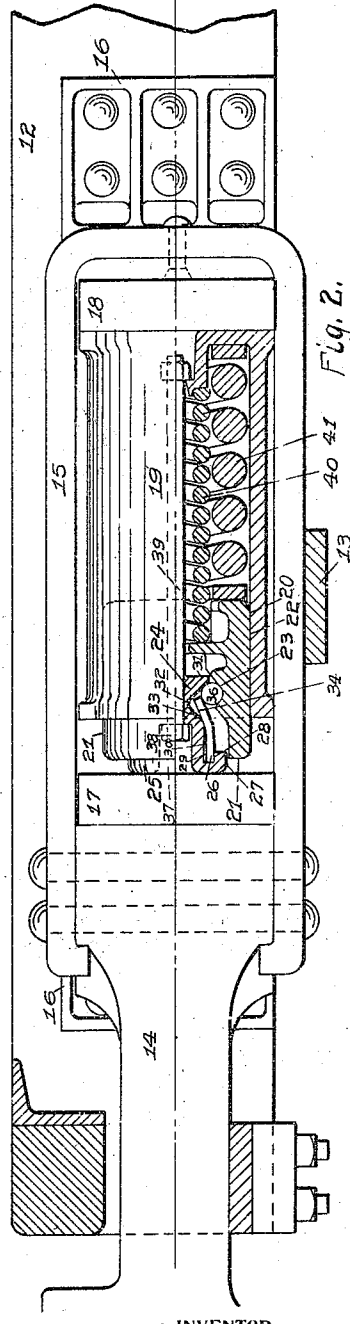
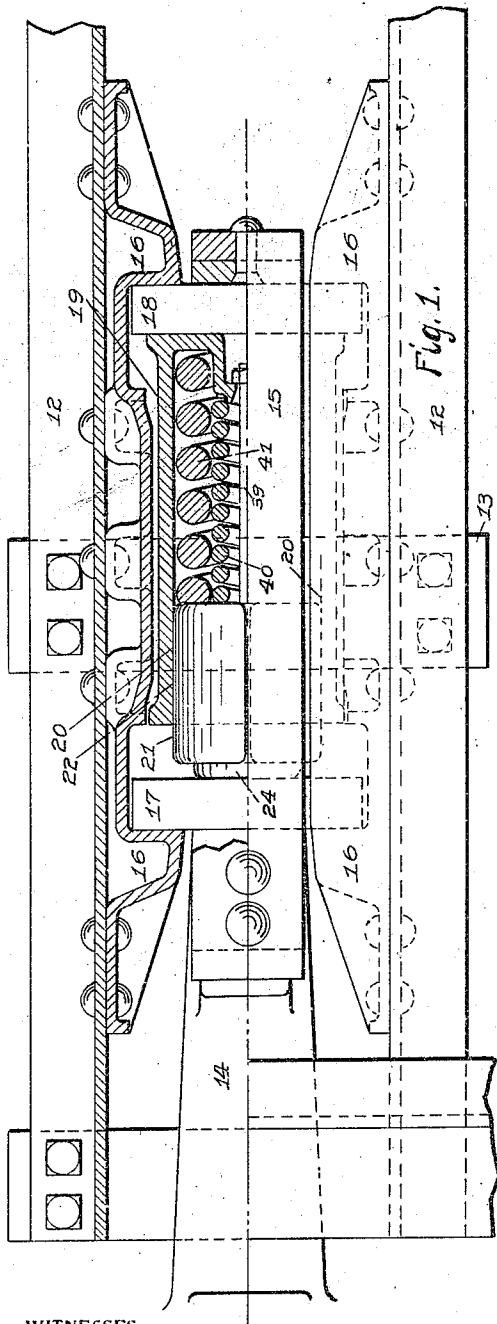


J. F. O'CONNOR.
 FRICTION DRAFT RIGGING FOR RAILWAY CARS.
 APPLICATION, FILED JULY 22, 1912.

1,065,072.

Patented June 17, 1913.

3 SHEETS—SHEET 1.



WITNESSES

Godrich C. Lewis.
Eleanor L. Wash.

INVENTOR

John F. O'Connor.
 BY *George D. Hargul*
 ATTORNEY

J. F. O'CONNOR.
FRICTION DRAFT RIGGING FOR RAILWAY CARS.
APPLICATION FILED JULY 22, 1912.

1,065,072.

Patented June 17, 1913.

3 SHEETS—SHEET 2.

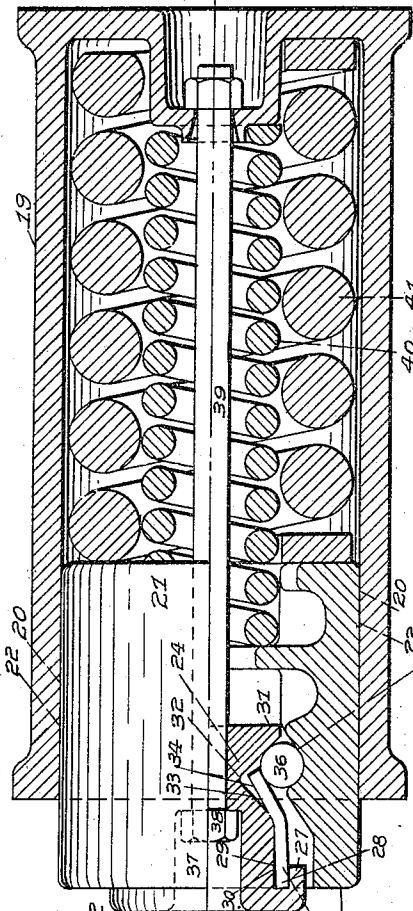


Fig. 3.

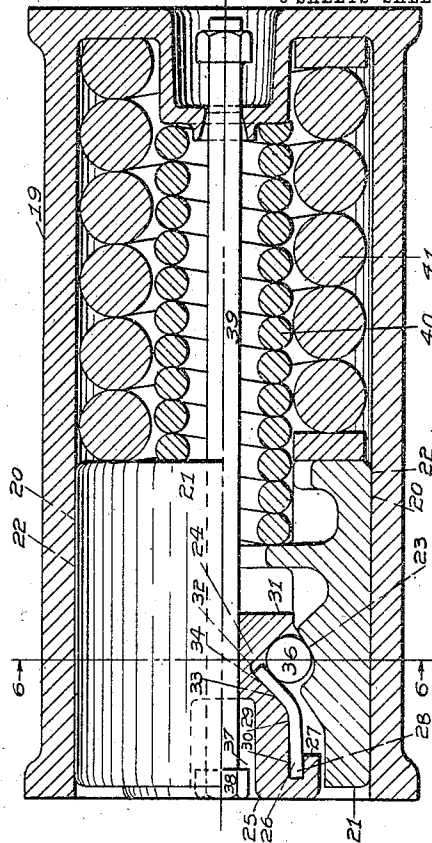


Fig. 5.

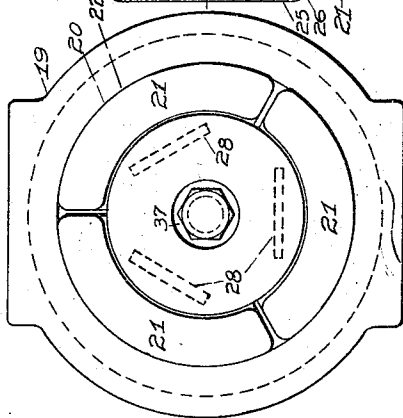


Fig. 4.

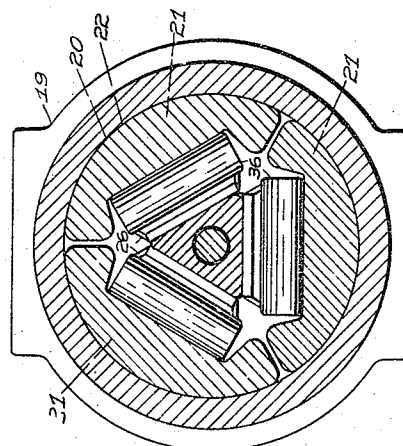


Fig. 6.

WITNESSES

Forrich Q. Lewis
Eleanor L. Nash.

INVENTOR

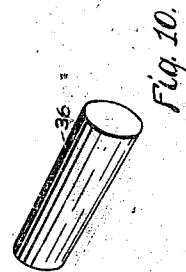
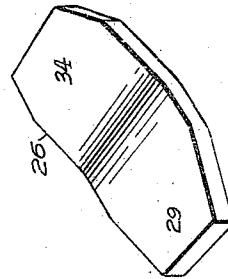
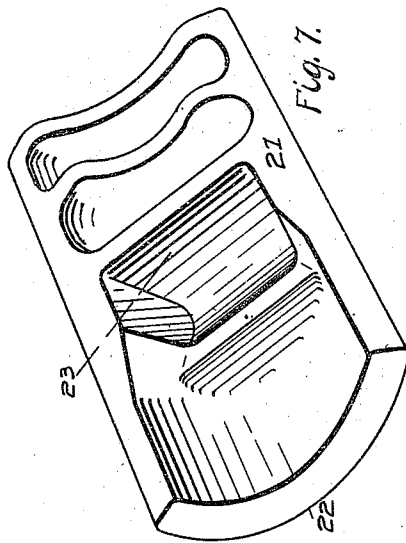
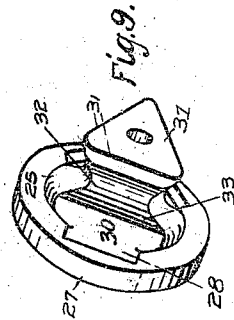
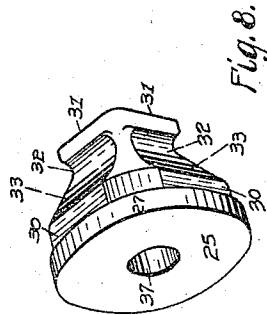
John F. O'Connor.
BY George J. Heuglet
his ATTORNEY

J. F. O'CONNOR.
 FRICTION DRAFT RIGGING FOR RAILWAY CARS.
 APPLICATION FILED JULY 22, 1912.

1,065,072.

Patented June 17, 1913.

3 SHEETS—SHEET 3.



WITNESSES

Frederick O. Lewis
Eleanor C. Nash

INVENTOR

John F. O'Connor
 BY *George J. Haight*
 ATTORNEY

UNITED STATES PATENT OFFICE.

JOHN F. O'CONNOR, OF CHICAGO, ILLINOIS, ASSIGNOR TO WILLIAM H. MINER, OF CHICAGO, ILLINOIS.

FRICION DRAFT-RIGGING FOR RAILWAY-CARS.

1,065,072.

Specification of Letters Patent.

Patented June 17, 1913.

Application filed July 22, 1912. Serial No. 710,818.

To all whom it may concern:

Be it known that I, JOHN F. O'CONNOR, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Friction Draft-Rigging for Railway-Cars, of which the following is a full, clear, concise, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

My invention relates to improvements in friction draft rigging for railway cars.

More particularly it relates to that kind of friction draft rigging employing a longitudinally movable friction shell containing segmental friction shoes which are spread apart by a wedge, and with anti-friction rollers interposed between the friction shoes and the wedge.

The object of my invention is to provide a friction draft rigging in which accidental or other variations in the frictional resistance between the friction shoes and the friction shell may be compensated for by variations in the outward wedging pressure applied to the friction shoes. I accomplish this object by providing the draft rigging with a wedge of novel construction in which the faces contacting with the friction rollers automatically adjust themselves at varying angles to suit the immediate wedging or spreading requirements in the practical operation of the draft rigging. In this my invention consists.

It further consists in the novel construction of parts and devices, and in the novel combination of parts and devices herein shown and described.

In the accompanying drawings forming a part of this specification Figure 1 is a plan view partly in longitudinal horizontal section of a friction draft rigging embodying my invention. Fig. 2 is a side elevation partly in longitudinal section. Fig. 3 is an enlarged detail of the friction shell and contained parts in side elevation partly in longitudinal section showing the parts within the shell in normal position. Fig. 4 is a detail front elevation of the friction shell, friction shoes and wedge. Fig. 5 is a detail of the friction shell and contained parts in side elevation partly in longitudinal section showing the position of the parts when

fully compressed within the friction shell. Fig. 6 is a cross section on line 6-6 of Fig. 5. Fig. 7 is a detail perspective view of one of the friction shoes showing the inner side thereof. Figs. 8 and 9 are detail perspective views of a portion of the wedge, Fig. 8 showing the front or outer end thereof, and Fig. 9 the rear or inner end. Fig. 10 is a perspective view of one of the friction rollers, and Fig. 11 is a detail perspective view of one of the wedged plates.

In the drawings 12, 12 represent the draft sills or members of the car frame to which the draft rigging is applied; 13 the tie plate which serves to support the gear between the draft sills; 14 the draw bar; 15 the draft yoke; 16 the draft lugs or stop members secured to the draft sills; 17 and 18 front and rear followers respectively.

19 is a longitudinally movable friction shell interposed between the followers, preferably cylindrical in shape, and having an internal friction face 20.

21 are segmental friction shoes, preferably three in number, each having an external friction face 22 in sliding frictional engagement with the internal friction face of the shell 19, and each having an inclined or wedged face 23.

24 is a wedge consisting of the block 25 and the wedge plates 26. The block 25 of the wedge 24 is preferably three faced or pyramidal, and the wedge plates 26 are preferably three in number, one adjacent to each of the sides of the block 25. The block 25 is provided at its forward end with the flat transverse member 27, in the rear surface of which are disposed the slots or recesses 28, each of which receives a wedge plate 26.

The wedge plate 26 is of resilient material, preferably flat spring steel, and preferably of the oblong shape illustrated in Fig. 11 of the drawings. The same is suitably bent so that the forward portion 29 of its inner face rests against the adjacent face 30 of the wedge, which is substantially parallel to the axis of the friction shell. The rear or inner end of the wedge is provided with the shoulders 31, in front of each of which the wedge is provided with the transverse depression 32, the forward side of which depression forms the oblique face 33. The rear end of the wedge plate 26 is turned

inwardly in the depression 32, and in the normal position of the gear is in substantially the location illustrated in Fig. 3 of the drawings. The wedge plate 26 is of suitable length to permit the rear portion 34 of its inner face to be flexed against the surface 33, as illustrated in Fig. 5.

Between the bearing surface 35 of each wedge plate and the wedge face 23 of the adjacent friction shoe 21 is interposed an antifriction roller 36, the rollers and wedge plates corresponding in number to the friction shoes. The block 25 of the wedge may be made of any suitable material, preferably malleable iron, and is provided at its forward end with the recess 37 to receive the head 38 of the connecting rod 39.

40 and 41 are the inner and outer springs respectively, seated at their rear ends against the friction shell and at their forward ends against the friction shoes.

In normal position, as illustrated in Fig. 3 of the drawings, the wedge plates form an acute angle with the axis of the shell. Upon compressing movement of the shell the wedge plates will flex inwardly to some degree, the extent of the flexing movement being dependent upon the degree of force applied. The more the wedge plates are flexed the more obtuse will be the angle thereof with the longitudinal axis of the shell, and the direction of the wedging or spreading pressure transmitted through the friction rollers from the wedge to the friction shoes will tend toward the longitudinal axis of the shoes and away from the transverse axis, that is, the direction of thrust from the wedge to the shoes will tend toward the longitudinal axis of the shoes. The surface 33 of the wedge limits the flexing movement of the wedge plates 26.

I claim:—

1. In a railway friction draft rigging, a wedge comprising a block and resilient plates connected therewith, the said block being provided with depressions into which the resilient plates may be flexed.

2. In a friction draft rigging, a wedge comprising a pyramidal block and resilient

bearing plates, the block being provided with slots to receive said bearing plates.

3. In a railway friction draft rigging, segmental friction shoes, a wedge and friction rollers between the wedge and the shoes, the said wedge having faces for the rollers to bear against, the angle of said faces to the friction shoes being changeable under load.

4. In a railway friction draft rigging, the combination of the draw bar, draft sills, stop members, followers, draft yoke, friction shell and friction rollers, and friction shoes within the shell, with a wedge provided with resilient plates for the rollers to bear against, the said plates being arranged to adjust their bearing surfaces at varying angles to the friction shoes upon the variation of the frictional pressure between the shoes and the shell.

5. In a railway friction draft rigging, the combination with the draw bar, draft sills, stop members, followers, draft yoke, friction shell and friction shoes, and friction rollers within the shell, of a wedge comprising a block provided with depressions, and resilient plates extending into said depressions and capable of being flexed therein, the rolls bearing between the friction shoes and the wedge, and the spreading force of the wedge varying with variations in the frictional pressure between the friction shoes and the shell.

6. In a railway friction draft rigging, a friction shell and friction shoes, friction rolls and a wedge within the shell, the wedge being provided with resilient bearing plates in engagement with the friction rolls.

7. In a railway friction draft rigging, a friction shell and friction shoes, friction rolls and a wedge within the shell, the wedge being provided with yielding bearing plates, and the rolls being in engagement between the bearing plates and the friction shoes.

JOHN F. O'CONNOR.

Witnesses:

JOHN A. MARTINKUS,
ELEANOR L. NASH.