

V. LANDHOLM.

LOADER.

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922,159.

Patented May 18, 1909.

2 SHEETS—SHEET 1.

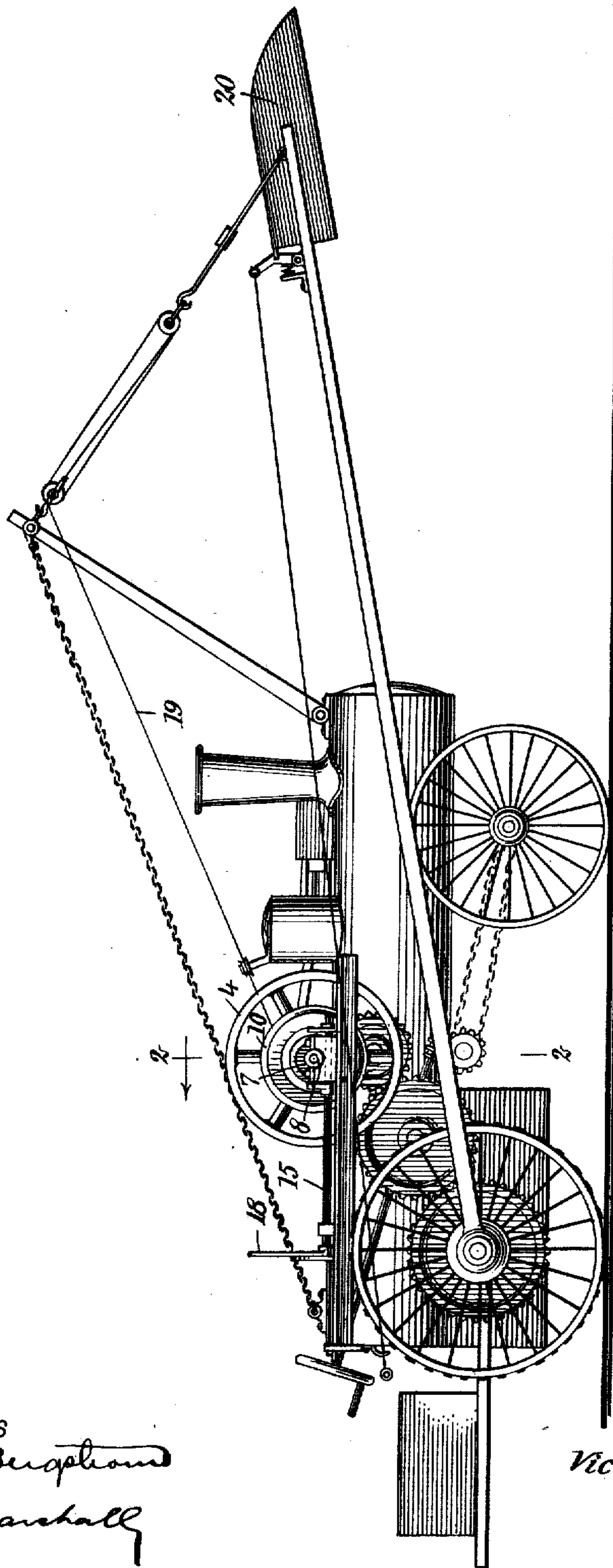


Fig. 1

WITNESSES

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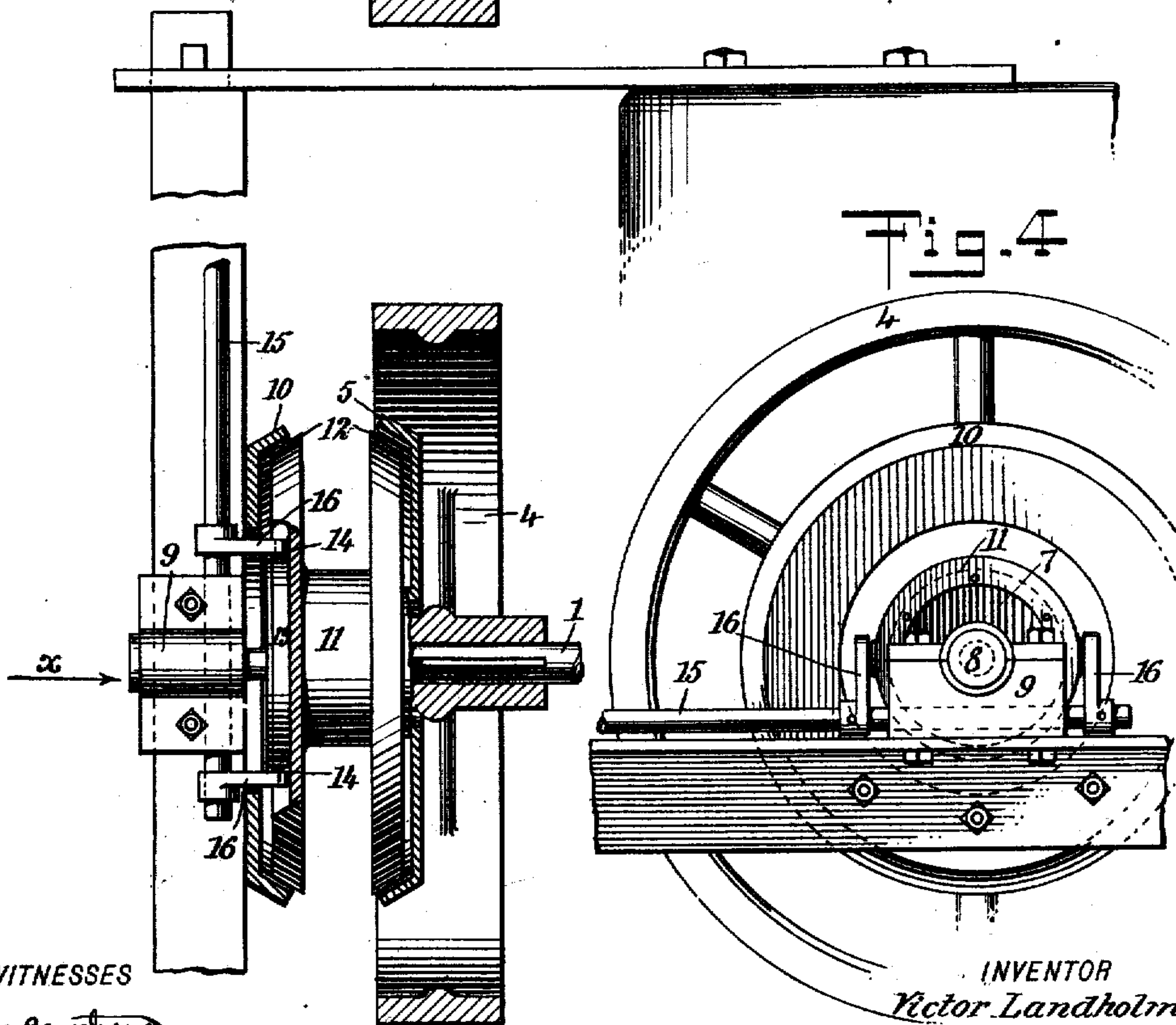
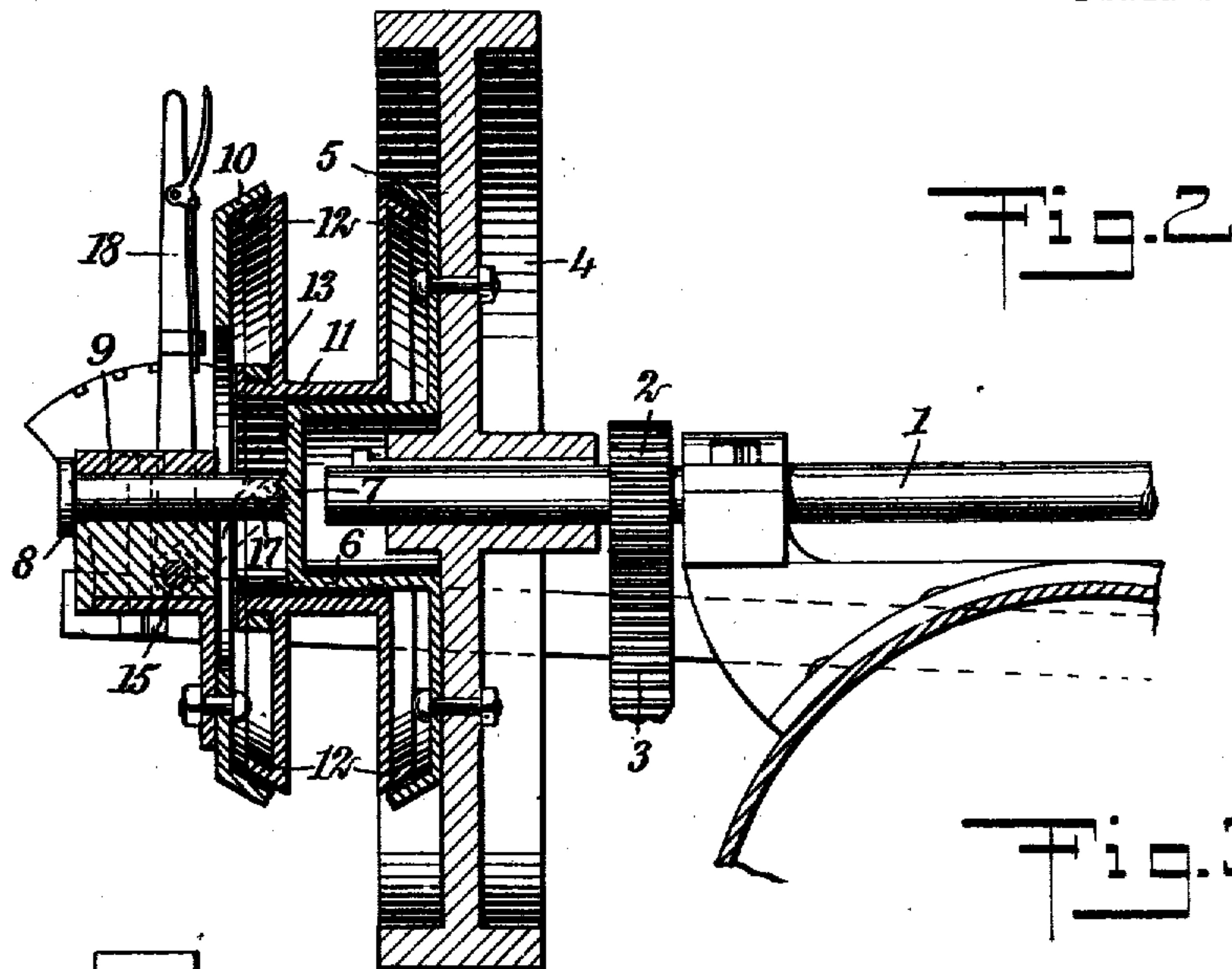
INVENTOR

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LOADER.

922,159.

2 SHEETS--SHEET 2.



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UNITED STATES PATENT OFFICE.

VICTOR LANDHOLM, OF WESTPOINT, NEBRASKA.

LOADER.

No. 922,159.

Specification of Letters Patent.

Patented May 18, 1909.

Application filed November 11, 1908. Serial No. 462,066.

To all whom it may concern:

Be it known that I, VICTOR LANDHOLM, a citizen of the United States, and a resident of Westpoint, in the county of Cuming and State of Nebraska, have invented a new and Improved Loader, of which the following is a full, clear, and exact description.

My invention relates to loaders and it has for its object to provide means which may be adjusted to the fly wheel of a loader of the normal type, by which a drum may be shifted to be rotated by the fly wheel to lift the load or which may be moved against a stationary member which serves as a brake either to hold the loader suspended or to permit it to descend slowly.

The device disclosed in this application is an improvement on the invention disclosed in my United States Patent No. 878,641; it is extremely simple in construction and may be readily attached to different types of engines.

Other objects of the invention will appear in the following complete description.

In this specification I will describe the preferred form of my invention, but it will be understood that I do not limit myself thereto, as I consider myself entitled to all forms and embodiments of the invention which may be held to fall within the scope of the appended claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures, in which—

Figure 1 is a side elevation of the invention; Fig. 2 is a sectional view on the line 2—2 of Fig. 1; Fig. 3 is a plan view partly in horizontal section; and Fig. 4 is a side elevation looking in the direction of the arrow *x* in Fig. 3.

By referring to the drawings, it will be seen that the loader is of the usual general construction, with a shovel 20, which is raised and lowered by means of a cable 19, which passes over a block on a derrick arm, the cable 19 being wound on a drum 11, the whole being supported on a suitable frame or carriage with a boiler and engine, and that it has a shaft 1, which is preferably driven by the engine, by means of gear wheels 2 and 3. To this shaft 1 is secured a fly-wheel 4 and to the fly-wheel 4 is secured an annular cone flange 5 and a drum shaft 6, the annular cone flange 5 and the

drum shaft 6 being preferably made of one piece of metal, with a head 7 forming a part of the drum shaft 6, this head 7 being secured to a smaller shaft 8 which is journaled in a bearing 9 on the frame of the machine.

In juxtaposition to the cone flange 5, there is a similar annular cone flange 10, this cone flange 10 being secured to the frame of the machine, and having an opening therein through which the shaft 8 is disposed. On the drum shaft 6 is mounted a drum 11, the sides of the drum extending and having secured to their peripheries, annular cone flanges 12, which are adapted for engaging the annular cone flanges 5 and 10 respectively. The drum 11 is not only rotatably mounted on the drum shaft 6, but it also has sliding longitudinal engagement therewith to permit its flanges 12 to move into and out of engagement with either of the flanges 5 and 10 respectively. A ring 13 is rotatably mounted on the hub of the drum 11 and this ring 13 has trunnions 14. A shaft 15 is disposed longitudinally of the machine and is journaled in the frame, and to this shaft 15 are secured links 16, each of these links 16 having slots 17 therein, the trunnions 14 being disposed in the said slots 17. To the shaft 15 is secured a lever 18, the lever being mounted alongside a quadrant of the usual form, with mechanism by which it may be held in a plurality of positions relatively to the said quadrant. The outside of the flanges 12 and the inside of the flanges 5 and 10 are provided with material which will permit one of the flanges 12 to have frictional engagement with the flange 5 and the flange 10, respectively.

In using the invention, the engine is operated, which rotates the shaft 1 and the fly-wheel 4, and the operator by means of the lever 18 is enabled to throw one of the flanges 12 on the drum 11 into engagement with the flange 5, by which means the drum 11 is rotated, thereby winding up a cable 19, connected with a shovel 20. When the cable has been wound sufficiently to raise the shovel 20 to the desired height, the operator, without stopping the engine, may if he desires, operate the lever 18, thereby rocking the shaft 15, which by means of the links 16 will draw the drum 11 so that the flange 12 will no longer engage the flange 5, and the opposite flange 12 will engage the flange 10, thereby holding the drum stationary. After which, if the operator desires to permit the

shovel to descend, he may, by operating the lever 18 in the manner which has been described, cause the drum 11 to be moved so that its flange 12 will be thrown out of engagement with the flange 10, thereby permitting the drum to rotate freely, or if he wishes the shovel to descend slowly, he may check its descent by moving the drum 11 so that its flange 12 will be sufficiently near the flange 10 to impede the rotation of the drum, thereby preventing the quick descent of the shovel. By means of my arrangement of the drum shaft, the drum is firmly mounted so that it will be able to stand all the strains of heavy service with which similar engines have been unable to contend.

Having thus described my invention, I claim as new and desire to secure by Letters Patent:

1. In a loader, a main shaft, a flange and a drum shaft secured thereto, a fixed flange in juxtaposition to the first named flange, a drum rotatably and slidably mounted on the drum shaft between the said flanges, flanges on the drum which are adapted for engaging the said flanges respectively, a shaft, and means connected to the shaft which are adapted for sliding the drum on its shaft so that its flanges will be moved into and out of engagement with the flange secured to the shaft and the stationary flange respectively.
2. In a loader, a main shaft, a friction member and a drum shaft secured thereto, a stationary friction member in juxtaposition to the friction member on the main shaft, a drum rotatably and slidably mounted on the drum shaft between the two friction members, a ring rotatably mounted on the drum, and means connected with the ring by which the drum may be moved to and from the said friction members respectively at the will of the operator.
3. In a loader, a fly wheel, a friction member and a drum shaft connected by a web member by which they are secured to the fly wheel, a fixed friction member in juxtaposition to the first named friction member, a drum rotatably and slidably mounted on the drum shaft between the said friction members, friction members on the drum which are adapted for engaging the said friction members respectively, and means which are adapted for sliding the drum on its shaft so that the friction members thereon will be moved into and out of engagement with the friction member secured to the fly wheel and the stationary friction member respectively.
4. In a loader, a main shaft, a flange and a drum shaft secured thereto, a fixed flange in juxtaposition to the first named flange, a

drum rotatably and slidably mounted on the drum shaft between the said flanges, flanges on the drum which are adapted for engaging the said flanges respectively, a ring rotatably mounted on the drum, a shaft, a link secured to the shaft, the link having a slot therein, and a trunnion secured to the ring which is disposed in the said slot.

5. In a loader, a main shaft, a flange and a drum shaft secured thereto, a bearing, the drum shaft being journaled in the said bearing, a stationary flange in juxtaposition to the flange secured to the shaft, a drum rotatably and slidably mounted on the drum shaft, flanges on the drum which are adapted for engaging the flange secured to the shaft and the stationary flange respectively, a ring rotatably mounted on the drum, a shaft, a link secured to the shaft, the link having a slot therein, and a trunnion secured to the ring which is disposed in the said slot.

6. In a loader, a fly wheel, a friction member and a drum shaft connected by a web member by which they are secured to the fly wheel, a fixed friction member in juxtaposition to the first named friction member, a drum rotatably and slidably mounted on the drum shaft between the said friction members, friction members on the drum which are adapted for engaging the said friction members respectively, means which are adapted for sliding the drum on its shaft so that the friction members thereon will be moved into and out of engagement with the friction member secured to the fly wheel and the stationary friction member respectively, and a bearing for the drum shaft.

7. In a loader, a main shaft, a friction member and a drum shaft secured thereto, a fixed friction member in juxtaposition to the first named friction member, a drum rotatably and slidably mounted on the drum shaft between the said friction members, friction members on the drum which are adapted for engaging the said friction members respectively, a shaft, and means connected to the shaft which are adapted for sliding the drum on its shaft so that its friction members will be moved into and out of engagement with the friction member secured to the shaft and the stationary friction member respectively.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

VICTOR LANDHOLM.

Witnesses:

WM. GENTRUP,
W. A. BLACK.