

No. 846,332.

PATENTED MAR. 12, 1907.

J. C. BARBER.

ANTIFRICTION LATERAL MOTION CENTER BEARING.

APPLICATION FILED JUNE 27, 1906.

2 SHEETS—SHEET 1.

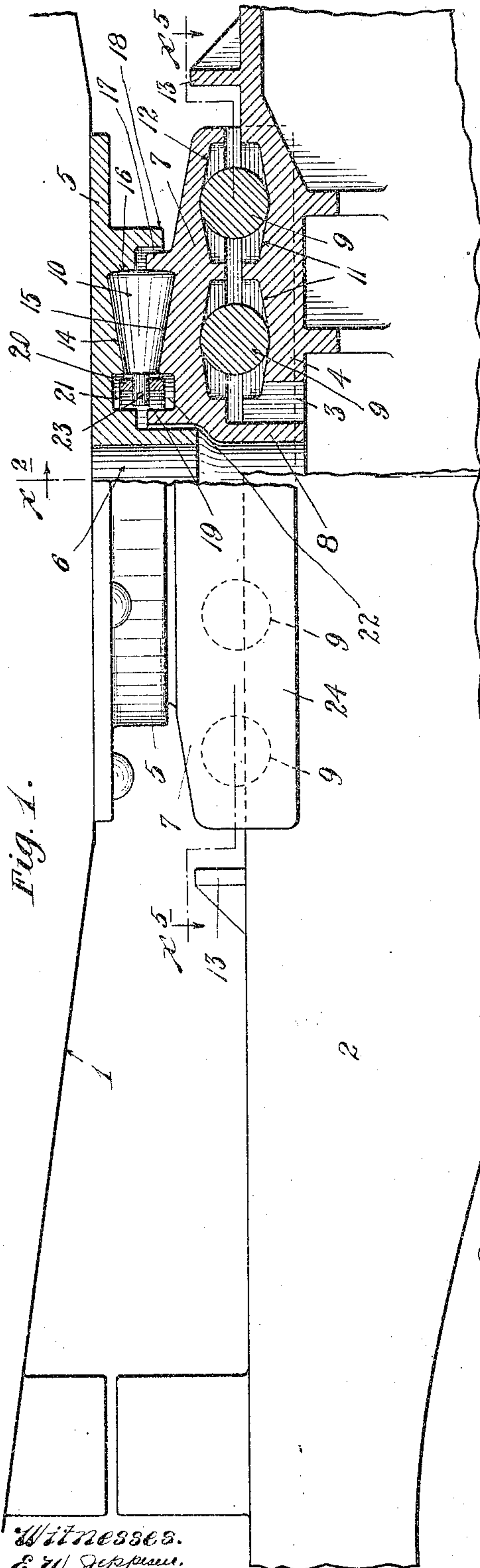


Fig. 1.

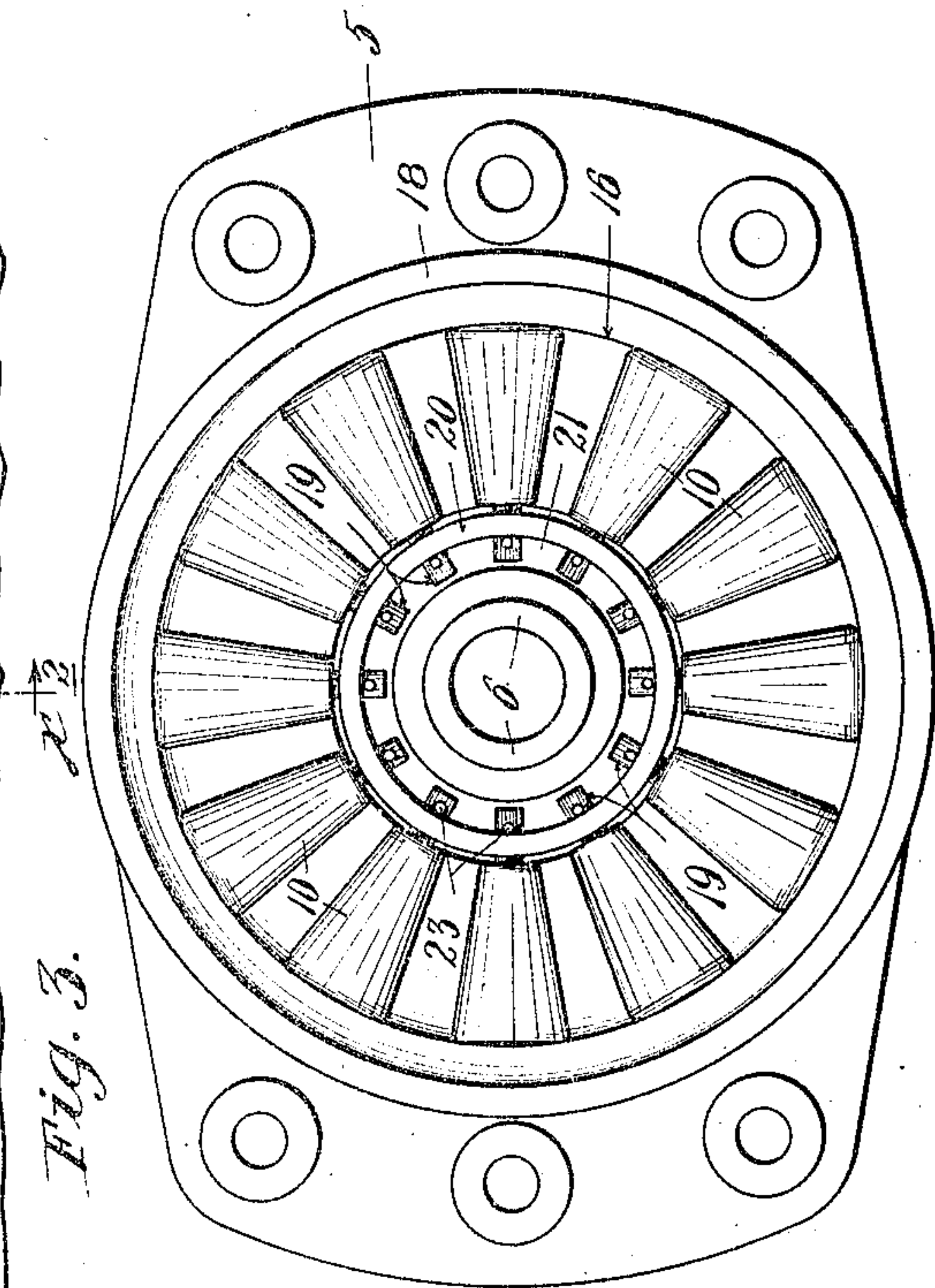


Fig. 3.

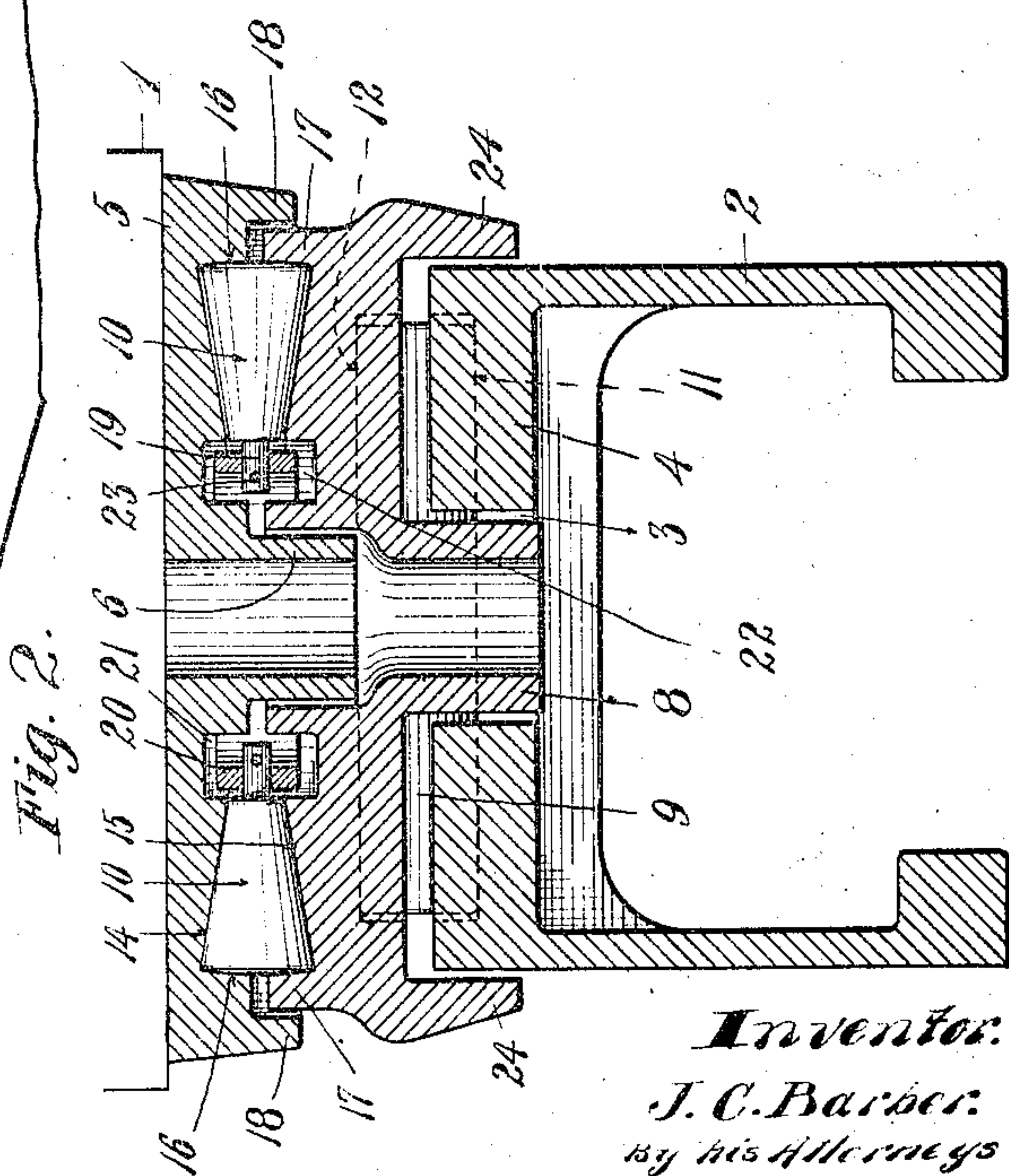


Fig. 2.

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2 SHEETS—SHEET 2.

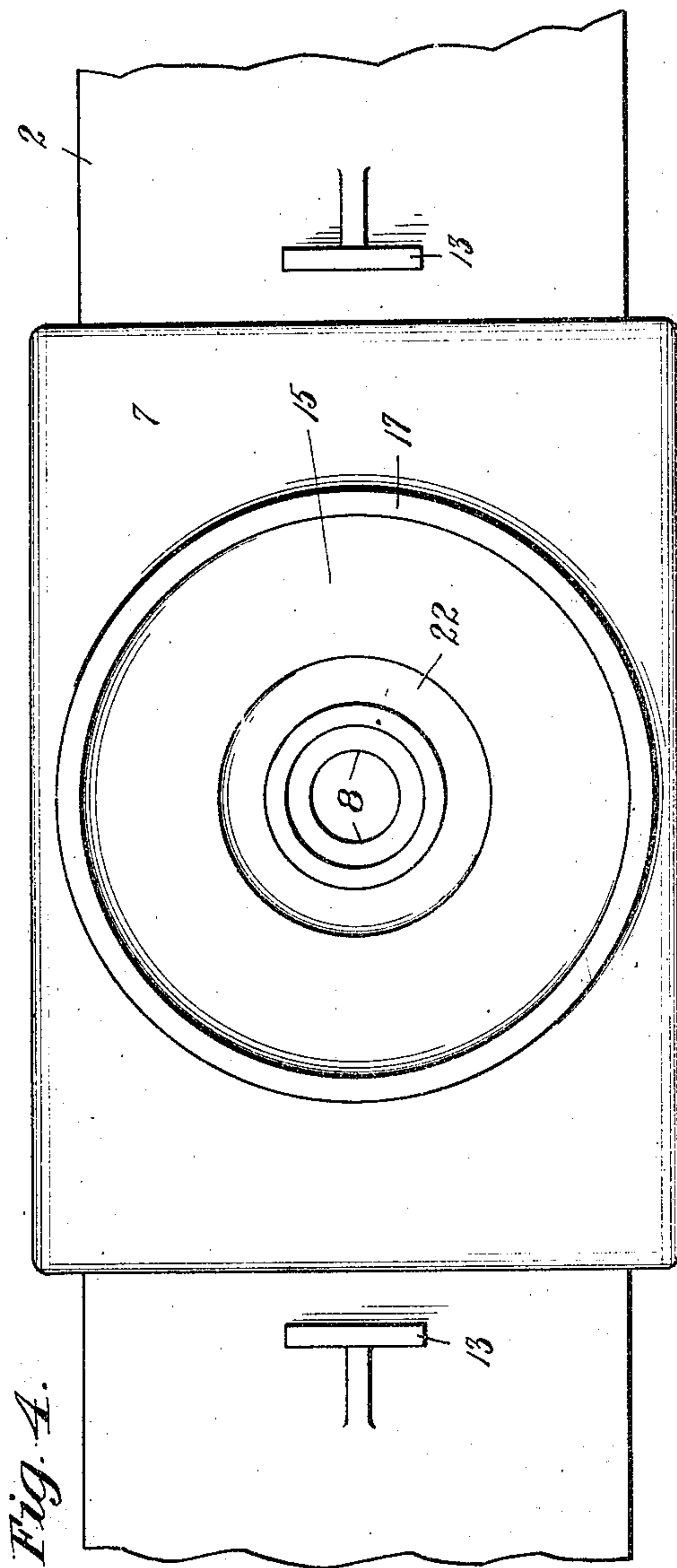


Fig. 4.

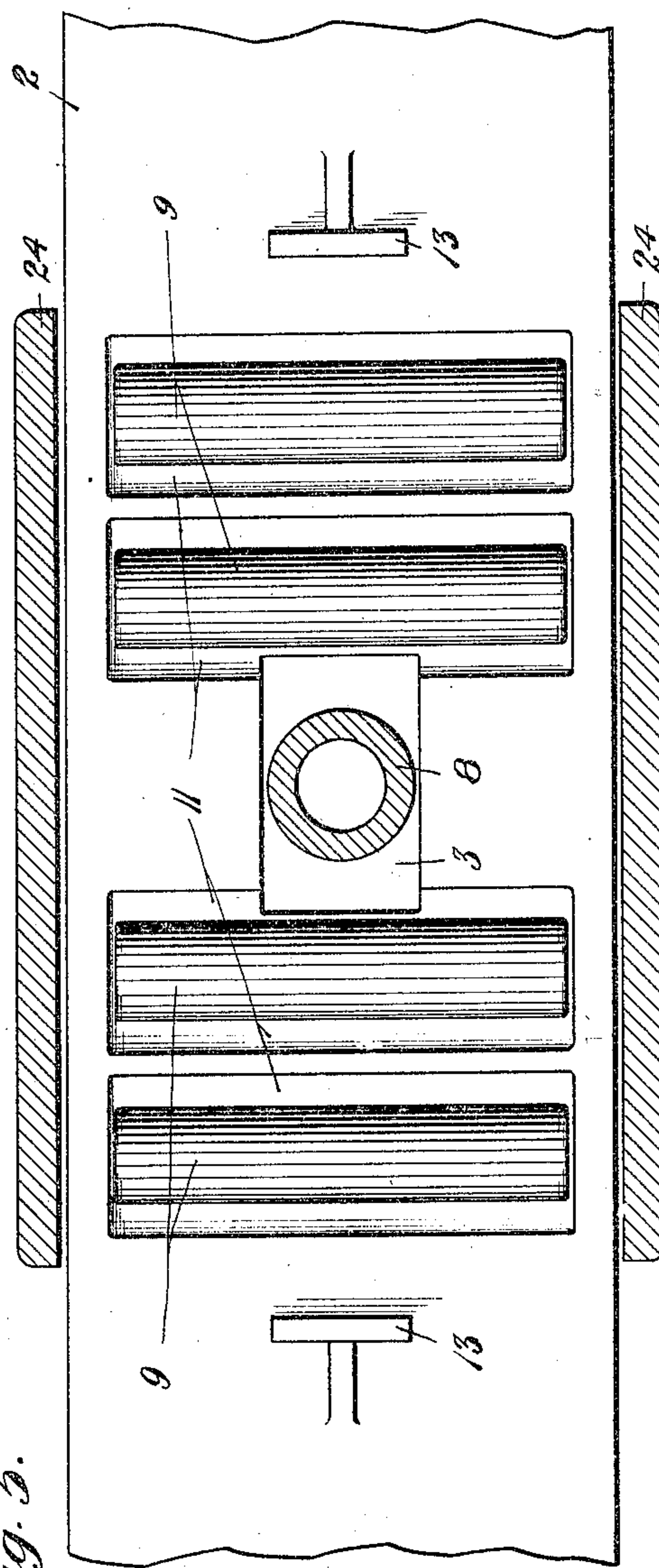


Fig. 5.

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# UNITED STATES PATENT OFFICE.

JOHN C. BARBER, OF CHICAGO, ILLINOIS.

## ANTIFRICTION LATERAL-MOTION CENTER-BEARING.

No. 846,892.

Specification of Letters Patent.

Patented March 12, 1907.

Application filed June 27, 1906. Serial No. 323,856.

*To all whom it may concern:*

Be it known that I, JOHN C. BARBER, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Antifriction Lateral-Motion Center-Bearings; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My present invention has for its object to provide a simple and efficient antifriction lateral-motion center-bearing for railway-cars and the like, and is in the nature of an improvement on the lateral-motion center-bearing disclosed and broadly claimed in my United States Patent No. 588,810, issued of date August 24, 1897, and entitled "Car-truck."

To the above ends the invention consists of the novel devices and combinations of devices hereinafter described, and defined in the claims.

The invention is illustrated in the accompanying drawings, wherein like characters indicate like parts throughout the several views.

Referring to the drawings, Figure 1 is a view, partly in side elevation and partly in vertical section, showing my improved lateral-motion center-bearing applied to connect the body-bolster of a car to a truck-bolster, some parts being broken away. Fig. 2 is a transverse vertical section taken on the line  $x^2 x^2$  of Fig. 1. Fig. 3 is a plan view of the center-bearing with the upper bearing member removed therefrom. Fig. 4 is a plan view of the center-bearing with the upper bearing member and rollers removed therefrom; and Fig. 5 is a horizontal section taken approximately on the irregular line  $x^5 x^5$  of Fig. 1, some parts being left in full.

The numeral 1 indicates the body-bolster of a car and the numeral 2 indicates the truck-bolster, which latter, as shown, is in the form of a channel-shaped casting of steel or malleable iron, but which may be otherwise formed from metal. At its central portion the truck-bolster 2 has an elongated slot 3 and is thickened up at this portion, so that it affords the lower roller-bearing 4 of the lateral-motion device.

The upper bearing member 5 of the center bearing is directly secured to the body-bol-

ster 1, and it is preferably also in the form of a steel or malleable casting. At its center this upper bearing member 5 is provided with a depending sleeve 6 that affords a seat for the pintle or coupling (not shown) of the center-bearing.

Interposed between the above-noted bearing members 4 and 5 is an intermediate bearing plate or member 7, that constitutes the upper bearing member of the lateral-motion device, and the lower bearing member of the center-bearing proper. This intermediate bearing plate or member 7 is provided with a centrally-located depending sleeve 8, that is alined axially with the pintle-seat afforded by the sleeve 6 of the upper bearing member 5 and through which the said pintle may also be passed to pivotally connect the two bearing members 5 and 7. The sleeve portion 8 depends into the elongated slot 3 of the lower bearing member 4 and works freely therein and permits the intermediate member 7 the required traveling movement transversely of the car-truck, or, otherwise stated, longitudinally of the truck-bolster 2.

Antifriction-bearing devices are interposed between the lower bearing member 4 and the intermediate bearing member 7 and also between said intermediate bearing member 7 and the upper bearing member 5. These antifriction devices in the first instance are in the form of cylindrical rollers 9, and in the second instance they are in the form of conical rollers 10. The said rollers 9 are, as shown, disposed in pairs on opposite sides of the pivotal axis of the center-bearing and are arranged to work in roller-bearing seats 11 and 12, formed, respectively, in the upper surfaces of the lower bearing member 4 and in the lower surface of the intermediate bearing member 7. Said roller-bearing seats 11 and 12 are formed concave in the direction of the lateral movement of said intermediate bearing 7, so that the weight of the load on the center-bearing will tend to maintain the said bearing members 4 and 7 in normal or relatively intermediate position (shown in Fig. 1) and will return the said parts to such normal positions immediately after they have recovered from a shock or force which has produced a lateral movement of one of the said members with respect to the other. In the best form of the device the so-called "concave" bearing-surfaces of the roller-seats 11 and 12 are formed on straight lines



that incline in reverse directions from the central portions of the said seats. As shown, stop-lugs 13 are cast on the top of truck-bolster 2 in position to engage the opposite ends of the intermediate bearing member 7 and to thereby limit the traveling movement thereof transversely of the truck or longitudinally of said truck-bolster.

Conical rollers 10 are arranged radially with respect to the axis of the center-bearing, and they engage with annular bearing-surfaces 14 and 15, respectively, on the under surface of the bearing member 5 and on the upper surface of the bearing member 7. The said bearing-surfaces 14 and 15 are of such conical form that they properly engage the interposed conical rollers 10 from end to end. Surrounding the annular bearing-surface 14 the upper bearing member 5 is formed with a depending annular stop-shoulder 16, against which the large outer ends of the rollers 10 engage, and surrounding the annular bearing-surface 15 the intermediate bearing member 7 is formed with an annular stop shoulder or flange 17, with which the large outer ends of the said conical rollers 10 also engage. Also, as shown, the upper bearing member 5 is formed with a depending annular flange 18, that surrounds the stop flange or shoulder 17 of said bearing member 7.

The conical bearing-rollers 10 are, as shown, coupled together and spaced apart by a novel device disclosed and claimed in my pending application, Serial No. 321,153, filed June 11, 1906, entitled "Antifriction center-bearings for cars." This spacing and coupling device may, therefore, in this application be briefly noted as follows: The said conical rollers 10 at their inner ends are provided with trunnions 19, that project through a coupling-ring 20, which coupling-ring is supported by the said trunnions and works freely in annular recesses 21 and 22, formed, respectively, in bearing members 5 and 7. Pins 23, passed through the inwardly-projected ends of the trunnions 19, hold the said rollers coupled to said ring 20 when said rollers and ring are removed from working position. The radial spacing-arms of the coupling-ring are not shown in the accompanying drawings.

The intermediate transversely-movable bearing member 7 at its sides is, as shown, provided with depending guide-flanges 24, that embraces the sides of the central upper portion of the truck-bolster 2 and hold the same against movements transversely of said

bolster, but permit the free traveling movements thereof longitudinally of said bolster.

A lateral-motion center-bearing of the character above described permits the desired lateral movement of the car-body with respect to the trucks, or vice versa, and makes it unnecessary to mount the truck-bolster for transverse movement with respect to the car-truck. In fact, with this arrangement the truck-bolster may be rigidly secured to the truck-frame; but preferably and usually it would be spring-mounted for vertical movements on the truck-frame, but would be held against endwise movements transversely thereof.

What I claim is—

1. The combination with a truck-bolster having concave roller-bearing seats formed directly thereon, of a body-bolster provided with an upper bearing member, and an intermediate bearing member pivotally connected to said upper bearing member and having concave roller-bearing seats in its under surface, cylindrical rollers interposed between the seats of said lower bearing member and of said intermediate bearing member, radially-disposed conical rollers interposed between said intermediate bearing member and said upper bearing member, and a device holding said conical rollers spaced apart, substantially as described.

2. In a lateral-motion center-bearing, upper and lower and intermediate bearing members, said upper and intermediate bearing members having axially-alined pintle-engaging sleeves, one of which is telescoped into the other, and the sleeve of which intermediate bearing member works in a slot in said lower bearing member, substantially as described.

3. In a lateral-motion center-bearing, upper and lower and intermediate bearing members, said upper and intermediate bearing members having pintle-engaging sleeves, one of which is telescoped into the other, and the sleeve of which intermediate bearing member works in a slot in said lower bearing member, in combination with bearing-rollers interposed between said intermediate bearing member and said upper and lower bearing members, substantially as described.

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

JOHN C. BARBER.

Witnesses:

L. W. BARBER,  
A. M. LOVE.