

No. 667,648.

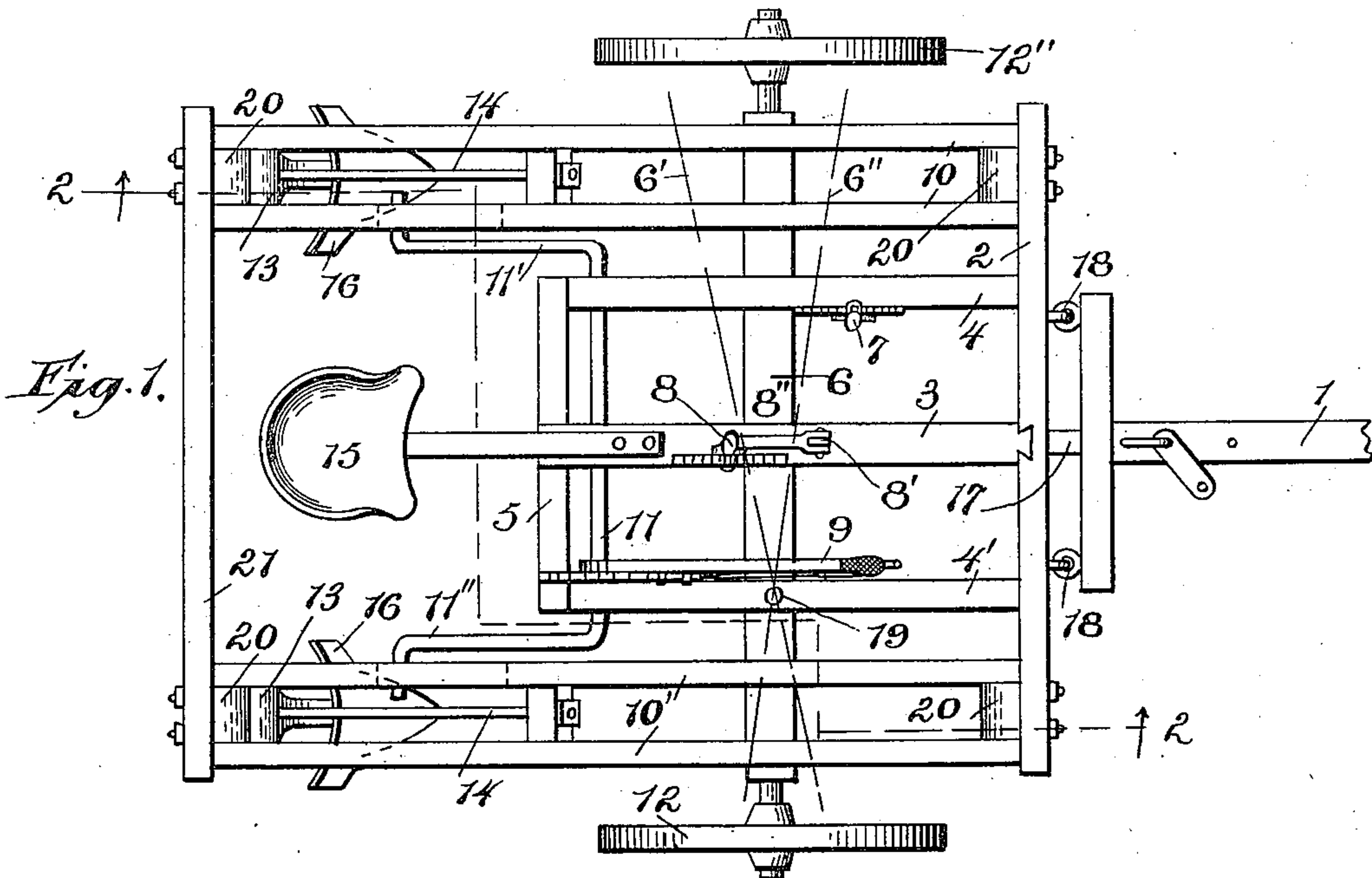
Patented Feb. 5, 1901.

C. M. CARTER.

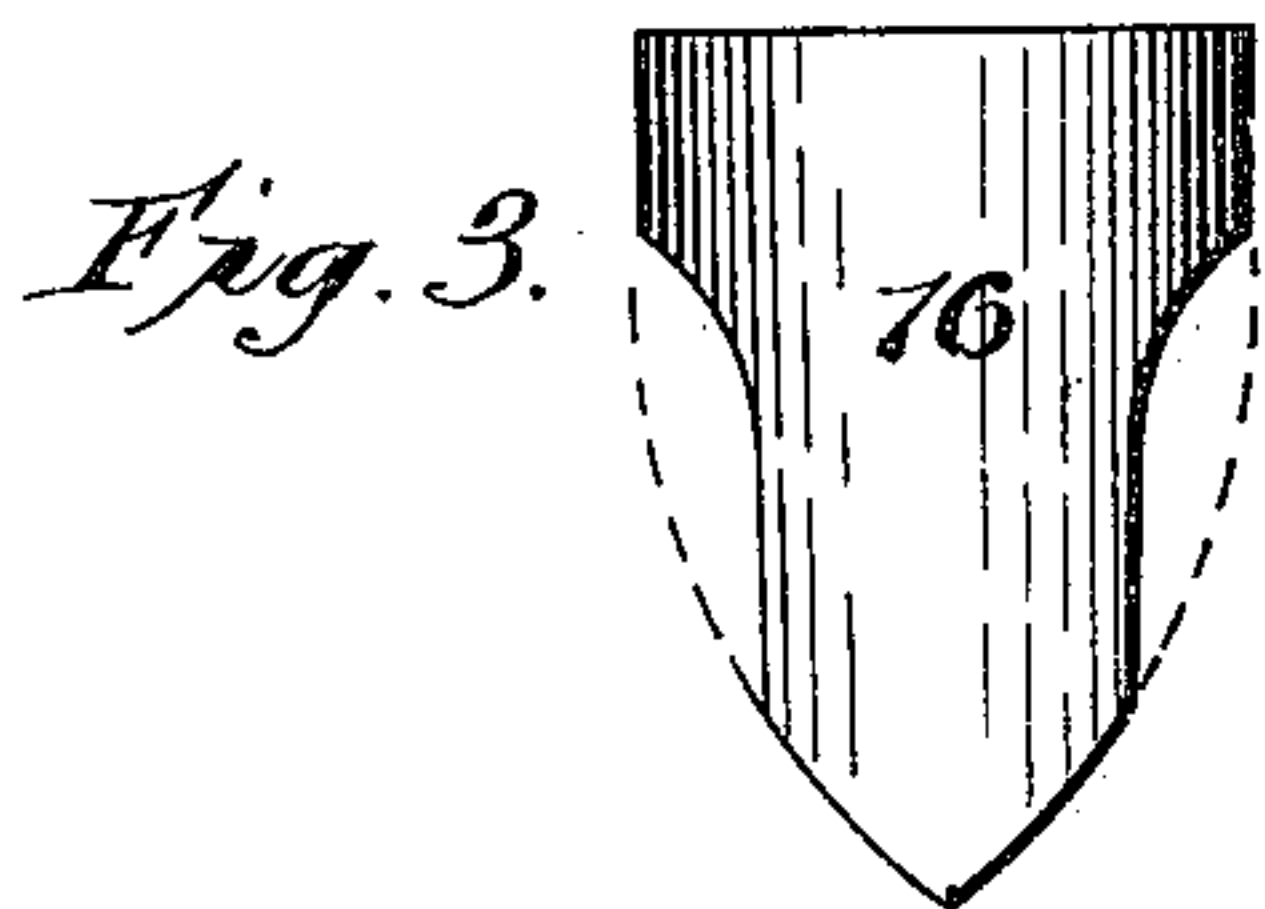
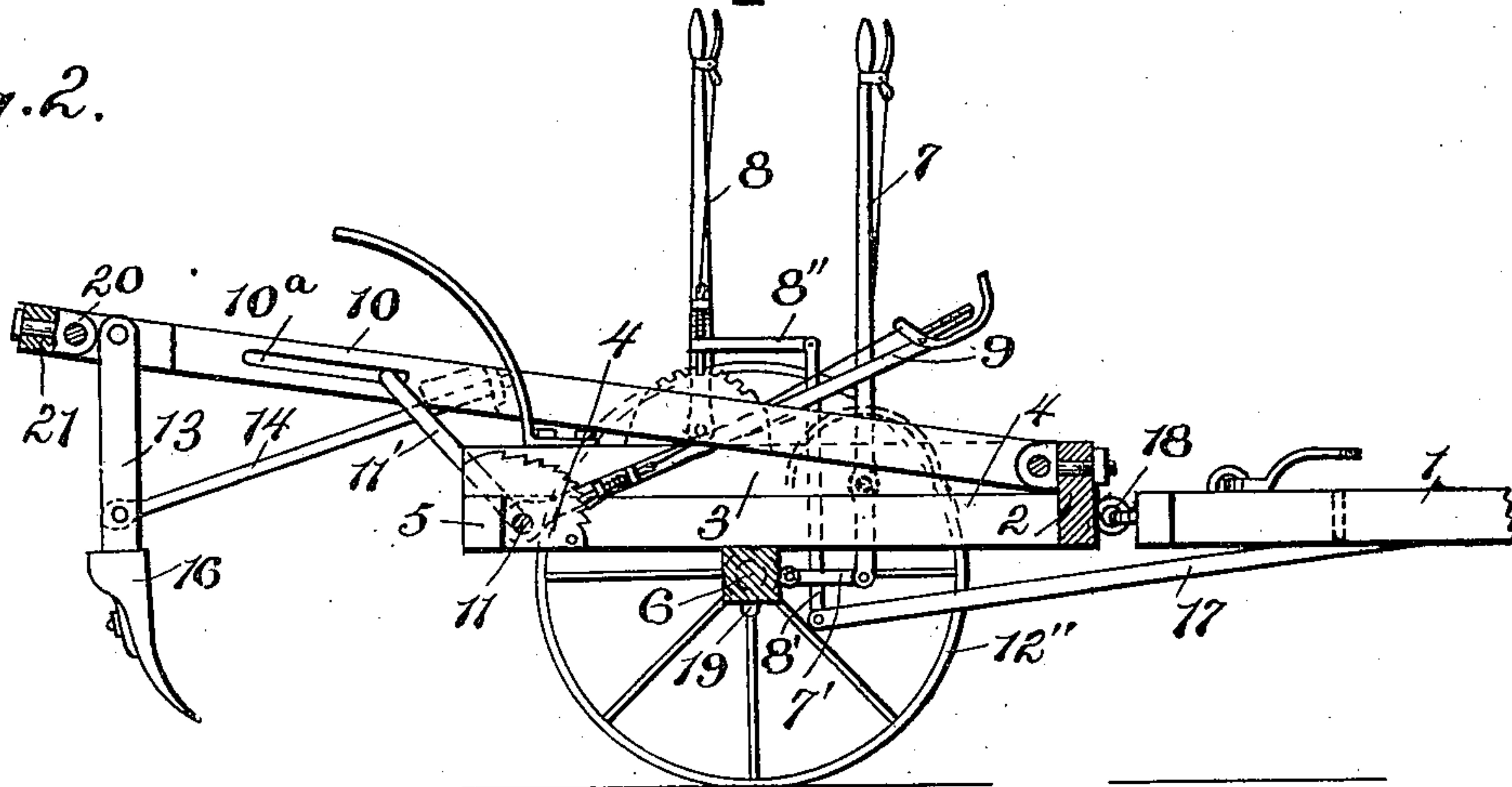
LISTER PLOW.

(Application filed Nov. 2, 1900.)

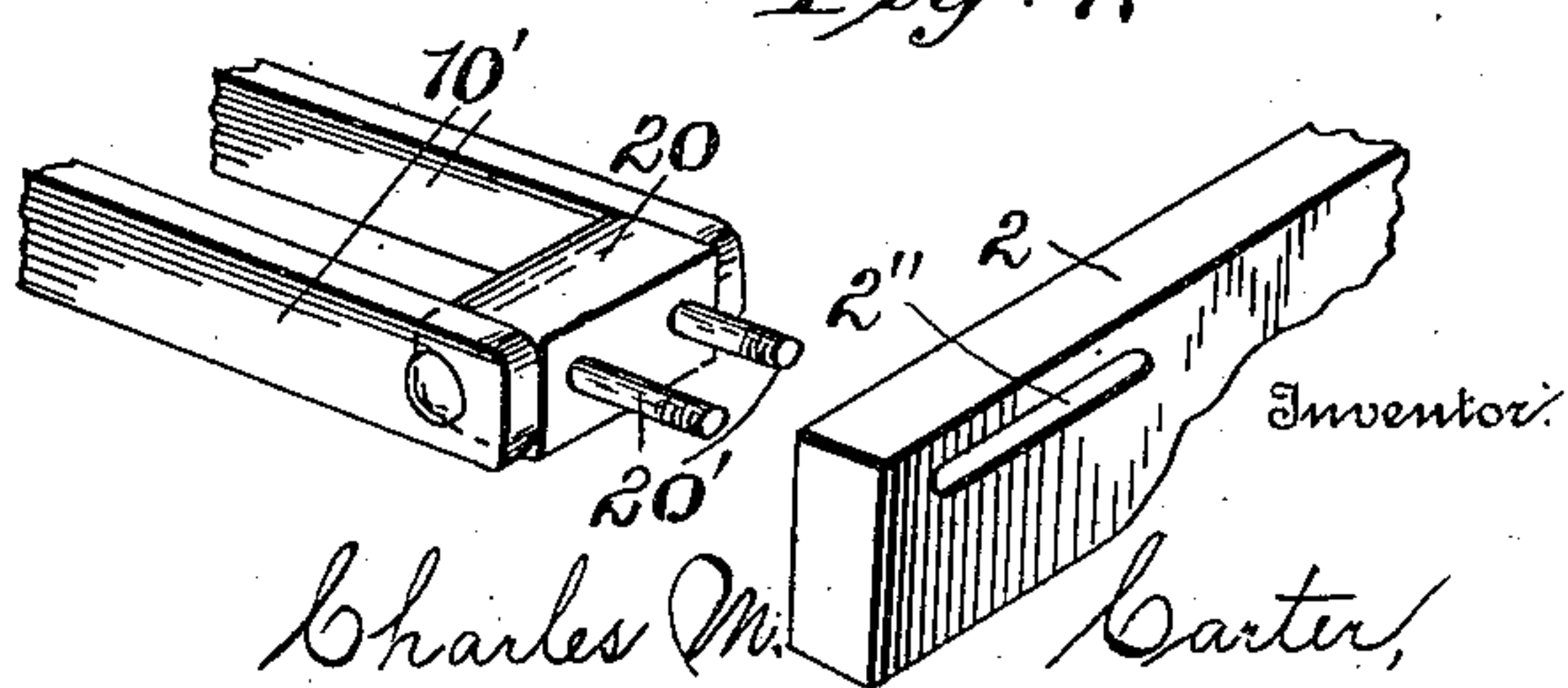
(No Model.)



*Fig. 2.*



*Fig. 4.*



Witnesses:

*Geo. C. Prich.*  
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# UNITED STATES PATENT OFFICE.

CHARLES M. CARTER, OF CUMING CITY, NEBRASKA, ASSIGNOR OF ONE-HALF TO ALFRED E. CARTER, OF BLAIR, NEBRASKA.

## LISTER-PLOW.

SPECIFICATION forming part of Letters Patent No. 667,648, dated February 5, 1901.

Application filed November 2, 1900. Serial No. 35,258. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES M. CARTER, a citizen of the United States, residing at Cuming City, in the county of Washington and State of Nebraska, have invented an Improvement in Lister-Plows, of which the following is a specification.

This invention relates to agricultural implements, and more specifically to that class of devices therein known as "lister-plows;" and the object of the same is to produce an improved machine of this character.

To this end the invention consists in the details of construction hereinafter described and claimed, and as illustrated in the accompanying drawings, wherein—

Figure 1 is a plan view of this machine complete. Fig. 2 is a vertical section on the line 2 2 of Fig. 1. Fig. 3 is an enlarged front elevation of one of the shovels. Fig. 4 is an enlarged perspective detail showing the adjustable connection between one side beam and a front cross-bar.

Referring to said drawings, the carriage or running-gear of this machine comprises wheels 12 and 12', mounted on an axle 6, which is pivoted at 19 beneath the carriage-body. The latter consists of a front cross-bar 2, to which is rigidly secured a pair of side bars 4 and 4', to the latter of which the pivot 19 is connected, and the rear ends of these bars are connected by a cross-beam 5, making in all a rectangular framework.

The numeral 3 designates a central beam whose front end is framed into the cross-bar 2, whence its body extends to the rear over and above the cross-beam 5 and supports the seat 15. One of the side bars 4 carries the lever 7, whose lower end is connected by a link 7' with the axle 6, and the movement of this lever over its toothed rack-bar swings the axle 6 to the dotted positions 6' 6'' to compensate for the lateral drifting of the machine when it is used on sidehills.

The numeral 1 designates the tongue, pivotally connected or hinged, as at 18, to the cross-bar 2, and to this tongue is secured an arm 17, which extends rearward beneath the carriage and is connected by a link 8' with an

arm 8'' on a lever 8. Movement of the latter over its toothed rack-bar raises and lowers the rear end of the arm 17, and hence adjusts the angle between the carriage and the tongue.

The framework of this machine comprises a pair of side beams 10 and another pair 10', both pivoted, as at 20, as best seen in Fig. 4, to the lateral projecting ends of the cross-bar 2, and all of which beams are connected at their rear ends by a rear bar 21. Said front cross-bar 2 is provided near each end with a slot 2'', through which project two bolts 20', mounted on a block 20, and to opposite sides of the latter are pivoted the front ends of the pair of side beams 10 or 10'. Hence the latter are adjustable laterally of the machine by setting the bolts 20' within the slots 2'' as may be required. The rear ends of the side beams 10 and 10' may be similarly connected with the rear bar 21. Each pair of side beams supports a shovel 16, from which rises an upright 13, connected in turn by a brace 14 with one or both of the members of the side beams 10. This shovel is shaped as best seen in front elevation in Fig. 3, by which construction I am enabled to secure the best results in a lister-plow.

The numeral 11 designates a rock-shaft journaled in the carriage and having cranks 11' and 11'' at its extremities working in slots 10'' in the side beams, and 9 is a foot-lever connected with the rock-shaft and working over a suitably-toothed rack 40, whereby its depression or elevation raises or lowers the framework with respect to the carriage, and hence elevates or depresses the shovels with respect to the ground being treated.

All parts of this device are of the desired sizes, shapes, proportions, and materials, and considerable change in the specific details of construction may be made without departing from the essential principles of my invention.

The driver sits upon the seat 15 and guides the team. The lever 7 is manipulated to control the direction of movement by swinging the main axle 6, as above made clear. The lever 8 is manipulated to set the carriage at the proper angle with respect to the tongue,



and the foot-lever 9 is manipulated to raise and lower the shovels 16 and cause them to enter the ground to the proper extent.

What is claimed as new is—

5 1. In a lister-plow, the combination with the carriage comprising a front cross-bar, a pair of side bars secured thereto, a cross-beam connecting the rear ends of the side bars, and a central beam connected with the  
10 cross-bar and extending to the rear over the cross-beam and supporting the driver's seat; of a tongue pivotally connected with said cross-bar, and a framework also pivotally connected with said cross-bar and comprising  
15 two pairs of side beams each supporting its shovel and all connected at their rear ends by a rear bar, and means for adjusting the angle between the carriage and framework, substantially as described.

20 2. In a lister-plow, the combination with the supporting-carriage having a front cross-bar, and the driver's seat and tongue attached to the carriage; of a framework comprising two pairs of side bars, the front ends  
25 of each pair standing astride a block and being pivoted thereto, means for attaching the blocks to the cross-bar of the carriage so as to permit transverse adjustment thereon, shovels carried by the framework, and means  
30 for raising and lowering the latter, substantially as described.

3. In a lister-plow, the combination with the carriage comprising a front cross-bar, a pair of side bars secured thereto, a cross-  
35 beam connecting the rear ends of the side bars, and a central beam connected with the cross-bar and extending to the rear over the cross-beam and supporting the driver's seat; of a tongue connected with the carriage, and  
40 a framework consisting of two pairs of side beams each standing astride a block, bolts in the latter laterally adjustable within slots in the cross-bar, a rear bar connecting the rear extremities of all said side beams, and shov-  
45 els carried by the latter, substantially as described.

4. In a lister-plow, the combination with

the carriage comprising a front cross-bar, a pair of side bars secured thereto, a cross-beam connecting the rear ends of the side bars, and  
50 a central beam connected with the cross-bar and extending to the rear over the cross-beam and supporting the driver's seat; of a framework comprising side beams connected with said front cross-bar for both vertical pivotal  
55 movement and transverse adjustment, a rear bar connecting the rear ends of said side beams, means for adjusting the height of the framework with respect to the carriage, and two shovels each independently supported by  
60 the side beams of the framework, all substantially as described.

5. In a lister-plow, in combination with a carriage mounted on an axle and having a seat, a tongue connected therewith, and a cross-bar  
65 at the front of the carriage; of a framework comprising side beams pivoted to said cross-bar and adjustably connected at their rear extremities by a rear bar, means for adjusting the height of the framework with respect to  
70 that of the carriage, a shovel for each pair of side beams, an upright for each shovel, and a brace for holding each upright at the desired angle with respect to the side beams, substantially as described.

6. In a lister-plow, in combination with a carriage mounted on wheels and drawn by a tongue; of a framework comprising two pairs  
80 of side beams laterally adjustable on and pivotally connected with the front cross-bar of the carriage, a rear bar, two blocks laterally adjustable on said bar and pivoted respectively between the rear extremities of  
85 said pairs of side beams, a shovel supported by each pair of beams, a crank-shaft journaled in the carriage and engaging the framework, and means within the carriage for rocking said crank-shaft, all substantially as described.

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Witnesses:

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