

## RECENTLY PATENTED INVENTIONS.

## Engineering.

**ROTARY GAS ENGINE.**—John D. Blagden, Wood's Holl, Mass. In this engine a stationary central casing forms a compressed air reservoir, around and inclosing which revolves a cylinder with hollow trunnions and a rim forming a working chamber into which extends an abutment, the piston sliding radially and being withdrawn at the time the abutment passes the bearing containing the piston. The cylinder has an eccentric groove receiving a portion of the piston to actuate the piston in unison with the cylinder, and the motion of the latter is readily transmitted to other machinery by a belt. The valves controlling the ports for the admission of air and gas and the discharge of products of combustion have one full stroke to two revolutions of the cylinder.

## FLUID PRESSURE MOTOR AND BRAKE.

John McIntyre, Jersey City, N. J. Two patents have been granted this inventor, according to one of which the exhaust fluid of the motor is utilized for applying brakes to stop the motor and car, while the other is mainly for a compound fluid pressure motor and a fluid pressure brake discharging into the low pressure cylinder of the motor, the inventions in both cases being designed to utilize the motive agent to the fullest advantage and reduce waste to a minimum. In using compressed air for propelling cars and actuating the brake mechanism, a large amount of power has heretofore been wasted by the motor in making stops, and at the brake mechanism by waste of fluid, both of which are avoided by the invention for which one of the patents is issued, as the exhaust of the motor actuates the brake mechanism to stop the car, and the brake mechanism is also used as a resistance to the moving piston to stop the motor without shutting off the live fluid supply. According to the other invention, for compound motor and brake, there is a valve connection between a fluid pressure brake and the high pressure cylinder of the motor, to actuate the brakes in applying and releasing them, and there is also a connection between the valve connection and the low pressure cylinder, to pass the exhaust from the brake cylinder into the connection and to the low pressure cylinder. A brake is interposed in the connection between the high and low pressure cylinders, and there is a third brake in the exhaust of the low pressure cylinder.

## SAFETY GUARD FOR HOLLOW BODIES.

—This patent is for a further invention of the same inventor, the guard being applicable to bodies containing gaseous and other fluids under pressure, to prevent damage by the sudden escape of the gaseous contents, should the body be ruptured or burst. The form of the guard may be greatly varied, but it consists in the main of an interior perforated shell, conforming in the main to the interior of the hollow body, but separated by a slight space therefrom, and the outer space being connected with the main inner space of the body by the perforations, rendering the guard normally pressureless. The improvement is designed to prevent the instantaneous escape of the body of the fluid should an explosion occur, and insure a slow reduction of the pressure.

## Mechanical.

**FRICTION CLUTCH.**—Philip Steuerwald, Chicago, Ill. The simple, easily managed and durable clutch provided by this inventor has a brake shoe adapted to engage the inner surface of the pulley rim and a link is connected to the free end of the shoe, while a second link has a fixed fulcrum and a three-armed lever is connected at two of its arms with the links and at its other arm with a shifting device. The arrangement is such as to prevent the entanglement of the belt, should it slip off the pulley.

**ROLLER BEARING.**—Hubert Schon, Allegheny, Pa. This is a bearing designed for use on cars and other vehicles, and may also be employed on bicycles, rolling mills, etc. Between the axle and the brass or bearing box is an endless roller chain, rollers being journaled in the links of two chains, and the links being pivotally connected. The bearing has an under curved surface corresponding to that of the axle, and a curved top portion, while its ends are rounded, the roller chain traveling readily on these curved surfaces and rounded ends. The flanges of the bearing box prevent lateral shifting of the roller chains, and serve to fasten the box in position on a truck or other part on which the bearing is applied.

**BOOK FINISHING MACHINE.**—Daniel Nitschke, Toledo, O. For accurately and quickly lettering, filleting and stamping the back of any sized book with gold leaf, etc., this inventor has devised a machine in which the type holder is received in a block mounted to rock transversely, there being two clamping plates for the book and a slidable block having connection with the plates and sliding vertically as they are adjusted laterally. The machine is designed to do perfect work and save time and labor, the lettering on the back being automatically centered regardless of the thickness of the book and without any adjustment, it being impossible to give an uneven bearing on the type, and absolutely straight lines being produced.

**SET GEAR FOR SAW MILLS.**—John B. Hart, Clarksburg, West Va. For setting a log to be sawed in proper relation to the saw for the different thicknesses of lumber, this invention provides a mechanism whereby very fine adjustments may be obtained and the log be held with a positive grip. The gear comprises a flanged wheel on whose axis is fulcrumed an arm to which is pivoted a lever, there being jaws on the lever engaging the flange of the wheel, and a gripper engaging the wheel to prevent its backward movement. A sector with a stop limits the movement of the arm and lever, and the construction makes possible a much finer and greater range of adjustment than can be had with the common ratchet and pawl devices, or where a pin inserted in the holes of a quadrant is employed as a stop.

**JOURNAL BEARING.**—William J. Tripp, New York City. According to this improvement, two inner collars are adjustable toward and from each other and have their adjacent faces inclined to form a V-shaped bearing surface between them, while an outer

ring surrounds the collars and has on its inner face a V-shaped bearing surface corresponding to the other bearing surface, a series of balls journaled on the axles running in the bearings between the outer ring and the collars. Rings made in sections and loosely connected at their ends are connected to the opposite ends of the axles and arranged parallel with each other. The bearing is adapted for use on bicycles and other vehicles and machinery, and is designed to reduce the friction of the bearing parts to a minimum.

## Agricultural.

**CORN HARVESTER.**—Millard F. Myers, Greenville, and William C. Choate, Columbus, O. To harvest the corn from one or a number of rows at the same time, these inventors have perfected a machine in which the weight of the completed shock acts to dump the shocker, and the latter and its support are so constructed that the shocks are centrally concaved, causing them to stand more firmly on the ground, or their butts or bottoms may be inclined, so that they will stand upright on a hillside. The machine has but a single drive shaft for the platform conveyor and elevator, and the rear ends of the conveyor and elevator are open, permitting long stalks to be handled as readily as short ones. Reels feed the stalks to simple and effective cutting devices, the stalks being held upright, and guides are provided to pick up corn blown down or otherwise depressed. Simple and effective means are provided for tying the shocks in the shocker.

**POULTRY BROODER.**—Hiram W. Stoddard, Kearney, Neb. For confining and successfully raising young chickens, this inventor has devised a brooder in which the chickens are compelled or induced to take a certain amount of exercise to give them the necessary strength and hardihood, the device also promoting exercise in adult fowls confined in yards or buildings, especially breeding stock, causing their eggs to be fertile and productive of vigorous chickens. The invention comprises a novel construction of coop in which hay, chopped straw, chaff or forest leaves may be agitated to mix them with the food in the shape of cereals, compelling the chickens or fowls to scratch to obtain their food. It is also designed to have two series of feed boxes at a long distance apart and connected by runways, making it necessary for the fowls to exercise their bodies and wings.

## Miscellaneous.

**BICYCLE CHAIN CLEANER.**—Eney Gruppelli, New York City. According to this improvement, two circular brushes are journaled in a frame adapted to be secured to a part of the bicycle frame in such position that one run of the chain to be cleaned passes between the brushes, the device being of simple and inexpensive construction and readily attached to or detached from the bicycle frame. The device is attached to the bicycle frame by a clip, and is composed of a main frame made in parts, there being journaled in the frame a right and left hand screw rod engaged by nuts on shafts which carry the revolvable brushes, the latter being readily moved toward and from each other by turning a knob.

**TROLLOCIPEDE.**—Prier C. Smallwood, Louella, Mo. In trolley cycles for use with a suspended track or cable, this invention provides an improvement, and also in the tracks for supporting such vehicles. The U-shaped frame of the device carries wheels adapted to bear above and below the track, and one of the wheels is movable toward and from the other to overcome inequalities of the track. A novel form of forked brake shoe is employed to stop the trolloциpeде when in motion. The trolley track supports have arms each carrying a block which separates the strands of the cable, the blocks carrying housings which are connected to the respective strands of the cable.

**WHEAT STEAMER.**—William L. Mathews, Mariette, Mich. To thoroughly and uniformly steam grain, this invention provides a casing having a cap supporting a central feed pipe on which turns a regulating pipe, a series of annular hoppers one above another in the casing, a deflecting cone below and for each hopper, and an inverted cone in the lower hopper to prevent clogging. The steam is admitted at one side and near the middle of the casing, only dry steam entering and coming in contact with the kernels, while the grain is discharged from one hopper upon the next cone below and from this cone into the next hopper, the constantly moving grain being sufficiently retarded to insure the proper absorption of steam.

**RADIATOR.**—Frederick Bason, Chicago, Ill. This invention is for a heating apparatus in which both steam and water may be used, or either steam or hot water exclusively as desired. It has a series of connected loops through a number of which extend vertical steam leading pipes with open upper ends, steam being admitted to the radiator either directly to the loops or through the steam leading pipes. Any amount of water may be retained within the loops, causing the radiator to be exclusively a water heating apparatus or a part water and part steam heater. The invention may be applied to radiators not previously built for it, and the novel construction forms a radiator of very neat appearance.

**AUTOMATIC FIRE EXTINGUISHER.**—Edward Livingston, New Orleans, La. This invention is for an improvement on formerly patented inventions of the same inventor, and provides for the use of a fluid as the expellant of a fire-extinguishing fluid. The distributing pipe contains a fluid under pressure, and a vessel connected with a pipe contains the fire-extinguishing fluid held normally dormant. A diaphragm is connected with the pipe, and a valve closes the passage to the vessel while opening that to the diaphragm. Each of the pipes in the rooms protected has one or more fusion valves adapted to open when the temperature exceeds about 160° F., when a connection is made, through the operation of the diaphragm and connected devices, whereby a tank containing a gas-generating substance is discharged into a vessel containing alkaline water, and the water and gas are passed through the fusion valves onto the fire.

**FLEXIBLE LADDER.**—Theodore W. Keithley, Montevideo, Minn. For use principally as a fire escape in hotels and other buildings, this inventor has devised a ladder which may be readily folded up and stored under a window to be ready for immediate use. It is made in sections flexibly connected with each other, each section being formed of a metal wire bent to form two sides, a rung, and braces extending from the sides to the rung. The uppermost section has short chains adapted to be secured to the window sill on the inside of the room, and the lower section has a horizontal bar on the rear of which are hinged arms to engage the face of the wall and hold the ladder out a little from the building.

**VEHICLE TIRE TIGHTENER.**—Robert N. Garrett, Troy, Texas. According to this improvement two wedge-shaped sections are arranged to be fitted together between the tire and felly, to take up slack, each section having a thick and thin side edge and with shoulders adapted to engage each other on their opposing faces. The tightener may be made to completely encircle the wheel or for use in sections, the latter form being especially adapted for the repair of wheels on which the tire has become loose, while the continuous form is preferred for new wheels, when they may be so introduced as to obviate the necessity of shrinking the tire on the felly.

**FIFTH WHEEL.**—Alfred W. Johnson, New Brunswick, N. J. A device in which the weight on the fifth wheel is transmitted directly to the front axle, no matter what may be the position of the latter, is afforded by this invention. A frame is carried by the vehicle body and a second frame by the front axle, the first frame having at its rear two studs adapted to loosely engage a notch in the second frame, there being registering grooves in the front portion of the two frames. The grooves are angular and have reversed relation to each other, so that their sides will always be crossed to form an inclosure for an anti friction ball by means of which the body frame is supported on the axle frame.

**SAILING VESSEL.**—Ranald Gillis, Sydney, Canada. A novel movable keel which may be balanced to suit the conditions under which the vessel is sailing is provided by this invention. Rising from an opening in the bottom of the vessel, after the manner of the usual center-board wells, is a trunk within which fits and is held by a flange on its upper edge a keel consisting of a downwardly projecting shell, oval in horizontal section and tapering to a sharp edge at its lower portion. Fitted within the shell, and conforming thereto in shape, is a series of weights of different sizes, and having handles in their upper faces, whereby they may be removed or replaced as desired, according to the weight it is desired to carry in the center-board.

**SWIVEL LEADER HOLDER.**—George F. and Francis Breitstein, New York City. This holder comprises a stem and independently pivoted wings, one located at the center of the stem and the other connected with it near its ends, the holder having guides or wings to be engaged by the leaders, which bear such relation to one another that tension upon one will hold the other pointing in an opposite direction, and when more than one leader is attached to the holder the liability of the leaders becoming entangled is reduced to a minimum. The leaders may be readily attached to the holder without knotting or otherwise permanently tying them, and the device is simple, durable and inexpensive.

**MOISTENING AND SEALING ENVELOPES, ETC.**—Asahel W. Eddy, Coleridge, Neb. This invention is for a machine in which an envelope containing a letter or other matter may be introduced, when the gummed flap will be evenly moistened and sealed down, the letter leaving the machine ready to be stamped for mailing. Within a suitable casing is a moistening roller which receives the gummed flap while feed rollers receive the body of the letter, there being guide rollers at each side and an inclined partition crossing the feed rollers, sealing rollers being located at the lower end of the partition, and there being a driving connection by which all the rollers are simultaneously operated.

**POCKET INK BOTTLE, PEN, ETC.**—John Pool, Milparinka, New South Wales. According to this improvement, a case is provided with a series of compartments, in one of which a sheath for an ink bottle is removably seated, the cover having a pouch, and metal strips movable in guideways in the sheath forming feet when drawn outward. The device is for a pocket combination of pigment or powdered ink, a bottle for mixing and holding it, pen and pencil for writing, extra leads and nibs, and pouch for postage stamps, making these requisites conveniently available for a traveler.

**THREAD CABINET.**—John S. Armstrong, Burleson, Texas. To hold spools of thread of different sizes so that the spools may be readily taken out one at a time as desired, this inventor has devised a cabinet of novel construction, in which are a number of compartments, each having a swinging bottom wall extended through a front opening, a swinging spool receiver operated by the bottom wall, and means for automatically moving the bottom wall to its closed position. Each compartment is designed to contain spools of the same size, and there is a sight opening in the front wall by which it may be ascertained when the compartments need refilling.

**WINDOW.**—Mary West, Birmingham, Ala. This inventor, a daughter of ex-Governor W. H. Smith, of Alabama, has devised an improvement in windows according to which the sashes may be adjusted vertically and axially on a horizontal pivot. In the casing are vertical slots in which are movable bolts to which the sash are pivotally connected, weighted chains being also connected to the bolts, and a locking cleat slidable on the sash being capable of engaging the cleat to hold the sash from rotation. A block flexibly connected with the sash is capable of engaging the locking cleat to hold it in position.

**WATER STRAINER.**—Joseph H. Seed, 21 and 23 Centre Street, New York City. This is a device more especially designed for use in the ordinary faucets on service pipes in buildings to purify the water in a simple and inexpensive manner. It has an upper portion to screw on a faucet and a lower portion form-

ing an outlet or spout, and at the junction of these parts is a strainer formed of two semispherical sieves, made preferably of wire cloth of different mesh, and loosely inclosing a ball of agate or like hard, impervious material. To clean the strainer, the entire device is removed from the faucet and water is allowed to flow through it in reverse direction. The ball between the sieves prevents their collapse and breaks the impetuosity of the flow.

**WINDOW SCREEN.**—Charles I. Still, Sing Sing, N. Y. This screen is carried by spring rollers attached to the sash and opens and closes with them, being entirely out of the way so as not to obstruct the vision when the window is closed, but when the sashes are opened the screens assume their places to close the window opening. They may be attached to the ordinary window sashes without changing the latter, and are protected from the weather by a shield or guard which allows insects to pass outward but prevents their entry to the room.

**SAD IRON HEATER.**—Stephen Arleth, Holland, Mich. This is a device for use on gasoline, gas or ordinary cook stoves to concentrate the heat upon the irons, the latter being readily placed in or removed from the heater. It is made of copper or other sheet metal in the form of a square, shallow box without bottom, and may be lined with asbestos. It has an open front arranged to be closed by a flange of the lid, in which are openings for the handles of the irons, and pivoted to its sides are short legs to be turned down to fit into the slots of gasoline stoves.

**PUZZLE.**—Chester H. Robinson, Lafayette, Ind. In this puzzle it is required to carry a number of balls through various runs and along various inclines to a platform or table, on which the balls are to be placed in a certain order, all without touching the balls with the hands or fingers. The runs are formed on a flanged board, an inclined plane leading upward from one of the runs and parallel therewith, while the runs are crossed by a second inclined plane connected with the first, there being a track connection between the second inclined plane and a table above the runs.

**GAME APPARATUS.**—Jerome G. Kiah, Sand Beach, Mich. According to this invention, a flanged board or table is made to represent a baseball field, cages locating the players, an incline the pitcher's box, and a spring-controlled plunger representing the batter. It is designed to facilitate playing a parlor game representing baseball, in which the game will be a contest between pitcher and batter, as in a real game, the pitcher trying to deliver the ball so it cannot be hit, and the batter trying to "get onto" the pitcher's curves.

**BOTTLE STOPPER.**—Louis J. A. Fernandes, New York City. To prevent the refilling of a bottle which has once been emptied and the offering of a fraudulent package as a genuine one, the neck of the bottle, according to this improvement, is provided with a ball valve normally held to its seat by a spring-controlled spindle, the spindle passing through a partition over the valve, and the valve chamber having side channels communicating with openings in the partition. The spindle is mounted in bearings in an extension of the bottle neck, the extension being cemented to the neck proper after the bottle is filled, and the upper end of the extension being normally closed by a cork. It is easy to pour out the contents of the bottle, after the removal of the cork, but it cannot be refilled without breaking off the extension and a part of its neck.

**BOOK SUPPORT.**—William A. Barnes, Lampasas, Texas. To hold large journals, ledgers, etc., this invention provides a frame with upright keepers and book-supporting platforms, the latter having at opposite ends upright bars operating in the keepers. Detents engage the upright bars and there are windlass shafts for each platform connected with and adapted to release the detents. The platforms consist of boards having mouldings at their lower edges, and rack bars with ratchet teeth depend from the boards. Either platform may be lifted as desired, where it will be held by pawls, but may be lowered by a slight turning of the windlass.

**WINDOW FASTENER.**—William Gardiner, Elizabeth, N. J. To hold the window in open or closed position and to lock the sash so that it cannot rattle or move in the window frame is the object of this simple, convenient and inexpensive attachment, which consists mainly of a casing having an opening in its front face, a pin extending across the opening and a sliding friction face having movement on the pin, and the outer portion of the face being parallel with the outer face of the casing. A cam operates on the friction face, and by the movement of the latter a latch is operated. The sash is locked by carrying the cam to an upper position, and the handle of the cam is turned down when the sash is to be raised or lowered.

## Designs.

**MUSTACHE GUARD CLIP.**—William D. Dalglish, Stamford, Conn. This is approximately a U-shaped clip whose inner member is thickened at the edge and tapers toward the bend of the clip, affording a very simple device for holding a guard on the edge of a cup.

**BEER KEG GUARD.**—Alexander H. Schram, Oregon City, Oregon. For use in tapping kegs and disconnecting pressure pipes, to prevent spattering, this inventor has devised a guard adapted to be applied over the faucet or pipe connection and with a neck rising therefrom at a point off the center, the device being equally well adapted for use on kegs or barrels where the bung is close to the chime or at a distance therefrom.

**TOY.**—Oscar McDonald, Jersey City, N. J. At one end of a stick which may be twirled in the hand, according to this invention, is a whistle head and a hoop-like loop across which is pivoted an S-shaped diamond-faced blade, the stick having a light weight at its other end, the twirling of the device forming a child's windwheel and whistle.

**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.