A. K. WHITMER.

ROLLER BEARING.

APPLICATION FILED JUNE 28, 1915.

1,166,798. Patented Jan. 4, 1916.

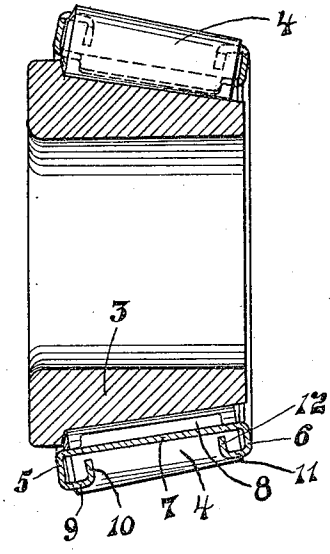

Fig. 2.

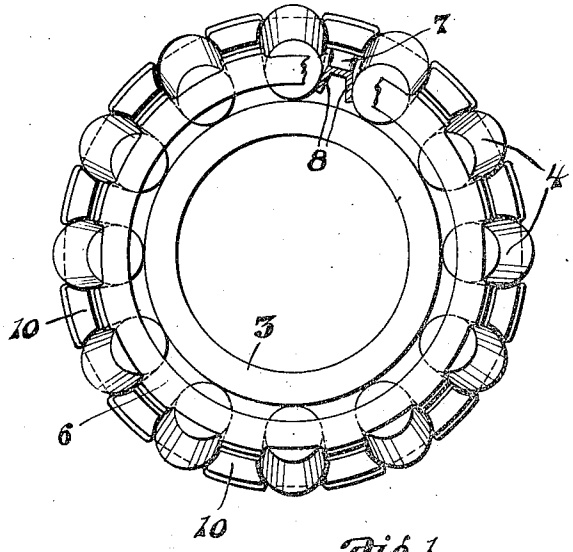

Fig. 1.

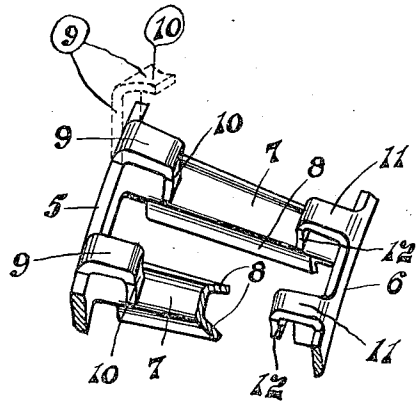

Fig. 3.

Witnesses

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UNITED STATES PATENT OFFICE.

ARTHUR K. WHITMER, OF CANTON, OHIO.

ROLLER-BEARING.

Specification of Letters Patent. Patented Jan. 4, 1916.

1,166,798.

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To all whom it may concern:

Be it known that I, ARTHUR K. WHITMER, a citizen of the United States, residing at Canton, in the county of Stark and State of Ohio, have invented a new and useful Roller-Bearing, of which the following is a specification.

This invention relates to improvements in cages for roller bearings and one object of the same is to produce a cage which will admit of easy assembling of the rollers in place, and thereafter retaining the same in position.

Another object is to provide a very simple construction adapted to be stamped from a single sheet of material.

With these objects in view the invention consists in the novel construction and arrangement of parts, hereinafter described, illustrated in the accompanying drawings, and particularly pointed out in the appended claim, it being understood that various changes in the form, proportions, size and minor details of construction may be made within the scope of the appended claim without departing from the spirit or sacrificing any of the advantages of the invention.

In the accompanying drawing: Figure 1 is a side elevation of a complete roller bearing. Fig. 2 is a transverse sectional view of the same. Fig. 3 is a perspective view of a portion of the cage.

Similar numerals of reference indicate corresponding parts throughout the several figures of the drawings.

Referring to said drawings, the inner bearing for supporting the rollers 4 is in the form of a conical sleeve 3, the inner surface of which is of the proper slope to conform to that of the adjacent contacting faces of the rollers.

The cage is for the purpose of holding the rollers in proper spaced relation between the bearings, said cage being stamped from sheet material to form the annular portions 5 and 6 of different diameters connected at intervals by a series of bars 7, each of said bars being provided along each of its lateral edges with a downwardly depending flange 8. The flanges upon each bar 7 are inclined away from each other, thus forming a trough, between each pair of adjacent bars, arranged to receive a roller 4. A wing 9 is formed around the periphery of the ring 5 adjacent each of the bars 7, each of said wings being provided with an in-turned roller retaining portion 10 which is preferably tapered. Similar wings 11 are provided around the periphery of the ring 6 adjacent each of the bars 7, said wings 11 being provided with the roller retaining portion 12. It will be understood that the retaining portions 10 and 12 upon the wings are preferably curved to fit the rollers, said construction being best illustrated in Fig. 1. In assembling the rollers the wings 9 and 11 are in the position shown at 9 in dotted lines in Fig. 3. A roller is placed between each of the bars 7, said roller resting between the adjacent flanges 8 and the adjacent wings 9 and 11 are then bent into the position shown in the drawings, thus retaining the roller in the proper position within the cage. When it is desired to remove any particular roller the accompanying wings 9 and 11 are bent into the original position and the roller may be lifted out of the cage.

Although the drawings and above specification disclose the best mode in which I have contemplated embodying my invention I desire to be not limited to the details of such disclosure, for, in the further practical application of my invention, many changes in form and construction may be made, as circumstances require or experience suggests, without departing from the spirit of the invention, within the scope of the appended claim.

I claim:

An integral pressed steel cage for a roller bearing, comprising two annular portions, a series of cross-bars formed integral with said annular portions and connected thereto at their inner diameters, downwardly and outwardly extending flanges provided upon

said cross bars forming an inwardly tapered roller pocket between each adjacent pair of cross bars, wings formed upon the peripheries of said rings adjacent each extremity of each of said cross bars and adapted to be bent into a position parallel with said cross bars after the rollers have been inserted in the pockets, and an inwardly disposed, tapered retaining portion formed upon each of said wings and adapted to terminate adjacent the outer face of the adjacent cross bar.

In testimony that I claim the above, I have hereunto subscribed my name.

ARTHUR K. WHITMER.