July 29, 1930. W. H. PETTIT 1,771,937

RETAINING COLLAR AND OILER

Filed Sept. 27, 1929

Fig. 1.

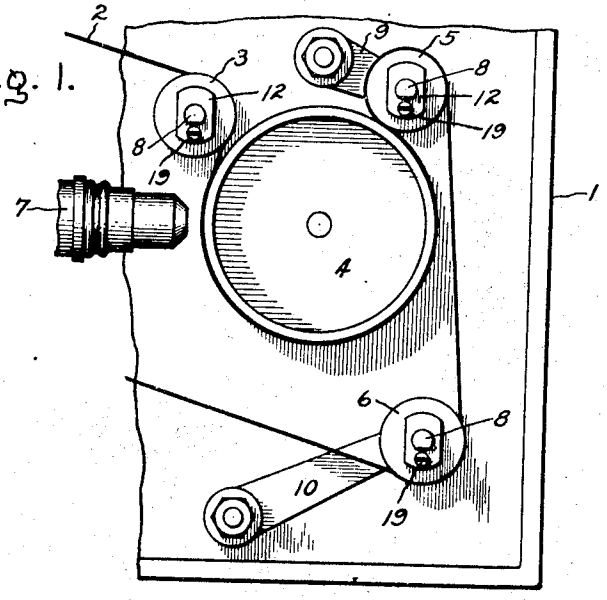


Fig. 2.

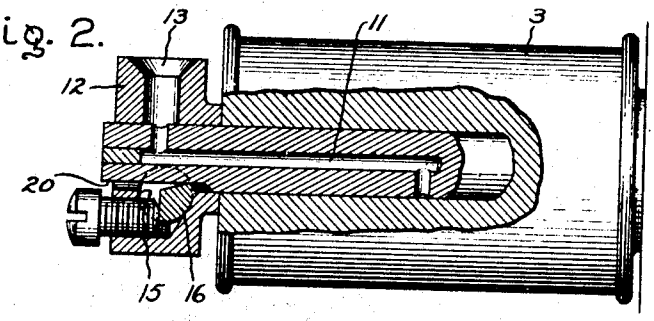
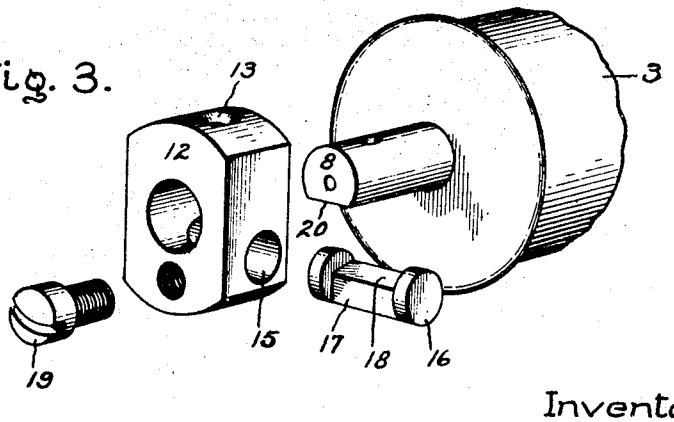


Fig. 3.



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UNITED STATES PATENT OFFICE

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RETAINING COLLAR AND OILER

Application filed September 27, 1929. Serial No. 395,653.

My invention relates to a collar and oiler adapted to be secured on the end of a shaft to retain a wheel journalled thereon, and one object of my invention is the provision of an improved device of this character which is simple, reliable, and inexpensive to manufacture, and which when secured to the shaft prevents an undesired escape of oil. Another object of my invention is the provision of a device of this character having securing means which may readily be tightened or loosened by a tool applied longitudinally of the shaft.

Referring to the drawing, Fig. 1 shows a portion of an apparatus for reproducing sound from a film record, the apparatus being provided with a retaining collar and oiler constructed in accordance with my invention; Fig. 2 is an enlarged cross-sectional view of the collar and oiler shown in Fig. 1, and Fig. 3 is a disassembled view of the same.

In Fig. 1 I have shown at 1 a portion of the enclosing casing of a film sound reproducing apparatus in which the film 2 bearing the sound record passes over the roller 3, drum 4, and rollers 5 and 6. Roller 3 is mounted on a fixed center; rollers 5 and 6 are mounted on movable centers. At 7 I have shown a portion of the optical system by means of which a light beam is focused on the sound record. Within the drum a photo-electric cell, not shown, is adapted to be supported. To permit the light which passes through the record reaching the photo-electric cell, the drum may be made in two spaced sections, or the portion of the film bearing the sound record may overhang the end of the drum. Each roller is mounted on a stud 8, which in the case of roller 3 is fixed in the casing, while the studs supporting rollers 5 and 6 are mounted on the arms 9 and 10 respectively. Each stud has an oil passage 11 therein, and at the outer end has the roller retaining collar 12 thereon, which has an oil passage 13 in communication with the oil passage in the stud. The retaining collar 12 is detachably secured to the stud by means constructed to be operable from in front of the collar, because of the inaccessibility of the collar from all directions except directly in front due to the closeness thereto of the casing walls and other apparatus. The collar has a transverse bore 15 in which rotatably fits the clamping member 16, the central portion of which is cut away to form the two surfaces 17 and 18. Clamp screw 19 is threaded in the collar axially of the stud, with its head accessible from the end of the stud. When screwed in it engages face 17, rotating member 16 so that face 18 thereof engages the flat portion 20 on the stud. This flat portion in addition to providing a bearing face for the clamping member, also insures that the collar is in the proper angular position for alinement of the oil passage therein and in the stud.

Inasmuch as the clamping member 16 and the oil hole 13 are located on opposite sides of the collar 12, the clamping of the collar to the stud insures a tighter fit between those parts adjacent the oil passages and thus prevents any leakage of oil before it reaches the bearing.

What I claim as new and desired to secure by Letters Patent of the United States, is:

1. Apparatus for retaining and oiling a film supporting wheel journalled on a fixed shaft comprising a collar fitting said shaft, said collar and shaft having communicating oil ducts therein and securing means operable from the outer end of said collar for clamping the collar to the shaft with said oil ducts in alignment.

2. Apparatus for retaining and oiling a film supporting wheel journalled on a fixed shaft comprising a collar fitting on said shaft, said collar and shaft having communicating oil ducts therein, a shaft engaging securing member in said collar arranged on the opposite side thereof from the oil duct therein, and an operating screw for said member extending axially of said shaft.

3. In apparatus of the character described having a film supporting wheel journalled on a shaft having a lubricant channel, means for retaining the wheel on the shaft and for supplying a lubricant to said channel comprising a collar fitting the shaft and having a lubricant receiving opening on one side thereof, a shaft clamping member rotatably mounted in

the collar transversely of the shaft at the opposite side of the collar, and a screw mounted in the collar longitudinally of the shaft arranged to engage and rotate said clamping member.

In witness whereof I have hereunto set my hand this 26th day of September, 1929.

WARD H. PETTIT.