

Dec. 24, 1940.

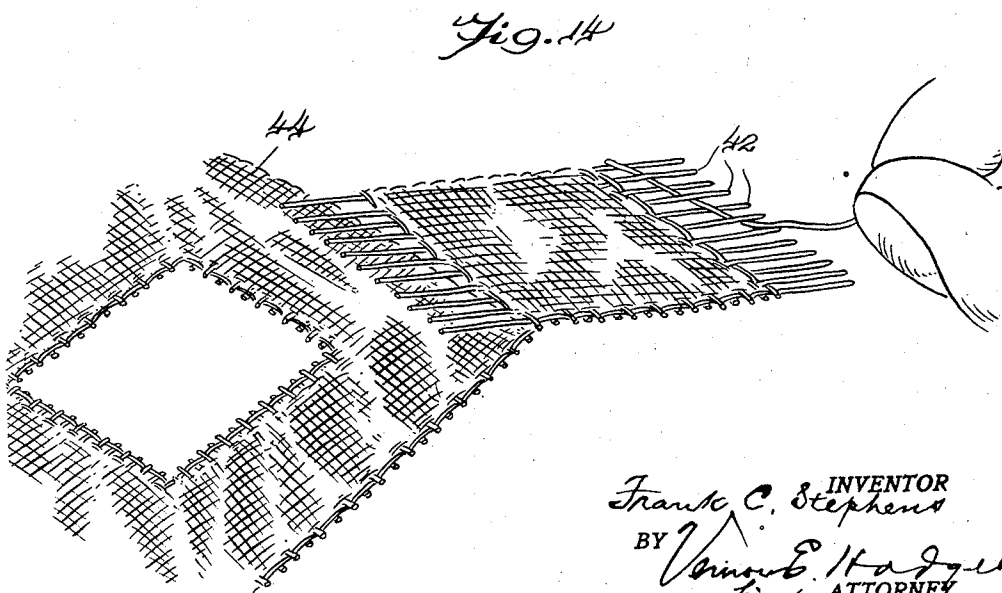
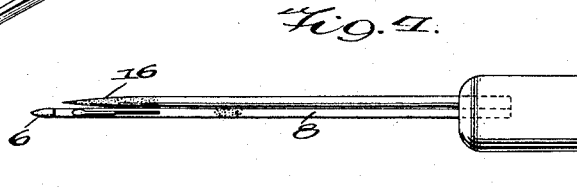
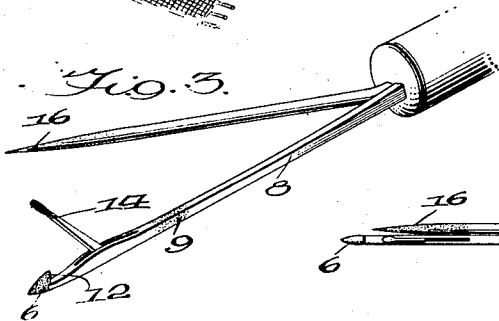
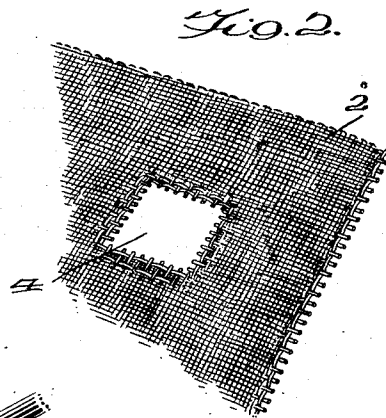
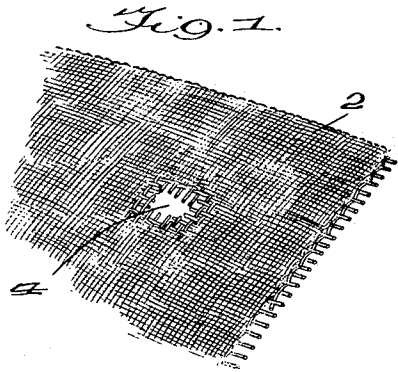
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2,226,449

METHOD OF REPAIRING TEXTILE FABRICS

Filed March 12, 1934

3 Sheets-Sheet 1



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3 Sheets-Sheet 2

Fig. 15

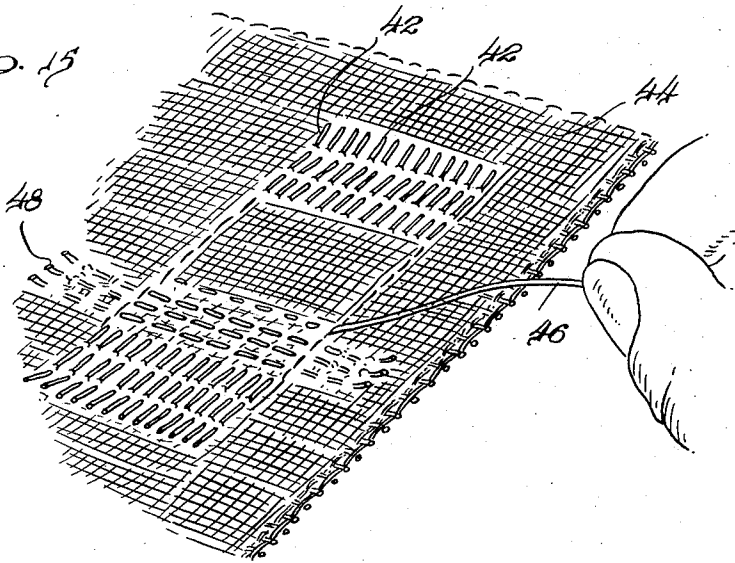


Fig. 5

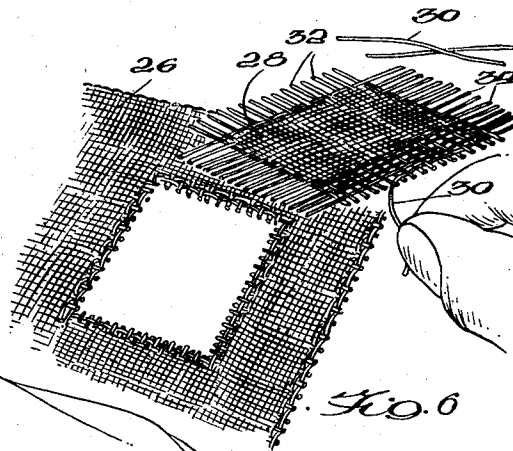
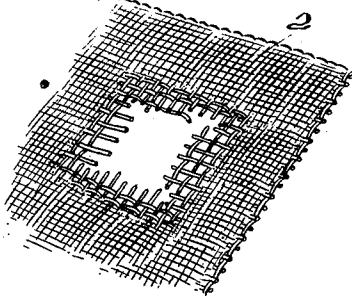
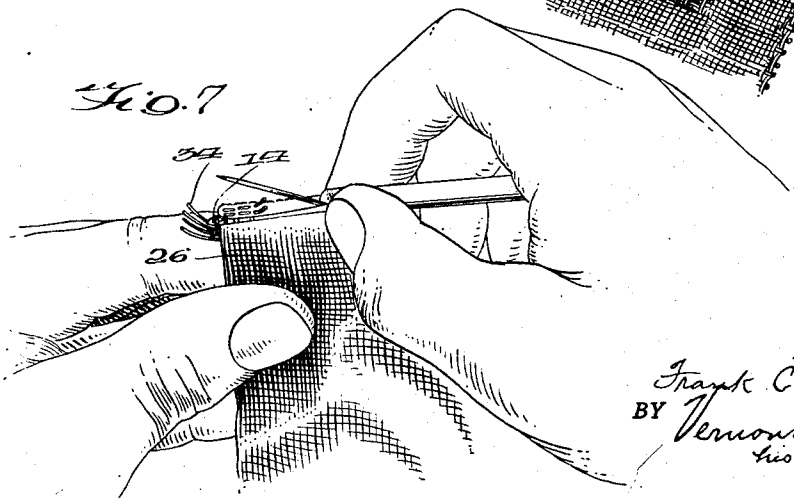


Fig. 7



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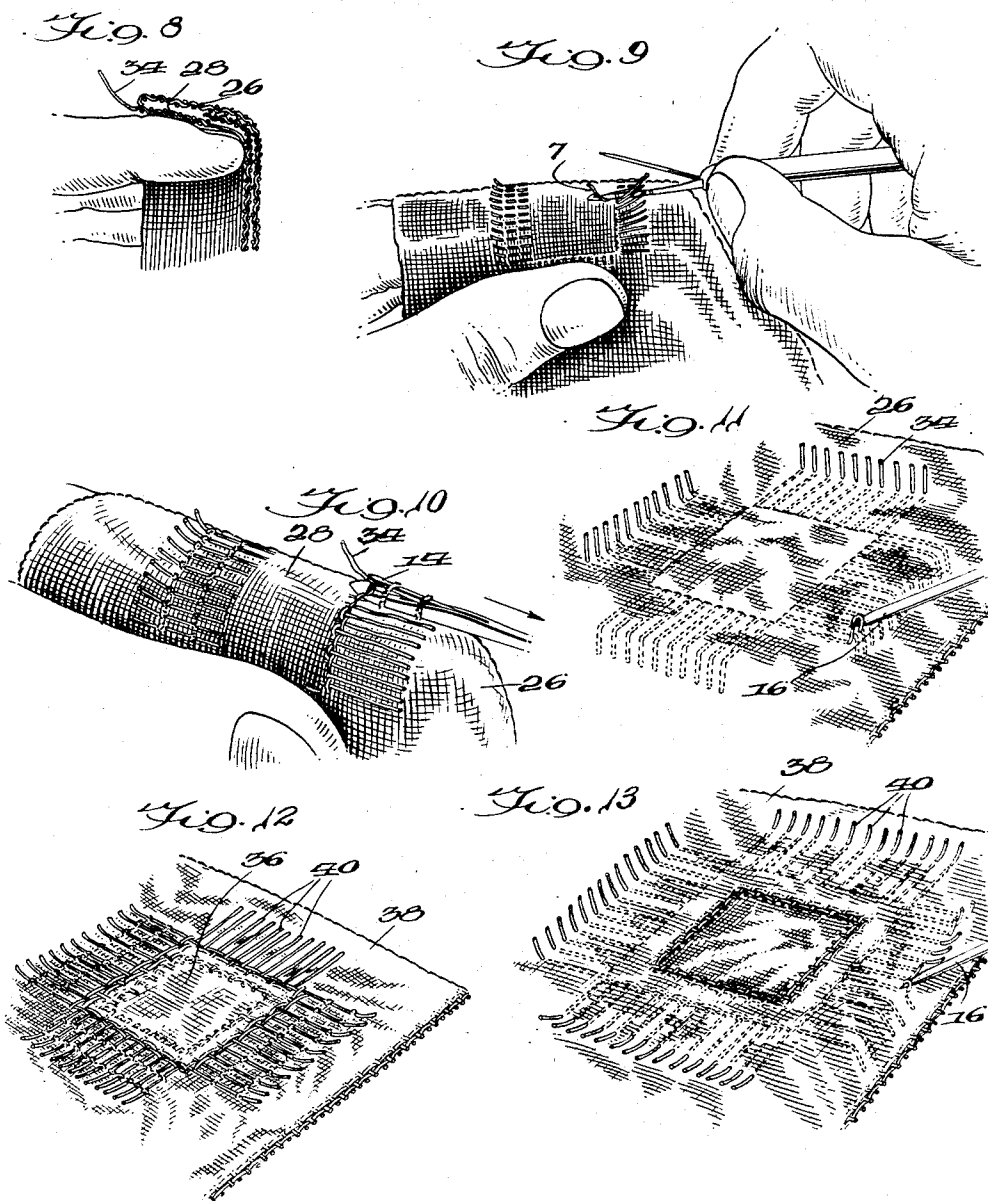
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METHOD OF REPAIRING TEXTILE FABRICS

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3 Sheets-Sheet 3



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METHOD OF REPAIRING TEXTILE FABRICS

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Application March 12, 1934, Serial No. 715,231

5 Claims. (Cl. 2-243)

My invention pertains to methods of repairing textile fabrics.

An object of my invention is to repair moth holes, burns, cuts, and tears, in textile fabrics.

Another object of my invention is to provide a method by which textile fabrics may be repaired so that the repaired part of the fabric will appear as the original fabric appeared before it was damaged.

In the accompanying drawings:

Fig. 1 is a perspective view of a fabric with a small hole;

Fig. 2 is a perspective of a hole with edges thereof squared;

Fig. 3 is a perspective of a form of needle adapted for use in my new methods of textile repair;

Fig. 4 is a plan view of the same needle;

Fig. 5 is a perspective view of a large hole in a fabric;

Fig. 6 is a perspective view of a large hole with squared edges and a patch being fitted to the hole with threads protruding from the patch;

Fig. 7 is a perspective view of a fabric and patch held in position so that end threads may be pulled into the fabric;

Fig. 8 is a vertical section of a fabric shown in Fig. 7;

Fig. 9 is a perspective view of a fabric with fourth side of square patch being secured to the fabric;

Fig. 10 is an enlarged perspective view showing a thread of fourth side of patch being pulled into fabric;

Fig. 11 is a perspective view of ends of threads being picked through to one side of fabric;

Fig. 12 is a perspective view of a square patch larger than squared hole, three sides of which have been worked in to the fabric;

Fig. 13 is a perspective view of the underside of fabric with patch larger than hole affixed, also showing ends of thread being pulled through to underside of fabric;

Fig. 14 is a perspective view of squared hole with patch to fit the hole having threads on two ends of the patch only;

Fig. 15 is a perspective view of patch with two ends secured to fabric, cross thread being removed from the patch and new cross threads replacing the cross threads removed from the patch and secured to the fabric.

In Fig. 1, I have shown an ordinary textile fabric 2 with a small moth hole or burned spot 4. In preparing the hole 4 for repairing, I remove the damaged ends of the warp and weft threads

to make the smallest possible square hole in the fabric 2, as shown in Fig. 2. This hole will be cut so that there will be no damaged warp or weft threads remaining; the damaged warp or weft threads being cut along the lines of the nearest undamaged warp or weft thread. Thus a square or oblong hole will be made with its edges running parallel with the warp and weft threads.

If the hole in the fabric is very large, such as the hole shown in Fig. 5, it will be necessary, in preparing the fabric to be repaired, to make a very large square hole, as the hole shown in Fig. 6. I select a piece of the fabric which is large enough to cover the large square hole and have ends of the warp and weft threads extending beyond the edges of the square hole.

After the hole has been properly prepared by removing the damaged warp and weft threads, the threads 30 are removed from the edges of the patch 28, as shown in Fig. 6, until the patch 28 fits accurately into the square hole with the ends 32 and 34 of the warp and weft threads of the patch left free so that they may be drawn into the fabric on the four sides of the square hole.

In Figs. 7 and 8, I have shown how this patch 28 is placed in position with respect to the fabric 26 over the operator's finger with the ends 34 of the warp (or weft) threads extending out beyond the edge of the fabric 26. When the patch and fabric are thus held in proper position, the needle 8 is forced in and out through the fabric 26 by inserting the point 6 into the goods approximately in the plane thereof, and one thread 34, at a time, is caught by the hook 12 and drawn back through the fabric 26 to hold the patch 28 securely in position.

Sometimes, it is more desirable to hold the fabric and patch over the operator's finger as shown in Figs. 9 and 10. In this case, the method of forcing the needle in and out through the fabric 26 is the same as described above and the thread 34 is caught by the hook 12 and pulled through the fabric 26 to hold the patch 28 in its proper position. It is generally desirable to work on one side of the fabric while pulling the threads 34 into the fabric 26, and later to pull the extreme ends of the threads 34 through to the other side of fabric, as shown in Fig. 11. This is done by means of a picking operation, as shown in Fig. 13, by use of the pointed guide 16. By this operation, all the ends are pulled through to the wrong or under side of the fabric. After all the threads 34 have been pulled through to one side of the fabric 26 they are cut close to the

fabric 26, so that the ends will not show after the patch has been secured in place.

Sometimes a satisfactory repair job may be made in a shorter period of time by preparing a patch 36 which is slightly larger than the square hole made in the fabric 38, as shown in Figs. 12 and 13.

In this case the patch 36 is placed over the square hole on the outside of the goods being worked upon, and is secured to the fabric 38 by drawing the ends 40 of the patch 36 into the fabric 38, in the same manner as that described above. This operation is preferably done from the outside of the goods and later the fabric is turned over and the ends of the threads 40 are pulled through to the inside of the goods by means of the pointed guide 16, as shown in Fig. 13, after which they are cut off close to the fabric 38.

It is sometimes desirable to prepare a patch which has portions of the fabric extending only from two sides thereof, as shown in Fig. 14. If this type of patch is to be used the width of the patch is made to properly fit the width of the square hole without having any ends of threads extending from the sides of the patch to be secured to the fabric. On the ends of the patch (which in the case of this type of patch is generally an oblong hole) I provide the threads 42, similar to those described above, so that the patch may be secured at its ends to the fabric 44.

After this patch has been secured by the threads 42 being drawn into the fabric 44, as shown in Fig. 15, I pull the cross threads 46 from the patch, one or two at a time, and thereafter force my needle through the fabric 44, and through the patch where the thread 46 has just been removed, and then through the fabric 44 on the other side of the patch. After the needle has thus been positioned in the fabric and the patch, a thread 48 is placed in the hook 12 and is pulled through the fabric and the patch to hold the patch in proper position. A number of these cross threads 48 will be drawn through the patch and the fabric so that the patch will be securely and accurately positioned within the hole, the threads 48 replacing the removed threads 46 and extending into the fabric 44.

After this patch is properly positioned, the ends of the threads 42 and 48 are cut close to the fabric 44 in a manner similar to that described above.

After the square hole has been rewoven by one of the methods described above and the ends of the threads of the patch have been cut off close to the fabric, I take several short ends of the fabric and cut them into fine particles which I dust over the repaired part of the goods. These minute particles are forced into the textile goods and the rewoven or repaired spot, so that any spaces between the newly positioned threads and the original fabric will be filled, and the repaired portion of the fabric will appear to be the same as the original fabric; the small particles of the fabric which is dusted over the repaired portion tending to form a new knap.

In Figs. 3 and 4, I have disclosed my preferred form of needle for doing this repair work on textile fabrics. The needle is a hook and latch needle and is provided with a hook 12 which terminates in a point 6. A latch 14 is pivoted at a point on the shank 8 so that it will be in position to cooperate with the hook 12. In this form of needle I provide a sharp pointed guide 16 which extends from the handle of the

needle in the direction of the point thereof, and is spaced apart therefrom to cooperate with the latch 14. The point 6, the latch 14, and a portion 9 on the shank 8, are all magnetized with magnetism of like polarity, so that the latch 14 will be normally held in approximately the position shown in Figs. 3 and 4. It will of course be understood that since these three points, namely, the latch 14, the point 6, and the portion 9 of the shank 8, are all magnetized with magnetism of like polarity, the tendency will be for the end of the latch 14 to be repelled by the other two points. To assist this repelling action and to further insure the proper position of the latch 14, I magnetize the end of the guide 16 with magnetism of the opposite polarity so that the latch 14 will be attracted toward the end of the pointed guide 16. Thus by the use of this magnetism, the latch will always be in an upward position unless it is held down by a portion of the fabric under which it must pass, as shown more particularly in Fig. 10.

While I have disclosed in the drawings a conventional form of fabric which might be termed the simplest possible weave, it will be understood that I am able to utilize one of my several methods on any type of fabric. In the case of a patch being utilized it will be understood that the patch will be cut in such a manner that the design on the patch will correspond and fit perfectly with the design on the fabric being repaired; that is, the patch, after it has been positioned in the fabric, will replace the destroyed portion of the fabric perfectly and will continue the design work of the original fabric so that it will appear, when the repair work is completed, as though none of the fabric had been destroyed or removed.

In securing a patch in position, it will only be necessary to prepare the patch so that it will precisely fit the squared hole and be in proper alignment with the design of the original fabric. It is not necessary that the frayed ends of the patch be pulled into the original fabric so that they will fit in with the design of the fabric. These frayed ends of the patch are pulled into the original fabric in such a manner that they will show very little, if at all, since it is intended that they be pulled through the original fabric between the two sides thereof, or approximately in the plane of the goods. It will be understood that I may use any of the several methods described above, the method selected being dependent upon the type of hole and/or fabric which is to be repaired.

While I have disclosed only a few specific methods of repairing holes in textile goods, it will be understood that different circumstances will require the use of slightly modified methods of repair, which methods are all within the spirit of my invention and the scope of the appended claims.

I claim:

1. A method of repairing textile goods consisting in selecting a patch to cover a hole, fraying the edges of the patch, placing the patch over the hole, inserting a hooked needle in the goods to be repaired, substantially in the plane thereof, catching a thread of the frayed edge of the patch in the hook, pulling the thread into the goods, and repeating the operation of pulling the threads of the frayed edges into the goods until the patch is secured in position.

2. An improved method of repairing holes in fabric which consists in preparing a patch of

greater size than the hole to be repaired, raveling out at least a portion of the edge of the patch thereby leaving an unravelled portion corresponding in size and shape with the hole to be repaired, superimposing the patch with the unravelled portion coinciding with the hole to be repaired, inserting a hooked needle in the goods to be repaired, in approximately the plane of said goods, and finally catching the ravelled threads of the patch in the hook and drawing said ravelled threads into the solid portion of the fabric to be repaired, so that the ravelled threads are distributed and merged with the solid portion adjacent to the hole.

5 3. A method of repairing textile goods consisting in enlarging the hole to be repaired to a hole having straight edges, selecting a patch to cover the hole, fraying the edges of the patch, placing the patch over the hole, inserting a
10 hooked needle in the goods to be repaired substantially in the plane thereof, catching a thread of the frayed edge of the patch in the hook, pulling the thread into the goods, and repeating the operation of pulling the threads of the frayed
20 edges into the goods until the patch is secured in position.

4. A method of repairing textile goods consisting in enlarging the hole to be repaired to a hole with straight edges, selecting a patch to match
30 the pattern in which the hole is cut, cutting the patch to fit the hole and to have ends of the ma-

terial to extend past the edges of the hole, inserting a hooked needle in the goods to be repaired substantially in the plane thereof, placing the ends of the material of the patch in the hook, pulling the hook and the ends of the material of the patch into the textile goods, and repeating the operation of pulling the ends of the patch material into the textile goods until the patch is secured to the textile goods.

5. A method of repairing textile goods consisting in enlarging the hole to be repaired to a hole having straight edges selecting a patch to cover the hole, cutting the patch to fit one width of the hole, fraying the other edges of the patch, inserting a hooked needle in the goods to be repaired, substantially in the plane thereof, catching one thread at a time of the frayed edges of the patch, repeating this operation until two opposite sides of the patch are secured to the goods to be repaired, pulling a cross thread from the patch, inserting a hooked needle in the goods on one side of the patch and approximately in the position from which the cross thread was removed from the patch, inserting the needle in the goods on the other side of the patch, catching a thread in the hook, pulling the thread into the position in which the needle was placed and repeating the operation until the patch is secured to the goods to be repaired.

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