(No Model.)

C. J. SHAW.

LAND ROLLER.

No. 546,194. Patented Sept. 10, 1895.

Fig. 1.

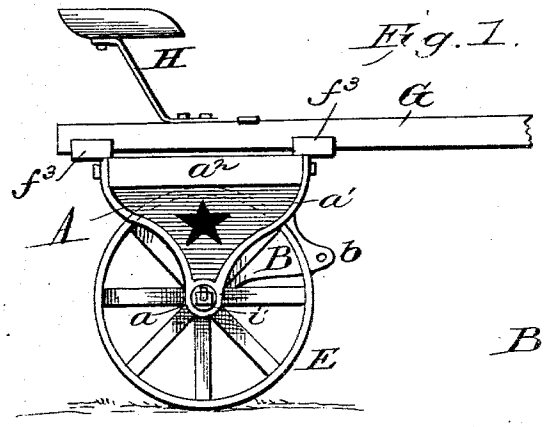


Fig. 4.

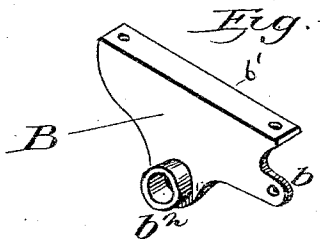


Fig. 2

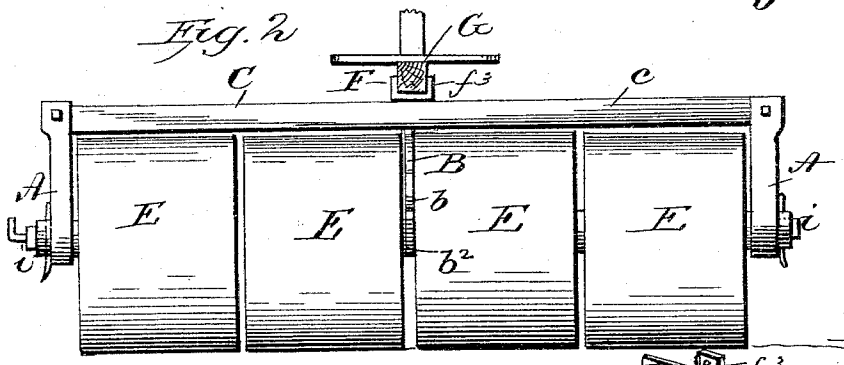


Fig. 5

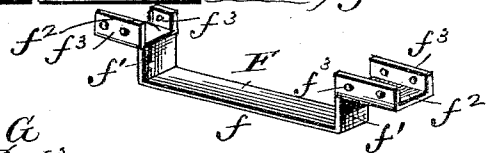


Fig. 3

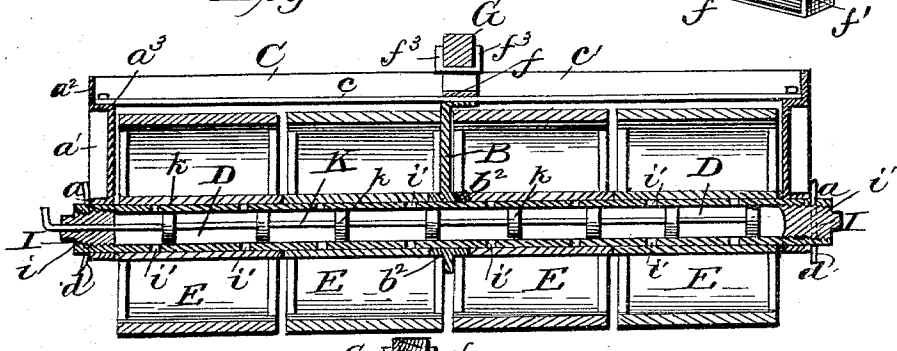
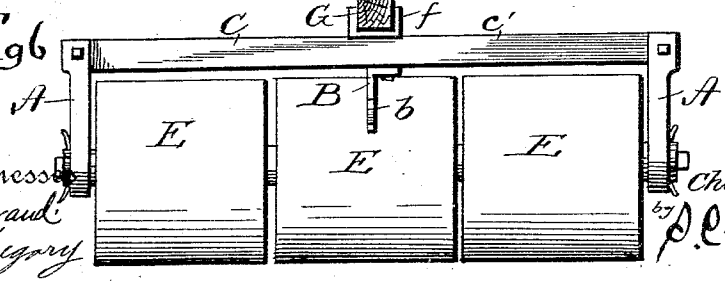


Fig 6



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CHARLES J. SHAW, OF OWOSSO, MICHIGAN.

LAND-ROLLER.

SPECIFICATION forming part of Letters Patent No. 546,194, dated September 10, 1895.

Application filed June 3, 1895. Serial No. 551,561. (No model.)

To all whom it may concern:

Be it known that I, CHARLES J. SHAW, a citizen of the United States, residing at Owosso, in the county of Shiawassee, State of Michigan, have invented certain new and useful Improvements in Land-Rollers; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to an improvement in land-rollers.

The invention will first be described in connection with the accompanying drawings, and then particularly pointed out in the claims.

In the drawings, Figure 1 is an end elevation of a device embodying my invention, the tongue being partly broken away. Fig. 2 is a front view of the same. Fig. 3 is a longitudinal central section. Fig. 4 is a detail view showing the central standard. Fig. 5 is a detail view of the pole-holder. Fig. 6 is a view of a modified form of my invention.

Referring to the drawings, A are end standards approximately triangular in shape, with the apices extending downward and provided with box-bearings a, the edges of said standards A being flanged outward, as a', to form bracket-like flanges, which in each standard are connected at their outer top edges by a cross-brace a^2, a ledge-piece a^3 extending inward from the bottom edge of each cross-brace a^2.

The standards just described are preferably cast or forged in one piece, or the parts mentioned may be bolted or riveted together.

B, Fig. 4, is a central standard approximately triangular in shape, and flat, with a forward-extending draft-piece b, consisting in this case of an eye or perforated lug to which a whiffletree may be secured. The top of the central standard B is provided with a flange b', as shown in said figure, while the bottom or apex has a double bearing or box b^2.

Upon the ledges a^3 are secured angle-iron frame-pieces C by means of bolts, rivets, or the like passing through the horizontal webs c and through said ledges a^3. These horizontal webs c are also secured in a similar manner to the flange b' of the standard B, while vertical webs c', which are outward, are bolted, riveted, or otherwise secured to the top ends of the bracket-flanges a', as shown.

Through the bearings or boxes a in the end standards and through the double bearing or box b^2 passes a hollow shaft or axle D, which revolves in said boxes, and on the said shaft D, between each end standard A and the central standard B, is placed a roller or a series of rollers, as desired, in this case two rollers E being shown on each side of the central standard. These rollers are loose on the shaft, which is provided at each end with collars d, fixed to the shaft, preferably by cotters or split pins d', to prevent the said shaft from moving longitudinally.

The inner ends of the hubs of the rollers next to the central standard are shortened to allow room for the double box b^2, so that the edges of the adjacent rims of all the rollers nearly touch each other, only sufficient room existing between the rollers next to the central standard B to allow the latter to pass upward between them without contacting with them.

Directly over the central standard is placed a tongue-holder or hounds F, which comprises a horizontal cross-piece f, secured to and resting upon the horizontal webs c, a pair of vertical end pieces f' within and secured to the vertical webs c', a pair of outward-extending bearing-plates f^2, and two pair of vertical ears or lugs f^3, the entire holder being formed, preferably, from one piece, either by casting or forging.

On the bearing-plate f^2 and between the ears or lugs f^3 is placed the rear end of a tongue G, (shown in part,) which is secured to the holder F by suitable bolts. To the top face of the tongue G is secured a seat H in the usual manner.

The shaft or axle D extends slightly beyond or is flush with the end boxes a and is provided with plugs I, in this case threaded into the ends of the shaft D and having nut-heads i, in order to permit their removal with a wrench. The shaft is provided with one or more small holes i' opposite each bearing.

Within the hollow shaft D is placed a rod K, which is provided with a series of washers k, one for each hole i', and approximately equal in diameter to the diameter of the in-

terior of the shaft D. The rod K projects at one end through one of the plugs I and can be drawn out a short distance, whereby the washers *k* are all brought opposite the holes *i'* and close to the same; but when the rod K is pushed inward the washers *k* are moved away from the holes *i'* for a purpose hereinafter described.

It will be seen that the draft device, being in a line with the line of draft from the axle, prevents all downward pull on the tongue, which exists in those rollers where the whiffletrees are secured to the tongue or above the line of draft. Furthermore, owing to the particular manner of constructing the frame and standards and the connections between the two, an unusually strong, simple, and inexpensive structure results. Moreover, the central standard, with its double box, greatly enhances the strength of the machine, and also supports the axle against springing.

The hollow shaft, together with the removable plugs, the small holes opposite each bearing, the rod K, and washers *k*, permits the automatic and continuous oiling of the bearings, as one of the plugs may be removed, the interior of the shaft supplied with oil, and the plug replaced, whereupon the rotation of the shaft, during the operation of the roller, will cause the oil to flow through the small holes in the bearings, the rod K being pushed in during the operation of the roller.

In order that the oil may not escape while the machine is standing still, as it might in warm weather, the rod K may be drawn out, thereby closing all the holes.

Instead of using a central standard which projects downward and supports the axle, I prefer in small machines to use only three rollers, one of which is in the center and prevents the shaft from springing, while at the same time allowing the machine to be turned much easier. In this construction the central standard extends only a short distance below the frame-pieces and is provided with a draft device just below the frame, which takes the whiffletree-hook and thereby brings the line of draft more nearly to the axle than if the whiffletree were secured to the tongue as in the ordinary way.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a land roller, the combination, with a plurality of standards having bearings, of a hollow shaft revolubly mounted in said bearings and provided with outlet holes opposite said bearings, a rod movable within the shaft, a series of washers on the rod and adapted to close the outlet holes means for closing the ends of said shaft, and a roller mounted on the shaft, substantially as described.

2. In a land roller, the combination, with two end standards having bearings and a central standard or stay-brace having a downward and forward projecting draft-piece, of a hollow shaft revolubly mounted in said bearings and provided with outlet holes, a rod movable within the shaft and projecting through the bearing at one end, a series of washers fixed on the rod whereby the outlet holes may be closed or opened by moving said rod, and a plurality of rollers mounted on the shaft, as described.

3. In a land roller, the combination, with a pair of standards having bearings, a frame connecting the standards and a central stay brace secured to the frame, said brace having a downward and forward projecting draft piece and a tongue holder adapted to be supported by the central brace, of a hollow shaft revolubly mounted in said bearings and provided with outlet holes, a rod movable within the shaft and projecting through the bearing at one end, a series of washers fixed on the rod whereby the outlet holes may be closed or opened, and a series of rollers mounted on the shaft, substantially as described.

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

CHARLES J. SHAW.

Witnesses:
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