(No Model.)

W. M. BARNES.

JOURNAL BEARING.

No. 584,916. Patented June 22, 1897.

Fig. 1.

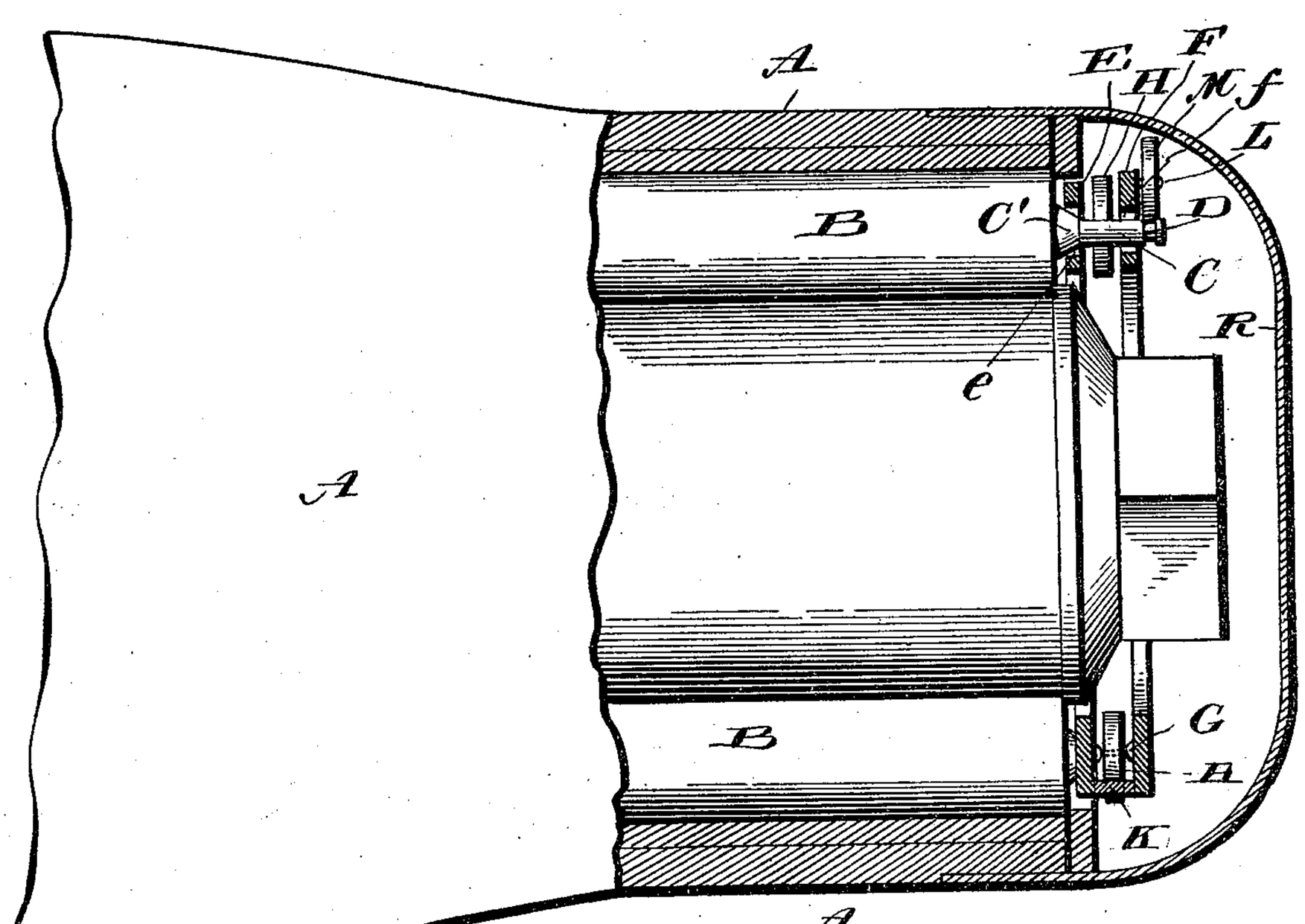
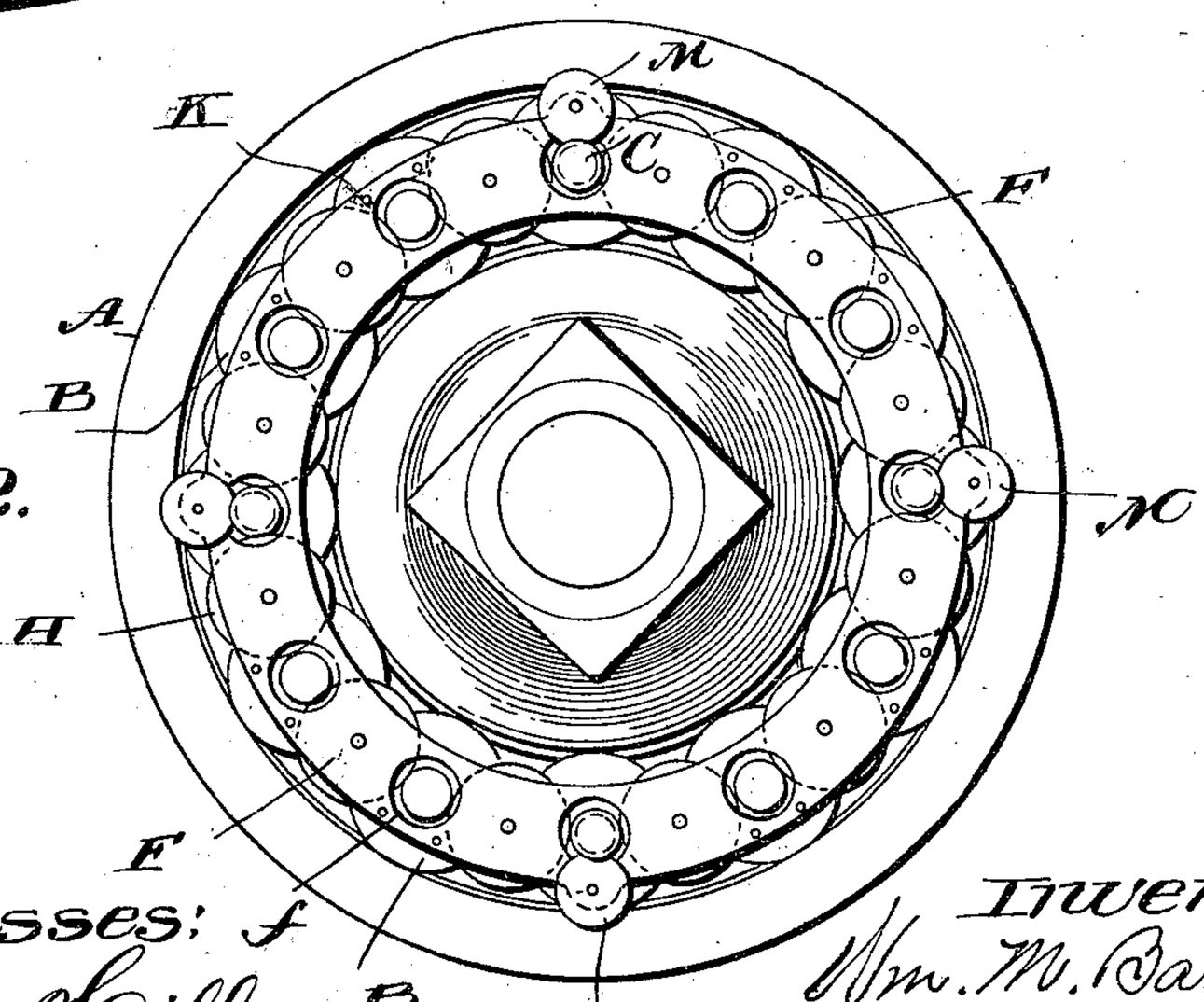


Fig. 2.



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UNITED STATES PATENT OFFICE.

WILLIAM M. BARNES, OF CIRCLEVILLE, OHIO.

JOURNAL-BEARING.

SPECIFICATION forming part of Letters Patent No. 584,916, dated June 22, 1897.

Application filed January 2, 1897. Serial No. 617,807. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM M. BARNES, a citizen of the United States, residing at Circleville, in the county of Pickaway and State of Ohio, have invented certain new and useful Improvements in Journal-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 letters of reference marked thereon, which form a part of this specification.

This invention relates to certain new and useful improvements in journal-bearings, and especially to a roller-bearing for an axle-box for vehicle-shafts, &c.; and it consists in the provision of a circular series of cylindrical rollers which are held within the box in rings, through which the spindles of the said rollers pass to support the same, suitable means being provided for lessening the amount of friction on the spindles of the rollers, consisting of auxiliary disks which ride on the circumference of the contracted ends of the rollers.

A further and important part of the invention consists in the provision of two rings, each having a series of apertures which are adapted to register with each other and through which the contracted ends of a series of cylindrical rollers are adapted to pass, and a series of antifriction-disks mounted between the said rings, each antifriction-disk having a rolling contact with two of the spindles, whereby, as an axle turns on the rollers, the friction on the latter is reduced to a minimum by reason of the spindles of the said rollers turning on the antifriction-disks.

Another part of my invention relates to the provision of guide-wheels, which are placed at suitable locations on the stub-shafts about the outer ring, which wheels are adapted to travel in annular recesses in the ends of the spindles of the rollers, thereby guiding the same and holding the rings in their proper position, between which rings the antifriction-disks are journaled.

To these ends and to such others as the invention may pertain the same consists, further, in the novel construction, combination, and adaptation of parts, as will be hereinafter more fully described, and then specifically defined in the appended claims.

I clearly illustrate my invention in the accompanying drawings, which, with the letters of reference marked thereon, form a part of this specification, and in which drawings similar letters of reference indicate like parts throughout both views, in which—

Figure 1 is a side view, partly in section, of a vehicle-hub equipped with my improved journal-bearings. Fig. 2 is an end elevation of the box, showing the manner of supporting the rollers and also the auxiliary antifriction-disks bearing against the spindles of the rollers, together with guide-wheels.

Reference now being had to the details of the drawings by letter, A designates the box in the hub, and B represents the rollers, each of which is provided with a contracted spindle end C, which is inclined at points C′, and near the end of each spindle is an annular recess D.

E is a ring having a series of apertures *e*, which are of sufficient size to admit of the free turning of the rollers or the inclined portion of the spindles of the rollers therein.

F is a second ring having a series of apertures *f* of sufficient size to allow a play to the spindles without touching the edges of such apertures. Mounted between the two rings E and F on the shafts G is a series of disks H, the circumferences of which are designed to have frictional contact with the spindles of the rollers. In order to hold the said disks from contacting against the rings on either side, it is my purpose to employ washers on the shafts G. Located at certain intervals about the circumference of each of the said rings are the braces K, which hold the said rings suitable distances apart. Mounted on the stub-shafts L, which are carried by the outer roller-separating rings at any suitable locations about the outer face of the outer ring, are the guide-wheels M, which are designed to travel in the annular recesses D near the ends of the spindles C, thus reducing to a minimum the friction on the ends of the rollers, and the rollers will be kept apart and rings held securely in place.

To protect the ends of the rollers and to keep out dust and mud, a suitable cap R may be placed over the outer end of the hub and

held in place by means of screws or other suitable means, and which may be removed when it is desired to take off the wheel.

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

1. A roller-bearing for a journal-box, consisting of a circular series of rollers having contracted spindle ends, combined with two perforated rings through which the ends of the said rollers pass, and the antifriction-disks mounted between the said rings and designed to bear against said rollers, substantially as shown and described.

2. In a roller-bearing for journal-boxes, the combination with the rollers having tapering and contracted spindle ends, of the rings, perforated to receive the spindle ends of the rollers, the shafts mounted between the said rings, disks mounted thereon, and means for holding the rings and rollers together, substantially as shown and described.

3. In a roller-bearing for journal-boxes, the combination of the perforated rings, the rollers mounted therein, stub-shafts mounted on the outer ring, guide-wheels journaled on said stub-shafts, the said guide-wheels designed to travel in the grooved ends of the roller-spindles, substantially as and for the purpose set forth.

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

WILLIAM M. BARNES.

Witnesses:
J. S. BAILEY,
B. F. BARNES.