(No Model.)

E. GEISENDORFER.

LAND ROLLER.

No. 482,406. Patented Sept. 13, 1892.

Fig. 1

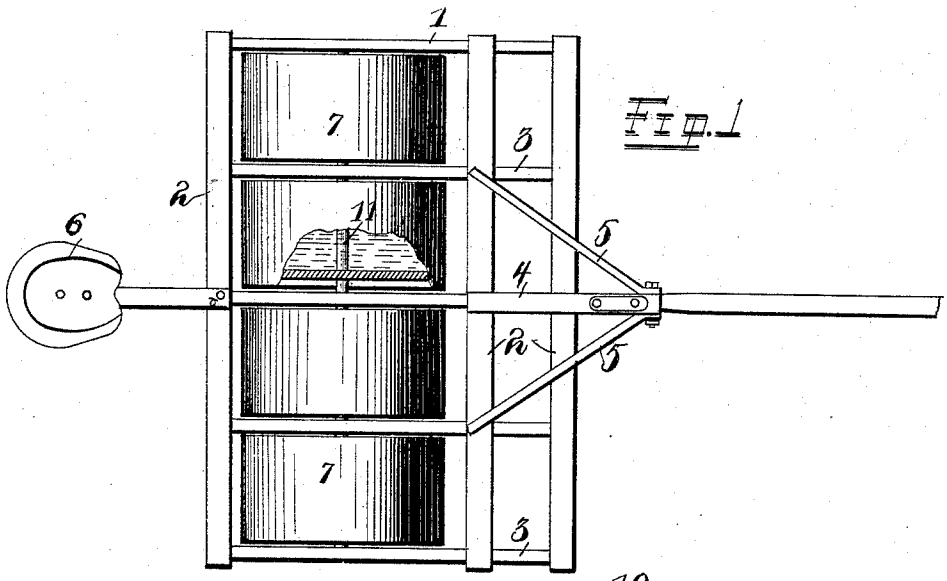


Fig. 2

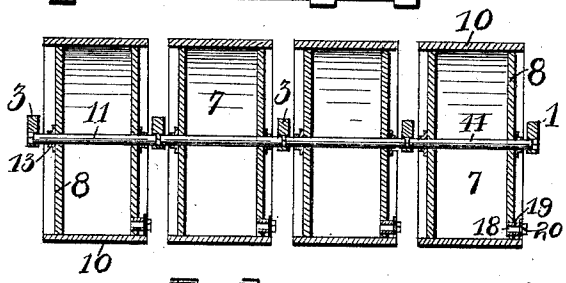


Fig. 3

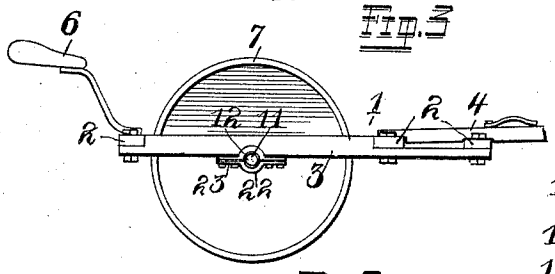


Fig. 4

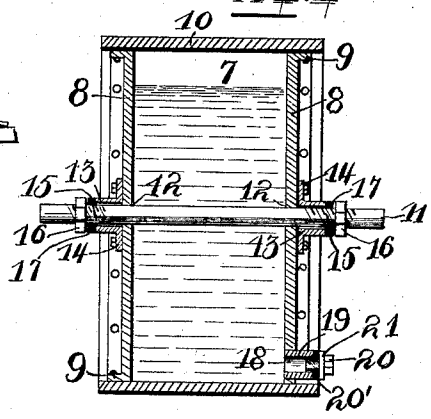
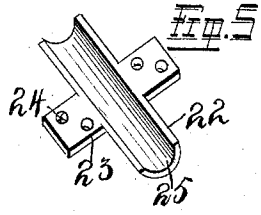


Fig. 5



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UNITED STATES PATENT OFFICE.

EDWARD GEISENDORFER, OF PITTSFIELD, ILLINOIS.

LAND-ROLLER.

SPECIFICATION forming part of Letters Patent No. 482,406, dated September 13, 1892.

Application filed February 15, 1892. Serial No. 421,589. (No model.)

To all whom it may concern:

Be it known that I, EDWARD GEISENDORFER, of the city of Pittsfield, in the county of Pike and State of Illinois, have invented certain new and useful Improvements in Land-Rollers, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention relates to improvements in land-rollers; and it consists in the novel arrangement and combination of parts, as will be more fully hereinafter described, and designated in the claim.

In the drawings, Figure 1 is a top plan view of my complete invention, having one of the rollers partly broken away in order to show more clearly the interior construction. Fig. 2 is a vertical longitudinal section taken on the line *x x* of Fig. 1. Fig. 3 is a side elevation of my invention with the parts broken away. Fig. 4 is a vertical transverse section of one of the rollers and its parts somewhat enlarged, and Fig. 5 is a perspective view showing one-half of one of the bearings which I employ in carrying out my invention.

The rollers which I employ in carrying out my invention are constructed especially for the purpose and are adapted to be partially filled with water, which will not only give the desired weight to said rollers, but cause the same to slightly turn at certain times in a reverse direction to which the machine is moved, thereby crushing the clods of earth which would not be crushed by the weight of the machine.

Referring to the drawings, 1 represents the frame of the machine, which is composed of longitudinal beams 2, which are three in number, and transverse pieces 3, to which frame the rollers and the various parts composing my invention are easily attached. The forward ends of the transverse pieces 3 are cut away upon their upper edges, to which end the two forward longitudinal beams 2 are attached in any mechanical manner—for instance, by bolts, as best shown in Fig. 3. The rear beams 2 are secured to the rear ends of the transverse pieces 3 in a similar manner, which hold the said transverse pieces in their proper position. The forward part of the framework 1 is provided with the usual pole 4, and leading from said pole and attached to one of the longitudinal beams 2 are two braces 5, which provide means for rigidly holding the said pole in position.

Secured in any mechanical manner to the rear beam 2 is a seat 6 for the driver and is of the usual construction, and further elucidation is unnecessary.

The rollers which I employ are especially constructed for the purpose and are four in number, one located between each of the transverse pieces 3, and are adapted to rotate independent of the frame.

7 represents the rollers, all of which are similar in construction, and therefore I shall only proceed to describe one of them in detail, reference being directed particularly to Fig. 4 of the drawings. The said rollers are preferably constructed from sheet metal of suitable thickness to answer the purpose.

8 represents two circular plates, which form the sides of the roller, the size of which depends upon the size of the desired roller. The said plates 8 are provided with annular flanges 9, by means of which a band 10 is secured to said plates by means of suitable rivets passed through the said band and flanges, forming a tread for the roller.

11 represents a short shaft, which is somewhat longer than the width of the roller and is adapted to be rigidly locked against movement independent of said roller in a manner as I shall now proceed to describe.

12 represents circular openings, which are formed in the center of the plates 8, which are of such a size as to permit the shaft 11 to be inserted through the same, and 13 represents two collars, the openings of which correspond in size to the openings formed in the plate 8, the said openings registering with one another and in alignment. The said collars are provided with annular flanges 14, through which bolts or rivets are adapted to be passed for securing said collars to the sides 8.

At a suitable distance from each of the ends of the shaft 11 are formed screw-threads 15, upon which portions of the shaft the nuts 16 are adapted to be turned to or from the collars 13, premising, however, that rubber or other washers 17 are interposed between said nuts and washers for preventing the water contained in said rollers from passing out of

the same. By the employment of the nut 16, as above stated, the rollers are not only hermetically sealed, but the shaft 11 is locked against rotation independent of said roller.

One of the plates 8 near the band 10 of the wheel is provided with a circular aperture 18, and screwed into said opening is a short pipe 19, through which pipe the water is passed through the interior of the roller. The outer end of the pipe 19 is provided with internal screw-threads which receive suitable external threads formed upon the screw-plug 20, whereby the roller is hermetically sealed and the water prevented from passing out of the same. A rubber washer 20′ is placed between the annular flange 21, formed on said plug, and the edge of the pipes 19, thereby making a water-tight connection between the same. All of the openings 18 formed in the rollers are on the same side of said rollers, by means of which the water can be easily poured into the same when the machine is lifted and allowed to rest on one of its sides.

In Fig. 5 I have shown the construction of the bearings which I employ in carrying out my invention, each of which is composed of two parts, and each part constructed in a similar manner and attached to the transverse pieces 3, as shown in Fig. 3, by means of suitable bolts passed through said bearings and said pieces.

22 represents the bearing-plates, which are provided with lateral projections 23, and said projections having holes 24 formed in the same, by means of which the same are attached to the transverse pieces 3 by suitable bolts, as above stated. The said plates 22 are each provided with circular depressions 25, which when the plates are united, as shown in Fig. 3, form a bearing for the ends of the shafts 11. The projecting end of the shafts 11 are of suitable length to take up about one-half of each of the bearings in order that each shaft may be revolved independent of one another, allowing the machine to be easily turned.

In attaching the bearings to the machine it is necessary to cut away a portion of the transverse pieces 3, as shown in Fig. 3, in order that the lateral projections formed upon the upper plates of said bearings will come in contact with the under surface of said transverse pieces.

The machine on traveling over uneven ground will cause the rollers to partake of different movements—namely, one or more of the same may slightly turn in a reverse direction to which the machine is moving by the action of the water contained in said rollers, and consequently crush the clods of earth by frictional contact.

Having fully described my invention, what I claim is—

As an improvement in land-rollers, the herein-described roller, comprising a hollow cylindrical drum closed at its ends by heads having central apertures, flanged collars surrounding said apertures, a shaft passing through the latter and provided near its free or bearing ends with screw-threads, binding-nuts meshing with said threads, and a packing interposed between the flanged collars and the nuts, substantially as and for the purpose set forth.

In testimony whereof I affix my signature in presence of two witnesses.

EDWARD GEISENDORFER.

Witnesses:
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ED. LONGAN.