No. 745,836. PATENTED DEC. 1, 1903.

R. H. HARTZELL.

RIDING HARROW.

APPLICATION FILED SEPT. 19, 1902.

NO MODEL.

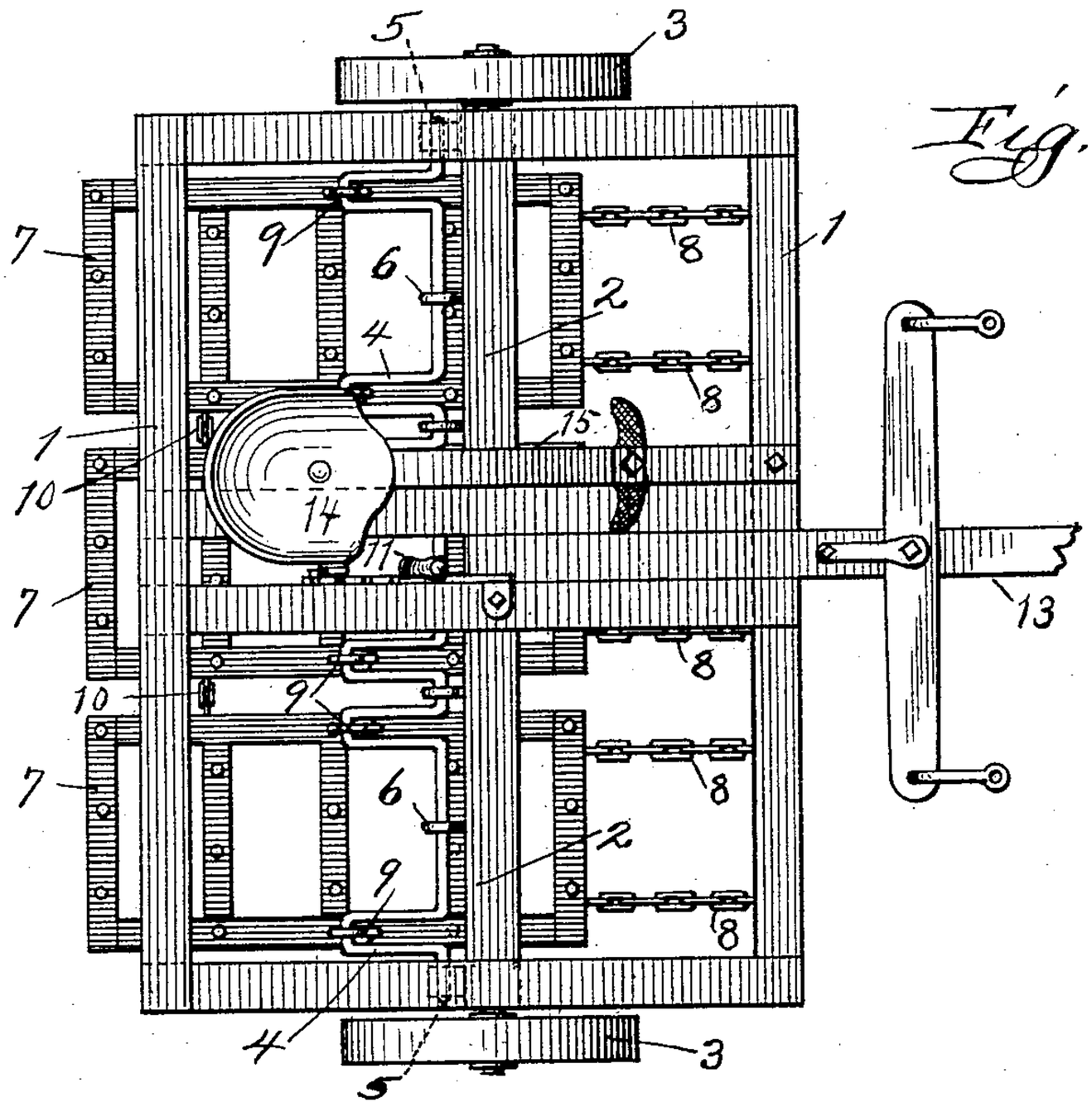

Fig. 1.

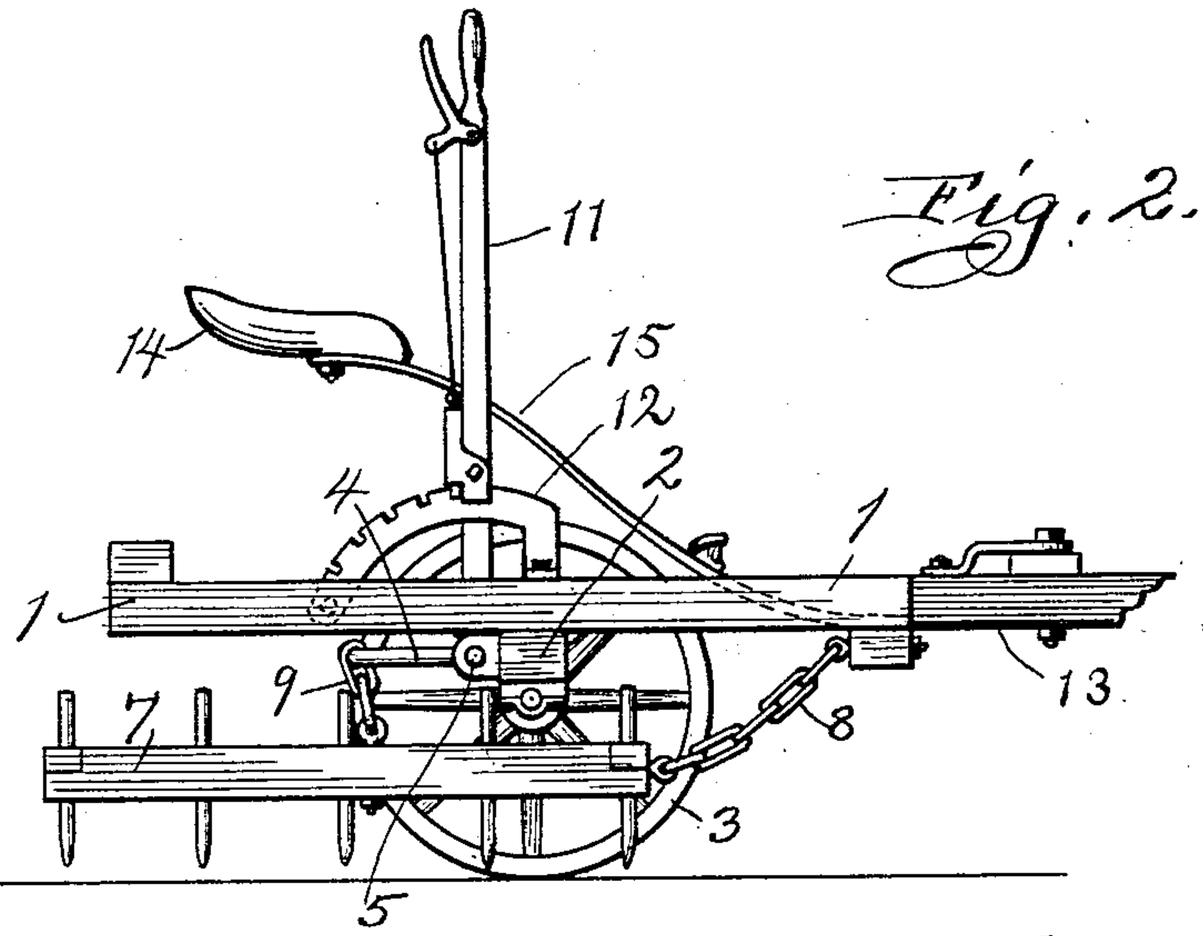

Fig. 2.

Witnesses:
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Inventor:
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No. 745,836. Patented December 1, 1903.

UNITED STATES PATENT OFFICE.

ROBERT H. HARTZELL, OF ROCKFALLS, ILLINOIS, ASSIGNOR OF ONE-HALF TO FRANK O. RUMLEY, OF ROCKFALLS, ILLINOIS.

RIDING-HARROW.

SPECIFICATION forming part of Letters Patent No. 745,836, dated December 1, 1903.

Application filed September 19, 1902. Serial No. 124,002. (No model.)

To all whom it may concern:

Be it known that I, ROBERT H. HARTZELL, a citizen of the United States, residing at Rockfalls, in the county of Whiteside and State of Illinois, have invented certain new and useful Improvements in Riding-Harrows; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

My invention has reference to riding-harrows, and seeks by an improved construction to overcome some of the objectionable features which devices of that class now possess. I do this by providing a light frame balanced on two carrying-wheels, the front bar of such frame serving as a draft-bar, to which the harrow-sections are directly attached, the horses being secured immediately in front of such bar. This construction possesses the advantage of furnishing a direct and positive line of draft from the horses to the harrow-sections, which is greatly to be desired for the reason that a more steady and even operation of the harrow is secured thereby.

In connection with the above features I furnish a simple and convenient means for elevating the harrow-sections above the ground when it is desired to turn around or drive from one place to another without operating the machine.

In the drawings, Figure 1 is a plan view of my device. Fig. 2 is a side elevation thereof with one of the wheels removed.

1 is the frame of the machine, having a transverse central cross-piece 2, to which are secured the carrying-wheels 3.

4 is a continuous crank-shaft journaled at its ends in boxes 5, secured to the frame and sustained between its ends by supports 6, secured to the cross-piece 2.

7 7 represent harrow-sections of usual construction, each section being secured to the front bar of the frame by means of a pair of short chains 8 of equal length. At each side of each harrow-section are short chains 9, by means of which such section is loosely connected with the bent portions of the crank-shaft 4. The harrow-sections are loosely united near their rear ends by links 10.

Secured to the crank-shaft 4, so as to impart a rocking motion thereto, is a lever 11, provided with a spring-pawl device adapted to engage notches in the arch 12, secured to the frame 1. By this means the bent portions of the crank-shaft may be raised or lowered at will, carrying with them the harrow-sections 7.

Secured to the frame 1 and cross-piece 2 is the tongue 13, to which the horses may be secured in the usual manner. Convenient to the lever 11 is a seat 14, secured on a support 15, fastened to the frame 1.

By operation of the lever 11 the harrow-sections are simultaneously raised from contact with the earth or returned thereto.

The method of attaching the sections to the draft-bar and to each other permits such sections to have a limited lateral movement without disturbing the alinement thereof and prevents their turning sidewise or running into each other.

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

The combination with the open frame comprising end, front and rear pieces secured together, a cross-piece 2, and longitudinally-extending cross-pieces arranged at right angles to the said cross-piece 2, supports secured to the rear face of the cross-piece 2, a shaft journaled in said supports and being formed with a plurality of cranks, a plurality of harrow-sections arranged beneath said frame and being joined together by flexible connections, short chains secured to the said harrow-sections and to the cranks of the shaft lying directly thereabove, a lever rigidly secured to said shaft and projecting upwardly between the last-named longitudinally-ex-

tending cross-pieces, and a notched arch secured to one of said last-named cross-pieces, a stop carried by the lever for engagement with said arch, flexible connections between the forward ends of said harrow-sections, and the front piece of said frame and wheels for supporting said frame.

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

ROBERT H. HARTZELL.

Witnesses:
J. E. McPHERSON,
F. A. GOULD.