H. W. MATHEWS.

Improvement in Land-Rollers.

No. 132,678. Patented Oct. 29, 1872.

Fig. 1.

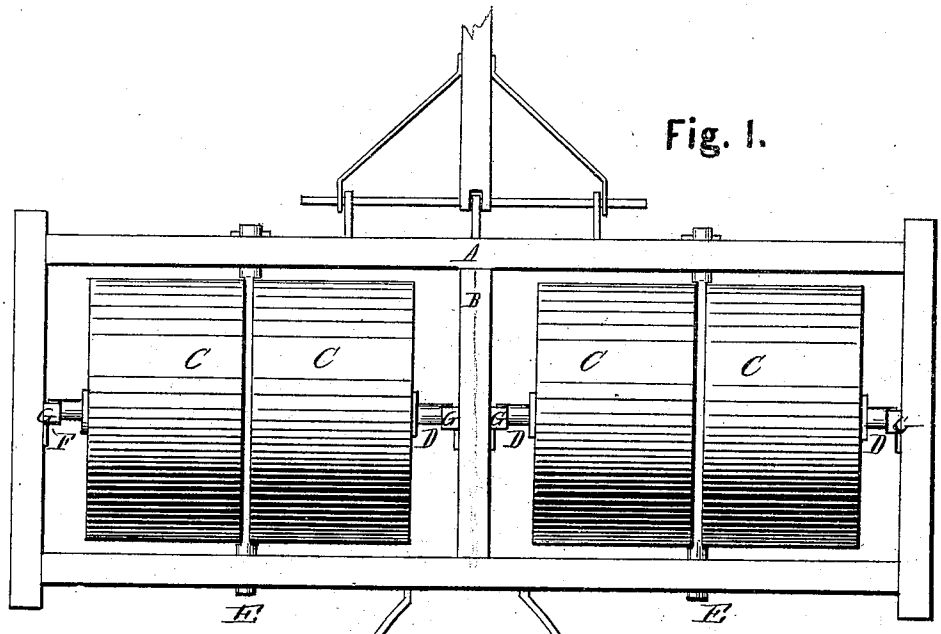


Fig. 3.

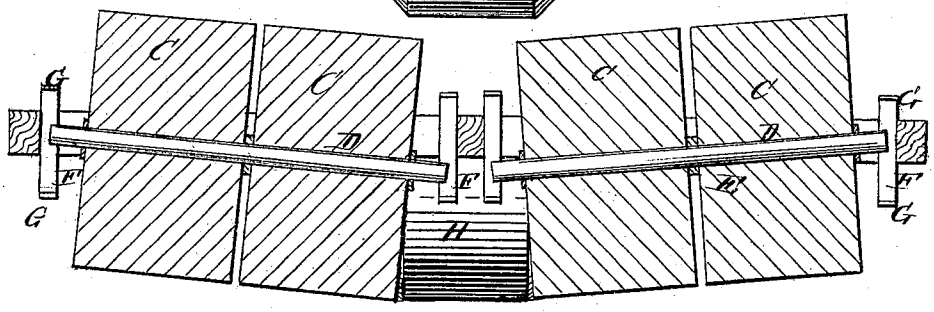
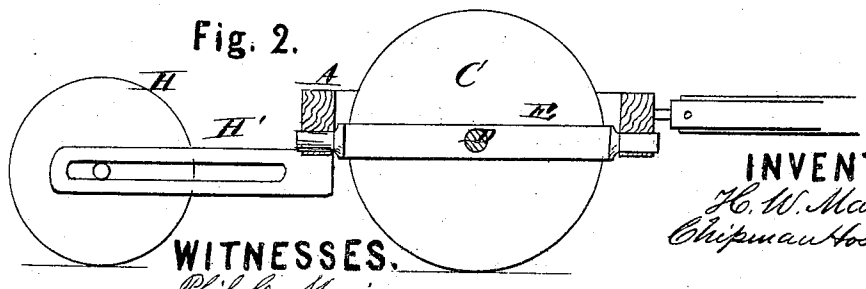


Fig. 2.



WITNESSES.

Phil. C. Mosier

C. B. Steele.

INVENTOR.

H. W. Mathews,

Chipman Hosmer & Co.

Attys.

AM. PHOTO-LITHOGRAPHIC CO. N.Y. (OSBORNE'S PROCESS.)

UNITED STATES PATENT OFFICE.

HOLLOWAY W. MATHEWS, OF FRENCHTOWN, NEW JERSEY.

IMPROVEMENT IN LAND-ROLLERS.

Specification forming part of Letters Patent No. **132,678**, dated October 29, 1872.

To all whom it may concern:

Be it known that I, HOLLOWAY WHITFIELD MATHEWS, of Frenchtown, in the county of Hunterdon and State of New Jersey, have invented a new and valuable Improvement in Land-Rollers; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawing making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawing is a representation of a land-roller, showing a top view; Fig. 2 is a longitudinal section of my invention; and Fig. 3 is a vertical section.

My invention has relation to land-rollers; and consists in the construction and novel arrangement of the guiding-roller with conical ends and curved slotted bearing-arms and the devices for relieving the oscillating shafts of the main rollers from strain, all as hereinafter more fully described.

In the drawing, A designates a rectangular frame divided into two sections by a central beam, B. C designates the land-rollers, of which there are two on each side of the beam B, forming sets or pairs, as shown. D designates the shafts upon which the rollers turn independently. These shafts pass through and are secured to bars E, which pass between each pair of rollers, and, having rounded ends, are journaled to the front and rear bars of the frame A. The shafts D have no end bearings; hence the rollers C swing freely upon the shafts or bars E, which oscillate upon their bearings, and the rollers are thus enabled to adapt themselves to the inequalities of the surface upon which they are rolling. F represents vertical plates or flanges secured to the side and center beams of the frame A, behind the ends of the shafts D, said ends projecting beyond the surfaces of the rollers, as shown. These shafts play up and down in contact with said plates or flanges. Now, when the rollers meet any obstacles having a tendency to throw them out of line and to thereby strain the oscillating shafts E, the force of the strain is immediately thrown on the plates F and the shafts relieved. Upon the ends of said plates lugs G are bent to limit the play of the shafts D. H designates the guiding-roller situated in rear of the frame A, and having its shaft-bearings in curved arms H′, the latter being longitudinally slotted. These arms diverge from their point of attachment to the frame A, and run in the direction of arcs of a circle, one arc being described from the outer end of the other as a center.

By this arrangement the guiding-roller is allowed freedom to swing around from side to side, one end of the shaft turning on a center, while the other describes an arc, and thus the roller adapts itself at once to the direction taken by the main rollers, and in this way acts as a caster or guide. The roller H is designed, also to roll the ground in the space between the two pairs of main rollers.

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

1. The combination, with a frame having guard-plates F, of the vibrating axle D, rock-shaft E, and rollers C, substantially as specified.

2. In a land-roller, the guide-roller H having conical ends and the curved slotted plates H′, substantially as specified.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

HOLLOWAY WHITFIELD MATHEWS.

Witnesses:

W. KITCHEN,

ANDREW ROBERSON.