

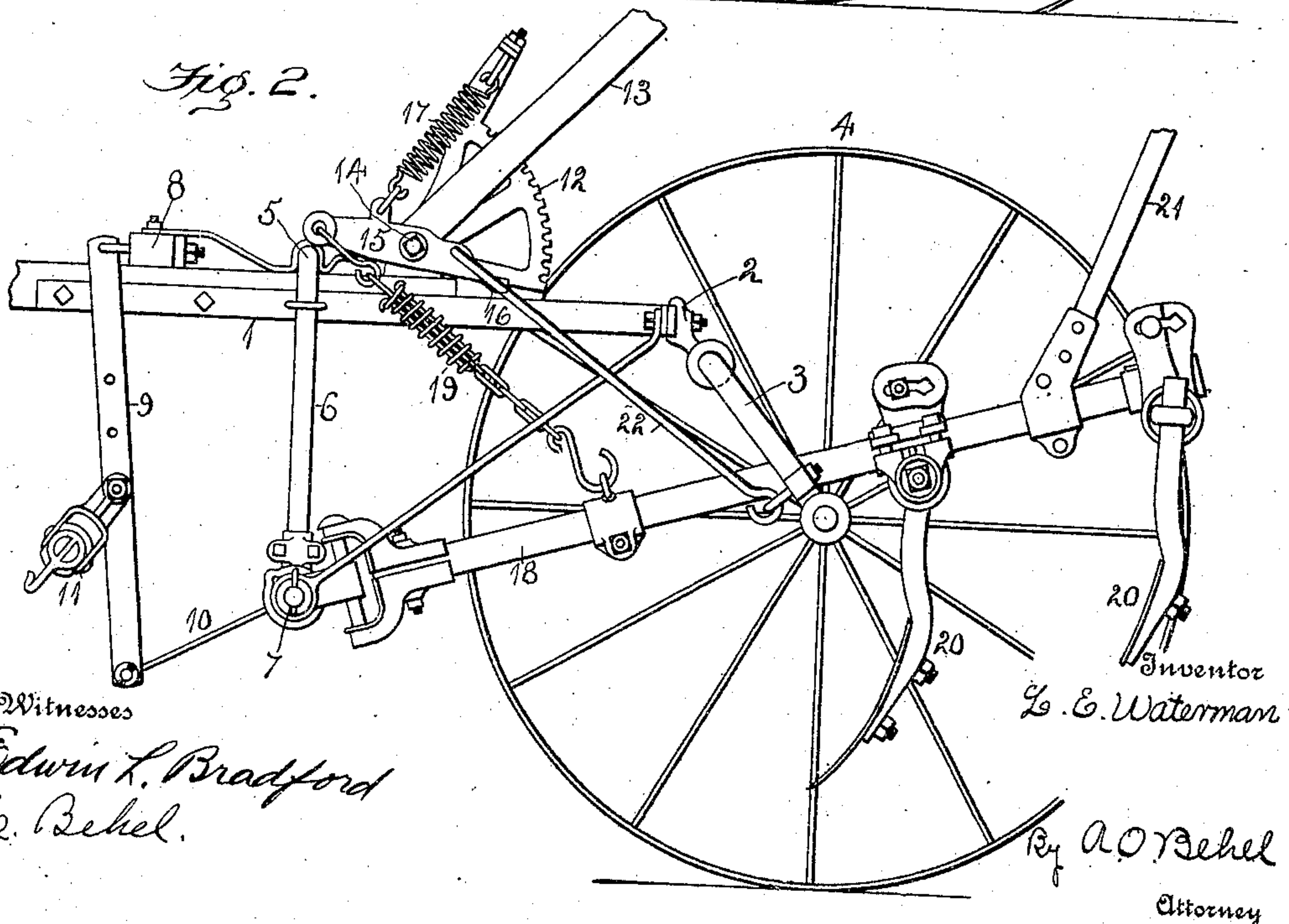
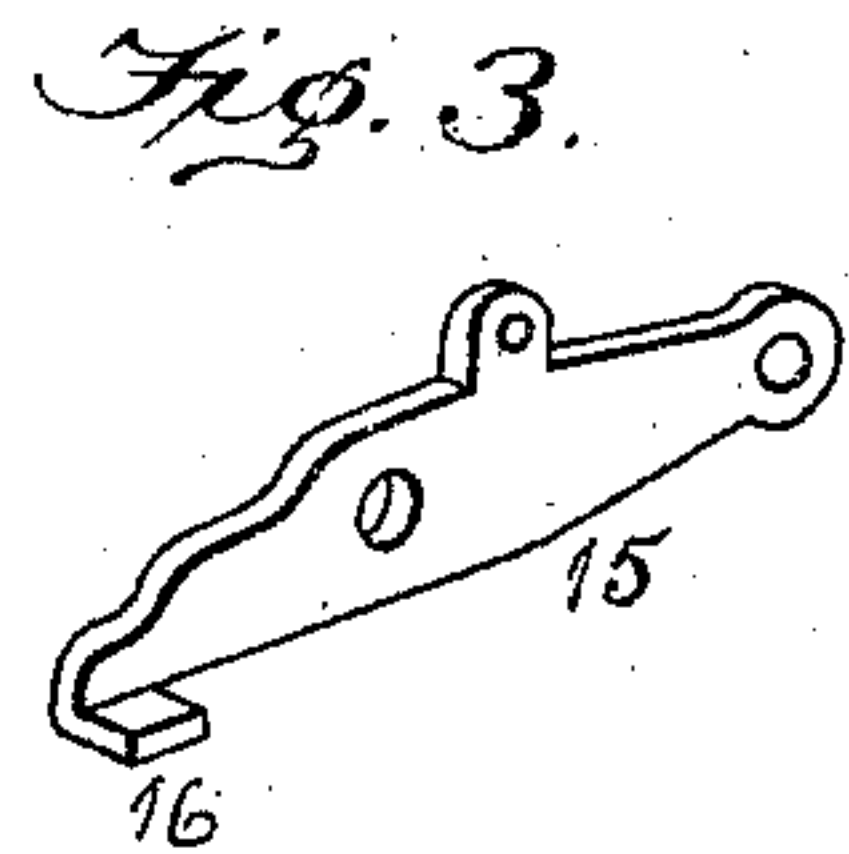
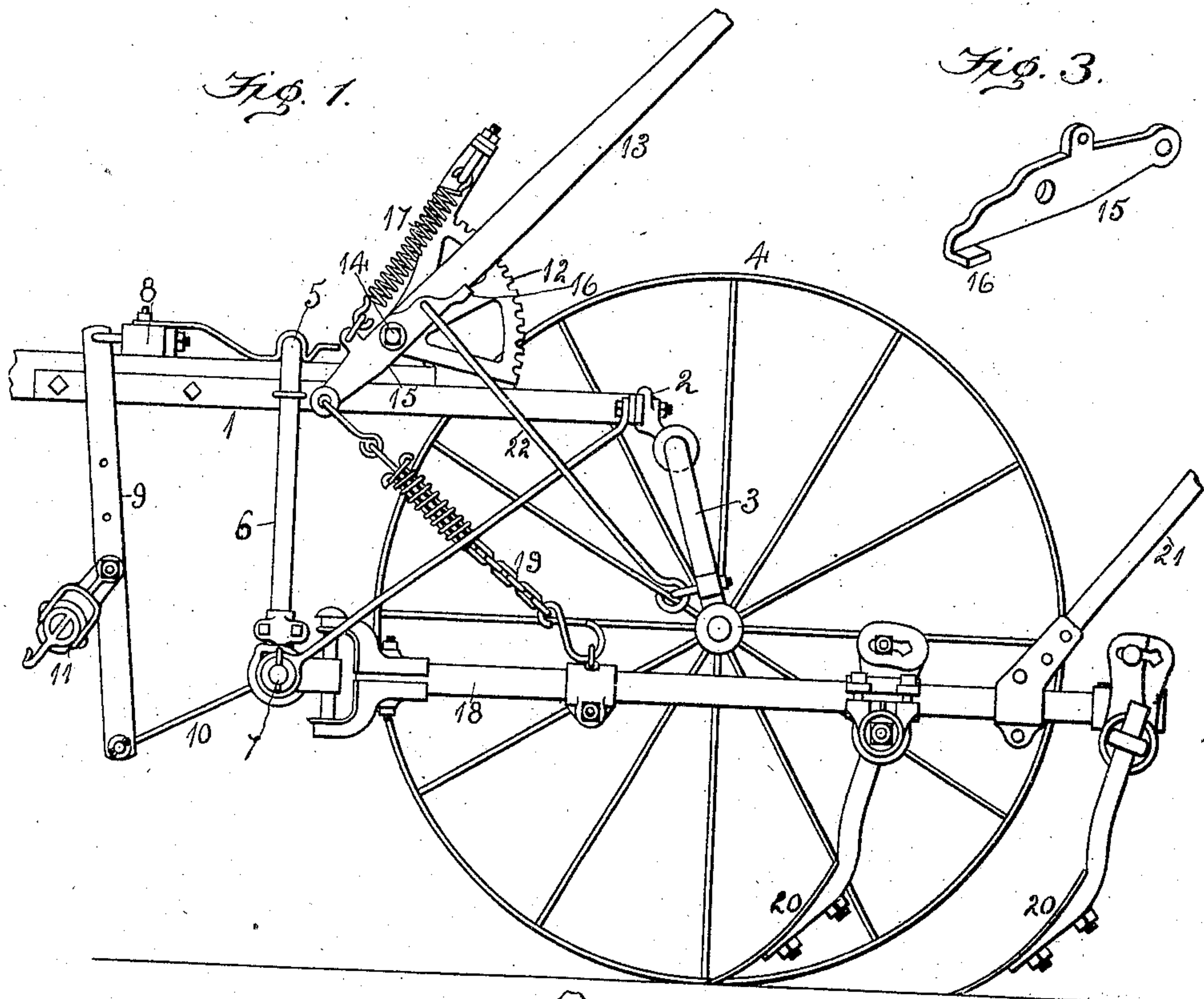
No. 850,861.

PATENTED APR. 16, 1907.

L. E. WATERMAN.

CULTIVATOR.

APPLICATION FILED FEB. 19, 1907.



Witnesses

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# UNITED STATES PATENT OFFICE.

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## CULTIVATOR.

No. 850,861.

Specification of Letters Patent.

Patented April 16, 1907.

Application filed February 19, 1907. Serial No. 358,208.

*To all whom it may concern:*

Be it known that I, LEWIS E. WATERMAN, a citizen of the United States, residing at Rockford, in the county of Winnebago and State of Illinois, have invented certain new and useful Improvements in Cultivators, of which the following is a specification.

The object of this invention is to form a connection between each beam of a cultivator, and a supporting-wheel can be moved independently of the lever employed to regulate the working depth of the shovels supported by the beam, the connections for one beam being independent of the connections for the other beam in order that the beams may move independently of one another.

The further object of this invention is to employ a spring to assist in raising a beam and also assist in moving a supporting-wheel, this spring action being independent of the lifting-lever.

In the accompanying drawings, Figure 1 is a side elevation of a cultivator, showing the beams lowered into nearly the working position. Fig. 2 shows the beams elevated independent of the lifting-lever. Fig. 3 is a perspective view of the arm 15.

The cultivator comprises a main frame 1, to which is secured brackets 2. A stub-axle 3 is pivotally supported by each bracket 2. Each stub-axle is supported by a wheel 4. To the frame 1 is secured a bail composed of the main section 5, two depending sections 6, and the horizontally-extending portions 7. An evener 8 is supported by the main frame and to each end is connected a pendant 9, their lower ends connected by the links 10 with the horizontal-extending portion 7 of the bail. Each pendant has a swingle-tree 11 connected to it. As the remainder of the construction of the cultivator is formed of two like devices, a description of one will suffice, the reference-numerals being applied to both.

To the main frame is secured a toothed segment 12, and a hand-lever 13 has the usual dog engagement with the toothed segment. On the pivot 14 of the hand-lever is pivoted a rocking arm 15 about midway of its length and is provided with a lateral projection 16, with which the hand-lever may engage. A spring 17 has one end connected with the toothed segment 13, and its

other end is connected with the lower portion of the arm 15. To the horizontal portion 7 of the bail is connected a beam 18 in the usual manner to permit it to raise vertically and move horizontally. A flexible connection 19 is formed between the beam 18 and the lower end of the arm 15. The beam supports shovels 20 and a handle 21. By means of the hand-lever 13 the beam can be raised by reason of the lever coming in engagement with the lateral projection 16 of the arm 15, thereby moving the arm on its pivotal support. The spring 17 will exert its force on the arm 15 and through it on the beam 18 and assist in raising the beam. By means of the hand-lever in its connection with the toothed segment the downward movement of the beam and shovels attached can be regulated, and by handle 21 the beam can be raised without disturbing the rest of the hand-lever. The spring 17 will assist in raising the beam, as it exerts its force on the arm 15 independent of the hand-lever.

To the upper portion of the arm 15 is connected a rod 22, and its other end having a connection with the stub-axle 3. As the arm 15 moves so will a movement be imparted to the stub-axle and to the supporting-wheels. The object of connecting the supporting-wheels with the beam is to equalize the tongue weight on the horses' necks—that is, when the beam is down the supporting-wheel is nearer the forward end of the tongue and will nearly balance the main frame on the supporting-wheels. When the beam is elevated, the supporting-wheel is moved rearward, which will again balance the frame on the wheels. Without this counterbalancing when the beams are raised additional weight would be transferred to the frame in rear of the wheels, which would raise the front end of the tongue and cause an uplift on the horses' necks. As the beams are raised during the process of plowing the wheels are automatically moved to counterbalance any portion of the weight of the beams being transferred to the main frame.

I claim as my invention—

1. In a cultivator the combination of a main frame, two wheels independently connected with the main frame in a manner to move bodily in the direction of the line of draft, two beams independently connected



with the main frame, an oscillating arm, a connection between the arm and a beam, and a connection between the arm and a wheel-support.

- 5 2. In a cultivator, the combination of a main frame, two wheels independently connected with the main frame in a manner to move bodily in the direction of the length of draft, two beams independently connected  
10 with the main frame, an oscillating arm, a connection between the arm and a beam, a connection between the arm and a wheel-support, and a spring exerting its force on the arm.
- 15 3. In a cultivator, the combination of a main frame, two wheels independently connected with the main frame in a manner to move bodily in the direction of the line of draft, two beams independently connected

with the main frame, an oscillating arm, a connection between the arm and a beam, a connection between the arm and a wheel-support, a toothed segment, a hand-lever having a dog engagement with the segment, the lever adapted to move the arm. 20 25

4. In a cultivator, the combination of a main frame, two wheels independently connected with the main frame in a manner to move bodily in the direction of the line of draft, two beams independently connected  
30 with the main frame, an oscillating arm, a flexible connection between the arm and beam and a rod connection between the arm and wheel-support.

LEWIS E. WATERMAN.

Witnesses:

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