

RECENTLY PATENTED INVENTIONS.

Engineering.

PROPELLING VESSELS.—Conrad Odinet, New York City. According to this improvement the bottom of the hull is made with a central lengthwise housing, divided from bow to stern by the keel so as to form two lengthwise channels, in which are gates operated from the interior of the hull, shafts carrying propellers being also journaled in and extending the length of the channels, and these shafts being geared with vertical shafts operated by a motor within the vessel. With this construction the vessel may be turned as on a pivot, the propellers being capable of acting substantially as a rudder, and the plan is designed to give increased speed with a moderate expenditure of power. To adopt this improvement no changes are necessary in the present method of hull construction, except to provide for the longitudinal housing on the bottom of the hull.

EXCAVATOR.—Francis M. Phillips and Eugene Stebinger, Portland, Oregon. This is a machine in which provision is made for breaking the earth by a plow, when it is conducted by scrapers or pocket wheels and delivered to a basin, being taken from the basin by an elevator and carried to a conveyor, from whence it is delivered at one side of the machine into any suitable receptacle. The machine may also be used as a scraper, ditcher, or wagon loader, and with slight modifications may be used for cleaning streets or roads.

Railway Appliances.

CAR BRAKE.—Benjamin F. Jackson, Sutton, West Va. This brake comprises transverse brake bars carrying shoes, the bars having springs holding them normally in engagement with the wheels, and connected rods being adapted, when moved in opposite directions, to throw off the brakes and place the springs under tension. The rods are operated by a lever mechanism to hold the brake shoes out of engagement when the car is in motion. The entire apparatus is strong, simple and inexpensive, and adapted to quickly stop a car without putting too much strain on the running gear or on the brake itself.

ELECTRIC SIGNAL DEVICE.—George F. and F. K. Singer, Steubenville, Ohio. This invention provides for a battery, and an alarm at each end of the train, the batteries and signals being in circuit wires coupled by two casings in which are novel contact devices, and the couplings being drawn apart should one car be separated from another, thus sounding a signal on the engine and on one or more cars. It is designed for use also on passenger trains as a signal to the engineer and a return signal to the conductor, or vice versa, where the train may be stopped at flag stations, doing away with the need of using the whistle in villages, and may also be employed to give an alarm to the engineer should a car door or brake beam be hanging, or should there be other derangement liable to endanger the train. The equipment is designed to be inexpensive, is useful on freight as well as passenger trains, and is arranged to facilitate train signaling in every way.

RAILROAD SCREW JACK.—Alexander H. Moyes, Ogden, Utah. This invention relates to a formerly patented invention of the same inventor, and provides a jack more especially adapted for jacking up cars, engines, journal boxes, etc. It has an interiorly screw-threaded casing with exterior annular teeth, a post operating in the casing and a sleeve loosely embracing it, but having at its upper portion an internal tooth engaging the annular teeth, while an arm projecting from the sleeve is adapted to engage the wheel rim to hold the wheel down to the rail while jacking up the journal.

Mechanical.

PIPE WRENCH.—Julius Richard and Frederick Colman, Bisbee, Ariz. This is a chain wrench having links adapted to be brought into engagement with a pipe, the links having concave inner faces and being so formed that they will fit snugly almost entirely around the pipe, their continuous and even bearing preventing the pipe from being crushed while being subjected to the force necessary to turn it. The chain body of the wrench is provided with a lever by means of which the pipe is tightly clamped when the lever is moved in one direction, the pipe being released from clamping engagement when the lever is moved backward. The construction of the wrench is such that it may be conveniently used where pipes are close together or near a wall or partition, and the lever may be readily disconnected from the other portions of the wrench.

RATCHET WRENCH.—Edward T. Ward, Maiden, Montana. Within a band carried by the handle of this wrench is a revolving frame carrying a removable sliding jaw, a cog ring revoluble within the frame meshing with a pinion, there being means for turning the cog ring and moving the frame with the handle. The several parts are readily separable one from the other, and the wrench may be quickly changed to operate either to the right or left. It may be conveniently used in a very small space, as in boilers, stoves, etc.

NUT LOCK.—William H. Fossett, Walsenburg, Col. This is a nut lock of the ratchet type, and is adapted to secure a nut at any desired point on a bolt when suitably adjusted on the threaded body of the bolt. The bolt is longitudinally grooved and the nut has a recess in which is a pivoted dog with a toe arranged to engage the groove in the bolt. A spring normally holding the dog in engagement therewith, and the spring and dog being moved out of engagement by means of a nail or any simple tool.

Miscellaneous.

HINGE.—Louis Bartelmes, Brooklyn, N. Y. This is a hinge particularly adapted for use in connection with the box section of couches, serving, in addition to controlling the throw of the cover, to hold the cover locked in either open or closed position. It has two toggle links, each composed of two pivotally connected members, the adjacent ends of the links being pivoted to each other, and a coiled spring carried by one link having its terminals respectively connected to the outer portions of the members of the link.

BRAKE SHOE.—Alva A. Lindley, Oskaloosa, Iowa. This is a shoe designed to be held perfectly rigid to the brake head, preventing a tilting of the shoe and uneven wear of its bearing face. It has a tapering extension from the central portion of its forward face adapted to fit a tapering slot formed in the head, in which it is held by a locking pin, and should the shoe work loose from the head, it will drop outside the path of the wheels.

GARMENT.—Otte Van Oostrum, Portland, Oregon. This invention is applicable to vests, trousers, jackets, etc., providing means whereby the usual open portion will be held closed in an efficient manner and present a neater appearance than when fastened in the usual way. An inner flap is secured along one of the edge portions, the latter being made to abut, and the flap extends under the opposing edge, on the under surface of which are fasteners, to which are attached fasteners on the flap. An operating cord is connected with one of the series of fasteners for simultaneously releasing them.

GARMENT FASTENERS.—The above inventor has likewise obtained three different patents on garment fasteners, to be secured to wearing apparel, including gloves, corsets, shoes, suspenders, etc., and arranged to be released simultaneously by means of a cord or chain connected to certain parts of the fasteners. In these fasteners a member has a slotted top plate and is provided with a series of locking pieces adapted for engagement with a stud, one of the locking pieces being reversed to engage and disengage the stud, which has a head projecting beyond the shank and a socket member having a keyhole offset with a spring acted follower at its larger end, the stud being movable into the narrowed portion of the orifice, and the follower exerting a pressure toward such portion. Another provision is for a button member comprising a plate having an orifice, and a second spring acted plate radially slitted and carrying a stud adapted to be projected through the orifice of the first plate, an arrangement according to which there will be little or no projection of the parts at the inside of the garment, thereby insuring a better set.

BATTER MIXER.—Stephen H. Coombs, Helena, Mont. This is a device provided with beaters which operate rapidly in opposite directions, with both a vertical and lateral throw, thus thoroughly and quickly whipping cream, beating eggs and stirring batter, etc. It comprises a frame having parallel legs, on which guide blocks are adjustably mounted, while the beaters have side members movable through guide eyes on the blocks, the beaters being operated by rotating gearing and being adjustable for a greater or less throw, according to the character of the material operated upon.

SHAVING MUG.—Bernard G. Savage and Albert C. L. Loughran, Victor, Col. This mug has a mirror detachably connected with its bottom and forming the permanent base of the mug, and the cover is adapted to be screwed on and fit closely to the top. In the center of the cover is a threaded opening, which receives the threaded ferrule of the brush handle, the brush portion extending down into the mug. The handle also has a recess for the accommodation of a stick of cosmetic or like material. The mug may be conveniently and safely packed.

BOTTLE STOPPER.—Henry Friedman, New York City, and Herman M. Koebel, Brooklyn, N. Y. This stopper has a casing with the lower portion internally threaded and slotted semispherical upper end, while a ball valve with a central bore has a discharge pipe extending out through the slot of the casing and serving as a handle for manipulating the valve. A stopper proper is provided with a central pipe and screws into the casing, with its upper end in contact with the valve and forming a seat therefor. The stopper is very serviceable on bottles containing liquids liable to evaporate.

ANIMAL TRAP.—Ferdinand E. Krauth, Hebron, North Dakota. This is a self setting trap more especially designed for trapping mice, rats, gophers and other small animals. It comprises a box with two compartments, and a bottom opening between them, a guard at the passage on one side and on the other side an L-shaped tilting trap having a weight to return it to its normal position, while a swinging gate pivoted near the inner end of the trap has at its front side a leg supporting the trap and at the opposite side a feed box. The gate and bait receptacle are preferably made of a single piece of sheet metal.

BICYCLE ATTACHMENT.—John G. McNaughton, Salisbury, N. C. To prevent mud from being thrown by the rear wheel upon the rider and to protect the skirts of a lady and prevent them from being blown about by the wind or being caught in the chain or wheel, this inventor has devised a mud guard having hinged wings on each side to act as guards and a shield for the legs, the guard being preferably constructed in the form of an eagle bending over the rear wheel, his head pointing rearward and his wings extending outwardly on each side. The guard is rigidly mounted on the lower side bars and the braces which extend from the bearing of the rear wheel to the saddle post.

POWER TRANSMITTING DEVICE FOR BICYCLES, ETC.—Charles F. Dinkle, Carlisle, Pa. This device, which is also adapted for use on light machinery, consists principally of a ratchet wheel secured to the shaft or axle, a transmitting wheel loosely surrounding the ratchet wheel, while a series of toothed wedges held in wedge-shaped recesses in the transmitting wheel are adapted to engage the ratchet wheel. When the improvement is applied to a bicycle it permits the rider to coast with the feet on the pedals, the latter remaining stationary while the drive wheel continues to run by the momentum of the wheel. When the rider again commences to work the pedals their motion is transmitted to the drive wheel as usual.

CARBONATING DEVICE.—John W. Seavolt, Lock 53, Md. This is a device for attachment to beer kegs, barrels, etc., for automatically discharging carbonic acid gas into the receptacles as the liquid contents are drawn off, thus keeping the remaining liquid under pressure and in good condition. A receptacle containing carbonic acid gas under pressure has an inner cylinder in which slides a spring-pressed piston, arranged to automatically establish and cut off communica-

tion between the receptacle and the keg or barrel, an operation which is repeated whenever part of the contents of the keg or barrel is withdrawn. The casing of the carbonating device is adapted to be secured to one of the heads of the keg or barrel, and project into its interior, taking up but little space.

SIGHT FOR FIREARMS.—Charles G. Thunen, Oroville, Cal. This invention provides sights especially designed for close and accurate sighting, while not obstructing the view of the object aimed at. The sight comprises two transparent disks, the front one having a small opaque spot in the line of sight and the rear one having a hole concentric therewith, with its edge countersunk and coated with some opaque substance. The mounting may be of any of the usual forms, the sights being applicable to any form of mounting.

WEIGHING AND REGISTERING MACHINE.—George A. Hanna and Frank E. Fairman, Whittemore, Iowa. This is a machine more especially designed for weighing and registering liquids, as skimmed milk at a creamery, and is arranged to automatically deliver to the milkman the quantity of skimmed milk due him, from the milk originally brought to the creamery. The scale beam carries a skim milk receptacle having lever-controlled inlet and outlet valves, a tripping device actuated from the scale beam being connected with the lever. Special means are provided for resetting the tripping device and actuating the lever, setting it in position to close the outlet valve and open the inlet valve.

CONFECTIONERY MACHINE.—Simeon J. Hicks, Chicago, Ill. This invention is for an improvement on a formerly patented invention of the same inventor, and provides a machine to readily cut into small pieces a drawn and flattened piece of candy and remove the cut pieces from the knife. The machine has horizontally arranged fixed knives above which are movable knives, a comb extending across and having its teeth projecting between the fixed knives, there being means for reciprocating the comb over the fixed knives on the return movement of the movable knives.

MECHANISM FOR WIRING BASKETS.—George B. Thayer and Erskine D. Wheeler, Benton Harbor, Mich. For wiring or stapling fruit and other baskets or boxes this invention provides a staple driving machine, the frame of which forms a bearing for a pair of reciprocal rods carrying a rigid crosshead on which is a staple-clinching anvil, a rotatable crosshead being connected with the rigid crosshead, while a basket form has sliding bearing on the rotary crosshead. The basket and its form are held in position while the staples are inserted and clinched by a lever which is rocked by a treadle, leaving the hands of the operator free to attend to other parts of the work.

EASEL ATTACHMENT.—George A. Robbins, Slate Hill, N. Y. This is a convenient device for holding sketches or drawings from which a finished picture is to be made, means being also provided for holding drawing or painting materials. A bar is adjustably mounted on an arm having a clamp for engaging an easel, a telescopic bar extending vertically from and adjustable with relation to the first bar, while a telescopic bar is mounted horizontally on the vertical bar, there being a picture-holding clamp on each member of the horizontal bar.

DRAWER FOR DOCUMENTS, ETC.—Thomas G. Knight, Rockville Center, N. Y. In this drawer documents and index cards may be held to be accessible without completely removing them, or disturbing the arrangement and parts of the box. Its sides are cut out at the top, and at one side is a removable pivot rod adjacent to a cut out portion, while transverse receptacles adapted to contain the documents have each a perforated upper corner opposite its open end, enabling the receptacles to be fulcrumed and swing upward on the rod. Index cards are similarly fulcrumed on the rod, and may be readily swung up for examination without being removed from the drawer.

INHALER MASK.—Alfred Orr and Andrew W. Chapman, Charleston, Mo. A hood covers the head in an airtight manner, according to this improvement, an outer inhaling tube having an apertured mouthpiece extending within the tube, the inhaling tube having openings for the admission of air to the interior of the tube, while a second tube of thin and collapsible material, as a conductor for expired air, is secured within the first tube and connected with the mouthpiece. The apparatus is very light and can be folded in small bulk, is preferably made of rubber, and, while in use, does not interfere with the hands of the operator. It affords perfect protection to the wearer when exposed to infected air or pernicious gases.

JAR CLOSURE.—Frank H. Palmer, Brooklyn, N. Y. This patent is for an improvement on a formerly patented invention of the same inventor. The jar has an annular shoulder, and in the convex outer surface of the cover are grooves at right angles to each other in which lie spring bails whose inwardly bent ends engage the shoulder of the jar. One bail has at its middle a downward bend to receive the other bail, the body portions of the bails lying in the grooves, with their upper surfaces flush with the upper surface of the cover, and a seal is secured to the cover over the bails.

BOTTLE STOPPER.—Alfred L. Bernard, Evansville, Ind. This stopper is formed of a soft, flat rubber body or disk, having a central vertical opening lined with a rigid tube adapted for the reception of an extracting tool, the disk being adapted for compression within a bottle neck and direct engagement with a shoulder therein, and an independent protector being applied to and secured on the lower side of the disk to cover the open end of the tube. The stopper is driven into the bottle neck by mechanical pressure and then perforates its functions when forced upward against an annular seat by the pressure of the gas confined in the bottle. The seal may be bodily extracted with great ease, and corrosion of metal and leakage are entirely prevented.

BRUSH.—Aloys Schuck, Brooklyn, N. Y. To form a brush in which the stock will be firmly held, this inventor employs a cone or funnel, the apex of which is stamped or spun down to produce a ferrule in

which the handle is fixed, the stock being bundled at one end and permeated with cement and then projected into the smaller portion of the funnel directly below the handle. When the parts are thus arranged the funnel is stamped down at its larger or lowermost portion to a flat form, spreading the bristles.

MOLASSES PITCHER.—Silas P. Brown, Canova, South Dakota. This is a pitcher for table use, freely delivering its contents, but preventing any exterior escape of slight drippings, which are returned to the body of the pitcher. The pitcher has a hinged lid adapted to cut off the flow from the lip, beneath which is a trough communicating with the interior, while an exterior cover receives the other part of the pitcher and is hinged to the same pivot as the lid, the cover having a thumb piece projecting between limbs of the lid.

MEANS FOR OPERATING FANS, ETC.—Alfredo, Antonio D. and Marcos Flores, San Antonio, Texas. This invention is for a light and simple apparatus in which a suitable frame carries a ratchet and pawl mechanism to work a rotative gearing operating a fan, rotate a bottle cleaning brush, or other similar work, a spring lever being pivoted to the handle of the frame, and the apparatus being driven by pressure of the thumb applied intermittently to the lever.

TOBACCO PIPE.—Henry Hunt and Henry Hunt, Jr., Wilkesbarre, Pa. This pipe has an elongated tubular mouthpiece extending nearly to the bowl and inclosing the stem proper, in the top of which is a groove forming a smoke passage, while a groove on the under side forms a receptacle for moisture. A ferrule frictionally connects the stem and mouthpiece, without screw connections, and the mouthpiece is readily removed to facilitate thorough cleaning.

INSECT TRAP.—Thomas R. L. Daugherty and Andrew M. Cowart, Punta Gorda, Fla. For roaches, flies and similar pests, these inventors have devised a trap of semicircular shape, with flat sides and rounded portion covered by wire netting, having cone-shaped entrances by which insects may enter but preventing their escape. The trap has a sliding bottom, and when filled may be placed over a fire and the bottom removed to destroy the vermin.

Designs.

EXERCISING CLUB.—Alfred M. Heydrick, South Norwalk, Conn. This club is in the form of a bar having enlarged tapering end portions, of a contour similar to that of an Indian club.

NOTE.—Copies of any of the above patents will be furnished by Munn & Co. for 10 cents each. Please send name of the patentee, title of invention, and date of this paper.

NEW BOOKS AND PUBLICATIONS.

BULLETIN 44. West Virginia Agricultural Experiment Station, Morgantown, West Virginia. **PRACTICAL ENTOMOLOGY.** Insects injurious to farm and garden crops. The character of the injury. The insect causing it. The remedy briefly and plainly stated. A. D. Hopkins and W. J. Rumsey, Charleston: Moses W. Donnelly, Public Printer. April, 1896. Pp. 325.

We note the reception from West Virginia Agricultural Experiment Station of this pamphlet. It gives an indication of the study of the new entomology and the conversion of the old entomology into an every day useful science.

INFALLIBLE LOGIC. A visible and automatic system of reasoning. By Thomas D. Hawley, Lansing, Mich.: Robert Smith Printing Company. 1896. Pp. xxviii, 659. Price \$5.

In this work, we find logic treated from the student of geometry standpoint. The author has worked so hard and has given such elaborate treatment to the subject that we feel in a certain sense guilty in not being able to give the book an adequate review. The examples are not only very interesting, but they show that the species of geometrical construction termed by the author his reasoning frame has really very practical application to the methods of reasoning and of reaching conclusions. We are convinced that the work will repay study, and the examples and fallacies make a thoroughly interesting section. The historical notes are of decided value. The notes of the different logicians, with extracts from typical works, are excellent. An index is included. The conservatism of the author is shown by the fact that he accepts the view of authorities that Aristotle was the first scientific logician.

L'AMELIORATION DES PORTES DE FER ET DES AUTRES CATARACTES DU BAS-DANUBE. Par Bela de Gonda. Avec un plan et 100 illustrations. Budapest: Imprimerie Orszaggyulesi Ertesito. 1896. Pp. iv, 265.

We have given considerable space in our columns to the improvement of the iron gates of the Danube. It is with great pleasure that we note the reception from M. Bela de Gonda of his work on the subject, profusely illustrated and with full engineering details. It will be found a most useful work for civil engineers and its views of natural scenery will make it of interest to the public at large.

THE INTERNATIONAL ANNUAL OF ANTHONY'S PHOTOGRAPHIC BULLETIN. Edited by Frederick J. Harrison. New York: E. & H. T. Anthony & Company. 1897. Pp. 304. Price \$1.

This annual appears in its usual excellent letterpress and contains numerous articles and suggestions on the details of various branches of photographic work, full of value and usefulness to the photographer. The latter half of the book refers more particularly to a description of processes and formulas bearing on photoengraving, process work, etc., with a directory of photographic societies. In addition to this there are many illustrations, some of which are interesting and instructive.