No. 880,774. PATENTED MAR. 3, 1908.

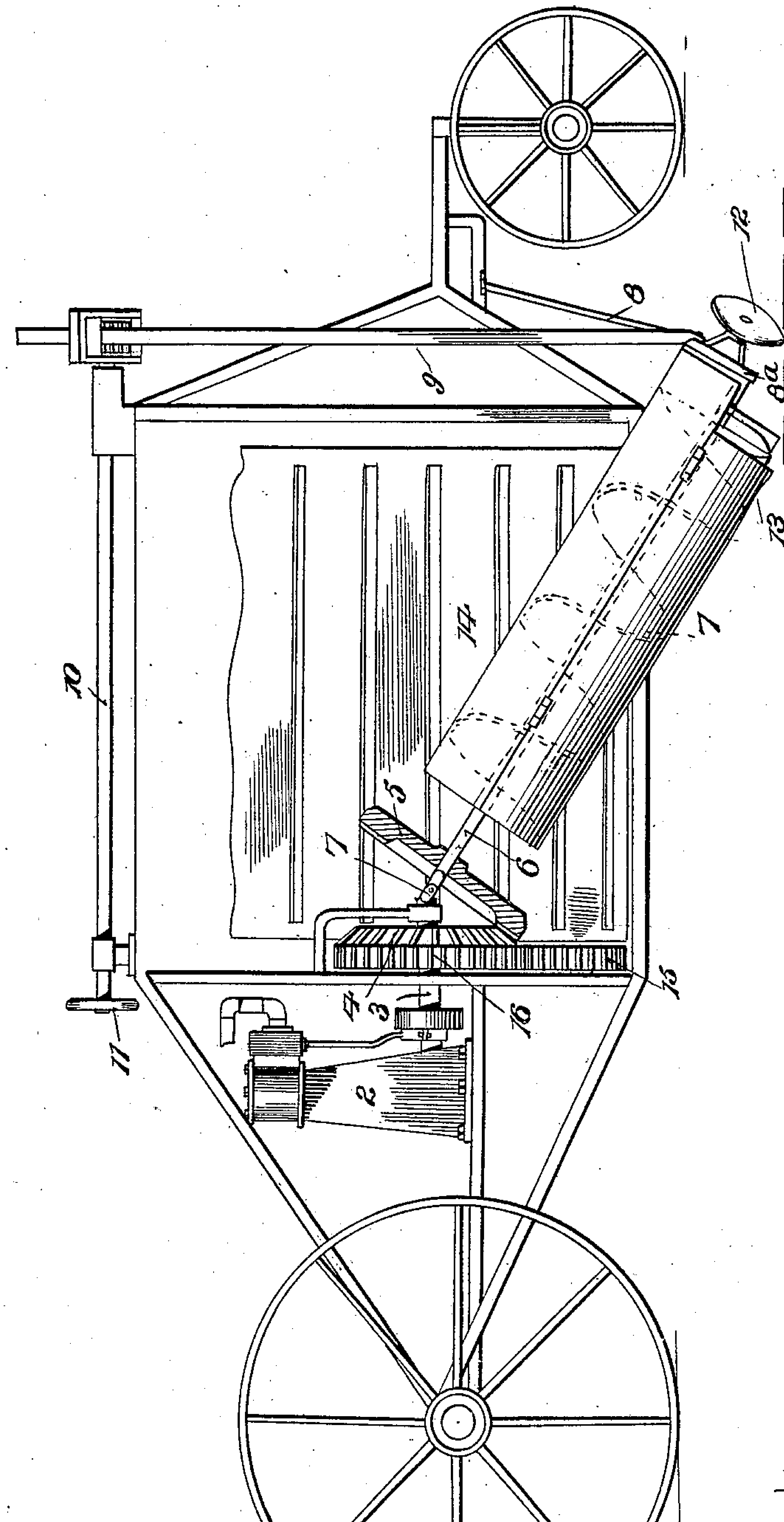
L. D. BATY.

ROAD GRADER.

APPLICATION FILED JUNE 13, 1907.

3 SHEETS—SHEET 1.

Fig. 1.



Witnesses

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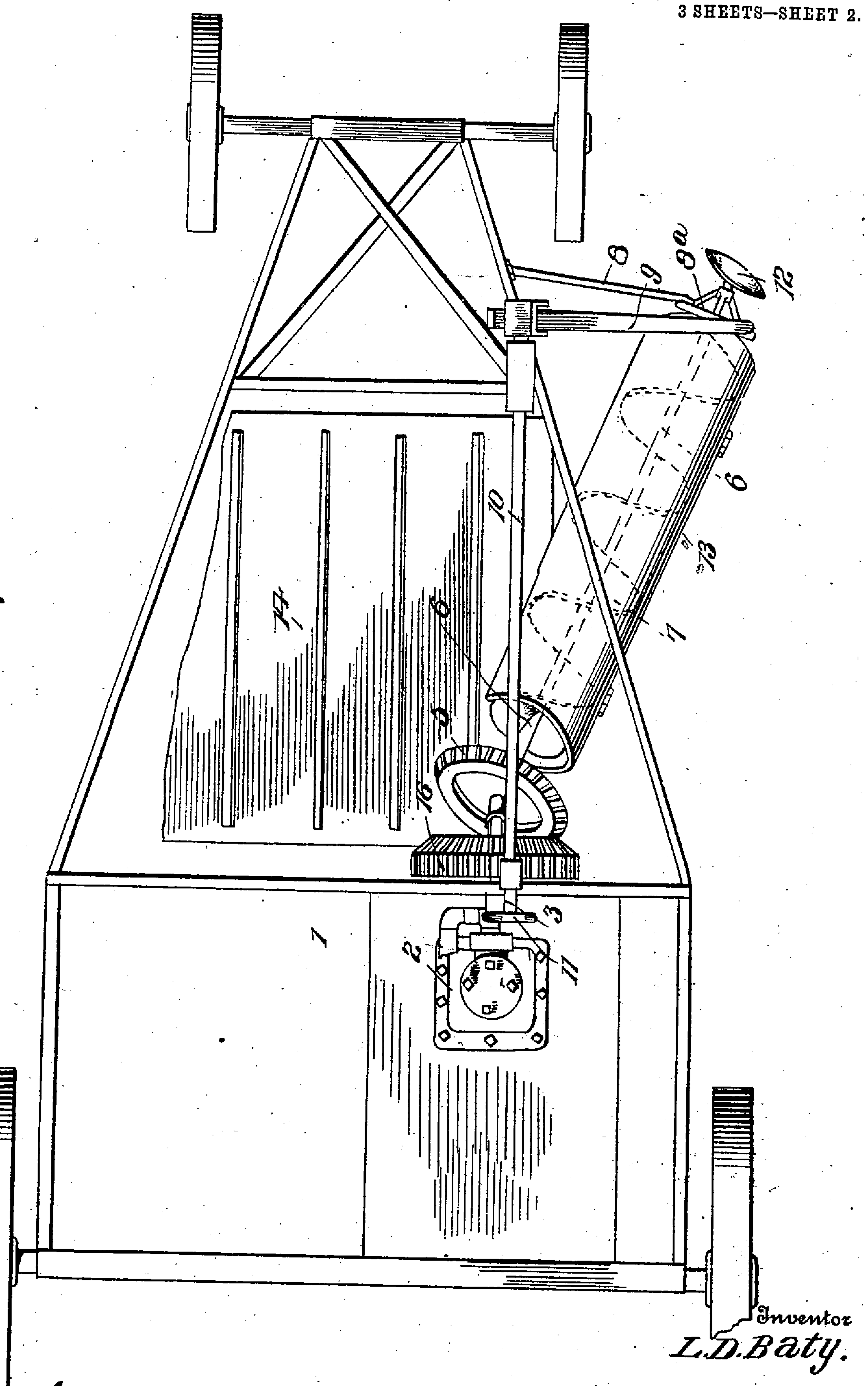
3 SHEETS—SHEET 2.

Fig. 2.



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3 SHEETS—SHEET 3.

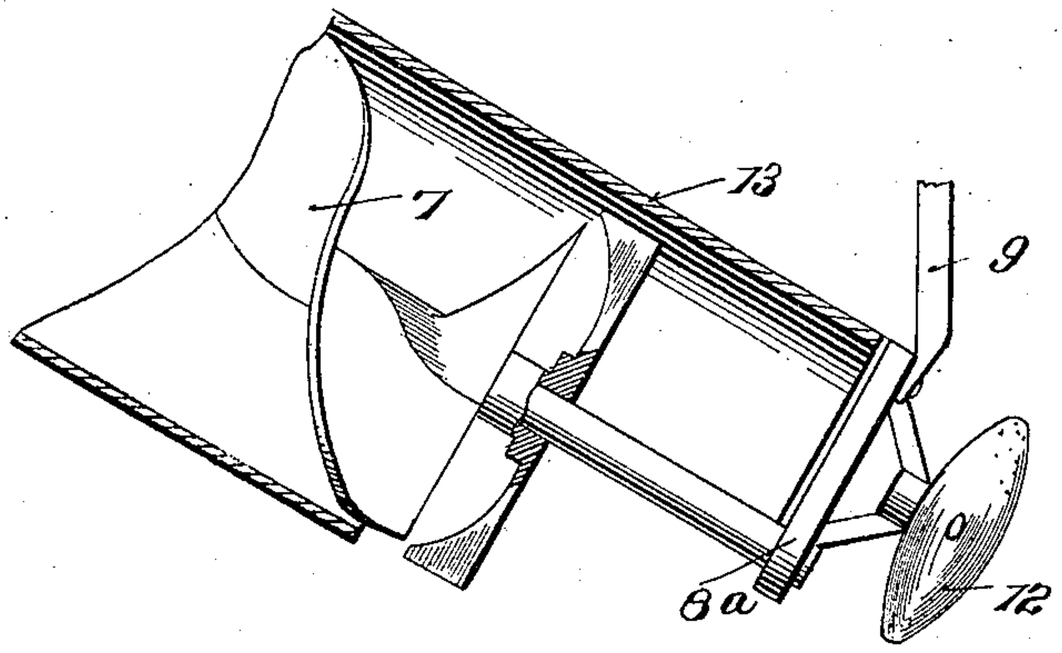

Fig. 3.

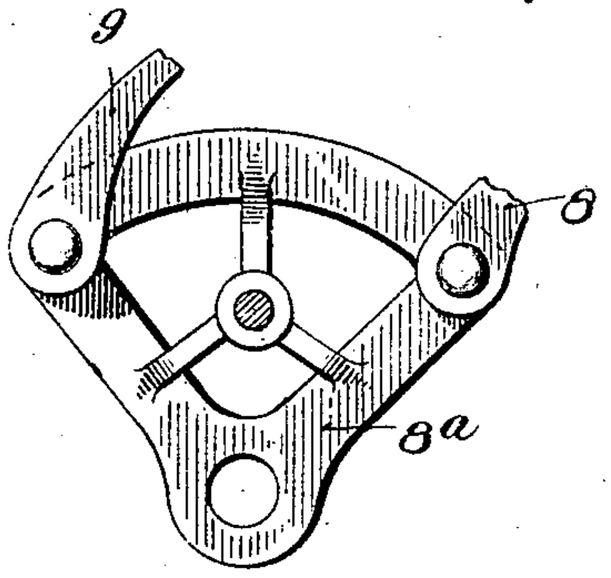

Fig. 4.

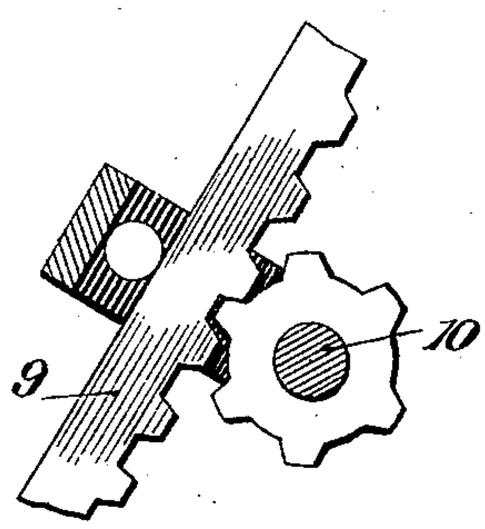

Fig. 5.

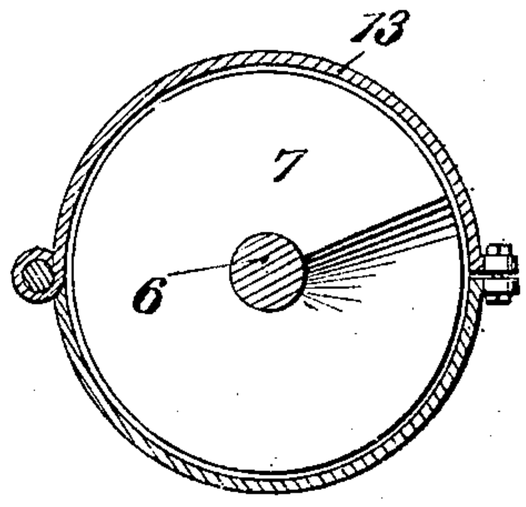

Fig. 6.

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UNITED STATES PATENT OFFICE.

LORENZO D. BATY, OF KNOXVILLE, IOWA.

ROAD-GRADER.

No. 880,774. Specification of Letters Patent. Patented March 3, 1908.

Application filed June 13, 1907. Serial No. 378,736.

To all whom it may concern:

Be it known that I, LORENZO D. BATY, citizen of the United States, residing at Knoxville, in the county of Marion and State of Iowa, have invented certain new and useful Improvements in Road-Graders, of which the following is a specification.

This invention contemplates certain new and useful improvements in machines for grading roads, digging, irrigating, or other ditches, and similar work, and the invention has for its object a simple, durable and efficient construction of machine of this character embodying an auger which is arranged for adjustment to different elevations according to the depth of cut desired, and an elevator conveyer designed to receive the soil from the auger.

With this and other objects in view as will more fully appear as the description proceeds, the invention consists in certain constructions, arrangements and combinations of the parts which I shall hereinafter fully describe and then point out the novel features in the appended claims.

For a full description of the invention and the merits thereof and also to acquire a knowledge of the details of construction and the means for effecting the result, reference is to be had to the following description and accompanying drawings, in which:

Figure 1 is a side elevation of my improved road grading machine; Fig. 2 is a top plan view thereof; Fig. 3 is a detail side elevation with parts in section of the auger and its parts in housing; Fig. 4 is a detail front view of the bearing for the auger and its clearing disk; Fig. 5 is an enlarged detail view of the means for raising and lowering the front end of the auger; and, Fig. 6 is a transverse sectional view through the auger and its housing.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawings by the same reference characters.

Referring to the drawings, the numeral 1 designates the supporting frame or platform of my improved road grader, the same being mounted upon traveling wheels and being adapted to be drawn either by horses, or through the instrumentality of any suitable engine or motor mounted upon the rear end of the platform, and having operative connection with the rear traveling wheels or axle.

2 designates the engine which is primarily designed to drive the grading or digging apparatus as well as the conveying or elevating devices, said engine being of any desired type or design.

The shaft 3 of the engine is provided with a miter gear wheel 4 which is adapted to mesh with a similar wheel 5 on an auger shaft 6, said shaft having a universal joint connection with the outer end of the drive shaft 3 of the engine, so that the auger 7 may be swung to different inclinations or elevations. The front end of the auger is mounted in a bearing 8^a which is carried by a supporting arm 8 having a loose connection with the front portion of the supporting framework, and to change the elevation or inclination of the auger, I have provided a rod 9 which is secured to the front end of the auger bearing 8^a and which is provided with teeth as shown, arranged for engagement with a toothed wheel on the shaft 10, mounted in suitable bearings in the framework and provided at its rear end with a hand wheel 11.

12 designates a disk which is mounted in front of the bearing 8^a of the main auger and which is adapted to form the initial cut in the earth and to clear the way for the bearing 8^a and for the further cut by the auger.

13 designates a jacket which is preferably of sheet steel and which surrounds the auger, so as to form a housing therefor and also to form a cylinder so that the earth that is cut by the auger will be conveyed by the spiral blade of the auger upwardly and rearwardly on to the laterally traveling conveyer 14. The jacket 13 is cut away at its lower side and front end so as to expose the cutting edge of the auger, and it is also provided with an opening at its upper end producing an opening so that the earth may be discharged from the jacket or housing on to the conveyer. As best seen in Fig. 6, I prefer to construct the jacket or housing 13 into two longitudinally divided sections hinged together at one side and secured together at its opposite side by bolts.

The lowermost roller of the elevator conveyer 14 carries a gear wheel 15 which meshes with a relatively larger gear wheel 16 formed in one with the miter gear 4 on the drive shaft 3. The earth carried upwardly and laterally by the conveyer 14 may manifestly be deposited in a wagon or suitable receptacle, or upon the middle of the road.

From the foregoing description in connection with the accompanying drawings, it will be seen that I have provided a very simple,

durable and efficient construction of road grader or ditch machine in which the auger may be raised or lowered to different elevations, and in which the way for the cutting blade of the auger and its boxing is cleared by the disk 12, as hereinbefore described.

Having thus described the invention, what is claimed as new is:

1. A machine of the character described, comprising a traveling supporting framework, a motor or engine mounted thereon, an auger carried by the framework and provided with means whereby it may be adjusted to different elevations, the said auger projecting forwardly and laterally from the framework, an operative connection between the auger and the engine, and a disk carried in front of the cutting blade of the auger, as and for the purpose set forth.

2. A road grading machine comprising a traveling framework, an engine mounted thereon, an auger shaft carried by the framework and having universal movement, an operative or driving connection between the engine shaft and the auger shaft, an auger, a cutting blade therefor mounted on said auger shaft, a swinging support for the front end of said shaft, means for raising and lowering the auger shaft, and a disk carried at the front end of the auger.

3. A road grading machine comprising a traveling supporting framework, an engine mounted thereon, an auger provided with a shaft having universal movement in the framework and having a driving connection with the drive shaft of the engine, means for adjusting said auger to different inclinations, a laterally traveling elevator mounted in the framework, and a driving connection between said elevator and the engine shaft.

In testimony whereof I affix my signature in presence of two witnesses.

LORENZO D. BATY. [L. S.]

Witnesses:

B. H. BROBST,

JOHN WREN.