

No. 771,755.

PATENTED OCT. 4, 1904.

C. W. WARNER.
ROLLER BEARING.

APPLICATION FILED SEPT. 21, 1903.

NO MODEL.

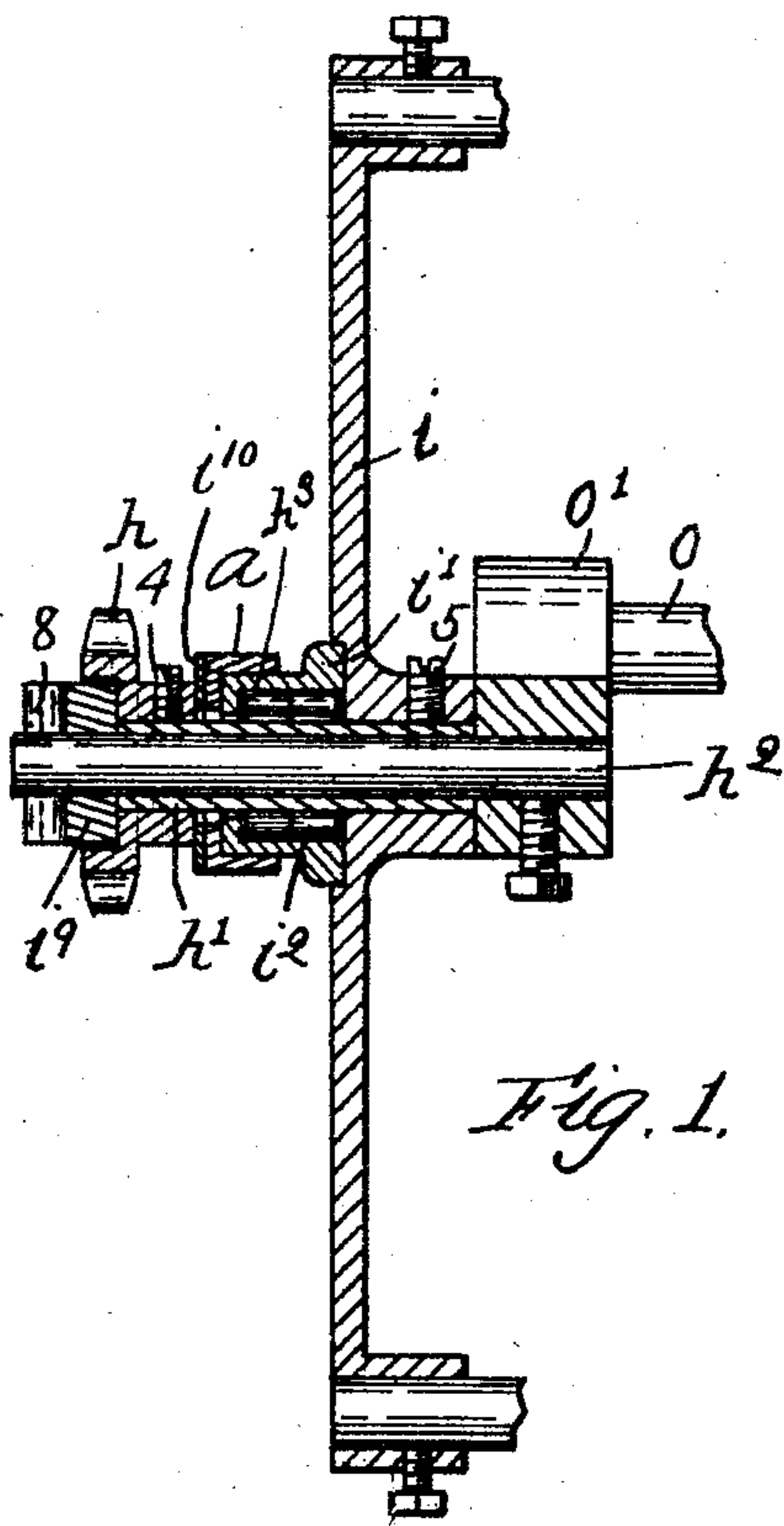


Fig. 1.

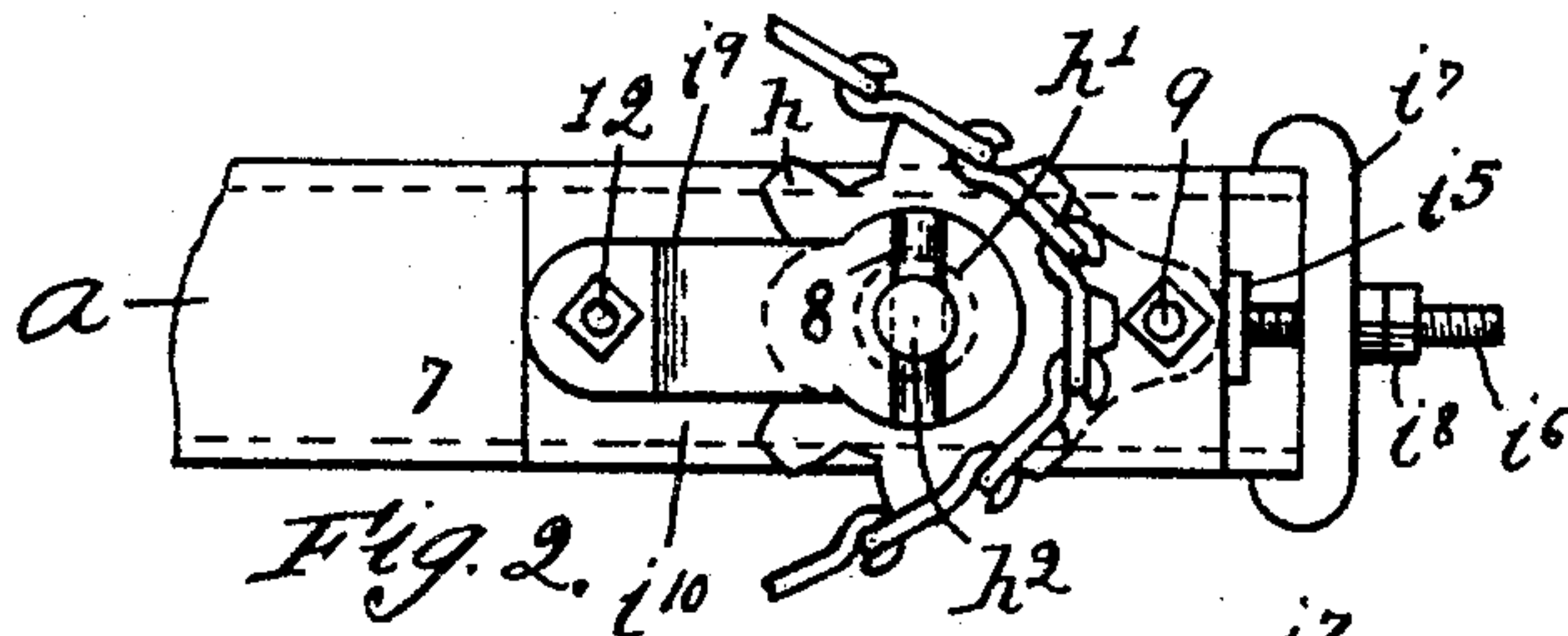


Fig. 2.

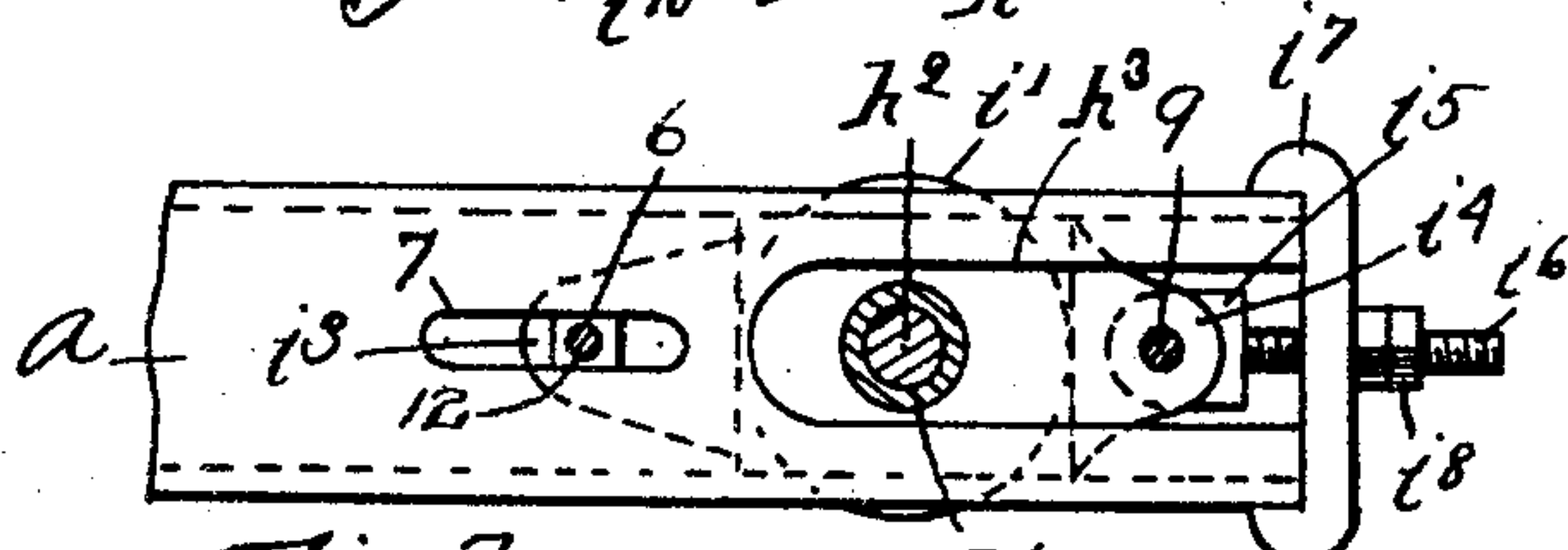


Fig. 3.

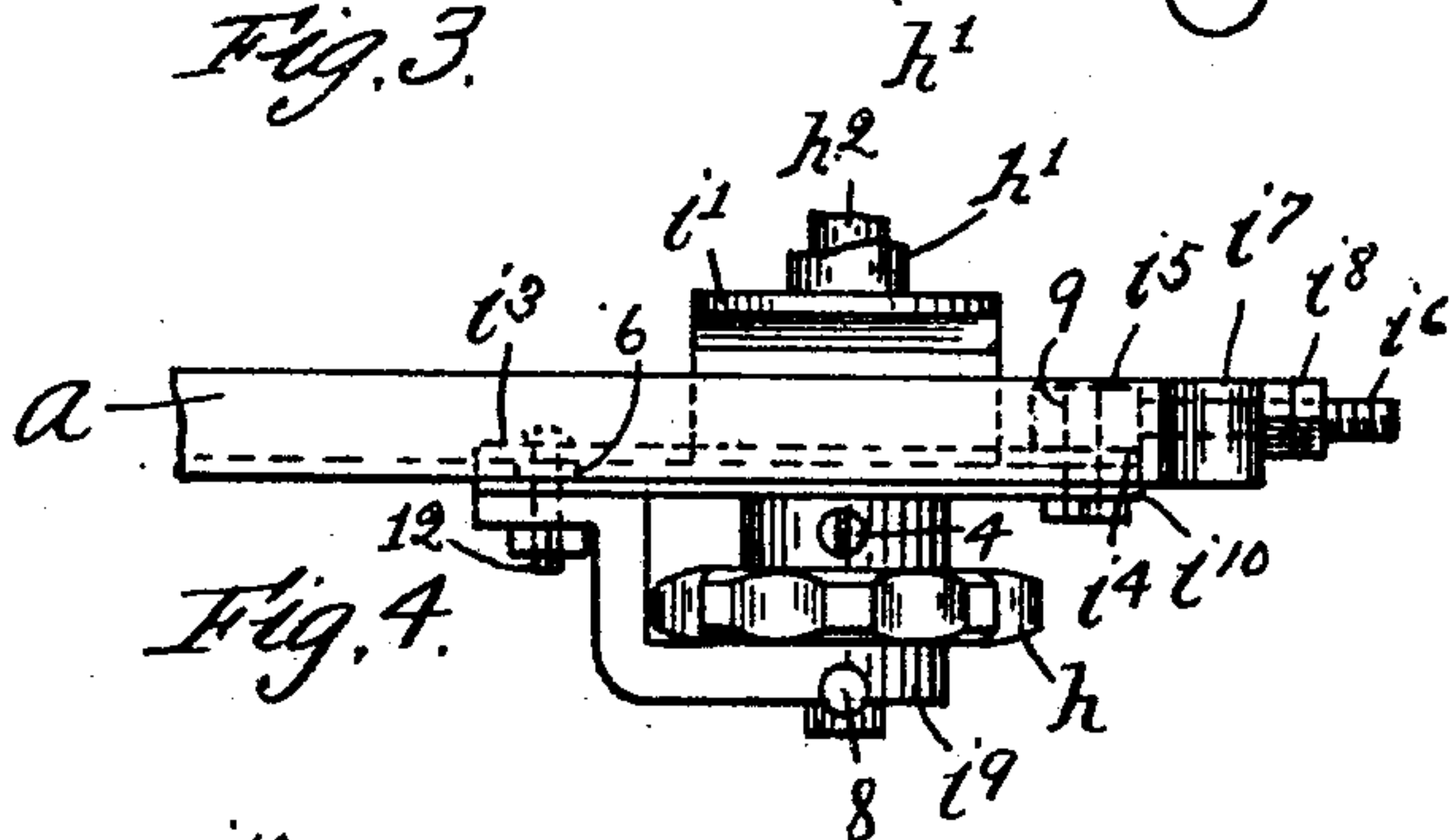


Fig. 4.

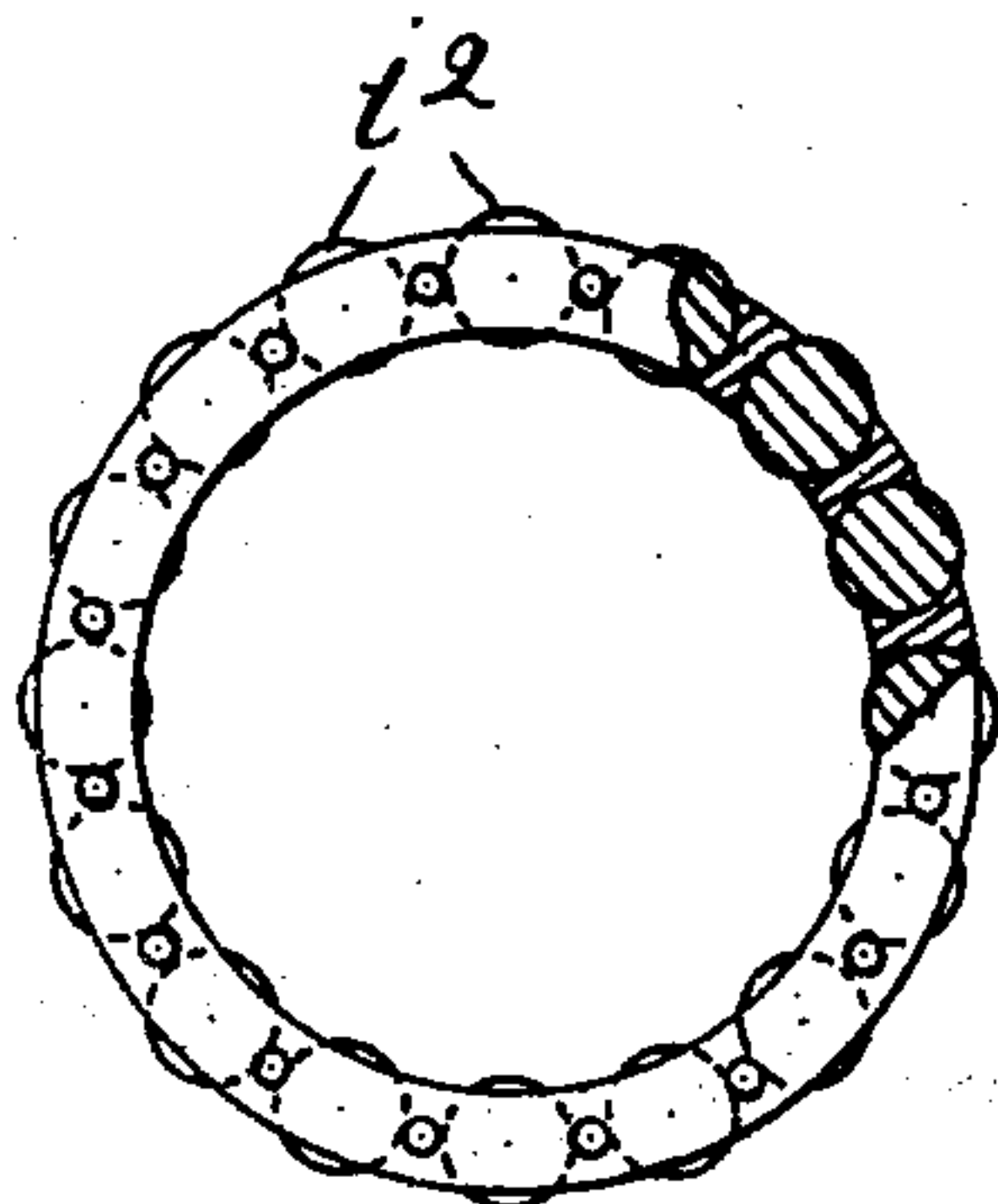


Fig. 8.

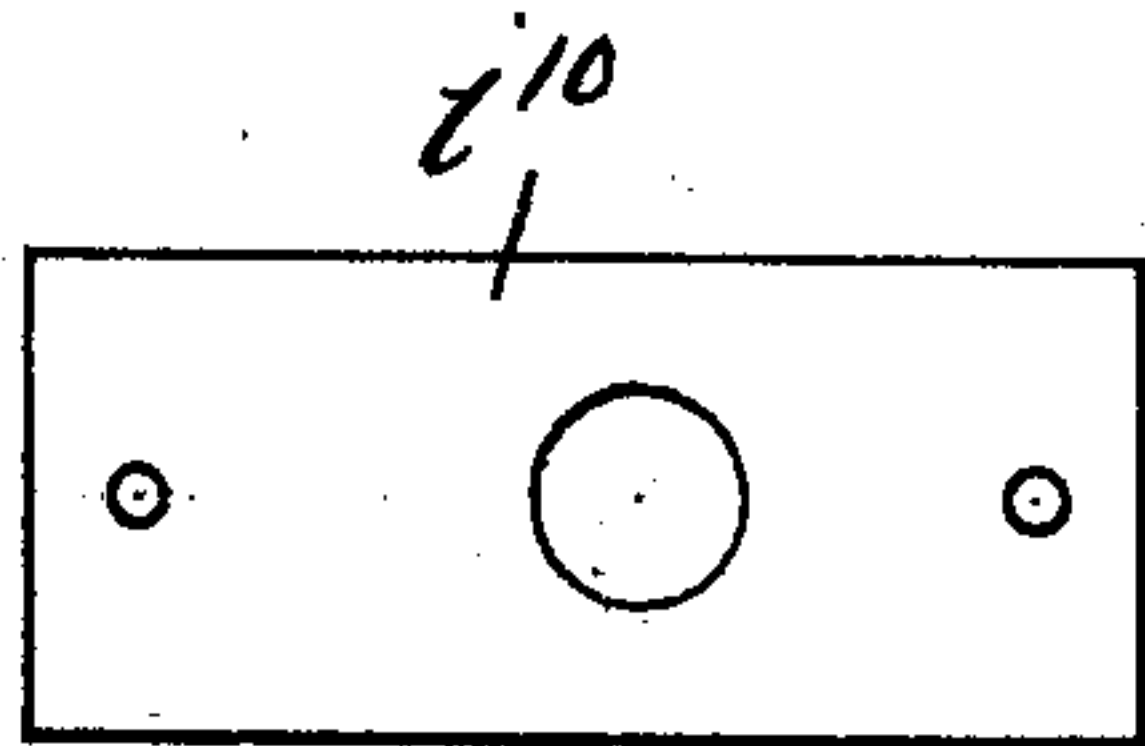


Fig. 5.

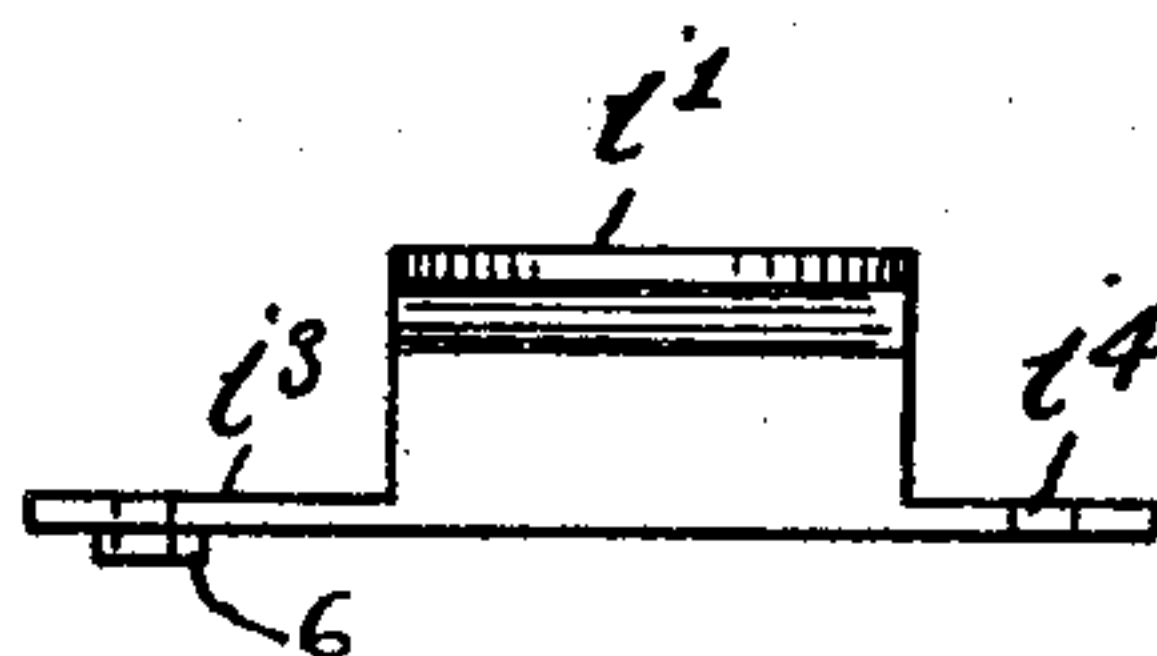


Fig. 6.

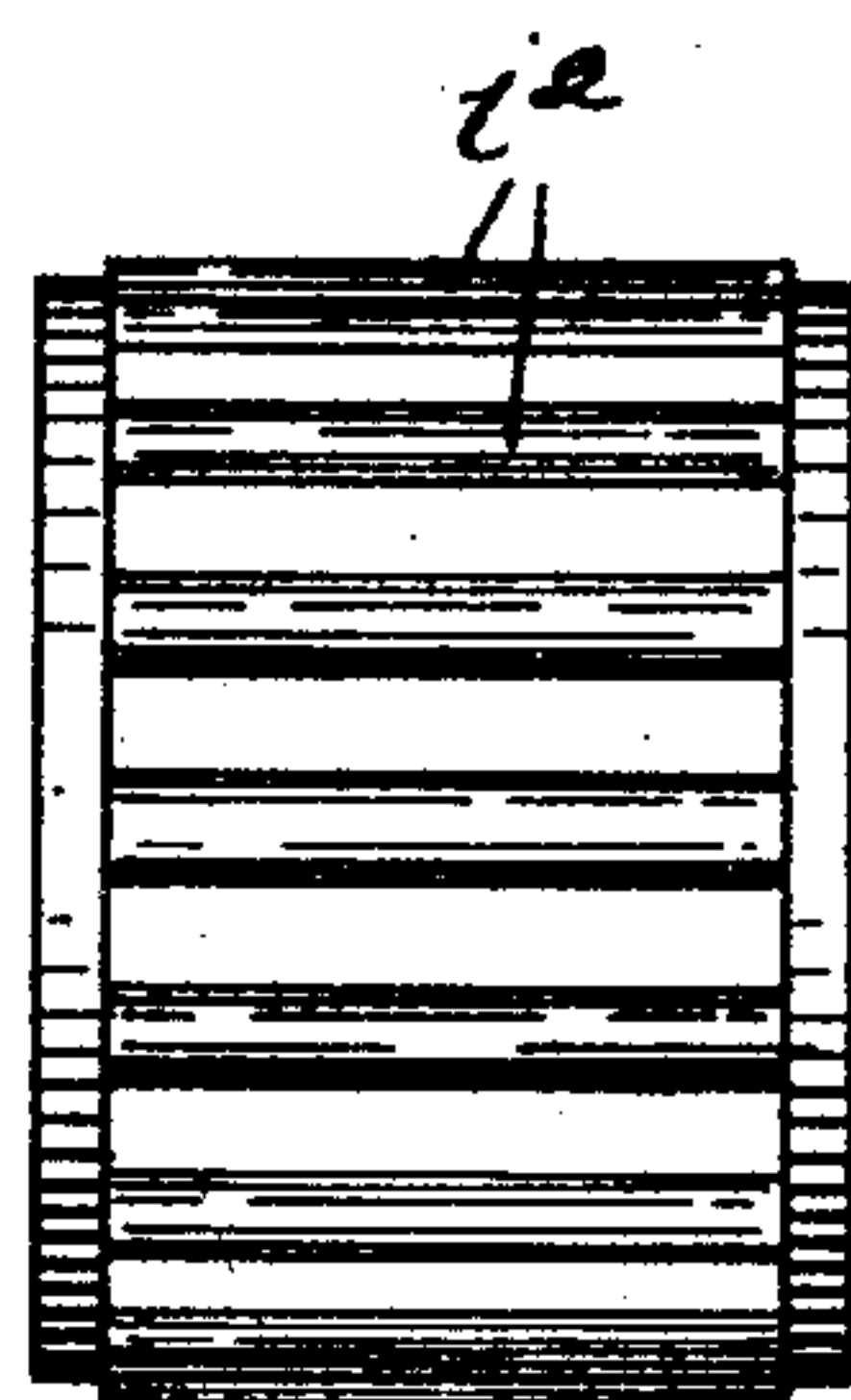


Fig. 7.

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UNITED STATES PATENT OFFICE.

CHARLES W. WARNER, OF MELROSE, MASSACHUSETTS.

ROLLER-BEARING.

SPECIFICATION forming part of Letters Patent No. 771,755, dated October 4, 1904.

Original application filed September 6, 1898, Serial No. 690,262. Divided and this application filed September 21, 1903. Serial No. 174,030. (No model.)

To all whom it may concern:

Be it known that I, CHARLES W. WARNER, of Melrose, county of Middlesex, State of Massachusetts, have invented an Improvement in Roller-Bearings, of which the following description, in connection with the accompanying drawings, is a specification, like characters on the drawings representing like parts.

This invention relates to roller-bearings, and is especially designed to provide an improved roller-bearing for a member to be driven and for a driving member which are disposed at opposite sides of the bearing, whereby compactness of parts is insured and a good and efficient bearing obtained.

My invention is herein shown as applied to the hay-tedder shown in my application, Serial No. 690,262, filed September 6, 1898, and the present application is a division of the said application. It is obvious, however, that the roller-bearing herein shown may be applied to any other machine.

Figure 1 shows in vertical section one end of the reel of a hay-tedder having a roller-bearing embodying this invention. Figs. 2 to 8 are details of the roller-bearing to be referred to.

A sprocket-wheel *h* (see Fig. 1) is herein shown which serves as the driving member, and said wheel is secured to one end of a sleeve *h'* by a pin 4, which passes through the hub of the sprocket-wheel. The sleeve *h'* is mounted to revolve freely upon a stationary axle *h²*, which is made longer than the sleeve so as to project therefrom at each end. To the opposite or inner end of the sleeve *h'* a driving member *i* is secured, which is herein shown for the sake of illustration as the reel-head of a hay-tedder, such as shown in my application, Serial No. 690,262, above referred to. The member *i* is secured to the sleeve by the pin 5 or otherwise, so that the reel will be rotated by the sleeve. The sleeve *h'* is set in a bearing composed of a circular set of rollers *i²*, contained in a box *i'*, and said roller-bearing is located substantially midway the length of said sleeve, so that the driving or sprocket wheel *h* will be disposed at one side of the bearing and the driven

member or reel-head *i* will be disposed at the opposite side thereof.

The bearing-box *i'* is of suitable size and shape to fit in the channel of a channel-bar *a*, and said bar is slotted longitudinally, as at *h³*, (see Fig. 3,) to provide a passage for the sleeve and the axle which is contained within it, and when the bearing-box is disposed in the channel of the bar *a* and the sleeve and axle which is contained within it passed through the slot *h³* the driving or sprocket wheel *h* will occupy a position on one side of said bar and the driven member or reel-head will occupy a position at the opposite side of said bar.

By providing a longitudinal slot for the sleeve and axle the bearing-box may be adjusted along in the channel of the bar, said channel serving as the guideway, and as the box is adjusted all the parts supported by the roller-bearing will be adjusted with it. As a means of adjusting the bearing-box *i* back and forth said box is herein shown as formed or provided at each end with an ear *i³* *i⁴*. (See Fig. 6.) The front ear *i³* has a lateral projection 6, which enters and works along in a slot 7, which is formed in the bar *a*, (see Fig. 3,) and the rear ear *i⁴* has attached to it by a bolt 9 a block *i⁵*, which is provided with a rearwardly-extended screw *i⁶*, which passes through a hole in an end piece *i⁷*, which is fitted upon and secured to the end of the bar *a*, said screw receiving upon it nuts *i⁸*. This screw and its cooperating parts constitute an adjusting device for the bearing-box *i'* by which it may be moved along in the channel of the bar as a guideway, such adjustment enabling the sprocket-chain to be taken up, as may be required.

The bearing-box *i'* is adapted to project into the recess which is formed in the reel-head. A curved plate *i⁹* (see Figs. 2 and 4) is attached at one end to the bearing-box *i* and at the opposite end to the stationary axle *h²*, to thereby connect said parts together. As herein shown, a bolt 12 passes through a hole in the ear *i³* and through the projection 6 thereon and through a hole in one end of the curved plate *i⁹*, to thereby secure one end of

the plate to the bearing-box, and the opposite end of the plate i^9 has a hole through it near its extremity which receives the outer end of the stationary axle h^2 , and a pin 8 is driven
 5 through the outer projecting end of the axle h^2 outside of this plate which thereby connects the plate with the axle. The outer end of the plate i^9 has formed on its inner side or face a circular boss, (see Fig. 1,) which enters
 10 a correspondingly-shaped recess in the outer side or face of the sprocket-wheel h and which abuts against the outer end of the sleeve h' , and the opposite or outer side of the plate i^9 is formed or provided with a groove which
 15 receives the pin 8. The axle h^2 is thus held by the pin 8 against rotation. The plate i^{10} is placed on the outside of and next to the bar a , between it and the hub of the sprocket-wheel h , and said plate (see Fig. 5) has three
 20 holes through it, one for the bolt 9, one for the bolt 12, and one for the sleeve and axle.

The eccentric bar o of the reel-head is attached by a short arm o' to the inner end of the stationary axle h^2 .

25 It will be seen that the driven member of the reel is supported by the sleeve h' , being mounted upon and secured to it, and that the stationary axle is also supported by said sleeve, being contained within it, and that said sleeve

is supported by the roller-bearing, which latter 30 is supported by the bar a , and that the bearing-box and axle are connected together, and such construction insures compactness of parts and in a hay-tedder enables the ground-wheel to be located very close to the end of 35 the reel.

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

1. A circular set of rollers, a bearing-box 40 containing said rollers, there being a hole through the box concentric with said rollers, a continuously-driven sleeve on which said rollers bear, and an axle supported by said sleeve, substantially as described. 45

2. A bearing comprising a sleeve, an axle supported thereby, a circular set of rollers midway the ends of the sleeve, said sleeve adapted to continuously travel with said rollers, substantially as described. 50

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

CHARLES W. WARNER.

Witnesses:

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H. B. DAVIS.