the outer and discharge tubes, compress to the discharge tube and thence out of it and into the barrel of the gun.

ADJUSTABLE RAIL FOR BUGGY SEATS.—James Carlisle, Mount Gilead, O.—This top rail adjusts itself to the seat by its own spring, and is there held by the fastenings with which it is provided.

MACHINE FOR SAWING WOOD.—G. C. Lathrop, Danville, Mich.—This invention relates to a hand-sawing machine, which can be operated by one man, who is seated in a swinging chair, and which can be adjusted on uneven ground, so that it will always stand in a level position.

POWDER PRESS.—William Welch, Bridgeport, Ct.—This invention relates to an improvement in the manner of securing the cap for covering the sliding box in the gate of a powder press, to the gate, said sliding box being the bearing for the eccentric shaft whereby the gate is operated.

SCALE BEAM.—Elisha P. Crain, New York City.—This invention relates to a device for strengthening the graduated lever used on platform or counter scales, so that the same may be held in its seated position, and will remain in the same.

TRACE FASTENER.—Chas. Hayden, Newark, N. J.—This invention relates to a device for attaching traces to whiffletrees, and consists in pivoting a slotted plate to the end of a pin, which is secured to the whiffletree in such a manner that the same may form a continuation of the pin, when the trace is to be attached or removed, or it will be at right angles with the same when the trace is attached, thereby securely holding the latter in position.

MACHINE FOR MAKING BUTTON RINGS.—S. B. Lane, Waterbury, Ct.—This invention relates to a machine shaping and cutting from a long wire, small pieces, or rather making from the wire small circular springs for fastening vest, and other buttons.

LEATHER-BACKED HORSE BRUSH.—Obadiah Jones, South Englewood, N. J.—This invention relates to a new kind of horse brush, and to the manner of making the same, and consists in making a leather-backed, round-faced horse brush, and in inserting a cone, which is made of one or more pieces of leather, or other suitable pliable material, between the back and face leather coverings, whereby the desired shape is given to the face cover, in which the bristles have before been secured.

HOSE COUPLING.—Albert S. Allen, Providence, R. I.—This invention relates to a new device by which the water can be easily discharged from hose, and by which firemen will be better enabled to carry such emptied hose up ladders, or along the ground or floors.

BOTTLE STOPPER.—Horace S. Carley, Cambridgeport, Mass.—This invention consists in having a slotted cork holder which can be moved up and down, being guided by a pin projecting from a ring or collar which is arranged around the neck of the bottle. The same pin carries an eccentric cam, which can be turned so as to press upon the cork holder, thereby pressing the cork into the mouth of the bottle, and holding it there.

HAY KNIFE.—H. M. Smith, Kalamazoo, Mich.—This invention relates to a hay knife for cutting hay from the mow or stack, and it consists in a peculiar construction of the knife, whereby the hay or straw may be cut from the mow or stack with the greatest facility, and with a moderate expenditure of power.

DEVICE FOR ADJUSTING THILLS IN CARRIAGES.—M. J. Melly, Roxbury, Mass.—This invention consists in constructing a peculiar-shaped lever gripe, whereby the rubber or elastic substance which is placed in contact with the thills of a buggy to prevent rattling, is compressed so that the thills are easily attached.

SELF-MEASURING CAN.—T. D. Arkle, and H. C. Green, Bridgeport, Ohio.—This invention consists in forming a measuring vessel inside a can, into which the liquid is discharged, and the quantity which it is desired to measure is indicated on the outside of the can by an index finger, which is operated by a float in the measuring vessel.

SHADE FIXTURE.—Stewart Hartshorn, New York City.—This invention relates to an improvement in that class of shade fixtures, in which the shade roller is provided with a spiral spring for automatically winding up the shade, and is designed to obviate an objection attending the original device, which consists in the unwinding of the spring whenever the shade roller is removed from its brackets or bearings, a contingency which involves the necessity of winding up the spring previous to the replacing of the roller in its bearings, and which cannot be done by an unskilled person without considerable difficulty.

FAN.—J. Bloom, New Brunswick, N. J., and A. Bloom, New York City.—This invention consists in a novel combination and arrangement in connection with gearing actuated by springs, of one or more wheels, suitable for agitating and forcing the surrounding air in one or more directions; or of one or more holders, suitable to receive the stems or handles to the fans in common use, and thus, through such holders, and the fans which they carry, produce the desired agitation of the air, either by imparting to such holders a rocking, or forward and backward, or a rotary motion.

CLOTHES DRYER.—Robert M. Morriell, Plymouth, Ind.—This invention has for its object to furnish an improved clothes dryer so constructed and arranged as to have a very large amount of drying surface in a comparatively small space and when not in use may be folded into a very small compass.

BURGLAR ALARMS.—E. F. Mallory, West Springfield, Pa.—This burglar alarm is so constructed and arranged in its several parts that as the door or window is opened to which it is applied, an alarm will be sounded.

CLOTHES PINS.—J. P. R. James, Read's Landing, Minn.—This invention consists in a novel combination and attachment of a spring to the jaws of a clothes pin whereby the spring cannot become loose, nor detached from the pin.

CENTERING TOOL.—Reuben Haworth, South New Market, N. H.—This invention consists in a spindle which is attached to the lathe which spindle holds the centering drill in its end and around which there is a sleeve which supports a centering cup which sleeve and cup are crowded forward by a spiral spring.

OIL CAN.—George Hatch, Pomeroy, Ohio.—This invention consists in placing in the can, near its top, a horizontal partition or false bottom which extends about three fourths across the diameter of the can forming thereby a recess, on which bottom or partition I place a lifting pump and a drip strainer.

UNIVERSAL JOINT.—Anton Zwiebel, Burlington, Wis.—The object of this invention is to construct a universal joint that is to be used especially on thrashing machines, which is made without projecting bolts or pins, and which can be easily taken apart for renewing the knuckle joints, when the arms are worn out.

CONSTRUCTING ORDNANCE.—T. W. Hornsby, Simpsonville, Ky.—This invention relates to a mode of constructing wrought iron and steel ordnance which may be made in whole or in part of steel, wrought iron, or any other metals that are susceptible of being worked into ordnance in conformity to this improvement.

EXTRACTING AND PURIFYING OIL.—Carl Otto Heyl, Berlin, Prussia.—The object of this invention is to extract oil from all oleaginous seeds principally by the instrumentality of a chemical agent, and the invention consists

in subjecting the crushed oleaginous seed to the action of sulphuret of carbon when the seed is placed in a vase or series of vases and in passing the products, or oil, through a distilling apparatus.

VARIABLE CUT-OFF.—J. L. Dickinson, Dubuque, Iowa.—This invention consists in placing an oscillating cut-off valve in communication with the steam chest of the engine, and in attaching to the rod or stem of the oscillating valve an arm, which is operated by two eccentric rods having different motions which are connected with the arm by means of a slide, the position of which slide on the arm is controlled by the governor, thereby cutting off the steam at an earlier or later point also decreasing or increasing the throw of the cut-off valve.

OBSTETRICAL SUPPORTER.—S. B. Manley, Cony, Pa.—This obstetrical supporter is so arranged as, in all cases of obstructions, to be efficient and serviceable, and when applied, to cause every exertion made by the patient, whether with the feet, hands, or knees, to impart all the necessary and desired assistance.

GRAIN METER.—James C. Walker, Waco Village, Texas.—In this invention the grain is poured into a cylinder shute, where, in falling, it rotates a wheel, the revolutions of which, recorded by an indicator, mark the quantity of grain.

COTTON AND HAY PRESS.—John S. Schofield, Macon, Ga.—In this invention the arms which operate the screw do not rise and fall with the screw. Secondly, the press can be worked upward or downward, by hand, by horse-power, or by any other power.

METHOD OF CASTING ALUMINUM IN FINE MOLDS.—Jas. B. Bean, Baltimore, Md.—In this invention the metal is cast into fine molds, under pressure of a high column of the metal itself, contained in a conduit of soapstone, earthen ware, or other similar substance, heated to about the melting point of the metal to be cast. The molds, at the moment of casting, are filled with hydrogen, or other gas, containing no oxygen.

CHURN.—D. C. McNeil, M.D., De Witt, Iowa.—This improvement in churns consists in a revolving dasher composed of two paddles, each consisting of two rectangular frames of unequal dimensions, set at right angles to one another upon an axis. A reciprocating motion, imparted by a treadle, operates a crank rotating the axis. The churn box is provided with a semi-cylindrical bottom in which is a faucet to run off the buttermilk. The dashers or paddles, are then removed from the churn and the butter readily removed at a single operation.

WASHBOARD.—Pierre Audain, New York City.—This invention consists in forming the corrugations or grooves on the washing or rubbing surface of a washboard, at an angle of inclination more or less great to the length of the rubbing surface, whereby the water expressed from the clothes as they are rubbed, is more freely conducted off and down into the tub in which the board is placed.

Answers to Correspondents.

CORRESPONDENTS who expect to receive answers to their letters must, in all cases, sign their names. We have a right to know those who seek information, from us, besides, as sometimes happens, we may prefer to address the correspondent by mail.

SPECIAL NOTE.—This column is designed for the general interest and instruction of our readers, and for gratifying replies to questions of a purely business or personal nature. We will publish such inquiries, however, when paid for as advertisements at 50 cents a line, under the head of "Business and Personal."

All reference to back numbers should be by volume and page.

Jones.—"I have finally cured my boots of squeaking; not however, as two correspondents recommended, by driving pegs into the soles, as that did no good whatever, but by saturating the soles with wood-chuck's oil." We all unite in congratulations. Our friend now steps as softly as a kitten.

J. L. W.—"Correspondents frequently use such words as gum, pitch, turpentine, oil, spirits, etc. These are generic terms; what do they mean when used specifically? If correspondents would be more definite and tell us what kind of gum, pitch, etc., they mean they would make themselves more intelligible to their readers." A good hint.

J. C. B., of Ill.—India-rubber in strips makes a good joint for the glass of an aquarium. The glass and rubber are held together by a rigid frame work of wood or metal.

H. W., of Pa.—The mineral is iron pyrites. It is not likely that you will find a deposit of coal in your neighborhood.

R. G., of Conn.—The best explanation of the hardness of specimens of ancient mortar is its antiquity. Mortars and cements containing silica in favoring circumstances are constantly progressing in improvement. The information which the ancients had about mortars has received important additions in modern times.

S. J., of N. Y.—We are not aware that mellite or honey-stone has been found in America. It is a very rare mineral. . . Please send your new method of estimating barium.

A. L., of Pa.—In the Holtz electrical machine, the inductors are pasted on to the spear head insulators, by means of shellac, varnish or gum arabic, and on the side of the spearhead toward the revolving plate.

J. B. U., of Md.—We advise you to get Silliman's Chemistry and Ganot's Physics. In these books you will find the information you seek, fully and plainly set forth.

J. C., of Mo.—Soldering irons or any thing else might be heated by galvanic electricity. The only drawback is that this sort of heat would cost a hundred times more than coal or gas heat.

N. G., of O.—The mixture of oxide and chloride of zinc has been much used by the dentists under the name of artificial bone, osteoplastic and other fanciful names for filling teeth. The objections to it for that purpose are that it contracts on hardening and that it is somewhat soluble in the liquids of the mouth. If the cement were cheap enough it might be extensively used for other purposes.

A. E. S., of N. Y.—You have re-invented the electro-magnetic engine of Dr. Charles G. Page. Such engines have been built on the large scale and are probably as good as any other engine depending upon electricity. In the present state of our knowledge electricity costs too much to be used as a motive power.

D. & P., of Mich., want a cheap preparation to make the shingle roof fire proof of a factory where shavings and saw dust are used as fuel under the boiler. We suggest a trial of a strong solution of chloride of calcium or of magnesium to be occasionally, and especially after rains washed over the roof. These substances are powerful absorbents of water and will keep the roof wet. They are waste products in several large chemical manufactures, where they are thrown away.

Business and Personal.

The charge for insertion under this head is 50 cents a line.

For Sale—Foulds' Automatic Hinge for Window Shutters.—This is the most convenient window-shutter hinge ever invented. There being no danger of breaking hinges and dropping shutters, as is very often the case now. The entire right for sale low, or will sell the Eastern and New England States. Address Cherry & Eckman, Cleveland, Ohio.

Proprietors of Planing Mills having in use a Gray & Wood Planer will please send their address to David R. Miler, 109 Faxon street, Harrisburg, Pa.

G.M. Danforth & Co., Inventors' Exchange, see advertisement.

New invention. A potato digger which puts the potatoes in a bag and the small ones apart in a box. The original was made by a blacksmith at very little cost, which will be saved by the work on three acres of potatoes. Patent rights to sell: C. G. Grabo. Address care of Schober Bro., Detroit, Mich.