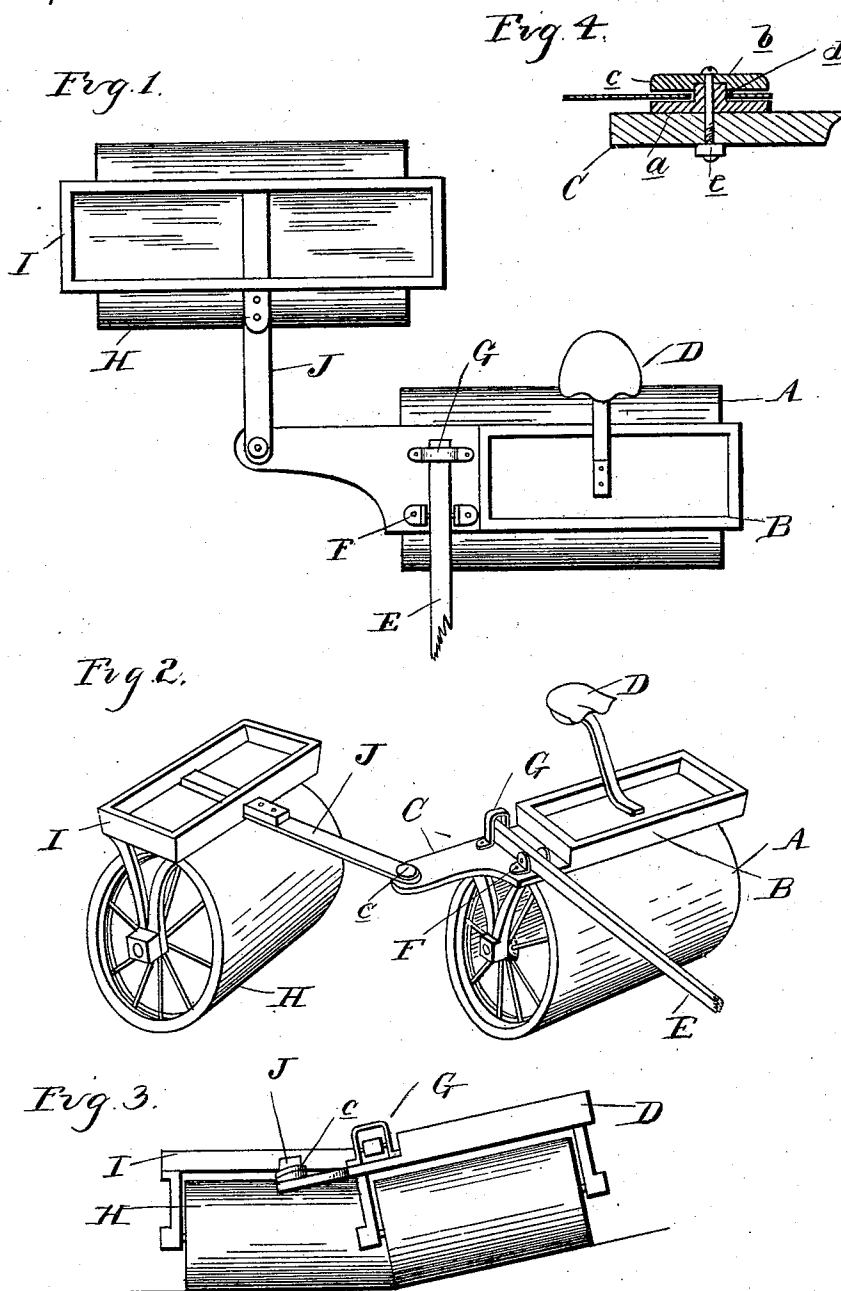


(No Model.)

J. G. MALLERY & E. J. YOUNGS.
LAND ROLLER.

No. 471,820.

Patented Mar. 29, 1892.



Witnesses
A. B. Hobbs
M. B. O'Dogherty.

Inventors
James G. Mallery
Edwin J. Youngs
By *Thos. A. Sprague & Son*
Attys.

UNITED STATES PATENT OFFICE.

JAMES G. MALLERY AND EDWIN J. YOUNGS, OF FLINT, MICHIGAN.

LAND-ROLLER.

SPECIFICATION forming part of Letters Patent No. 471,820, dated March 29, 1892.

Application filed June 17, 1891. Serial No. 396,646. (No model.)

To all whom it may concern:

Be it known that we, JAMES G. MALLERY and EDWIN J. YOUNGS, citizens of the United States, residing at Flint, in the county of Genesee and State of Michigan, have invented certain new and useful Improvements in Land-Rollers, of which the following is a specification, reference being had therein to the accompanying drawings.

10 This invention relates to new and useful improvements in land-rollers; and the invention consists in the peculiar construction and arrangement of two rollers—a main and an auxiliary roller—the main roller being provided with a lateral extension and the auxiliary roller pivoted to said lateral extension and running in rear of the main roller, a spring being employed in the connection between the two rollers to check their oscillation in relation to each other.

20 The invention further consists in the peculiar construction of the draft attachment; and the invention further consists in the peculiar arrangement, construction, and combination of the various parts, all as more fully hereinafter described.

30 In the drawings, Figure 1 is a plan view of our improved roller with the two rollers running in line. Fig. 2 is a perspective view of the same with the rollers moving at a slight angle to each other. Fig. 3 is a front elevation thereof, showing the rollers upon uneven ground. Fig. 4 is an enlarged section through the pivotal connection between the front and rear rollers.

35 A is the front roller and what we will call the "main" roller. This roller is pivoted in the frame B, which frame is provided at one side with an extension C, a seat D, and a draft device, such as the pole E. This pole is pivoted between the brackets F at the forward side of the frame B and at its rear end engages in a vertical guide G, allowing the pole to have a limited vertical movement, so that the oscillations of the frame B are not transmitted to the horses. It frequently happens that the load on such a roller is either forward or backward of the center of gravity and the pole is either lifted up or pulled down, and all the vibrations from the frame in going over uneven ground, with the weight of the

driver added, is transmitted to the horses. By pivoting the pole in this manner we obviate this difficulty, as any ordinary movement of the frame around the roller is not transmitted to the pole.

H is a second roller, which we will call the "auxiliary" roller, which is provided with a suitable frame I and a tongue J, by means of which it is pivoted to the outer end of the lateral extension C of the frame of the front roller. We provide means for checking the oscillation of the rollers by the use of the tongue J, which preferably consists of a flat spring rigidly secured to the frame I and pivotally secured to the extension C, all so arranged that when the rollers assume an angle to each other, as shown in Fig. 3, the spring will be put under tension to resist this movement. Without some such device as this it has been found that the main roller or the auxiliary roller in striking an obstacle in the field is apt to be overturned with danger to the driver and horses; but by arranging the check-spring acting by its tension to prevent the oscillation of the rollers in relation to each it will obviate this danger entirely.

In order to make a proper pivotal connection between the tongue J and the extension C, we preferably employ the following means:

a is a plate secured to the extension C and provided with a central hub b.

c is a cap-plate having a corresponding recess d, adapted to fit upon the hub b, but of such depth as to leave a suitable space between the top of the plate a and the bottom of the plate c when the two are secured together, as shown in Fig. 4.

e is a bolt passing through the extension C and the plates a and c, clamping the parts tightly together.

The tongue J is provided with a sufficiently large aperture to engage over the hub b, so that all the strain and wear comes upon that hub instead of directly upon the bolt. We may with this construction tighten up the nut on the bolt as tight as possible to prevent its being lost without any danger of clamping the tongue too tightly between the plates.

What we claim as our invention is—

1. The combination, with the main roller having a lateral extension, of an auxiliary

roller pivotally connected to said extension and a spring acting with its tension to check the oscillation of the rollers in relation to each other, substantially as described.

5 2. The combination, with the main roller and frame having a lateral extension, of an auxiliary roller pivotally connected to said connection by means of a tongue formed of a spring acting with its tension to check the
10 oscillation of the rollers in relation to each other, substantially as described.

3. In a land-roller, the combination of the frame B, extension C, roller H, frame I, tongue J, formed of a flat spring centrally pivoted at
15 its forward end to the extension C, and the

plates *a* and *c*, between which it is journaled, substantially as described.

4. In a land-roller, the combination, with the two rollers arranged in the manner set forth, of the tongue J, plate *a*, having hub *b*, 20 the plate *c*, having recess *d*, and the bolt *e*, substantially as described.

In testimony whereof we affix our signatures in presence of two witnesses.

JAMES G. MALLERY.
EDWIN J. YOUNGS.

Witnesses:

EFFIE B. TRUE,
CHAS. D. WASSON.