(No Model.)

W. F. GOODHUE.

LAND ROLLER.

No. 601,775. Patented Apr. 5, 1898.

Fig. 1.

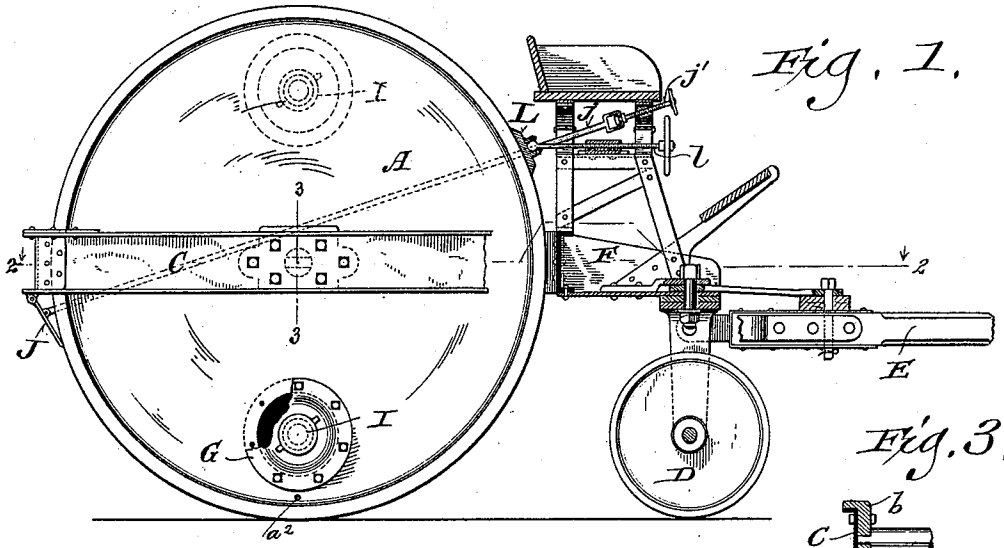


Fig. 3.

Fig. 2.

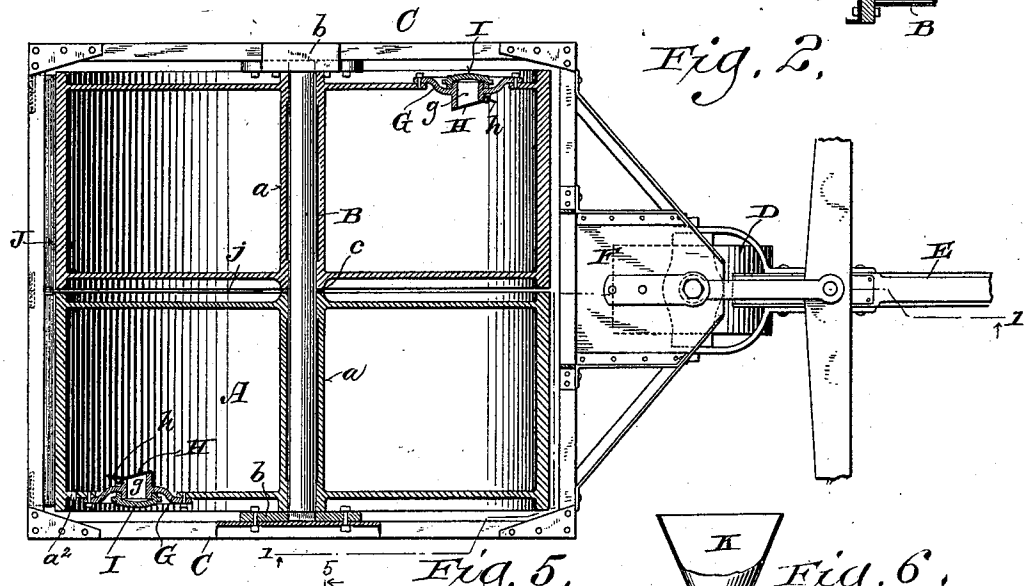


Fig. 5.

Fig. 6.

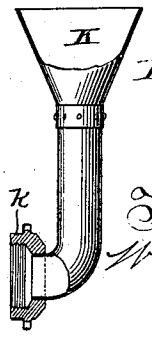
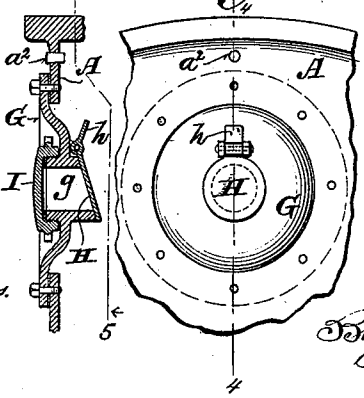


Fig. 4.



Witnesses:
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Witnesses.

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UNITED STATES PATENT OFFICE.

WILLIAM F. GOODHUE, OF MILWAUKEE, WISCONSIN, ASSIGNOR TO THE ADDYSTON PIPE AND STEEL COMPANY, OF CINCINNATI, OHIO.

LAND-ROLLER.

SPECIFICATION forming part of Letters Patent No. 601,775, dated April 5, 1898.

Application filed April 25, 1893. Serial No. 471,740. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM F. GOODHUE, of Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented certain new and useful Improvements in Land-Rollers; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

The main objects of my invention are to reduce the weight of rollers of this class for the purpose of handling and transportation from place to place and to provide for and facilitate the complete filling and emptying of hollow rollers with a liquid, and thus prevent the splashing of the liquid and the consequent unsteady motion of the rollers when they are filled.

It consists, essentially, of one or more hollow cylinders mounted and arranged to revolve in a suitable frame and each provided with a filling-opening and an outwardly-closing check-valve adapted to automatically prevent the outflow of liquid therefrom, and of certain novel features in the roller and its attachments hereinafter particularly described, and pointed out in the claims.

In the accompanying drawings like letters designate the same parts in the several figures.

Figure 1 is a side elevation of a roller embodying my improvements. Fig. 2 is a horizontal section of the same on the line 2 2, Fig. 1. Fig. 3 is a vertical section on the line 3 3, Fig. 1, showing the mode of attaching the end of the shaft on which the roller turns to the frame. Fig. 4 is an axial section, on an enlarged scale, of the filling and discharging device. Fig. 5 is an inside elevation of the same, and Fig. 6 is a partial elevation and section of a detachable funnel designed for use in connection with the filling device where hydrants are not accessible.

The roller consists of one or more hollow cylinders A A, made of any suitable material, preferably cast-iron, and each formed with a central sleeve *a*, through which an axle B, secured at the ends to the frame C, passes loosely. The frame C may be constructed of any suitable material, preferably channel-iron, and is provided on the front side with a bracket F, to which the caster-wheel D is swiveled and upon which a seat may be mounted, as shown. The pole E, by which the roller is drawn, is attached to the frame of the caster-wheel in the usual or any suitable manner. The shaft B may be conveniently secured to the frame by squaring its ends and inserting them in mortises formed for their reception in castings *b*, which are bolted to the sides of the frame, as shown most clearly in Figs. 2 and 3. Each cylinder is formed in one end, near its periphery, with an opening or hand-hole, through which the core may be removed when the cylinder is made of cast-iron. This opening or hand-hole is closed by a plate or cover G, which is formed with a sleeve *g*, open at its ends, the outwardly-projecting end of said sleeve being externally threaded to receive a screw-cap I, which may be conveniently made to correspond with standard hydrant-caps in common use. At its inner projecting end said sleeve is preferably cut off or terminated in a plane inclined to its axis and to the end of the cylinder, and to one side thereof is hinged a gravitating inwardly-opening valve H, formed or provided on the opposite side of its hinge with a projection *h*, which prevents it from opening sufficiently to be carried and held by its own weight or the weight of the liquid with which the cylinder is filled against the end of the cylinder, thereby leaving the sleeve *g* open.

A small vent-hole *a'* is formed in the end of each cylinder close to its periphery and adjacent to its filling connection, and this hole when the cylinder is filled, is preferably closed by a wooden plug a^2, as shown in Fig. 4, which may be driven inside of the cylinder when it is to be filled or emptied.

To fill the roller, the cylinders are turned to bring the filling connections and vent-openings *a'* to or near the upper side of the roller, the plugs are removed from the vent-holes, the caps I unscrewed, and when hydrants are accessible the sleeve *g* is connected therewith by hose. The water being turned on at the hydrant opens the valve H and, flowing into,

fills the cylinder. When the cylinder is filled, the vent-hole a' is plugged, the hose detached from the sleeve g, water being prevented from flowing out by the valve H, which automatically closes against the inner end of said sleeve, and the cap I is replaced, effectually closing the outer end of said sleeve.

In places where there are no hydrants the funnel K, the stem of which is formed with an elbow and provided with an internally-threaded collar k, corresponding with a standard hydrant-cap and fitted to the outer end of sleeve g, as shown in Fig. 6, is screwed on said sleeve and affords convenient means for filling the roller.

To empty the roller for transportation, the sleeve g is turned to or near the lower side, the caps I removed, and the valves H thrust inwardly, thus allowing the water to flow from said cylinders, the plugs in the vent-openings being removed to drain the water from the cylinders below the sleeve g.

To prevent splashing of the water and an unsteady motion of the roller, each hollow cylinder should be completely filled. The outwardly-closing check-valve H enables me to do this, for when the filling hose or funnel is detached it prevents the discharge of water, which would otherwise flow out of the opening until it was closed by the cap I. The vent-hole a' not only serves to permit the escape of air during the operation of filling, but also to drain and completely empty the cylinder of water.

By the construction hereinbefore described a strong durable roller is produced, which may be readily weighted for use and emptied and made light for the purpose of transportation.

A roller with a diameter of five feet and a tread of four and one-half feet in width will contain, when constructed as shown and hereinbefore described, approximately five hundred gallons of water, weighing four thousand pounds.

J is a scraper hinged at its upper edge to the rear cross-piece of the frame and connected by a rod j with a screw j', by which the driver is enabled without leaving his seat to swing said scraper into or out of contact or proximity with the face of the roller.

L is a brake-shoe having a ball-and-socket or universal-joint connection with a screw l, by which it may be moved into and out of engagement with the face of the roller.

I wish it to be understood that while I have designated the device as a "land-roller" I do not intend thereby to limit its use to any particular class of work, it being adapted for rolling roads and walks, fields, lawns or parks or for any other purpose for which devices of the kind are made and employed.

Various changes in details of construction may be made without departing from the spirit and intended scope of my invention.

I claim—

1. A land-roller composed of one or more hollow cylinders each having a filling-opening in the end and provided with an outwardly-closing check-valve in said opening and a cap for closing said opening outside of the check-valve, substantially as and for the purposes set forth.

2. A land-roller composed of one or more hollow cylinders, each of which has a vent-opening and is provided in the end near the periphery with an aperture and with an inwardly-opening valve adapted to permit the inflow but prevent the outflow of liquid therefrom, and a cap for closing said aperture outside of said valve, substantially as and for the purposes set forth.

3. In a land-roller, the combination of a suitable frame, a hollow cylinder mounted and arranged to turn therein, a valve arranged to close outwardly over an opening in the end of said cylinder, and a vent-opening between said valve and the periphery of the cylinder, substantially as and for the purposes set forth.

4. In a land-roller, the combination of a suitable frame, a hollow cylinder journaled therein and formed or provided in one end near its periphery with a sleeve open at its ends outside and inside of said cylinder, the outer end of said sleeve being screw-threaded and provided with a screw-cap, and a valve hinged to the inside of the cylinder at one side of said sleeve and provided with a projection arranged to limit its opening, substantially as and for the purposes set forth.

5. In a land-roller, the combination of one or more hollow cylinders, each having a filling-opening and a separate vent-hole and provided with an outwardly-closing check-valve in said filling-opening, substantially as and for the purposes set forth.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

WILLIAM F. GOODHUE.

Witnesses:
CHAS. L. GOSS,
E. C. ASMUS.