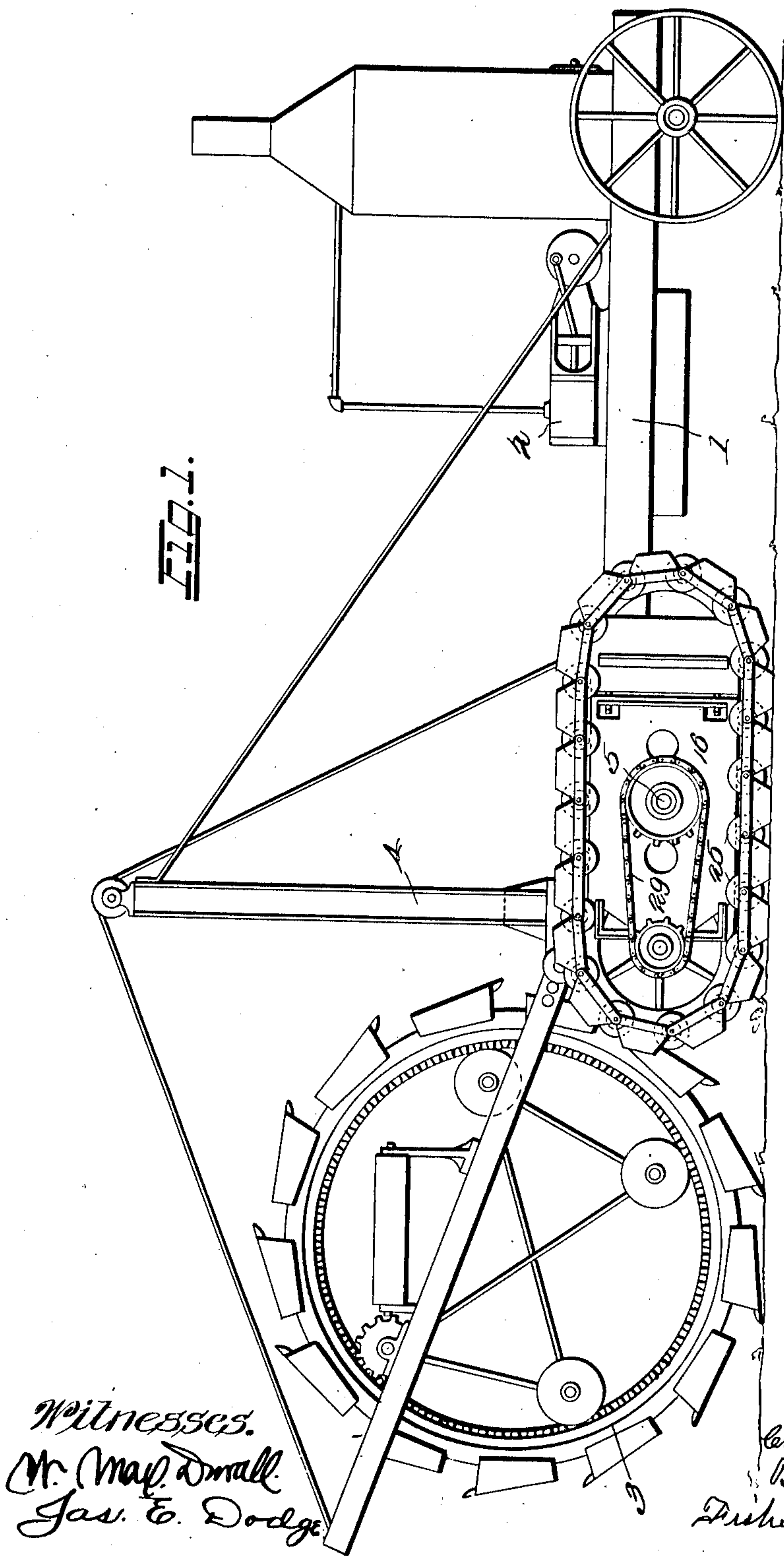


C. S. BROWN.  
TRACTION APRON FOR DITCHING MACHINES.  
APPLICATION FILED JUNE 19, 1909.

954,252.

Patented Apr. 5, 1910.

4 SHEETS—SHEET 1.



Witnesses.  
Mr. May Small  
Jas. E. Dodge.

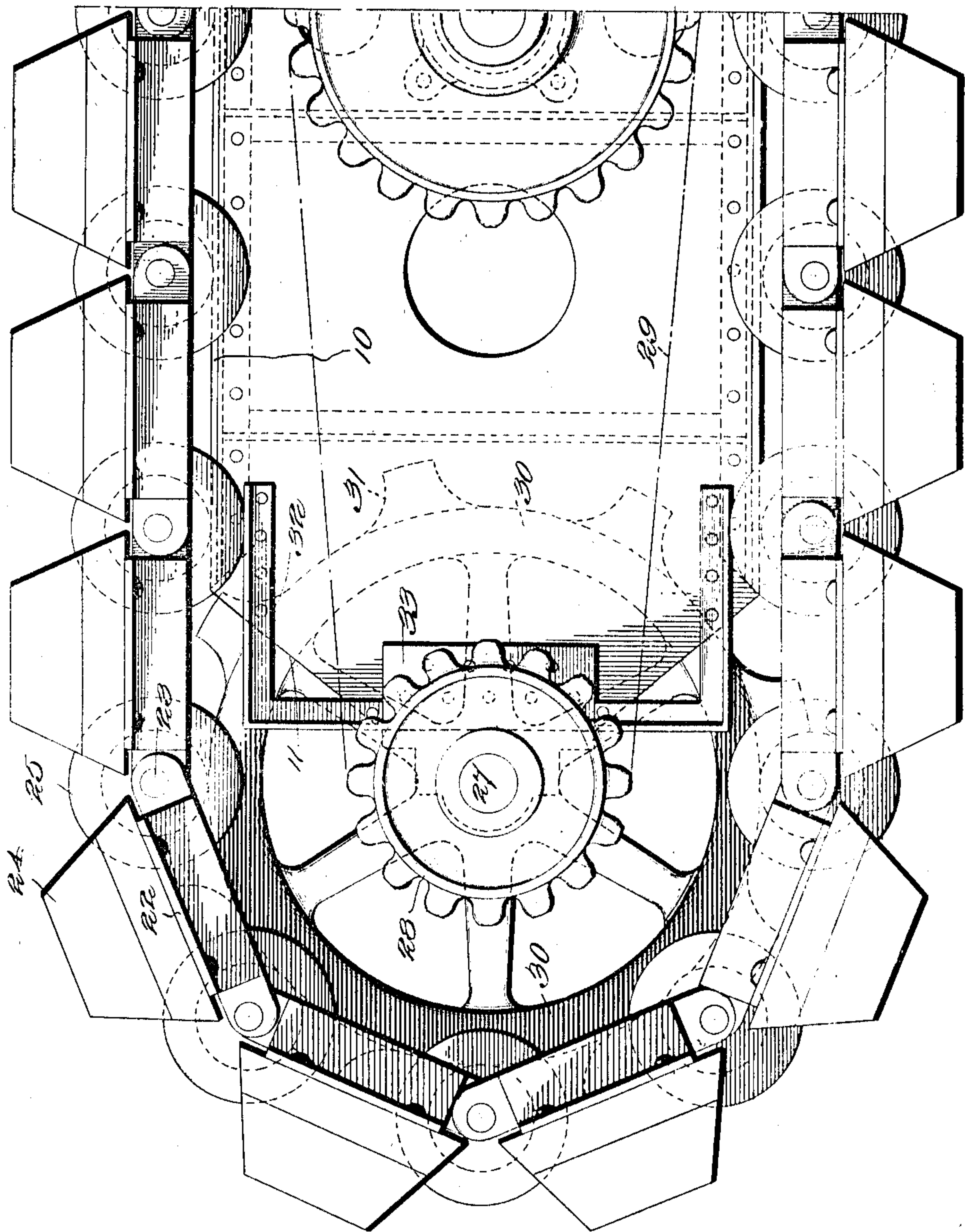
Inventor  
C. S. Brown.  
By Wilkinson,  
Fisher & Witherspoon,  
Attorneys.

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4 SHEETS—SHEET 2.



Witnesses.  
M. M. D. Small.  
Jas. E. Dodge.

By

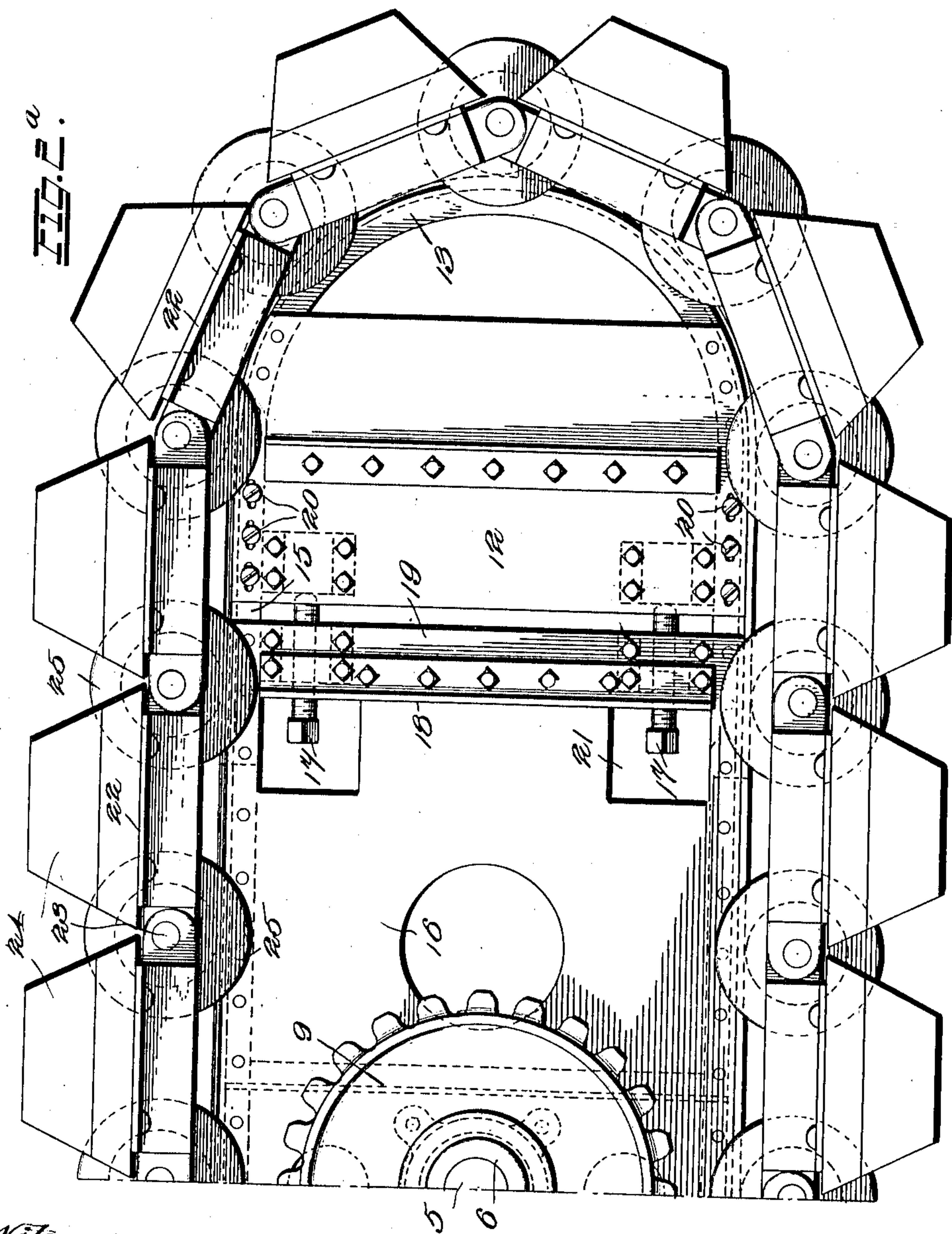
Inventor:  
Chalmers S. Brown.  
By Wilkinson, Fisher & Witherpoon,  
Attorneys



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 4 SHEETS—SHEET 3.



Witnesses  
 W. Map. Dwall.  
 Jas. E. Dodge.

Inventor  
 Chalmers S. Brown.  
 By Wilkison, Fisher & Witherspoon  
 Attorneys

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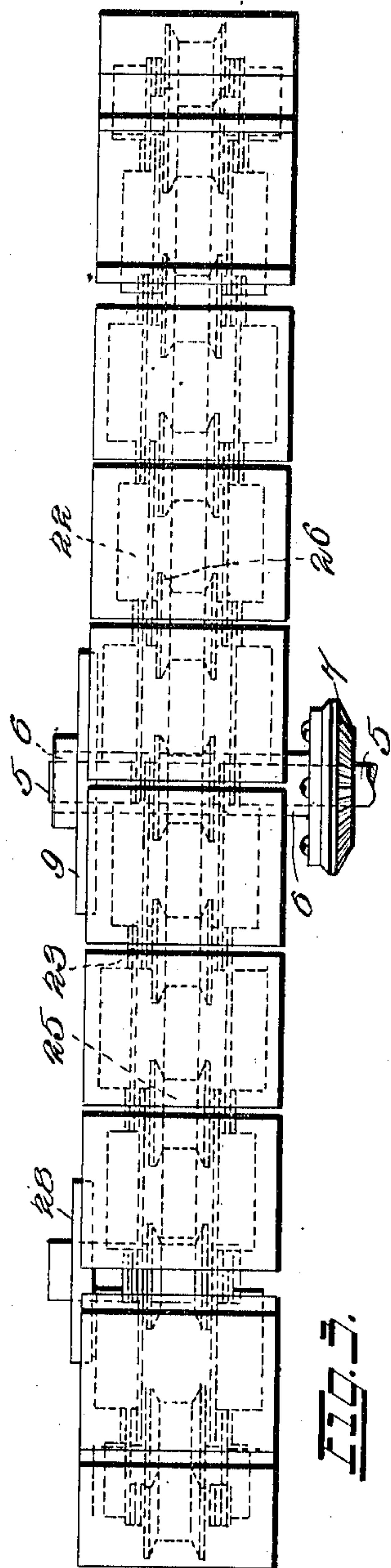


Fig. 3.

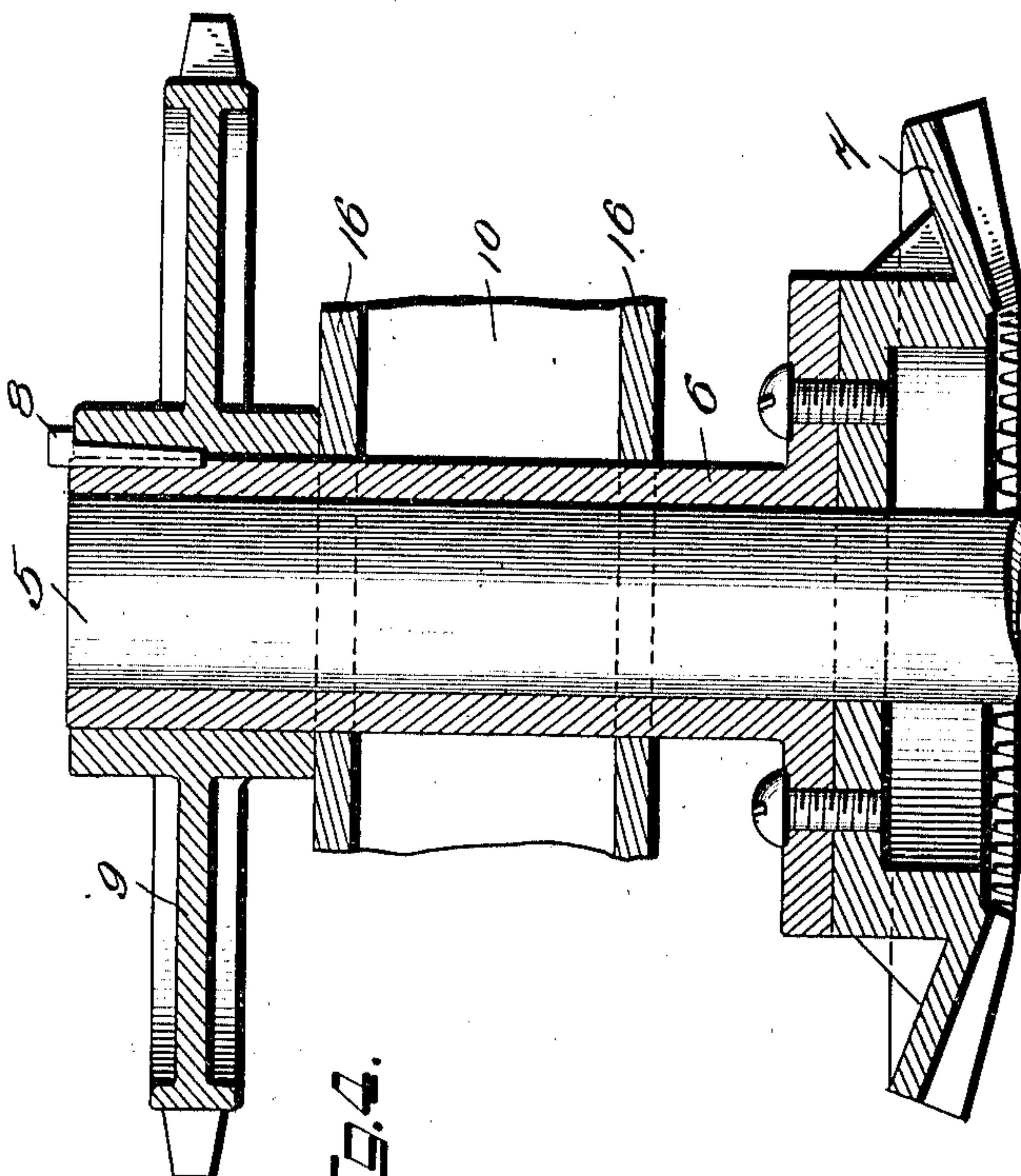


Fig. 4.

Witnesses.  
 W. May Durrall.  
 Jas. E. Dodge.

Inventor.  
 Chalmers S. Brown.  
 By Wilkinson, Fisher & Witherspoon  
 Attorneys.



# UNITED STATES PATENT OFFICE.

CHALMERS S. BROWN, OF FINDLAY, OHIO.

## TRACTION-APRON FOR DITCHING-MACHINES.

954,252.

Specification of Letters Patent.

Patented Apr. 5, 1910.

Application filed June 19, 1909. Serial No. 503,247.

*To all whom it may concern:*

Be it known that I, CHALMERS S. BROWN, a citizen of the United States, residing at Findlay, in the county of Hancock and State of Ohio, have invented certain new and useful Improvements in Traction-Aprons for Ditching-Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in traction aprons for ditching machines, although it is not restricted to this specific use. The object of my invention is to provide a strong and comparatively inexpensive structure carrying the traction apron, which may be substituted at any time for the ordinary driving wheel of a ditching or similar machine.

With this object in view, my invention consists in the construction and combinations of parts as hereinafter described and claimed.

In the accompanying drawings—Figure 1 is a diagrammatic side view of a ditching machine showing my invention applied thereto. Figs. 2 and 2<sup>a</sup>, which are to be taken together, represent, in side elevation, my improved traction apron on a larger scale. Fig. 3 is a top plan view of the parts shown in Figs. 2 and 2<sup>a</sup>, and Fig. 4 is a central cross section taken through the driving sprocket wheel.

1 represents the frame of a ditching machine of any ordinary or preferred form, provided with an engine 2, a ditching wheel 3, and supporting standards 4.

5 represents the traction shaft of the machine, suitably supported on the frame. On one end of this traction shaft is fastened one of the traction wheels, and on the other end is mounted a sleeve 6, attached to a part of the differential gear 7 and having keyed to its outer end, by means of the key 8, the driving sprocket wheel 9 for the traction apron.

From the construction described, it is clear that the whole traction apron may be easily removed from the machine and an ordinary traction wheel substituted therefor.

Mounted on the sleeve 6 is a long box 10, rectangular in general shape and preferably made of iron or steel. At one end this box is beveled inwardly, as shown at 11, Fig. 2, and to the other end is adjustably fastened

an extension for the purpose of tightening the traction apron. This extension consists of a smaller box 12, having a curved extension 13 over which the rollers of the traction apron pass, and having extensions 15 adapted to fit within the sides 16 of the box 10. Screws 17 passing through angle plates 18 and 19, are used for the purpose of adjusting the end 12 inwardly or outwardly. Set screws 20 are also provided for fastening the part 12 to the arms 15. The main box 10 is cut away as shown at 21, to provide access to the heads of the screws 17.

The traction apron proper consists of a series of angle bars 22, having projecting portions adapted to be engaged by rods 23.

24 represents wearing blocks, preferably of wood, bolted or otherwise secured to the plates 22. The rods 23 pass over the box 10 and engage the angle plates on each side of the box.

On each of the rods 23 is mounted a spool 25, having flanged edges 26, as shown in dotted lines in Fig. 3. These flanged edges are adapted to travel outside the sides 16 of the box 10. By this construction a single track is provided, and the spools 25 guide the entire traction apron. The spools 25 and the rods 23 may be made integral, if desired, or in separate parts fastened together.

In bearings at one end of the box 10 is mounted a shaft 27, provided with a sprocket wheel 28, which is connected by a sprocket chain, indicated by the broken line 29, with the sprocket wheel 9. On the shaft 27 is mounted a larger sprocket wheel 30, provided with teeth 31 adapted to engage successively the rollers 25, thereby moving the traction apron. One end of the box 10 is open, so that the teeth of this traction wheel may pass therein, and to strengthen the structure I have provided braces 32, running down to the bearings 33, in which the shaft 27 is mounted. Each of the rollers 25, as it passes off the end of the box 10, will tend to fall, thus insuring the engagement thereof with one of the teeth on the sprocket wheel 30.

The operation is as follows: When the shaft 5 is revolved by means of suitable connections from the engine 2, the differential gear 7 drives the sprocket wheel 9, which in turn, by the connections described, drives the sprocket wheel 30 and thereby the traction apron. This apron being driven by the differential gear 7 may, of course, be caused to move faster or slower than the driving



wheel, which is fastened to the other end of the shaft 5.

I claim:—

5 A traction wheel, comprising a rectangular box open at both ends, a sprocket wheel journaled in bearings on one end of said box, an extension having a curved track adjustably secured to the other end of said box, means for adjusting said extension, a series  
10 of flanged spools adapted to travel along and be guided by the top and bottom edges of said box, by said sprocket wheel, and by said

curved track, angle plates flexibly secured to said spools at each end thereof, wearing blocks secured to said plates, and means for 15 driving said sprocket wheel, substantially as described.

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

CHALMERS S. BROWN.

Witnesses:

E. V. BOPE,  
JOHN MAHONY.