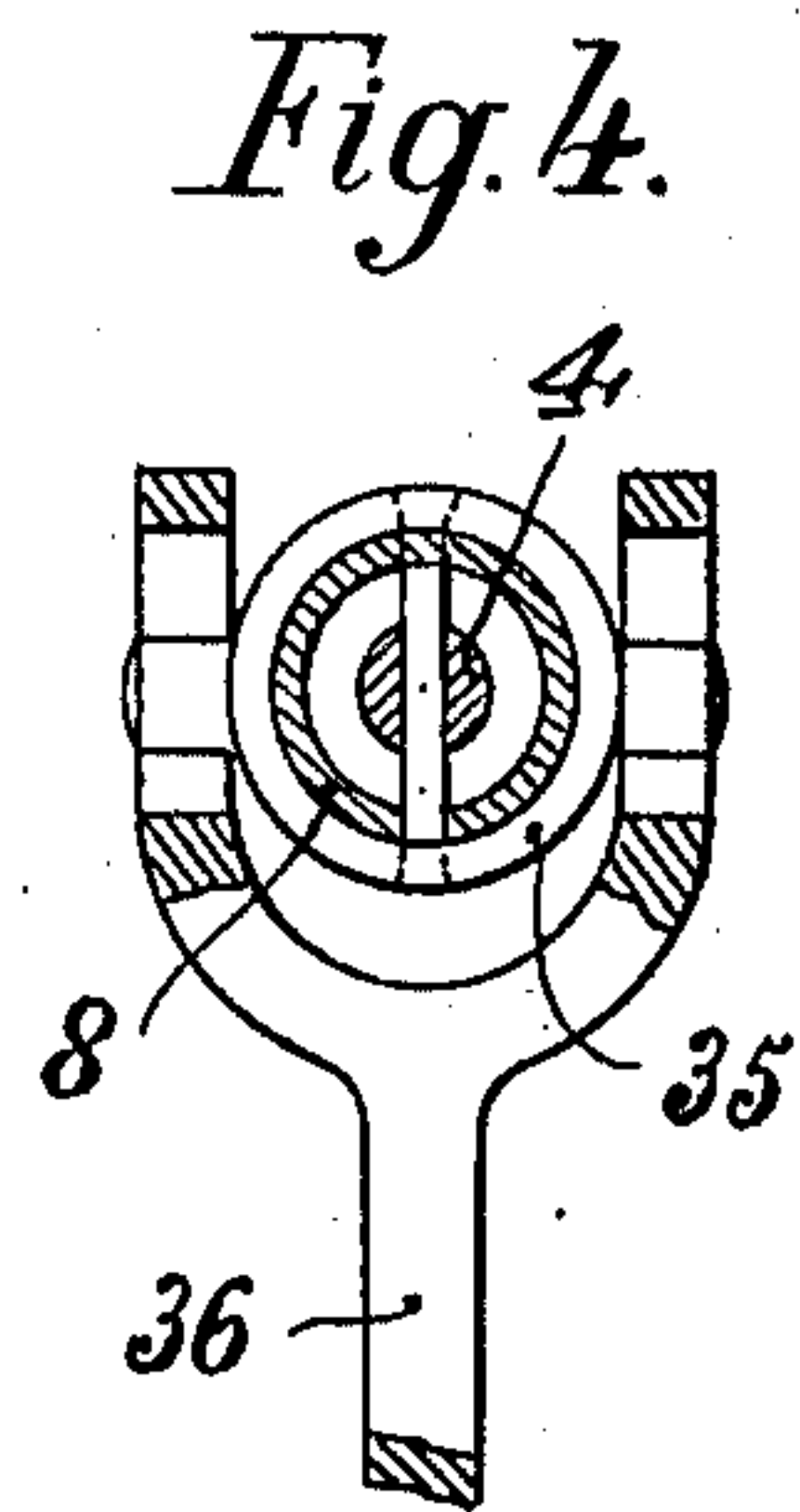
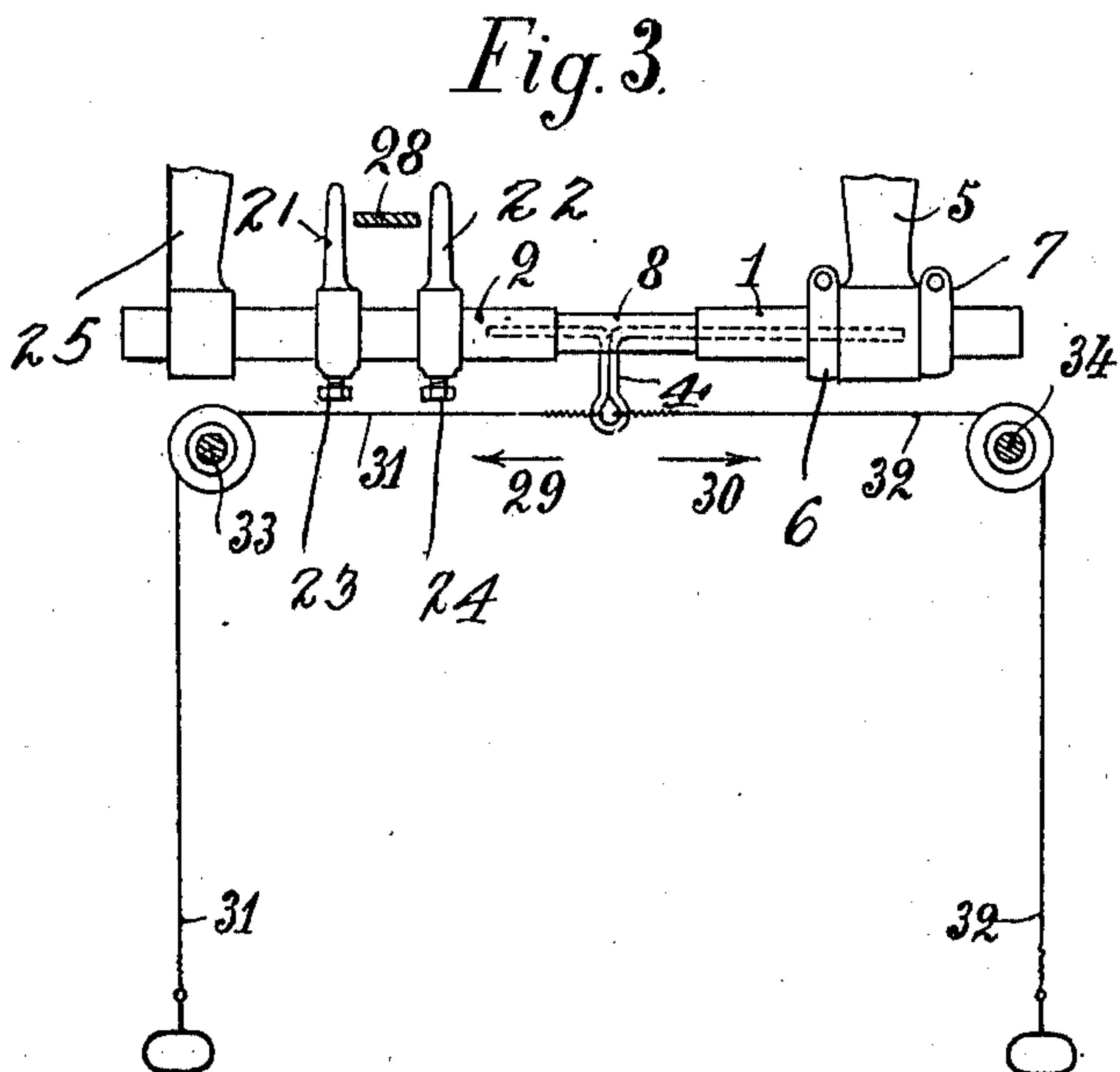
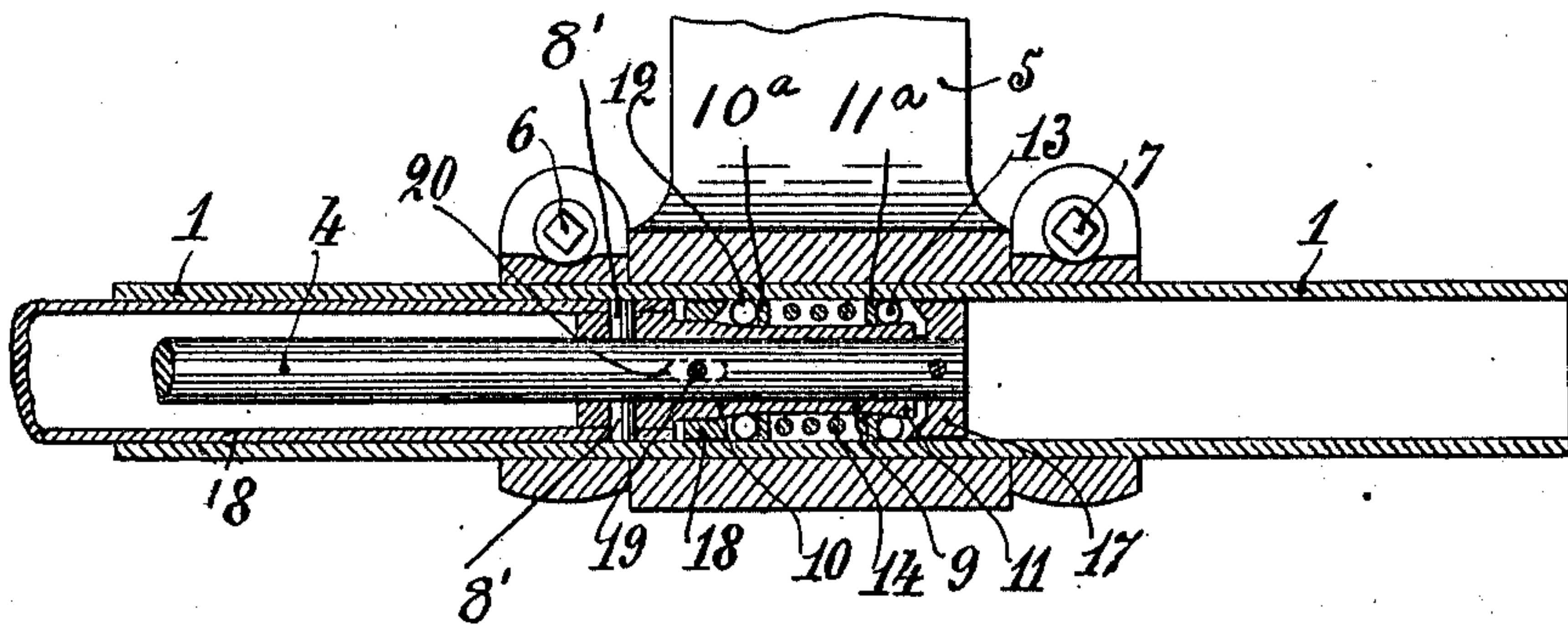
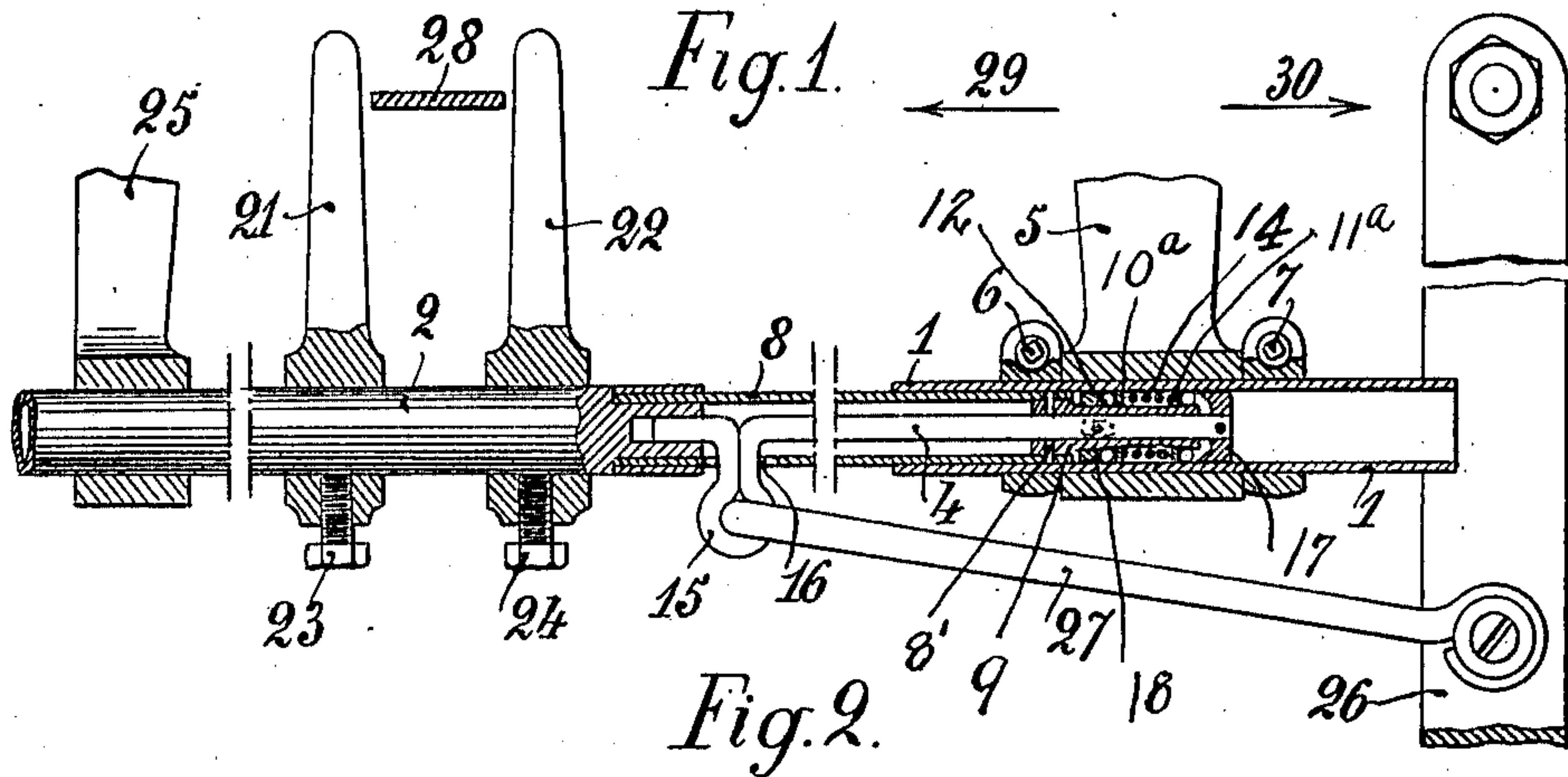


D. WEHRLIN.
SAFETY BELT SHIFTER.
APPLICATION FILED FEB. 15, 1909.

988,918.

Patented Apr. 4, 1911.

2 SHEETS—SHEET 1.



Witnesses
J. M. Wynkoop.
L. R. Crevitt

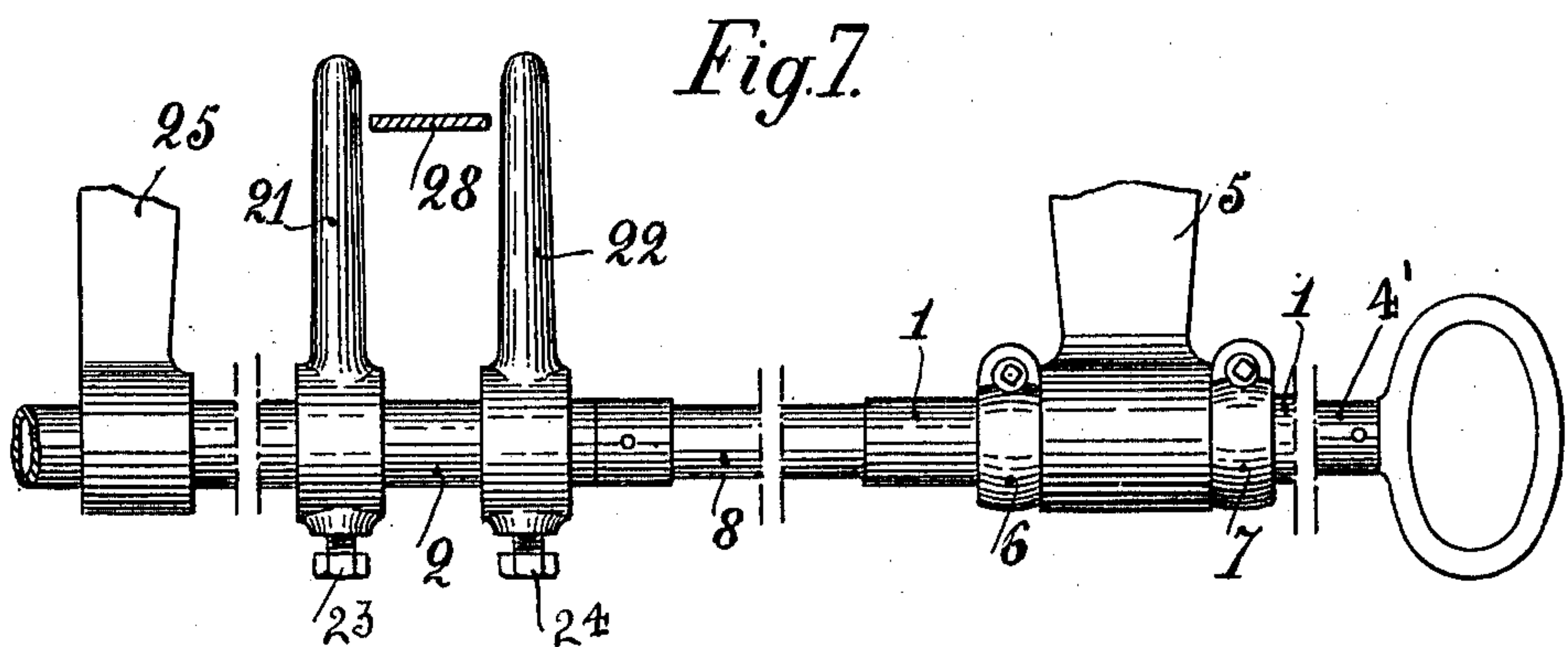
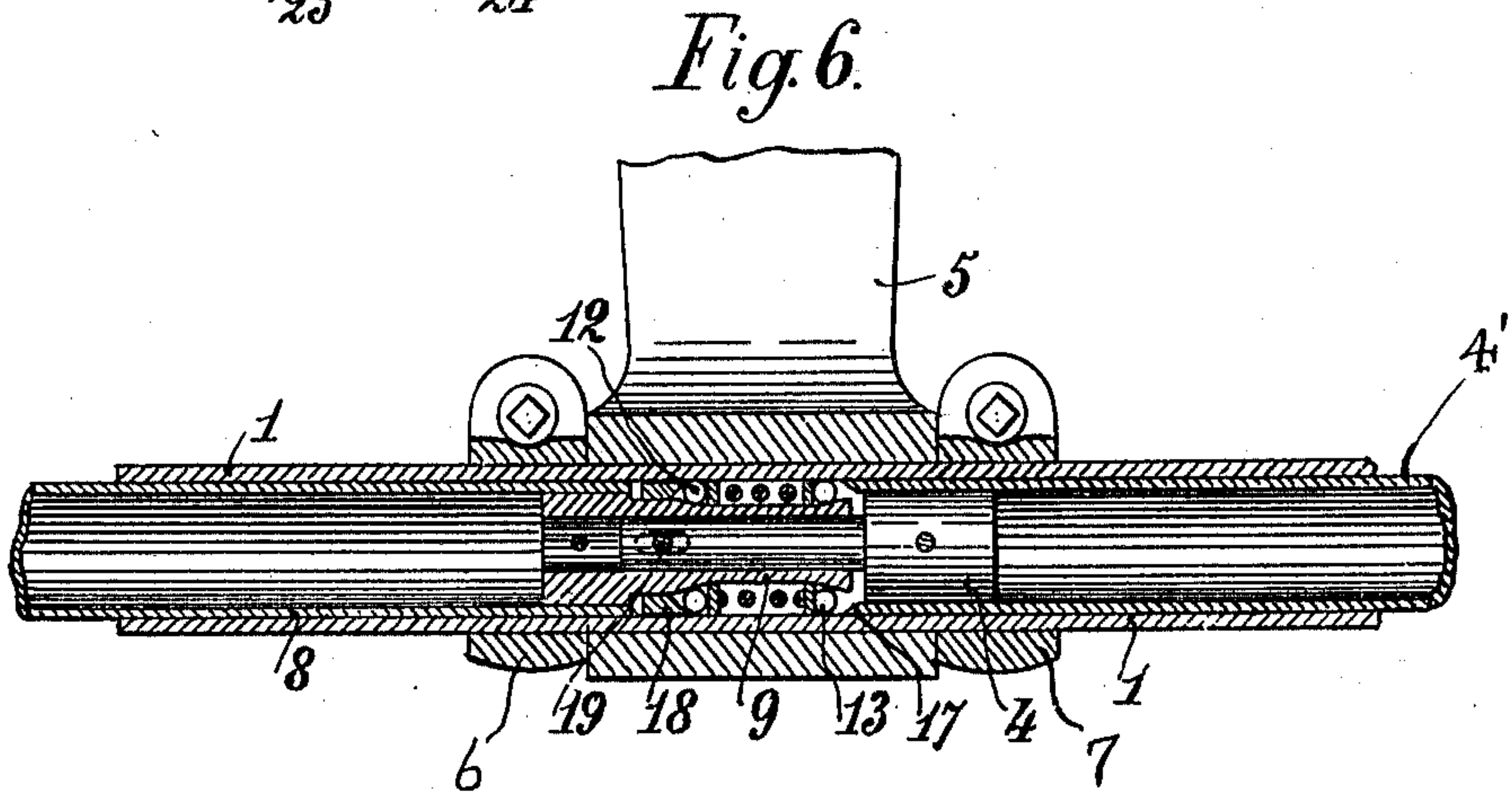
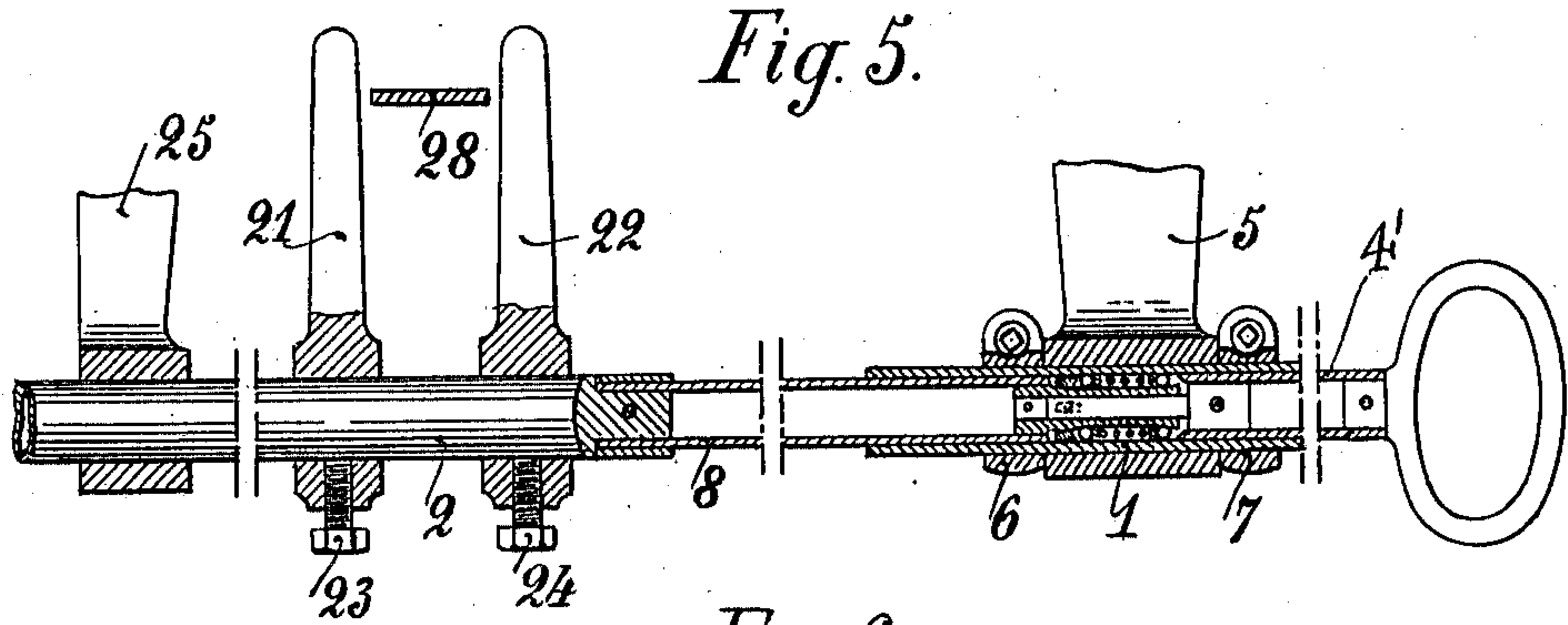
Inventor,
Daniel Wehrlein
By Knight & Co.
attys

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Witnesses
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UNITED STATES PATENT OFFICE.

DANIEL WEHRLIN, OF PARIS, FRANCE, ASSIGNOR TO LA CONTINENTALE FIXATOR, OF
PARIS, FRANCE, A SOCIETY OF FRANCE.

SAFETY BELT-SHIFTER.

988,918.

Specification of Letters Patent.

Patented Apr. 4, 1911.

Application filed February 15, 1909. Serial No. 478,102.

To all whom it may concern:

Be it known that I, DANIEL WEHRLIN, citizen of the Republic of France, residing at 59 Avenue de la République, Paris, France, have invented certain new and useful Improvements in Safety Belt-Shifters, of which the following is a specification.

This invention relates to an improvement in belt shifters, and has for one of its objects to provide a locking mechanism connected to said shifter whereby the belt engaging arms will be securely held against any lateral pressure which may be exerted by the belt gearing.

One of the objections to the belt shifters heretofore used has been that the pressure of the belt which as a general rule is either on a loose pulley or driving wheel, has a tendency to throw the said belt shifter either out of or into operative position whereby the machine is either suddenly stopped or started, thus causing many accidents. I overcome this objectionable feature by providing a belt shifter which is mounted upon a slidable rod which in turn is automatically locked by means of my new and novel arrangement of the locking elements.

Further objects and advantages of my invention will be apparent from the following description with reference to the accompanying drawings, wherein,—

Figure 1 is a view in front elevation of one embodiment of my invention, a portion thereof being shown in section, Fig. 2 is a detail sectional view of the locking device, Fig. 3 is a front elevation showing a modified form of the operating device, Fig. 4 is a detail view of a modification of the operating lever, Fig. 5 is a view similar to Fig. 1 showing a further modification, Fig. 6 is a detail sectional view of the locking mechanism shown in Fig. 5, and, Fig. 7 is a front elevation of my invention.

Referring more specifically to the drawings wherein like numerals indicate like parts throughout the different views shown, the numeral 1 designates a tubular member which is adapted to be securely held in a suitable hanger 5 by means of the removable collars 6 and 7. Arranged to slide within the tubular member 1 is a hollow member 8 which engages with a rod 2, which in turn carries two belt-engaging arms 21 and 22, the rear end of the rod 2 being slidably secured within any suitable bracket 25. The

belt-engaging arms 21 and 22 are adjustably held in place by means of set screws 23 and 24.

Within the hollow member 8 and positioned in the end of the rod 2 is a cylindrical rod or wire 4. Adjacent to the end of said wire positioned in the end of the rod 2 a loop portion is formed which extends downwardly through a slot 16 formed in the member 8, the front end of said rod extending throughout and beyond the length of the member 8, the free end thereof passing through a cylindrical portion 9 which is provided with the flaring or conical end portions 10 and 11, said portion 9 being secured to and carried by the member 8 by means of the pins 8'. At the extreme end of the rod 4 a suitable head 17 is fixed.

Arranged to normally rest upon the conical or flaring ends of the member 9 are an annular series of friction balls which are held apart by means of the coil spring 14 pressing against guide rings 10^a and 11^a. Adjacent to the rear series of friction balls 12 a beveled ring member 18 is secured to the rod 4 by means of the cross pin 19 which passes through a slot 20 formed in the cylindrical portion 9, as shown in dotted lines in Figs. 1 and 2 particularly. These releasing rings 17 and 18 facilitate the freeing of the balls at the moment of release. Furthermore, when the apparatus is being assembled they allow the balls to be kept in position until the parts are introduced into the tube 1.

Suitably arranged and secured adjacent to the belt shifter is a lever 26 which is connected to the rod 4 by means of the wire 27 engaging within the loop or eyelet 15 formed on the rod 4.

From the foregoing description the operation of my device will be seen to be as follows:—Supposing that the belt 28 of the machine is in movement on the loose pulley of the machine, pressure will be exerted by the movement of the belt whereby there will be a tendency to displace the belt shifter in a lateral direction. It will be appreciated that if the pressure of the belt on the belt engaging arms 21 and 22 is not overcome it would cause the shifting of the belt whereby the machine would be put into operation. Inversely if the belt were at first on the driving pulley of the machine it might throw itself out of opera-

tive position on to the loose pulley, thereby suddenly stopping the machine. In the present invention whenever pressure is transmitted from the belt to the arms 21 or 22 there is a normal tendency for the rods 2 and 8 and therefore the cylindrical portion 9 to slide through the tubular member 1. As this sliding movement of the member 8 causes the conical member 9 to move also, the series of balls which ride upon the conical portions of the member 9 will tightly wedge between the said member and the member 1, thus making it impossible for further movement of the shifter to take place. If it is desired, however, to shift the belt the lever 26 is thrown in the desired direction which will cause the rod 4 to be moved and this movement will bring either of the releasing rings 17 or 18 into engagement with the friction balls and against the pressure of the coil spring, will force them out of contact with the tubular member 1, thereby permitting the shifting of the belt by an extended movement of the lever 26. As soon as the lever 26 is released the spring 14 forces the balls into their normal position and thereby locks the belt engaging arms in their adjusted position.

Fig. 3 discloses a means whereby the rod 4 may be operated by suitable chains 31 and 32 which run over pulleys 33 and 34 respectively. Fig. 4 illustrates another arrangement in which the wire 4 is controlled by means of an annular member 35 connected to the rod 4, and which may be operated by a suitable lever 36.

Figs. 5 and 6 illustrate a modified form of my invention wherein the rod 4 of Fig. 1 is entirely dispensed with, the operation of the device being caused by a slidable handle entering within the tube 1 and coming into engagement with the series of friction balls, the cylindrical member 9 being secured in this instance to the tube or hollow member 8 at one end to the handle 4 at the other end.

In conclusion I wish it understood that I do not limit myself to the arrangements herein described, these only having been shown as specific embodiments of my invention.

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

1. In a device of the character described, a movable member, belt engaging arms secured to said member, a fixed member adapted to receive the movable member, adjusting means secured to said movable member, and locking means comprising a cylindrical member having conical end portions,

a plurality of friction members, and resilient means adapted to normally force said friction members into contact with the said cylindrical member and the fixed member, whereby the movable member is locked in its adjusted position.

2. In a device of the character described, a movable member, belt engaging arms secured to said member, a fixed member adapted to receive the movable member, adjusting means secured to said movable member, and locking means comprising a cylindrical member having conical end portions, a plurality of friction members, and resilient means adapted to normally force said friction members into contact with the said cylindrical member and the fixed member, and means carried by the adjusting means adapted to release the friction members from their locking position, thus permitting the adjustment of the movable member.

3. In a belt shifter, a movable member, a fixed member adapted to receive the movable member, adjusting mechanism connected to the movable member, and locking means secured to and operated by said adjusting means comprising a cylindrical member having flaring end portions, a plurality of annular series of friction members, and resilient means interposed between said series and adapted to force the said members apart and into contact with the flaring portions of said cylindrical member and the fixed member, whereby the movable member is locked in its adjusted position.

4. In a belt shifter, a movable member, a fixed member adapted to receive the movable member, adjusting mechanism connected to the movable member, and locking means secured to and operated by said adjusting means comprising a cylindrical member having flaring end portions, a plurality of annular series of friction members, and resilient means interposed between said series and adapted to force the said friction members apart and into contact with the flaring portions of said cylindrical member and the fixed member, whereby the movable member is locked in its adjusted position, and means for releasing either series of friction members, whereby the movable member may be adjusted.

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

DANIEL WEHRLIN.

Witnesses:

H. C. COXE,
GUSTAVE MOREAU.