R. SANDIFORD.

Land Roller.

No. 85,333. Patented Dec. 29, 1868.

Fig. 1.

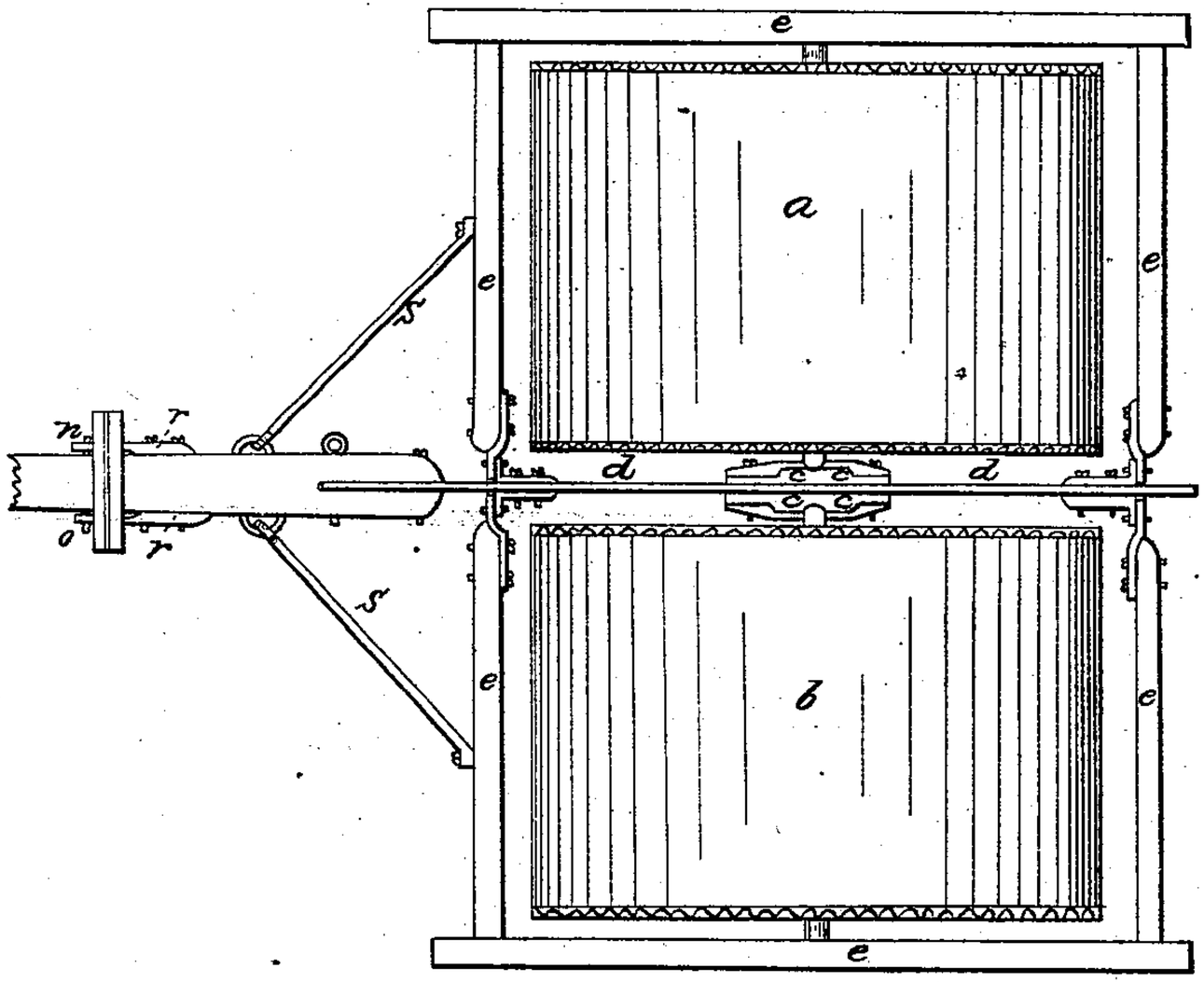


Fig. 8.

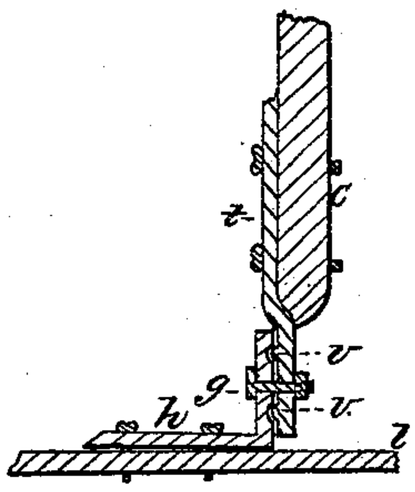


Fig. 3

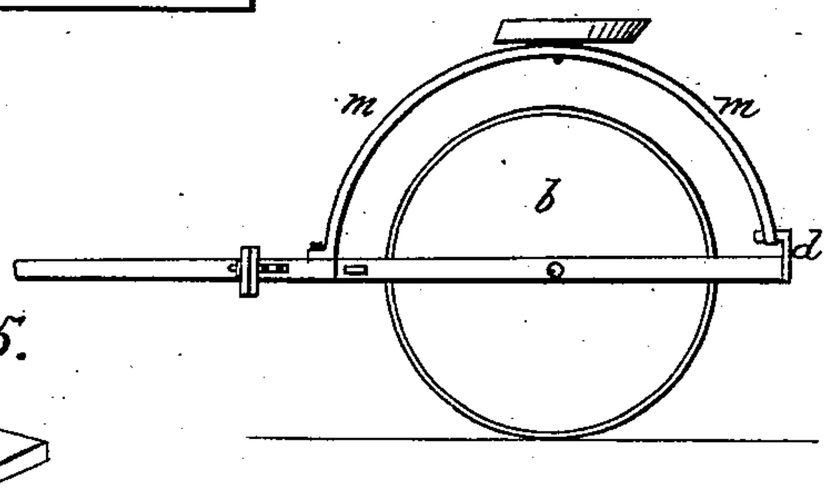


Fig. 6.

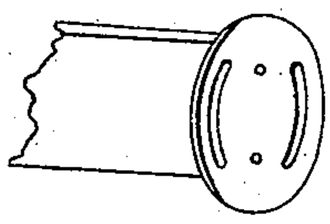


Fig. 7.

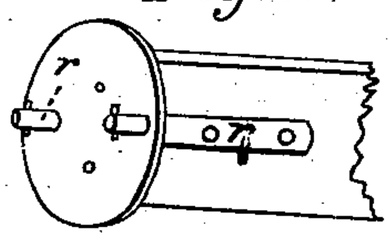
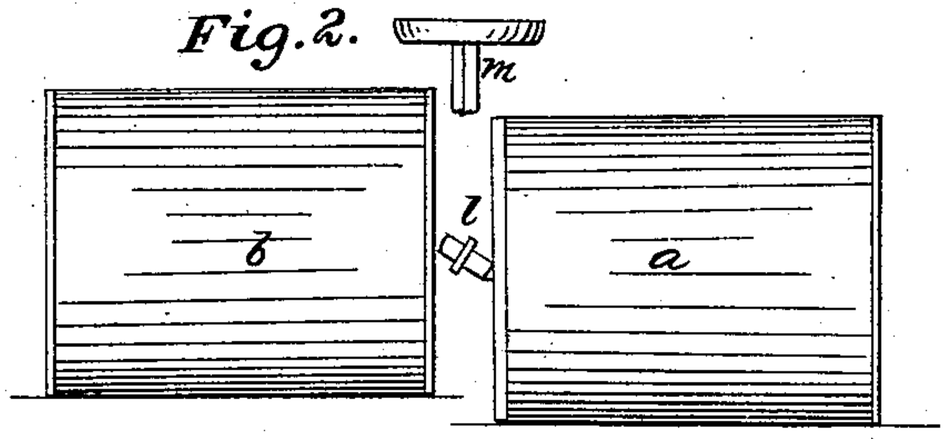


Fig. 5.

Fig. 4.

Fig. 2.



Witnesses:

Thos H Hutchins.

Inventor:

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United States Patent Office.

ROGER SANDIFORD, OF JOLIET, ILLINOIS.

Letters Patent No. 85,333, *dated December* 29, 1868.

IMPROVEMENT IN LAND-ROLLERS.

The Schedule referred to in these Letters Patent and making part of the same.

Be it known that I, ROGER SANDIFORD, of the city of Joliet, in Will county, and State of Illinois, have invented a new and useful Improvement on a Land-Roller; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a plane view on the top;

Figure 2, a rear elevation;

Figure 3, a side elevation;

Figure 4, a view of a part of the double-oscillating coupling-box and shaft and hub;

Figure 5, a view of a part of said box;

Figures 6 and 7, views of the coupling-device or knuckle on the tongue; and

Figure 8, a sectional view of a single hinge on the main frame.

My invention consists in the mode of so coupling land-rollers together that each roller may travel on a different plane from the other, as shown in fig. 2, and be left free to pass over obstructions without interfering with each other.

This is accomplished by means of the double-oscillating coupling-box, *c*, shown in figs. 1, 2, and 4, and also by means of hinging the cross-bar *d*, as shown in fig. 1, to the main frame *e*.

The main frame *e* is constructed of suitable pieces of timber, mortised together at the corners and hinged at the centre, as shown in fig. 1, and holds the rollers *a* and *b* in place.

The peculiar construction of the coupling-box *c* is obvious from the figs. 4 and 5; but for a more full explanation, I will state that the box *c*, with its cap, *x*, fig. 5, may be constructed of metal, as also the hub *i*.

The hub *i* is placed in the box, as shown in fig. 4, its arms *o* resting in the recesses of the box.

The cap *x*, one on either side of the hub, over the arms *o*, holds the hub in place, and allows it to oscillate according to the position of the rollers, as shown at *e*, in fig. 2, where it is shown that each roller may be on a different plane, and parallel with each other, at the same time.

Each section of the box is rigidly attached, by means of bolts or screws, to the cross-bar *d*.

Fig. 3 shows the mode of securing the driver's seat, which rests on the bow *m*, fastened at the front end to the inner section of the tongue, and hinged at the rear end to the cross-bar *d*, which is constructed of metal, so that the oscillations of the rollers may not interfere with the seat.

The tongue is made in two sections, jointed together at *n*, fig. 1, by means of the device I denominate a knuckle, shown in figs. 6 and 7. This device is constructed of metal, and consists of two circular plates or disks, one secured to the end of each section of the tongue, where they join, as shown in figs. 6 and 7. To the inner section are bolted two pins, *r*, one on either side. These pins pass entirely through the disks, and are held in place by the keys *n*, passing through their outer ends, as shown in fig. 1.

The disk or plate, shown in fig. 6, has two circular slots, through which the pins *r r* pass, which allows the inner section of the tongue to oscillate or twist one way or the other, without affecting the other section of the tongue.

The braces *s s* are attached to the inner section of the tongue by means of staples or eyes, so they shall not interfere with the oscillating motion described.

The heads of the rollers are constructed of metal, into the periphery of which are dovetailed the staves, as shown in fig. 1, which not only gives sufficient weight to the machine, but makes the construction quite simple and easy.

The variation between the rollers depends upon the width of the coupling-box *c*, which, if wider, gives a greater radius to the hub *i*, allowing a much greater latitude to the rollers in passing over obstructions.

It will be seen, by fig. 4, that if the hub *i* be longer, the shaft *h* (being the main shaft or axle through the rollers) will have more play in and out, and will consequently facilitate oscillation.

The hinges of the cross-bar *d*, which hold the main frame *e* together, are constructed of metal, and consist of three parts, shown in fig. 8, which represents a single hinge attached to the frame *e* and cross-bar *d*. The parts *t* and *p* are held together by means of the bolt *g*. The part *t* has an annular projection or flange, shown at *v*, same figure. This flange operates in a corresponding recess or groove in the part *p*, so that the office of the bolt *g* is simply to hold the parts together, rather than to pull by.

Having thus described my invention,

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

1. The combination of the hinged cross-bar *d*, the hub *i*, and the double-oscillating coupling-box *c*, all arranged, constructed, and operating as described.

2. The device called a knuckle, shown in figs. 6 and 7, for the purpose of allowing an oscillating motion to the inner section of the tongue, in the manner and for the purpose set forth.

3. The mode of hinging the main frame to the cross-bar *d*, by means of hinges, such as are shown in fig. 8.

4. The rollers, constructed as set forth, with metal heads, having the staves dovetailed into the same, as set forth, in combination with the frame *e*, double-oscillating coupling-box *c*, hub *i*, and cross-bar *d*, all arranged and constructed as and for the purposes set forth.

ROGER SANDIFORD.

Witnesses:

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