No. 700,923. Patented May 27, 1902.

C. HENDERSON.

ROAD GRADER, SCRAPER, AND WEEDER.

(Application filed Nov. 18, 1901.)

(No Model.) 2 Sheets—Sheet 1.

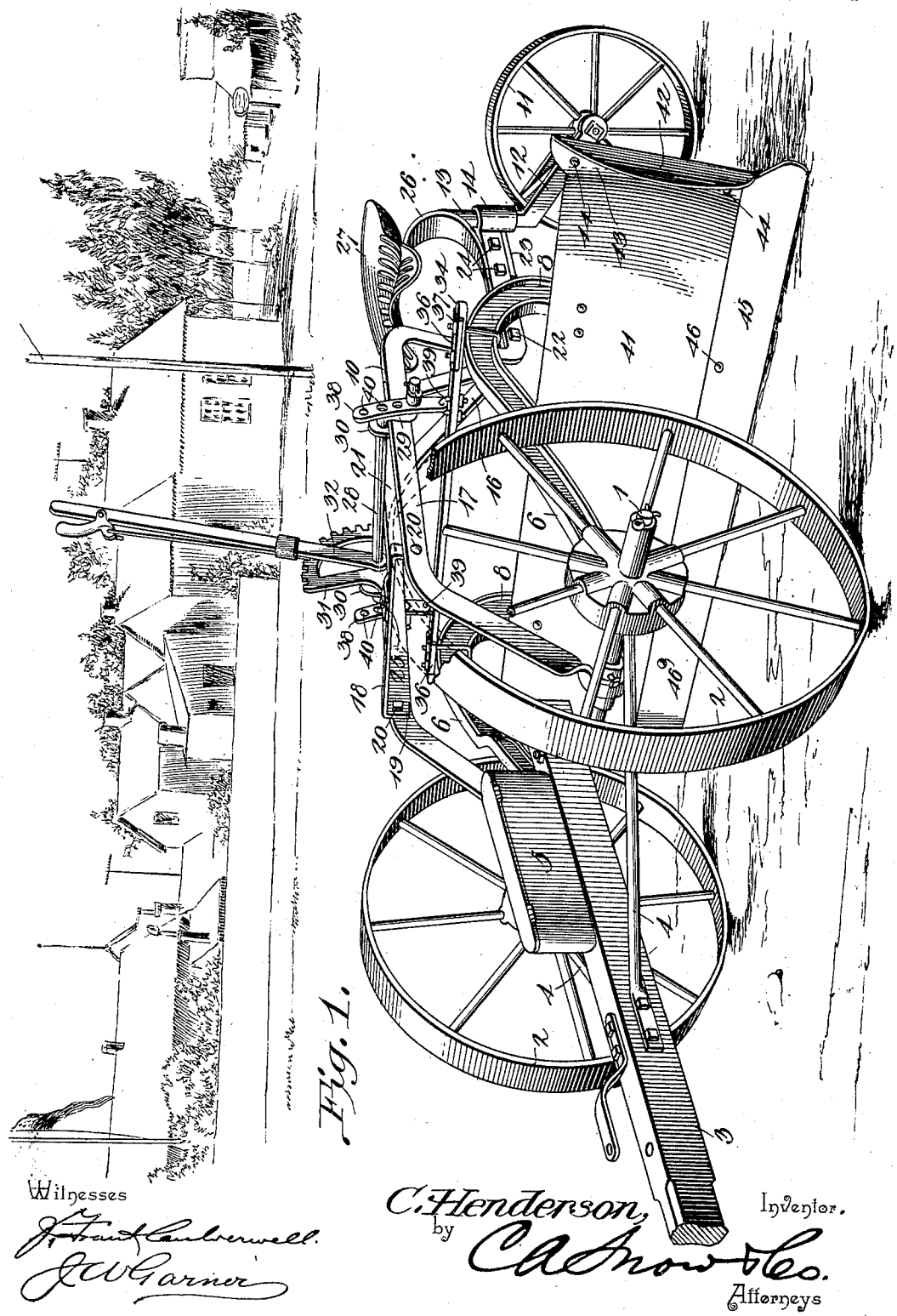


Fig. 1.

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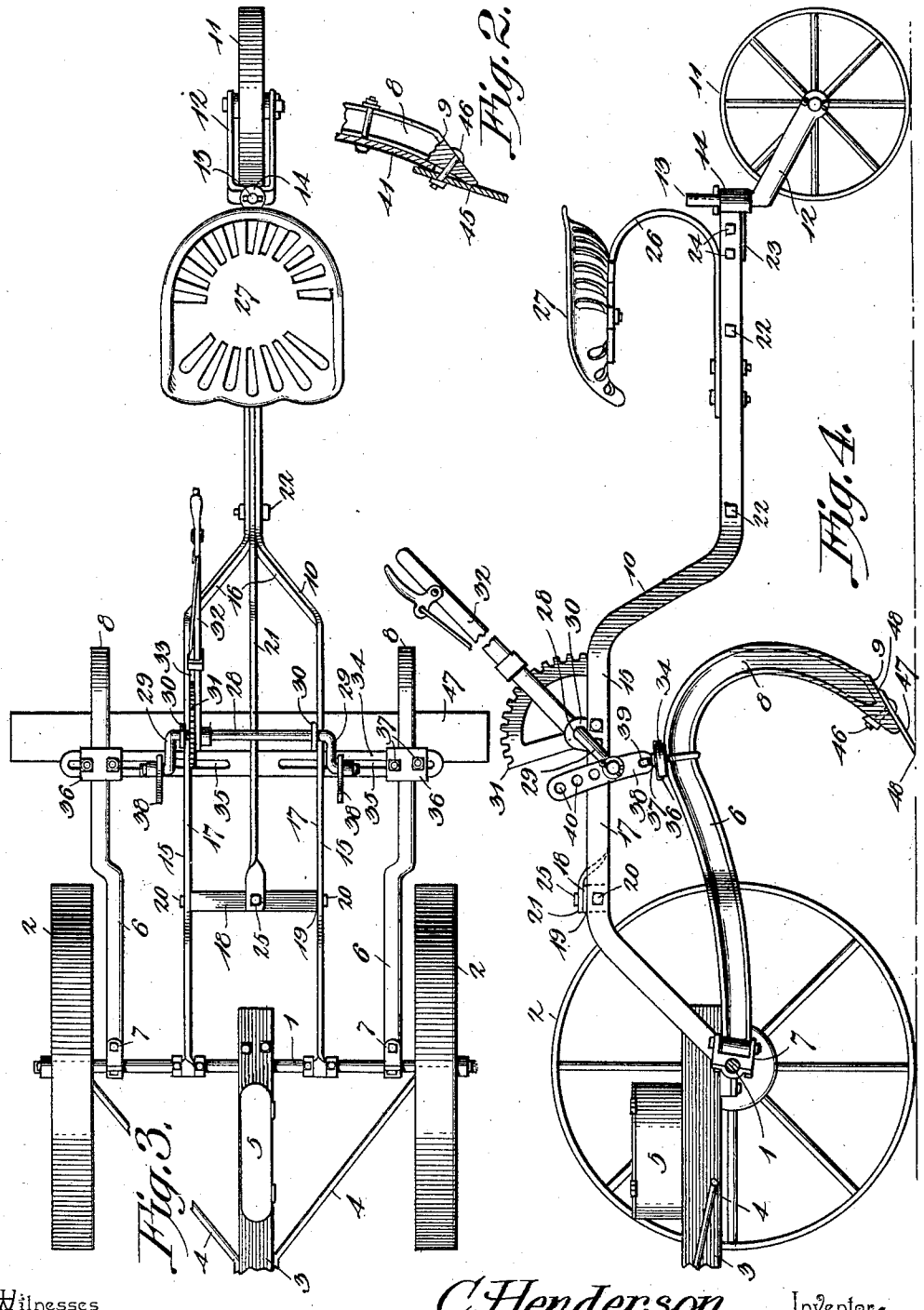


Fig. 3.

Fig. 2.

Fig. 4.

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UNITED STATES PATENT OFFICE.

CHRISTOPHER HENDERSON, OF MONTROSE, COLORADO.

ROAD GRADER, SCRAPER, AND WEEDER.

SPECIFICATION forming part of Letters Patent No. 700,923, dated May 27, 1902.

Application filed November 18, 1901. Serial No. 82,699. (No model.)

To all whom it may concern:

Be it known that I, CHRISTOPHER HENDERSON, a citizen of the United States, residing at Montrose, in the county of Montrose and State of Colorado, have invented a new and useful Road Grader, Scraper, and Weeder, of which the following is a specification.

My invention is an improved road grader, scraper, and weeder; and it consists in the peculiar construction and combination of devices hereinafter fully set forth and claimed.

In the accompanying drawings, Figure 1 is a perspective view of my improved machine, showing the same provided with the scraping and grading blade. Fig. 2 is a detail sectional view of the same. Fig. 3 is a top plan view of my improved machine, showing the same provided with the weeding-blade. Fig. 4 is a side elevation of the same with the near wheel removed.

In the embodiment of my invention I employ an axle 1, on the spindles of which are mounted a pair of supporting-wheels 2. A draft pole or tongue 3 is here shown as attached at its rear end to the center of the axle and also connected thereto by brace-rods 4. A tool-box 5 may be carried on the rear portion of the tongue. A pair of beams 6 have their front ends connected to clips 7, the said clips being secured to and laterally adjustable on the axle, whereby the front ends of the said beams may be disposed at any desired distance apart. Standards 8, which are curved, as shown, are formed integrally with the said beams 6 at the rear ends thereof, and the lower ends of the said standards are inclined, as at 9.

A frame 10 has its front end connected to the axle and its rear end supported by a trail-wheel 11, which is carried by a fork-frame 12, which has a vertical spindle 13, that turns in a bearing 14 at the rear end of the said frame. I will now describe the construction of the said frame.

A pair of longitudinally-disposed bars 15, which are preferably made of iron or steel and which constitute the sides of the frame 10, have their front portions diverged or forked, as at 16, and are arched, as at 17, to clear the beams 6. The front ends of the said bars 15 are connected to the axle 1, either as here shown or in any other suitable manner. A cross-bar 18, which is disposed at a suitable distance from the front ends of the bars 15, has its ends downturned, as at 19, the said downturned ends of said cross-bar 18 being bolted to the inner sides of the bars 15, as at 20. A centrally-disposed bar 21 has its rear portion disposed between the rearwardly-extending portions of the bars 15, said rearwardly-extended portions of said bars 15 21 being bolted together, as at 22. The bearing 14 for the spindle 13 of fork-frame 12 has a forwardly-extending arm 23, which is disposed between the rearwardly-extended portions of said side bars 15 and bolted in position by bolts 24. The front portion of said bar 21 is arched and is bolted to the center of the cross-bar 18, as at 25. A spring 26, which is bolted on the rearwardly-extending portions of the bars 15 21, carries a seat 27 for the driver.

A rock-shaft 28, which is provided at its ends with cranks 29, is journaled in bearings 30, which are bolted to the arched portions of the side bars 15. A segment-rack 31 is also bolted to one of said side bars, and to the said rock-shaft is attached a lever 32, which is provided with a locking-dog 33 for engagement with said segment-rack, whereby said lever and the cranks of said rock-shaft may be disposed at any adjustment.

A transversely-disposed bar 34 is disposed on and connects the rear portions of the beams 6. Said bar is provided with elongated slots 35, and the said beams are connected to the said bar by clips 36, which operate in said slots. Hence the beams may be adjusted toward or from each other, and by tightening the nuts 37, with which the said clips 36 are provided, said beams may be secured at any desired lateral adjustment. Links 38 have their lower ends flexibly connected to the bar 34 by U-shaped bolts or other suitable devices 39. The said links are each provided with a series of openings 40, and the wrists of the cranks 29 of rock-shafts 28 may be engaged with any of the said openings of the said links. It will be understood that by means of the rock-shaft and the connections hereinbefore described the rear ends of the beams may be raised or lowered to raise or lower the grading or weeding blade connected to the standards of said beams.

In Fig. 1 of the drawings I show a scraping-blade 41, which is used for scraping or grading, attached to the front sides of the beams 8. The said blade 41 is of the form shown and is provided at its ends with forwardly-extended sides 42, which prevent earth heaped up in advance of the blade during the operation of the machine from escaping therefrom at the ends thereof. The said sides 42 are angular in cross-section and have the rear portions 43, which bear upon the front sides of the blade 41 at the ends thereof and secured thereto by bolts 44. At the lower edge of the said blade 41 and overlapping the same is a share-blade 45, which is preferably made of steel and is secured on the lower portions of the standards 8 by bolts 46, the lower edge of the blade 41 being clamped between said share-blade and said standards 8 by the said bolts 46.

In Figs. 3 and 4 of the drawings the weeder-blade 47 is shown as secured on the inclined lower sides 9 of said standards 8 by the bolts 46, the blades 41 and 45 having been removed. The said weeder-blade has its oppositely-disposed edges beveled and sharpened, as at 48, so that said blade is adapted to be reversed when one of the edges thereof becomes dull. It will be understood from an inspection of Figs. 3 and 4 of the drawings that when the machine is equipped with the said blade 47 the same is adapted for use in destroying weeds, the front edge of the said blade running under the surface of the soil at a slight depth and cutting through the roots and stems of the weeds and effectually destroying them.

My improved machine may be also used for ditching and other analogous purposes, is exceedingly cheap and simple, is very strong and durable, and is entirely efficient when in operation.

Having thus described my invention, I claim—

1. A machine of the class described, comprising a front axle and supporting-wheels thereon, beams having standards adapted for the attachment of an earth-operating blade thereto, said beams having their front ends slidably and pivotally connected to said axle, a cross-bar to which said beams are slidably connected, a frame attached to said front axle, a supporting element for the rear end of said frame, a crank-shaft having its bearings on said frame, a lever to turn said crank-shaft, and a link connecting a crank of said shaft to said cross-bar, substantially as described.

2. In a machine of the class described, a frame comprising a pair of side bars having their front portions diverged forwardly and arched, a cross-bar connecting said arched front portions of said side bars, and a centrally-disposed longitudinal bar, having its front portion arched and secured to said cross-bar, the rear portion of said last-mentioned bar being disposed and secured between the rearwardly-extending portions of said side bars, substantially as described.

3. In a machine of the class described, a frame having forwardly-diverging side bars with arched front portions, a bearing secured between the rear ends of said side bars, a fork-frame, having a vertical spindle journaled in said bearing, a trail-wheel carried by said fork-frame, an axle to which the front ends of said side bars are connected, supporting-wheels on said axle, beams having standards adapted for the attachment of an earth-operating blade thereto, said beams being pivotally connected at their front ends to said axle, a bar connecting said beams together, a rock-shaft journaled in bearings on said side bars, said rock-shaft having an operating-lever and cranks, and links, connected to said bar and adjustably connected to said cranks, substantially as described.

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

CHRISTOPHER HENDERSON.

Witnesses:

HUGO SELIG,

W. A. CASSEL.