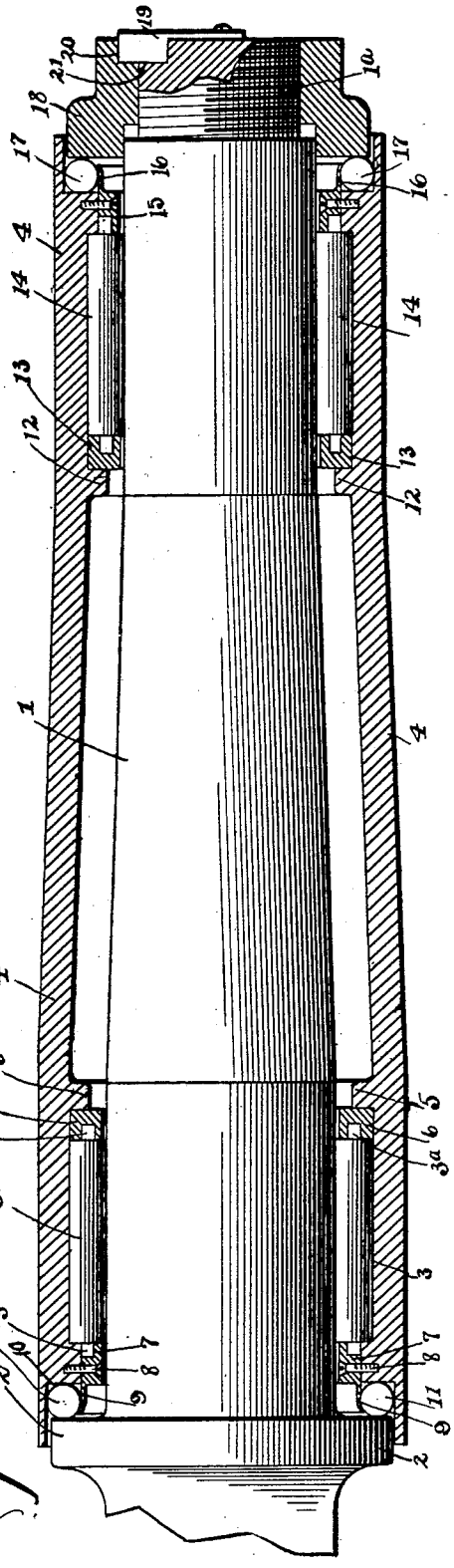
No. 677,281. Patented June 25, 1901.

F. S. SEAGRAVE & H. P. ELLIOTT.

ANTIFRICTION BEARING.

(Application filed Nov. 22, 1899.)

(No Model.)



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ANTIFRICTION-BEARING.

SPECIFICATION forming part of Letters Patent No. 677,281, dated June 25, 1901.

Application filed November 22, 1899. Serial No. 737,850. (No model.)

To all whom it may concern:

Be it known that we, FREDERIC S. SEAGRAVE and HOMER P. ELLIOTT, citizens of the United States, residing at Columbus, in the county of Franklin and State of Ohio, have invented a certain new and useful Improvement in Antifrictional Bearings, of which the following is a specification.

Our invention relates to the improvement of antifrictional bearings; and the object of our invention is to provide an improved construction of antifrictional bearing, the details of construction of which will be pointed out hereinafter.

This object we accomplish in the manner illustrated in the accompanying drawing, in which the figure is a view, partly in elevation and partly in section, of our improved bearing.

Similar numerals refer to similar parts throughout the drawing.

1 represents an axle-spindle which we have chosen to illustrate our improved bearing. This spindle is provided at its junction with the axle proper with the usual peripheral shoulder 2. Surrounding the inner portion of the spindle are parallel bearing-rollers 3, the latter being, in the manner hereinafter described, supported from the inner side of a tubular spindle-boxing 4. In constructing this boxing we form on the inner surface thereof at a point on the inner side of the center of its length a continuous shoulder 5, against the inner side of which is adapted to abut a channel-ring 6, the central opening of which is of such size as to cause said ring 6 to loosely surround the spindle. In constructing the rollers 3 we provide the same with end pin extensions 3^a and 3^b, the pin extensions 3^a extending and bearing in the inner face channel of the ring 6. The pin extensions 3^b of the rollers extend within a channel formed partly by a continuous recess in the outer face and outer end portion of a ring 7, which also loosely surrounds the spindle, and partly by the inner wall of the boxing 4. This ring 7 is, through the medium of screws 8, secured to said boxing and is provided on its inner side with an inwardly-projecting ball-retaining portion 9, which extends to a point adjacent to the spindle-shoulder 2. The inner end of the boxing is recessed to form a shoulder 10, between which and the shoulder 2 of the spindle are adapted to bear balls 11, which are arranged about the ball-retainer projection 9 of the ring 7.

On the outer side of the center of the length of the boxing we provide an internal shoulder 12, against which is adapted to abut a channel-ring 13, corresponding with the ring 6, said ring being adapted to receive the inner end pin projections of bearing-rollers 14, which surround said outer portion of the spindle and the inner end pin extensions of which are supported in the recess of a ring 15, corresponding with the ring 7. This ring 15 is, as prescribed for said ring 7, secured to the boxing 4 and is provided with a ball-retainer extension 16, about which is arranged a row of bearing-balls 17. These bearing-balls, as shown in the drawing, are adapted to bear between the outer end shoulder of the boxing 4 and the inner face of the flange of a nut 18, which, as shown in the drawing, is adapted to be screwed upon the threaded reduced end extension 1^a of the spindle 1. As indicated at 19, we preferably retain the nut 18 against voluntary rotation through the medium of a spring-dog, which is secured at one end to the outer end of the spindle and the enlarged remaining end of which is adapted to spring into desirable end sockets 20 and 21, which are formed, respectively, in the end of the nut 18 and spindle portion 1^a.

It will be observed from the construction above described that the sets of bearing-rollers herein shown while surrounding the spindle are retained by or supported from the boxing, with the inner surface of which they are in frictional contact. It will be observed in this connection that this construction differs from that illustrated and described in our application for patent of even date herewith. It is obvious that an adjustment of the bearing parts to compensate for wear or other reasons may readily be accomplished by the rotation of the nut 18 and that by our construction no internal nuts or other threaded adjustable devices are employed which might through jar or vibration of the parts become loosened or out of adjustment. It

will also be seen that the construction of our improved antifrictional bearing is inexpensive and that the parts may be readily assembled and placed in position for use.

Having now fully described our invention, what we claim, and desire to secure by Letters Patent, is—

In an antifrictional bearing, the combination with a spindle and a boxing surrounding the same and having internal shoulders upon opposite sides of its mid-length, of a channel-ring abutting against each of said shoulders, rings secured to the inner wall of the boxing, rollers having end pin extensions bearing in said rings, and means for taking end thrust, as set forth.

FREDERIC S. SEAGRAVE.
HOMER P. ELLIOTT.

In presence of—
A. L. PHELPS,
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