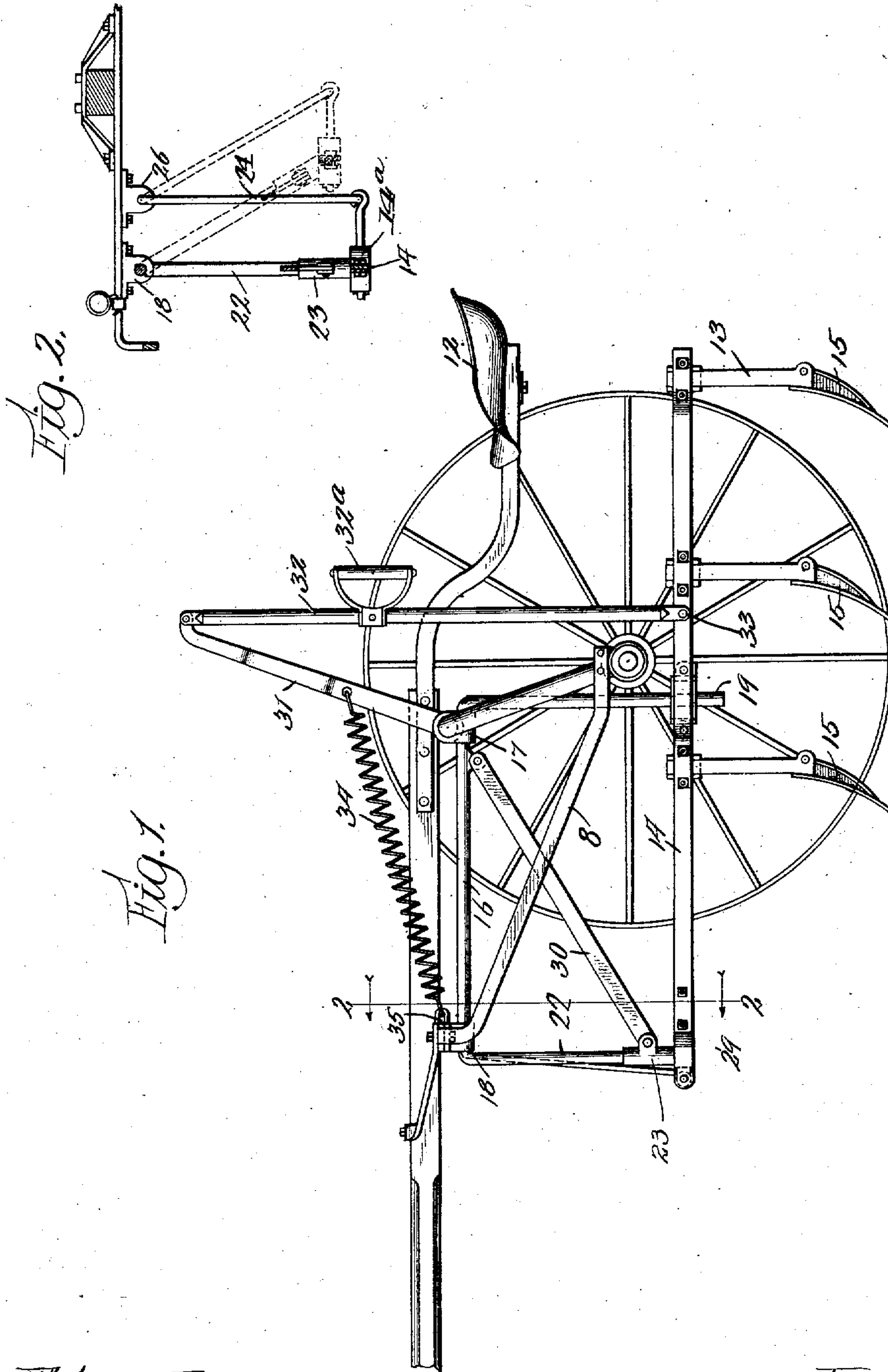


S. H. TINSMAN.  
CULTIVATOR.  
APPLICATION FILED NOV. 15, 1909.

986,607.

Patented Mar. 14, 1911.

2 SHEETS—SHEET 1.



Witnesses:  
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G. D. Thomas Jr.

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Samuel H. Tinsman  
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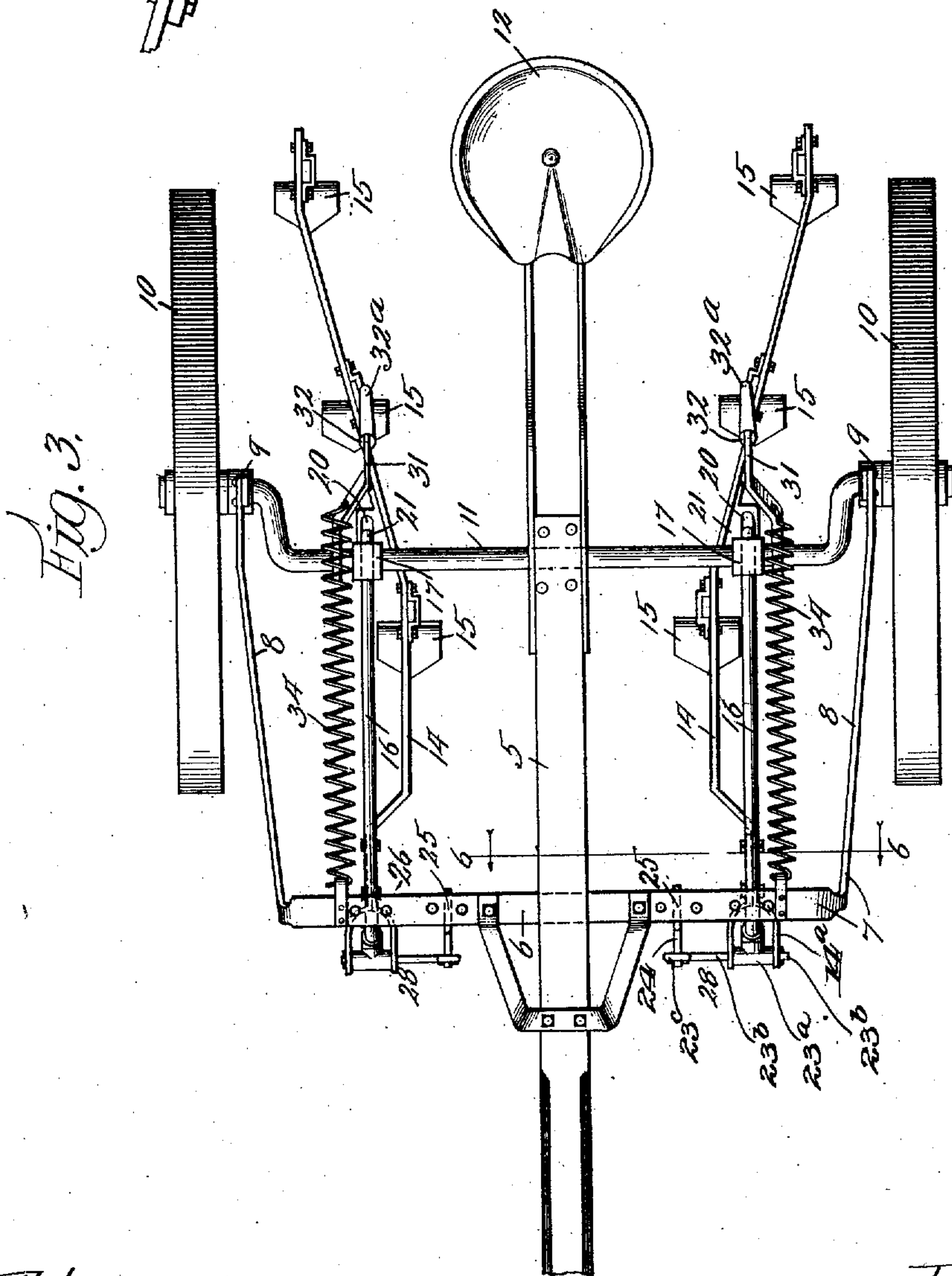
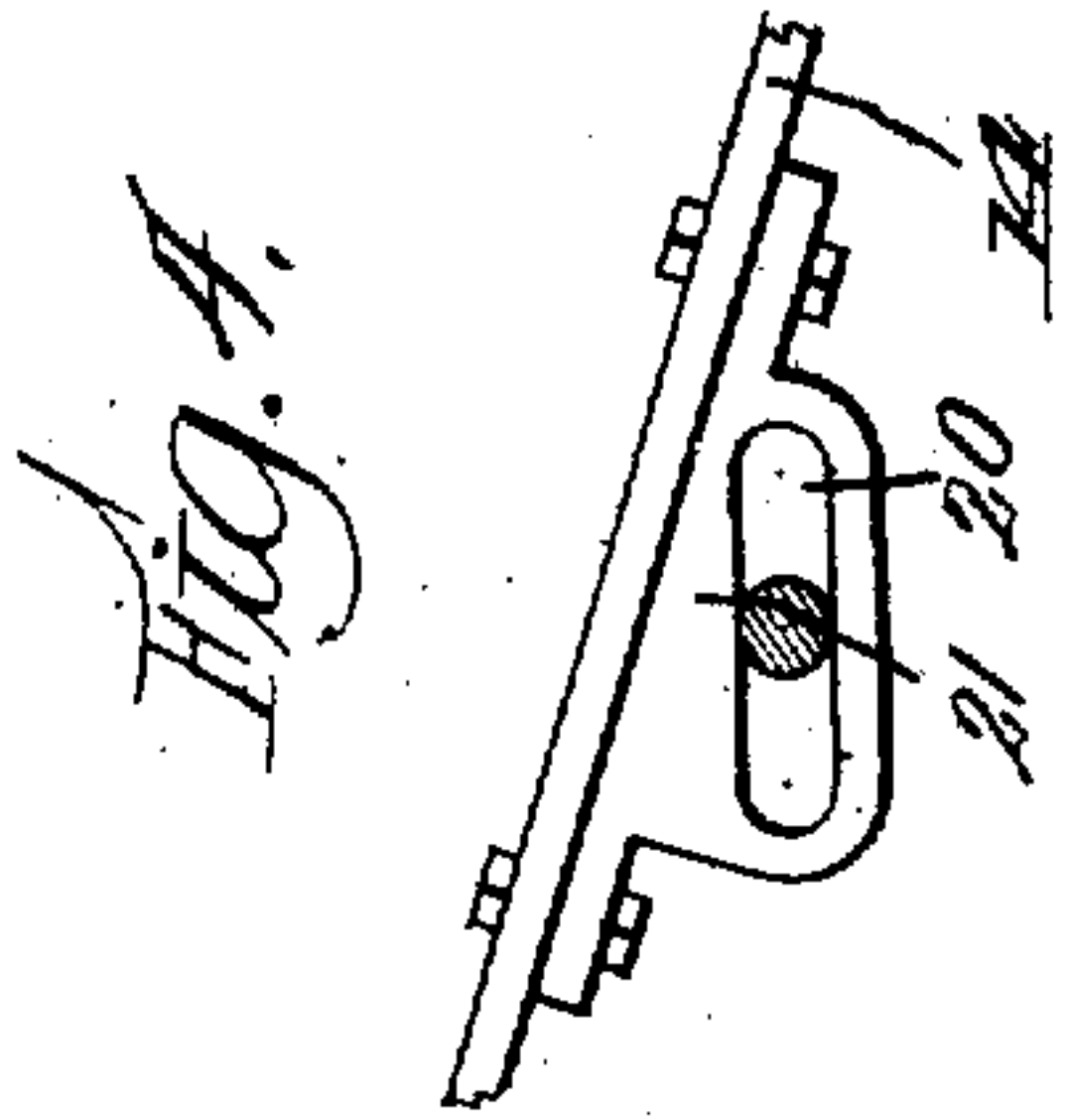
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# UNITED STATES PATENT OFFICE.

SAMUEL H. TINSMAN, OF ST. JOSEPH, MISSOURI.

## CULTIVATOR.

986,607.

Specification of Letters Patent.

Patented Mar. 14, 1911.

Application filed November 15, 1909. Serial No. 528,196.

*To all whom it may concern:*

Be it known that I, SAMUEL H. TINSMAN, a citizen of the United States of America, and resident of St. Joseph, county of Buchanan, State of Missouri, have invented a certain new and useful Improvement in Cultivators, of which the following is a specification.

My invention relates to wheeled cultivators of that type in which the cultivator shovels are arranged in groups and adapted to shift laterally.

An object of my invention is the provision of means whereby the lateral shifting of the gangs may be accomplished without varying the angle of inclination of the shovels.

A further object is the provision of improved means whereby the bottoms of the cultivator shovels on each gang are always maintained in the same horizontal plane.

A further object is the provision of improved means whereby both the front and rear of the gangs and connections may be moved laterally without changing their line of direction.

These and such other objects as may hereinafter appear are attained by my invention, an embodiment of which is illustrated in the accompanying drawings, in which—

Figure 1 represents a side elevation of a cultivator embodying my invention. Fig. 2 is a sectional view on line 2—2 of Fig. 1, looking in the direction indicated by the arrows. Fig. 3 represents a plan view of Fig. 1. Fig. 4 represents an enlarged detail of a portion of Fig. 1.

Referring now to the drawings—5 represents the tongue connected to the front bar 6 of the frame 7. Connecting bars 8 of the frame extend rearwardly and are mounted on the bearings 9 adjacent to the hubs of the wheels 10, which are mounted on the ends of the axle 11. The end of the tongue rests on the top of the axle, and a seat 12 is mounted on a spring support secured to the end of the tongue. The gangs comprise bars 14 on which are mounted standards 13 carrying shovels 15.

My improved compensating attachment comprises a yoke member 16 mounted at its rear end in a bearing 17 on the axle, and at the front in a bearing 18 on the frame. The rear depending member 19 of the yoke passes through a slot 20 in a bracket 21 secured to the gang. The front member 22 of the yoke extends downwardly and at its

lower end fits into a sleeve 23. The bar 14 terminates at its forward end in a yoke 14<sup>a</sup> between which the lower end of the sleeve 23 fits. A casting 23<sup>a</sup> is fitted between the ends of the yoke and is connected to the lower end of the sleeve, a pin 23<sup>b</sup> holding it in position between the yoke arms and permitting the raising of the cultivator beams 14. The pin 23<sup>b</sup> fits loosely within sleeve 23<sup>a</sup> so as to permit the beams 14 to be swung laterally while the pins remain in a horizontal position. This pin 23<sup>b</sup> extends beyond the yoke and terminates in an eye 23<sup>c</sup>. A second vertical bar 24 is turned at its upper end 25 and mounted in a bearing 26 on the front bar adjacent to the bearing 18. This bar 24 at its lower end fits within the eye 23<sup>c</sup> and is held in place in any suitable manner, as, for instance, a cotter pin (not shown). A diagonal brace-bar 30 extends from the rear end of the rod 16 to the sleeve 23, thus stiffening the structure.

An ordinary mast 31 is mounted on the axle at 17 from the upper end of which the mast arm 32 extends downwardly and is pivotally connected to the gang bar 14 at 33. A handle 32<sup>a</sup> is secured to the mast arm by means of which the gangs may be swung from side to side or up and down, the connections between the mast arm and the gangs and mast being such as to permit a free swinging movement of the gangs. A spring 34 is secured to the mast midway its length, the forward end being secured to the front bar at 35. The spring 34 assists in raising the gangs from the ground, and also holds them in raised position, the mast 31 being pulled forwardly.

The shovel gangs converge forwardly, as shown in Fig. 3, and may be swung laterally either by the use of the feet or the mast arm, or by both. As the yoke members are mounted to turn freely in the bearings 17, 18 and 26, and as the lower ends of the rods 22 and 24 are pivotally united by the pin or bar 23<sup>b</sup>, when the gang is swung or moved from side to side the bar 28 always remains in a horizontal position, with the result that the bottoms of the cultivator shovels are at all times in a horizontal plane and the shovels themselves always in a vertical position. Ordinarily in swinging the gangs outwardly the outer shovels were raised higher from the ground than the others, with an opposite result when the gangs were swung inwardly, thus cul-



tivating the ground at uneven depths. Or in the event that the front of the gang is turned upwardly and the gangs swung with it as a pivot, the rear shovels move  
5 a much greater distance than the front shovels. By the use of my improved device, however, the operator can swing either gang at will around a hill or obstruction, and yet maintain an even depth of cultivation, and  
10 at the same time maintain the line of direction of the gangs. In the shifting of position, each shovel will be shifted laterally the same distance; or, in other words, the lateral movement of all the shovels will be  
15 at right angles to the draft.

I claim:

In a cultivator, the combination with an axle, wheels on said axle, a tongue and body frame connected with said axle, shovel gangs

supported by said frame, yoke members 20 mounted on said frame and axle, a sleeve fitted on the lower end of each of said yoke members, a yoke comprising two arms attached to one end of each of said shovel gangs, between which arms the lower end 25 of one of said yoke members fits, a casting fitted between the arms of said yoke, a pin extending through said casting and a bar attached to said pin and said frame whereby said gangs are maintained in a horizontal 30 plane when swung from side to side, substantially as described.

Signed by me at Chicago, Illinois, this 1st day of November 1909.

SAMUEL H. TINSMAN

Witnesses:

E. H. CLEGG,

WM. B. DURMON.

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."

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