RECENTLY PATENTED INVENTIONS.

Agricultural Implements.

AGRICULTURAL IMPLEMENT.—D. LUBIN, New York, N. Y. A manually-operated device is provided by this invention for digging and cultivating ground. The device may be easily operated by one person and may be used to throw up comparatively large slices of earth and finely pulverize them before being again deposited on the ground. Thus with one machine the ground is prepared for seeding or planting.

POWER OPERATED AGRICULTURAL MACHINE.—D. LUBIN, New York, N. Y. This invention relates to improvements in machines for the fine tillage or cultivation of ground, an object being to provide in connection a motor-driven vehicle and an agricultural tool, the mechanisms being so arranged as to alternately move the vehicle and draw the tool along the ground; that is, to move the vehicle a prescribed distance while the tool remains still and then draw the tool up to the vehicle while the vehicle is stationary. By this division of work it is possible to employ a motor of comparatively low power.

Engineering Improvements.

FLUID-PRESSURE SPEEDING DEVICE.—J. WIECHMANN, Albany, N. Y. Mr. Wiechmann has invented a device nominally employing fluid pressure and used as a transmission gear from a driving shaft to a driven shaft, the relative speeds of which are controllable at will. The speed of the driven shaft may be gradually reduced as compared with the speed of the driving shaft and the speed of the driven shaft may be in the same direction as that of the driving shaft, or in the opposite direction.

PUMP.—W. S. MCROBERTS, Findlay, Ohio. This invention relates particularly to pumps for removing sand from oil wells, the object being to provide a pump of simple construction that may be readily inserted or removed from the well. The device is so arranged that it may be cleaned or emptied of sand without inverting it.

Lighting, Heating and Ventilating Apparatus.

BOSH-PLATE FOR BLAST-FURNACES.—J. C. MCCAUSLAND, Pittsburg, Pa. The invention provides improvements in that class of devices employed for cooling the walls of blast furnaces which are known in the art as "bosh-plates." The object of the invention is the production of a simple device which serves to secure a good circulation of water around the "nose" or inner end of the plate and the uniform diffusion of the water over the upper and lower surfaces of the plate to the end that the plate cannot become cracked or broken nor can sediment accumulate therein.

GAS-SAVING ATTACHMENT.—P. RIESS and C. LANGE, New Orleans, La. The purpose of this invention is to provide a device adapted for use in any system of piping whereby to economize in the use of gas for heating, lighting, and cooking purposes, and to so construct the device that it may be readily and conveniently applied at a burner or at any point in the system of piping between the motor and the point where the gas is to be consumed.

ACETYLENE-GAS GENERATOR.—G. E. LA CELL, Lakota, N. D. This generator is so arranged that gas cannot escape through the ignorance or carelessness of attendants, nor can the apparatus be wrecked by explosion at or subsequent to the operation of recharging the generator. The generator is removable bodily and in a sealed condition from its tank, so that it may be carried out of doors, emptied, cleaned, and recharged without permitting the escape of odor into the room.

VENTILATING-FAN.—W. BURROWS, Thurmond, W. Va. The object of this invention is to provide an improved fan for ventilating mines. The blower and the casing within which it rotates are tapered. When used in a mine the reduced or open end of the casing is located at the drift-opening and the exit-pipe extended to a point where foul or impure air may be delivered. The increasing inner space in the casing from its inlet permits expansion of the air and consequently a more rapid discharge through the exit-pipe.

STEAM HEATING APPARATUS.—A. P. BROOMELL, York, Pa. The present invention covers certain improvements in steam heating apparatus for which Letters Patent were previously granted to Mr. Broomell. The improvements herein provided are designed to afford a simpler, more practical and more efficient construction of receiver which receives the water of condensation from the radiator to the building and any air that accompanies it, sending the air out into the atmosphere and returning the water to the boiler.

VENTILATING-STOVE.—F. R. SHAFER, Burlington, Wash. Mr. Shafer's invention relates to sheet or cast iron stoves, by means of which fresh, cold air from outside of the building to be heated and ventilated is made to pass between an inner heated stove and an outer jacket and thence discharge into the room, after which, as the warm air cools and settles to the floor, it is taken from the room by way of the stovepipe.

Mechanical Devices.

EXCAVATING-MACHINE.—C. C. MCBRIDE, California. Owing to certain improvements provided by this invention Mr. McBride's excavating-machine may be used to good advantage in many different kinds of work, such, for instance, as railway grading and cutting through banks, for narrow and deep cuts where cumbrous machines are unavailable, for mining work, and in all places where excavation of a bank of opposing material is necessary.

SPEED-INDICATOR-OPERATING MEANS.—C. E. KELLY, Anderson, Ind. Means for operating a speed-indicator are provided in this invention. It may be used for indicating the distance traveled by a vehicle in a stated time, or it may be fitted to show the number of revolutions per minute of a turning part. The operating means consists of a series of steel balls which are driven radially by centrifugal force, actuating levers which communicate the motion to the indicating device.

OPERATING MEANS FOR SPEED-INDICATORS.—C. E. KELLY, Anderson, Ind. This invention relates more particularly to a means for transmitting movement to a speed-indicating device, such, for example, as that described above. The device comprises means for regulating a spring tension so as to register accurately the number of miles a vehicle has traveled, or the number of rotations a rotating part has made.

FRICTION-CLUTCH.—M. PIVERT, New Orleans, La. The object of this invention is to provide an improved friction clutch which is of simple construction and effective in operation to transmit power from a motor to the driven parts. The arrangement is such as to permit the operator to readily disconnect the driven clutch member from the driving clutch member.

WINDMILL.—J. G. BENSTER, Moline, Ill. The improved windmill provided by this invention is arranged to insure a direct and full transmission of the power developed in the wheel. An improved means is provided for shifting the vane to throw the wheel out of the wind. The construction of the wheel is such that in case a wing breaks it can be readily replaced by a new one without taking the rest of the wheel apart.

REGISTER.—J. H. WARNER, Westplains, Mo. Mr. Warner's invention is an improvement in registers used in connection with a cigar-cutter whereby to register the number of cigars cut. The construction is such that the cigarmaker as he cuts the ends of each cigar operates the register, so that he can, at a glance, determine the number of cigars made, whether the same are made by hand, in bunching means or otherwise, the register keeping account of the number of cigars cut.

COPY-HOLDER.—C. B. TOWERS, Miles City, and W. A. CAMERON, Stacey, Mont. The invention provides a means for indicating to a stenographer a particular line of manuscript from which the copy is being taken. It provides means for automatically operating an indicator by the typewriting machine, or for manually operating it by means of a crank. Automatic means are also employed for returning the indicator to the top of the copy-holder on which it is located, thereby saving the time and labor of the stenographer using the invention.

MACHINE FOR CUTTING, EXPANDING, AND BEADING TUBES OR FLUES.—J. CARMICHAEL, Franklin, Wash. The construction of this machine is such that it may be readily applied and fastened in position on a boiler and conveniently operated to permit of cutting a tube to the proper length for beading, or to cut an old tube for removal from a boiler. The machine will expand the flue for setting it firmly in a tube sheet, and will bead the end of the tube to securely hold the same in position in the boiler.

TILT-HAMMER.—B. C., A. M., and J. M. SCHRODER, Osmond, Neb. These inventors have provided an improved tilt hammer of simple construction which is very effective in operation and arranged to permit of quickly varying the stroke of the hammer according to the nature of the work under treatment. The hammer may be used in any desired position within a vessel or other places.

BEATING-ENGINE.—E. A. JONES, Pittsfield, Mass. The present invention, which is an improvement on one previously patented by Mr. Jones, is arranged to insure a proper circulation of the pulp or stock when the vat is being emptied, and it dispenses entirely with the manually-wielded rakes now usually employed for moving the pulp through the discharge pipe.

OLIVE CRUSHER AND PITTER.—W. L. MORRIS and E. D. SMITH, Woodland, Cal. The purpose of this invention is to provide means for separating the stones or pits from olives, so that oil may be made from the pure olive pulp, and, if desired, a second class of oil may be made from the pits and such pulp as may cling thereto after the separation.

GUN-CARRIAGE.—P. DE NORDENFELT and E. TERNSTRÖM, 8 Rue Auber, Paris, France. In this improved carriage the slideway which supports the gun is movable in that which coucerns both the gun and the cradle. The gun is mounted to slide in an intermediate slide, the latter being also movable in the same direction on a guideway integral with the cradle, so that in the false position taken by the gun when recoiling, the latter is supported both by the slideway and cradle which thus properly sustain and guide the same in its long recoil.

WIND-WHEEL.—J. F. HOAG and C. R. BECKMAN, Palisade, Neb. The present invention is in the nature of an improvement in wind-wheels by which the stroke of the pump is lengthened as the wind increases, so as to cause the work done to be increased in proportion as the power of the wind increases without increasing the speed of the wheel to an undesirable velocity.

MEANS FOR CONVEYING OIL FOR CALMING WAVES.—C. LA F. HILLMAN, Santiago, Chile. Means are hereby provided for quieting the surfaces of bodies of water whereby protection is afforded to ships or boats of any size, by they at sea or anchored, also to jetties, quays, and landings. The invention is based on the well-known action of the film of oily liquids, which not only impedes the formation of and ascent or detachment from the surface of spray to be driven by the wind, but also impedes the detachment of larger bodies and masses of water.

Railway Improvements.

AUTOMATIC RAILROAD-CAR BRAKE.—G. W. STOCKIN, Mobile, Ala. This railroad car brake is automatically controlled by the movement of the locomotive. When the train is running the brake shoes are off the rim of the brake wheels, and when it is desired to brake the train the engineer reduces the speed of the locomotive, causing a rearward, sliding movement of the brake rod under the cars, which operates the brakes, thus the momentum of the cars is utilized to apply the brakes to bring the train to a standstill, if desired, or to brake it sufficiently to run down a grade at the desired normal speed.

Vehicles and Their Accessories.

TRACTION-WHEEL.—R. L. DUTCHER, Stites, Idaho. The tread of this traction wheel is provided centrally with an annular swell terminating in an annular rib. The mud cleats project radially outward a little beyond the outer edge of the annular rib and at right angles to the same. This enables the cleats to bite slightly into the ground and at the same time to allow the annular rib to act as the outer surface of any wheel normally acts where the ground is tolerably hard.

SLEIGH-KNEE.—M. CREIGHTON, Rensselaer Falls, N. Y. In the present invention the object is to provide a pressed-steel knee which can be manufactured by machinery at very low cost. The improved knee possesses great strength with a minimum of weight, so that it will not collapse under weight and strain, and at the same time, does not appreciably increase the weight of the structure.

BRAKE MECHANISM.—W. H. SMITH, Pawtucket, R. I. An improved brake mechanism is hereby provided which is of a simple and durable construction, very effective in operation, and easily manipulated. It is arranged to permit of being set to any desired degree of resistance according to the use made of the car or machine on which the brake mechanism is applied.

LUBRICATING DEVICE FOR VEHICLE-WHEELS.—W. F. PROBST, Chillicothe, Ohio. Mr. Probst provides by this invention a novel device for lubricating vehicle wheels. The construction is compactly arranged and designed so as to not materially widen the wheel. The parts are so connected as to firmly brace the wheel when assembled for use.

DUMPING-VEHICLE.—C. H. SMITH, Greeley, Colo. The body of this dumping vehicle is so arranged as to dump simultaneously at both sides of the vehicle or at one side at a time. The invention is of such character that it may be attached to a wagon, cart, railroad car, mine car, or vessel.

Miscellaneous.

ILLUSION APPARATUS.—A. W. BOORAEM and F. T. HOWARD, Brooklyn, N. Y. Two patents are granted to these inventors under this heading. The object of the first invention is to produce in the minds of passengers the illusory sensation that the vehicle, upon which the passengers are carried, breaks through ice, or through some medium analogous thereto, and continuous to run upon a comparatively submarine way.

The second invention is designed more particularly to produce illusions in the minds of passengers riding upon a sporting way such as a pleasure railway or pleasure canal.

NON-REFILLABLE BOTTLE.—J. C. BEITLER, Lancaster, Ohio. This invention has for its object the provision of a non-refillable bottle, parts of which are so constructed and correlated that they cannot easily be injured or deranged by tampering or by accident. A further object of the invention is to provide a device whereby when an attempt is made to exhaust air from the passageway the bottle will be closed.

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