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BASTING THREAD

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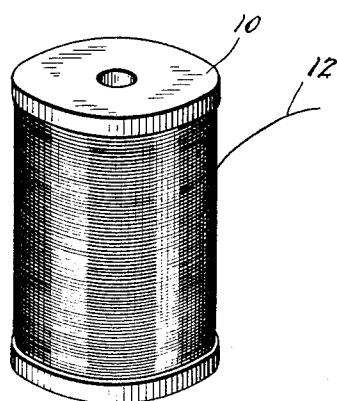


Fig. 1

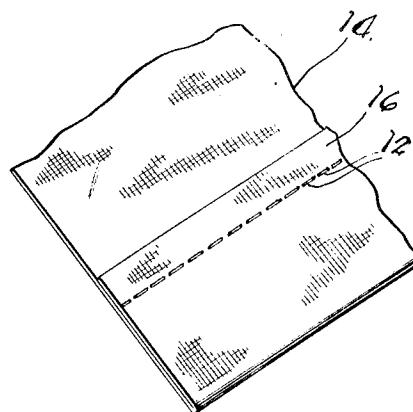


Fig. 2

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## BASTING THREAD

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5. Claims. (Cl. 112—262)

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This invention relates to basting and, more particularly to basting thread, a process for its preparation, and basted fabric wherein the basting thread is employed.

In the sewing and garment making arts it is often required that a piece of fabric or textile material be folded over one edge and temporarily secured in the folded position until such time as permanent stitches or other securing means are applied. This is ordinarily accomplished by a basting process which includes the step of sewing the fold in position temporarily by basting thread. After the permanent stitches have been applied, then it is necessary to remove the basting stitches by hand. For mass production operations in the garment manufacturing industry this removal of the basting stitches is a tedious and time-consuming operation. Accordingly it is one object of this invention to provide a chemically treated basting thread which may be caused to disintegrate a suitable time after use whereby it may readily be removed from the fabric stitched thereby.

A further object of this invention is the provision of a spool of a readily disintegratable basting thread.

A still further object of this invention is the provision of a process for the treatment of basting thread in such a manner that the thread may be readily employed in a basting operation but which has the property of disintegrating at a time after its function in the basted fabric is no longer required.

A still further object of this invention is the provision of a basting process by which two layers of fabric may be sewed together or basted and whereby the basting thread may be eventually decomposed in situ after the application of permanent stitching, thereby rendering it unnecessary to remove the basting thread by the usual methods.

Further and additional objects will appear from the following description, the accompanying drawing and the appended claims.

In accordance with this invention, a basting thread prior to use as such is treated with a dilute solution of sulfuric acid and then dried, preferably in a current of air, at room temperature (i. e. 70° to 100° F.) or below. It has been found that the resulting thread maintains its tensile strength for a substantial period of time in order to permit it to be used in the usual basting operation. After two or more layers of fabric have been basted by the chemically treated basting thread of this invention, then these layers

may be permanently sewed or otherwise secured together by means of ordinary thread, yarn or other securing means. Thereafter the sewed fabric is permitted to stand for a sufficient length of time until the basting thread disintegrates by virtue of its prior treatment with sulfuric acid. Preferably disintegration of the basting thread is accelerated by heating the fabric in a warm oven or by ironing it with a hot iron. After the disintegration is substantially complete, then the basting thread may be removed by rubbing the surface of the fabric and it will completely disappear. Upon disintegration the basting thread leaves no trace and does not stain the fabric.

15 For a more complete understanding of this invention, reference will now be made to the accompanying drawing, in which

Fig. 1 is a perspective view of a spool of thread which has been treated in accordance with one embodiment of this invention; and

20 Fig. 2 is a perspective view of one corner of a piece of folded fabric basted with the thread shown on the spool of Fig. 1.

In order to prepare the basting thread in accordance with one embodiment of this invention, an ordinary spool 10 convolutely wound with a usual type basting thread 12 is provided. The spool of thread is completely immersed in a cold dilute solution of sulfuric acid until such time as substantially all of the thread wound on the spool has become completely saturated with the solution. This will ordinarily require not more than a few minutes. Thereafter the spool is removed from the solution and set aside to dry at room temperature or below in a current of cool air. Drying at elevated temperatures results in a weakening of the treated thread so that it may not have sufficient strength to be used in a basting step. Ordinarily the drying will be complete in a period of four to five hours. The thus treated thread is suitable for basting operations. In accordance with one embodiment of this invention (see Fig. 2), it may be used to baste a piece of fabric material 14 having a folded edge 16 as is customary in the sewing art. After the basting is complete permanent stitching (not shown) is applied to the fabric 14 and the fold 16. Thereafter the fabric may be placed in a warm oven or room maintained at a temperature above about 100° F. or preferably above about 130° F. until such time as the basting thread 12 becomes disintegrated to such an extent that it may readily be removed from the fabric by rubbing. Under certain conditions it may be preferred to 45 accelerate this disintegration by the application

of a hot iron to the basted fabric. When this is done the basting thread 12 will disintegrate or decompose very rapidly. In any case, it may readily be removed from the fabric by rubbing without leaving a stain or other trace.

The basting thread that is treated in accordance with this invention may be any of the types that are ordinarily employed in basting operations. Generally speaking, however, they are of a type which will slowly disintegrate upon the treatment with dilute sulfuric acid. Such thread is usually cellulosic in character, of which cotton thread is a preferred example. However, other cellulosic threads, such as linen or the synthetic cellulose acetate threads, may be employed under certain conditions. Likewise by increasing the concentration of the sulfuric acid in the treating solution and increasing the temperature to which the basted fabric is treated after the basting operation, other types of threads or yarns, such as those prepared from silk or wool, may be employed.

It has been found that a spool of Oliver No. 60 brand cotton basting thread wound 1200 yards on a spool and manufactured by John C. Meyer Thread of Lowell, Massachusetts, may be satisfactorily treated in accordance with this invention by a cold dilute solution of sulfuric acid comprising 25 parts by volume of water to one part by volume of concentrated sulfuric acid. After several minutes' immersion in this solution, it is removed and dried for four to five hours in a current of cold air. If used within 48 to 72 hours, it has sufficient strength to be used in a basting operation.

In the case of heavier cotton basting threads, such as Clark's Button and Carpet O. N. T. extra strong thread on a 40 yard spool, it requires a somewhat stronger solution of sulfuric acid to obtain the same results. A spool of thread of this latter type was satisfactorily treated for a few minutes by means of one part volume of concentrated sulfuric acid to 15 parts by volume of water.

It will be apparent that the strength of the sulfuric acid solution employed will be dependent upon the size and type of the thread employed, upon the spool winding and to some extent upon the time between the sulfuric acid treatment and the intended use of the thread in a basting operation. Generally speaking, it is preferred that the sulfuric acid treatment be controlled so that the basting thread will have sufficient tensile strength for a period of 48 to 72 hours after being treated in accordance with the process of this invention. Proportions of water to sulfuric acid in the solution in parts by volume are preferably within the range of about 10 to 1 and about 40 to 1 for most types of spools of thread.

While certain embodiments of this invention are shown above, it will be understood, of course, that the invention is not to be limited thereto, since many modifications may be made, and it is contemplated, therefore, by the appended claims, to cover any such modifications as fall within the true spirit and scope of this invention.

I claim:

10. Basting thread having a strength sufficient for sewing therewith, and containing sufficient sulfuric acid to decompose said thread when the latter is heated to above about 100° F.
15. Basting thread made of cellulosic fibers having a strength sufficient for sewing therewith and containing sufficient sulfuric acid to decompose said thread when the latter is heated to above about 100° F.
20. A process for uniting a piece of fabric to another which comprises initially joining said pieces by inserting thereinto a plurality of low heat disintegrable basting stitches; thereafter permanently securing said pieces together; disintegrating said stitches at a temperature above about 100° F. whereby the said stitches are removed and said pieces are left permanently united.
25. A process for forming a permanent seam to unite a plurality of layers of fabric which comprises initially joining said layers by inserting thereinto a plurality of dried low heat disintegrable sulfuric acid treated basting thread stitches; thereafter permanently securing said layers together; disintegrating said stitches at a temperature above about 100° F. whereby the said stitches are removed and said pieces are left permanently united.
30. A process for forming a permanent seam to unite a plurality of layers of fabric which comprises initially joining said layers by sewing thereinto a plurality of dried low heat disintegrable sulfuric acid treated cellulosic basting thread stitches; thereafter permanently sewing the said layers together; then disintegrating the said stitches at a temperature above about 100° F. whereby the said stitches are removed and the said layers are left permanently united.
35. A process for forming a permanent seam to unite a plurality of layers of fabric which comprises initially joining said layers by sewing thereinto a plurality of dried low heat disintegrable sulfuric acid treated basting thread stitches; thereafter permanently securing said layers together; disintegrating said stitches at a temperature above about 100° F. whereby the said stitches are removed and the said layers are left permanently united.

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