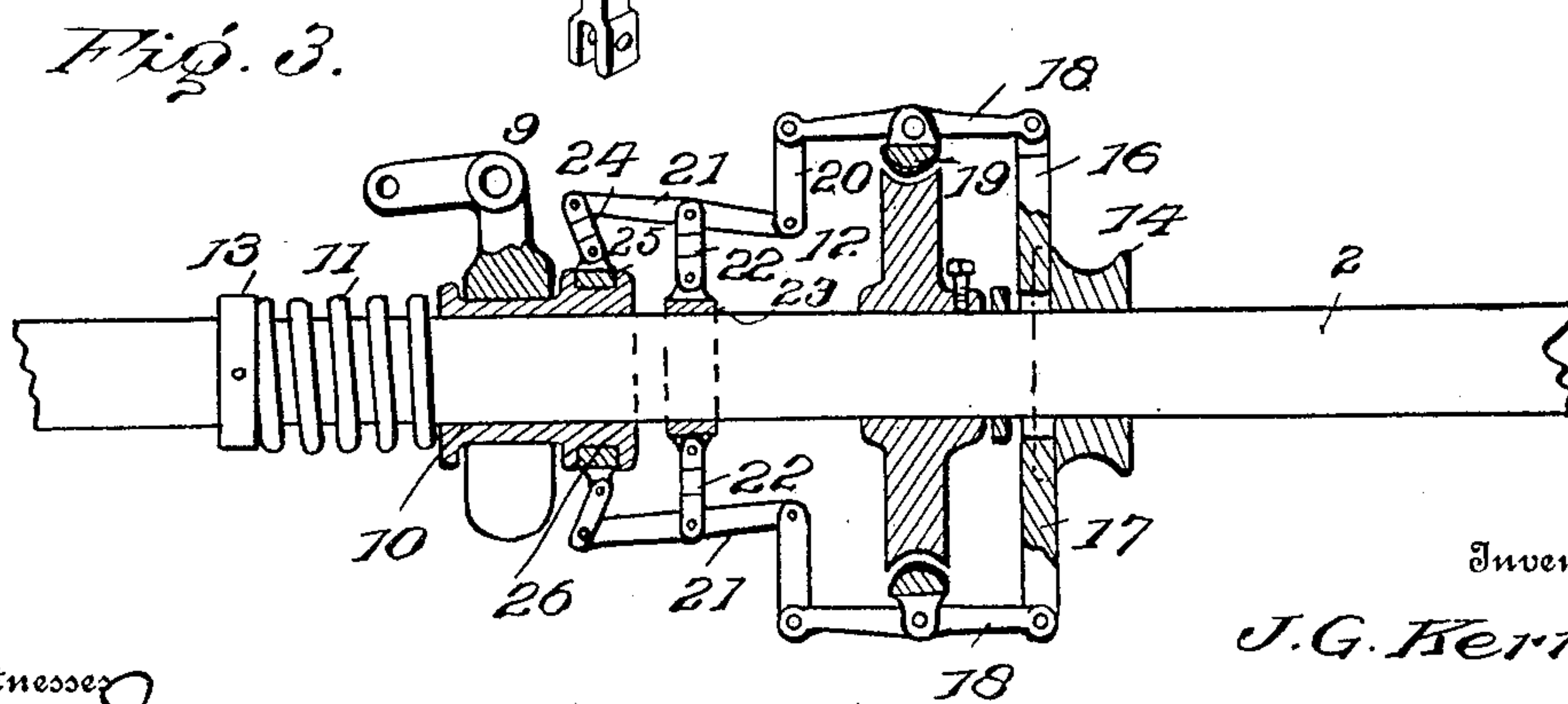
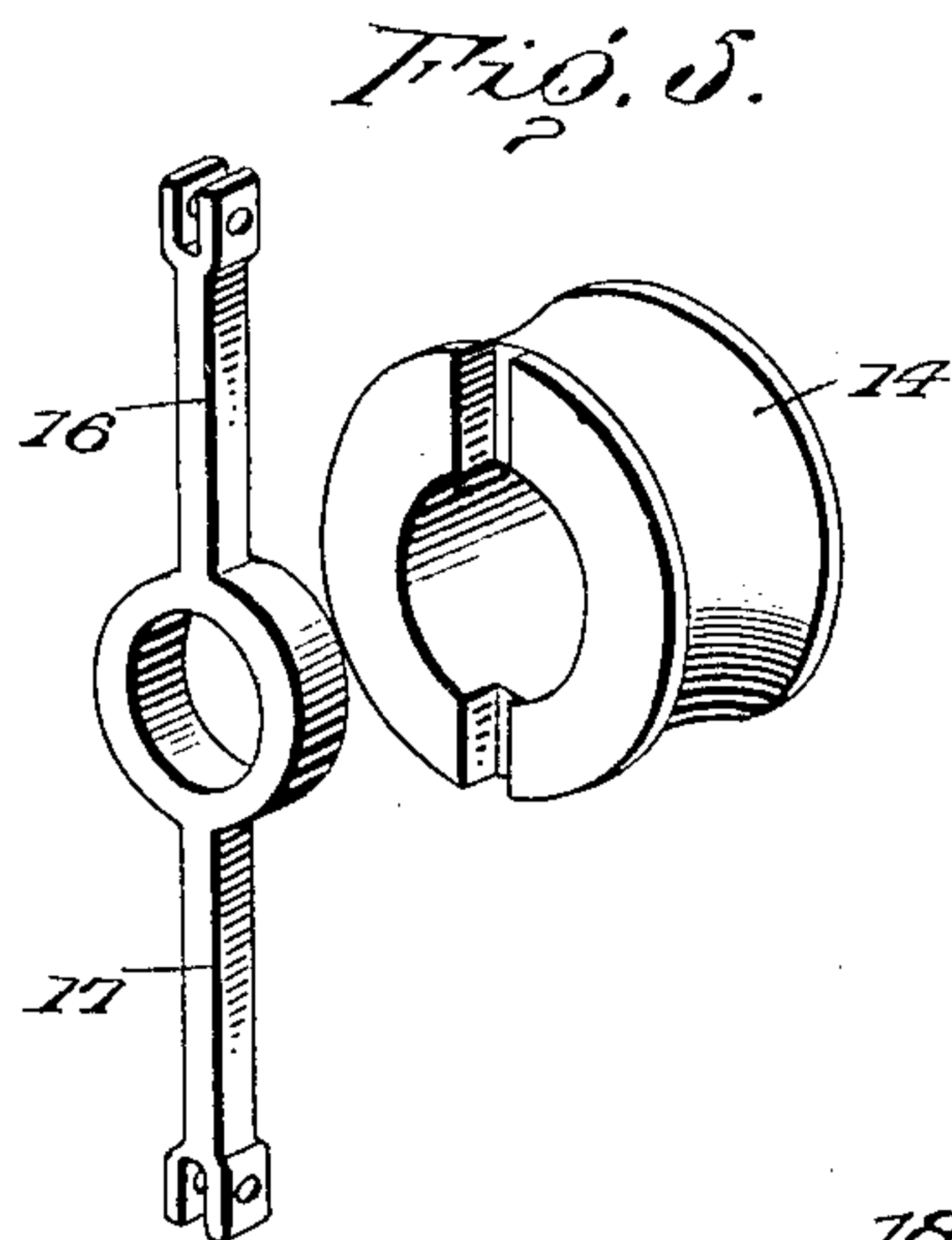
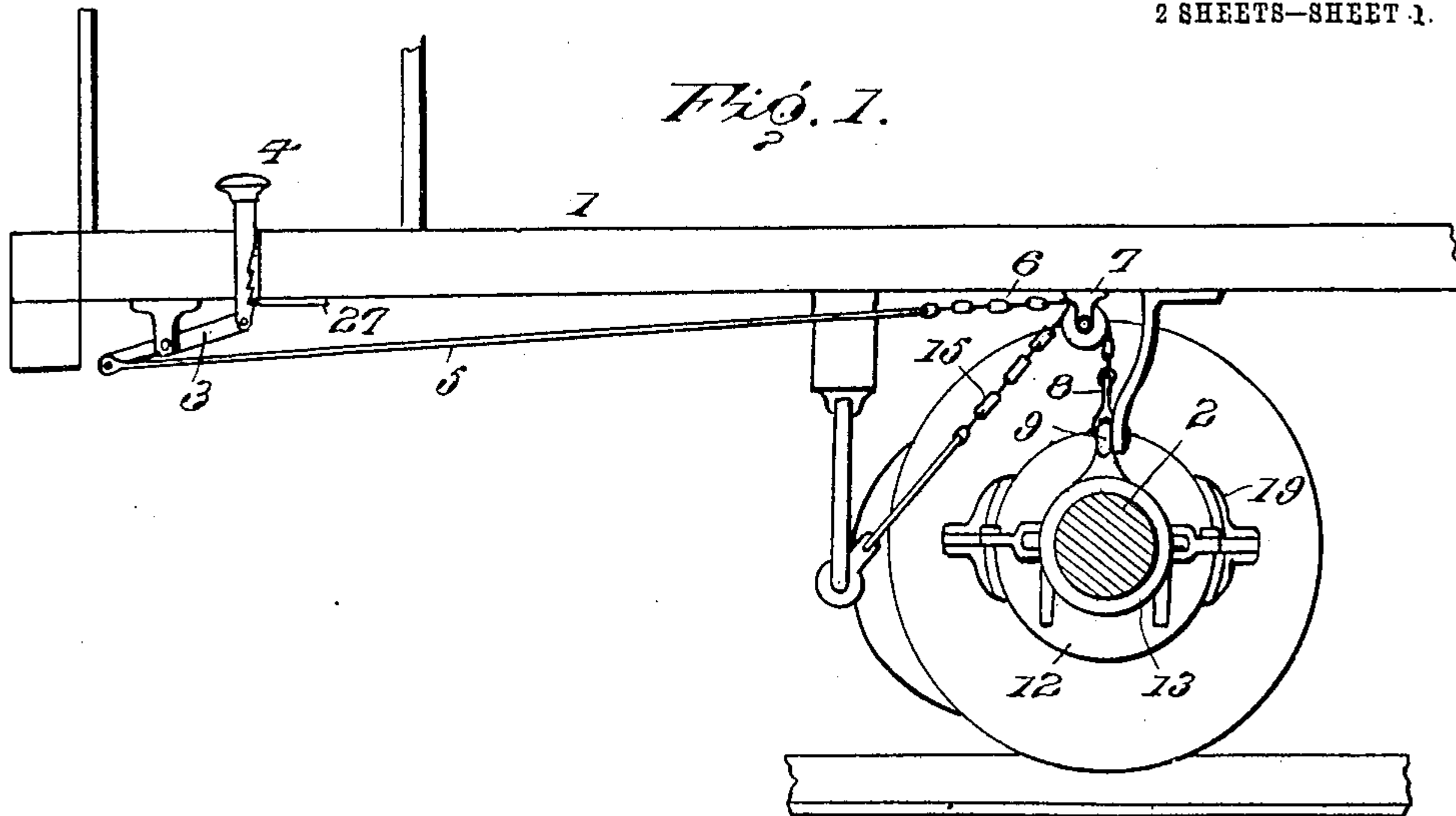


J. G. KERR.
CAR BRAKE.
APPLICATION FILED FEB. 6, 1908.

906,635.

Patented Dec. 15, 1908.

2 SHEETS—SHEET 1.



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Fig. 2.

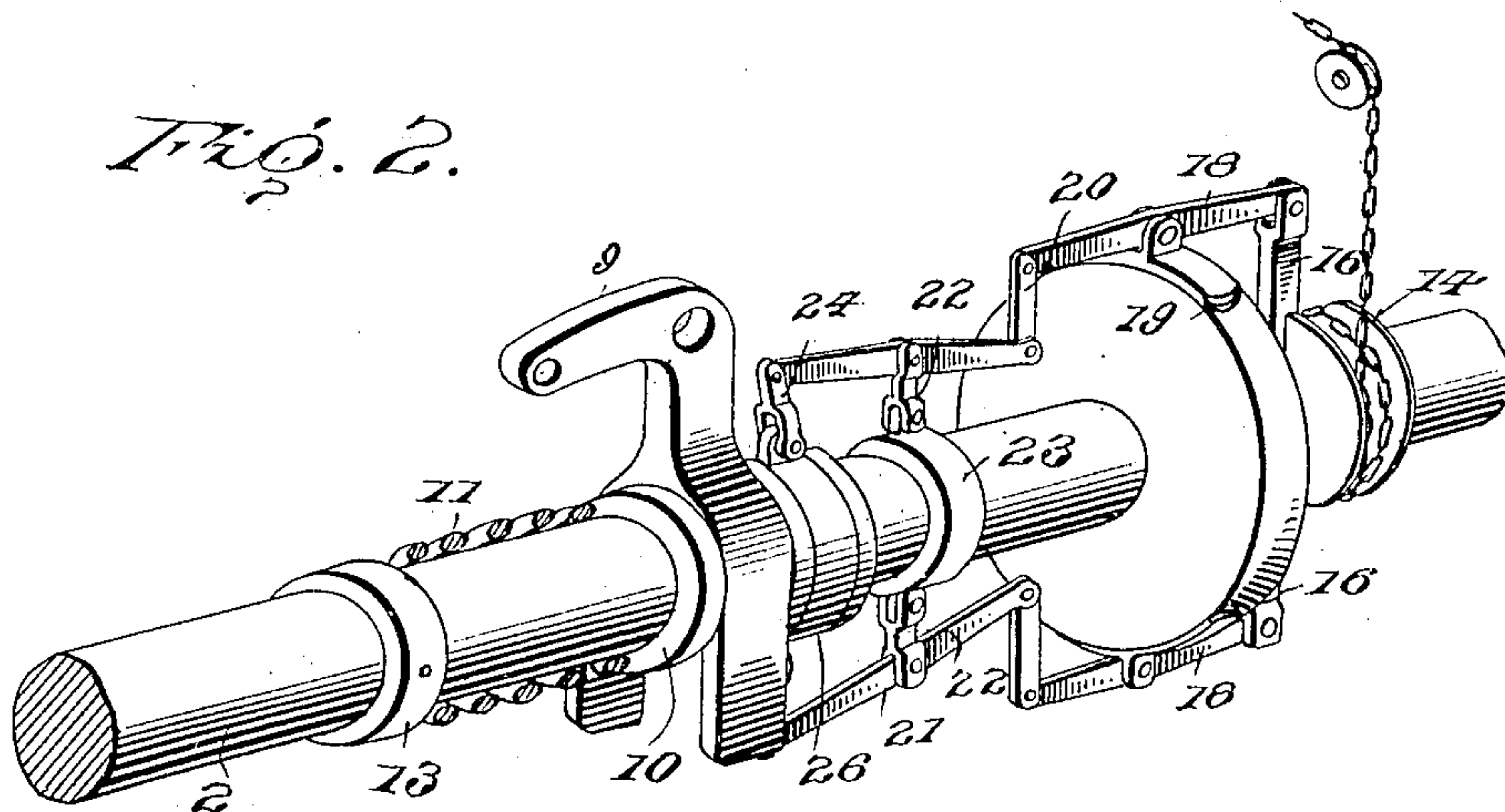
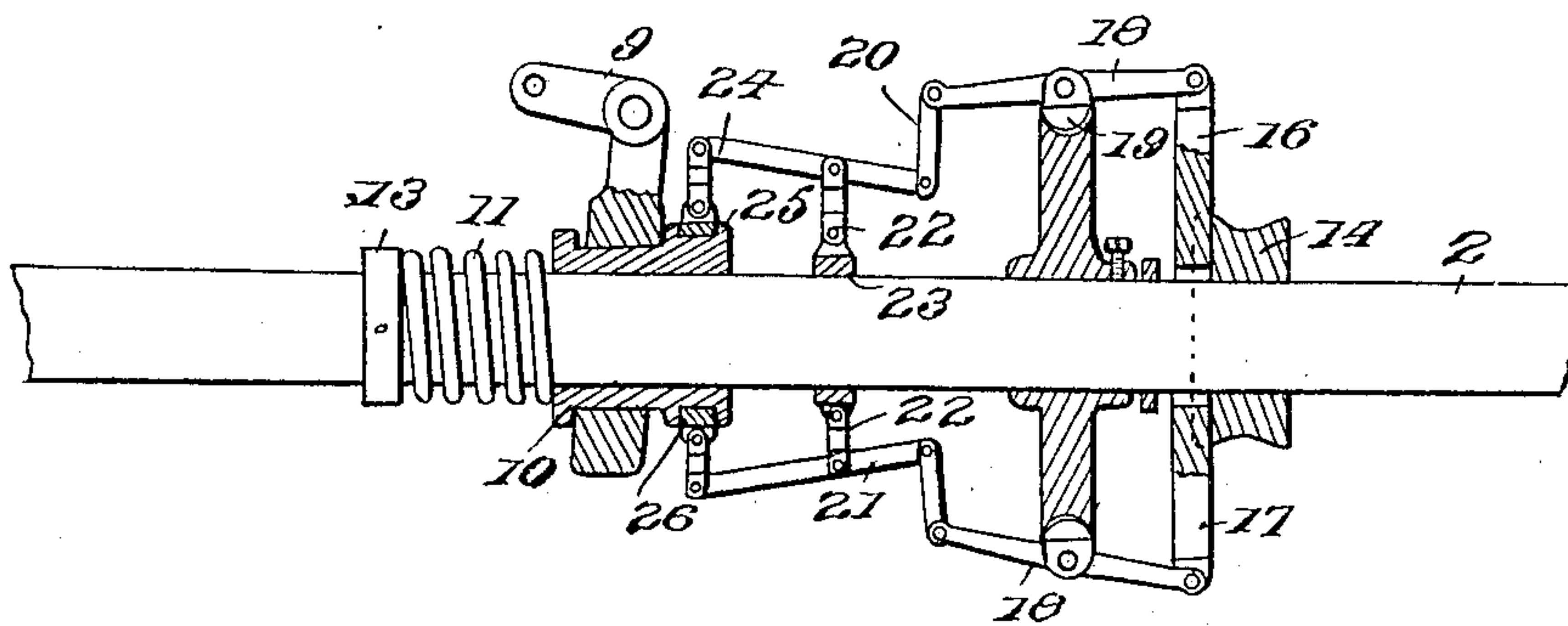


Fig. 4.



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UNITED STATES PATENT OFFICE.

JOSEPH G. KERR, OF IONIA, KANSAS.

CAR-BRAKE.

No. 906,635.

Specification of Letters Patent.

Patented Dec. 15, 1908.

Application filed February 6, 1908. Serial No. 414,546.

To all whom it may concern:

Be it known that I, JOSEPH G. KERR, citizen of the United States, residing at Ionia, in the county of Jewell and State of Kansas, have invented certain new and useful Improvements in Car-Brakes, of which the following is a specification.

The present invention is in the nature of an improved brake for railway cars, and has for its primary object to provide a device of this character which can be easily manipulated and will operate in a positive manner to move the brake shoes into a close engagement with the car wheels.

A further object of the invention is to design a brake mechanism which is simple and inexpensive in its construction and can be readily mounted upon any conventional form of car.

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 view showing the invention applied to a car, portions being shown in section. Fig. 2 is a perspective view of a portion of the car axle and the members mounted thereon. Fig. 3 is a longitudinal sectional view through the members shown in Fig. 2, the shoes being out of engagement with the friction disk. Fig. 4 is a similar view with the shoes in engagement with the friction disk. Fig. 5 is a detail view of the drum and bar applied to one end thereof.

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.

For the purpose of illustration the brake mechanism is shown as mounted upon an ordinary street railway car of which the numeral 1 designates the body portion and 2 one of the axles. An operating lever 3 is pivotally mounted at an intermediate point upon a bracket projecting downwardly from one of the platforms of the car, one end of the lever being loosely connected to a foot-piece or plunger 4 while the opposite end is connected to a rod 5 terminating in a chain 6, which passes over a guide pulley 7 and is secured to a downwardly extending rod 8. This rod 8 has an operative connection with a shipper lever 9 formed with spaced arms embracing a sleeve 10 slidably mounted upon

the axle 2. It may be mentioned at this point that the shipper lever 9 is loosely mounted upon a bracket projecting over the car body so as to swing laterally as the car rocks, while the spaced arms of the shipper lever are of a sufficient length to permit the usual up and down movement of the car body relative to the trucks. A coil spring 11 fitting loosely around the axle 2 bears against one end of the sleeve 10 and normally tends to move the same toward a friction disk 12 rigid with the axle. The opposite end of the spring 11 abuts against a band 13 which is rigidly clamped upon the axle in any suitable manner. Loosely mounted upon the axle 2 on the opposite side of the friction disk 12 is a brake drum 14 having a chain or cable 15 connected thereto, the said cable having an operative connection with any conventional form of brake mechanism.

Projecting laterally in opposite directions from one end of the brake drum 14 are the arms 16, the said arms being shown in the present instance as constituted by the ends of a bar 17 which is enlarged at its central point and formed with an opening to receive the axle, the end of the brake drum being suitably recessed as shown to receive the middle portion of the bar. A brake beam 18 is pivotally connected to the extremity of each of the arms 16, the said brake beams being provided with suitable shoes 19 designed to frictionally engage the grooved periphery of the disk 12. The swinging ends of the brake beams 18 are connected by the links 20 to the inner ends of brake levers 21, the said brake levers being fulcrumed at an intermediate point upon lateral arms 22 projecting from a ring 23 which is loose upon the axle between the sleeve 10 and the friction disk 12. As shown on the drawings the arms 22 have both ends thereof bifurcated, the inner ends being rigidly connected to the ring 23 while the outer ends loosely receive the brake levers. The outer ends of the brake levers are connected by means of the toggle members 24 to a second ring 25 which is loosely received within an annular groove 26 at one end of the sleeve 10.

The various parts of the brake mechanism are so mounted with relation to each other that when the sleeve 10 is moved toward the friction disk by the shipper lever, the toggle members 24 are inclined inwardly and cause the brake beams 18 to swing outwardly so that the shoes 19 are held out of engagement

with the friction disk. The drum 14 then revolves loosely upon the axle and the wheels of the car turn freely without causing the brake to be applied. However, when pressure is exerted upon the foot-piece 4 the shipper lever 9 operates to move the sleeve 10 against the action of the coil spring 11 and the ring 25 which is received loosely within the groove 26 upon the said sleeve operates through the toggle levers 24 to move the outer ends of the brake levers 21 apart. This in turn draws the inner ends of the brake levers toward each other and causes the shoes 19 to be forced into a frictional engagement with the groove of the disk 12. These shoes then have a tendency to rotate with the disk and cause the brake beams and all members attached thereto to turn with the axle. In this manner the brake drum 14 is locked with the axle and as the said brake drum revolves the cable 15 is wound up and the brake mechanism applied in the usual manner. For the purpose of enabling the brake to be held in an operative position without the necessity of holding the foot upon the plunger 4 it is designed to provide the plunger with a number of notches which are adapted to engage a plate 27 secured to the bottom of the car. With this construction it will be readily apparent that when the plunger is forced downwardly and moved toward the plate one of the notches will engage the same and will prevent upward movement of the plunger, thereby enabling the foot to be removed without releasing the brakes. As soon however as the plunger is swung away from the plate and released from engagement therewith the coil spring 11 operates to again move the sleeve 10 toward the friction disk and in so doing releases the brake mechanism and causes the plunger or foot-piece to be again moved upwardly into normal position.

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

45 1. In a car brake, the combination of a friction disk rigid with the axle, a brake drum loose upon the axle, a brake mechanism having an operative connection with the drum, brake beams carried by the drum, shoes mounted upon the brake beams, a ring loose upon the axle, levers carried by the ring and having an operative connection with the brake beams, and a sleeve slidably mounted upon the axle and having an operative connection with the levers.

55 2. In a car brake, the combination of a friction disk rigid with the axle, a brake

drum loose upon the axle, a brake mechanism having an operative connection with the drum, a brake beam carried by the drum, a brake shoe mounted upon the brake beam, a brake lever having an operative connection with the brake beam, and means cooperating with the brake lever for moving the shoes into engagement with the friction disk. 60 65

3. In a car brake, the combination of a friction disk rigid with the axle, a brake drum loose upon the axle, a brake mechanism having an operative connection with the brake drum, a sleeve slidable upon the axle, a brake shoe carried by the drum, and means cooperating with the said sleeve for causing the brake shoe to engage the drum. 70 75

4. In a car brake, the combination of a friction disk rigid with the axle, a brake drum loose upon the axle, a brake mechanism having an operative connection with the brake drum, a brake beam carried by the drum, a brake shoe mounted upon the brake beam, a sleeve slidably mounted upon the axle and having an operative connection with the brake beam, and means cooperating with the sleeve for moving the shoe into engagement with the friction disk. 80 85

5. In a car brake, the combination of a friction disk rigid with the axle, a brake drum loose upon the axle, a brake mechanism having an operative connection with the drum, brake beams carried by the drum, shoes mounted upon the brake beams, levers having an operative connection with the brake beams, a sleeve slidable upon the axle, and a toggle mechanism controlled by the sleeve for operating the levers. 90 95

6. In a car brake, the combination of a friction disk rigid with the axle, a brake drum loose upon the axle, a brake mechanism having an operative connection with the drum, arms projecting from the drum, brake beams pivotally mounted upon the arms, brake shoes carried by the beams, a ring loose upon the axle, brake levers carried by the ring, an operative connection between the brake levers and the brake beams, a second ring having a toggle connection with the brake levers, and means for moving the second ring to operate the levers. 100 105

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

JOSEPH G. KERR. [L. s.]

Witnesses:

ALVEY D. DUSENBERRY,
ELMER F. ROSE.