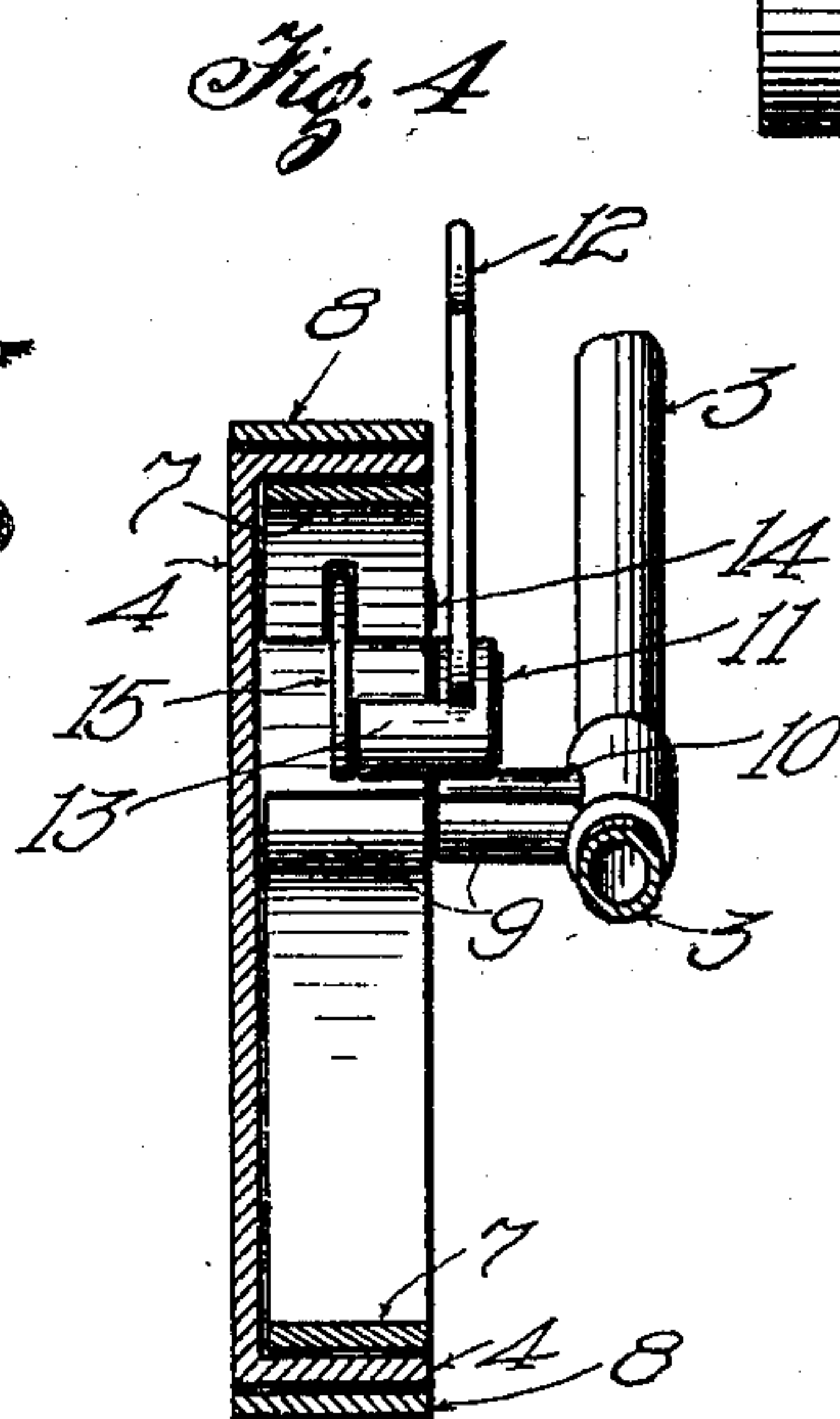
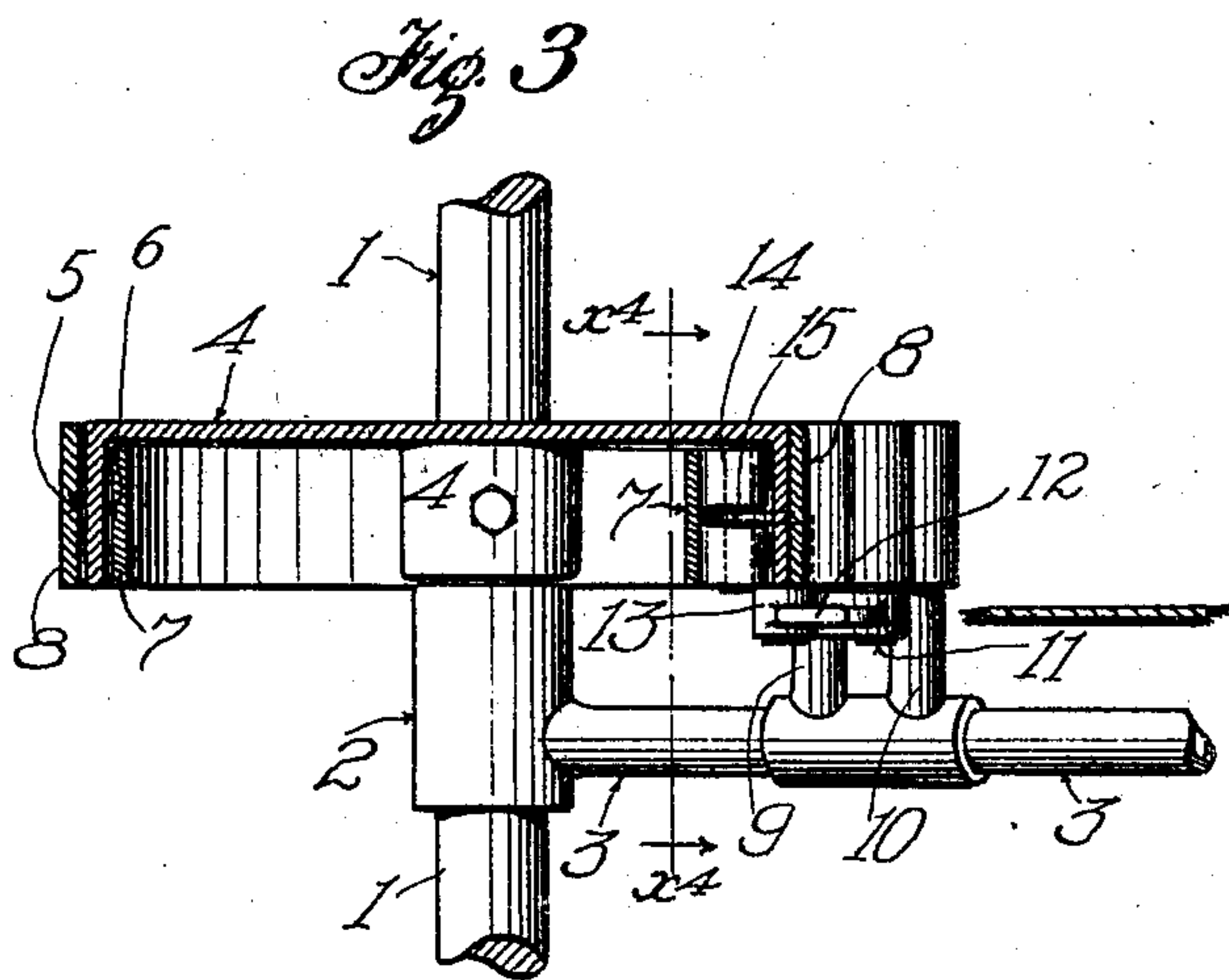
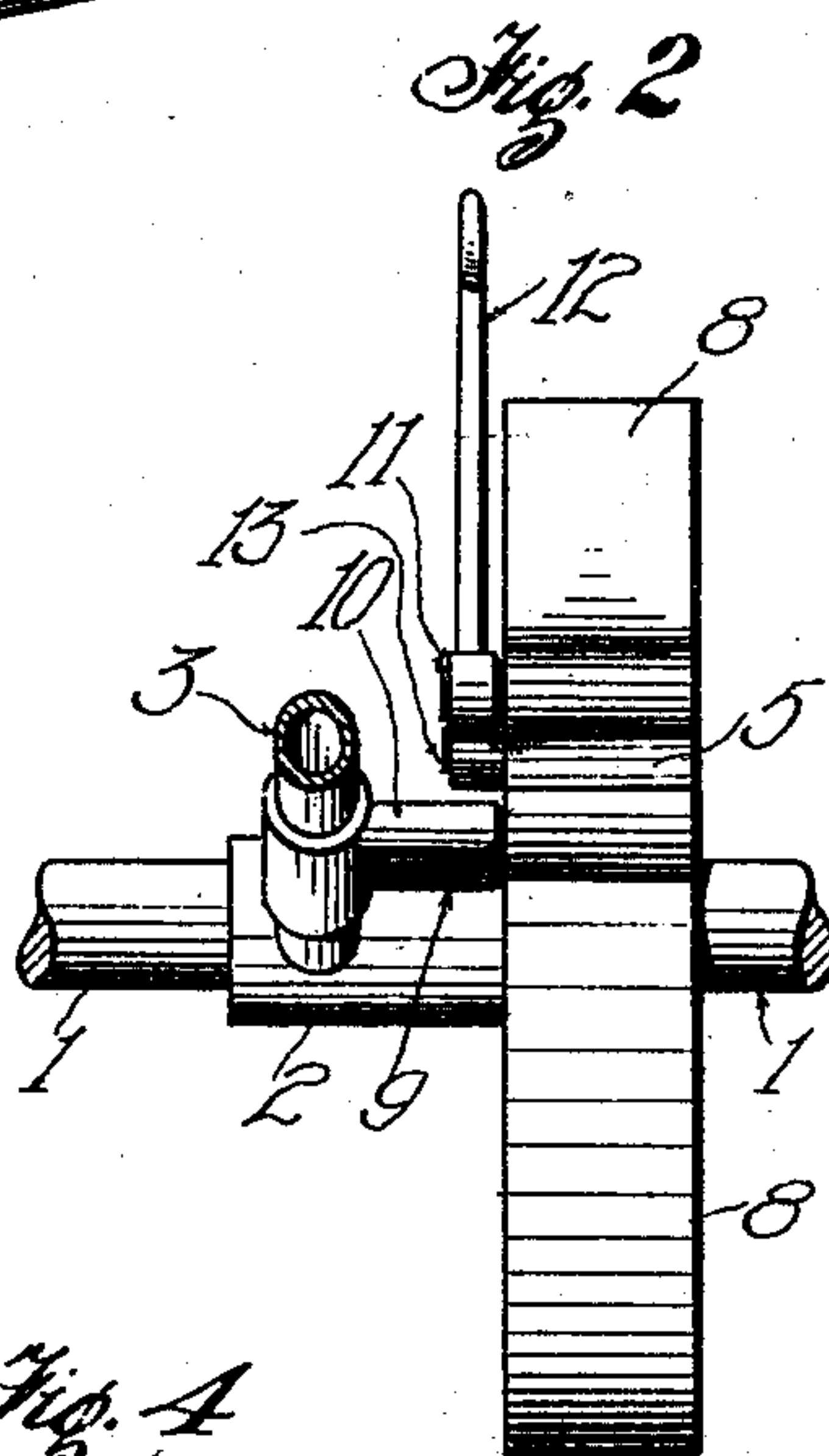
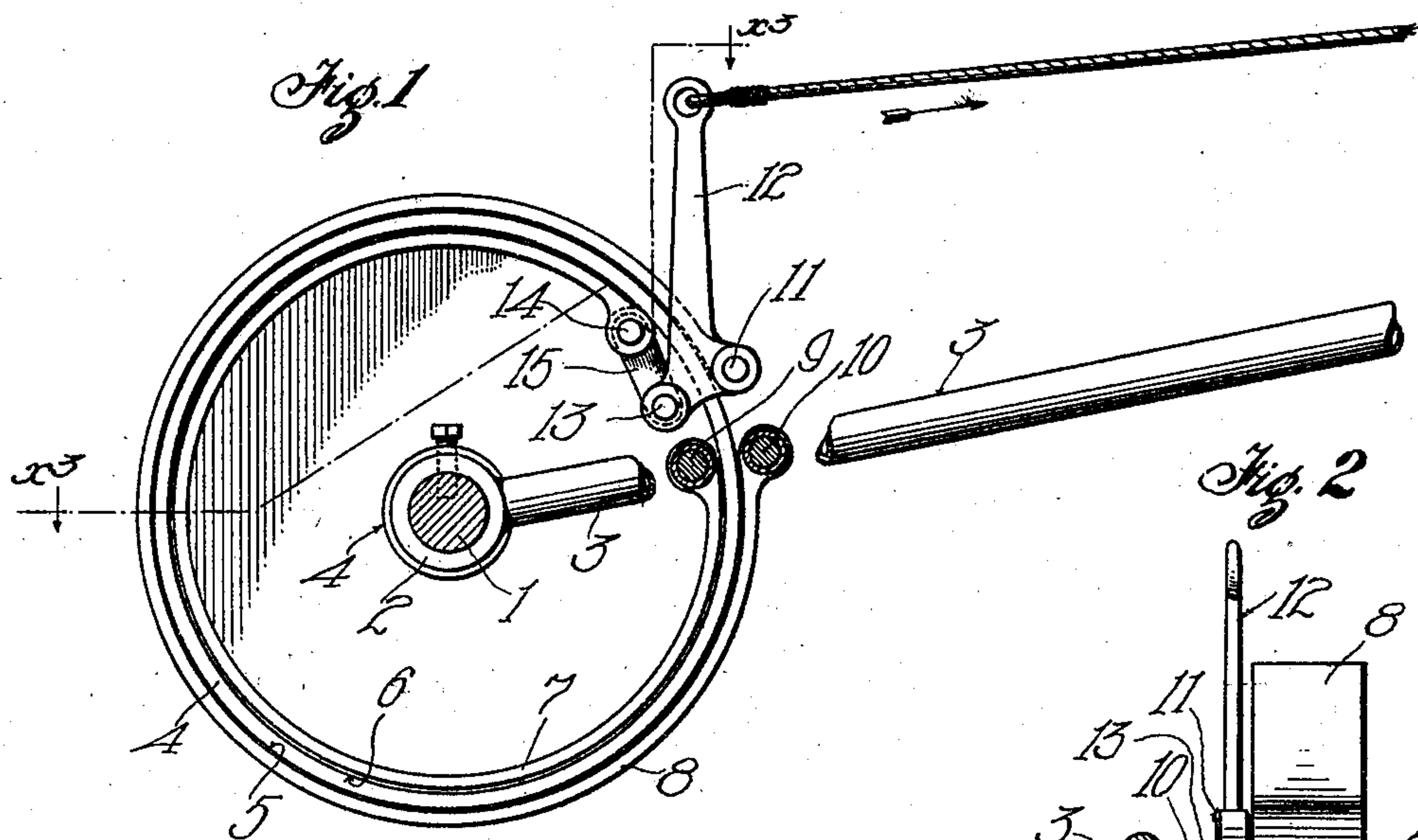


No. 788,464.

PATENTED APR. 25, 1905.

B. H. GREEN.
FRICTION GRIP DEVICE.
APPLICATION FILED MAY 16, 1904.



Witnesses
J. H. H. H. H.
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Inventor
Buel H. Green
by *Townsend Bros.* atty.

UNITED STATES PATENT OFFICE.

BUEL H. GREEN, OF LOS ANGELES, CALIFORNIA.

FRICTION GRIP DEVICE.

SPECIFICATION forming part of Letters Patent No. 788,464, dated April 25, 1905.

Application filed May 16, 1904. Serial No. 208,128.

To all whom it may concern:

Be it known that I, BUEL H. GREEN, a citizen of the United States, residing at Los Angeles, in the county of Los Angeles and State of California, have invented a new and useful Friction Grip Device, of which the following is a specification.

This invention relates to a friction grip device adapted for use as a brake or as a clutch or power-transmitting device, it being particularly adapted as a brake for motor-vehicles.

One object of the invention is to secure a maximum gripping area with a drum having a minimum diameter.

Another object is to apply the friction-producing strains in such a way that the stress upon the member being gripped resulting from the pressure of one gripping device is counteracted by an opposite pressure upon the member resulting from the opposing pressure which it receives from the opposite gripping device.

The accompanying drawings illustrate the invention, and, referring thereto—

Figure 1 is a side elevation of the invention with a portion of the radius-rod broken away. Fig. 2 is a side elevation of what is shown in Fig. 1, the greater part of the radius-rod being removed. Fig. 3 is a sectional view on line $x^3 x^3$, Fig. 1. Fig. 4 is a sectional view on line $x^4 x^4$, Fig. 3.

1 is a shaft which may be either stationary or rotatable. In the present embodiment it is shown as a rotatable shaft which passes through an eye 2 on the end of a radius-rod 3, which radius-rod may extend to any desired point of a motor-vehicle frame. (Not shown.)

4 is a drum on the shaft 1, the shell of the drum being provided with an external friction-face 5 and an internal friction-face 6.

If the shaft 1 is a stationary shaft, the drum 4 may be rotatable on the shaft. An expanding brake-band 7 is arranged to grip the internal friction-face 6 of the drum, while a contracting brake-band 8 is arranged to grip the external friction-face 5 of the drum. The lower ends of the brake-bands 7 and 8 are pivotally attached to studs 9 and 10, respec-

tively, which extend laterally from the radius-rod 3.

Pivoted at 11 to the free end of the contracting brake-band 8 is one arm of a T-lever 12. The other short arm of the T-lever 12 has a stud 13, which projects into the drum 4 for a distance about half the width of the drum. The free end 14 of the expanding brake-band 7 is connected by a link 15 with the stud 13.

By pulling forward the lever 12 in the direction of the arrow it will be rocked on its pivotal axis 11, which will move the stud 13 upwardly and through the link 15 will expand the brake-band 7. In rocking the lever 12 the resistance offered by the expansion of the brake-band 7 moves down the pivotal point 11 somewhat, so that the brake-band 8 is contracted. Thus this movement of the lever 12 causes a simultaneous expansion of the inner brake-band 7 and a contraction of the outer brake-band 8, and the friction arising between the inner and outer surfaces 5 and 6 of the drum 4 with the brake-bands 7 and 8 results in retarding the rotation of the drum 4 or in stopping it altogether, depending upon the amount of friction.

It will be observed that the strains upon the drum 4 are equalized and that a minimum force on the lever 12 will apply the maximum retarding effect to the drum 4, which would not be the case if the drum 4 were engaged solely by either the expanding band 7 or the contracting band 8.

As soon as the pressure on the lever 12 is relieved the natural spring of the brake-band 7 contracts it and the brake-band 8 expands for a similar reason, so that the drum 4 is then free to revolve.

What I claim is—

1. A rotatable member having concave and convex friction-surfaces, brake-bands for engaging said friction-surfaces, and means for simultaneously contracting one brake-band and expanding the other.

2. A drum, brake-bands for engaging the inner and outer surfaces of its shell and having fixed ends, a lever flexibly connected to

the free end of one band, and means connecting the free end of the other band with the lever whereby when the lever is rocked one band is contracted and the other expanded.

5 3. A drum, brake-bands for engaging the inner and outer surfaces of its shell and having fixed ends, a lever pivoted to the free end of one band, and a link connecting the free end of the other band with the lever.

10 4. A drum, brake-bands for engaging the inner and outer surfaces of its shell and having fixed ends, a T-lever pivoted to the free end of one band, a stud on the lever projecting into the drum, and a link connecting the stud
15 with the free end of the other band.

5. A drum, expanding and contracting bands

therefor, each band having a fixed point, and a lever connected with the bands for contracting and expanding them.

6. A drum, expanding and contracting bands 20 therefor and non-rotatable with relation to each other, and a lever for expanding and contracting the bands.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, at Los Angeles, in the county of Los Angeles and State of California, this 9th day of May, 1904.

BUEL H. GREEN.

In presence of—

GEORGE T. HACKLEY,

JULIA TOWNSEND.