April 26, 1938. E. L. BALL 2,115,610

SNAPPER FOR KNITTING MACHINES

Filed May 24, 1937

Fig. 1.

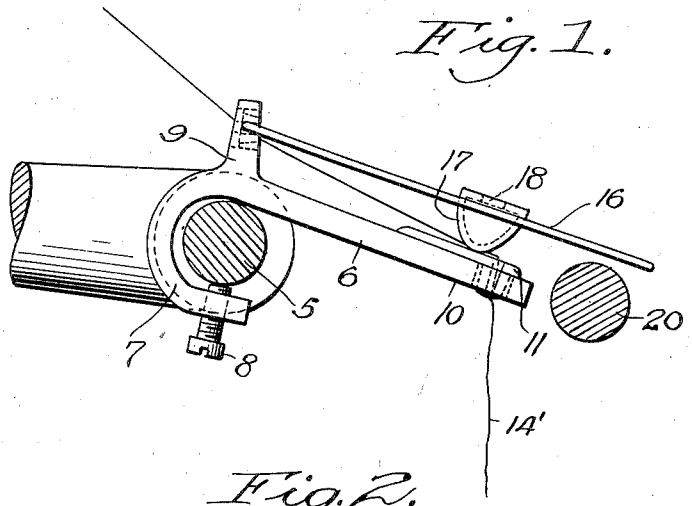


Fig. 2.

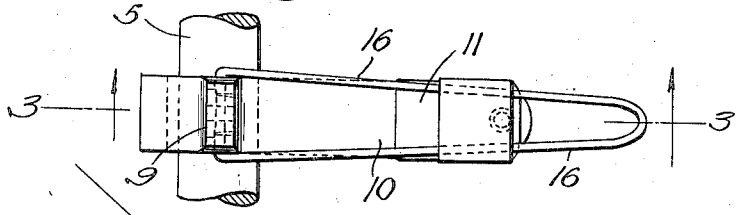
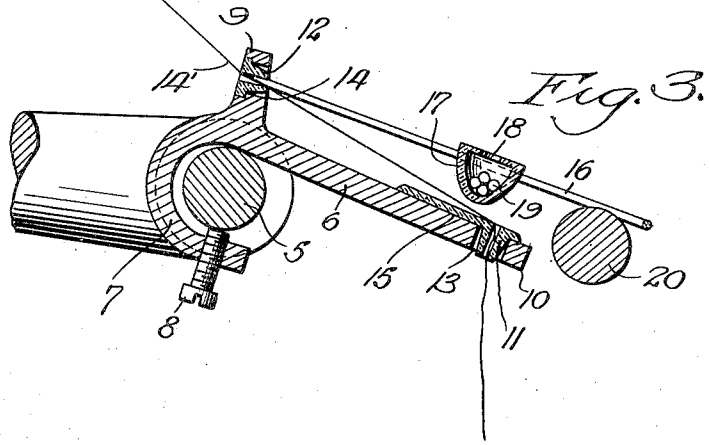


Fig. 3.



Edward Lee Ball.
INVENTOR

BY Victor J. Evans & Co.
ATTORNEY

Patented Apr. 26, 1938 2,115,610

UNITED STATES PATENT OFFICE

2,115,610

SNAPPER FOR KNITTING MACHINES

Edward Lee Ball, Rossville, Ga.

Application May 24, 1937, Serial No. 144,500

2 Claims. (Cl. 66—146)

The invention relates to a yarn feed mechanism for knitting machines and more especially to a thread guide device or snapper.

The primary object of the invention is the provision of a device of this character, wherein the spring as employed in similar devices, being common in knitting machines, is entirely dispensed with as there is substituted a weighted member and thus the tension on the threads during the knitting operation by the machine can be properly had according to the character of threads used in the knitting, the device being especially adaptable for full fashioned knitting machines.

Another object of the invention is the provision of a device of this character, wherein the required amount of weight for the successful working of the same can be had for preventing slack in a silk thread or yarn so as to assure a good selvage on the product, there being no cutting of the silk or yarn and a uniform tension thereon is had by the device and the travel of the silk or yarn does not cut or wear into the device, the latter being readily and easily cleaned.

A further object of the invention is the provision of a device of this character, wherein the same is rust-proof and is novel in its construction, assuring at all times the requisite tension on the silk thread or yarn according to the character thereof and assures a uniformity of action in the working of the same.

A still further object of the invention is the provision of a device of this character, which is simple in its construction, thoroughly reliable and efficient in operation, weight controlled, strong, durable, and inexpensive to manufacture and install.

With these and other objects in view, the invention consists in the features of construction, combination and arrangement of parts as will be hereinafter more fully described, illustrated in the accompanying drawing, which discloses the preferred embodiment of the invention and pointed out in the claims hereunto appended.

In the accompanying drawing:

Figure 1 is a fragmentary side elevation of the device constructed in accordance with the invention and shown in association with certain parts of a knitting machine, these being in section.

Figure 2 is a top plan view.

Figure 3 is a sectional view on the line 3—3 of Figure 2 looking in the direction of the arrows.

Similar reference characters indicate corresponding parts throughout the several views in the drawing.

Referring to the drawing in detail, it being understood, of course, that thread guide devices or snappers, such as illustrated, are particularly applicable to full fashioned knitting machines, a series of them corresponding with the number of threads in the several machine sections being employed and commonly secured to one or more supporting shafts 5 extending longitudinally of the machine above the knitting sections and usually rotatably mounted as is common. Partial rotation of this shaft 5 is effected as heretofore from the knitting machine cam shaft in a well-known manner through a push rod, these being not shown. Each guide device or snapper thus employed, as heretofore, and illustrated in the drawing, comprises an arm-like member 6 having a hook-like heel 7 constituting a shaft engaging portion, being preferably open for lateral displacement and removal on the shaft 5 and held in fixed position on the latter by a set screw 8. This arm 6 next to its heel 7 is formed with an upstanding lug 9, the toe end 10 of the said arm being adapted to serve as a shelf in which is fitted a porcelain eyelet 11 while the lug 9 also has fitted therein a porcelain eyelet 12. These eyelets 11 and 12 are accommodated in thread guide apertures 13 and 14, respectively, as formed in the said arm 6 and lug 9. The thread 14' passes through the eyelet 11 and thence the eyelet 12, the eyelet 11 being formed with a bed extension 15 overhanging the shelf constituted by the toe end 10 of the arm 6 and this bed is of porcelain although it may be made from glass or other like material and similarly the eyelets 11 and 12.

Pivoted to the lug 9 through engagement in opposite sides thereof is a vertically swinging hanger or wire bail 16 supporting a hollow glass formed snapper head 17 having in its top an opening 18 for the deposit therein of lead weights in the form of pellets or balls 19 so that the head 17 will engage with the thread 14' passing through the eyelet 11 and thence the eyelet 12 and in this manner the said thread 14' is properly tensioned according to the character of the thread or yarn during the operation of the knitting machine.

This head 17 is relieved from action upon the thread or yarn 14' at intervals by the bail or hanger 16 coming in contact with the rod 20 as has heretofore been the practice and this rod is an adjunct of the knitting machine and stationarily supported therein in the path of the bail or hanger 16.

The device or snapper hereinbefore described is automatic in the working thereof through weight control in contradistinction to a spring, the weight action thereof being changed through the placing or removal of weights 19 within the head 17 according to the nature of the thread or yarn acted upon whereby the same will have the requisite and uniform tension, being no grooves or cuts made in the device or snapper as such yarn or thread passes between the bed 15 and the head 17 and such snapper or device is readily cleaned.

What is claimed is:

1. A device of the character described comprising a movable arm having a porcelain-like eyelet for the passage of thread or yarn therethrough, a lug rising from said arm and having a porcelain-like eyelet for receiving the said thread or yarn, a hollow bowl-like glass element for contact with the thread or yarn when passing through the eyelets and having an opening in its top, and weight pellets confined within the element and admitted through its open top.

2. A device of the character described comprising a movable arm having a porcelain-like eyelet for the passage of thread or yarn therethrough, a lug rising from said arm and having a porcelain-like eyelet for receiving the said thread or yarn, a hollow bowl-like glass element for contact with the thread or yarn when passing through the eyelets, and having an opening in its top, weight pellets within the element and fed thereto through its open top and a swinging bail pivoted to the lug and carrying said element.

EDWARD LEE BALL.