

W. D. WALTON.
HARROW.
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959,276.

Patented May 24, 1910.

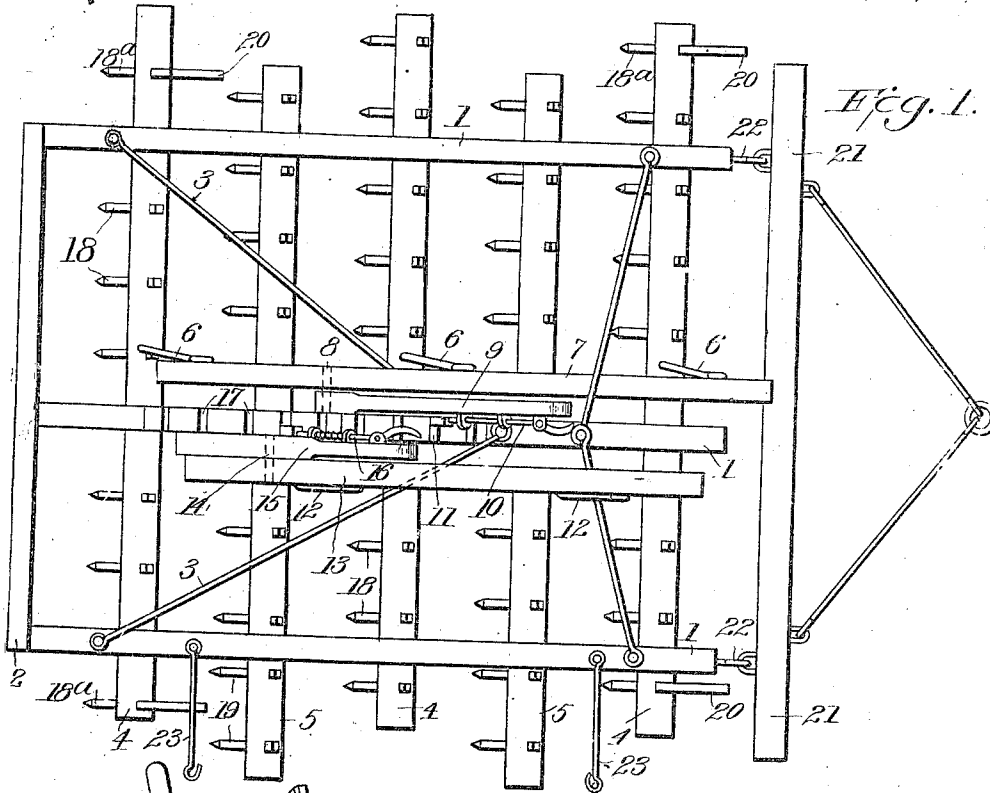


Fig. 1.

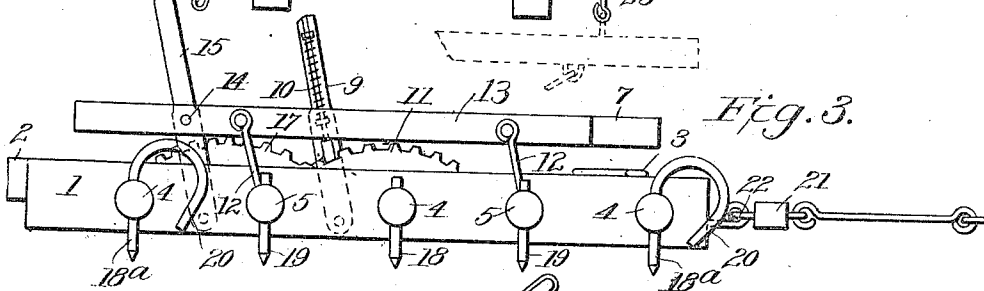


Fig. 3.

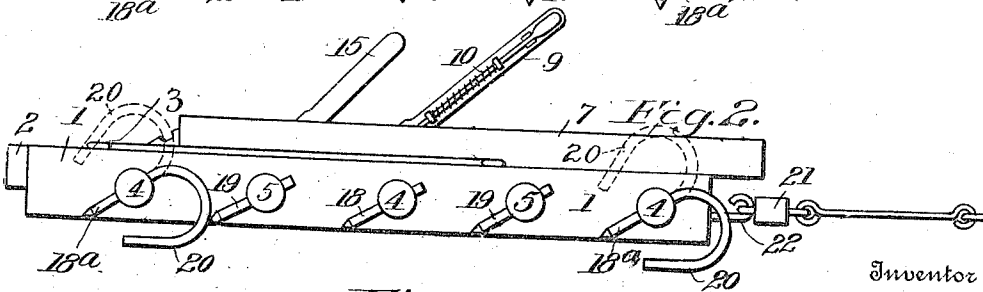


Fig. 2.

Fig. 4.

Witnesses
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UNITED STATES PATENT OFFICE.

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HARROW.

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To all whom it may concern:

Be it known that I, WILLIAM D. WALTON, a citizen of the United States, residing at Covington, in the county of Tipton and State of Tennessee, have invented certain new and useful Improvements in Harrows; and I do hereby 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.

My invention relates to harrows of the type commonly called spike-tooth harrows.

One of the objects of the invention is to provide a harrow of this kind comprising a plurality of tooth carrying bars on which the teeth are staggered, certain of said bars adapted to be operated independently from the others, whereby the number of teeth engaging the ground and the spacing between said teeth may be varied to suit the conditions of the work to be done.

Another object is to provide novel means for supporting the harrow above the ground, when it is being transported from one part of the field to another, which are automatically brought into position when the tooth-carrying bars are thrown out of operative position, and vice-versa.

Another object is to provide for the use of the harrow as a road drag.

Further objects of the invention will become apparent from the following description.

The invention consists in the features of construction and combinations of parts hereinafter described and specified in the claims.

In the accompanying drawing illustrating the preferred embodiment of my invention:

Figure 1 is a plan view of the harrow showing the tooth-carrying bars in inoperative position. Fig. 2 is a side view. Fig. 3 is a side view showing the tooth-carrying bars in operative position. Fig. 4 is a detailed sectional view showing how the supporting devices are attached to the tooth-carrying bars.

The frame of the harrow comprises three longitudinal parallel strips 1 connected at their rear ends by a cross piece 2, and suitably braced by obliquely arranged rods 3. The tooth-carrying bars 4 and 5 are journaled in said longitudinal strips 1. As shown, I prefer to use five tooth-carrying bars which are preferably spaced equidistant

apart. The three alternate bars 4, including the end ones, are connected, as at 6, to an operating bar 7, which is in turn pivotally connected at 8 to a hand lever 9 equipped with a locking rod 10 adapted to co-act with the notched segment 11 for holding said operating bar and tooth-carrying bars 4 in their various positions. The other two tooth-carrying bars 5 are similarly connected at 12 to the operating bar 13 pivoted at 14 to the hand lever 15 also carrying a locking rod 16 adapted to engage the notched segment 17. It will thus be seen that the two tooth-carrying bars 5 may be separately operated from the three tooth-carrying bars 4, whereby either two, three or all of said bars may be placed in operative position at the same time. The teeth 18 on each of said bars 4 are staggered with relation to those on the other two bars 4. The teeth 19 on each of the bars 5 are staggered with relation to those on the other bar 5, and the teeth on both of the bars 5 are also staggered with relation to those on all of the bars 4. By reason of this arrangement or spacing of the teeth on the several bars, the harrow may be adjusted so as to pulverize the ground to various degrees of fineness as may be required.

Hook-shaped rods 20 are attached to each of the end tooth-carrying bars 4 near the extremities thereof. The outer ends of these hooked rods are adapted to rest on the ground and support the harrow out of contact therewith when the bars 4 are arranged in inoperative position. When said bars 4 are revolved to bring them into operative position, the ends of said hook-shaped rods will be raised, as the teeth on said bars are lowered so that, when the latter engage the ground, said hook-shaped rods will be raised out of contact therewith. Said hook-shaped rods are thus automatically brought into operative position as the teeth on the bars 4 are brought into inoperative position and vice-versa. While the hooked-shaped rods may be made in separate pieces, I prefer to form them integral with the teeth 18 nearest the extremities of the end bars 4 by extending said teeth through the bars, as illustrated in Fig. 4.

The whiffletree or "equalizer" 21 is detachably connected to hooks 22 on the front ends of the outside longitudinal strips 1. The harrow may be used as a road drag by

connecting the whiffletree to the hooks 23 secured to one side of the frame, as illustrated in dotted lines in Fig. 1. When drawn along in this way, the tooth-carrying bars will run parallel to the line of progression, and the strips 1 will act as scrapers or drag boards.

It will be noted that when the tooth-carrying bars are in inoperative position, their teeth lie within the plane of the strip 1 so that when the harrow is used as a road drag, said teeth will not interfere with said strips engaging the surface of the road. The bent supporting rods 20 are adapted to turn in their bearings in the end bars 4, and may be turned up out of the way, as shown in dotted lines in Fig. 2, when the harrow is used as a road drag.

I claim:

1. In a harrow, the combination, with tooth-carrying bars, and means to actuate said bars to bring their teeth into or out of operative position, of hook-shaped rods car-

ried by said bars for supporting the harrow above the ground when the teeth are in inoperative position, said hook-shaped rods being mounted to turn in their bearings in said bars whereby they may be turned up out of the way when desired for the purpose specified.

2. In a harrow, the combination, with tooth-carrying bars, and means to actuate said bars to bring their teeth into or out of operative position, of hook-shaped rods carried by said bars for supporting the harrow above the ground when the teeth are in inoperative position, said hook-shaped rods being made integral with the teeth located nearest the extremities of said bars.

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

WILLIAM D. WALTON.

Witnesses:

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