March 1, 1955 F. BERNIKER ET AL 2,702,907

BONING STAY

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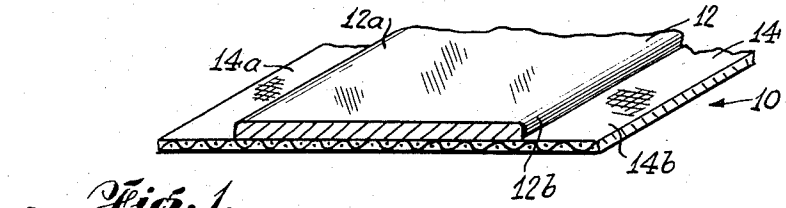


Fig. 1.

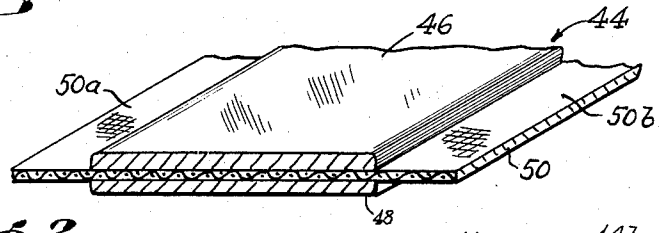


Fig. 2.

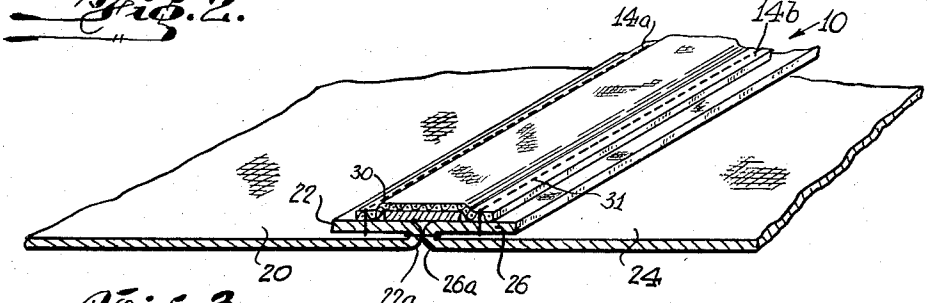


Fig. 3.

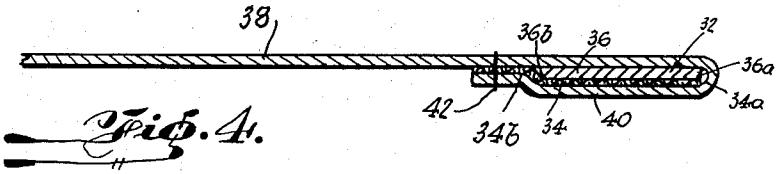


Fig. 4.

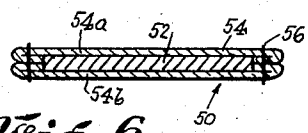


Fig. 6.

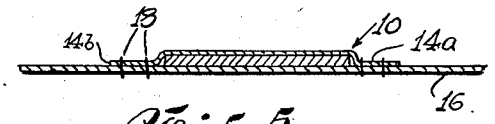


Fig. 5.



Fig. 7.

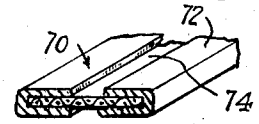


Fig. 8.

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BONING STAY

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2 Claims. (Cl. 2—260)

This invention relates to boning stays for outer and nether garments, bathing suits, and the like.

Reinforcements or stiffening members are commonly employed in many foundation garments such as girdles, corsets, brassières and the like. They are also used in many outer garments such as strapless evening gowns, halter-type dresses, blouses, beach wear, bathing suits, brassières, playclothes, etc. There are many kinds of reinforcing or stiffening supports, such as those which are made of wire, flat metal strips, boning and the like. Each of these types of reinforcing stays requires the use of sheathing, tubing or the like to secure it to the garment and to hold it in place. This has made for considerable expense, not only in materials but also in labor. Furthermore, the results have not been entirely satisfactory in all cases, and it is a frequent complaint that these reinforcing members break out of their confines and protrude from the garment, sometimes inwardly to cause pain, injury and discomfort, and sometimes outwardly to cause embarrassment. In either case, the entire purpose of the stays is defeated.

It is an object of this invention to reduce the cost by eliminating the labor of sewing the boning into a jacket or sheath.

It is the principal object of this invention to provide boning stays which are securely fastened to a tape, the stays being made of extruded plastics and the tape being made of any suitable textile fabric or substitute material. The stays may be secured to the garment by means of said tape, since the tape may be sewed to the garment in conventional manner. The tape may project outwardly from either or both sides of the boning, preferably from both. The stay may be secured to the tape by means of a suitable adhesive or cement or by means of a suitable solvent which would tend to plasticize and adhere at least one of the flat surfaces of the stay to the tape.

Another method of securing the stay to the tape is by plasticizing at least one surface of the stay by the application of heat and then causing the tape to adhere to the plasticized surface under pressure. This might be termed heat-sealing or welding the stay and tape together.

Still another method is by extruding the stay directly upon the tape in a long continuous process. Since the plastics material is in a highly plastic state during the extruding operation, it will tend to adhere very securely to the tape. As a matter of fact, in all of these methods with the sole exception of the adhesive or cement method, the plastic material tends to enter the interstices of the material of which the tape is made. Hence, the stay and the tape tend to become integrally attached to each other so that neither may readily be separated from the other. This is especially true of the extruded material which is applied to the tape during the extrusion process. In this method the plastic is extruded on both sides of the tape, leaving only the side edges of the tape exposed and uncovered.

Preferred forms of this invention are shown in the accompanying drawing, in which:

Fig. 1 is a fragmentary perspective view of a reinforcing stay made in accordance with one form of this invention, the stay being applied to only one side of the tape.

Fig. 2 is a similar view showing another form of this invention wherein the stay is applied to both sides of the tape, this method involving the extrusion of the plastic material directly upon the tape.

Fig. 3 is a fragmentary perspective view showing how the reinforcing stay of Fig. 1 may be secured to a garment.

Fig. 4 is a fragmentary end or sectional view showing a reinforcing stay made in accordance with a third form of this invention and showing how said stay may be secured to a garment.

Fig. 5 is another fragmentary view showing how the stay of Fig. 1 may be secured to a garment, this method differing from the method shown in Fig. 3.

Fig. 6 is a sectional or end view showing how a reinforcing stay of the prior art is enclosed within a sheath.

Fig. 7 is a fragmentary perspective view showing a further modification.

Fig. 8 is a fragmentary perspective view showing a further modification.

Referring now to Fig. 1, it will be seen that boning stay **10** made in accordance with one form of this invention comprises a boning strip **12** and a tape **14**, the two being firmly secured to each other by any of the means and methods above mentioned. For example, they may be secured to each other by means of a suitable adhesive or cement. Preferably, the boning is made of extruded plastics, although this is not absolutely essential. A cement suitable for plastics should accordingly be used for this purpose and the type of cement may be determined by the specific type of plastics used.

A suitable solvent may also be applied to the plastic material to plasticize it sufficiently for adhesion to the tape. The solvent may be applied directly to the plastic stay or it may be applied to the tape. In either case, when the stay and the tape are brought together under some pressure, the plasticized surface of the stay will adhere to the tape.

It will be seen in Fig. 1 that the two marginal side edges **14***a* and **14***b* of the tape project beyond the side edges **12***a* and **12***b*, respectively, of the boning strip **12**. Marginal portions **14***a* and **14***b* may be used to attach the boning to a garment. Fig. 5 is illustrative. It will there be seen that boning stay **10** has been placed flat against a piece of material **16** of any of the garments above mentioned, the position of said boning stay being inverted with respect to the position in which it is shown in Fig. 1. In other words, the boning strip **12** is flat against the piece of material **16** and the only parts of the tape which are in contact with said piece of material are the marginal portions **14***a* and **14***b*. These marginal portions may be sewed to material **16** by means of stitching **18**. It will be noted from this arrangement that the boning strip is entirely concealed both from view and from contact with the person of the wearer. Since the boning strip is securely fastened to the tape and since the tape is securely fastened to the material of which the garment is made, there can be no shifting, lateral or longitudinal, of the boning strip relative to the garment.

Another method of attaching boning stay **10** to a garment is shown in Fig. 3. It will there be seen that one piece of material **20** of which the garment is made is folded over along one of its side edges to form a marginal flap **22**. Similarly, one of the side edges of a piece of material **24** is folded over to form a corresponding marginal flap **26**. The bights **22***a* and **26***a* of said pieces of material are secured to each other by means of stitching **28**. It will be noted that boning stay **10** is placed flat against marginal flaps **22** and **26** and one of the marginal portions thereof, namely **14***a*, is secured to flap **22** by means of stitching **30**, while the other marginal portion **14***b* is secured to flap **26** by means of stitching **31**. The arrangement thus shown in Fig. 3 may now be employed in any conventional manner.

Boning stay **32** shown in Fig. 4 is similar to that shown in Fig. 1 with the exception that the tape extends laterally from the side edge of the boning strip only on one side thereof. More specifically, tape **34** is secured to boning strip **36** by the means which have been above described with respect to boning stay **10**, namely, by means of a suitable cement or adhesive or a suitable

solvent. It may here be stated that in both cases, the boning may be made to adhere to the tape by plasticizing the boning under heat and pressing the boning and the tape together before the plasticized material sets. The application of heat and pressure may take place simultaneously.

Referring again to boning stay **32**, it will be seen that side edges **34***a* of the tape and **36***a* of the boning strip coincide with each other and neither overlaps the other. Marginal portion **34***b* of the tape extends, however, beyond side edge **36***b* of the boning and a flap is thereby formed which corresponds to either of the two flaps **14***a* and **14***b* of tape **14**. Boning **36** may be placed flat against a piece of material **38** as shown in Fig. 4, and a portion of said material may be turned over and upon tape **34** to form a covering flap **40**. The marginal edge of said covering flap and the marginal portion **34***b* of the tape may then be secured to the main body of material **38** by means of stitching **42**.

Reference to Fig. 2 will show that a boning stay may be made in accordance with this invention by extruding the boning upon the tape. More specifically, boning stay **44** comprises an upper strip **46** and a lower strip **48** of plastic boning and an intermediate tape **50** sandwiched in between said boning strips. Boning strips **46** and **48** are simultaneously extruded through the same die on both sides of tape **50** which is itself drawn through said die at the same rate of speed that the boning strips are extruded therefrom. Since the extruded material are plasticized plastics, it enters the interstices and pores of the tape and when it sets, it adheres securely to the tape and becomes virtually integral therewith. It will be noted that marginal portions **50***a* and **50***b* of the tape project laterally outwardly from the boning strips. These marginal portions correspond to marginal portions **14***a* and **14***b* shown in Fig. 1. Boning stay **44** may be incorporated into a garment in much the same way as boning stay **10**.

Reference to Figs. 7 and 8 will show further modifications of the extrusion form of stay. In Fig. 7, the plastic boning **62** extends around one edge only of the tape **64**, and will serve the same purpose as the stay shown in Fig. 4, the stitching being applied through the fabric tape **64**.

The boning stay **70** shown in Fig. 8 is similar to that shown in Fig. 7, except that the plastic boning **72** is provided on both edges of the fabric tape **74**, as shown, the uncovered fabric tape being used for the row of stitching for securing it to a garment.

The foregoing illustrates the features of the present invention in some of its preferred forms. This should be viewed in contrast to boning stay **50** shown in Fig. 6, said latter boning stay being typical of the boning stays of the prior art. It will there be seen that a boning strip **52** is enclosed in a sheath **54** which comprises a pair of tapes **54***a* and **54***b* which are secured to each other along their respective inwardly turned edges by means of stitching **56**. The boning is not secured to the material of which said covering is made and it is free to shift longitudinally and laterally therein unless provision is made at the ends of the boning to prevent it from moving longitudinally of the covering.

The preferred forms of this invention as shown in the drawing and described in the specification are subject to modification and variation within the broad scope of the invention and of the claims.

Having thus described our invention, what we claim as new and desire to secure by Letters Patent, is:

1. A boning stay for a garment which hugs and moves with the body of the wearer, comprising a boning strip of thermoplastic material and a tape which is slightly wider than the boning strip and co-extensive with the length thereof, the entire surface of one face of said boning strip being securely united directly to one face of the tape substantially centrally thereof to permanently hold said boning strip and said tape together relatively immovably, a free margin of tape extending laterally outwardly along each longitudinal edge of the boning strip to form flaps which may be sewn to a garment to secure the boning stay thereto, whereby the stay will accommodate itself to normal bodily movements of a wearer without separation of its component parts.

2. A boning stay in accordance with claim 1, wherein the boning strip is made of plasticized plastics which has set, said boning strip having been applied under pressure to the tape before setting so as to adhere to the tape following setting.

References Cited in the file of this patent

UNITED STATES PATENTS

1,831,349	Evans	Nov. 10, 1931
2,126,833	Steinberger	Aug. 16, 1938
2,331,529	Dey	Feb. 11, 1941
2,524,621	Cadous	Oct. 3, 1950
2,595,133	Golden	Apr. 29, 1952
2,599,636	Hull	June 10, 1952