

(No Model.)

A. M. BROWN.
ROLLER BEARING.

No. 580,121.

Patented Apr. 6, 1897.

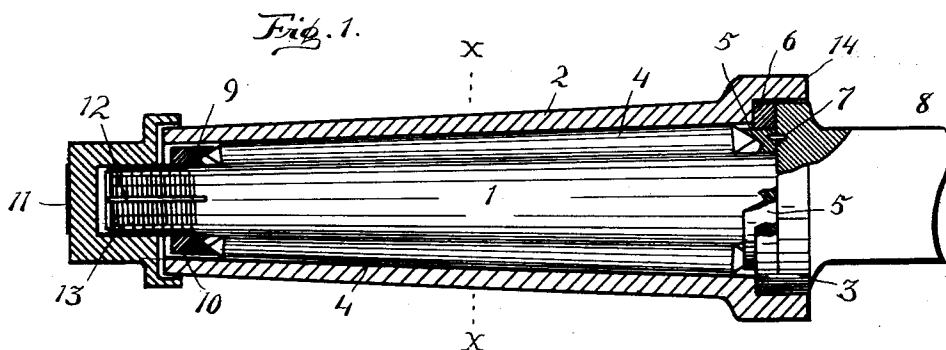
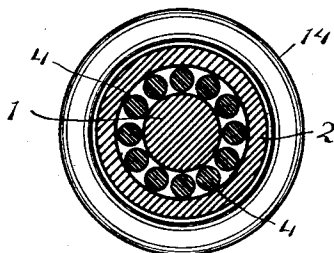


Fig. 2.



WITNESSES:

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UNITED STATES PATENT OFFICE.

ALEXANDER M. BROWN, OF FORT WAYNE, INDIANA, ASSIGNOR OF TWO-THIRDS TO CHARLES S. BASH AND WILLIAM E. HUNTER, OF SAME PLACE.

ROLLER-BEARING.

SPECIFICATION forming part of Letters Patent No. 580,121, dated April 6, 1897.

Application filed April 2, 1896. Serial No. 585,903. (No model.)

To all whom it may concern:

Be it known that I, ALEXANDER M. BROWN, a citizen of the United States, residing at Fort Wayne, in the county of Allen and State of Indiana, have invented certain new and useful Improvements in Roller-Bearings; and I do 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, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

My invention relates to improvements in roller-bearings wherein a series of rollers are so arranged as to gyrate between the spindle and the bearing-box; and the objects of my improvements are, first, to provide a roller-bearing for vehicle-wheels, whereby the wheel may be removed and replaced without disarranging the rollers, and, second, to provide means for adjusting the said rollers and holding the same in proper position when the wheel has been removed from the spindle. I attain these objects by the construction illustrated in the accompanying drawings, in which—

Figure 1 is a longitudinal section of the bearing, showing the manner of securing the rollers to the spindle; and Fig. 2, a cross-section on the line *x x* of Fig. 1.

Similar figures of reference refer to similar parts throughout both views.

The spindle 1, as shown, is slightly tapering and is integral with the axle 8, the outer end 13 being screw-threaded to receive the internally-screw-threaded collar 10 and cap 11 and the inner end terminating at the shoulder 3.

The sleeve 5 is mounted upon the spindle 1 and closely fits around the said spindle and rests tightly against the shoulder 3. This sleeve is secured from rotating by means of the pin 7, which rests in coinciding perforations in the said sleeve and shoulder.

The sleeve 9 near the outer end of the spindle is secured and held in place by a portion of the said sleeve resting and fitting into the incision 12 in the spindle and also by the internally-screw-threaded collar 10, which is adapted to prevent the said sleeve from retracting.

The rollers 4 taper in proportion to the taper of the spindle, each roller having at both ends projecting conical tips adapted to be engaged by the respective flanges of the sleeves 5 and 9 when placed in a series around the spindle. The said flanges when properly adjusted overhang the tips of the rollers and confine them loosely in an annular series about the spindle. The bodies of the rollers project beyond the outer perimeters of the sleeves 5 and 9 and afford bearings for the inner face of the bearing-box 2.

The bearing-box just mentioned is made from metal and is bored out taperingly, so as to fit snugly over the rollers when the said rollers are mounted upon the spindle.

At the inner end of the bearing-box is provided the flange 14, which extends over the shoulder 3 and serves as a shield to prevent dust, grit, or other foreign substances from entering the bearing.

A washer 6 of leather is placed inside the flange 14 and rests between the shoulder 3 and the end of the bearing-box 2. The thickness of the said washer prevents the bearing-box from playing longitudinally and limits its further inward movement.

The bearing-box is prevented from being accidentally slipped from place by means of the cap 11, which is of the ordinary construction, screwed upon the threaded end of the spindle. By this construction it is obvious that by removing the cap 11 the bearing-box 2 may be removed and the rollers 4 will remain in place upon the spindle, the said rollers being held in position by and between the sleeves 5 and 9. When the rollers are thus exposed, they may be easily cleaned by the use of a brush and a cleansing-fluid. This feature is one of the special objects of my invention, the removal and further adjustment of the rollers being unnecessary.

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

In a roller-bearing, in combination with a tapering spindle having a shoulder, an annular series of tapering rollers encircling said spindle, separate retaining-sleeves having inwardly-extending flanges adapted to engage the conical projecting tips of said rollers, a removable bearing-box adapted to fit over and

rest upon the rollers thus mounted, a cap secured to the end of said spindle to prevent the accidental removal of said bearing-box, and means in connection with the aforesaid sleeves
5 whereby when the cap and box are removed the rollers will be retained in position, substantially as shown and described.

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

ALEXANDER M. BROWN.

Witnesses:

HENRY A. ZOLLINGER,
EMMETT V. HARRIS.