F. DION.

BOBBIN FOR FILLING REPLENISHING LOOMS.

APPLICATION FILED JULY 14, 1908.

936,524. Patented Oct. 12, 1909.

Fig. 1.

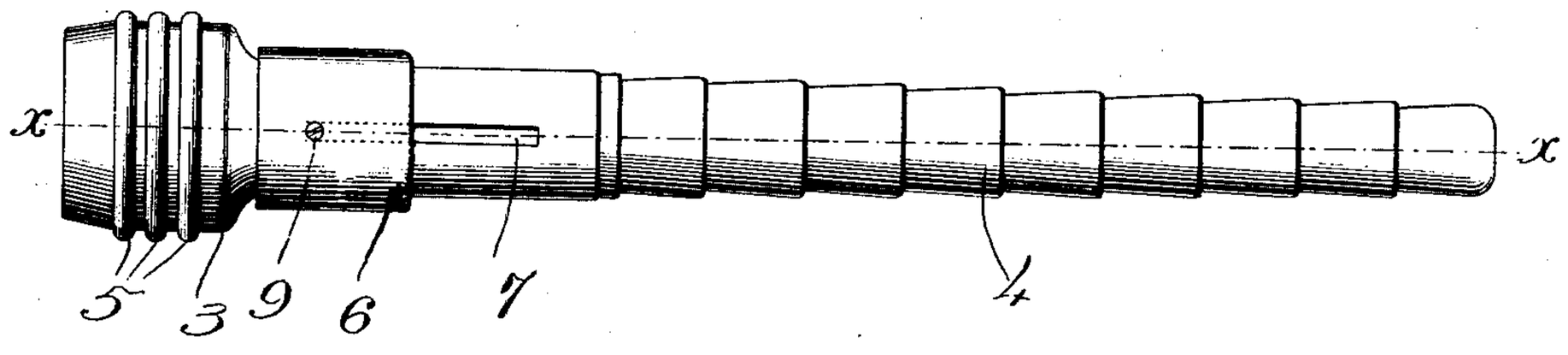
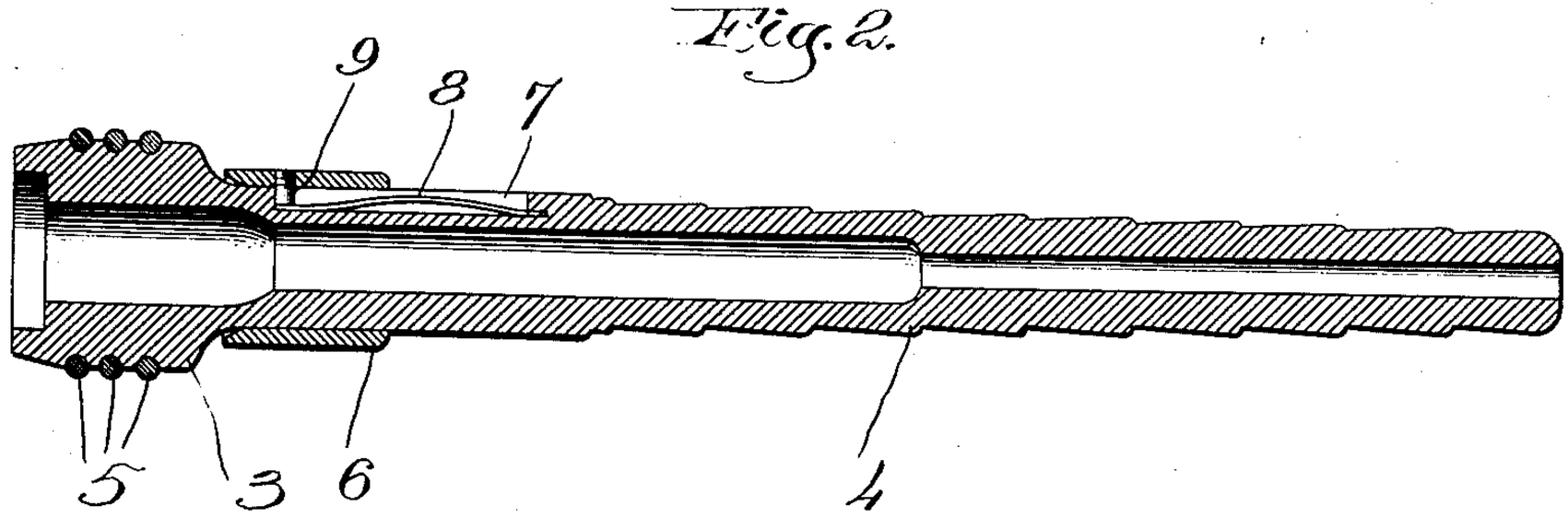


Fig. 2.



Witnesses.
Thomas J. Drummond.
Joseph W. Ward.

Inventor.
François Dion,
by Cleveland Gregory Attys.

UNITED STATES PATENT OFFICE.

FRANÇOIS DION, OF MANCHESTER, NEW HAMPSHIRE.

BOBBIN FOR FILLING-REPLENISHING LOOMS.

936,524. Specification of Letters Patent. Patented Oct. 12, 1909.

Application filed July 14, 1908. Serial No. 443,420.

To all whom it may concern:

Be it known that I, FRANÇOIS DION, a subject of the King of England, residing at Manchester, county of Hillsboro, and State of New Hampshire, have invented an Improvement in Bobbins for Filling-Replenishing Looms, of which the following description, in connection with the accompanying drawing, is a specification, like numerals on the drawing representing like parts.

This invention relates to bobbins for filling-replenishing looms and especially for that class of looms where the filling is replenished by discharging the exhausted bobbin from the shuttle and replacing it with a fresh bobbin.

In looms of this class it is common to detect the practical exhaustion of the filling on the bobbin by means of a feeler and in order that the bobbin may not be changed before the filling is nearly exhausted, it is customary to wind a bunch on the bobbin near the base thereof, which bunch coöperates with the feeler to set in motion the filling-replenishing mechanism when the bobbin is substantially exhausted. It has also been proposed to substitute for the bunch a collar or sleeve which can slide longitudinally of the bobbin and which is normally held in position to act on the feeler by the filling so long as there is a sufficient quantity of filling on the bobbin, but which becomes displaced by the picking of the shuttle when the filling is substantially exhausted. When the collar does thus become displaced, the feeler does not strike the collar when the lay beats up and the filling-replenishing mechanism is set in operation.

The object of my invention is to improve bobbins of this class which have the collar thereon by providing a construction in which the collar will not be liable to be thrown back into its original position after the filling is exhausted as sometimes happens with the collars now used. I accomplish this by providing the bobbin with a friction device which engages the collar when it has been thrown into its inoperative position and which serves to hold it in such position.

Referring to the drawings wherein one embodiment of my invention is shown, Figure 1 shows a bobbin having my improvement applied thereto; Fig. 2 is a longitudinal section through the bobbin on the line *x*—*x*, Fig. 1.

The bobbin is shown as having the usual head or base 3 and spindle 4 about which the filling is wound, and the head or base is shown as having the ribs 5 thereon which are adapted to fit the ribbed jaws in the shuttle.

In accordance with my invention I place around the lower end of the bobbin a collar 6 which preferably is made to fit the bobbin sufficiently loosely so that it can slide longitudinally thereof. The bobbin is provided in one side with a groove 7 in which is received a friction spring 8, said spring normally tending to bow upwardly slightly in its center. The collar is provided with an inwardly-extending projection 9 which fits in the groove 7. This collar, when in the position shown in Figs. 1 and 2, takes the place of the bunch commonly wound on bobbins and so long as the collar occupies this position it will be engaged by the feeler as the lay beats up and the filling-replenishing mechanism will not be operated. When, however, the filling is exhausted to such an extent that there is insufficient filling to hold the collar in the position shown in the drawings, the throwing of the shuttle across the loom in a direction from right to left on the drawing will cause the collar 6 to be thrown toward the tip of the bobbin and when the lay next beats up the feeler will not be operated by the collar and the filling-replenishing mechanism will be set in operation.

While the spring 8 is sufficiently resilient to permit the collar 6 to be thrown toward the tip of the bobbin as far as the slot 7 will allow, yet said spring by acting on the pin or projection 9 acts as a friction device to prevent the return of the collar into the position shown in the drawings. It will be readily seen that if the collar should be returned to the position shown in Fig. 1 before the lay beats up, the filling-replenishing mechanism would not be operated as it should have been.

My invention provides for retaining the collar 6 in its abnormal position when the filling is exhausted and prevents it from returning to its normal position by the movement of the shuttle across the lay. Moreover the application of my invention to a bobbin does not materially weaken the bobbin because it is only necessary to form a comparatively shallow groove therein and the bobbin does not have to be put clear through.

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

1. The combination with a bobbin having

a groove in one side, of a collar slidably mounted on the bobbin and having a projection entering said groove, and a friction spring within the groove engaging the projection.

2. The combination with a bobbin having a groove in one side, of a collar or sleeve slidably mounted on the bobbin and provided with a projection entering said groove, and a friction device within the groove acting on the end of the projection.

In testimony whereof, I have signed my name to this specification, in the presence of two subscribing witnesses.

FRANÇOIS DION.

Witnesses:

ALFRED DION,

ERNEST RORY.