

W. S. WILBURN.
CULTIVATOR.

APPLICATION FILED JULY 28, 1910.

976,020.

Patented Nov. 15, 1910.

2 SHEETS—SHEET 1.

Fig. 1.

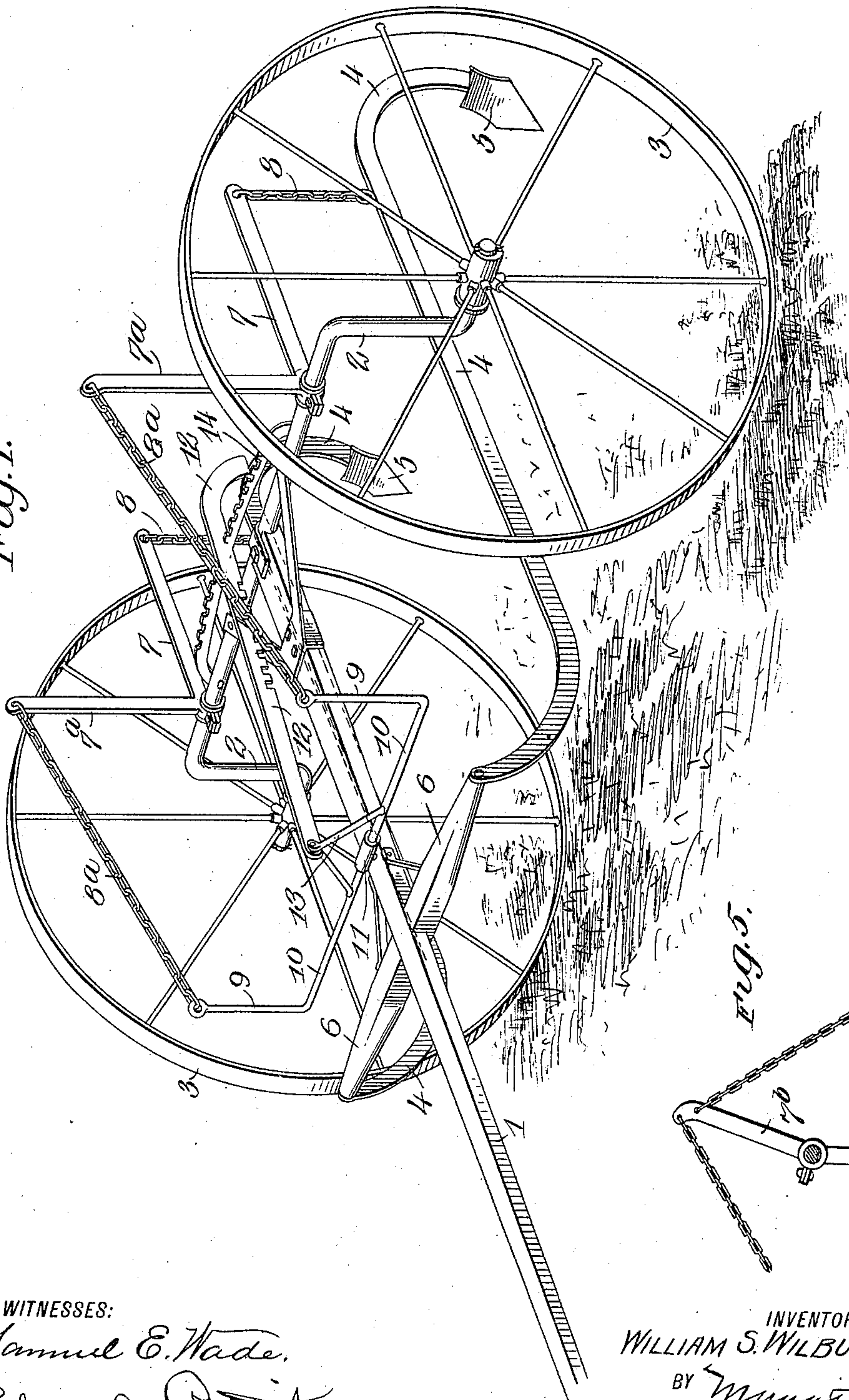
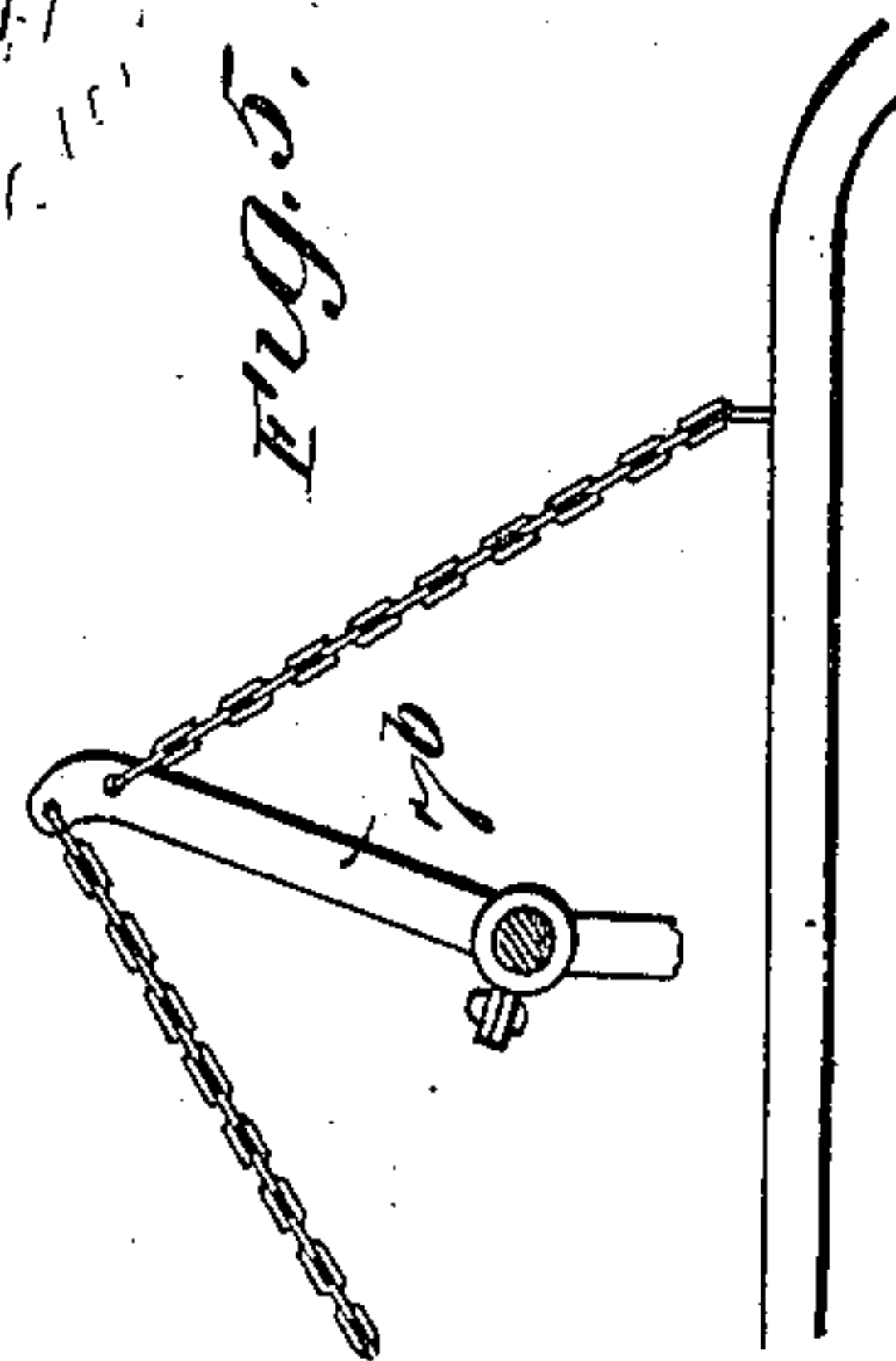


Fig. 5.



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2 SHEETS-SHEET 2.

Fig. 2.

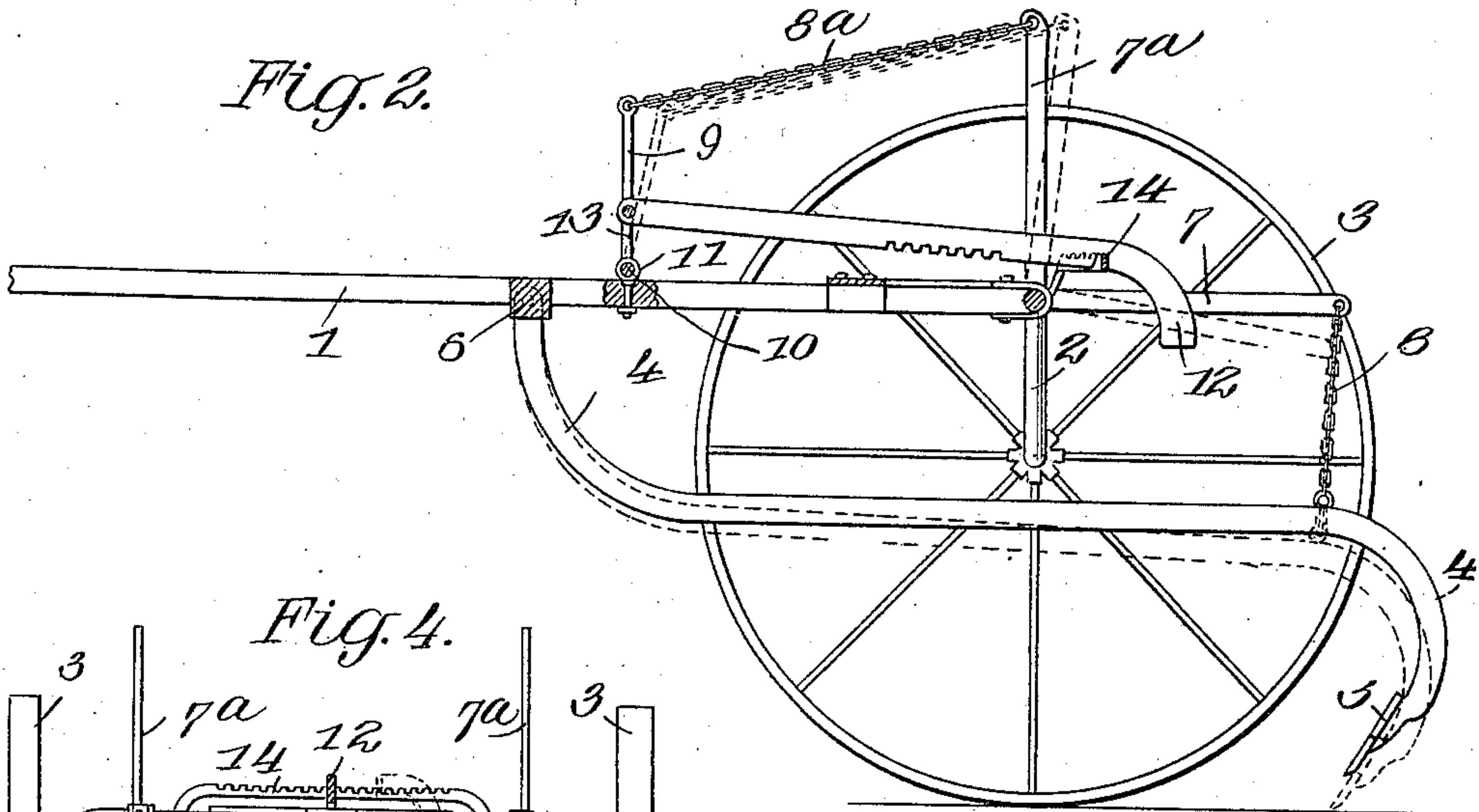


Fig. 4.

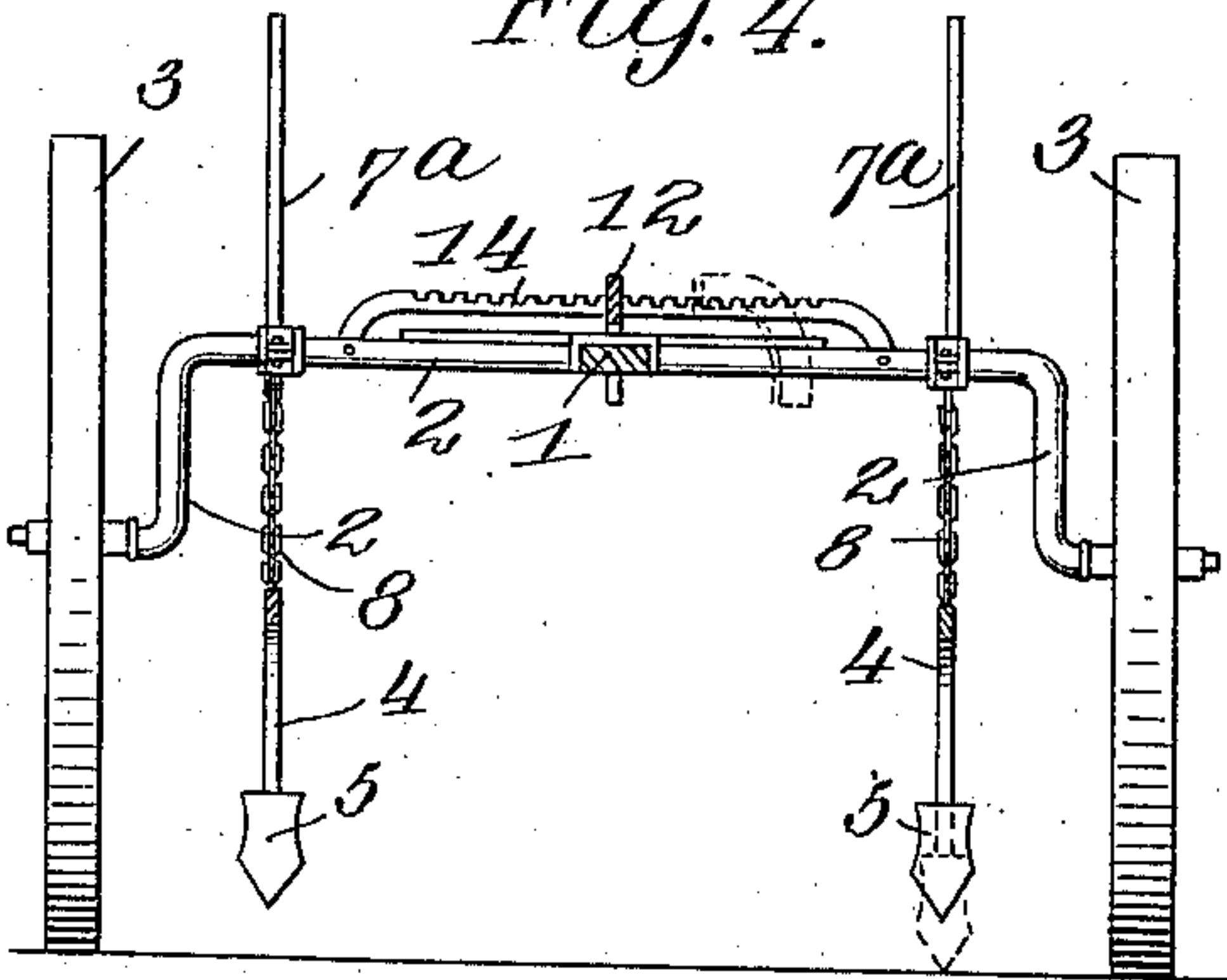
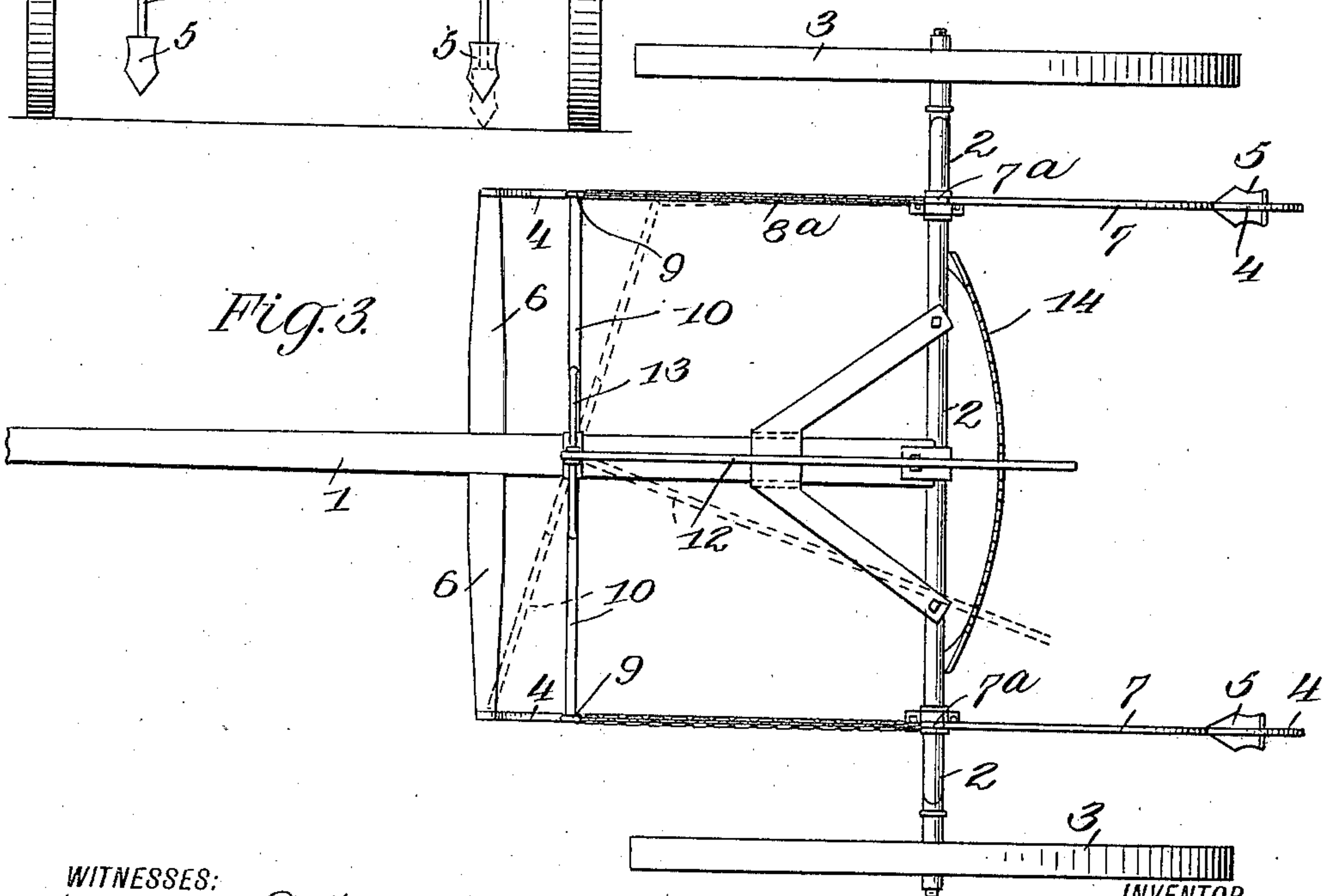


Fig. 3.



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UNITED STATES PATENT OFFICE.

WILLIAM S. WILBURN, OF SIMMONS, MISSOURI.

CULTIVATOR.

976,020.

Specification of Letters Patent.

Patented Nov. 15, 1910.

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To all whom it may concern:

Be it known that I, WILLIAM S. WILBURN, a citizen of the United States, and a resident of Simmons, in the county of Texas and State of Missouri, have invented an Improvement in Cultivators, of which the following is a specification.

In the use of riding cultivators, the variation of the soil in respect to hardness and softness offers a great difficulty. Thus, in cultivating young and tender plants, the plows or shovels are set to run two inches deep while the wheels sink normally about one-half inch in the soil, but the wheels soon encounter soft soil and sink two inches or more which causes the plows or shovels to sink to a depth of three or four inches, so that the plants are liable to be entirely covered. Again, if one wheel encounters loose dirt and sinks therein, the other wheel may encounter hard dirt and thus run practically on top of the soil, so that the plows or shovels on one side run comparatively deep while the others are lifted nearly to the surface.

My improved cultivator is intended and adapted to overcome these difficulties and to enable the driver to regulate the depth at which the plows or shovels run, whatever be the condition of the soil.

The details of construction, arrangement, and operation of parts embodying my invention are as hereinafter described, and illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view of my improved cultivator. Fig. 2 is a vertical longitudinal section of the same. Fig. 3 is a plan view. Fig. 4 is a vertical cross section taken in front of the wheels. Fig. 5 is a view illustrating a modification hereinafter described.

A pole or tongue 1 is suitably attached to the middle of an arched axle 2 on whose journals running wheels 3 are mounted. Curved iron beams 4 carrying shovels 5 are hinged to a cross-bar 6 which is attached to the tongue at a point considerably in advance of the wheels, the rear ends of the beams preferably extending beyond the wheels.

Two right angled levers, composed of horizontal and vertical arms 7 and 7^a, are mounted upon the axle 2 adjacent to its bends and adapted to rock thereon in vertical planes. The horizontal arms 7 are

connected by chains 8 with the rear portions of the plow-carrying beams 4, and chains 8^a similarly connect the vertical arms 7^a with the upwardly projecting arms 9 of a rock-shaft 10. The latter is journaled in a sleeve 11 that is pivoted on the tongue so that it can rotate horizontally. The shaft 10 is thus in rear of the cross-bar 6, and adapted not only to rotate on its axis, but to swing horizontally at any desired angle to the tongue 1.

It is apparent that if the rock-shaft 10 be rocked, its arms 9 will be carried forward or backward, and thus the chains 8^a will be tightened or slackened, with the effect that the right angular levers 7, 7^a, will be rocked on the axle 2, and thus the plow-beams 4 raised or lowered, correspondingly. For rocking the shaft 10, I employ a bar 12, having its rear end curved downward to adapt it to serve as a handle, and the same is pivoted to arms 13 which are connected with the rock-shaft on each side of the sleeve bearing 11. The under side of this bar is provided with a series of notches which adapt it to be engaged with a rack-bar 14 that is attached to the axle and raised somewhat above it and also extended rearward from it, as will be seen by an inspection of Fig. 3.

If the adjusting bar 12 be pushed forward, the shaft 10 will be rocked, and, in consequence, the plow-beams 4 will be raised; contrariwise, if the adjusting bar 12 be pushed rearward, the shaft 10 will be rocked in the opposite direction and the plow-beams 4 will be lowered. The bar 12 may be locked with the rack-bar 14 in either adjustment. In one adjustment, the plows or shovels 5 will be held out of contact with the soil, and, in the other, they will be lowered and set at any required depth in the soil.

The same means enable the operator to raise one plow and lower the other, when it is desired to employ but one plow in cultivating. For this purpose, the rear end of the adjusting bar 12 is moved laterally, as indicated by dotted lines in Fig. 3, which has the effect of swinging the rock-shaft bodily in a horizontal plane, whereby one chain 8^a is slackened and the other hauled taut, the horizontal arm 7 of one of the right angled levers being thus lowered while the other is raised. The adjusting bar 12 may be locked with the rack-bar and thus

adjusted laterally, the same as if it be adjusted in a right line, forward or back. Thus, by a simple and inexpensive combination of parts, I provide for various adjustments of the plow-beams and plows. In other words, they may be raised or lowered simultaneously, or one may be lowered and the other raised, as occasion requires, and either adjustment is easily and quickly effected by the simple movement of the adjusting bar 12.

In Fig. 5 I show a modification, it being a single rocking lever substituted for the two-armed lever forming part of the mechanism for raising the plow beams. This is simpler, lighter, and quite effective for its purpose.

What I claim is:—

1. A cultivator comprising an axle, running wheels, and a tongue, plow-carrying beams pivotally connected with the tongue, right angular levers journaled on the axle, a rock-shaft journaled on the tongue, and chains connecting the said levers with the plow-beams and rock-shaft, and a bar for locking and adjusting the rock-shaft, the same being attached thereto and extended rearwardly over the axle and adapted to be engaged with the same, substantially as described.

2. The combination with an axle, running wheels, a tongue, and plow-carrying beams pivotally connected with the latter, of levers adapted to rock on the axle, a rock-shaft journaled on the tongue, and means operatively connecting it with the lever and the

lever with the plow-beams, and a device attached to the shaft and adapted to rock the same when pushed forward or retracted, said device being adapted for engagement with a fixed attachment of the axle for locking it in any required position.

3. The combination with an axle, running wheels, a tongue, and plow-beams pivotally connected with the latter, of rocking levers mounted on the axle, a rock-shaft pivoted on the tongue and thus adapted to swing in a horizontal plane, and an adjusting and locking device attached to the rock-shaft and adapted to swing the same laterally when adjusted to the right or left, and means for operatively connecting the lever with the rock-shaft and plow-beams, substantially as described.

4. The combination with an upwardly bent axle, running wheels mounted thereon, a tongue rigidly attached to the axle, plow-beams pivotally connected with the same in front of the wheels, a rock-shaft provided with arms and journaled and pivoted on the tongue whereby it is adapted to rock on its axis and to swing horizontally, an adjusting bar pivotally connected with the axle and adapted to rock or swing on the same as may be required, and means connected with the rock-shaft arms for raising and lowering the plow-beams, as shown and described.

WILLIAM S. WILBURN.

Witnesses:

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CLARK DOOLEY.