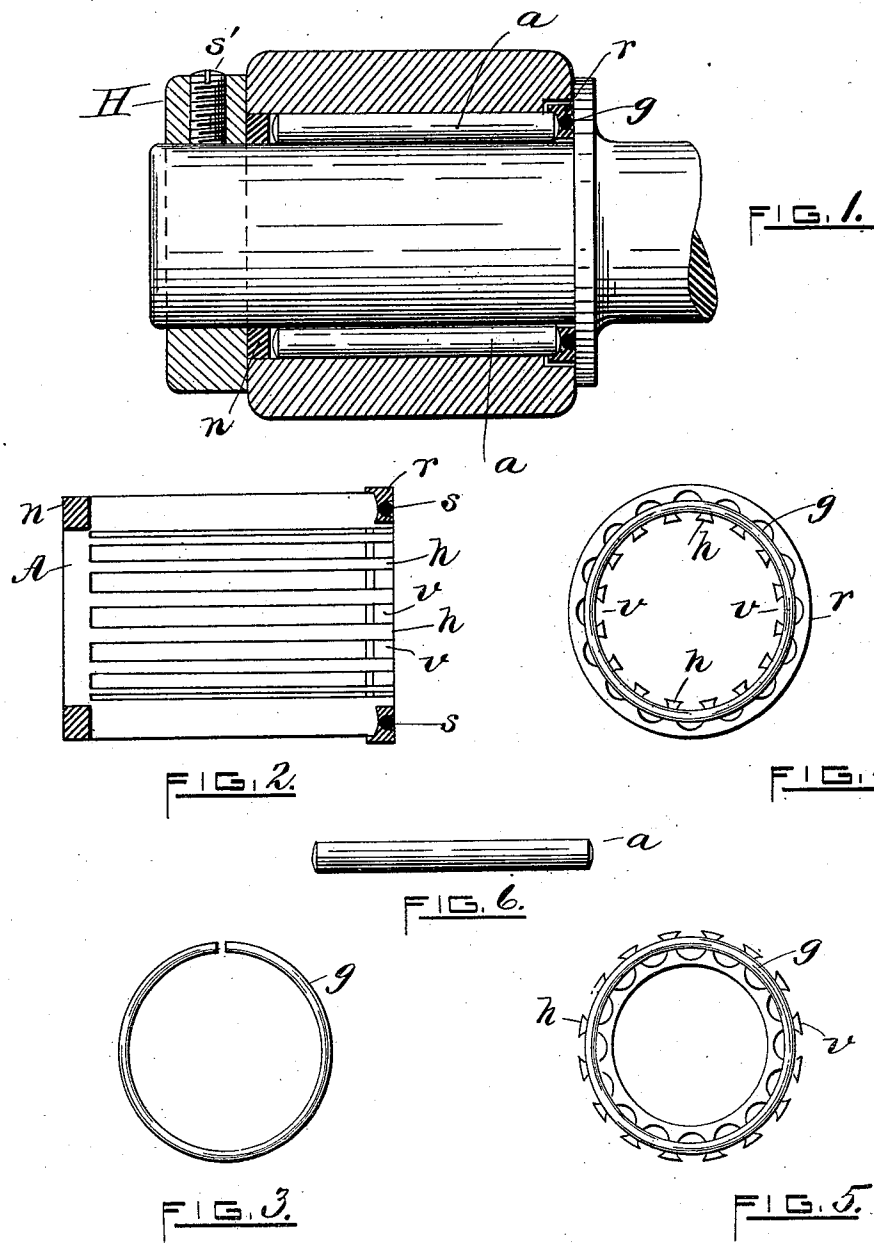


(No Model.)

F. MOSSBERG.
ROLLER BEARING.

No. 560,521.

Patented May 19, 1896.



WITNESSES.

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FRANK MOSSBERG, OF ATTLEBOROUGH, MASSACHUSETTS.

ROLLER-BEARING.

SPECIFICATION forming part of Letters Patent No. 560,521, dated May 19, 1896.

Application filed July 16, 1895. Serial No. 556,203. (No model.)

To all whom it may concern:

Be it known that I, FRANK MOSSBERG, of Attleborough, in the county of Bristol and State of Massachusetts, have invented certain
5 new and useful Improvements in Roller-Bearings; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference
10 marked thereon, which form a part of this specification.

This invention relates to improvements in that class of antifriction-bearings known as "roller-bearings."

15 The object of this invention is to produce a bearing in which the journaled portion of the shaft will be provided with antifriction-bearing surfaces extending nearly the full length of said journaled portion.

20 The further object of this invention is to produce a roller-bearing in which the torsional strain exerted on the antifrictional rolls and the cage containing these rolls by the revolution of the shaft journaled therein
25 will be reduced to a minimum.

In the drawings, Figure 1 represents a horizontal sectional view of the improved roller-bearing and journal, a part of a shaft being shown in elevation as journaled therein. Fig.
30 2 is a section of the cage lengthwise through its center after being bored for the rolls. Fig. 3 shows the ring of wire separate. Fig. 4 is a right-hand end view of the cage, showing the way of holding the rolls in the cage. Fig.
35 5 shows the flange made on the inside of the cage instead of the outside. Fig. 6 is one of the rolls.

In carrying out my invention I take a sleeve or tube A, made of suitable metal and of the
40 proper diameter, the sides of the same being of considerable thickness, and starting at one end I bore it from end to end of a uniform size a little larger in diameter than the journal it is to be used upon. The outer surface
45 of the sleeve is then turned off until the sides are of a less thickness than the diameter of the roll to be held in it, except that at the end from which the holes *v* were bored a strength-

ening-flange *r* is left, which extends around the sleeve. A series of holes *v* of the proper
50 size for the rolls *a* to turn in easily are then drilled in the sleeve nearly to the bottom, leaving only a short portion *n* to hold the bars together at that end, as the drill cuts through
55 on both the inside and outside of the sleeve except at the end where the flange *r* is, which flange holds the bars together at that end. The rolls *a a*, Fig. 6, are then prepared from round bars of metal of a size to easily fit and
60 rotate within the bearings formed by the concaved surfaces of the bars *h*, the ends of these rolls being rounded or slightly cone-shaped to avoid friction with the ends of the cage. The bearing holes or slots *v* in the cage being
65 filled with a like number of rolls, a groove *s* is then made in the end of the bars inside the flange and a wire ring *g* sprung in, as shown in Fig. 3, to keep the rolls in when
70 handled. The bearing is now complete and can be shipped without danger of the rolls falling out. When it is to be placed in position in a journal-box, I cut away a portion of the inner surface of said box at the end to
75 admit the entrance therein of the flange *r*. When in operation, those portions of the rolls extending beyond the outer surface of the cage will bear against the inner surface of the journal-box, while the portions of the rolls
80 extending beyond the inner surface of said cage will bear against the journaled portion of the shaft, the end of which is generally surrounded with the collar H, secured in place on the shaft by the set-screw *s'*.

It will be readily seen that the twisting or torsional strain either on the cage or on the
85 rolls is entirely prevented by this device, the cage being free to revolve and the rolls to rotate in their bearings, in which they are held perfectly parallel to each other and to the line of the shaft, it being impossible for one end
90 of a roll to move faster than the other end, which is usual in roller-bearings.

The flange can be made on the inside, as in Fig. 5, in cases where it is better to make the rabbet for it in the axle or shaft instead
95 of the hub of the wheel or box.

Having thus described my improvement, I
claim as my invention and desire to secure by
Letters Patent—

5 A cage for a roller-bearing consisting of a
series of bars made integral or fast at one
end with a collar, to hold the rolls, said bars
having a groove made in the faces of the ends
of the bars where the spaces are left open for

the insertion of the rolls, a wire ring fitted to
spring into said groove and hold the rolls in, 10
with rolls to occupy the spaces between said
bars, substantially as described.

FRANK MOSSBERG.

Witnesses:

FRANK W. CARPENTER,
EDWIN F. LEACH.