

Oct. 19, 1937.

H. A. COOK

2,096,483

RAWHIDE KNITTING NEEDLE

Filed Sept. 12, 1936

Fig. 1.

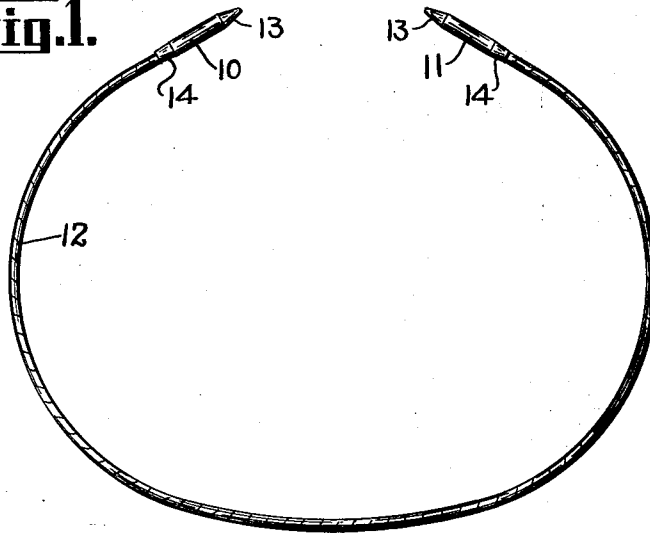


Fig. 2.

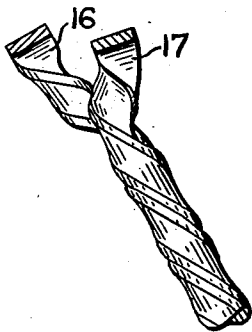


Fig. 3.

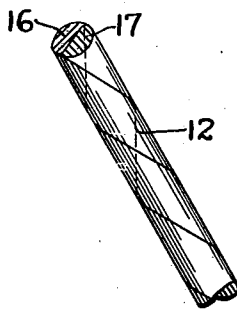


Fig. 4.

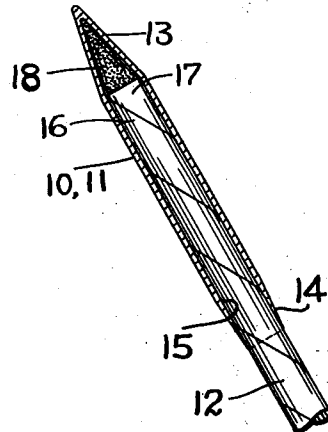
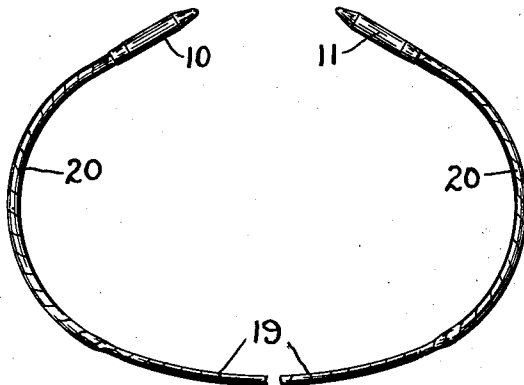


Fig. 5.



INVENTOR
Howard A. Cook.
BY *H. S. Manning*
ATTORNEY

UNITED STATES PATENT OFFICE

2,096,483

RAWHIDE KNITTING NEEDLE

Howard A. Cook, Southfield, Mass., assignor to
Turner & Cook, Inc., Southfield, Mass., a corporation of Massachusetts

Application September 12, 1936, Serial No. 100,461

11 Claims. (Cl. 66—117)

This invention relates to knitting needles, and more particularly to a circular or "duplex" knitting needle having two rigid end knitting points connected together by a central strand comprising a plurality of narrow strips of flexible rawhide twisted together and consolidated.

One object of this invention is to provide a knitting needle of the above nature in which the consolidated central strand is substantially the same diameter as the end knitting points.

A further object is to provide a knitting needle of the above nature in which the knitting points are relatively short so that the bending strains will be uniformly distributed in the central connecting member.

A further object is to provide a knitting needle of the above nature in which the knitting points are constructed of thin-walled metal pointed tubes having their open ends beveled flush with the central strand.

A further object is to provide a knitting needle of the above nature, which will be simple in construction, inexpensive to manufacture, easy to manipulate, ornamental in appearance, and very efficient and durable in use.

With these and other objects in view, there have been illustrated on the accompanying drawing two forms in which this invention may be conveniently embodied in practice.

In the drawing:

Fig. 1 illustrates a knitting needle embodying the features of this invention.

Fig. 2 is a view on an enlarged scale showing a pair of thin narrow strips of rawhide twisted together as they appear during the process of manufacture.

Fig. 3 illustrates the appearance of the twisted strips shown in Fig. 2 after they have been consolidated together and ground down to the desired size.

Fig. 4 is an enlarged sectional view taken through one of the knitting points and illustrating the tapered flush connection between the metal tip and the consolidated central rawhide strand.

Fig. 5 illustrates a modified form of knitting needle in which the central strand is reduced in diameter at its midportion.

In the use of previous forms of circular knitting needles, considerable trouble has been experienced due to breakage of the central connecting member adjacent the joints with the end knitting points.

A further disadvantage of such previous needles was that fatigue in the user's hands and

wrists was usually experienced caused by the necessity of constantly overcoming the tension of the central strand which tended to spread the ends apart.

Another disadvantage of previous circular knitting needles was due to the relatively long end knitting points which caused the central strand to be abruptly bent adjacent its joint with the knitting points. The material of the central strands was thus strained beyond its elastic limit and frequent breakages occurred at this point.

By means of the present invention, the above and other disadvantages have been eliminated.

Referring now to the drawing in which like reference numerals denote corresponding parts throughout the several views, the numerals 10 and 11 indicate respectively a pair of thin hollow metal end knitting points which are joined by a central flexible connecting member 12 formed of rawhide,—said points being substantially cylindrical in shape and having the usual conical outer ends or tips 13. The points 10 and 11 are relatively short and are formed with thin walls (a few thousandths of an inch in thickness), the open ends of said points overlying the central member 12 and being beveled at 14 substantially flush therewith. If desired, the open ends of the points may be slightly embedded in the rawhide strand by rolling or pressing said ends inwardly. The hollow points 10 and 11 have an internal bore 15 of such diameter as to snugly fit upon the ends of the member 12.

Previous to inserting the ends of the central connecting member 12 into the points 10 and 11, a suitable quantity of adhesive 18, such as melted hide glue, liquid "fish" glue, or "Duco" cement will preferably be placed in said points, as clearly shown in Fig. 4, whereby said points will be securely connected to the central member 12.

The central connecting member 12 herein disclosed is constructed from hard solid flexible rawhide, preferably obtained from India water buffalo hides. While the rawhide is still wet, it is cut into strips of rectangular cross-section and of the desired length. A plurality of these strips (two as herein shown) are tightly twisted together by suitable means, not shown, until they assume a generally cylindrical ribbed form (see Fig. 2), and at the same time are pulled lengthwise to remove practically all of the "stretch" therefrom, but without removing the flexibility thereof. In this process of twisting and pulling, substantially all of the water will be expelled from the wet rawhide, and when the twisted strips are allowed to dry, the natural glue there-

in will cement them together and consolidate them into a hard and flexible strand. The drying and hardening process is performed by means of air heated to a temperature of from 100 to 120 degrees F., after which the twisted strips will be kiln-dried in air at a temperature of from 125 to 150 degrees F. The rough twisted member so formed will then be smoothly ground to any desired size, as shown in Fig. 3.

After the hollow knitting points 10 and 11 have been secured in position as described above, the central member 12 will preferably be treated with a suitable smoothing material, such as "wood filler", and also with a water-proofing finish, such as varnish.

In the modified form of knitting needle shown in Fig. 5, the middle portion 19 of the connecting member 20 is reduced in diameter to increase the flexibility thereof, and relieve bending strains on the member 20 adjacent the points 10 and 11.

In both forms of the invention as herein illustrated, the length of each hollow knitting point is substantially short, being herein shown as about 4% the length of the entire circular knitting needle. This construction results in distributing the bending strains over a greater portion of the length thereof, thus materially reducing the danger of breakage due to the repeated bendings while knitting.

One advantage of the present invention is that the central rawhide connecting member will be hard yet flexible, and will be capable of resisting repeated bendings of the needle without breaking. It will also be practically immune to the changes in humidity and other atmospheric conditions.

Another advantage obtained through the use of a central connecting member of rawhide is that this material is flexible and of such a low specific gravity that said central member may be made substantially the same diameter as the end knitting points without producing a needle of excessive stiffness or weight.

A further advantage of the use of rawhide for the center connecting strand is that it will be non-fraying so that it will be impossible for the yarn to catch thereon.

A further advantage due to the use of the short points in the circular needle is that the needle will shape easily in the knitter's hand and greater speed in knitting can be secured.

A further advantage of the use of rawhide formed and treated as described above is that the needle may be temporarily "set" by the user with the points at any desired distance apart, thereby reducing the fatigue which would otherwise be produced in the hands and wrists of the knitter due to the effort required to continually overcome the tendency of the circular needles of this nature to straighten out, as when the all-metal needles are employed.

While there have been disclosed in this specification two forms in which the invention may be embodied, it is to be understood that these forms are shown for the purpose of illustration only, and the invention is not to be limited to the specific disclosures, but may be embodied and modified in various other forms without departing from its spirit. In short, the invention includes all the modifications and embodiments coming within the scope of the following claims.

Having thus fully described the invention, what is claimed as new and for which it is desired to secure Letters Patent, is:

1. In a hand knitting needle, a body portion comprising a plurality of strips of untanned animal hide helically twisted with their side edges in abutment, and forming a consolidated hard flexible central strand, and a hollow metallic knitting point fitted over one end of said body portion.

2. In a hand knitting needle, a body portion comprising a plurality of strips of untanned animal hide helically twisted with their side edges in abutment, and forming a hard consolidated flexible central strand, and a pair of hollow knitting points fitted over both ends of said body portion.

3. In a hand knitting needle, a body portion comprising a plurality of strips of untanned animal hide helically twisted with their side edges in abutment, and forming a consolidated hard flexible central strand, and a hollow metallic knitting point fitted over one end of said body portion, said body portion being water-proofed.

4. In a hand knitting needle, a hard flexible body portion comprising a plurality of helically twisted strips of untanned rawhide of rectangular cross-section, and a hollow metallic knitting point having a length less than 10% of the entire length of the needle.

5. In a hand knitting needle, a plurality of strands of untanned rawhide twisted together and consolidated into cylindrical form and constituting the body portion of said needle.

6. In a circular knitting needle, a central body member comprising a plurality of strands of rawhide twisted together and consolidated into cylindrical form, and a pair of relatively short hollow metallic points embracing the ends of said member, the length of each point being less than 10% of the entire length of the needle.

7. In a circular knitting needle, a central body member comprising a plurality of strands of rawhide twisted together and consolidated into cylindrical form, and a pair of relatively short hollow metallic points embracing the ends of said member, the length of each point being less than 5% of the entire length of the needle.

8. In a hand knitting needle, a flexible body portion comprising a pair of helically twisted strips of initially flat rawhide, and a rigid hollow end knitting point fitted over the end of said body section and secured thereto, the open end of said point being beveled flush with said body portion.

9. In a flexible body member for a hand knitting needle, a plurality of strips of untanned animal hide twisted together into solidified self-sustaining form.

10. In a flexible body member for a knitting needle, a plurality of strips of untanned animal hide twisted together into solidified self-sustaining form, the ends of said body member being larger in diameter than the center.

11. In a hand knitting needle, a flexible body portion comprising a pair of helically twisted strips of initially flat rawhide, and a rigid hollow end knitting point fitted over the end of said body section and secured thereto, the open end of said point being beveled flush with said body portion and embedded therein.

HOWARD A. COOK.