

## RECENTLY PATENTED INVENTIONS.

## Railway Appliances.

**CAR COUPLING.**—Eugene Geant, Fort Logan, Col. On the laterally-swinging longitudinally-yielding drawhead provided by this invention is pivoted a clasp having an eye and depending flaring sides, the prongs of the clasp when it swings downward locking the coupled drawbars, the outer end of each of which has a rounded-off end and an inclined shoulder adapted to engage a similar shoulder on the opposite drawbar. The device permits an easy coupling and uncoupling without the operator passing between the cars, and each head is adapted to receive an ordinary coupling link to be coupled with a car having the ordinary link and pin coupling.

**SIGNAL AND STAND.**—George T. Brown, Sedalia, Mo. This is an improved device for carrying signal flags on the front part of a locomotive. It consists of a cylindrical column containing several tubular chambers, and with an outside socket at its base, the flags of different colors, rolled on their shafts, being kept in the chambers, for which there is a removable cap piece, having also an outside socket. The latter socket and the one in the base form supports for the staff of the flag being displayed.

## Mechanical Appliances.

**ELECTRIC MOTOR.**—William M. Dresskell, Brainerd, Minn. This motor may be operated by an alternating or direct current, the sections of the commutator being readily removed and replaced without disarranging the adjustments of the machine. A multipolar field magnet is formed of laminated circular segments held in position by clamping rings and bolts, the multipolar armature having a less number of poles than the field magnet, while the commutator is formed of a series of disks with their contact surfaces arranged with reference to the poles of the armature, to reverse the polarity of the armature as many times during its revolution as there are field magnet poles. A simple and efficient switch is provided for reversing the current in the field magnet.

**WATER MOTOR.**—William E. Seelye, Brainerd, Minn. This wheel has an outer rim divided into a number of curved buckets, having their larger openings inward, from which direction the water enters, the discharge being through the outer or smaller ends, the force of the water being applied near the circumference of the wheel. Means are provided for delivering the water in solid columns to the wheel buckets, and the invention includes a peculiar form of gate which enables the motor to be easily and nicely controlled.

**FLUME GATE.**—Stephen M. Irvin, San Bernardino, Cal. This is a gate of simple and durable construction, arranged to prevent leakage and to permit of conveniently cleaning the flume in case the latter is clogged with sand. The improvement consists of a cap adapted to close an opening in the bottom or side of the flume, a spring lever connected with the cap being pivoted on the flume and at all times pressing the cap securely in position to prevent leakage. The cap is moved to the side of the opening to clean the flume.

**CHAIN WRENCH.**—William H. Brock, Brooklyn, N. Y. This wrench has a convex shoe and a concave pipe-receiving depression in the rear of and adjacent to the shoe, there being a chain pivotally connected with the wrench body at the rear end of the depression, which extends transversely of the wrench completely from side to side and of a length to accommodate the pipe and cause the latter to tighten the chain when the pipe is brought from the concave depression to the forward position on the convex shoe. The wrench is strong and light, may be cheaply produced, and possesses practical advantages in being narrower than such wrenches usually are, while having the strength of a broader tool.

**COUNTERBALANCING COLLAR.**—Watson T. Webb, Salt Lake City, Utah Ter. This is an improvement on a former patented invention of the same inventor, relating to combined eccentric counterbalancing collars and shaper guards, and is especially adapted to counterbalance the cutters on the spindles of wood-working and other machines. The collar is secured on the cutter-spindle, and a series of weights is held adjustably on the collar, lighter or heavier weights being used to compensate for the increased or decreased weight of the cutters on the head.

**ROTARY MACHINE REVERSING MECHANISM.**—John G. Johnson, Chester, Pa. This invention is distinctive in the fact that the driving motion is always taken from one or the other of two loose pulleys on opposite sides of an idle pulley fixed on its shaft. Only a single belt is required, and in driving either one of the loose pulleys it is made to lap partly over on the middle or idle pulley, so that only a small range of movement is required for shifting. The improvement is designed more particularly for imparting an alternately reversed rotation to the revolving shaft of steam washing machines.

**PULP GRINDING MACHINE FEED.**—Albert H. Lefebvre, Watertown, N. Y. This is a hydraulic feed for wood-pulp grinding machines for making paper pulp from wood blocks, and is arranged to quickly return the follower after the wood block is ground up, the machine being very simple and durable in construction and designed to be very effective in operation. A cylinder is adapted to be connected at one end alternately with water supply and an overflow, a piston carrying the follower sliding in the cylinder, while a spring presses on the piston opposite the inlet to the cylinder. All packing and stuffing boxes, etc., are dispensed with, and a quick discharge of the water in the cylinder takes place by the action of the spring on the piston.

**COUNTER SKIVING MACHINE.**—Michael C. Bowman, Albert F. Rose, and Cyrus B. Morse, New York City. This is a machine for shaving or beveling or feather-edging the edges of counters for boots and shoes. It has a rotary work holder, by which the

operator may replace finished counters, while others are being operated on by the cutters, the work holder being automatically raised at the proper moment to move the work out of contact with the cutters, while there is also a novel arrangement of rotary cutters which are automatically caused to traverse the counters presented by the work holder and returned for the next cutting movement.

**A MACHINE TO TREAT LEAF TOBACCO.**—Charles A. Snyder, Danville, Va. This is a machine for treating the tobacco preparatory to its manufacture into plug, fine-cut, smoking tobacco, wrappers, etc. The tobacco is first subjected to and thoroughly dusted in an air bath, then treated with the desired preparations and solutions, admitted by valves in nicely regulated quantities, and afterward dried, the tobacco passing by gravity through the machine. Near the discharge end of the machine is a pipe adapted to discharge dry or powdered flavoring onto the tobacco.

## Agricultural.

**HAND BINDER.**—Arthur Morris, Rockefeller, Ill. The guide plate, held in the left hand, has a recess at its forward end and a clamping device, while a gripping implement of pincher-like pattern is carried in the right hand, having spring-pressed handles pivotally connected and concentrically curved beaks at one end of the handles. The implement is provided with a cutting blade which does not interfere with the movement of the handles or beaks. The device affords a ready means for quickly tying sheaves of grain and securely knotting the cord.

**BROODER.**—Charles E. Watkins, Harvard, Mass. The brooding chamber is circular, and has a surrounding casing forming an intermediate water space, there being a lamp chamber below the casing, with an off-take pipe leading from the lamp chamber, and pipes for supplying air to and discharging it from the brooding chamber. The brooding chamber is thus well ventilated and equally heated on all sides.

## Miscellaneous.

**MEASURING FAUCET.**—Cyrus W. Steinmetz, Harrisburg, Pa. This faucet has a valve casing having a longitudinal slot on one side and a series of short slots on the other, measuring pockets being connected with the casing by short slots, while an outlet pipe opens from the valve casing, a revolvable hollow valve having aligning slots registering with the slots and the outlet pipe. The device may be arranged within any liquid-containing tank, and is adapted to draw off any desired quantity of liquor, having also a dial and indicator to tell how much liquor is to be drawn.

**WAGON BRAKE.**—Enoch G. and William A. Haney, Media, Kansas. The free and unobstructed movement of the brake levers, to move the brake shoes far enough from the wheels to prevent their blocking with mud, is provided for by this improvement. Longitudinal bars secured to the sills of the wagon body have downwardly extending keepers carrying pivots for the brake levers. The brake may be put on and taken off without in any way disturbing the box, straps, or sides of the box or wagon body, and relieves them of undue strain.

**PREPARATION FOR BEVERAGES.**—Adele S. Krueger, of Hannahfield, Lenzie, near Glasgow, Scotland. This preparation is formed of celery, dried, roasted and ground, and, when prepared as directed, is designed to be a valuable medicinal beverage in the treatment of rheumatism and nervous disorders, and as an anti-scorbutic.

**CAN WASHER.**—Charles H. Southard, Preston, N. Y. Extending from one side into a water trough adapted to receive the can lying on its side is a shaft on which is an expansion brush, arranged to be expanded within the can by the pressure of the can on the brush. The improvement affords a simple and efficient machine especially designed for cleaning small-topped milk cans used for shipping milk by railroad.

**INSECT CATCHER.**—William A. McAdams, Brooklyn, N. Y. Attached to a hoop having a handle is a conical net having at its apex an elastic bulb or pouch having a neck and an aperture for the escape of air. The net is carried rapidly through the air to follow the insect in its flight, thus forcing the insect into and through the neck of the bulb, the latter being removable for the purpose of disposing of the insects caught.

**COOLING AND FILTERING WATER.**—Albert Smith, Colorado Springs, Col. This invention relates to cooling and filtering water from which ice is to be made, before the water goes to the freezing cans. Solid or foreign matters are precipitated in a storage tank by suitable chemicals, a pipe leading thence through a filter to a cooling tank. The latter has a coil supplied with brine from a freezing tank, and in the cooling tank is revolved a shaft carrying agitating blades, gently agitating the water to more thoroughly subject it to the action of the cooling coil and facilitate its giving off the contained air, the air being exhausted by a vacuum pump at the top.

**RING HOLDER.**—Julius Smith, Tom's River, N. J. This device has a raised or hollow base having a recess in the upper side at one end, the recess having a bottom wall and a back wall with a slot, while there is a spring within the base and projecting at one end through the slot and across the bottom wall of the recess. The holder is adjustable, and designed to be arranged in a tray, case, or other convenient way to hold any kind of ring, or any kind of jewelry having a ring or loop attached thereto, holding the ring or other article in a way to exhibit it to advantage.

**COAL CHUTE.**—Gustavus L. Stuebner, Long Island City, N. Y. This chute consists of a tubular column with openings at intervals in its length and a hopper at its upper end, doors being hinged to swing over and from the openings, so that coal delivered to the chute may be drawn out at any desired height from the ground in sufficient quantities to provide

space above at the top for one load of coal, preventing coal from becoming broken when dumped into the chute by providing that it may fall only a short distance. Any of the doors in the chute may be readily opened from the dumping platform.

**DAVIT HOOK.**—Samuel B. Butler, New York City. The body of this hook slides in an enveloping sleeve, a spiral spring on the hook body engaging a projection on the sleeve and a washer plate, while a tripping nose piece is pivoted below on a lateral limb of the hook body, there being a locking device for the hook nose piece which prevents it from vibrating when it is loaded. The hook is designed to engage the block and suspending ring of the boat fall ropes, so as to automatically release the ring as soon as the weight of the suspended boat and its load is upborne by the water of floatage, a single block tackle being used as well as a single davit hook.

**SACK.**—Harry V. W. Stivers and James Hoagland, Camden, N. J. Sacks for holding grain are by this improvement provided with a tie which can be quickly and conveniently manipulated, and which will securely close the mouth of the sack, the latter having handles at opposite sides to facilitate moving it. The band forming the tie is attached to the sack, and has on one end a hook adapted to engage apertures, preferably eyleted in the other end of the band as the sack is closed.

**ATOMIZER.**—Harley M. Dunlap, Battle Creek, Mich. This device consists of a two-part spraying tube, having a side opening in the lower member and a hollow coupling connecting the two members, the coupling having a side opening to register with the side opening in the tube. This atomizer is easily taken apart and put together, especially adapting it for use in producing balsamic sprays, the solutions of which are apt to clog spraying tubes.

**FIRE ESCAPE.**—Patrick Lynch, Jr., Superior, Wis. This escape has upper and lower strong hangers attached to and projecting out from the building, and in these hangers are journaled shafts carrying sprocket wheels and chains connected by rungs to form an endless flexible ladder, with steps hinged to the rungs. In addition to the steps are bail-shaped guards in which a person may rest when standing on the steps. The escape is intended to work automatically, but where the weight is insufficient to work it a crank shaft may be employed, people stepping from the window upon the escape, and the rapidity of their descent being controlled by a simple brake mechanism.

**BRIDLE ATTACHMENT.**—Joseph W. Peace, Rhea Springs, Tenn. The cheek pieces of the bridle, according to this improvement, have snap hooks at their ends, while a brace band is secured to the cheek pieces below the brow band, and the nose band has rings at opposite sides with which the snap hooks engage. A simple, convenient, and handsome bridle is thus produced, which may be quickly and easily changed from a blind driving bridle into an open riding bridle, or *vice versa* while it may also be easily converted into a good halter, and is adapted for use as a hoppel.

**SLEIGH BRAKE.**—David Collard, Hope, Idaho. A transverse brake shaft is journaled in bearings in the upper horizontal portion of the usual truss braces of the runners, this shaft being conveniently operated by a lever within easy reach of one in the sleigh, and the shaft carrying a gear wheel meshing with teeth on a nearly vertical bar, sliding in sockets, and the lower end of which forms the brake shoe. The construction is simple and the brake may be readily manipulated, while it may be attached to a sleigh in such a manner as not to weaken the runners.

**CIGAR LIGHTER.**—Franz Michl, New York City. This device consists of two tubes open at their ends and connected by an intervening plate, a cord or wick with attached chain being movable through one of the tubes, while in the other tube is a bottle having a stopper with a downwardly projecting needle. In the bottle is an alloy of sodium, potassium and zinc, and on touching a drawn-out end of the cord with the needle containing a small portion of the alloy the cord takes fire. The needle is replaced in the bottle and the cord drawn back into its tube to extinguish the flame, when the lighter may be returned to the pocket.

**BUTTON EXHIBITOR.**—Samuel T. Mosser, Abingdon, Ill. This device consists of a screen-covered cylinder, mounted to revolve in a case, a series of button-carrying brackets with hooks engaging the meshes of the cylinder to hold the brackets in place. The improvement is designed to afford a simple means to show to advantage a large quantity of goods, keeping them out of the dust and dirt, and holding them in such a way that any of the goods may be reached and removed when desired.

**WASHING MACHINE.**—John P. Hallsten and Charles J. Anderson, Rock Island, Ill. This is a double-acting machine in which rubbing boards are made to rub on both sides of the clothing at the same time, in the same manner as clothing is rubbed upon a washboard by hand, the work being more easily and rapidly done. The tube is formed with toothed cleats and reciprocating rubber boards, the upper board having on its upper side rollers upon which bears a spring-pressed bar. The rubbing boards are simultaneously moved in opposite directions by the operation of a lever, the clothes being rubbed between them.

**WASH BOARD.**—John C. Gearhart, Williamsport, Pa. This board has a removable and reversible rubbing plate, grooved or corrugated on its opposite faces, the main frame receiving laterally through or within it the marginal portions of the plate. An adjustable slide closes the slot in the side upright for the entry and removal of the plate.

**CLOTHES LINE.**—Jonathan W. Cadwell, Meriden, Conn. This is an improvement in clothes lines designed to extend from a window to an

outer support, providing a device which will permit the washed clothes to be secured on an auxiliary line within the house, and affording convenient means for the attachment of this auxiliary line to the main endless clothes line stretched upon supports from the window outwardly. The clothes may thus be transferred to the outer air for drying in a convenient and entirely safe manner.

**VEST AND DRAWERS HOLDER.**—Albert Lustig, Corsicana, Texas. This holder is made of a main strip of metal, having at one end a downwardly projecting portion with a clasp for connecting with the drawers, the strip also having fastening devices for connection with the vest, the strip having sufficient elasticity to hold the vest down to prevent wrinkling, and without forming a rigid, unyielding connection.

## Designs.

**DESIGN FOR A PAPER WEIGHT.**—Laurence J. Heffernan, New York City. The base of this device is shaped as the frustum of a prismatic pyramid, on which is an overhanging triangular tablet bearing a representation of a human head purporting to be that of Columbus, a ruching intervening the head and tablet.

**BRIDLE BIT FRAME.**—Wright W. Hall, New Windsor, Col. This frame has opposite slightly curved side plates, with a cross bar about the middle of their length, there being holes in the plates around the ends of the bar, while between the lower portions of the plates is a projecting curved round bar, and the lower ends of the plates have curved slots.

**SPOON.**—Edmund I. Richards, Brooklyn, N. Y. The end of the handle of this spoon is in the shape of a shield, within which is a large letter C, surrounding the letter E.

NOTE.—Copies of any of the above patents will be furnished by Munn & Co., for 25 cents each. Please send name of the patentee, title of invention, and date of this paper.

## SCIENTIFIC AMERICAN

## BUILDING EDITION.

OCTOBER NUMBER.—(No. 84.)

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