Dec. 1, 1925. 1,563,636

W. H. LEWIS

FRICTION BRAKE

Filed Nov. 18, 1924

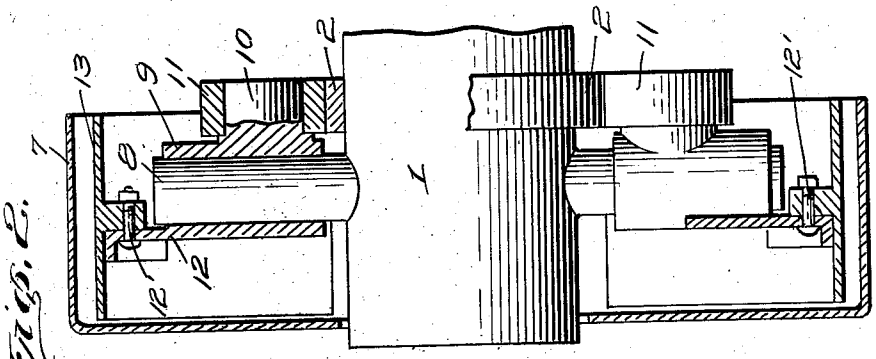


Fig. 2.

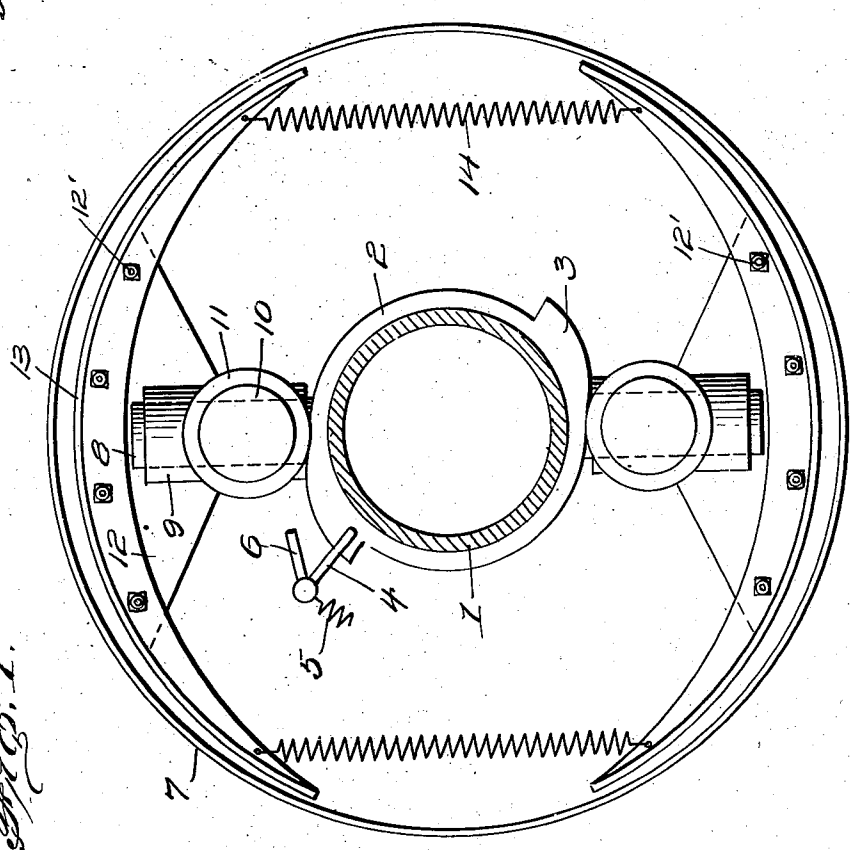


Fig. 1.

Inventor

W. H. Lewis.

By Clarence A. O'Brien.

Attorney

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UNITED STATES PATENT OFFICE.

WILLIAM H. LEWIS, OF BANDON, OREGON.

FRICTION BRAKE.

Application filed November 18, 1924. Serial No. 750,566.

To all whom it may concern:

Be it known that I, WILLIAM H. LEWIS, a citizen of the United States, residing at Bandon, in the county of Coos and State of Oregon, have invented certain new and useful Improvements in Friction Brakes, of which the following is a specification.

This invention relates to friction brake structures especially adapted to be used upon automobile machines, and it consists in the novel features hereinafter described and claimed.

An object of the invention is to provide a brake mechanism of simple and durable structure, and including a casing adapted to be applied to the wheel of the machine, there being housed within the casing, a pair of brake shoes, which are normally held, by means of springs out of engagement with the inner surface of the casing. The shoes are mounted upon carriers, and a ring provided with eccentric surfaces is mounted for turning movement upon the axle housing, and when turned, the eccentric portions thereof force the shoe carriers and the shoes toward the rim of the casing, and hold the shoes in frictional contact therewith.

In the accompanying drawing:

Figure 1 is a side elevation of the friction brake, with parts shown in section.

Figure 2 is a transverse sectional view of the friction brake mechanism.

As indicated in the accompanying drawing, the axle housing, to which the mechanism is applied, is indicated at 1. A ring 2 is mounted for turning movement upon the housing 1, and is provided at diametrically opposite sides with outwardly disposed eccentric portions 3. A lever 4 is mounted upon the ring, and has an end portion which is disposed beyond the outer peripheral surface of the ring. A spring 5 is connected with the lever 4, at one end, and at its other end is connected with the housing, hereinafter to be described, and in which the parts of the brake are enclosed. A rod 6 is connected at one end with the lever 4, and it may be used for swinging the lever 4 and turning the ring 2 upon the axle housing 1. A casing 7 is concentrically mounted with relation to the housing 1, and may be attached to the wheel of the automobile machine (not shown), in a usual manner. The housing 1 is provided at its opposite sides with radially disposed shafts 8. Sleeves 9 are mounted for sliding movement of the shafts 8, and are provided at their sides with angularly disposed studs 10, upon which are journaled friction rollers 11. The rollers 11 are adapted to engage the outer peripheral surface of the ring 2, and the outer edges of the eccentric portions 3 thereof.

Plates 12 are carried by the sleeves 9, and the said plates, in turn, carry at their outer edges arcuate shoes 13. The shoes 13 extend partially around the inner surface of the casing 7, and the end portions of the shoes 13, at the opposite sides of the housing 1, are connected together with traction springs 14. The springs 14 are under tension, with a tendency to normally hold the shoes 13, out of engagement with the peripheral surface of the casing 7, and the rollers 11, in engagement with the peripheral surface of the ring 2, or the outer edges of the portion 3 thereof. The spring 5 is under tension, with a tendency to normally hold the ring 2 in such a position that the rollers 11 normally bear against the peripheral surface of the ring and at the ends of the outer edges of the eccentric portion 3 thereof.

It will be seen that when a pulling strain is exerted upon the rod 6, the arm 4 is moved against the tension of the spring 5, and the outer edges of the eccentric portion 3 of the ring 2 are forced between the rollers 11, whereby the said rollers are spread, with relation to each other, carrying with them the sleeve 9, carrier plates 12, and the shoes 13. Thus the shoes 13 are spread, with relation to each other, and the springs 14 are elongated, and the outer surfaces of the shoes 13 come in contact with the inner surface of the casing 7. In that the said casing is applied to the wheel of the automobile machine, the brake is applied to the wheel. When the rod 6 is released, the spring 5 contacts, and returns the ring 2 to its normal position, upon the axle housing 1, and the springs 14 contract and draw the shoes 13 away from the periphery of the casing 7.

The shoes 13 are detachably connected with the carrier plates 12, by means of bolts 12′. Therefore when the shoes become worn, they may be readily removed from the car-

rier plate for repair, or other shoes in proper condition may be substituted for those that are removed.

Having thus described the invention, what is claimed is:

1. A friction brake comprising a support, a casing mounted concentrically thereon, a ring mounted for turning movement upon the support, and provided with eccentrically disposed portions, means for turning the ring, means for returning the ring to normal position, shafts carried by the support, sleeves slidably mounted upon the shaft and having studs, rollers journaled upon the studs and bearing against the ring, supporting plates carried by the sleeves, shoes carried by the supporting plates, and traction springs connecting the shoes together.

2. A friction brake comprising a support, a casing mounted concentrically thereon, radially disposed shafts carried by the support and housed within the casing, a ring mounted for turning movement upon the support and having outwardly disposed eccentric portions, a lever attached to the ring, a spring connected with the lever and the casing, means for swinging the lever, sleeves slidably mounted upon the shaft, said sleeves having outstanding studs, rollers journaled upon the studs and bearing against the periphery of the ring, carrier plates carried by the sleeves, brake shoes carried by the carrier plates, and springs disposed transversely of the support, and connected at their opposite ends with the brake shoes.

In testimony whereof I affix my signature.

WILLIAM H. LEWIS.