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1,652,272

J. W. DAWSON

RETAINING DEVICE

Filed Jan. 24, 1924

FIG. I

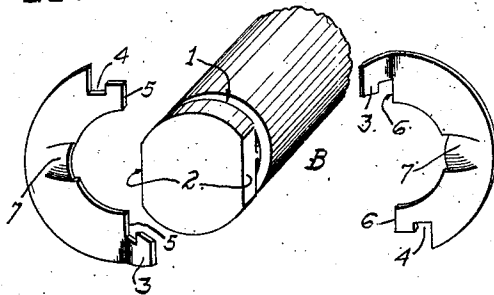


FIG. II

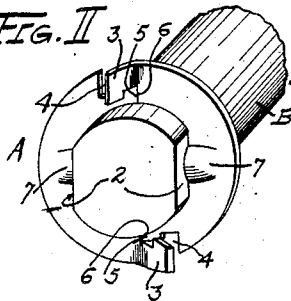


FIG. III

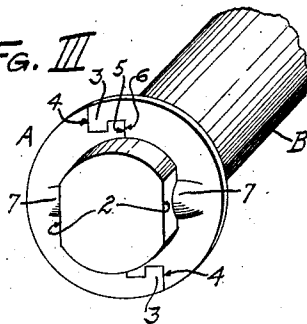


FIG. IV

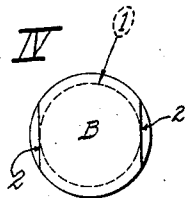


FIG. V

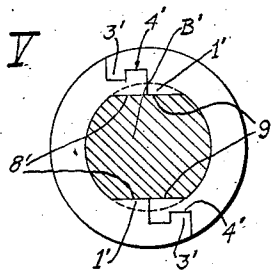
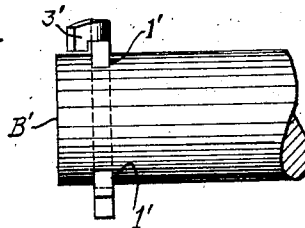


FIG. VI



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RETAINING DEVICE.

Application filed January 24, 1924. Serial No. 688,345.

This invention relates generally to retaining devices, and particularly to a retaining device which may be arranged upon a cooperant member in a manner to act as a stop
5 to limit the longitudinal movement of an element or elements mounted on said cooperant member or the longitudinal movement of said cooperant member itself. The predominant object of the invention
10 is to produce a retaining device which will be extremely simple in construction and inexpensive to manufacture, thus rendering it possible to use said retaining device in places where threaded nuts and
15 cotter pins were heretofore used, as well as on shafts to act as collars thereon. Briefly stated, my improved retaining device comprises a pair of sections, each of which is provided with elements adapted to cooperate
20 with similar elements of an associated section whereby said sections are united so as to form a complete unit. The cooperant member with which my improved retaining device is used is provided with a depression
25 into which a portion of the retaining device extends, thus preventing movement of said retaining device longitudinally of the member on which it is arranged. My retaining device is also provided with means whereby
30 same is prevented from rotating relative to the member on which it is mounted.

With the foregoing and other objects in view, the invention comprises the novel construction, combination and arrangement of
35 parts hereinafter more specifically described and illustrated in the accompanying drawings, wherein is shown the preferred embodiment of the invention. However, it is to be understood that the invention comprehends changes, variations and modifications
40 which come within the scope of the claims hereunto appended.

Fig. I is a perspective of my improved retaining device together with a portion of
45 the member with which it is associated before the sections of said retaining device have been assembled.

Fig. II is a perspective showing the sections of the retaining device arranged in
50 place on the cooperant member but before the interlocking elements on the associated sections of the retaining device have been caused to interlock with each other.

Fig. III is a perspective view of my im-

proved retaining device showing same locked
55 in place on a cooperant member.

Fig. IV is an end elevation of the member with which the retaining device is associated.

Fig. V is a modified form of my retaining
60 device, said view being a cross section through the member with which the retaining device is associated.

Fig. VI is a side elevation showing one section of the retaining device illustrated in
65 Fig. V, associated with a cooperant member.

In the drawings, A designates my improved retaining device and B designates the cooperant member with which said retaining device is associated. In the arrangement shown in Figs. I to IV, inclusive, the cooperant member is provided with an annular groove 1 which is formed at the point
70 where the retaining device A is to be applied to said cooperant member, said member also being provided with a plurality of flat faces 2, the purpose of which will be hereinafter set forth. As is illustrated in the drawing, my improved retaining device is in the form
75 of a collar, or washer, said collar or washer being composed of two or more separable sections. The sections of the retaining device are identical in every respect so that they may be used interchangeably, it being
80 unnecessary to use any particular section in any particular position in the retaining device. The sections of the retaining device are each preferably produced in the form
85 of an approximate half-circle, and the inner openings of said sections are of the same diameter as the diameter of the cooperant member B at the base of the groove 1.

Located on each section of the retaining device is a tongue 3, said tongue being off-
90 set from the main body of the section and approximately L-shaped in side elevation. Formed in each section of the retaining device at the opposite end from the end at which the tongue 3 is located is a recess 4,
95 said recess being approximately the same shape as the tongue 3.

In locating one of my improved retaining devices on a cooperant member, one of the sections will be arranged on said cooperant
100 member so that the inner portion of said section extends into the annular groove 1 formed in said member, in which position
105

the inner edge of the section will bear firmly against the bottom wall of said groove 1. The other section is then arranged on the cooperant member so that its inner portion also extends into the annular groove 1 in said member. When the sections of the retaining device are in the positions described, the abutting faces 5 and 6 on said sections will be in contact with each other (Fig. II). The tongues 3, as already stated, are offset and therefore these tongues will not interfere with the sections being fitted together as described. After the sections have been assembled as set forth above, and as illustrated in Fig. II, the offset tongues 3 are hammered or otherwise forced to positions where they extend into the recesses 4 and because said tongues and said recesses are L-shaped, said tongues will interlock with the walls of said recesses whereby said sections are securely fixed together (Fig. III).

As stated, the groove 1 is annular and consequently if some means were not provided to prevent it the retaining device might be rotated on the cooperant member. As already stated, that cooperant member illustrated in Figs. I, II, III and IV is provided with a plurality of flat faces 2. Each of the sections of the retaining devices is provided with a raised portion 7, said raised portions being formed by pressing portions of the middle of said sections outwardly from the body of the sections. It will be noted by referring to Fig. IV that the flat faces 2 are tangential to the bottom wall of the annular groove 1. In other words, the middle portions of said flat faces are flush with the bottom wall of said groove (Fig. IV). When the sections of the retaining device are assembled, as already described and as illustrated in Fig. III, the outwardly pressed portions 7 of said sections overlap the flat faces 2 of the cooperant member B in such manner that the flat inner faces of said portions 7 will bear firmly against said flat faces 2, whereby the rotation of the retaining member relative to the cooperant member B is prevented.

Figs. V and VI illustrate a modified form of my invention. In this form of the device the member B' is not provided with an annular groove but is provided with a pair of straight grooves 1' which are arranged diametrically opposite to each other. The sections of the retaining device A are each provided with flat portions 8' and 9'. In assembling the device illustrated in the views mentioned, the sections of said device are arranged so that the flat portions 8' and 9' extend into the grooves 1', said flat portions bearing firmly against the flat base of said grooves 1'. After the sections of the

retaining device are arranged as stated, the tongues 3' thereof will be forced into the recesses 4' as already described in connection with the preferred form of the invention. By this arrangement it is apparent that the retaining device is prevented from rotating relative to the member B' due to the cooperating flat faces on the sections of the retaining device and member B'.

While I have illustrated and described a retaining device having tongues which are hammered or otherwise forced into the recesses, it is apparent that the sections of my retaining device may be formed of spring material having sufficient resiliency to permit of the tongues being snapped into place in said recesses.

I claim:

1. A retaining device adapted for use on a member having an annular groove, comprising cooperating sections, said sections being provided with interlocking elements whereby said sections are united to form a complete unit, a portion of which extends into said annular groove, said member on which said retaining device is mounted being provided with a flat face and means comprising a raised portion on said retaining device contacting with said flat face on said member whereby said retaining device is prevented from rotating on said member.
2. A retaining device adapted for use on a member having an annular groove, comprising cooperating sections, said sections being each provided with an offset tongue and a recess, said offset tongue of each section being adapted to be forced into a recess of an associated section whereby said sections are united to form a complete unit, a portion of which extends into said annular groove, said member on which said retaining device is mounted being provided with flat faces, and means comprising raised portions on said retaining device contacting with said flat faces on said member whereby said retaining device is prevented from rotating on said member.

3. In a retaining device for use on a member having a peripheral groove and an abutment face, a pair of sections provided with interlocking elements comprising an offset flexible tongue on one section adapted to be bent to unite and disconnect the sections, said sections being adapted to extend into said peripheral groove and provided with offset portions adapted to contact with said abutment face to prevent rotation of the sections on said member.

In testimony that I claim the foregoing I hereunto affix my signature.

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