Dec. 21, 1937. L. M. MILLER 2,102,600

FLEXIBLE KNITTING NEEDLE

Filed Jan. 27, 1937

Fig. 1.

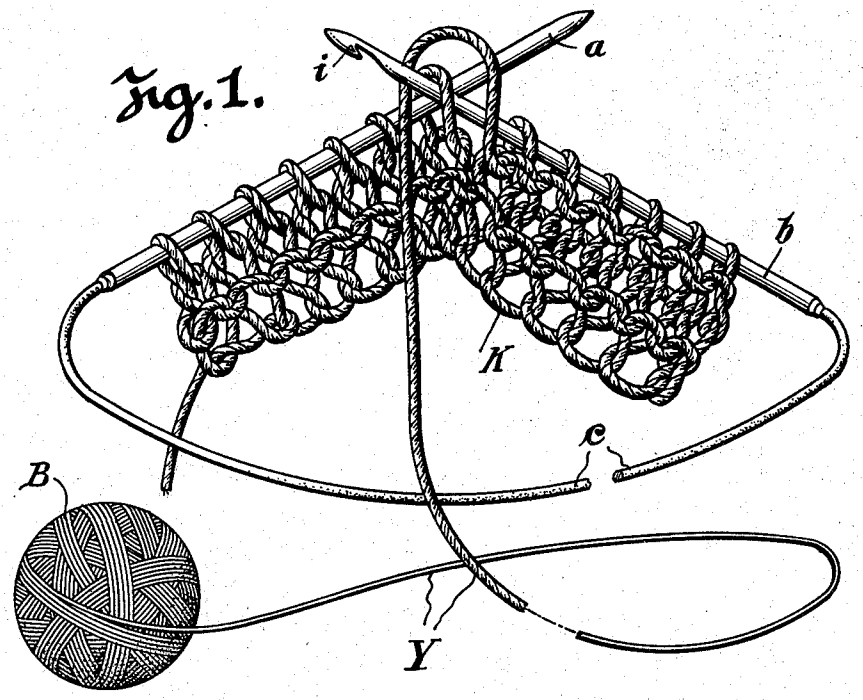


Fig. 2.

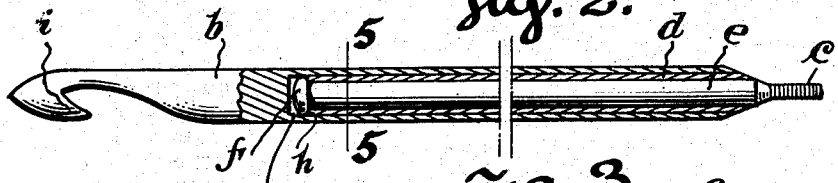


Fig. 3.

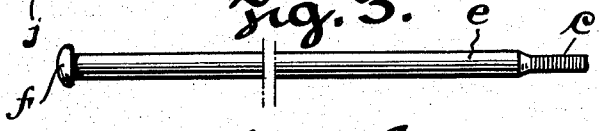
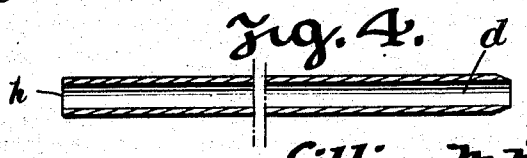


Fig. 4.



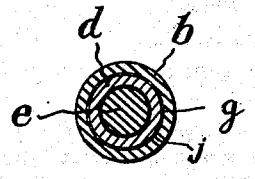


Fig. 5.

Inventor.
Lillian M. Miller

By Lester L. Sargent
Attorney

Patented Dec. 21, 1937 2,102,600

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2,102,600

FLEXIBLE KNITTING NEEDLE

Lillian M. Miller, Fort Harrison, Mont.

Application January 27, 1937, Serial No. 122,633

2 Claims. (Cl. 66—117)

The object of my invention is to provide a novel flexible knitting needle; to provide a needle having a hooked end whereby it can be used for either knitting or crocheting, and to provide a novel swivel joint in a knitting needle of this type. I attain these and other objects of my invention by the mechanism illustrated in the accompanying drawing, in which:

Figure 1 is a perspective view of the invention in use;

Fig. 2 is a view of the hooked needle, partly in side elevation and partly in longitudinal section, a portion of the needle being broken away to save space;

Fig. 3 is a detail side elevation of members *e* and *f*;

Fig. 4 is a detail longitudinal section of member *d*;

Fig. 5 is a transverse section on line 5—5 of Fig. 2.

Like characters of reference designate like parts in each of the several views.

Referring to the accompanying drawing, I provide a rigid, round-pointed shaft *a* resembling the usual knitting pin to which is attached a flexible element *c* such as a cable or chain.

The new and novel part of this device is in the rigid end shaft *b* which bears the hook *i*, resembling a crocheting hook and in the swivel joint between core *e* and tube *d*, having its end *h* spaced from the inner side of the chamber *j*. The hook *i* is used to manipulate the thread or yarn Y. In doing this it is desirable to rotate needle *b* on its long axis independently of the flexible shaft *c*. The round-pointed shaft *b* has a cylindrical chamber *j*, as shown in Fig. 2 and into which is fitted immovably the cylindrical tube *d*. The round shaft or core *e* fits snugly but movably into the tube *d*; the member *e* is prevented from slipping out of the tube *d* by the enlargement of the button or head *f* on its end, which is disposed and spaced between end *h* and the inner end of chamber *j*; the outside diameter of head *f* being larger than the inside diameter of tube *d*. Shaft or core *e* is fastened firmly to the flexible shaft *c* at its outer end. Thus the rotatable needle *b* and the tube *d* are fixed immovably together and rotate easily and smoothly on their long axis around core *e*. As the head *f* is fixed securely to the core *e*, the head *f* engages the end *h* of the tube *d* and prevents the parts from being pulled apart but does not prevent a smooth and easy rotation of the needle *b* and its tube *d* around the core *e*.

In assembling these parts core *e* and shaft *c* are fastened firmly and strongly together; tube *d* is slipped over the core *e* and then the button or head *f* is fixed on or fastened to the free end of core *e*. Needle *b* and tube *d* are then fixed together either by friction or by other means such as glue G, if this is thought necessary or desirable. In Fig. 1 the method of using this apparatus is shown, a ball of yarn B, a strand of yarn Y to be knitted and completed or partly completed knitted material K.

In the ordinary method of knitting two plain points are used and the yarn is thrown over and manipulated with the fingers. In this method and in using this apparatus, the yarn is manipulated with a hook as in crocheting, and the tiresome "throwing-over" of the yarn eliminated. A swivel joint is desirable on the hook-bearing needle as it must be twisted on its long axis independently of the rest of the apparatus. This type of knitting needle is for use in knitting cylindrical articles as skirts, etc.

This device can be adapted for the purpose of both crocheting and knitting and since the knitting or crocheting continues in an endless circle, no shifting of the material is necessary. A swivel joint in the needle permits the needle to be turned or twisted as required in the knitting process.

What I claim is:

1. In a flexible knitting needle the combination of a knitting pin, a flexible shaft affixed to the shank of said pin, a second knitting pin, said pin having a hollow chamber, a tube inserted in and affixed to said chamber and having its inner end spaced from the inner end of the chamber, a core affixed to the flexible shaft and rotatably mounted in the aforesaid tube, said core having a head of greater diameter than the core and engaging against the end of the aforesaid tube within the knitting needle whereby to provide a flexible joint.

2. In a flexible knitting needle, the combination of a knitting pin, a flexible shaft affixed to the shank of said pin, a second knitting pin, said pin having a hollow chamber, a tube inserted in and affixed to said chamber and having its inner end spaced from the inner end of the chamber, a core affixed to the flexible shaft and rotatably mounted in the aforesaid tube, said core having a head of greater diameter than the core and engaging against the end of the aforesaid tube within the knitting needle whereby to provide a flexible joint, said knitting needle having a crochet hook end.

LILLIAN M. MILLER.