# J. WOOLRIDGE.

## Land-Rollers.

No. 151,332. Patented May 26, 1874.

Fig. 1.

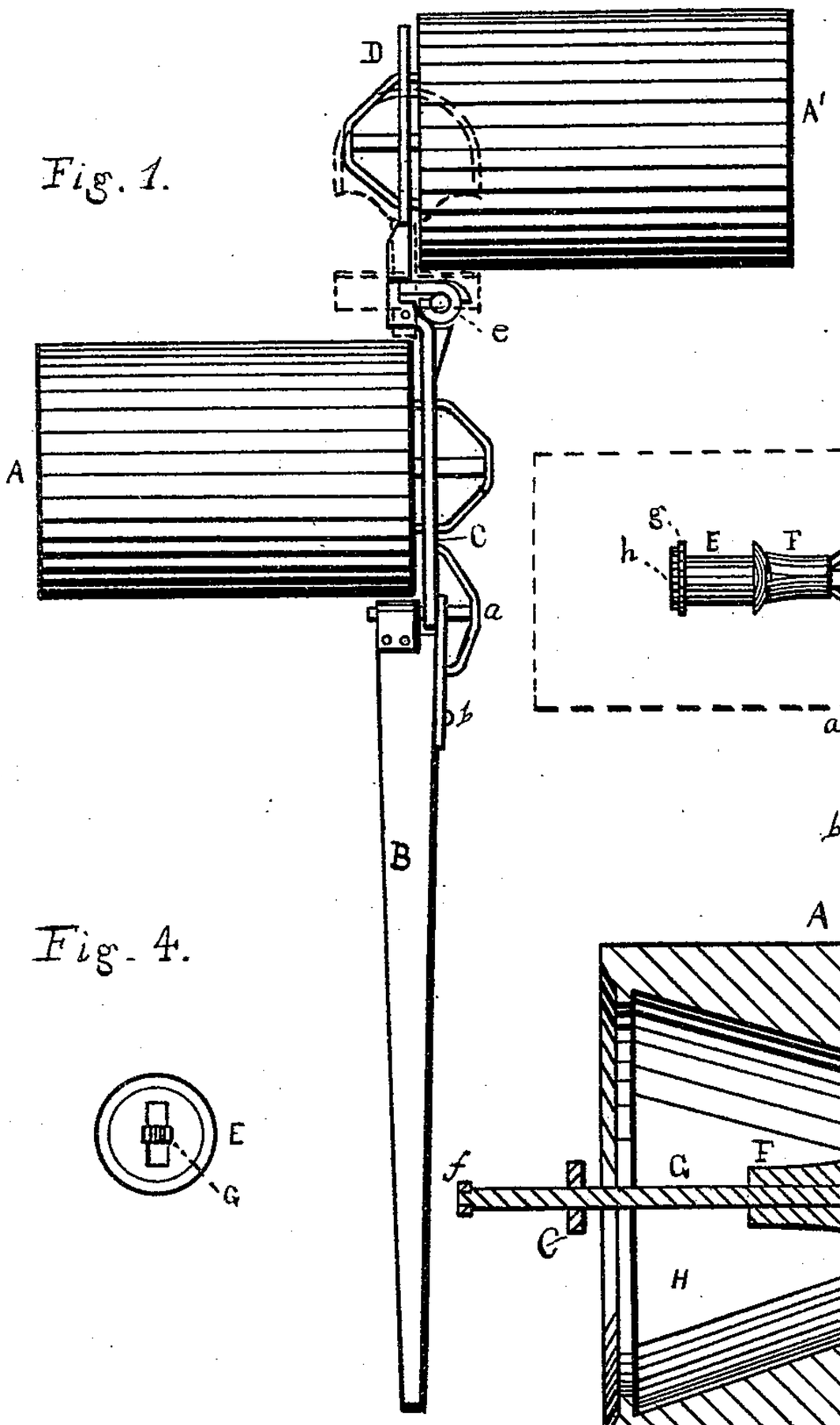


Fig. 2.

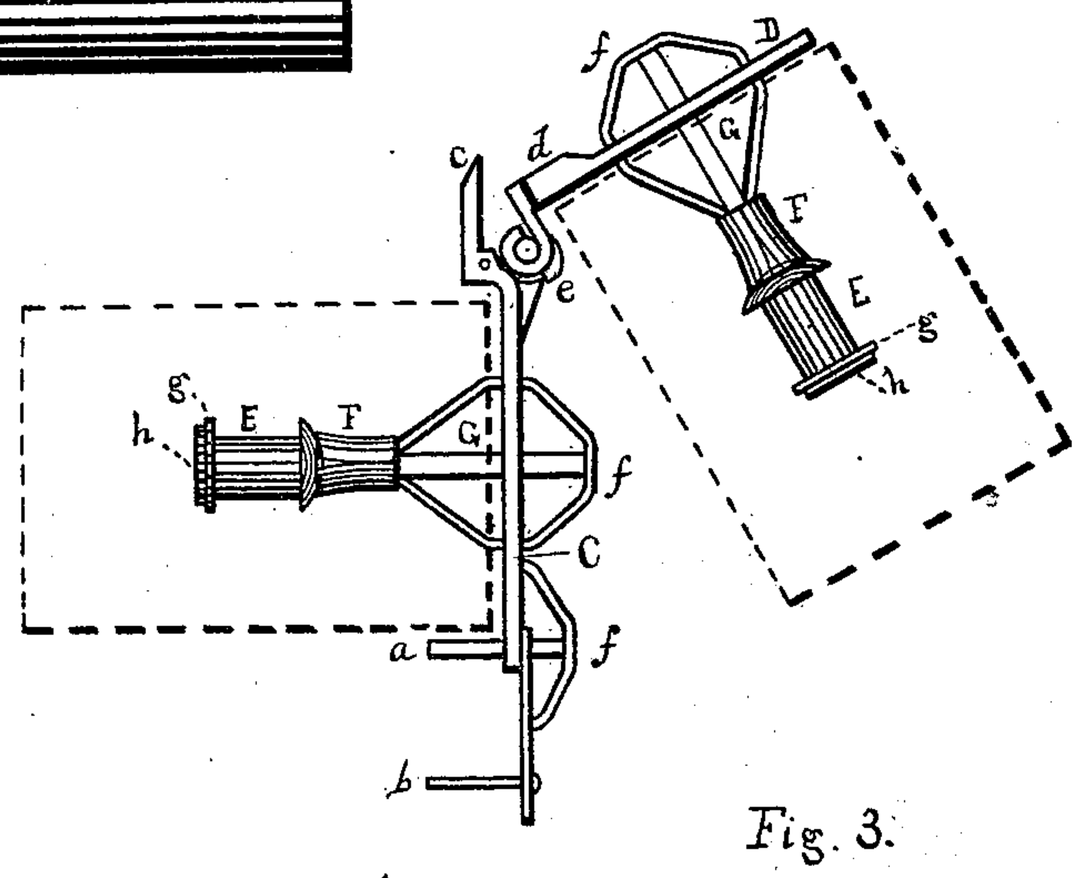


Fig. 3.




Fig. 4.




Witnesses.

E. A. Nesbitt

E. W. Bond

Inventor.

John Woolridge

# UNITED STATES PATENT OFFICE.

JOHN WOOLRIDGE, OF DEAN'S CORNERS, ASSIGNOR OF TWO-THIRDS HIS RIGHT TO ABEL B. SMITH, OF CHICAGO, ILLINOIS.

## IMPROVEMENT IN LAND-ROLLERS.

Specification forming part of Letters Patent No. **151,332**, dated May 26, 1874; application filed March 14, 1874.

*To all whom it may concern:*

Be it known that I, JOHN WOOLRIDGE, of Dean's Corners, in the county of Lake and State of Illinois, have invented new and useful Improvements in Land-Rollers, of which the following is a full description, reference being had to the accompanying drawings, in which—

Figure 1 is a plan view; Fig. 2, a plan view of the frame; Fig. 3, a longitudinal section of a roller; and Fig. 4 an end view of the journal. Figs. 3 and 4 are enlarged.

This invention relates to land-rollers, having for its object to dispense with the usual frame used for this purpose; and consists in providing the roller—at a point near the center of each roller—with a journal or shaft suitably arranged to allow each roller, through the medium of the journal and its boxes, to have a motion independent of its forward or backward movement, to conform to the undulations of the ground; and it also consists in the combination of parts, as hereinafter more fully described.

In the drawings, A represents the fixed roller; A′, the movable roller; B, the tongue or draft-pole; C, bar to which the axle of the fixed roller is attached; D, hinged bar to which the axle of the movable roller is attached; E, journal; F, socket; G, axles; H, openings in the rollers; I, hub; *a*, pin by which the draft-pole is attached; *c*, rear end of the bar C; *d*, socket or guide; *e*, hinge; *f*, braces; *g*, collar, and *h* nut for holding the axle in place. The rollers A A′ are made of iron or other suitable material, and are provided in the center with a hub, I, as shown at Fig. 3. They are connected to the draft-bars C D by means of stationary axles G. Each axle is provided with a collar, F, which prevents the approach of the rollers to the draft-bars. The journal E, upon which the roller revolves, is provided with a longitudinal slot converging toward the center, as shown at Fig. 3, so as to come in contact at that point with the axle, which is square at this point and fits the opening of the journal E. That part of the journal E coming in contact with the collar F is of circular or convex form to fit or correspond to the concave or recessed part of the collar F, thus making a partial ball-and-socket joint. This gives the roller a free vertical movement at either end, without giving it any lateral movement to throw it out of line of the draft. The hub I fits over and revolves upon the journal E, and is held in place by means of a fixed collar on the inner end of the journal, and a detachable collar, *g*, with a screw-cap, *h*, on the outer end, which keeps the parts in position. The axle G is held in place at the outer end by means of a suitable nut or head, to prevent its slipping off. The axle G is attached to the draw-bar, by being passed through it, and supported with braces or brace-rods *f*.

By making the parts heavier these brace-rods may be omitted, but I prefer to make them light, and use the braces, as shown. The post D of the draw-bar is hinged at *e*, and is provided at that point with a stop to prevent the roller A′ from turning so far as to prevent its being drawn into a proper position by the team. A chain or strap from the point *c* will, however, accomplish the same object, or any other suitable device may be attached for this purpose. In turning around, the rollers will be thrown into the position indicated by the dotted lines of Fig. 2, while in ordinary use they will be in the position shown at Fig. 1. A suitable driver's seat may be provided, as indicated by the dotted lines in Fig. 1.

In order to prevent any undue weight upon the necks of the horses, a series of holes may be arranged for the pin *b*, so that the end of the tongue can be raised or lowered by said pin. The journal E may be centrally pivoted to the axle G, as shown at Fig. 3, and when so pivoted the slot may be made without converging centrally, but I prefer to use both the pivot and the centrally-converging slot.

It will be readily seen that these rollers easily conform to the surface, as they rest upon the axle at a single central point, and that by reason of this point being placed within the journal there is no undue wear or strain, as the sides of the slot fit against the axle, as shown at Fig. 4.

What I claim as new is as follows:

1. In a land-roller, the combination of the axle and joint or journal at or near the center of the roller, allowing the roller to have a

free vertical rocking motion, substantially as and for the purpose set forth.

2. The hub I, journal E, with central opening converging each way from the center, in combination with axle G and collar F, substantially as and for the purpose herein specified.

3. The rollers A A′, in combination with the draw-bar C D, hinged at *e* between the axles G G, substantially as and for the purpose herein described.

JOHN WOOLRIDGE.

Witnesses:
E. A. WEST,
O. W. BOND.