April 24, 1945. A. UNGER 2,374,631

METHOD OF MAKING TEXTILES

Filed April 28, 1942

Fig. 1

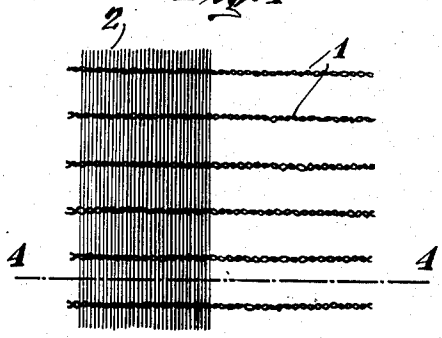


Fig. 2

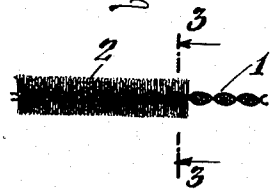


Fig. 3

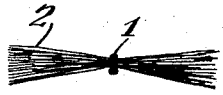


Fig. 4

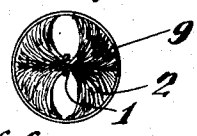


Fig. 5

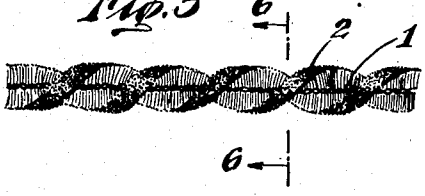


Fig. 6



Fig. 7

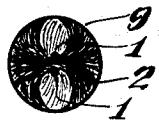


Fig. 8

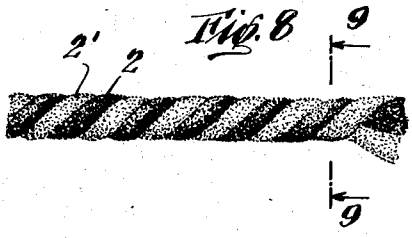


Fig. 9

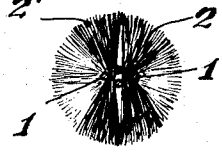


Fig. 10

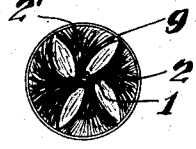


Fig. 11

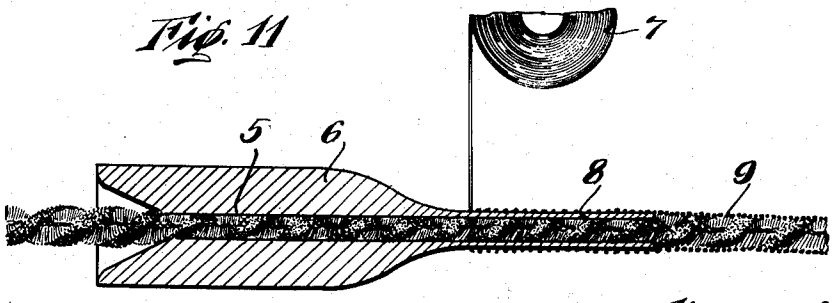


Fig. 12

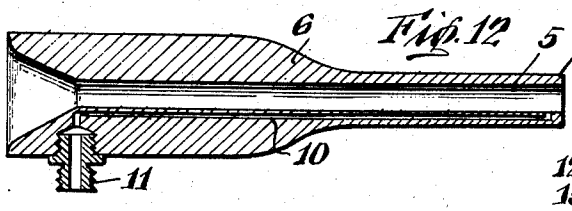


Fig. 13

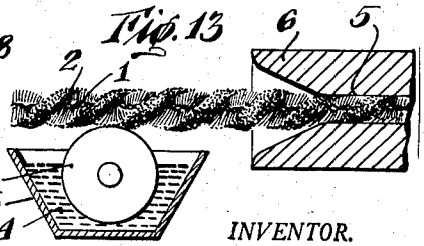
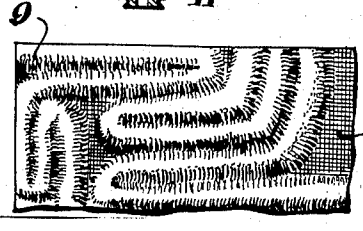


Fig. 14



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UNITED STATES PATENT OFFICE

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METHOD OF MAKING TEXTILES

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Application April 28, 1942, Serial No. 440,783

11 Claims. (Cl. 57—160)

The present invention relates to textiles and to the manufacture thereof and more particularly to the type of yarn which may be used for trimming and for the manufacture of imitation Persian lamb cloth.

Past efforts have succeeded in the manufacture of cloth which closely simulates the appearance of Persian lamb fur. In some cases, this has been done by sewing a curled chenille yarn to a backing. In other cases, a wrapped material has been secured to a cloth backing. One of the difficulties encountered is the poor wearing quality of the cloth. The cloth, when rubbed against other objects, loses its finished appearance and takes on a "shaggy" appearance. Persons not knowing that this is an inherent characteristic of the cloth complain to the stores selling it, claiming that the material is defective and of poor quality. Stores, in order to prevent impairment of their reputation, are inclined to discontinue sales of the material and of articles made from it. Thus, while the cloth and articles such as coats made therefrom have a consumer appeal, they do not have the wearing qualities desirable for their extensive adoption. The present invention aims to provide a textile which may be used in making a fabric to simulate Persian lamb fur and which is durable and therefore satisfactory for the manufacture of coats and other articles therefrom and at the same time lower in cost.

An object of the invention is to provide an improved, inexpensive, durable textile which may be utilized for trimming and for the manufacture of artificial Persian lamb fabric.

Another object of the invention is to provide an improved method of making a textile for the manufacture of artificial fur and the like.

Another object of the invention is to provide a textile which will produce a heavier cloth and hence more nearly simulate a fur.

Another object of the invention is to provide a wrapped textile wherein the wrapping will not slip on the core.

Another object of the invention is to provide a yarn with a core of a heavy material and a wrapping of a silk-like material which tends to adhere to the core.

Other and further objects of the invention will be obvious upon an understanding of the illustrative embodiment about to be described, or will be indicated in the appended claims, and various advantages not referred to herein will occur to one skilled in the art upon employment of the invention in practice.

A preferred embodiment of the invention has been chosen for purposes of illustration and description and is shown in the accompanying drawing, forming a part of the specification, wherein

Fig. 1 is a fragmentary view of a fabric illustrating a preferred method of making the flat strands of chenille;

Fig. 2 is a side elevational view of a strand of flat chenille;

Fig. 3 is a sectional view along the line 3—3 of Fig. 2;

Fig. 4 is a sectional view of the strand of chenille shown in Fig. 2 after it has been wrapped;

Fig. 5 is a side elevational view of a twisted strand of flat chenille;

Fig. 6 is a sectional view of a twisted strand of chenille along the line 6—6 of Fig. 5, the darker portion illustrating the material at the plane of the section, and the lighter portion illustrating the fibers at points spaced from the plane of the section;

Fig. 7 is a sectional view of the twisted strand of flat chenille, illustrated in Fig. 6 after it has been wrapped, the darker portion illustrating the material at the plane of the section and the lighter portion illustrating the fibers at points spaced from the plane of the section;

Fig. 8 is a side elevational view of a plurality of strands of flat chenille twisted together;

Fig. 9 is a sectional view of a plurality of strands of twisted flat chenille taken along the line 9—9 of Fig. 8, the darker portion illustrating the material at the plane of the section and the lighter portion illustrating the fibers at points spaced from the plane of the section;

Fig. 10 is a sectional view of the plurality of strands of twisted flat chenille shown in Fig. 8 after it has been wrapped to conceal the projecting fibers thereof, the darker portions illustrating the material at the plane of the section and the lighter portions illustrating the fibers at points spaced from the plane of the section;

Fig. 11 illustrates a preferred embodiment of a device and method for wrapping the chenille yarn;

Fig. 12 illustrates a modified form of the device for applying an adhesive to the exterior of the chenille yarn;

Fig. 13 illustrates another device for applying an adhesive to the chenille core; and

Fig. 14 is a fragmentary top plan view of a piece of cloth embodying the present invention;

Referring again to the drawing and more particularly to Fig. 1, a preferred method of making

the strands of flat chenille is illustrated. There is shown a series of warp threads 1 which may be any desired number and between these warp threads, a fibrous material such as cotton is woven as weft threads. Cloth of any desired width may be woven rapidly in this manner by suitable automatic machinery. Thereafter a series of cutters may be utilized to cut the cloth intermediate the warp threads; for example, along the line 4—4 of Fig. 1. This cutting operation provides a large number of strands of flat chenille similar to the single strand shown more particularly in Figs. 2 and 3 at a very low cost due to the large number of strands made in the weaving and cutting operations. Groups of fibers 2 forming the weft threads are held together between the two warp threads 1 so that the cut ends of the fibers project outwardly therefrom, as shown more particularly at Fig. 3 to provide a strand of flat chenille. This method of manufacture facilitates mass production and lowers materially the unit cost.

In order to provide a yarn having a smooth outer surface which may be made into a cloth which simulates Persian lamb, the strand of chenille shown in Figs. 1 and 2 is passed through the bore 5 of a bullet shaped device 6. A member 7 is adapted to revolve about the tapered end 8 of the device 6 to apply a wrapping thereon which is removed and backed up by the compressed fibers of the strand of chenille emerging from the end of the tube. In this way, the flat strands of chenille are wrapped to give a smooth outer covering and to retain the outwardly projecting fibers of the core enclosed. The wrapping may be as tight as desired, but generally is loose to give a soft yarn which may be readily bent without exposing the inner core when sewed on a backing for forming a cloth. In this way, a less expensive and more durable yarn is provided. In order to prevent slippage between the outer wrapping and the inner core and in order to increase the weight of the material, the flat strands of chenille are preferably made of cotton which weighs considerably more than rayon or silk and are thereafter wrapped with a silk-like material shown as a thread or yarn such as silk or rayon to give an external appearance which simulates Persian lamb. The greater friction occasioned by the contrasting materials of the core and wrapping tends to prevent slippage between the two and provides a more durable yarn and one in which the covering is less likely to spread and expose the inner core.

In some cases, it may be desired to provide a more nearly circular core, and a firmer core. This may be done as shown in Figs. 5, 6 and 7 by twisting the flat chenille so that the outer fibers 2 on each side will form a sort of spiral. If twisted sufficiently, the free ends of the fibers 2 will engage the outer wrapping substantially about the entire circumference. This gives a firm core and causes the outer wrapping to be more nearly circular in the finished yarn. The side view in Fig. 5 shows the effect of twisting the flat yarn, the free ends thereof forming in effect a spiral extending about the core. The darker portion of the section in Fig. 5 shows the fibers at the plane of section and the lighter portions show the fibers at planes from the plane of the section. A section through the finished strand after it is wrapped is illustrated in Fig. 4. The fibrous material 9 may be wrapped about the twisted chenille described above and in connection with Figs. 8 to 10 in a direction opposite to the twist so that any tendency of the core to untwist will cause the wrapping to grip tighter.

By wrapping a plurality of strands of twisted chenille 2 and 2', as illustrated in Figs. 8, 9 and 10, the body and weight of the core may be further increased and a more nearly circular form obtained. The inexpensive method of manufacturing the flat chenille permits this to be done without unduly increasing the cost of the finished yarn. In each of the above cases, it is preferred to have the core made of cotton and the exterior wrapping of a silk-like material; but other materials may be utilized for both the core and the wrapping within the scope of the invention.

While excellent results may be obtained with the above yarns, in some cases it may be desired to guard even further against the wrapping slipping with respect to the core and against the wrapping exposing the core. There is illustrated in Fig. 12 a device similar to that shown in Fig. 11 with a conduit 10 which enters the tube at the nipple 11 and passes longitudinally through it to permit an adhesive to be conducted to the small end of the tube where the wrapping is being applied to the core without impairing in any way the wrapping operation. One or more conduits 10 may be utilized if desired in applying the adhesive to the exterior of the core as it is being wrapped. The advantage of applying it at the outlet end is to minimize the adherence of the glue to the inside of the bore 5 and to apply it to the core just prior to the application of the wrapping. The adhesive is preferably thin and preferably formed from a latex base so that it does not show on the exterior of the wrapped yarn but is confined to the outer surface of the core and the inner surface of the wrapping 9. If desired, the adhesive may be applied to the core prior to its entrance to the tube member 6 by passing the strand of yarn over a roller 12 having its lower surface immersed in the adhesive 14 in a reservoir 15. The inner bore 5 will spread the adhesive on the surface of the core.

The yarn illustrated in Figs. 4, 7, 10 and 11 may be sewed or otherwise secured to a backing 16 as illustrated more particularly in Fig. 14 to provide a cloth which simulates artificial Persian lamb. It will be understood, of course, that the yarn can also be used for various trimmings. In all cases, it is more durable than yarns heretofore and may be made of a heavier weight at less cost than previous yarns.

It will be seen that the present invention provides an improved yarn and an improved method of manufacture. The yarn is more durable and less expensive than yarns heretofore and may be utilized for the manufacture of trimmings and for the manufacture of imitation Persian lamb fabric. The use of a cotton core of flat chenille with a silk-like wrapping increases the weight without increasing materially the cost and at the same time prevents slippage between the covering and the core by having contrasting materials and outwardly projecting fibers which may be engaged by the wrapping. The use of an adhesive further prevents slippage between the core and the outer wrapping without impairing the appearance of the yarn. The resulting cloth is able to withstand the rough usage to which it may be subjected.

As various changes may be made in the form, construction and arrangement of the parts herein without departing from the spirit and scope of the invention and without sacrificing any of

its advantages, it is to be understood that all matter herein is to be interpreted as illustrative and not in a limiting sense.

Having thus described my invention, I claim:

1. The method of making a textile yarn, which method comprises passing a thread of flat chenille through a tube to spread the fibers in a circumferential direction to make the outer surface more nearly round, and applying a wound textile to said distorted fibers.

2. The method of making a textile member, which method comprises twisting a strand of flat chenille, passing the strand of twisted chenille through a tube to spread the fibers in a circumferential and axial direction, and applying a wound textile to said distorted fibers.

3. The method of making a textile member, which method comprises twisting a strand of flat chenille, passing the strand of twisted chenille through a tube to spread the fibers in a circumferential and axial direction and wrapping a textile on said distorted fibers in a direction opposite to the twist so that any tendency to untwist will tighten the wrapping thereon.

4. The method of making a textile yarn, which method comprises passing a plurality of strands of flat chenille through a tube to spread the fibers in a circumferential and radial direction and applying a wound textile to said distorted fibers.

5. The method of making a textile yarn, which method comprises twisting a plurality of strands of flat chenille, passing the twisted strands through a tube to compress the fibers thereof, and applying a wound textile to said compressed fibers.

6. The method of making a textile yarn, which method comprises twisting a plurality of strands of flat chenille to make their exterior more nearly circular and passing the strands of twisted chenille through a tube to compress the fibers thereof and wrapping a textile about the compressed fibers in a direction opposite to the twist so that any tendency to untwist will tighten the wrapping thereon.

7. The method of making a textile yarn, which method comprises passing a strand of flat chenille made of cotton through a tube to compress the fibers thereof and thereafter winding a strand of silk-like material about the compressed cotton fibers substantially completely to cover the same.

8. The method of making a textile yarn, which method comprises twisting a plurality of strands of chenille together and passing said twisted strands of chenille through a tube to compress the fibers thereof and wrapping the compressed fibers with a silk-like material substantially completely to cover the strands of chenille.

9. The method of making a textile yarn, which method comprises passing a strand of chenille through a tube to compress the fibers thereof, applying an adhesive to the exterior of the strand of chenille and applying a wound textile substantially to cover the strand of chenille.

10. The method of making a textile yarn, which method comprises passing a strand of chenille through a tube to compress the fibers thereof, applying an adhesive to the exterior of the strand as it emerges from the tube and wrapping a textile about the strand as it emerges from the tube.

11. The method of making a textile yarn, which method comprises passing a strand of flat chenille made of cotton through a tube to compress the same and wrapping a strand of silk-like material about said core, substantially to cover the same.

ABRAHAM UNGER.