(No Model.)

E. ALPAUGH.

LAND ROLLER.

No. 516,175. Patented Mar. 13, 1894.

Fig. 1.

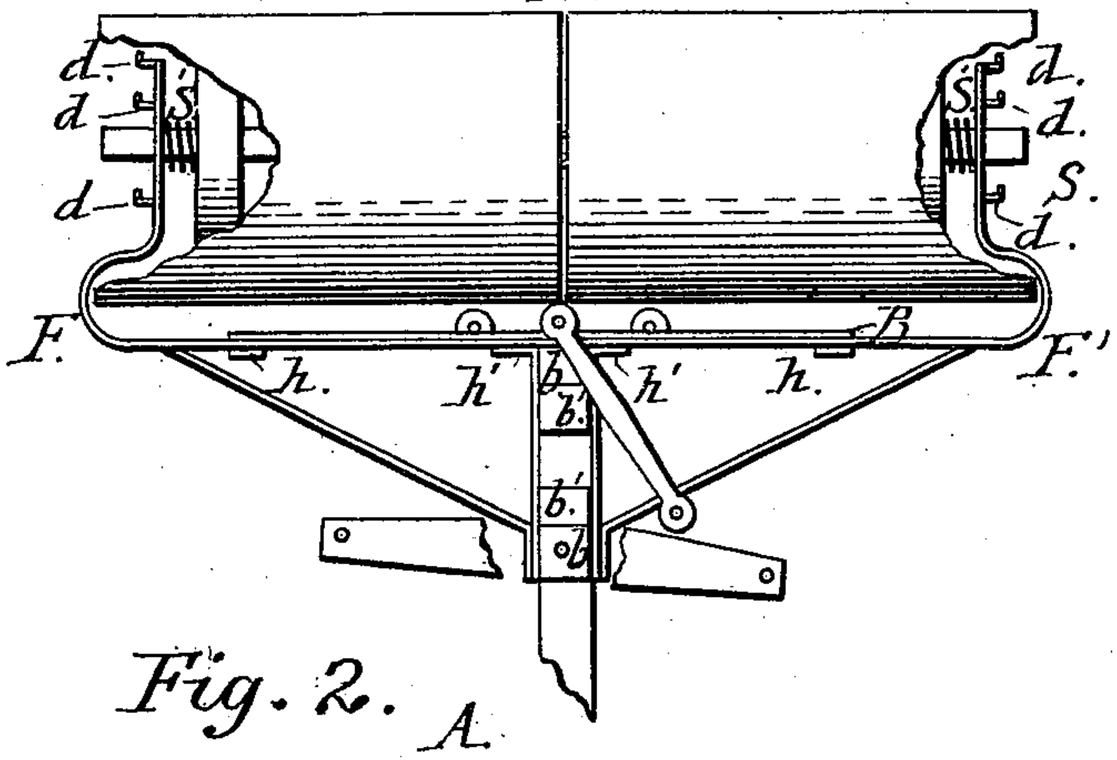


Fig. 2.

Fig. 3.

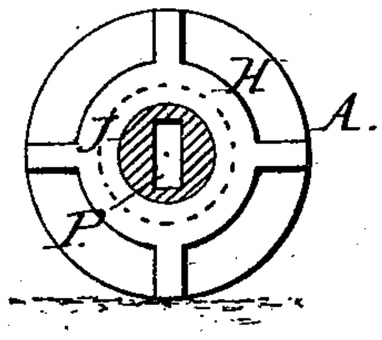
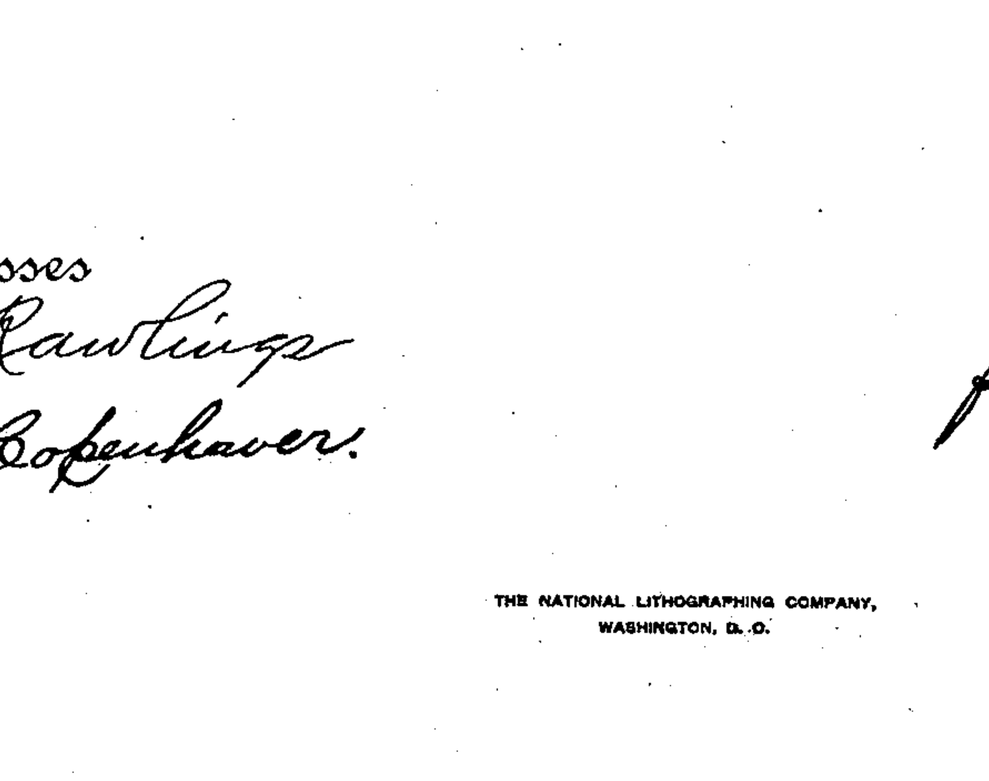


Fig. 4.



Witnesses
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EPHRAIM ALPAUGH, OF PRESTON, CANADA.

LAND-ROLLER.

SPECIFICATION forming part of Letters Patent No. 516,175, dated March 13, 1894.

Application filed April 10, 1893. Serial No. 469,796. (No model.)

To all whom it may concern:

Be it known that I, EPHRAIM ALPAUGH, carpenter, residing in the village of Preston, in the county of Waterloo, in the Province of Ontario, Canada, 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 same, reference being made to the accompanying drawings, in which—

Figure 1, is a plane elevation of a roller, embracing my invention; Fig. 2, a transverse section of the same. Fig. 3, is a sectional elevation of one of the cylinders. Fig. 4, is an end elevation of the roller.

The first part of my invention relates to having the several cylinders composing a land roller, so adjusted that they will readily adjust their outer surfaces to the plane of the land on which they are used; and that the elevated end of a cylinder always bears heavier on the ground than its opposite or low end.

The second part of my invention relates to the combination with a land roller of a frame composed of three parts, and of such peculiar mechanical construction, that the entire roller can be taken apart or put together without the use of tools, such as hammer or wrench.

In the drawings, A is the land roller composed generally of two cylinders formed of iron or other suitable material; S is the shaft, on which the several cylinders are hung and by which they are drawn. The shaft S is preferably square or rectangular, passes through the cylinders, and through the square boxes in the frame. The cylinders revolve upon the shaft S by means of the bush J, which is circular at its circumference, and fits into the circular groove G, and having the rectangular slot P, by means of which the several cylinders are always kept at right angles with the line of draft, while at the same time they are allowed to rise and fall as the plane of the earth on which they are moving requires. The hubs H, having the grooves G revolve with the bushes J. The rockers L, L, have their ends secured in the slots P, and have sufficient curve to rest on the shaft S. When one end of a cylinder passes over a lump, and is thereby forced upward, the weight of the shaft S, frame F and F′, and the additional weights are thrown upon the high end of the cylinder by the curve of the rocker L, thus giving greater capacity for crushing lumps and rolling the ground to an even surface.

In order that any cylinder may be allowed to rise or fall at either end, it must have end play, which is provided for by the frame being made wider than is necessary to hold the several cylinders when they are all in a straight line. Holding the cylinders as near to each other at all times as required, is effected by means of the coil springs S′, S′ being placed upon the shaft S, between the outer hubs H, H, and the frame F and F′.

The frame by which the several cylinders are held together and drawn, is composed of two parts F and F′. The bands *b*, *b*, are fastened to and form part of the side of the frame marked F, and the bands *b′ b′* form part of the side F′. By bringing the parts F and F′ together and inserting the tongue through the bands *b*, *b*, and *b′ b′* the two sides of the frame are united. To further strengthen the frame, I add the flat bar B, having hooks *h*, *h*, on the upper edge and near the ends, and hooks *h′ h′* on its lower edge and as near the tongue as can be. The bar B lies at the back of frame F and F′ and the hooks *h*, *h*, and *h′ h′* are turned forward, and over the edge of the frame.

W, W, W, are weights, which may be hung on the lugs of the frame *d*, *d*, when the soil to be rolled requires more weight than that of the roller and frame. To take the roller apart for shipping or housing, pull out the pin, on which the doubletree is pivoted, then pull out the tongue, raise the center of the frame about one inch, which disengages the hooks *h*, *h*, of the bar B, when the bar will fall off. Then pull parts F and F′ off the ends of the shaft S, pull out shaft S and all parts of the roller are severed and can easily be handled by one man.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The combination of the grooved hubs H, revolving on the rectangular bush J, the rock-

ers L, and shaft S, substantially as and for the purpose hereinbefore set forth.

2. In combination with rockers L, shaft S and roller A, of springs S′, as and for the purpose specified.

3. The combination with the roller, the rockers the hubs and the shaft described of the frame, composed of side plates curved laterally and inward and meeting in front as and for the purpose set forth.

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

EPHRAIM ALPAUGH.

Witnesses:
A. HUME,
J. D. MCEACHREN.