Aug. 16, 1938. A. J. STEINBERGER 2,126,836

NECKWEAR

Filed April 30, 1937

Fig. 1.

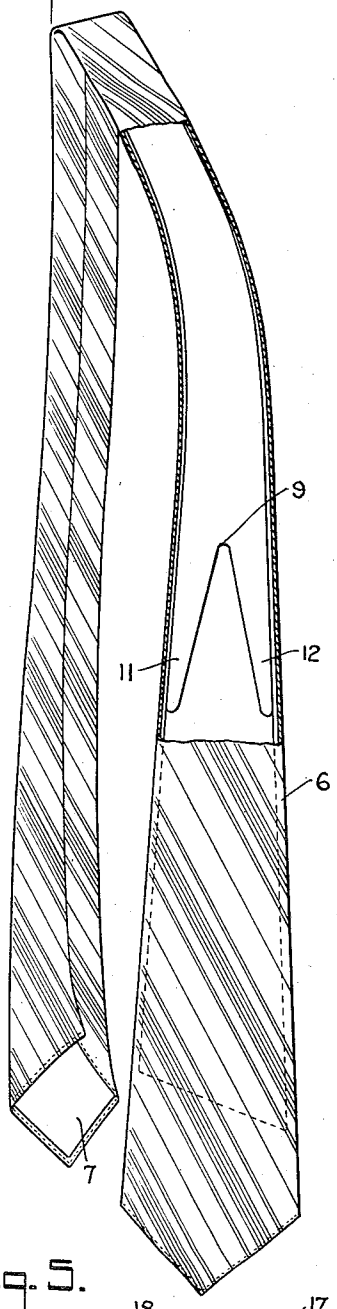


Fig. 2.

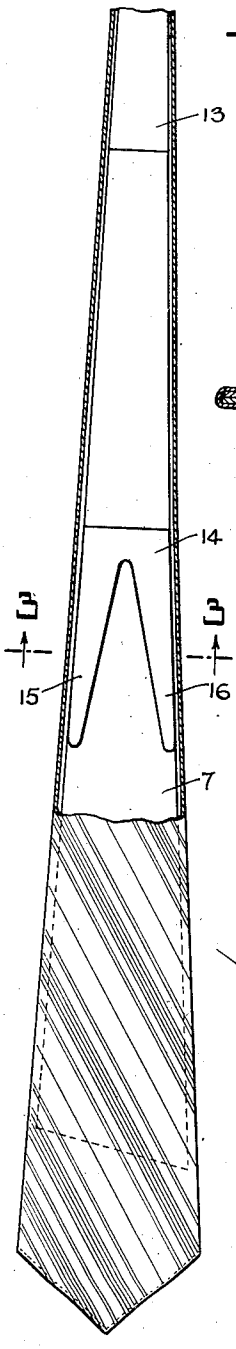


Fig. 3.



Fig. 4.

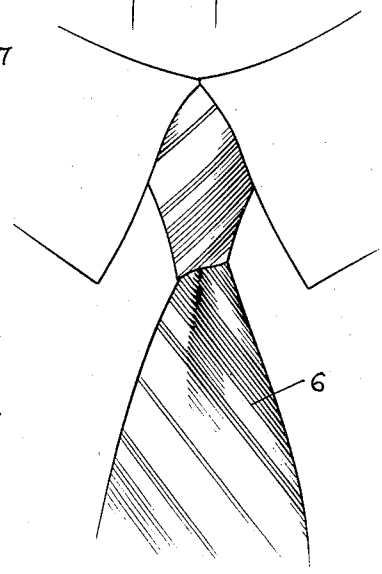
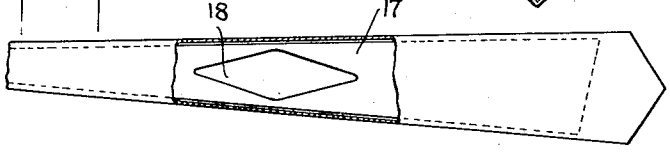


Fig. 5.



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2,126,836

NECKWEAR

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Application April 30, 1937, Serial No. 139,854

9 Claims. (Cl. 2—146)

This invention relates to neckwear and more particularly to that type of neckwear known as four-in-hand ties so constructed that, even when tied by an unskilled or a hurried dresser, it will drape neatly and when untied will return to its original unwrinkled state.

This invention is a continuation-in-part of the invention described in my application, S. No. 82,185, filed May 28, 1936.

Four-in-hand ties, as ordinarily made, comprise an outer casing of fabric, hereinafter called the tie fabric, wherein there is arranged a liner of suitable material. When such a tie is placed about the collar of the wearer and tied, the folds thereof too often fail to drape well, necessitating the untying and the retying of the same until a satisfactory result is obtained. It is an object of this invention to produce a necktie construction which will ensure a correct and neatly tied four-in-hand necktie however unskilled or hurried the person dressing may be. Other objects of this invention, together with certain details of construction and combinations of parts, will appear from the following detailed description and the appended claims.

In its broadest aspect my invention comprises inserting in the folds of a necktie a liner, hereinafter called a shaping liner, of such construction that, when the necktie is placed about the collar of the wearer and tied in a four-in-hand knot, the exposed necktie fold is creased only in the center thereof starting at the knot and for a short distance below the same, the folds of the necktie falling away from the knot in a neat, graceful drape. The shaping liner in accordance with this invention may be of any suitable length. For example, it may be of substantially the same length as the necktie itself or it may be of such a length that it extends along a portion of the necktie which contacts with the collar of the wearer and just below the portion of the tie to be folded in the form of a knot. Moreover, the shaping liner may be in the form of a small insert of the desired configuration. Furthermore, in accordance with this invention, the shaping liner may be formed with a notch at that end of the liner which is to be in the fold of the necktie normally exposed, i. e. the upper fold, or the liner may be formed with an opening therein. The notched end of the liner or that portion of the liner having the opening therein should be so positioned that, when the knot is tied about the neck of the wearer, it falls just within the lower part of the knot, the two spaced strips of the notched liner and a portion of the liner having the opening therein extending for a substantial distance below the knot. If desired, an additional liner of wool or other suitable material may also be inserted within the folds of the tie fabric.

In another aspect of the invention, a liner of suitable material is inserted within the folds of the tie fabric at that portion thereof which normally lies under the back of the collar of the wearer and a shaping liner in the form of a notched piece of suitatble material is attached within the folds of the tie fabric at the point spaced from the other liner and in such a position that, when the tie is folded in the form of a four-in-hand knot about the neck of the wearer, the notched piece will lie just within the lower part of said knot, the spaced strips of said notched piece extending for a substantial distance below the knot. In this modification of my invention, also, an additional liner of wool or other suitable material may be employed within the folds of the tie fabric and retained in position in any suitable manner.

In the accompanying drawing, forming part of this specification, wherein the preferred embodiments of my invention are shown;

Fig. 1 is a perspective view of my necktie with part of the fabric cut away to show the construction of the shaping liner;

Fig. 2 is a plan view of the front or wide portion of the necktie, a part of the tie fabric being cut away to show a modified form of my invention;

Fig. 3 is a cross-sectional view taken on line 3—3 of Fig. 2;

Fig. 4 is a view of a necktie of my invention knotted about the collar and showing how the fold is creased just below the knot; and

Fig. 5 is a plan view, on a smaller scale than the other views of the drawing, of another modified form of the invention.

Similar reference numerals indicate like parts throughout the several views of the drawing.

Referring to Fig. 1 of the drawing, reference numeral 6 indicates the outer or tie fabric which is cut in a particular manner to be folded in the form of a necktie and stitched as is well understood in the art. A liner 7 of a suitable material is shown inserted within the folds of the necktie but with certain tie fabrics this liner is not essential and may be dispensed with. A shaping liner 8 which may be made of or which may contain a material adapted to effect the coalescence of this shaping liner to the tie fabric and, if desired, to the liner 7 is also shown inserted within the outer

or tie fabric of the necktie. Ordinarily the necktie is formed without the liner or liners and the latter are threaded through the necktie after the formation of the latter. However, the liners may be positioned within the folds of the tie fabric before it is sewn together. The assembly of necktie fabric and liners may be caused to coalesce to effect the union therebetween, in which case the necessity of sewing the liner in position is obviated.

In accordance with one modification of this invention, the shaping liner 8 is provided with a notched end 9 forming two spaced strips 11 and 12 which extend for a substantial distance below the point at which the knot of the necktie is normally tied. When the knot is formed in the necktie made in accordance with this invention, the two strips 11 and 12 prevent the material along the edges of said necktie from creasing, the crease being formed in the opening between the two strips, thus making for a neat and graceful necktie on the person of the wearer.

In the modification shown in Fig. 2 of the drawing, the necktie may have a liner 13 such as that shown in my prior application S. No. 82,185 or the tie may be constructed in a normal manner, but at that portion of the necktie which normally falls below the knotted portion there is positioned a piece of material 14, which will also be called a shaping liner, provided with a notch forming two strips 15 and 16 which extend for a substantial distance below the knotted portion of the necktie. When the tie is tied about the neck of the wearer, the shaping liner 14 causes the tie to have a graceful fold creased in the center just below the knot as in the modification shown in Fig. 1.

In the modification shown in Fig. 5, instead of a notched end the shaping liner 17 is formed with an opening 18. This opening is positioned such that it falls where the notches fall in the other two modifications and performs the same function as the notches.

Many modifications of my invention may be made depending upon the tie fabric employed and the type of fabric employed in the liner or liners of the necktie. For instance, when forming the tie fabric from a material containing filaments of a thermoplastic material, the shaping liner may be of any material normally employed in the manufacture of neckties. This shaping liner may or may not contain filaments of a thermoplastic material. Where the tie fabric is made from a material containing only non-thermoplastic filaments or fibres, the shaping liner must contain a thermoplastic material at least at that portion of the necktie which is to be coalesced to the other portions thereof. If the necktie and the liner are both made from non-thermoplastic material an intermediate liner containing a thermoplastic material must be employed.

The tie fabric 6 may be formed of any suitable material such as linen, cotton, artificial silk, etc. Where, as stated, the tie fabric contains no thermoplastic material, it is preferable to have thermoplastic material forming the shaping liner or at least woven into the fabric of the shaping liner.

In one form of my invention, the tie fabric 6 is formed of non-thermoplastic material such as silk, cotton, wool, etc., while the shaping liner 8 is also formed of non-thermoplastic material such as linen, cotton, wool, etc. In this form of the invention an intermediate liner is used, and at least those portions of said intermediate liner which are inserted in that part of the necktie normally contacting the neck of the wearer and adjacent to the shaping liner are made of or contain a thermoplastic material in a condition such that upon application to the assembly of heat and/or pressure, the assembly will coalesce and unite the tie fabric to the shaping liner at those portions where the thermoplastic material is present.

In another form of my invention the tie fabric 6 contains filaments of thermoplastic material while the shaping liner 8 is of linen, cotton, etc. In this modification the liner 8 is treated over a portion of its length, particularly in the vicinity of the opening therein, with a plasticizer for the thermoplastic material of the tie fabric. Upon subjecting this assembly to heat and/or pressure the inner face of the tie fabric is caused to coalesce at that part where it contacts with the plasticized liner, thus effecting adherence of the tie fabric to the liner at that part only. The tie fabric, however, may contain only non-thermoplastic materials, while the shaping liner 8 may comprise a fabric containing thermoplastic yarns or filaments. In this modification, a plasticizer may be applied to a portion of the liner, which portion, upon the application of heat and/or pressure, coalesces to the tie fabric. By these latter two methods, a necktie which is stiffened at predetermined portions only may be formed. For example, the necktie may be stiffened at that portion which contacts with the back of the collar of the wearer and at that portion where the liner has the opening therein, the remaining portion of the tie being of normal flexibility.

In any of the modifications of this invention, the necktie may be formed by sewing the parts thereof together in the usual manner and then effecting the coalescence and stiffening of the fabric and the liner after the necktie is formed. In this manner there is no necessity for sewing or working with stiff fabrics, or fabrics containing gums, glues or other adhesive materials which tend to interfere with the handling or sewing of the fabric.

This application is applicable to the formation of neckties in which the outer or tie fabric contains yarns of non-thermoplastic materials interwoven or interknitted with yarns or filaments of a thermoplastic material. For instance, there may be employed as the outer or tie fabric, fabrics in which yarns of a thermoplastic material alternate, in any desired degree of alternation, with non-thermoplastic yarns either in the warp or in the weft, or both. The alternation may, for instance, be one, two, three or more thermoplastic yarns with one, two, three or more yarns of cotton, silk, or other non-thermoplastic materials. For convenience, the outer or tie fabric may be formed so that the warp may be made with such alternation of yarn of thermoplastic material and yarns of other fibres, while the weft may consist wholly of yarns of a thermoplastic material or wholly of yarns of other fibres.

If desired, the outer or tie fabric may be one in which either the warp or the weft consists solely of yarn of a thermoplastic material, while the shaping liner is made of any suitable material impregnated with a sufficient amount of plasticizer for the thermoplastic material contained in the tie fabric. The assembly of fabrics may be caused to adhere to each other by subjecting the same to heat and/or pressure in the presence or absence of water. The coalescence

of the tie fabric and the liner under these conditions results in no alternation of the outer surface of the tie fabric since the plasticizer on the liner causes the thermoplastic material of only the inner side of the tie fabric to soften or become tacky and adhere to the liner.

Where the tie fabric is made entirely of non-thermoplastic yarns, the liner may be made wholly of yarns or filaments of a thermoplastic material or a mixture of yarns of a thermoplastic material with yarns of non-thermoplastic material. These yarns may be woven or knitted in any degree of alternation as described above with reference to the making of the tie fabric.

If desired, the thermoplastic material may be present on the liner in the form of a coating. For example, non-thermoplastic fibers employed as a liner may be coated with a powder or a slurry containing the thermoplastic material and a plasticizer therefor, or the liner may be treated with a plasticizer and then coated with a thermoplastic material.

To obtain a good adhesion and desirable stiffening in the necktie, or selected portions thereof, it is preferable to have water present during the application of heat and/or pressure, but it is to be understood that this is not essential to the successful working of this invention. The water may be present as an aqueous liquid or as steam and it is applied to the assembly of fabric and liner in any suitable manner. Thus, the water may be applied to the assembly by spraying or brushing the same therewith or by padding the water on the material or by dipping the same in the water. Where the tie fabric does not contain a thermoplastic material, in place of water there may be employed as an aid in coalescing the parts comprising the necktie an aqueous solution of alcohol, with or without a plasticizer for the thermoplastic material. If steam is employed, it is preferable to employ a wet steam and the same may be injected onto or into the materials of the necktie during the pressing operation in a manner similar to that effected during the pressing of woolen fabrics.

Any suitable device may be used for pressing the assembled layers of material to cause them to adhere to one another. For instance, the materials of the necktie may be pressed with hot irons, or they may be passed between pressure rollers one or both of which may be heated, or between a heated pressing iron or plate and a cold board or surface. The pressing device may be heated to any desirable temperature, for instance, from 80° C. to 180° C. or higher, and the pressure may be of any desired degree, for example, from 10 to 600 or more pounds per square inch. The thermoplastic material employed in accordance with this invention, whether it is present in the tie fabric or in the liners or as a coating on the material, may be any suitable derivative of cellulose, for instance, esters of cellulose and cellulose ethers. Examples of the cellulose esters are cellulose nitrate, cellulose acetate, cellulose formate, cellulose propionate and cellulose butyrate, while examples of the cellulose ethers are ethyl cellulose, methyl cellulose, and benzyl cellulose.

In order that the desired degree of stiffening and adherence be obtained upon heat pressing the assembly, comprising the tie fabric and one or more liners, either in the presence or absence of water, it is preferable that there be present in the said assembly a plasticizer, softener or swelling agent for the derivative of cellulose employed in the assembly. Where the tie fabric is made of non-thermoplastic materials, the plasticizer or softener may be applied to the assembly, after the formation thereof, by dipping the same into a solution containing the plasticizer or softener. However, it is preferable to apply the plasticizer to a liner. When applying the plasticizer to the liner prior to forming the assembly, no wetting of the outer or tie fabric is necessary. Where it is desired that the exposed surface of the tie fabric remain in its normal condition, i. e. unmodified, the plasticizer should not be applied thereto, at least not on the outer surface thereof.

The plasticizer may be applied to the tie fabric or liners in any suitable manner. Thus, the plasticizer or softening agent for the derivative of cellulose employed in the assembly may be applied to or incorporated in the material by passing that part of the material which it is desired to contain the plasticizer through a solution of plasticizer, by padding the plasticizer on the material or by spraying a solution of the plasticizer in a volatile solvent onto the material. However, when the liner of the fabric contains yarns of an organic derivative of cellulose, the plasticizer may be incorporated in the organic derivative of cellulose yarns or filaments as they are formed by adding the same to the solution from which the yarns or filaments are made, or by applying said plasticizer to the yarns or filaments during the spinning operations. However, any other suitable method may be employed for incorporating the plasticizer in the material.

Any suitable plasticizer may be employed, which plasticizer may or may not be soluble in water. The plasticizers may be any of the high boiling solvents or softening agents as, for example, the aryl sulphonamides such as para ethyl toluol sulphonamide, the alkyl phthalates such as dimethyl phthalate, the dialkyl tartrates such as dibutyl tartrate, the alkoxy esters of polybasic organic acids such as diethyoxy ethyl phthalate, the polybasic acid esters of the mono alkyl ethers of polyhydric alcohols such as diethylene glycol ethyl ether ester of phthalic acid, the alkyl esters of phosphoric acid such as thiethylglycol phosphate, the aryl esters of phosphoric acid such as tricresyl phosphate, the mixed alkyl and aryl phosphate such as ethylglycol dicresyl phosphate, and camphor.

The amount of plasticizer present is preferably relatively large and on the order of from less than 30% to 150% or more, based on the weight of the organic derivative of cellulose present, in that part of the assembly of fabrics which is to be coalesced. Where the necktie comprises a tie fabric containing a derivative of cellulose and a shaping liner of cotton, the amount of plasticizer applied to the liner may be as much as the cotton liner will absorb and retain, i. e. the cotton fabric is saturated with the plasticizer.

It is to be understood that the foregoing detailed description is given merely by way of illustration and that many variations may be made therein without departing from the spirit of my invention.

Having described my invention, what I desire to secure by Letters Patent is:

1. A necktie of improved construction comprising a tie fabric containing a thermoplastic material and being folded in the form of a four-in-hand tie, said tie containing within the folds thereof a shaping liner of non-thermoplastic material having a notched end, which shaping liner

is at least locally united to said tie fabric by the thermoplastic material contained therein, the construction and arrangement being such that when the tie is placed about the neck of the wearer and knotted the notched portion falls just below the knot of the tie and the spaced strips of the notched portion extend for a substantial distance below the knot.

2. A necktie of improved construction comprising a tie fabric containing cellulose acetate and being folded in the form of a four-in-hand tie, said tie containing within the folds thereof a shaping liner of non-thermoplastic material having a notched end, which shaping liner is at least locally united to said tie fabric by the cellulose acetate contained therein, the construction and arrangement being such that when the tie is placed about the neck of the wearer and knotted the notched portion falls just below the knot of the tie and the spaced strips of the notched portion extend for a substantial distance below the knot.

3. A necktie of improved construction comprising a tie fabric containing a non-thermoplastic material and being folded in the form of a four-in-hand tie, said tie containing within the folds thereof a shaping liner of thermoplastic material having a notched end, which shaping liner is at least locally united to the said tie fabric by the thermoplastic material contained in said shaping liner, the construction and arrangement being such that when the tie is placed about the neck of the wearer and knotted the notched portion falls just below the knot of the tie and the spaced strips of the notched portion extend for a substantial distance below the knot.

4. A necktie of improved construction comprising a tie fabric containing a non-thermoplastic material and being folded in the form of a four-in-hand tie, said tie containing within the folds thereof a shaping liner of an organic derivative of cellulose having a notched end, which shaping liner is at least locally united to the said tie fabric by the organic derivative of cellulose contained in said shaping liner, the construction and arrangement being such that when the tie is placed about the neck of the wearer and knotted the notched portion falls just below the knot of the tie and the spaced strips of the notched portion extend for a substantial distance below the knot.

5. A necktie of improved construction comprising a tie fabric of non-thermoplastic material folded in the form of a four-in-hand tie, and a shaping liner contained within the folds of said tie, said shaping liner comprising a notched piece of material containing a thermoplastic derivative of cellulose and located in the vicinity of the knot-forming region, the tie fabric and the shaping liner being at least locally united by the thermoplastic derivative of cellulose contained in said shaping liner.

6. A necktie of improved construction comprising a tie fabric of non-thermoplastic material folded in the form of a four-in-hand tie, and a shaping liner contained within the folds of said tie, said shaping liner comprising a notched piece of material containing cellulose acetate and located in the vicinity of the knotforming region, the tie fabric and the shaping liner being at least locally united by the cellulose acetate contained in said shaping liner.

7. A necktie of improved construction comprising a tie fabric of non-thermoplastic material folded in the form of a four-in-hand tie, a liner of non-thermoplastic material contained within the folds of said tie, and a shaping liner comprising a notched piece of material containing a thermoplastic derivative of cellulose and located in the vicinity of the knot-forming region, the tie fabric and the shaping liner being at least locally united by the thermoplastic derivative of cellulose contained in said shaping liner.

8. A necktie of improved construction comprising a tie fabric of non-thermoplastic material folded in the form of a four-in-hand tie, a liner of non-thermoplastic material contained within the folds of said tie, and a shaping liner comprising a notched piece of material containing an organic derivative of cellulose and located in the vicinity of the knot-forming region, the tie fabric and the shaping liner being at least locally united by the organic derivative of cellulose contained in said shaping liner.

9. A necktie of improved construction comprising a tie fabric of non-thermoplastic material folded in the form of a four-in-hand tie, a liner of non-thermoplastic material contained within the folds of said tie, and a shaping liner comprising a notched piece of material containing cellulose acetate and located in the vicinity of the knot-forming region, the tie fabric and the shaping liner being at least locally united by the cellulose acetate contained in said shaping liner.

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