

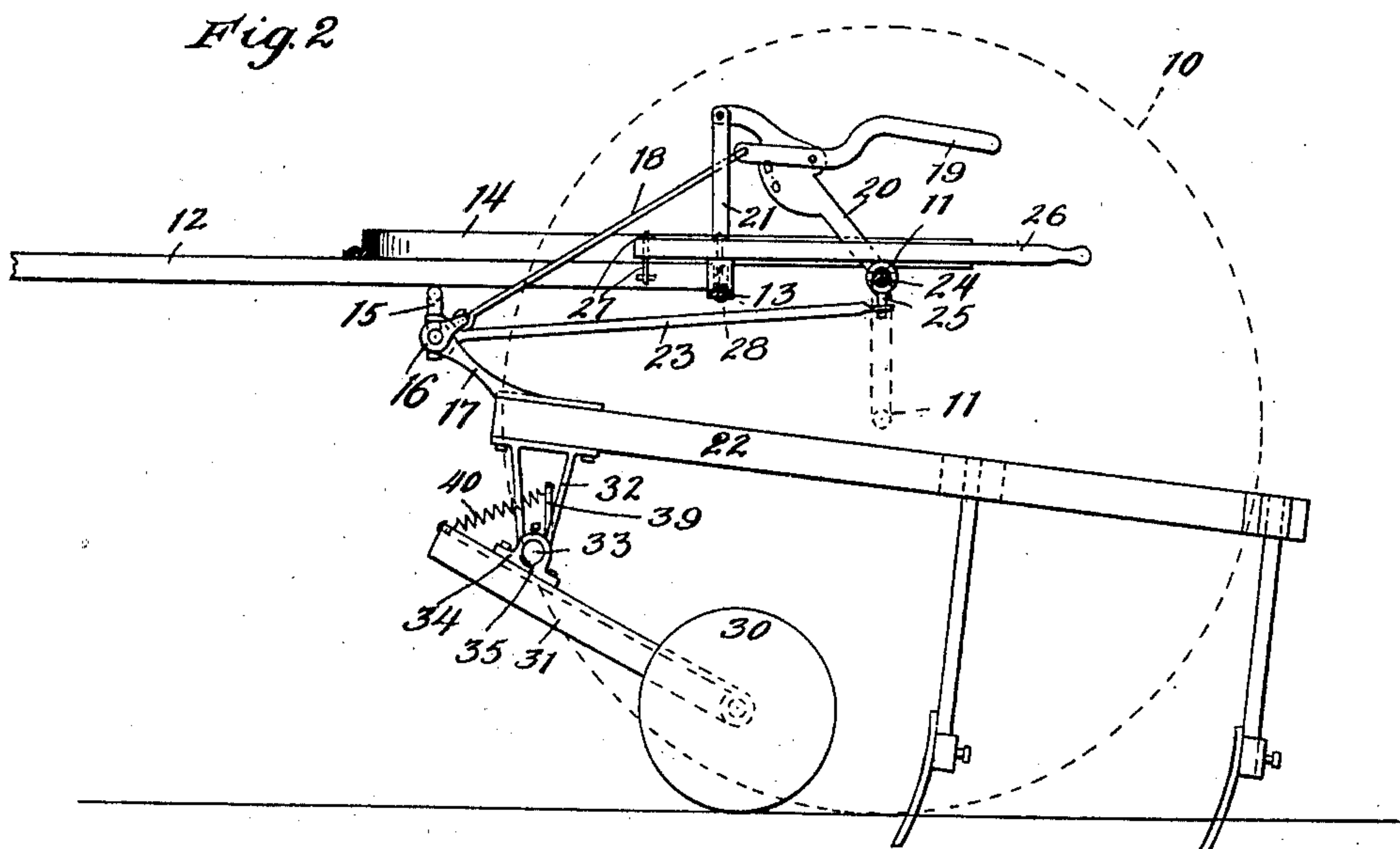
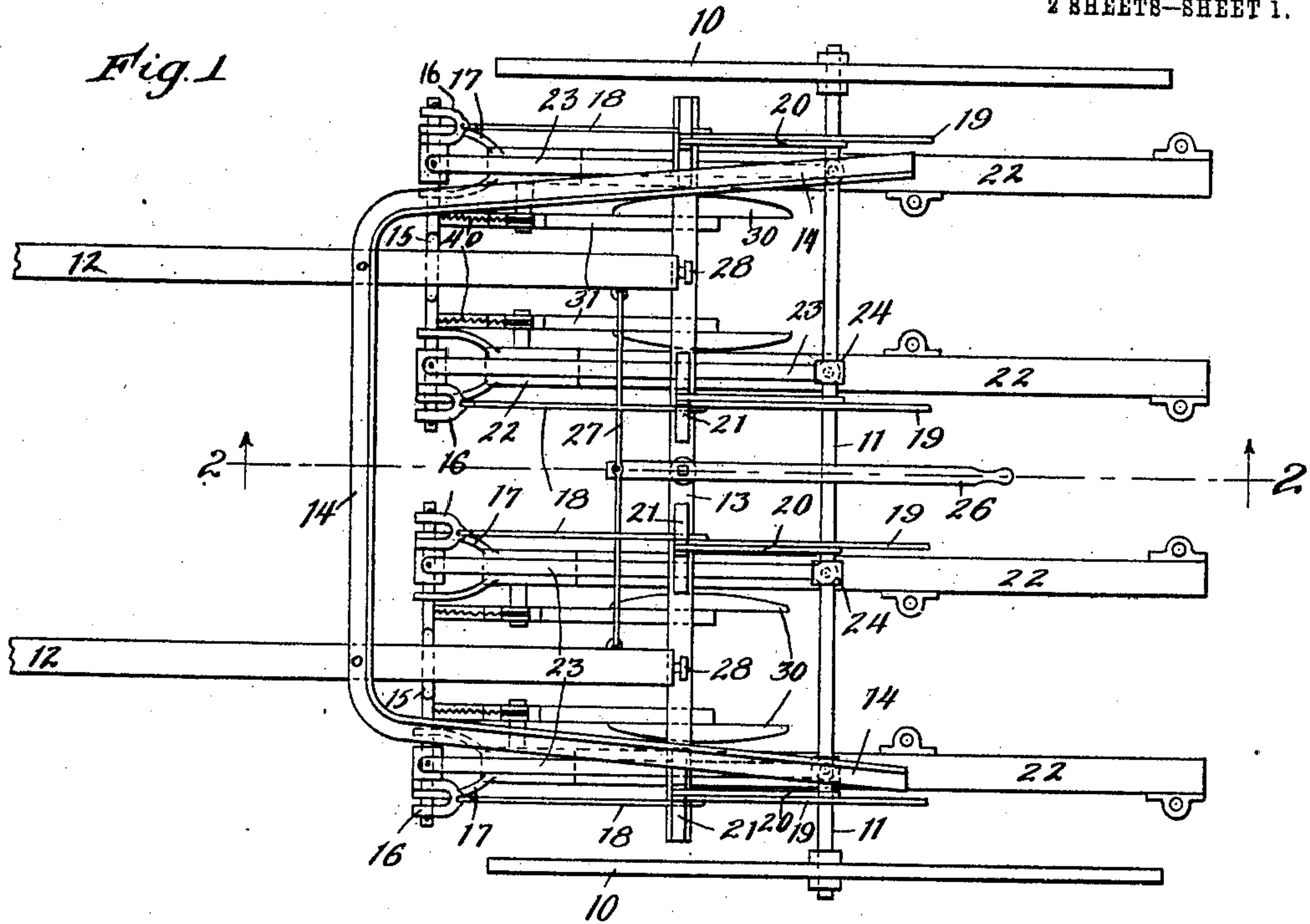
No. 827,078.

PATENTED JULY 31, 1906.

W. C. CHILDREN.  
CULTIVATOR.

APPLICATION FILED OCT. 12, 1904.

2 SHEETS—SHEET 1.



Witnesses:

*Wm. Guiger*  
*J. M. Munday*

*Inventor*  
*William C. Children*

*By Munday, Courts & Adenck*

*Attorneys*

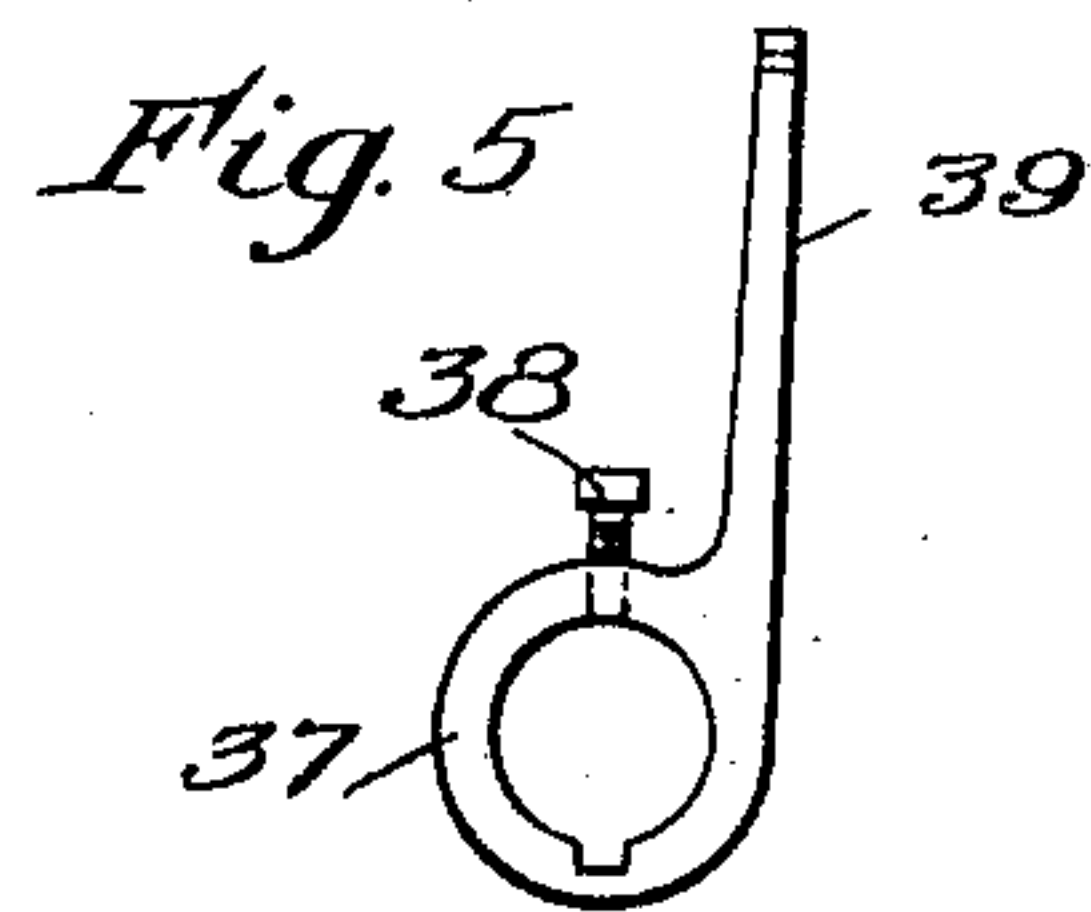
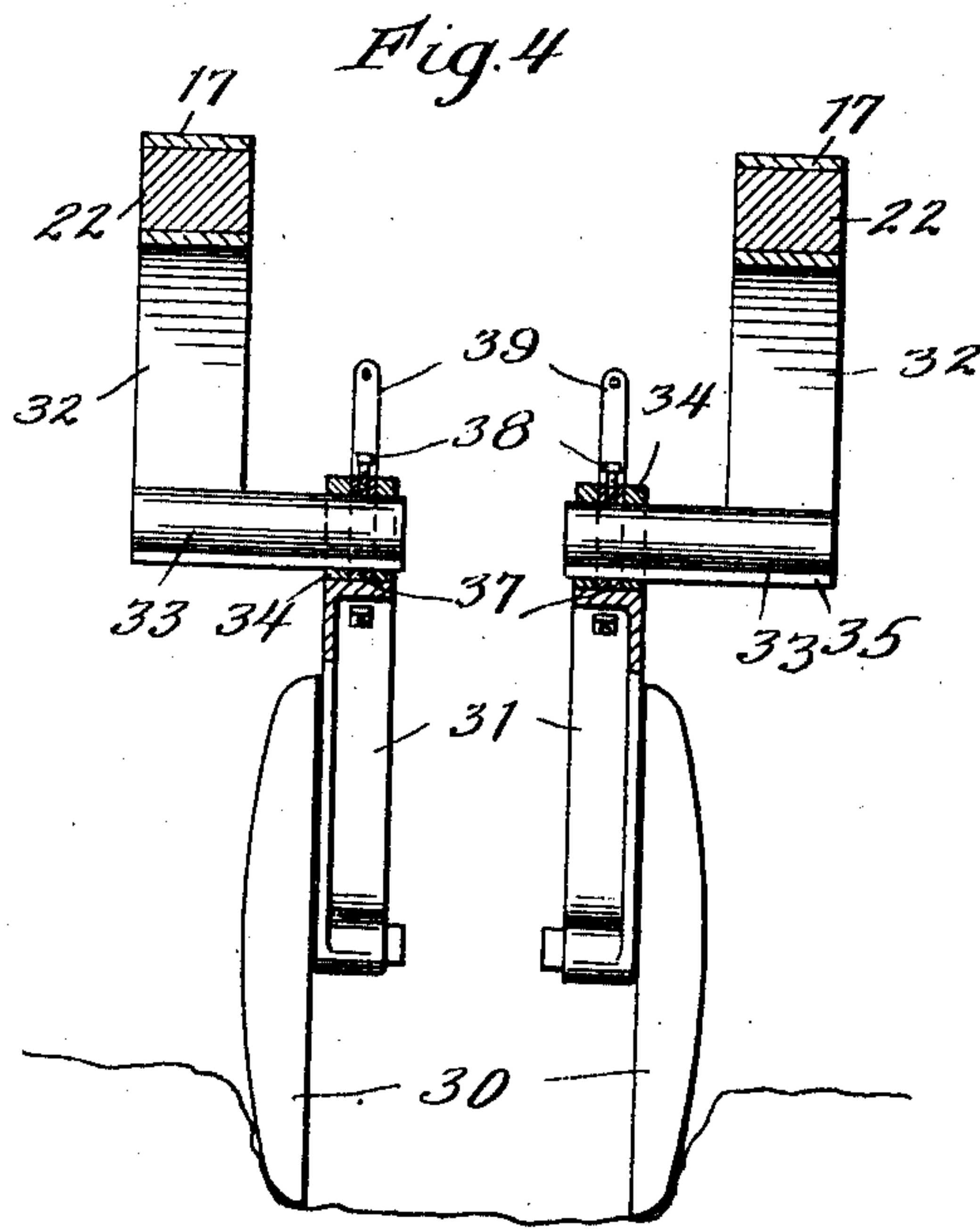
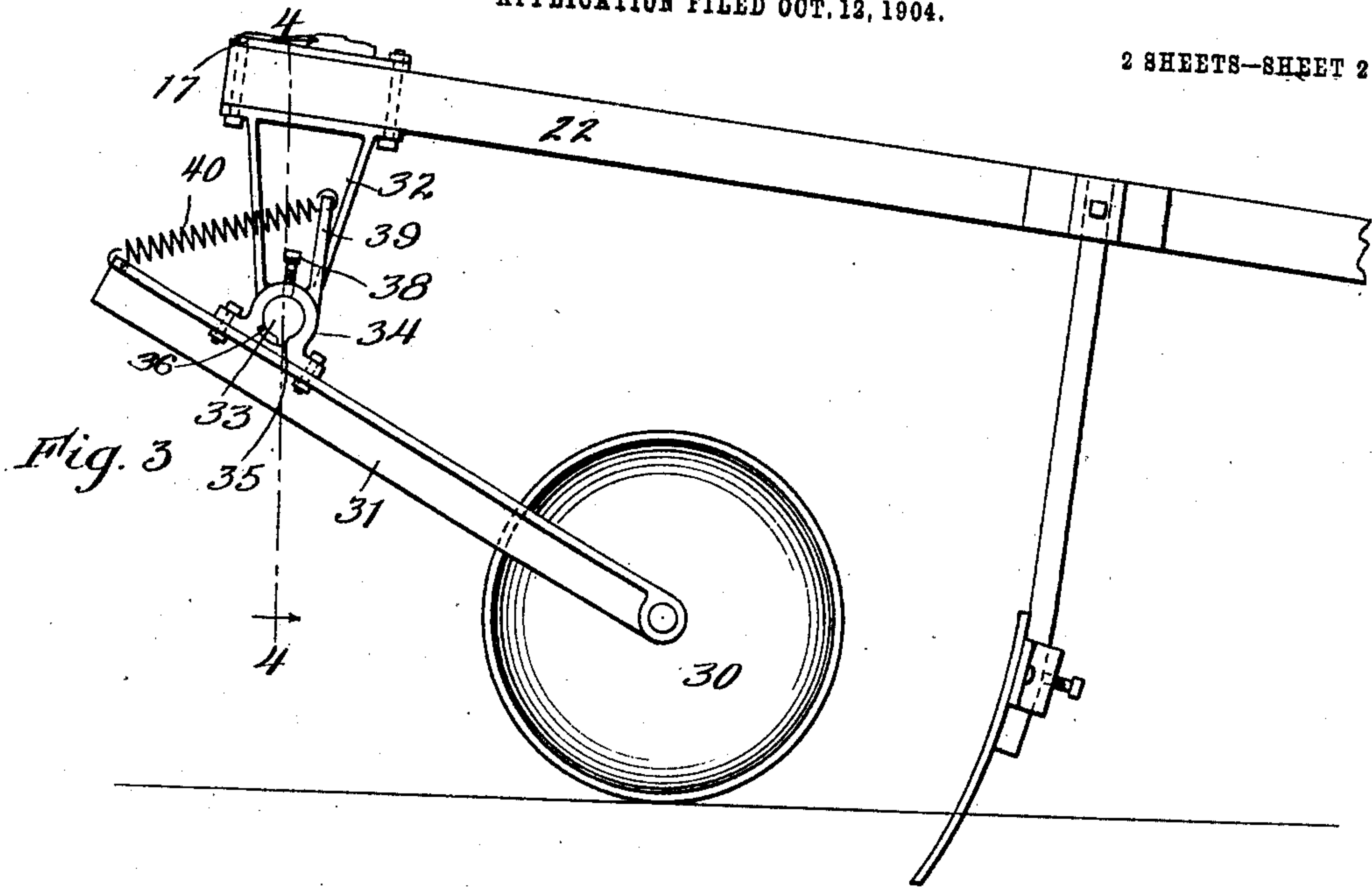
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J. M. Hinds

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# UNITED STATES PATENT OFFICE.

WILLIAM C. CHILDREN, OF COUNCIL BLUFFS, IOWA.

## CULTIVATOR.

No. 827,078.

Specification of Letters Patent.

Patented July 31, 1906.

Application filed October 12, 1904. Serial No. 228,102.

*To all whom it may concern:*

Be it known that I, WILLIAM C. CHILDREN, a citizen of the United States, residing in Council Bluffs, in the county of Pottawattamie and State of Iowa, have invented a new and useful Improvement in Cultivators, of which the following is a specification.

This invention relates to an improvement in the sulky or wheeled cultivator shown in the Patent No. 434,765 of August 19, 1890, to E. Children, and is an adaptation to such cultivators in which the shovels move in parallel lines of the automatic guides heretofore used in the low-down class of cultivators—such, for instance, as those shown in Patent No. 626,857 of June 13, 1899, to E. Children. By this combination the first-mentioned class of cultivators is adapted to enable the operator to better and more easily cultivate two or more rows of listed corn of varying widths, while at the same time the machine is well adapted to be used with checked corn.

The object of the invention is accomplished by the construction hereinafter described, and the invention also embodies divers detail improvements which are fully set out in the description and illustrated in the accompanying drawings, in which—

Figure 1 is a plan of my improved cultivator. Fig. 2 is a vertical section on the line 2 2 of Fig. 1. Fig. 3 is a side elevation of one of the shovel-beams with its controlling guide-wheel. Fig. 4 is a section on the line 4 4 of Fig. 3. Fig. 5 is a detail view.

In said drawings, 10 represents the carrying-wheels; 11, the arched axle; 12 12, the poles; 13, a cross-beam upon which the poles are supported, and 14 a U-shaped frame of angle-iron joined to both the cross-beam and the axle. Under each pole is an arched yoke 15, each end whereof forms a pivot for a collar 16 and a clevis 17. Each collar 16 is flexibly joined to a rod 18, and the other end of such rod is flexibly joined to a hand-lever 19, mounted on a standard, which may consist of the inclined brace 20 and upright 21, the brace being attached at one end to the axle and at its other end to the top of the upright and the upright being supported from the cross-beam 13. The brace is preferably provided with means for locking the lever in different positions, as will be understood. Each clevis 17 is joined to and supports one of the shovel-beams 22. The collar 16 and clevis 17 of each hand-lever and plow-beam are united, so that when the le-

ver is raised or depressed they move together around the pivotal end of the yoke on which they are mounted and cause the raising or lowering of the shovel-beam in much the manner the corresponding parts in said Patent No. 434,765 move around the yoke ends in adjusting the forward ends of the shovel-beams. Reach-bars 23 extend from each end of the yoke to the axle and are joined to the latter by means of bands 24, rigid on the axle, and lugs 25, projecting from the bands and entering loosely-fitting eyes on the ends of the bars, the bars being free to swing horizontally on the lugs and also to rise and fall at their forward ends.

A lever 26 is pivoted upon the cross-bar 13, and its forward end is joined to a rod 27, connecting the poles 12. The latter are pivoted to the frame 14 and at their rear ends are provided with rollers 28, bearing on the bar 13, allowing the changes in position effected by lever 26 to take place without unnecessary friction between the poles and cross-bar. By means of this lever 26 the direction of the poles may be quickly changed, so that the machine guided thereby will avoid irregularly-located plants.

It will be noted from the drawings that each pair of beams and their respective reaches are not connected to the shifting-lever 26 nor to the other pair of beams and reaches on the opposite side of the machine, so that each pair is at liberty to swing independently toward or away from the other pair, and that the connections to the main frame are such as to freely permit lateral movement. By this feature the shovels in each gang are permitted to accommodate themselves to the uneven rows and to move in and out, as occasion requires, to enable them to do so, and in order to insure the proper lateral movement by the shovels, which will bring them into this conformity to the rows I provide each shovel-beam with its own guide-wheel 30, the same being pivoted on a bar 31, attached to the beam forward of the shovels. The attachment to the beam is by means of the hanger 32 and horizontal pivot 33, the construction permitting the wheel to rise and fall freely with the unevennesses of the surface over which it is drawn. A bearing 34, attached to the bar 31, surrounds the pivot, but is keyed thereto by a key 35 on the pivot, the bearing having a wide slot 36 (shown at Fig. 3) to receive the key and permit a limited movement by the



bearing around the pivot. The pivot is long enough to permit a considerable lateral adjustment by the bearing upon it, as will be seen at Fig. 4. This adjustment enables the wheels to be positioned at the proper distance apart for the field being cultivated, and the bearings are confined in their adjusted positions by means of collars 37, surrounding the pivots 33, and set-screws 38 in said collars and impinging on the pivots, the bearings being slotted vertically at their centers to admit the collars. By this construction the wheels are each permitted to rise and fall with the unevenness of the furrow without affecting in any way the other wheel in the same furrow or the shovels of their beams, and each wheel which does not rise continues to track in the furrow without any loss of position due to the rising and falling of the other wheel. I also prefer to provide means whereby the downward pressure of the wheels may be increased, so that they may with greater certainty resume their proper position after passing unevennesses and be less easily thrown out of line. These means may consist of arms 39, standing outward from the collars 37, and springs 40, extending from the outer ends of the arms to the forward ends of the wheel-bars 31. With this construction the spring will be distended whenever the wheel passes over a rise in the ground, and thus the power of the spring will be added to the gravity of the wheel to depress the latter as soon as the rise has been passed.

Although I have shown the invention as applied to a two-row machine, it will be understood that some features of the invention are equally applicable to single-row machines, and although I have shown the companion guide-wheels in Fig. 4 as tracking in the opposite sides of a furrow it will also be understood that companion wheels may be located at opposite sides of the row of plants.

I claim—

1. The cultivator having forward guide-wheels on horizontally-hinged shovel-beams, the beams being arranged in pairs and all the wheels being free to rise and fall with the unevennesses of the ground independently of each other.

2. The cultivator having horizontally-hinged shovel-beams and forward guide-wheels attached thereto by a hinged connection permitting the wheels to rise and fall without affecting the beams.

3. The cultivator having horizontally-hinged shovel-beams and forward guide-wheels attached thereto, the latter being permitted to rise and fall without affecting the shovels attached to the same beam therewith.

4. The cultivator having forward guide-wheels on horizontally-hinged shovel-beams, the beams being arranged in pairs and the wheels of companion beams being free to rise and fall with the unevennesses of the ground independently of each other and of the shovels carried by the same beams.

5. The cultivator having horizontally-hinged shovel-beams provided with forward guide-wheels which are adjustable laterally with respect to the beams to accommodate furrows or hills of different width.

6. The cultivator having horizontally-hinged shovel-beams provided with forward guide-wheels attached to the beams by a pivotal connection, the connection being adjustable laterally of the beam.

7. The cultivator having its shovel-beams provided with forward guide-wheels attached to the beams by a pivoted connection the pivot of said connection being elongated and the connection laterally adjustable thereon.

8. The combination with the shovel-beam of a cultivator, of a forward guide-wheel joined to the beam by a pivotal and laterally-adjustable connection.

9. The combination with the shovel-beam of a cultivator of a forward guide-wheel joined to the beam by a pivoted connection, and a spring acting on said connection to depress the wheel.

10. The cultivator having two pairs of shovel-beams, each pair being movable laterally independently of the other pair, and each beam being also movable vertically independently, each beam being also provided with a guide-wheel located forward of its shovel.

11. The cultivator having two pairs of shovel-beams, each pair being movable laterally independently of the other pair, and each beam being also movable vertically independently, each beam being provided with a guide-wheel hinged to it forward of its shovel and having an independent vertical movement.

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Witnesses:

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