

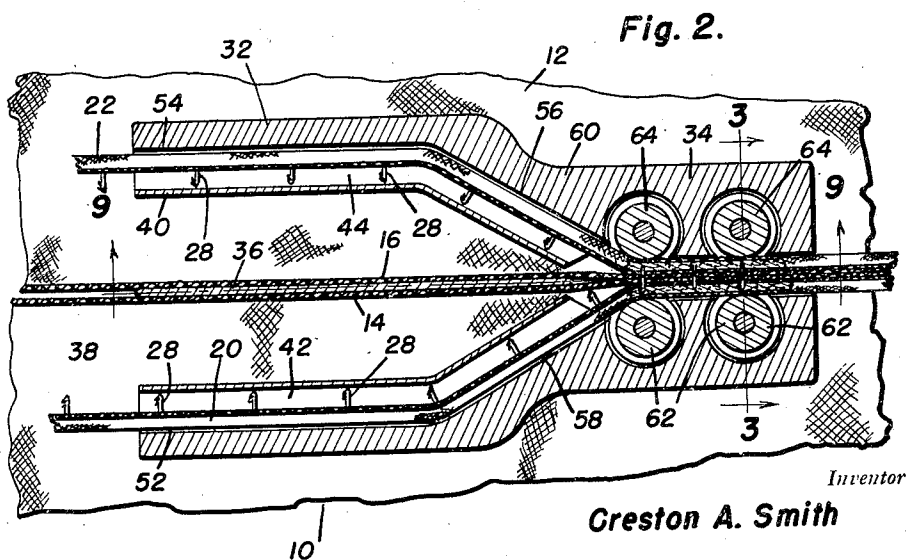
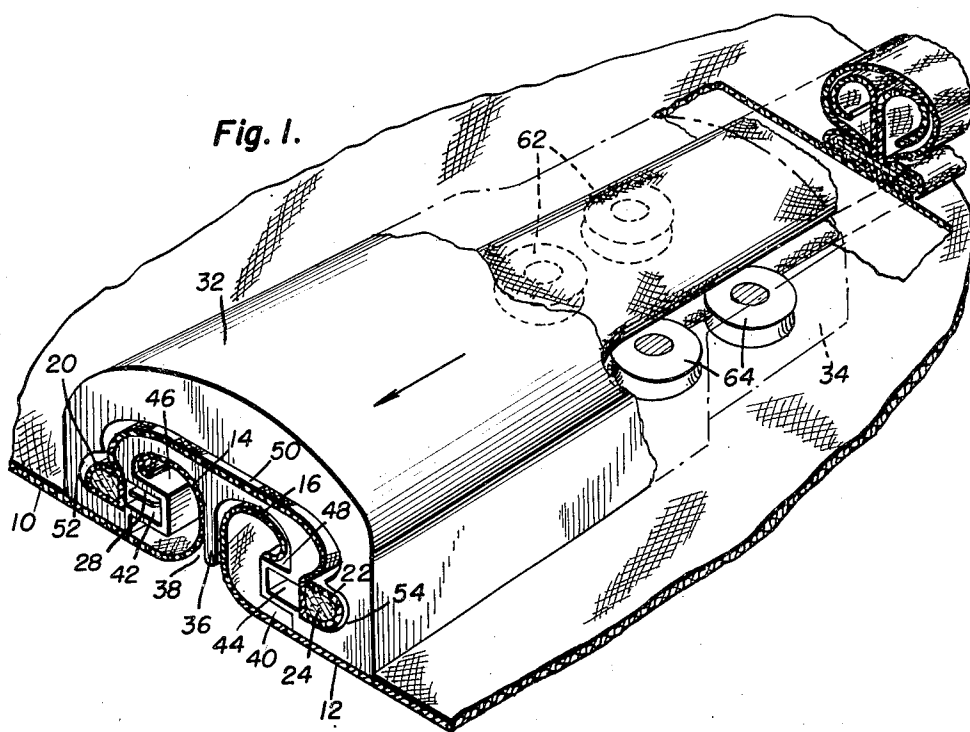
Feb. 7, 1950

C. A. SMITH
CORDED SEAM

2,496,820

Filed Dec. 24, 1946

3 Sheets-Sheet 1



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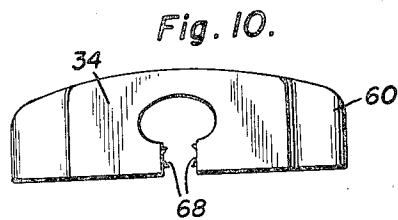
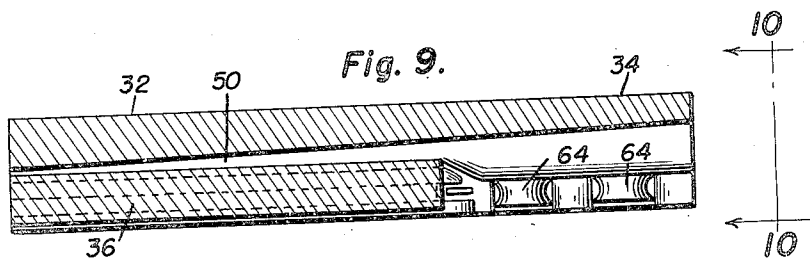
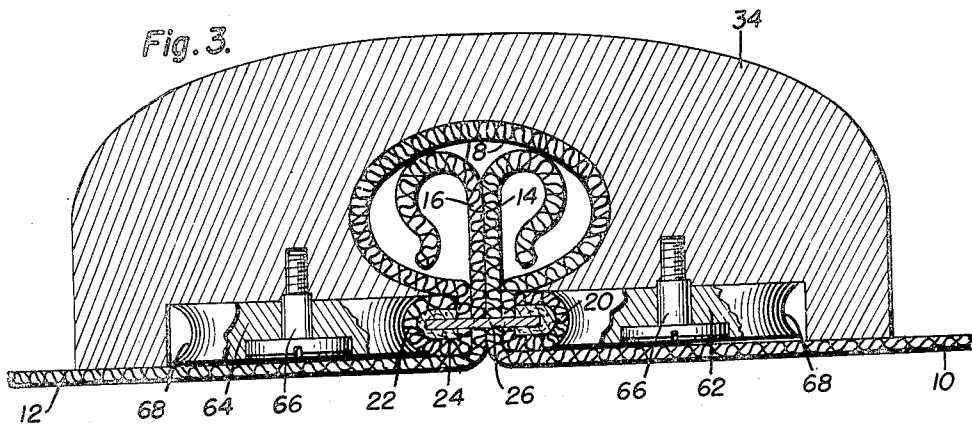
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3 Sheets-Sheet 2



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3 Sheets-Sheet 3

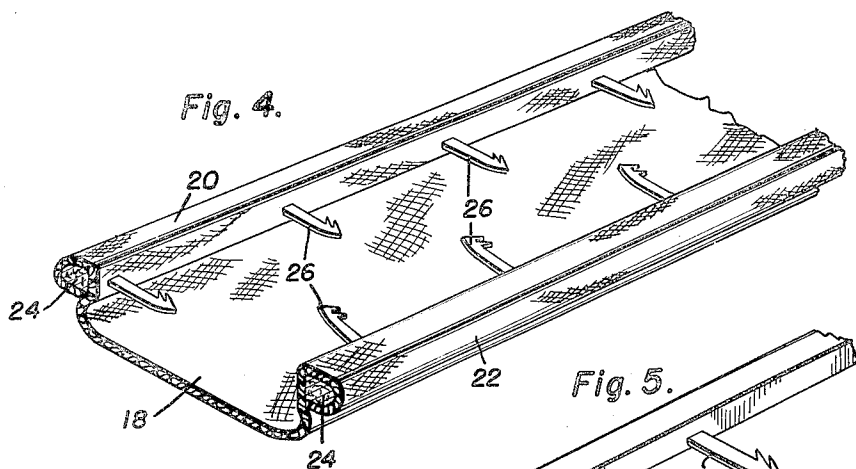


Fig. 5.

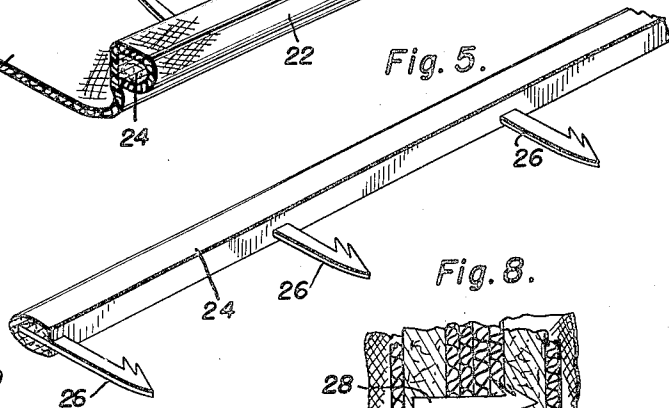


Fig. 6.

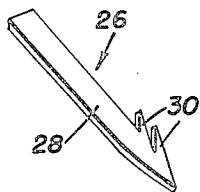


Fig. 8.

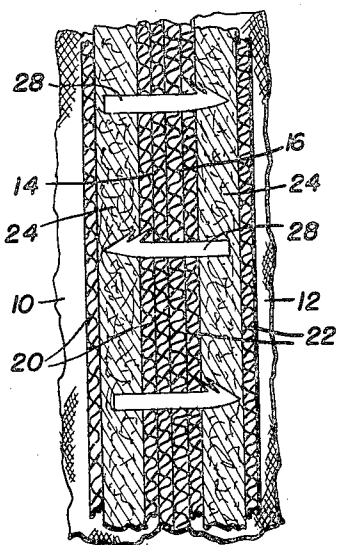
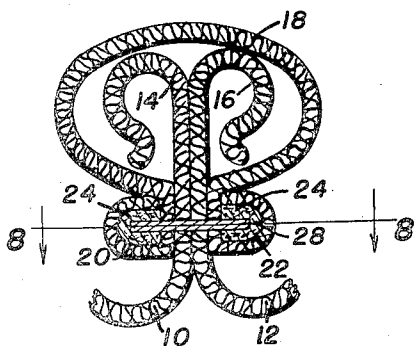


Fig. 7.



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CORDED SEAM

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6 Claims. (Cl. 155—184)

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This invention comprises novel and useful improvements in a method and apparatus for forming a corded seam and more specifically pertains to a self-locking or fastening means incorporated in a cord for a seam together with a novel method and apparatus for utilizing this cord to make a seam.

An important object of this invention resides in providing a novel cord for making a corded seam which cord is so constructed as to be self-lacing or self-locking in its action, and this without the aid or use of the customary implements and considerable labor hitherto required to effect a corded seam.

Another important object of the invention resides in providing an improved method of making a corded seam whereby the steps of folding a pair of fabrics along their marginal edges to form seam allowances, placing a cord in enveloping relation upon these seam allowances and then forming a seam by sewing or lacing the cord to the seam allowances may be performed in a single and continuous operation.

Yet another important object of the invention resides in providing a simple, compact, lightweight sewing device which may be employed with the cord constituting a part of this invention in order to effectively perform the methods comprising a further consideration of the invention.

These, together with various ancillary objects of the invention which will later become apparent as the following description proceeds, are realized by the improved construction, method and articles set forth in the accompanying drawings, forming a part of this application and wherein:

Figure 1 is a perspective view, parts being broken away to illustrate the construction more clearly therein, of the novel lacing device in accordance with this invention, the device being shown operatively associated with a pair of fabrics and a cord for forming a corded seam thereon;

Figure 2 is a lower plan view of the device shown in Figure 1 and more clearly illustrating certain operative parts thereof;

Figure 3 is a vertical transverse sectional view taken substantially upon the line 3—3 of Figure 2 and showing the completed corded seam as it emerges from the device;

Figure 4 is a fragmentary perspective view of a laterally extended cord in accordance with this invention, the view being taken from the underside thereof;

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Figure 5 is a fragmentary perspective view of a portion of the cord shown in Figure 4;

Figure 6 is a perspective view of one of the large shafts or fasteners imbedded in the cord of Figure 4;

Figure 7 is a transverse vertical sectional view taken through the completed corded seam produced in accordance with this invention;

Figure 8 is a horizontal sectional detail view taken substantially upon the section line 8—8 of Figure 7 and illustrating the manner of forming a self-locking seam in the cord and fabric in accordance with this invention;

Figure 9 is a longitudinal central vertical sectional detail view through the lacing device and is taken substantially upon the section line 9—9 of Figure 2; and,

Figure 10 is an end elevational view of the lacing device as seen from the discharge end thereof and taken substantially upon the section line 10—10 of Figure 9.

For a better understanding of the principles of this invention, attention is directed first to Figures 4—8 of the drawings, wherein it will be seen that a pair of fabrics 10 and 12 have their marginal edges disposed in juxtaposition to each other and returned as at 14 and 16 to form a seam allowance.

The seam allowances 14 and 16 are embraced by a cord 18 which preferably consists of a ribbon-like piece of material whose marginal edges 20 and 22 are rolled over upon strips or bands of compressed felt 24 to form marginal beads upon the edges of the cord.

A plurality of fastening members 26 each consisting of a shaft 28 which is embedded and suitably secured at one extremity within the compressed felt and the beads 20 and 22, and is provided at its other extremity with the barbs 30.

As shown best in Figures 4 and 8, the barb fastening means 26 extending from one marginal bead 20 of the cording means are in staggered relation relative to the fastener 26 in the opposite bead 22. The arrangement is such, that as the cord 18 embraces the seam allowances 14 and 16, with their beads 20 and 22 disposed on opposite sides thereof, the barbed portions 30 are caused to pierce and penetrate the two fabrics 10 and 12 disposed therebetween, and to enter and be retained within the oppositely positioned felt strip 24.

Obviously any suitable spacing and proportioning of parts may be employed within the dictates of this invention, but for use in making

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corded seams as upon furniture covers and the like, a space of one inch between the barb fasteners is found to be suitable.

It is obvious that any suitable means may be employed for positioning the cord upon the seam allowance and for inserting the barbs therein for lacing or sewing the seams together, and in some instances the invention may be practiced by performing these operations manually. However, a particularly efficient means for forming such a seam is disclosed in Figures 1, 2, 3, 9 and 10.

This means comprises a lacing device having died surfaces incorporated therein, and may conveniently be formed of plastic or of metal composition and as shown is constructed as a unitary member operable manually by the user. As shown in Figures 1 and 2, the lacing device comprises a body portion 32 which tapers from its inlet end to a narrowed discharge end 34. As shown best in Figure 2, the body 32 is opened at its lower side and has a longitudinally positioned sectionally disposed and downwardly extending rib 36 therein.

As shown in Figure 2, the rib 36 divides the open lower cavity in the body portion into two compartments 38 and 40 which respectively receive the marginal seam allowance portions 14 and 16 of the fabrics 10 and 12, respectively.

The inner surfaces of the outer walls of the cavities 38 and 40 are extruded to form channel members 42 and 44 having upper shoulder portions 46 and 48. As more readily seen from an inspection of Figure 1, the cavities 38 and 40 have smoothly curved walls extending from the longitudinal ribs 36 and terminating upon the shoulders 46 and 48, whereby the marginal edges 14 and 16 may be forced therein and by means of the curved surfaces turned over upon the supporting shoulders 46 and 48.

Extending longitudinally through the body 32 and overlying the rib 36 is a second aperture or die channel 50 whose lateral edges extend into the guide channels 42 and 44 and extend outwardly therefrom as at 52 and 54 to the body portion 32. The channel 50 is adapted to receive the cord member 18, with the means 20 and 22 disposed in the guide channels 52 and 54 respectively and with their corresponding barbed fasteners 30 being received in the guide channels 42 and 44. As shown more clearly in Figure 2, it will be seen that the guide channels 52 and 54 converge inwardly as at 56 and 58 at the throat portion 60 of the device whereby as the cord is drawn therethrough its beaded edges will be drawn into gradual contact with the seam allowances 14 and 16 and converged therewith at the throat of the device.

At the throat of the device, as shown more clearly in Figures 2 and 3, the parallel lower cavities 38 and 40 merge together into a constricted passage which extends between pairs of oppositely disposed sewing rollers 62 and 64 rotatably secured upon the upper surface of the lower cavity as by screw-threaded pivot members 66 which are recessed in the lower surface of the rollers.

As shown at 68, the periphery of the rollers 62 and 64 is grooved to conform to the cross sectional shape and snugly receive the beads 20 and 22 of the cord 18, and to tightly thrust the same towards each other to thereby firmly engage and seat the barbed ends 30 in the opposite compressed felt strips 24.

Figure 9 clearly shows the guide channel 50

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extending above and overlying the longitudinal guide rib 36 and illustrates a slight upward taper or tilt thereto for the purpose of providing clearance for the inturned seam allowance end as the juxtaposed layers of fabric and the embracing cords with its beads 20 and 22 travel through the throat and through the fastening rollers 62 and 64.

From the foregoing explanation, the manner of employing the lacing device will be now readily apparent. When it is desired to make a corded seam upon a pair of pieces of fabric, the marginal edges thereof, 10 and 12 are inserted into the device into cavities 38 and 40, wherein the curved upper guide surfaces and the shoulders 46 and 48 roll over the edges as shown in Figures 1 and 3. The cord is now inserted in the cavity 50 with its beads 20 and 22 disposed in the cavities or guiding channels 52 and 54 and the fastening means extending laterally of the beads riding freely in the guide channels 42 and 44. The lacing device 32 is now moved longitudinally along the seam allowance of the material to be secured in the direction shown by the arrow in Figure 1, and the inclined portions 56 and 58 cause the cord while passing through the throat of the die to be placed upon opposite sides and in an embracing relation upon the seam allowances 14 and 16 as the latter immerse and pass the ends of the longitudinal guide rib 36. During this converging movement, the inclined guide surfaces 56 and 58 cause the fastening means to engage their barbs 30 into the seam material, piercing the layers 14 and 16 and penetrating into the opposite beads 20, 22 and 24. During their subsequent passage through the rollers 62 and 64, the fasteners are firmly seated into self-locking and securing fastening engagement thereby completing the seam with its cord.

Since various modifications of the invention will be readily apparent to those skilled in the art, it is to be distinctly understood that all suitable modifications may be employed and that the disclosure in the accompanying specification and drawings is to be regarded as illustrative of principles of the invention only and that the latter is limited only in accordance with the attached claims.

What is claimed is:

1. A corded seam consisting of a pair of fabrics having marginal edges juxtaposed to form seam allowances, a cord embracing said marginal edges, and means penetrating said seam allowances and engaged in said cord for uniting said fabrics and said cord in a seam, said cord having its marginal edges inturned to form beads, said means comprising barbs carried by said beads.

2. A corded seam consisting of a pair of fabrics having marginal edges juxtaposed to form seam allowances, a cord embracing said marginal edges, and means penetrating said seam allowances and engaged in said cord for uniting said fabrics and said cord in a seam, said cord having its marginal edges inturned to form beads, said means comprising barbs carried by said beads, each of said beads having said barbs anchored therein with their barbed ends extending laterally toward the other bead.

3. A corded seam consisting of a pair of fabrics having marginal edges juxtaposed to form seam allowances, a cord embracing said marginal edges, and means penetrating said seam allowances and engaged in said cord for uniting said fabrics and said cord in a seam, said cord having its marginal edges inturned to form beads, said

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means comprising barbs carried by said beads, each of said beads having said barbs anchored therein with their barbed ends extending laterally toward the other bead, the barbs in one bead being staggered relative to those in the other bead.

4. A self fastening cord for making seams comprising a ribbon of material, the marginal edges of said ribbon being rolled over upon bands of compressed felt to form beads, and a plurality of shafts in one of said beads, said shafts having laterally extending barbed extremities for self locking engagement in the other of said beads.

5. A self fastening cord for making seams comprising a ribbon of material, the marginal edges of said ribbon being rolled over upon bands of compressed felt to form beads, and a plurality of shafts in one of said beads, said shafts having laterally extending, barbed extremities for self locking engagement in the other of said beads, said barbed shafts being disposed in staggered relation in both of said beads.

6. A self-fastening cording seam comprising a

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strip of flexible material having a series of barb-like elements projecting from and spaced longitudinally along one edge of the strip and adapted for penetration of and self-locking engagement with the opposite marginal edge of said strip.

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