(No Model.) 3 Sheets—Sheet 1

J. L. ASHURST.

GRAIN DRILL.

No. 475,532. Patented May 24, 1892.

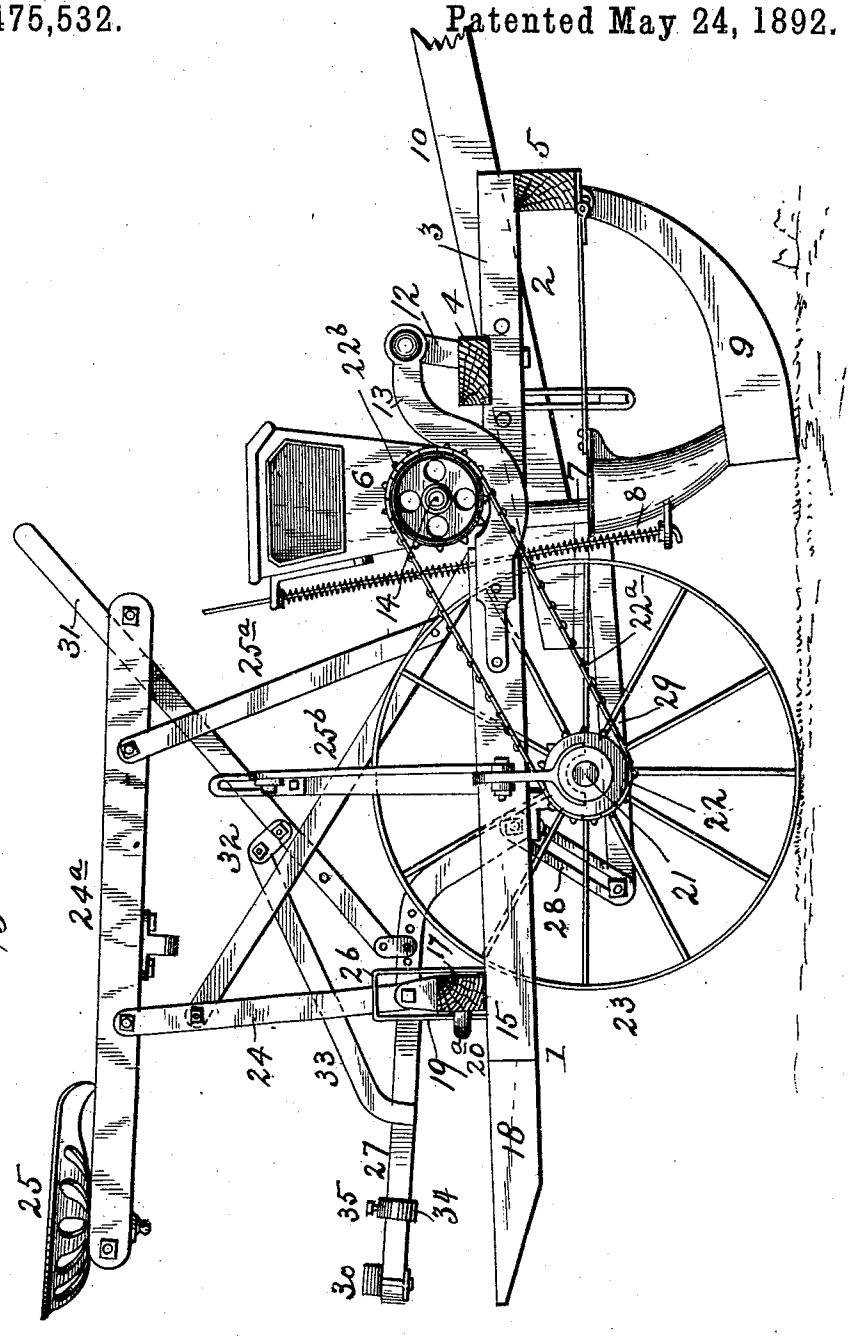

Fig. 1.

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(No Model.) 3 Sheets—Sheet 2

J. L. ASHURST.

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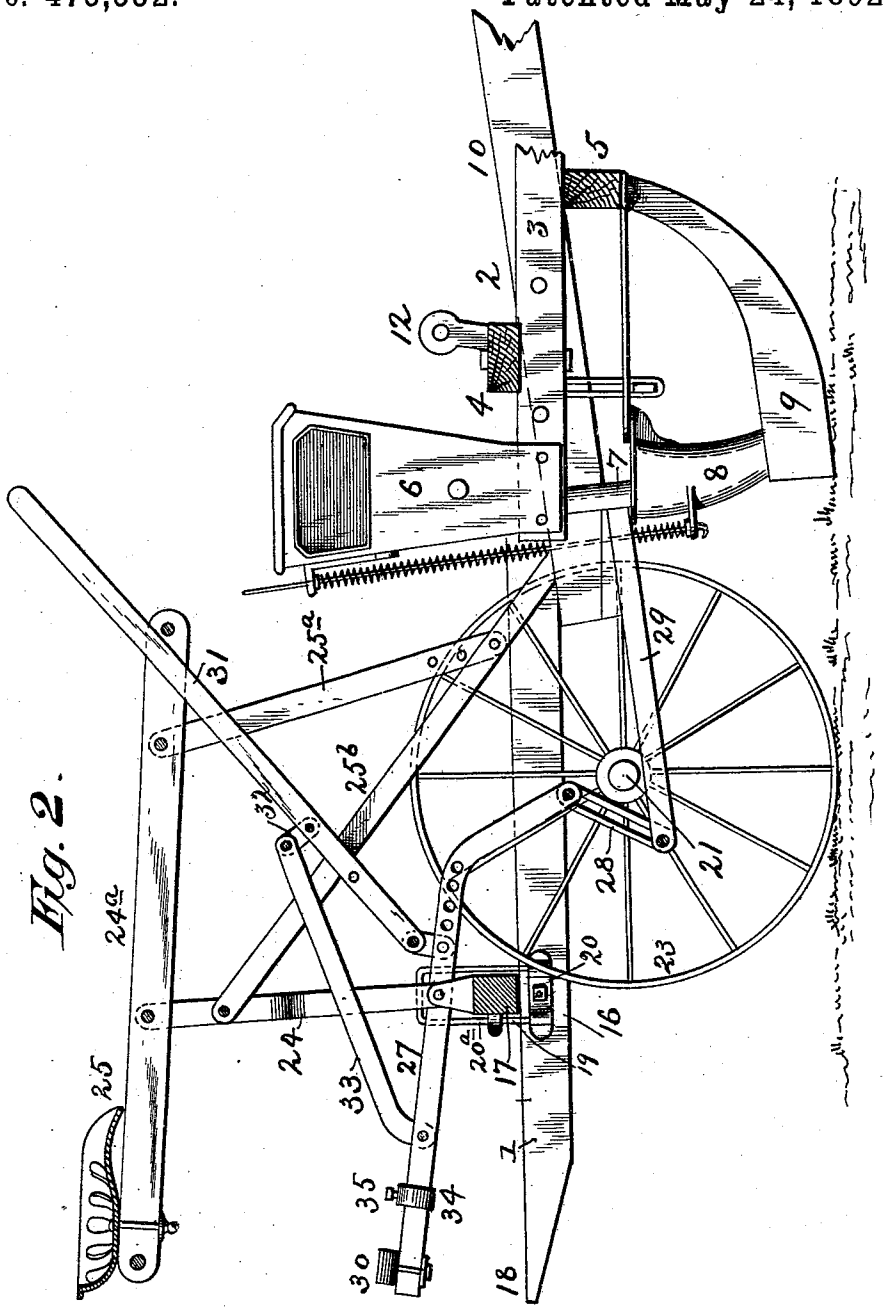

Fig. 2.

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(No Model.) 3 Sheets—Sheet 3.

J. L. ASHURST.

GRAIN DRILL.

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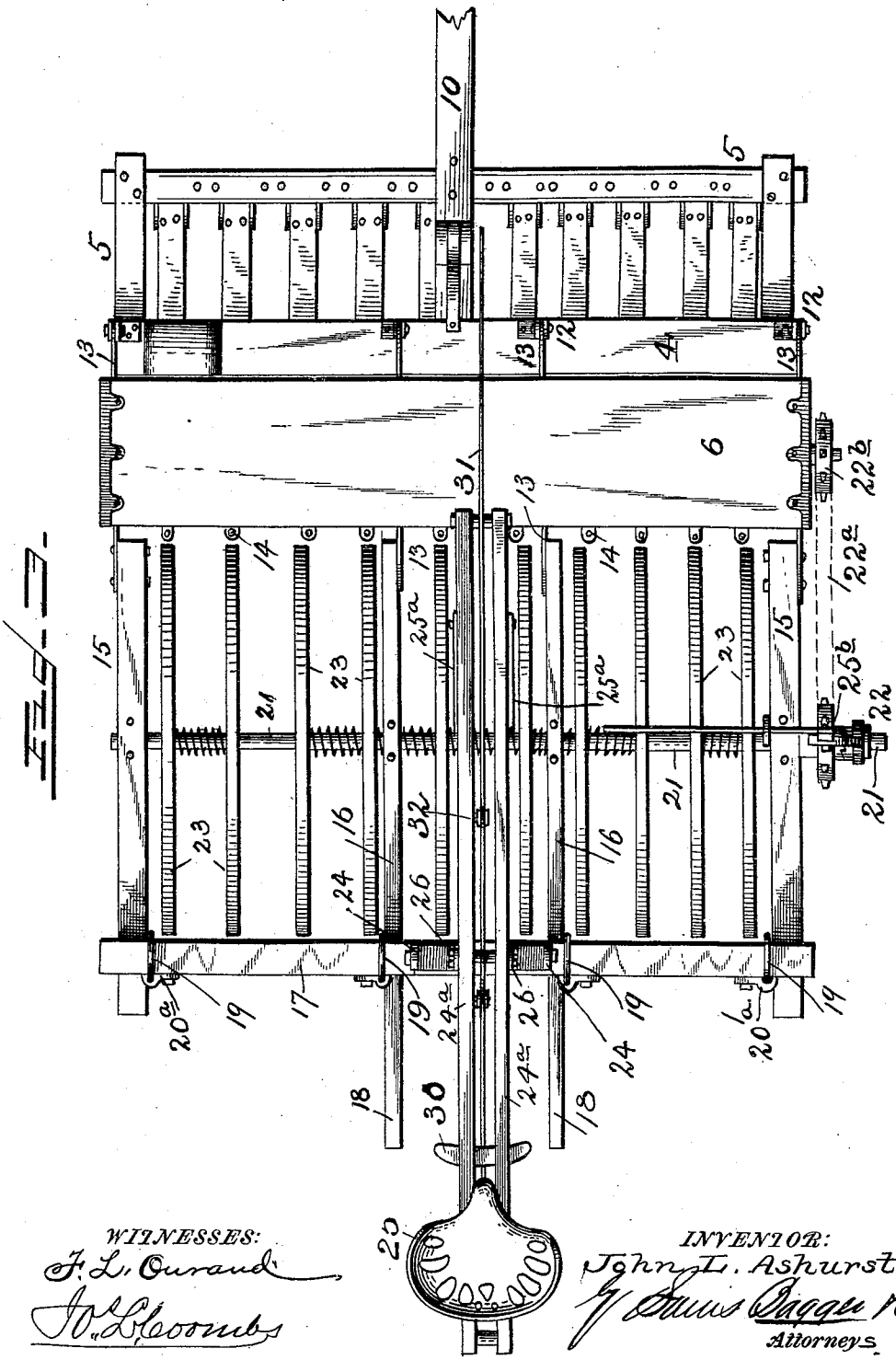

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UNITED STATES PATENT OFFICE.

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GRAIN-DRILL.

SPECIFICATION forming part of Letters Patent No. 475,532, dated May 24, 1892.

Application filed April 14, 1891. Serial No. 388,852. (No model.)

To all whom it may concern:

Be it known that I, JOHN L. ASHURST, a citizen of the United States, and a resident of Havana, in the county of Mason and State of Illinois, have invented certain new and useful Improvements in Grain-Drills; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

My invention relates to grain-drills, being particularly designed as improvements upon the grain-drill for which Letters Patent were granted to me September 1, 1885, No. 325,583. In said patent there is illustrated and described a grain-drill comprising front and rear sections, the front section carrying the seed-box, tongue, runners, and other attachments, while the rear section carries press-wheels moving in the path of the runners for the purpose of covering the grain, which is fed to the furrows by the spouts and boots. These two sections are pivotally connected or hinged together so that they may adjust themselves independent of each other according to the nature of the ground over which they pass, means also being provided whereby the depth of the furrows turned by the runners can be regulated.

The principal objects of the present invention are to provide improved means for connecting and hinging the two sections together, and also improved means for regulating the depth to which the runners shall enter the soil to turn the furrows. There are also other objects and advantages, which will be apparent to those skilled in the art to which the invention pertains.

The invention consists in the novel construction and combination of parts hereinafter fully described, and specifically set forth in the claims.

In the accompanying drawings, Figure 1 is a side elevation of a grain-drill constructed in accordance with my invention. Fig. 2 is a longitudinal sectional view thereof. Fig. 3 is a plan view.

The drill-frame consists of two sections 1 and 2, hinged or pivotally connected together, the front section comprising longitudinal bars 3 and cross-bars 4 and 5. Upon this frame are supported and carried the feed-box 6, spouts 7, boots 8, and runners 9. There is also a tongue 10, connected with the cross-bars 4 and 5, located underneath the feed-box and extending a short distance in rear thereof. In lugs 12, secured to cross-bar 4, are pivoted the front ends of curved arms 13, the rear ends thereof being secured to the rear section of the frame. The curve of these arms lies below the feed-shaft 14, so that they can be raised and lowered without coming in contact therewith and the sections be correspondingly regulated or adjusted without interference with said shaft. The rear section comprises side longitudinal bars 15, intermediate bars 16, and a transverse bar 17, the intermediate bars extending rearwardly beyond the transverse bar, forming foot-rests 18. The front ends of these bars 16, as well as the side bars 15, are connected with cross-bar 4 by means of the curved arms 13. The transverse bar 17 is loosely connected with bars 15 and 16 by means of stirrups 19, secured to clamps 20 on said longitudinal bars and passing through brackets 20^a on the said bars.

The numeral 21 designates a transverse axle journaled in boxes secured to the under side of the longitudinal bars. This shaft or axle is provided with sprocket-wheel 22, by which motion is transmitted to the feed-shaft 14 by means of sprocket chain and wheel 22^a and 22^b. The press-wheels 23 are mounted on shaft 21.

Pivotally connected with the upper ends of standards 24, secured to the rear cross-bar, are longitudinal bars 24^a, upon which is mounted a slidable seat 25. Near their front ends these bars are connected with downwardly-extending arms 25^a, which are pivoted to diagonal bars 25^b, pivoted to standards 24 and to the rear extension of the tongue. By moving the seat longitudinally upon said bars 24^a more or less weight may be thrown upon the front section, according to the direction in which said seat is moved, the seat-frame acting as a lever and the press-wheels as a fulcrum, whereby the depth to which the runners enter the soil can be governed.

Pivoted in lugs 26, secured to bar 17, is a foot-lever 27, the front end of which is connected by means of a slotted link 28, with an arm 29, secured to the rear extension of the tongue 10. This lever is provided with a series of apertures, so that it may be adjusted in the lugs, and at its rear end is provided with a cross-piece 30, forming a foot-rest. Pivoted to lever 27 is a hand-lever 31, having secured thereto intermediate of its ends a lug 32, to which is pivoted a bar 33, the rear end of which is bifurcated and embraces lever 27, the bifurcations serving as guides. This lever 31 is also provided with a series of apertures, so that the bar 33 may be adjusted thereon. Intermediate of the bifurcated end of bar 33 and the end of lever 27 and embracing the latter is a collar 34, which is provided with a set-screw 35. This collar is adjustable upon said lever and is retained in its adjusted position by means of said set-screw and is intended to limit the forward movement of the cross-piece 30.

By means of the mechanism just described the driver can elevate the front section above the ground by depressing the foot-lever 27 and pulling back hand-lever 31. The object of elevating the front section is to enable the apparatus to be readily turned without liability of injuring the runners and also to avoid obstructions.

The depth of entrance of the runners may be adjusted either by the sliding seat or by the intermediate bars 16, the driver throwing his weight upon the foot-rests of the latter, which will act as levers.

By pivoting the sections together in front of the feed-shaft the weight of seed-boxes, runners, tongue, and other attachments is divided and balanced, thus adding to the comfort of the draft-animals.

Having thus described my invention, what I claim is—

1. In a grain-drill, the combination, with the front section carrying the feed-box, feed-shaft, feed-spouts, runners, and tongue, and the rear sections carrying the press-wheels, of the foot-lever pivoted to the rear transverse bar, the slotted link connected with said lever, the longitudinal arm or bar pivoted to said link and to the tongue extension, and the curved arms connecting the front and rear sections, substantially as described.

2. In a grain-drill, the combination, with the front horizontal side bars and transverse bar connecting the same, the tongue, the feed-box, and shaft, the runners, and the tongue, of the rear horizontal side bars, the intermediate bars having their rear ends formed or provided with foot-rests, the rear transverse bar, the stirrups and clamps and brackets for loosely securing the said transverse bars to the horizontal bars, the curved arms secured to said horizontal side bars and pivotally connected with one of the front transverse bars, and the press-wheel shaft and press-wheels, substantially as described.

3. In a grain-drill, the combination, with the front and rear sections and the tongue having a rear extension secured to said front extension, of the foot-lever pivotally connected with the rear transverse bar and having an adjustable collar thereon, the longitudinal bar and link connecting said lever with the tongue, a hand-lever pivoted to said foot-lever, an arm pivoted to said hand-lever, having a bifurcated end engaging with the foot-lever and slidable thereon, and the press-wheels and shaft, substantially as described.

In testimony that I claim the foregoing as my own I have hereunto affixed my signature in presence of two witnesses.

JOHN L. ASHURST.

Witnesses:
J. A. MALLORY,
EDMUND M. JOYCE.