Jan. 23, 1951 L. E. HUNOLD 2,539,137

KNITTING MACHINE GUARD

Filed March 9, 1949

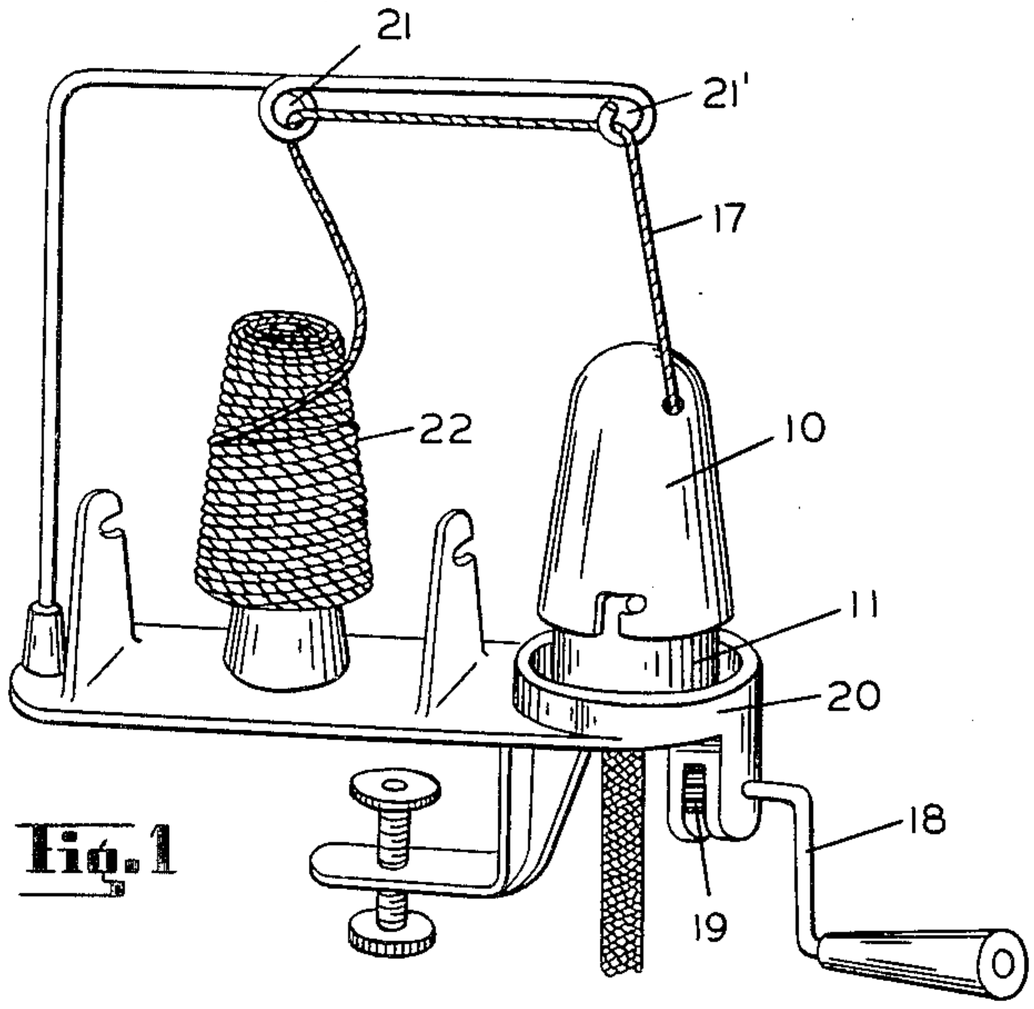

Fig. 1

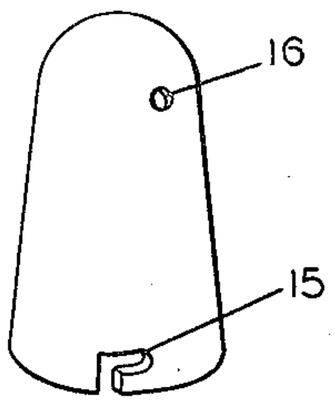

Fig. 2

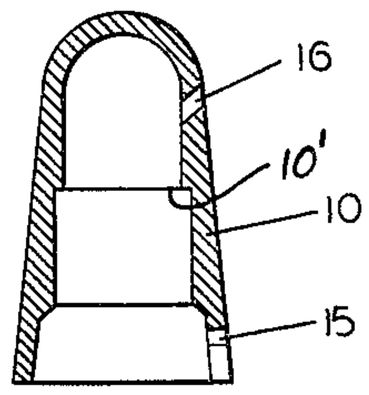

Fig. 3

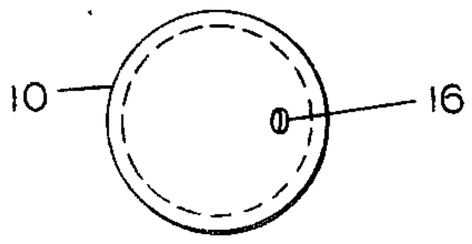

Fig. 4

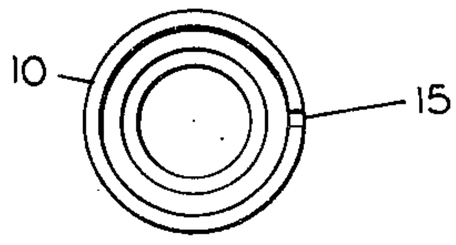

Fig. 5

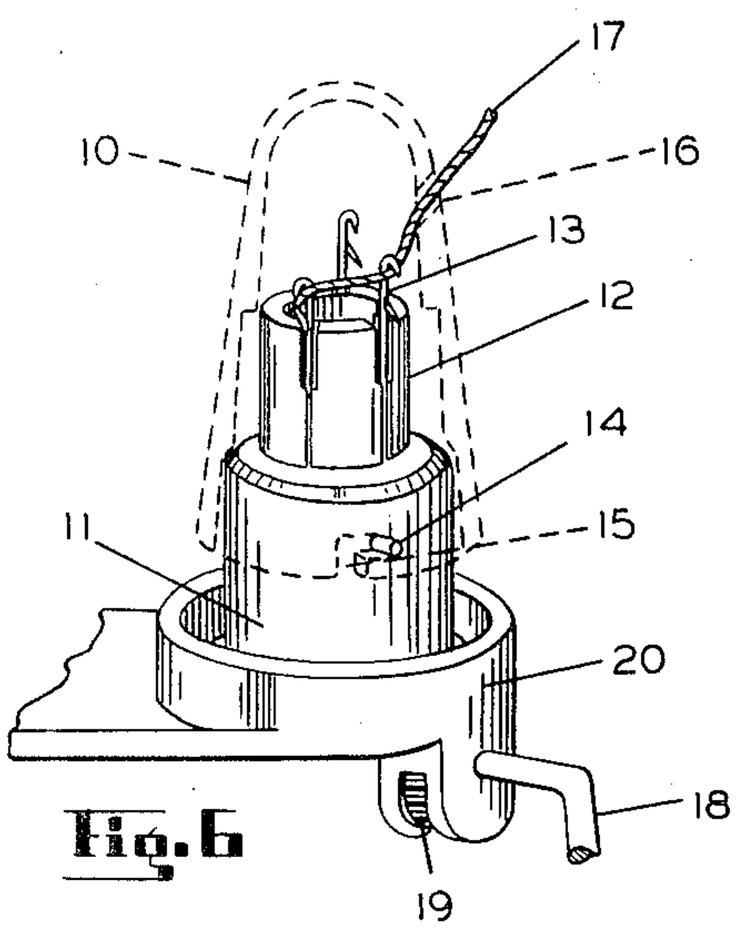

Fig. 6

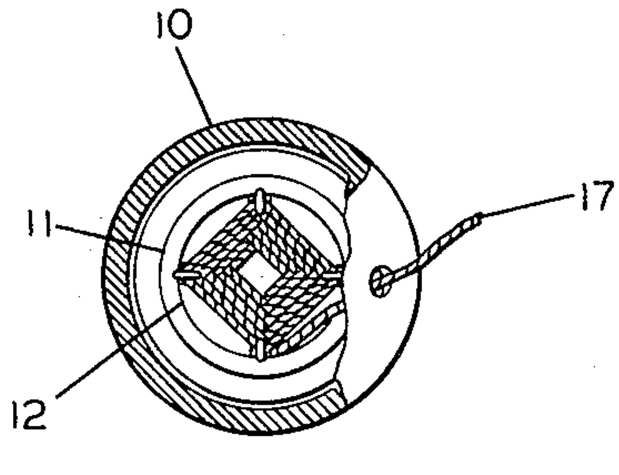

Fig. 7

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KNITTING MACHINE GUARD

Laurence E. Hunold, Ripon, Wis.

Application March 9, 1949, Serial No. 80,518

5 Claims. (Cl. 66—8)

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My invention relates to knitting machine guards and more particularly to a transparent guard of conical contour for use with a knitting machine.

An object of my invention is to provide a protective guard for enclosing the cam actuated knitting needles.

Another object of my invention is to provide a guard which operates as a guide for the yarn while being placed in contact with the knitting needles, during their operation.

Still another object of my invention is to provide a device that rotates with the cam thereby guiding the yarn around the stationary needle support.

A further object of my invention is to provide a guard that is constructed of a transparent material so that the knitting operation may be observed by the operator.

It is imperative in the operation of a knitting machine such as is described in my copending application for Letters Patent, Serial Number 14,192 dated March 11, 1948 and now abandoned, that the operator observed the operation of the knitting needles, and it is the object of my invention to provide a transparent guard which acts as a guide for the yarn being manipulated by the knitting needle mechanism. The device is simple in construction, economical and easy to manufacture yet serviceable for the purpose for which it is intended.

Other and further objects of my invention will become more apparent as the description proceeds when taken in conjunction with the drawings in which:

Figure 1 is a perspective view of the device assembled onto, and forming a part of, a knitting machine.

Figure 2 is a perspective outer view of the combination guard and guide specified and claimed herein.

Figure 3 is a cross-sectional view of the device as shown in Figure 2.

Figure 4 is a top view of the device.

Figure 5 is a bottom view of the device.

Figure 6 is a fragmentary perspective view of a portion of the knitting machine, showing the needle arrangement, and the guard in phantom mounted onto the revolving cam sleeve, and

Figure 7 is a fragmentary cross-sectional top view of the guard mounted into position on the knitting machine.

Similar characters of reference indicate corresponding parts throughout the several views and referring now to the same, the character 10

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shows a guard of conical contour constructed of transparent material, closed at its upper end and open at its lower end. The guard 10 is of a diameter equal to the outer peripheral surface of the revolving cam shown as 11, which forms a part of the knitting machine and which revolves around a guide or cylinder 12 supporting a plurality of knitting needles shown as 13. The cam 11 has an outwardly projecting pin 14 which is arranged to engage an open slot 15 at the bottom of the guard 10, to retain the guard in position onto the cam 11, and an angularly disposed aperture 16 within the side wall of the guard 10, permits the yarn shown as 17 to enter the needle enclosure formed by the guard 10. The inner face of the guard 10 is shown provided with an inwardly extending ledge 10' which prevents the needle latch from closing before the yarn engages the hook of the needle. This ledge 10' is shown below the aperture 16.

As the cam 11 is revolved by means of the crank 18 through the gear arrangements shown as 19 supported by the base 20 of the knitting machine, it will place the yarn 17 in engagement with the needles 13, some of which are in a raised position during the operation, and in this raised position they receive the yarn placed against their outer face due to the revolving of the guard 10. Obviously the yarn 17 is supported by the loops 21 and 21' as it is conveyed from the spool 22 into and through the aperture 16 in the side wall of the guard number 10.

It is manifest to anyone familiar with the art, that knitting needles are guided by a cam slot which raises and lowers them in their manipulation of the yarn being knitted. The device described and claimed herein provides protection for the needles as well as a guide for the yarn in placing it in contact with the needles. The guard being transparent, also provides visibility for the operator to observe the operation, and it is therefore a distinct improvement over anything thus far portrayed in the prior art, and while I have shown a particular shape and contour of the device, I am fully cognizant of the fact that the shape and contour of the device may be altered without affecting its operativeness and I reserve the right to make such changes without departing from the spirit of my invention or the scope of the appended claims.

Having thus described my invention, what I claim and desire to secure by Letters Patent in the United States is:

1. A device of the character described to be used in combination with a knitting machine hav-

ing a cam member revolving around a stationary needle guide, said device consisting of a body forming an enclosure open at its lower end and closed at its upper end, the lower end of said body engaging the revolving cam member, said body member provided with an aperture near its upper end, said aperture providing a means of admitting yarn into said enclosure for contact with the needles of said machine during its revolving action.

2. A device of the character described to be used in combination with a knitting machine comprising a plurality of needles guided within a stationary needle support, and a revolving needle cam, said device consisting of a conical body forming an enclosure open at its lower end for engagement with said revolving cam thereby covering said needles, said body provided with an aperture acting as a yarn guide through its side wall near the upper end thereof.

3. A device of the character described to be used in combination with a knitting machine comprising a plurality of needles guided by a stationary needle support, and a revolving needle cam revolving around said needle support, said device consisting of a hollow conical enclosure of transparent material open at its lower end for engagement with the outer peripheral surface of said revolving needle cam, an angularly disposed aperture through the side wall of said enclosure to permit engagement of the yarn being manipulated by said knitting needles, said aperture being of a height to place said yarn in engagement with said needles during the revolving of said cam.

4. A device of the character described to be used in combination with a knitting machine having a cam member revolving around a stationary cylinder acting as a needle guide, said device consisting of a body forming an enclosure open at its lower end, the lower end of said body engaging the revolving cam member on said knitting machine, the wall of said body member provided with an aperture near its upper end, said aperture providing a means for admitting yarn into said enclosure for contact with the needles of said machine, said body having an inwardly projecting ledge around its inner peripheral surface below the aperture admitting said yarn.

5. A device of the character described to be used in combination with a knitting machine equipped with a plurality of needles guided within a cylindrical stationary needle support, and a revolving needle cam, said device comprising a conical body forming an enclosure open at its lower end for engagement with the revolving cam, thereby enclosing said needles, said body provided with an inwardly projecting ledge around its inner face, and an aperture through the side wall of said body, said aperture disposed above said ledge.

LAURENCE E. HUNOLD.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
281,804	Simonson	July 24, 1883