No. 715,407. Patented Dec. 9, 1902.

G. H. MILLER.

BOBBIN CARRIER.

(Application filed Oct. 23, 1901.)

(No Model.)

Fig. 1.

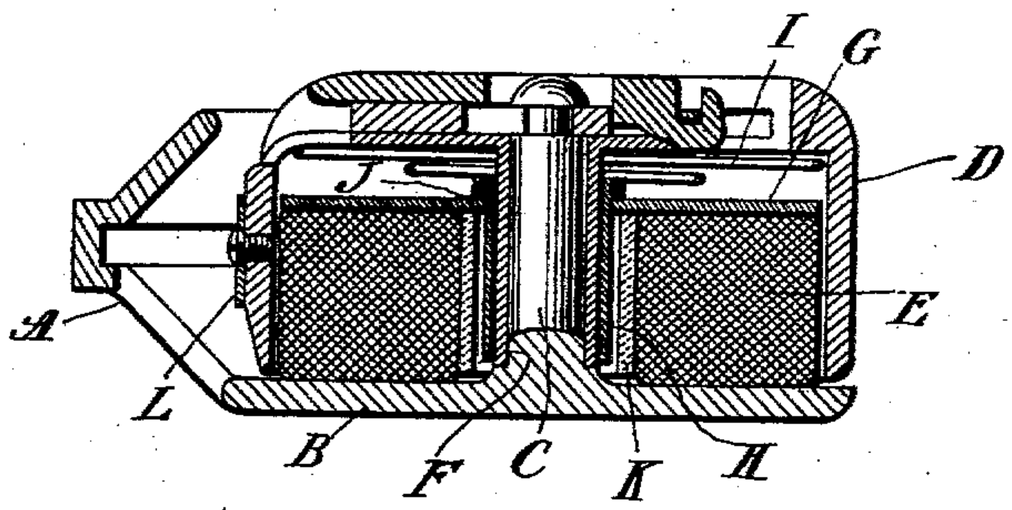


Fig. 2.

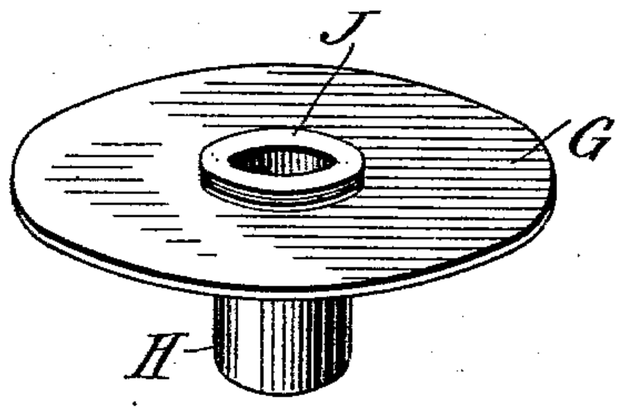
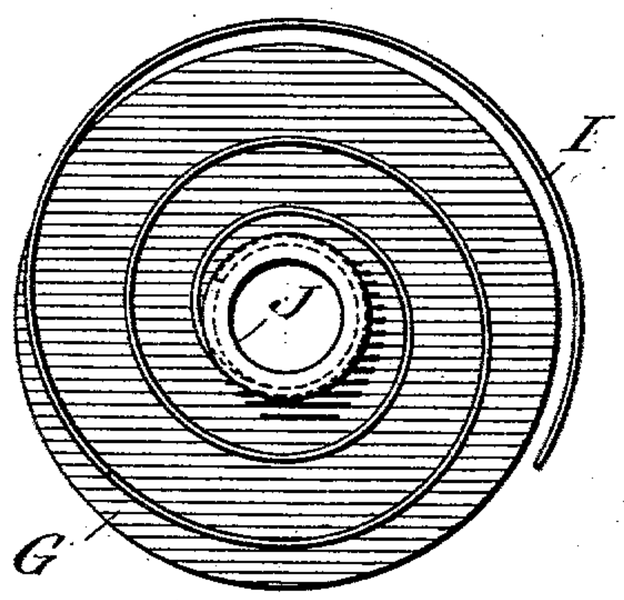


Fig. 3.



Witnesses
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UNITED STATES PATENT OFFICE.

GEORGE H. MILLER, OF HOLYOKE, MASSACHUSETTS, ASSIGNOR TO THE AMERICAN THREAD COMPANY, OF NEW YORK, N. Y., A CORPORATION OF NEW JERSEY.

BOBBIN-CARRIER.

SPECIFICATION forming part of Letters Patent No. 715,407, dated December 9, 1902.

Application filed October 23, 1901. Serial No. 79,680. (No model.)

To all whom it may concern:

Be it known that I, GEORGE H. MILLER, a citizen of the United States, residing at Holyoke, county of Hampden, State of Massachusetts, have invented certain new and useful Improvements in Bobbin-Carriers, of which the following is a full, clear, and exact description.

My invention relates to improvements in bobbin-carriers for sewing-machines.

The main object of my invention is to provide an improved carrying means for a bobbin, which is adapted to be inserted within or carried by a shuttle.

In the drawings, Figure 1 is a sectional elevation of a part of a shuttle and bobbin-case embodying my invention. Fig. 2 is a perspective view of a detail of construction. Fig. 3 is a plan view of the part shown in Fig. 2 with a helical spring attached thereto.

A is a shuttle.

B is a plate carrying a stud C.

D is a bobbin-case.

E is a bobbin.

F is a hub carried by the case D and adapted to slide onto the stud C.

G is a disk of a size approximating the interior of the case D and preferably having a sleeve H, adapted to loosely fit upon the hub F.

I is a helical spring, which may be secured to the disk G or an extension thereof—for example, the extension J. The coil of the spring is such that it normally expands to a size slightly in excess of the internal diameter of the case D. Consequently when the disk G is inserted into the case D the spring I will not only tend to yieldingly press the disk away from the top of the case, but will also tend to prevent the accidental detachment of the parts. When the parts are assembled, as shown in Fig. 1, the function of the spring is to press against and hold the plate G, which in turn presses against the bobbin E, which in turn presses against the plate B. Thus it will be seen that a slight friction is applied to the bobbin to prevent said bobbin from turning loosely, which would result in the snarling or tangling of the thread as it becomes unwound therefrom. The bobbin E is formed usually upon a tube K, of paper or of other suitable material, the bore of which is sufficiently large to freely pass over the sleeve H.

In operation the thread is withdrawn in the usual way by the sewing-machine. The outside tension of the thread is applied in the usual way—for example, by a tension-spring L. The thread inside, between the bobbin E and the tension-spring L, is not allowed to become slack, and consequently cannot become snarled. In this particular construction the bobbin revolves on the sleeve H. Consequently there is no appreciable wear of the parts. Heretofore where the bobbin revolved upon and with a metal spool the wear of the metal parts made a grit and dirt that frequently soiled the thread, to the injury of that product. When removing a bobbin or an empty tube from the case, it will be found that the spring will act to retain the sleeve and disk, the construction permitting a longitudinal movement upon the hub. This retentive force may be overcome, however, by a slight outward pull on the sleeve when it is desired to be removed.

What I claim is—

1. In a device of the character described, a bobbin-case, a central revoluble sleeve adapted to support a bobbin, a disk carried thereby and a spiral spring carried by the disk, that end of the spring having the smaller coils being directly connected with the disk, the largest coil of the spring being normally of greater diameter than the interior of the case and bearing against the latter, substantially as and for the purpose described.

2. In a device of the character described, a bobbin-case, a central revoluble sleeve adapted to support a bobbin, a disk carried thereby and a spiral spring frictionally carried by the disk, that end of the spring having the smaller coils being directly connected with the disk, the largest coil of the spring being normally of greater diameter than the interior of the case and bearing against the latter, substantially as and for the purpose described.

Signed at Holyoke, Masschusetts, this 21st day of October, 1901.

GEORGE H. MILLER.

Witnesses:

ARTHUR C. LIVERMORE,

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