

No. 881,236.

PATENTED MAR. 10, 1908.

F. B. GULZOW.  
CONCRETE MIXER.  
APPLICATION FILED OCT. 15, 1906.

2 SHEETS—SHEET 1.

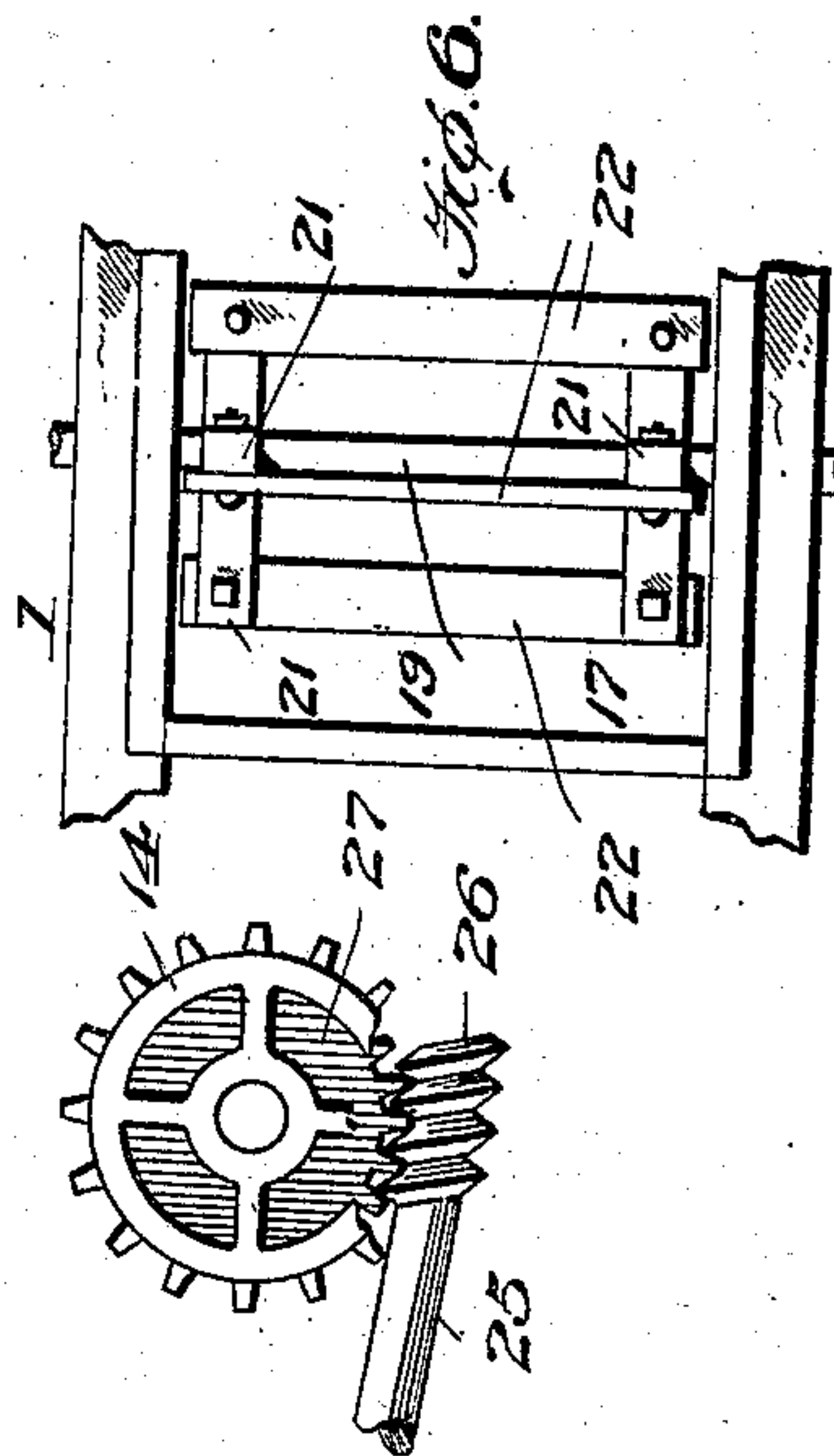
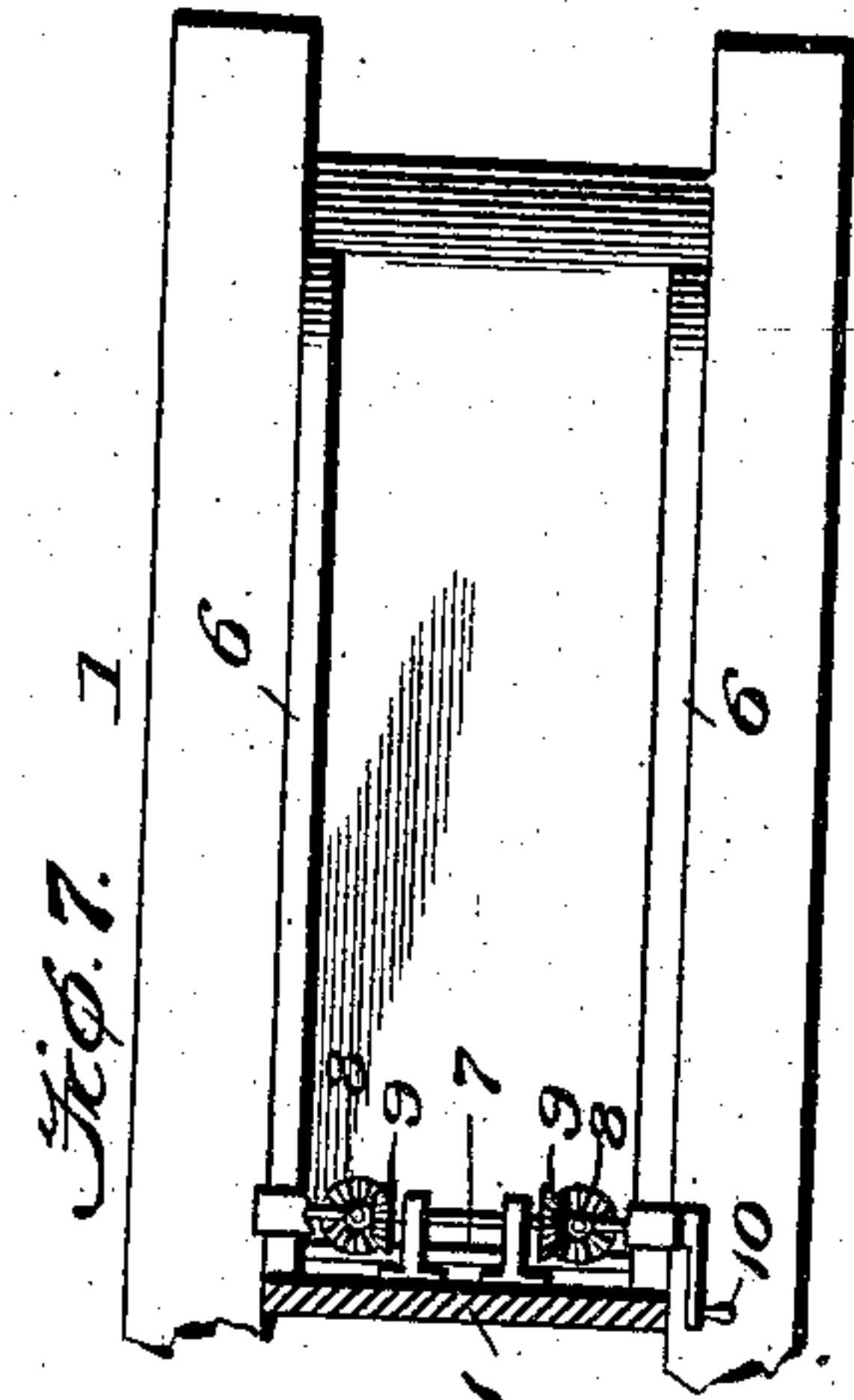
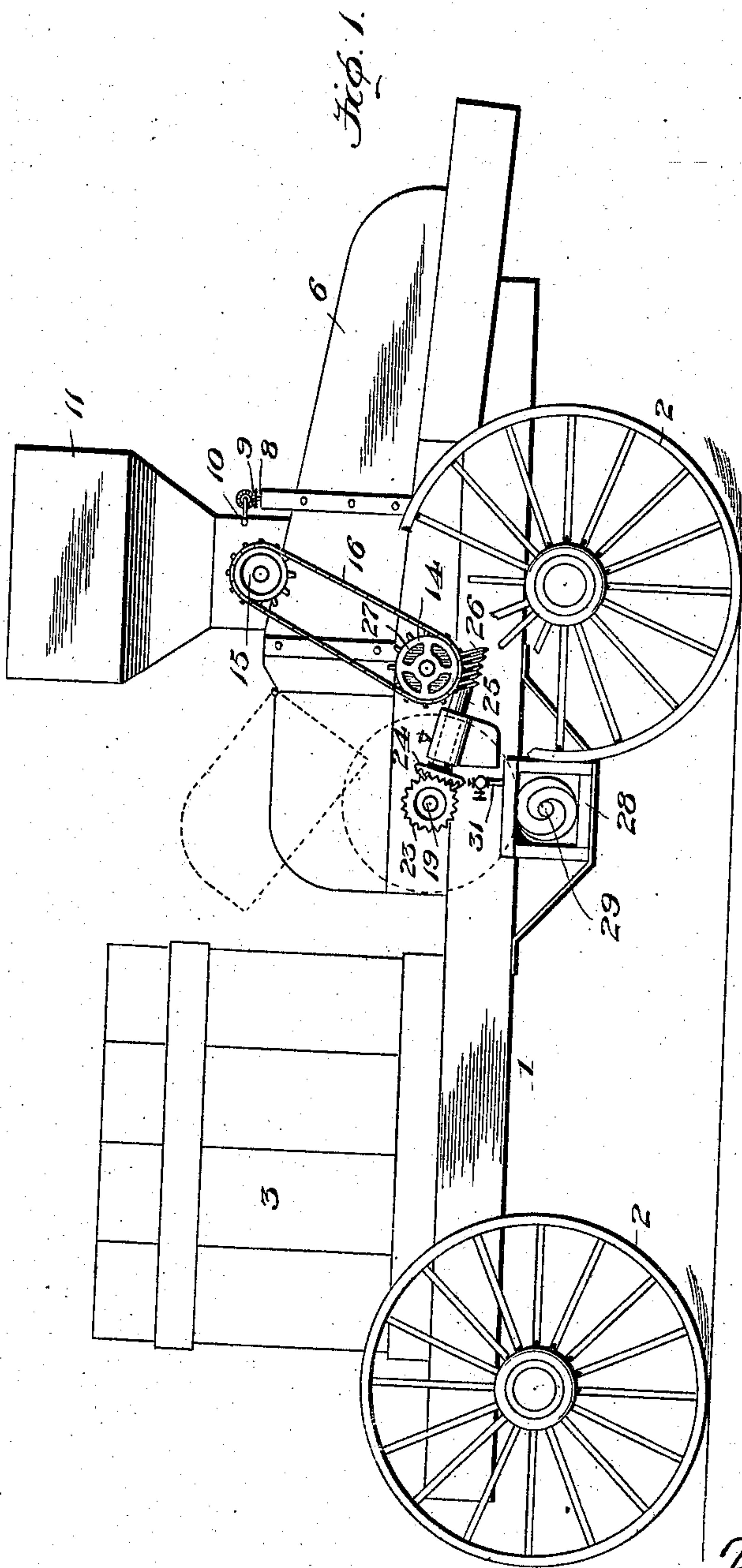


Fig. 5.

Inventor

Witnesses

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2 SHEETS—SHEET 2.

Fig. 2.

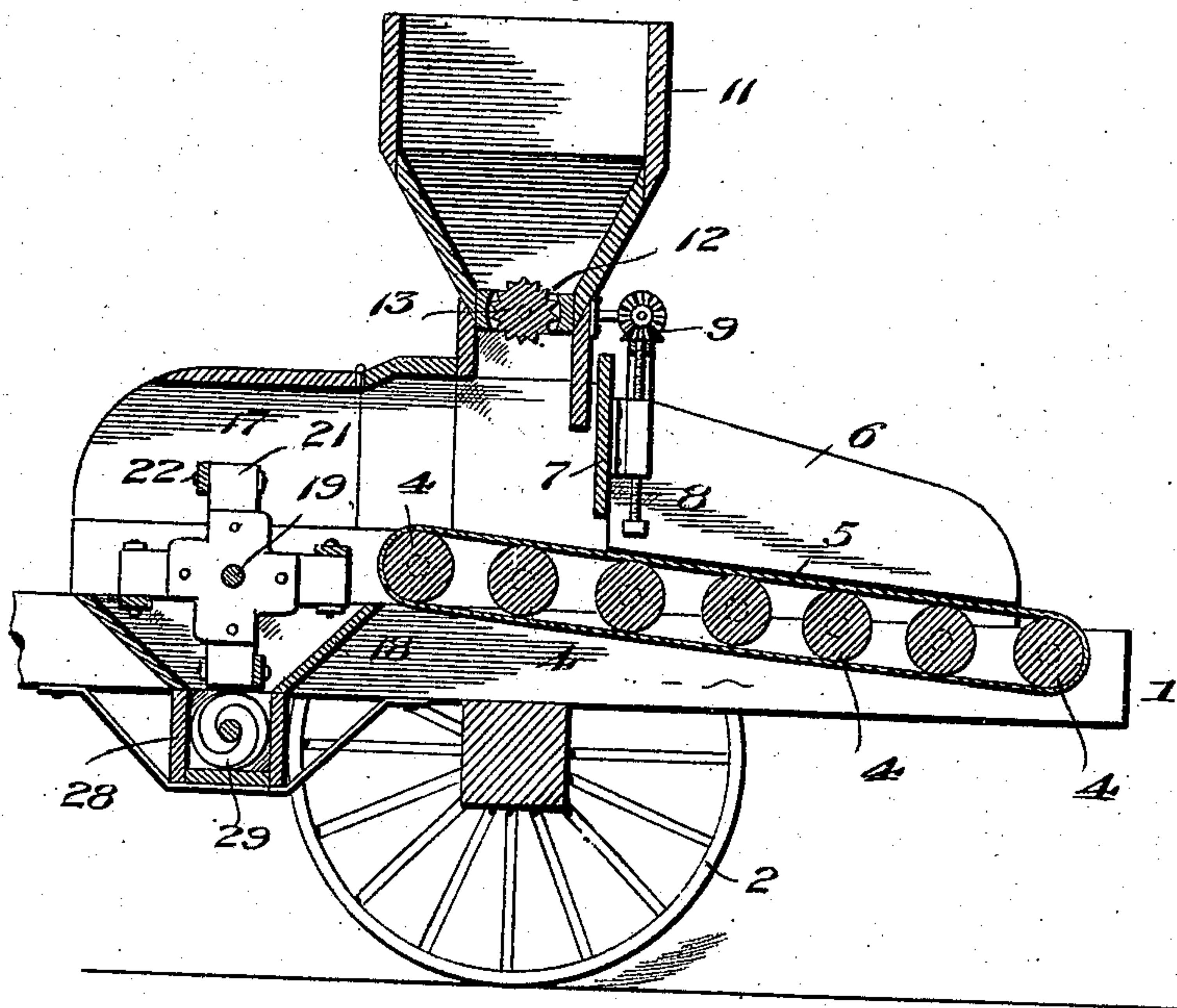


Fig. 3.

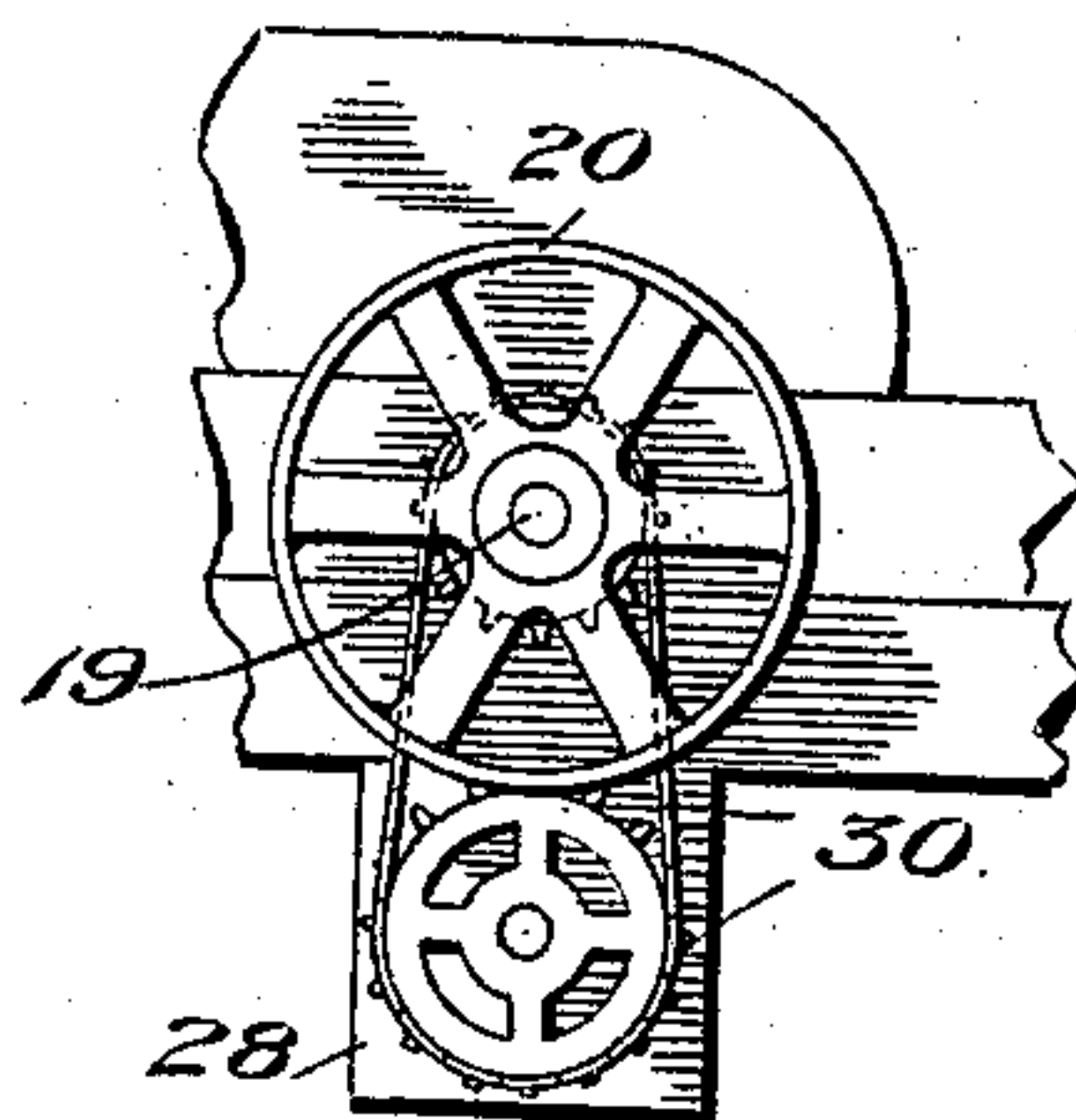
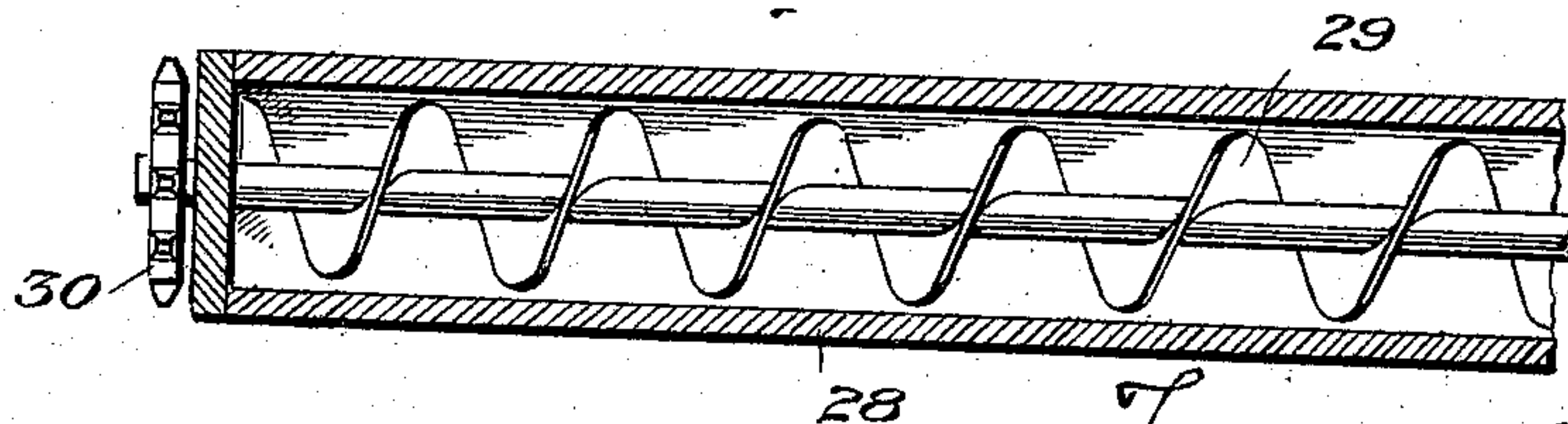


Fig. 4.



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# UNITED STATES PATENT OFFICE.

FREDERICK B. GULZOW, OF FLANDREAU, SOUTH DAKOTA.

## CONCRETE-MIXER.

No. 881,236.

Specification of Letters Patent.

Patented March 10, 1908.

Application filed October 15, 1906. Serial No. 339,140.

*To all whom it may concern:*

Be it known that I, FREDERICK B. GULZOW, a citizen of the United States, residing at Flandreau, in the county of Moody and State of South Dakota, have invented a new and useful Machine for Mixing Gravel, Cement, and Water, of which the following is a specification.

This invention relates to concrete mixers. The objects of the present invention are the provision of a concrete or cement mixer of simple and durable construction which will be so arranged that clogging and choking of the cement or concrete will be obviated; the desired amount of gravel can be controlled; the shoveling of the gravel into the machine rendered easy; and the mixing of the cement or concrete and gravel accomplished in a thorough and satisfactory manner in the desired proportions, without waste of the materials or of power to operate the machine.

The invention is set forth fully hereinafter and the novel features are recited in the appended claims.

In the accompanying drawings: Figure 1 is a side elevation; Fig. 2, a longitudinal section of the machine, the engine being omitted; Fig. 3, a detail of the gearing for driving the mixer and conveyer screw; Fig. 4, a detail plan of the conveyer screw, showing its case in section; Fig. 5, a detail of certain gearing; Fig. 6, a detail plan view of the rotary mixer; and Fig. 7, a detail plan showing the gravel belt and gate adjusting device.

The machine frame 1 is mounted on traction wheels 2 and carries a gas or gasoline engine or other motor 3 so that its power is self-contained. The frame carries a plurality of rollers 4, around which travels a gravel belt 5, sideboards 6 being positioned so that their lower edges lie slightly above the gravel belt for almost the entire length thereof and thus confine the gravel on the belt and prevent it from escaping laterally. Where these sideboards terminate, there is provided a vertically slidable gate 7 having adjusting screws 8 operated by gears 9 and a crank 10. This gate controls the amount of gravel passed to the interior of the machine by the gravel belt 5.

Surmounting the machine is a cement or concrete hopper 11 which has a cylindrical

feed opening 12 in which is located a ribbed feed roller 13 whose rotation permits the cement or concrete to fall on the gravel that has passed underneath the gate 7. In order that the feed of the cement or concrete by the feed roller 13 may bear a predetermined relation to the rate of travel of the gravel belt 5, sprocket wheels 14 and 15 are secured to the innermost roller 4 and to the feed roller 13 and connected by a sprocket chain 16.

Back of the rear end of the gravel belt 5 is a mixing box or chamber 17 having a hopper bottom 18. Extending crosswise of this mixing chamber 17 is a shaft 19 carrying on its outer end a belt pulley 20 which may be belted to the gas engine 3. Secured to the shaft 19 is a mixer consisting of arms 21 and cross-blades or paddles 22. Secured to shaft 19 is a bevel gear 23 which meshes with a bevel gear 24 carried by a shaft 25 having a worm 26 that meshes with a worm-wheel 27 secured to sprocket 14. The hopper bottom 18 opens into a transverse trough or case 28 on which is a screw conveyer 29, mounted in suitable bearings, and connected to shaft 19 by sprocket gearing 30.

In operation the gravel is shoveled from the ground onto the belt 5, whence it passes underneath gate 7 which has been previously adjusted, and the surplus gravel is scraped off, the proper amount passing under the feed roller 13, which feeds the proper amount of cement or concrete down upon said gravel belt, and the gravel and cement finally pass into the mixing chamber 17 where they are dashed vigorously about against the walls of said chamber by the rotary mixer 21—22 and finally fall in a dry state into the hopper bottom 18 and thence into trough 28, but as soon as the material is received in trough 28, water supplied by any hose attached to a suitable nozzle 31 flows into the mass and the wet mass is ejected by the screw as prepared concrete, ready for use.

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

In a concrete mixer, the combination with a mixing chamber, of a rotary mixer therein provided with cross blades or paddles extending longitudinally of the rotary mixer, a belt or apron conveyer running substantially at right angles to the length of the

mixer and adapted to deliver the material  
to the side of the mixer whereby the material  
is forcibly dashed by said blades against the  
walls of the mixing chamber, a trough lo-  
5 cated under the mixing chamber lengthwise  
thereof and in communication therewith by  
an opening extending lengthwise thereof,

and a conveyer in said trough for discharg-  
ing the material lengthwise of said trough.

FRED. B. GULZOW.

Witnesses:

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F. A. WARREN.