

(No Model.)

W. C. VANNEMAN.
ANTI FRICTION ROLLER BEARING.

No. 458,006.

Patented Aug. 18, 1891.

Fig. 1.

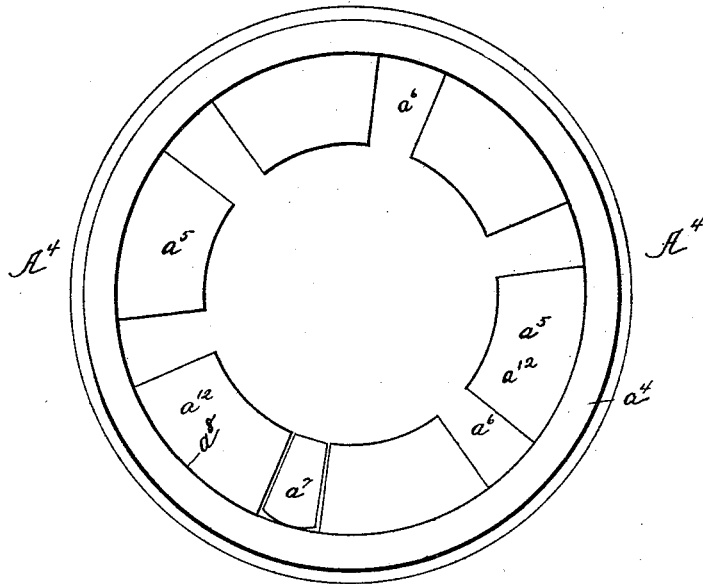


Fig. 2.

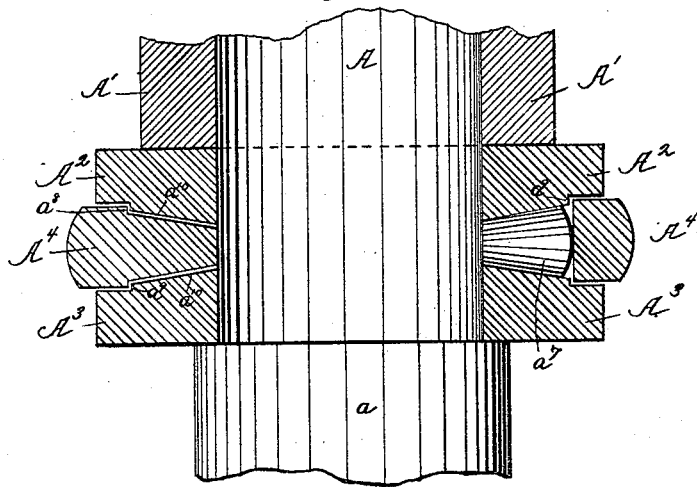
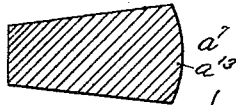


Fig. 3.



Witnesses
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UNITED STATES PATENT OFFICE.

WILLIAM C. VANNEMAN, OF ANDERSON, INDIANA.

ANTI-FRICTION ROLLER-BEARING.

SPECIFICATION forming part of Letters Patent No. 458,006, dated August 18, 1891.

Application filed February 9, 1891. Serial No. 380,798. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM C. VANNEMAN, a citizen of the United States, residing at Anderson, in the county of Madison and State of Indiana, have invented certain new and useful Improvements in Anti-Friction Roller-Bearings; and I do hereby 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.

My invention relates to that class of anti-friction roller-bearings which are provided with rollers interposed between a plate or bearing-surface on the journal-box and a plate or bearing-surface on the shaft.

The object of the invention is to improve upon the manner of holding the anti-friction rollers in place; and the invention therefore consists of constructions and combinations, all as will hereinafter be described in the specification and pointed out in the claim, whereby the object is accomplished.

The accompanying drawings illustrate the invention, and Figure 1 thereof represents a plan view of the webbed collar; Fig. 2, a sectional view of the bearing and journal-box and an elevation of the shaft, and Fig. 3 a section of one of the rollers.

A in this instance represents a vertical shaft having a shoulder *a*, and A' a stationary journal-box, between which and the shoulder *a* is interposed the anti-friction roller-bearing. This bearing consists of a stationary collar A², which is next to the stationary journal-box, a moving collar A³, which is next to and rests upon the shoulder *a* of shaft A, and a webbed collar A⁴, interposed between said collars A² and A³ and having the rollers *a*⁷, upon which the thrust is turned. The collar A⁴ is formed of two integral parts, the outer rim *a*⁴ and the inwardly-projecting flange or web *a*⁵, substantially wedge-shaped, the base being next to the rim *a*⁴ and provided with

wedge-shaped openings *a*⁶ to receive rollers *a*⁷. The rabbets *a*⁸, formed by the junction of the rim and web, enter the rabbets *a*⁹, formed in the collars A² and A³, which keep collar A⁴ from moving laterally. The inner faces *a*¹⁰ of the collars A² and A³ are beveled to correspond with the approximating faces *a*¹² of the web *a*⁵ and with the periphery of the rollers *a*⁷, which hold the collars A² and A³ from contact with the collar A⁴ at those points. The rollers *a*⁷ are of truncated-cone form, and in horizontal section of substantially the same shape as the openings *a*⁶ in web *a*⁵, except at the larger end *a*¹³, which is rounded, so that only a small part of its surface can come in contact with that part of the rim *a*⁴ next to them. By placing the rollers in the openings *a*⁶ of the web no displacement due to excessive jarring and jamming can take place, as is the case where loose rollers are used, and also obviates the use of journals or shafts for the rollers when it is desired to keep the rollers an equal distance apart or in some case at certain distances apart.

In operation the device is very effective in its result, as the end-thrust does not produce any appreciable difference in movement over that when the machine or shaft is not subject to the thrust aforesaid, and all jamming and jarring are avoided.

What I claim as new is—

The combination of a stationary collar and a moving collar, both having rabbeted edges, and an intermediate collar having a web projecting between said collars and openings for rollers, and rollers in said openings contacting with rim A⁴ and the shafting, substantially as described.

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

W. C. VANNEMAN.

Witnesses:

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C. F. JONES.