

No. 720,333.

PATENTED FEB. 10, 1903.

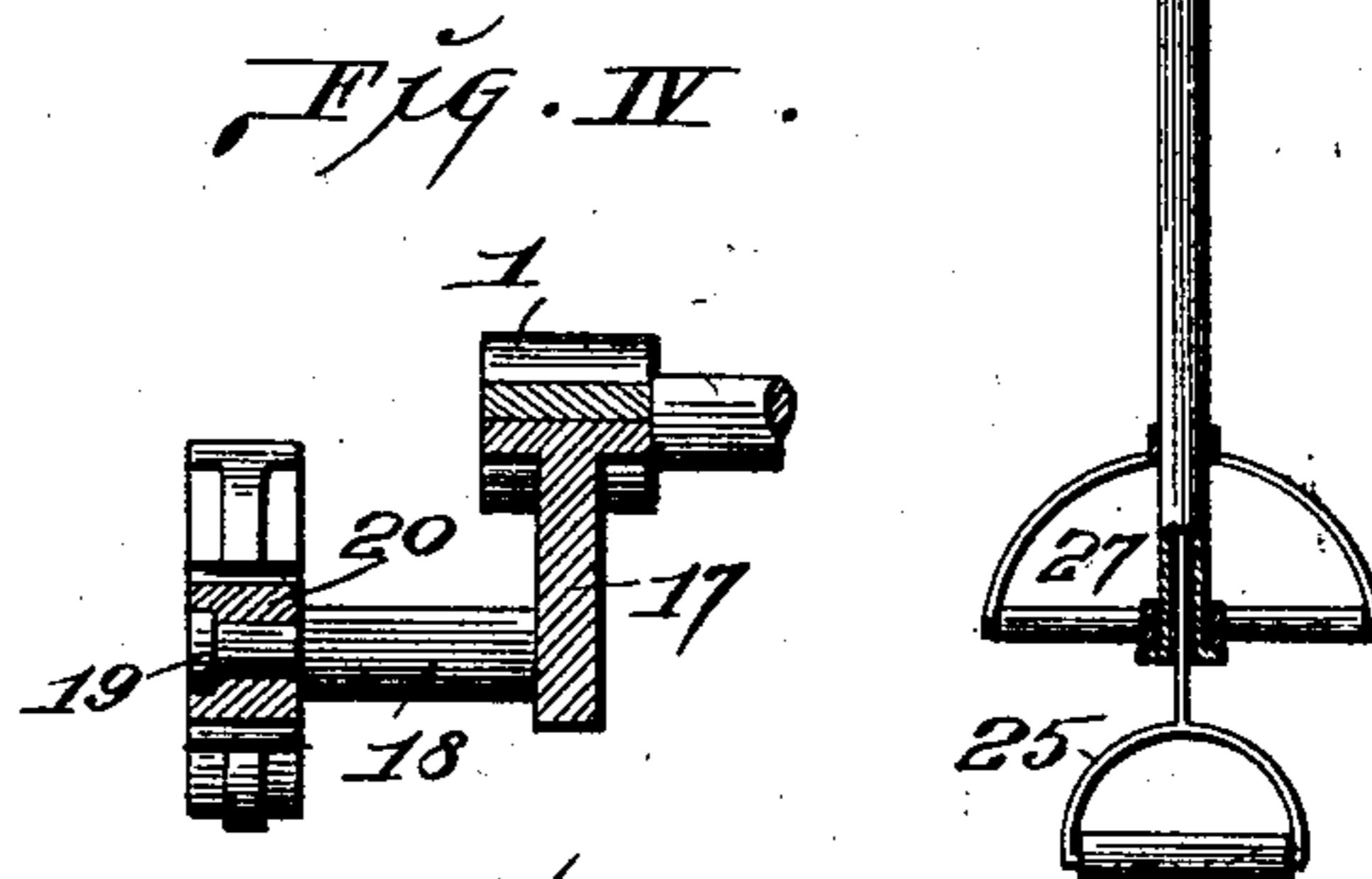
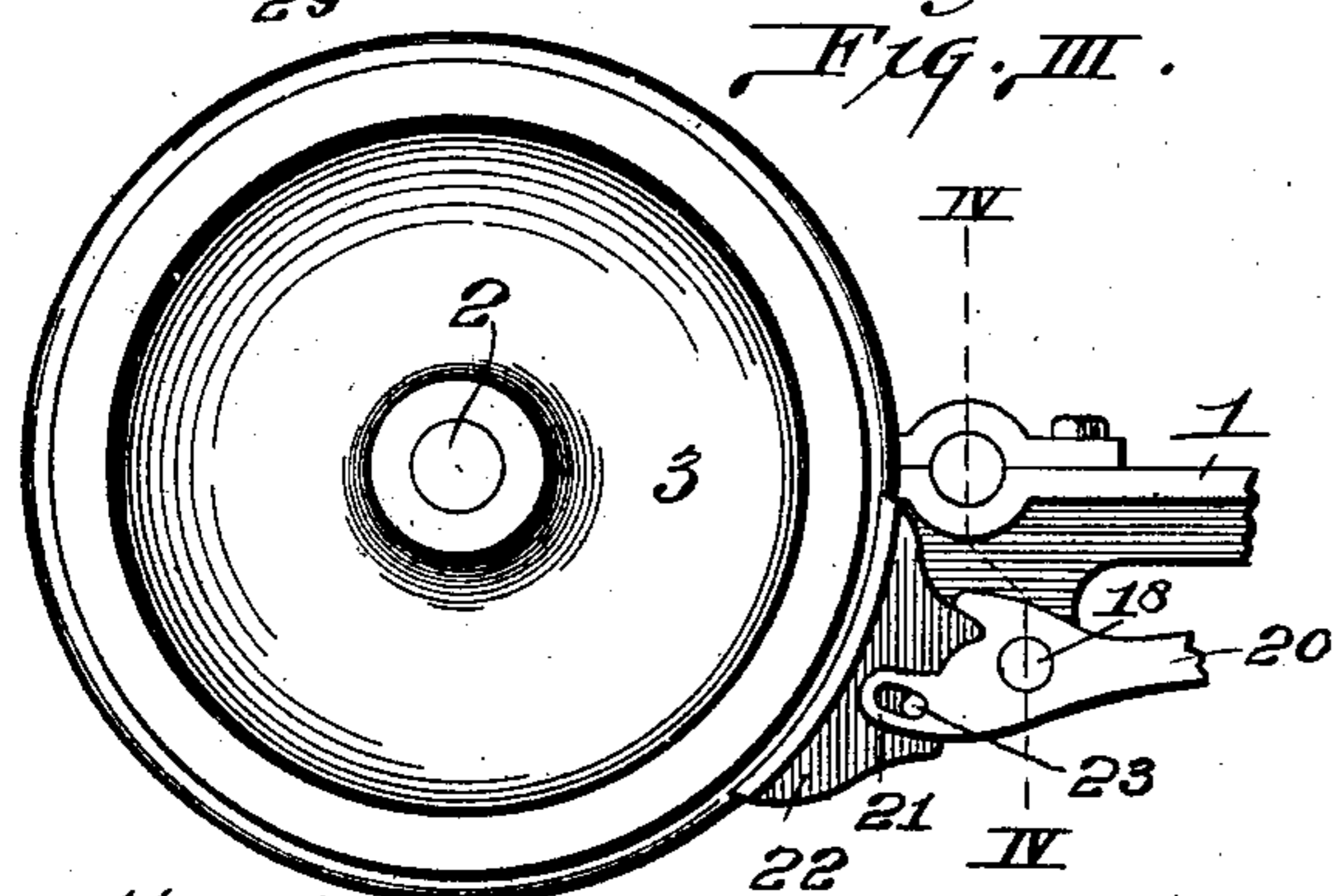
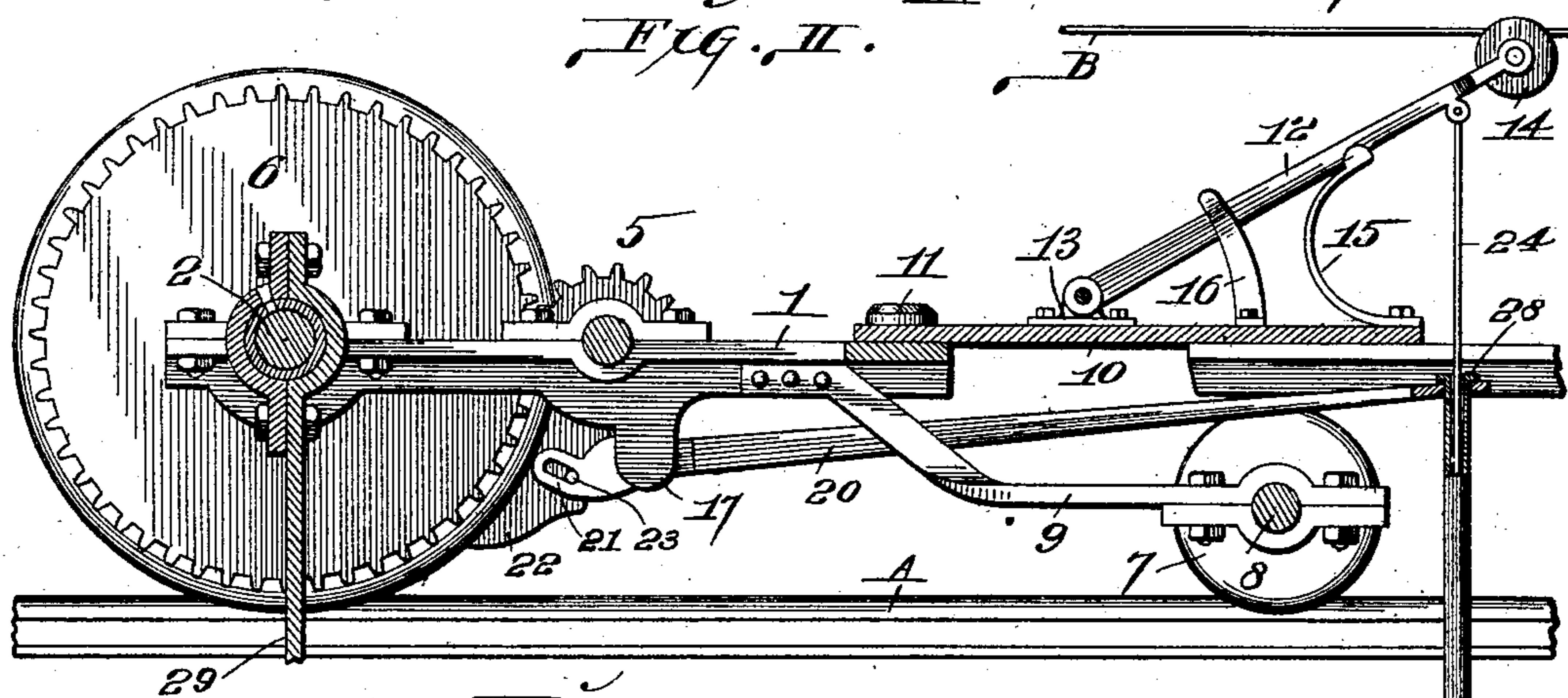
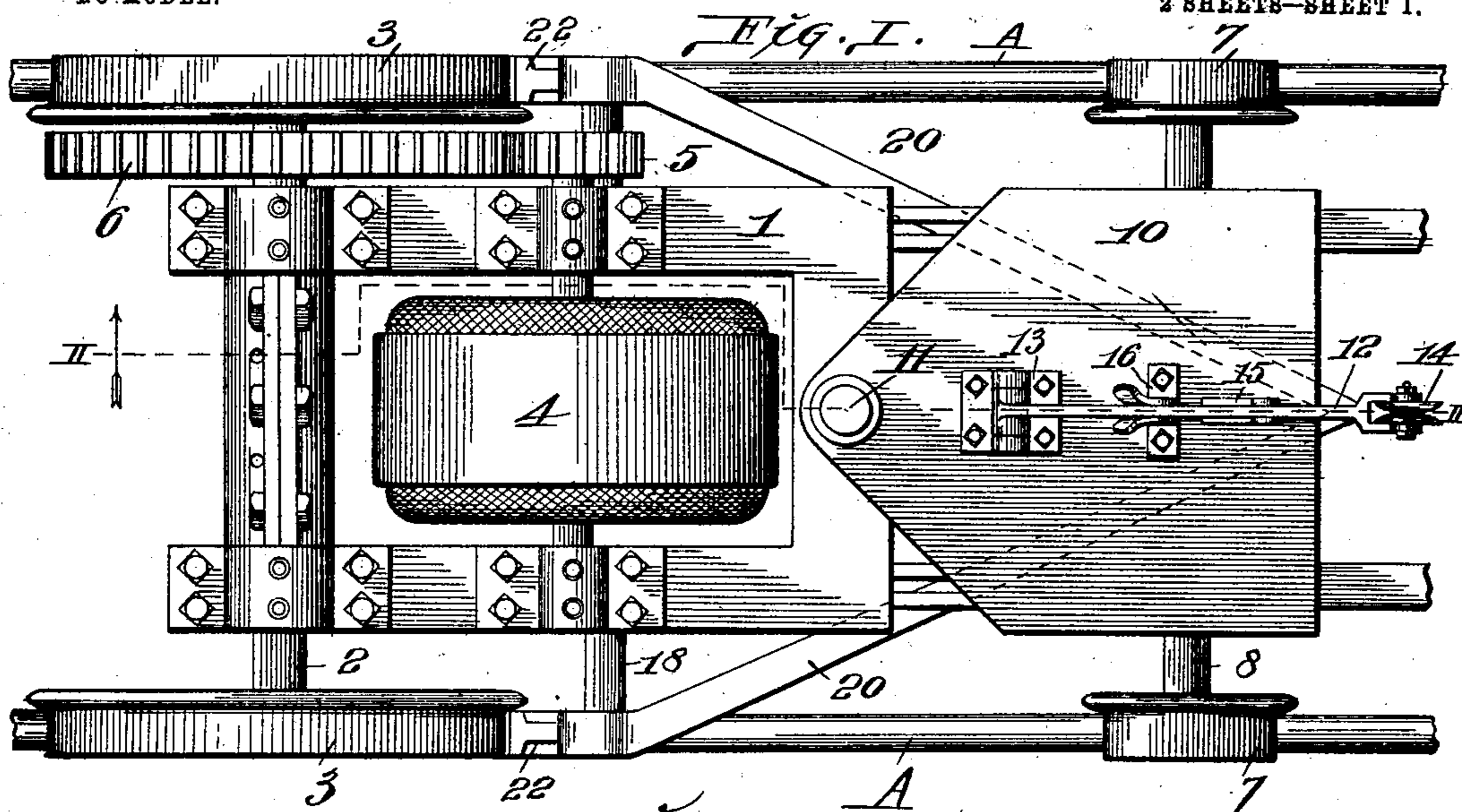
M. J. DONER.

TROLLEY AND BRAKE FOR AERIAL RAILWAYS.

APPLICATION FILED AUG. 18, 1902.

NO MODEL.

2 SHEETS—SHEET 1.



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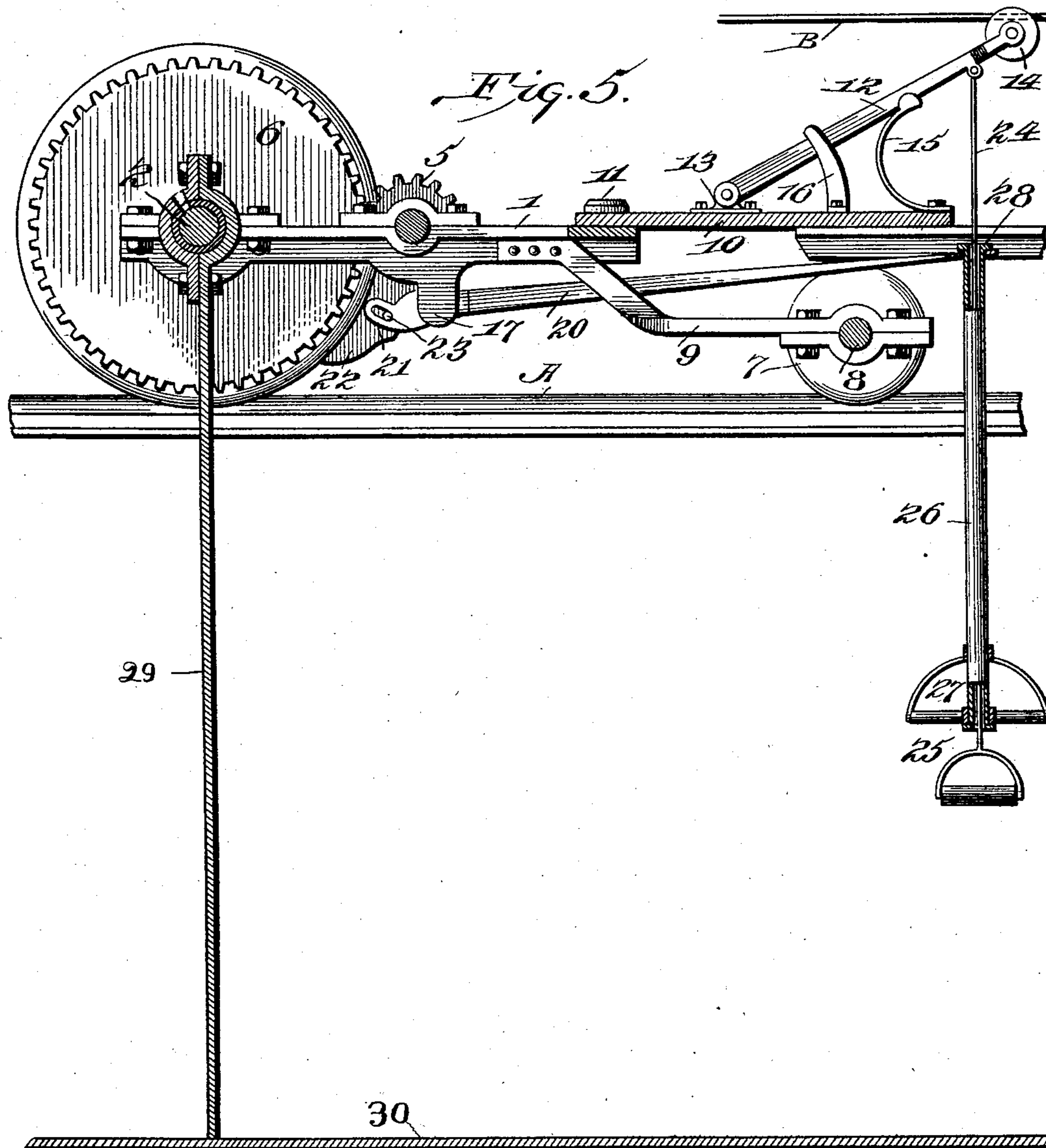
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2 SHEETS—SHEET 2.



Witnesses

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UNITED STATES PATENT OFFICE.

MARTIN J. DONER, OF ST. LOUIS, MISSOURI, ASSIGNOR OF ONE-HALF TO
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TROLLEY AND BRAKE FOR AERIAL RAILWAYS.

SPECIFICATION forming part of Letters Patent No. 720,333, dated February 10, 1903.

Application filed August 18, 1902. Serial No. 120,046. (No model.)

To all whom it may concern:

Be it known that I, MARTIN J. DONER, a citizen of the United States, residing in the city of St. Louis, in the State of Missouri, have invented certain new and useful Improvements in Trolleys and Brakes for Aerial Railways, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

My invention relates to trolleys and brakes for cars operated on overhead railways and the means whereby the trolleys and brakes may be manipulated from a car suspended from the carriage that travels on the railway.

My invention consists in features of novelty hereinafter fully described, and pointed out in the claims.

Figure I is a top or plan view of the carriage to which my trolley and brake mechanism are applied. Fig. II is a vertical longitudinal section taken on line II II, Fig. I. Fig. III is a view of one of the carriage-wheels and one of the brake-shoes adapted to bear against the perimeter of said wheel. Fig. IV is an enlarged view in section taken on line IV IV, Fig. III. Fig. V is a vertical section on the line II II, Fig. I, with the car added in outline.

A designates the rails of an aerial railway suitably supported, and B is the trolley-wire located above the rails A.

1 designates the main frame of a carriage, in which is journaled an axle 2, that bears main track-wheels which ride on the rails A.

4 is an electric motor connected by gear-wheels 5 and 6 to the axle 2 to furnish power to drive the carriage.

7 designates rear track-wheels carried by an axle 8, that is journaled in a rear frame 9, connected to the main frame 1 of the carriage, as seen in Fig. II. The axle 8 supports a platform 10, that is swingingly connected to the main frame 1 by a pivot-pin 11.

12 designates a trolley-pole swingingly mounted in a base 13, seated on the platform 10 and equipped with a trolley-wheel 14, that is adapted to ride against the trolley-wire B, to which it is held by a spring 15, mounted on the platform 10.

16 designates guides between which the trolley-pole 12 operates to direct its vertical movement and hold it constantly in line with the trolley-wire.

17 designates hangers extending downwardly from the main frame 1.

18 designates stub-shafts carried by the hangers 17 and provided with journal-stems 19 at their ends.

20 designates brake lever-arms, the rear ends of which terminate in a junction beneath the platform 10 and the forward ends of which are fitted to the journal-stems 19 of the stub-shafts 18. The lever-arms 20 project forward from the hangers 17 and are bifurcated and provided with slots 21.

22 designates brake-shoes adapted to be thrown into bearing with the perimeters of the forward main track-wheels 3 of the carriage through connection between the bifurcated forward ends of the brake lever-arms and the brake-shoes by means of pins 23, carried by the brake-shoes and arranged in the slots 21, contained by the lever-arms. It will be seen that upon a downward movement of the rear ends of the joined lever-arms the forward bifurcated ends of the arms are moved upwardly to exert force against the pins 23 to carry the brake-shoes to the carriage-wheels 3, whereas an upward movement of the lever-arms acts to withdraw the brake-shoes from the wheels.

24 is a pull-rod connected at its upper end to the trolley-pole 12 and extending downwardly therefrom into a position where a handle 25, carried by its lower end, may be readily grasped by the occupant of a car suspended from the carriage that travels on the rails A.

26 is a pull-sleeve that is suspended from the rear connected ends of the lever-arms 20 and through which the pull-rod 24 passes and may be operated. The pull-sleeve 26 is supplied with a handle 27 and is preferably connected to the rear ends of the lever-arms by flanging the upper ends of the sleeve, as seen at 28, Fig. II, to support it in the junction of the lever-arms.

When in the practical use of my invention the occupant of the suspended car desires to stop the travel of the carriage by which the

car is supported and conducted, he does so by a downward pull upon the handle 27, carried by the pull-sleeve 26, which operates the trolley and brake-arms in the following manner: A sufficient pull of the handle 27 moves the lower end of the pull-sleeve to the handle 25, carried by the trolley pull-rod 24, and the trolley is thereby lowered away from the trolley-wire 3 to remove the electric-
 10 power current from the motor 4, by which the carriage is driven. The pull upon the handle 27 moves the rear ends of the brake lever-arms 20 downwardly and applies the brake-shoes 22 to stop the travel of the car-
 15 riage. A reverse movement of the parts releases the brakes and permits the trolley to resume its former position with the trolley-wheel 14 against the trolley-wire. The pull-rod 24 and pull-sleeve 26 are capable of in-
 20 dependent movement, and therefore the trolley may be removed from the trolley-wire at any time by grasping the handle of the pull-rod 24, or the brake-shoes may be applied independently of the trolley by a downward
 25 pull of the sleeve 26 insufficient to carry the handle 27 to the pull-rod handle 25.

The car 30 (shown only in outline) is suspended from the carriage and may be hung upon suitable hangers carried by the carriage,
 30 such as that shown at 29, Fig. II.

I claim as my invention—

1. The combination with a carriage of the character named having a track-wheel, of a brake-shoe adapted to be thrown into bear-
 35 ing with said track-wheel, a brake lever-arm,

and a pull member suspended from said lever-arm, substantially as described.

2. The combination with a carriage of the character named having a track-wheel, of a brake-shoe adapted to be thrown into bear- 40 ing with the track-wheel, a brake lever-arm having connection with said brake-shoe, a trolley mounted on said carriage, a pull-rod connected to said trolley, and a pull member connected to said lever-arm, substantially 45 as described.

3. The combination with a carriage of the character named having a track-wheel, of a brake-shoe adapted to be thrown into bear- 50 ing with the track-wheel, a lever-arm connected to said brake-shoe, a pull-sleeve connected to said lever-arm, a trolley mounted on said carriage, a pull-rod connected to said trolley and passing through said pull-sleeve, substantially as described. 55

4. The combination with a carriage of the character named having track-wheels, of brake-shoes adapted to be thrown to said track-wheels, a pair of lever-arms having con- 60 nection with said brake-shoes and united at their rear ends, a pull-sleeve suspended from said lever-arms, a trolley mounted on said carriage, a pull-rod connected to said trolley and passing through said pull-sleeve, and handles carried by said pull-sleeve and pull- 65 rod, substantially as described.

MARTIN J. DONER.

In presence of—

E. S. KNIGHT,
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