

No. 743,932.

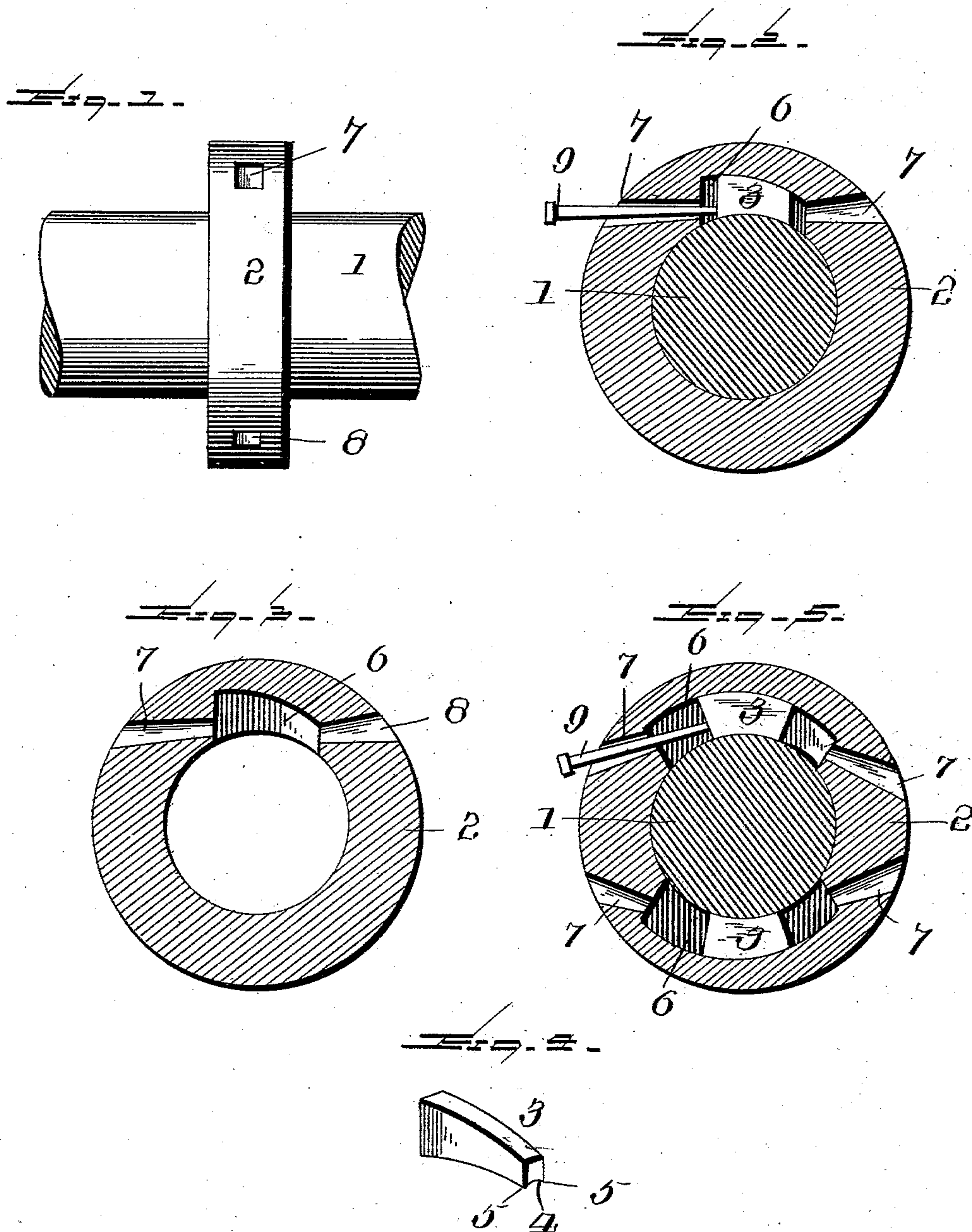
PATENTED NOV. 10, 1903.

O. RUDD.

STOP COLLAR FOR POWER SHAFTS.

APPLICATION FILED APR. 12, 1902.

NO MODEL.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

OLE RUDD, OF DULUTH, MINNESOTA.

## STOP-COLLAR FOR POWER-SHAFTS.

SPECIFICATION forming part of Letters Patent No. 743,932, dated November 10, 1903.

Application filed April 12, 1902. Serial No. 102,660. (No model.)

*To all whom it may concern:*

Be it known that I, OLE RUDD, a citizen of the United States, residing at Duluth, in the county of St. Louis and State of Minnesota, have invented certain new and useful Improvements in Stop-Collars for Power-Shafts; 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 stop-collars for power-shafts, and has for its object the provision of a collar which may be slipped on the shaft from the end and rigidly secured thereto at any desired point intermediate of the ends by means lying wholly within the collar and offering no exterior projection at any point and which collar may be easily removed without injury to its parts.

It consists of an integral collar, in the interior face of which is formed an annularly-directed groove deeper at one end than at the other, and two apertures respectively penetrating the periphery of said collar and communicating with the respective ends of said groove, and a segmental wedge-shaped key adapted to lie in said groove and move longitudinally of the same.

It also consists of certain other constructions, combinations, and arrangements of parts, as will be hereinafter more particularly set forth and claimed.

In the accompanying drawings, Figure 1 represents an edge view of a collar embodying the features of my invention and shown applied to a portion of a power-shaft. Fig. 2 represents a transverse section through said shaft, collar, and wedge in operative position, showing a foreign driving-tool in operating position. Fig. 3 represents a similar view through the collar detached. Fig. 4 represents an enlarged detail perspective view of said wedge. Fig. 5 represents a view similar to Fig. 2 of a slightly-modified form of collar.

In the drawings, 1 represents a portion of any suitable power-shaft, upon which I secure the collar 2 by means of a segmental wedge-key 3, in which is preferably formed the groove 4, forming biting edges 5 5, which key is adapted to lie within an annularly-directed groove 6, formed in the inner face of

said collar 2, which groove 6 is at one end of a depth equal to the greatest depth of said wedge and from such end tapers toward its opposite end and is so formed that when said wedge is thrust toward such shallow end it will project slightly from said groove and engage said shaft. Approximately radial apertures 7 and 8 are also formed in said collar 2, penetrating the periphery thereof and communicating, respectively, with the deep and shallow ends of said groove 6, one of the walls of each of which apertures is beveled in an annular direction, said beveled wall inclining downwardly toward the end of said groove 6, whereby a foreign driving-tool, as 9, may be thrust at an incline into said apertures, so as to engage the corresponding end of said wedge for driving it in either direction along said groove. In operation said wedge is inserted from the inside of said collar into said groove at the deeper end thereof, the deeper end of the wedge lying in the deeper end of the groove. The collar is then slipped onto the shaft from the end thereof to the point desired. The tool 9 is next inserted in said aperture 7 at an angle and engages the end of said key 3, whereupon said tool is driven by a hammer or by other suitable means, forcing said key forwardly in said groove 6 in an annular direction toward the shallower end thereof, causing the cutting edges 5 of said key to emerge slightly from said groove and to bite into said shaft, thus preventing longitudinal movement of said collar along said shaft. To remove said collar, said tool 9 is introduced into the aperture 8 and the key 3 driven backward in said groove until out of engagement with said shaft. It is obvious that the contour or direction of said groove or key, or both of them, is capable of slight modification or variation within the scope of my said invention, and I do not desire to limit myself to the exact contours or directions described. It is obvious also that if desired a plurality of similar grooves and corresponding recesses may be formed in said collar and a similar key operated in each of said grooves, as indicated in Fig. 5, within the scope of my said invention.

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



1. A collar mechanism comprising a collar  
formed with an annularly-disposed wedge-  
shaped recess let into its inner face, the said  
recess extending only part way around the  
5 collar so that the walls formed by the material  
of the collar extend on every side of the re-  
cess except the inner side, and a wedge-shaped  
block arranged within the recess tapering to  
correspond therewith, the block engaging the  
10 shaft continuously along its inner edge and  
engaging the wall of the collar opposite along  
its outer edge, the said wedge-shaped recess  
having small passages leading to the opposite  
ends thereof for the reception of adjusting-  
15 tools to tighten or loosen the wedge, substan-  
tially as described.

2. A collar mechanism, comprising a body

portion, wedge-shaped, annularly-disposed re-  
cesses sunk into its inner face, wedge-blocks  
mounted therein and formed with annularly- 20  
extending biting edges for engaging the shaft  
to which the collar is to be applied, the said  
collar being provided with small passages  
leading to the recesses through which the  
wedge may be reached by a suitable imple- 25  
ment for tightening or loosening the same,  
substantially as described.

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

OLE RUDD.

Witnesses:

JAMES T. WATSON,  
S. H. ECKMAN.