

Nov. 9, 1937.

A. J. WENZEL

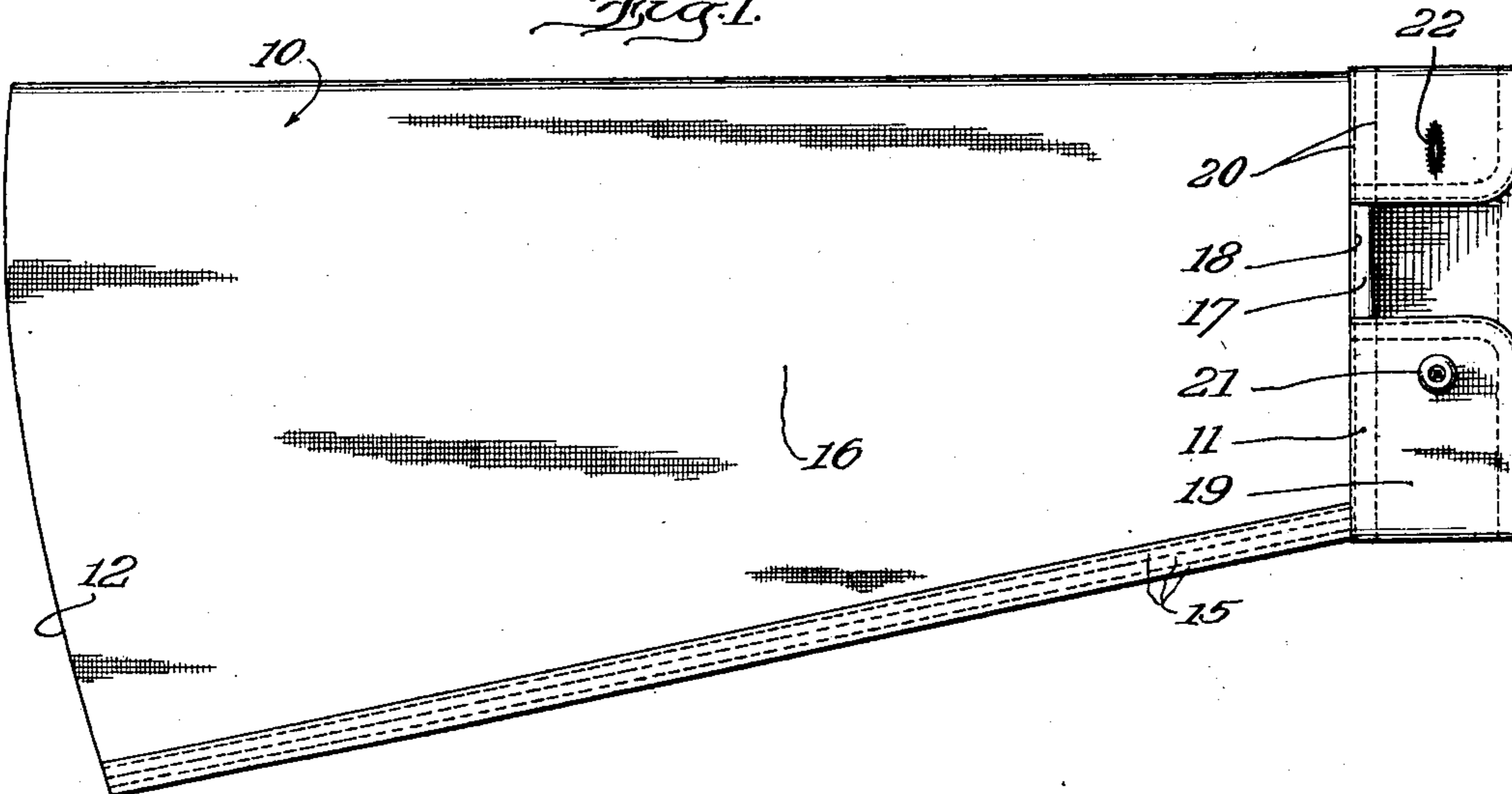
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SHIRT SLEEVE

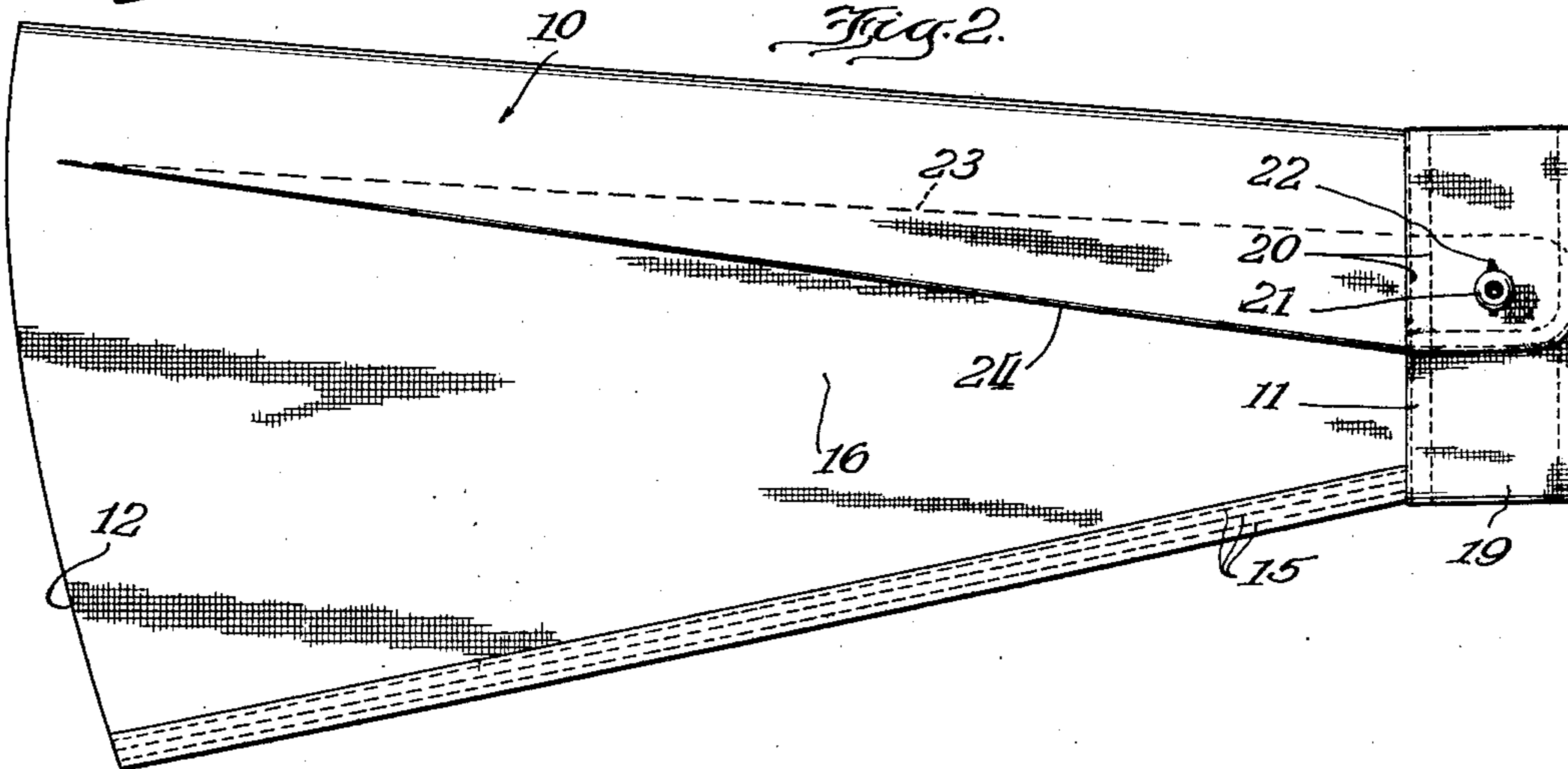
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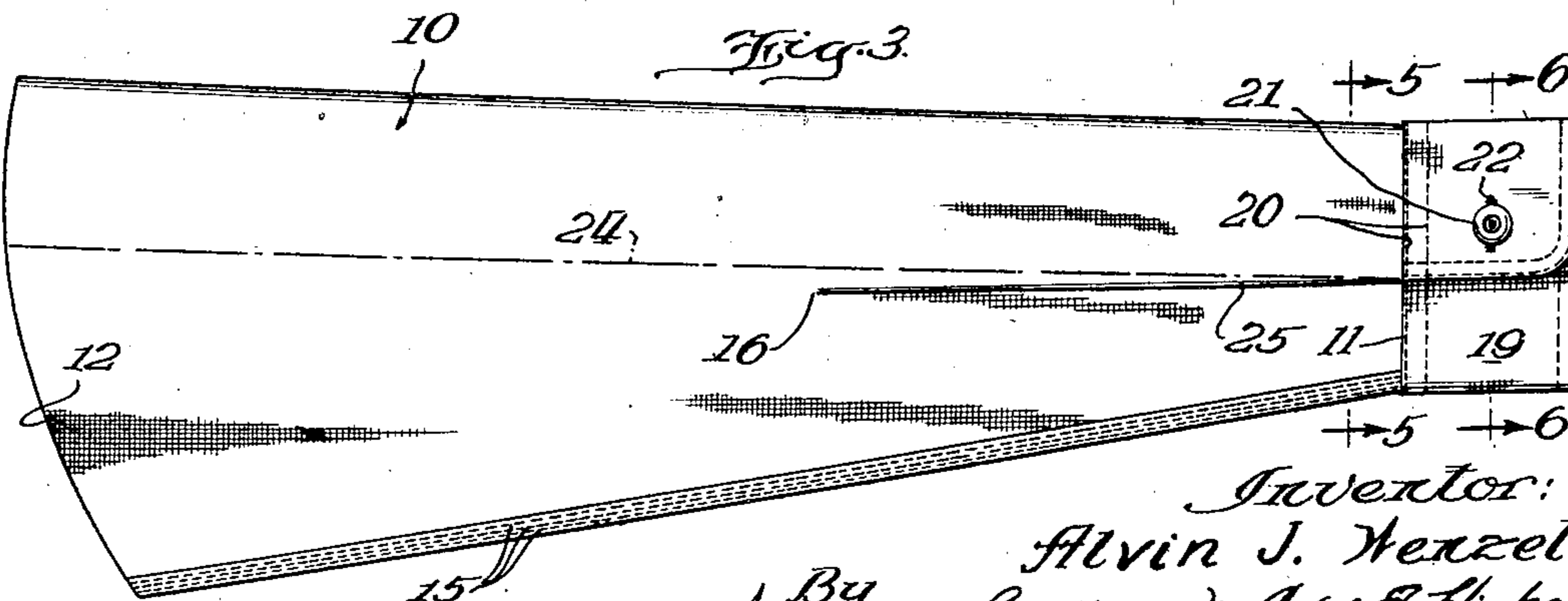
*Fig. 1.*



*Fig. 2.*



*Fig. 3.*



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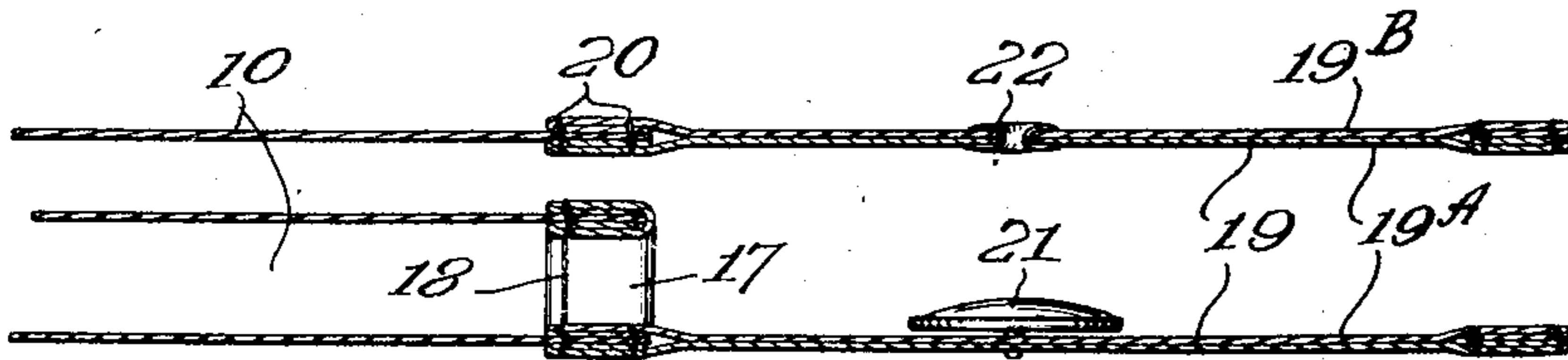
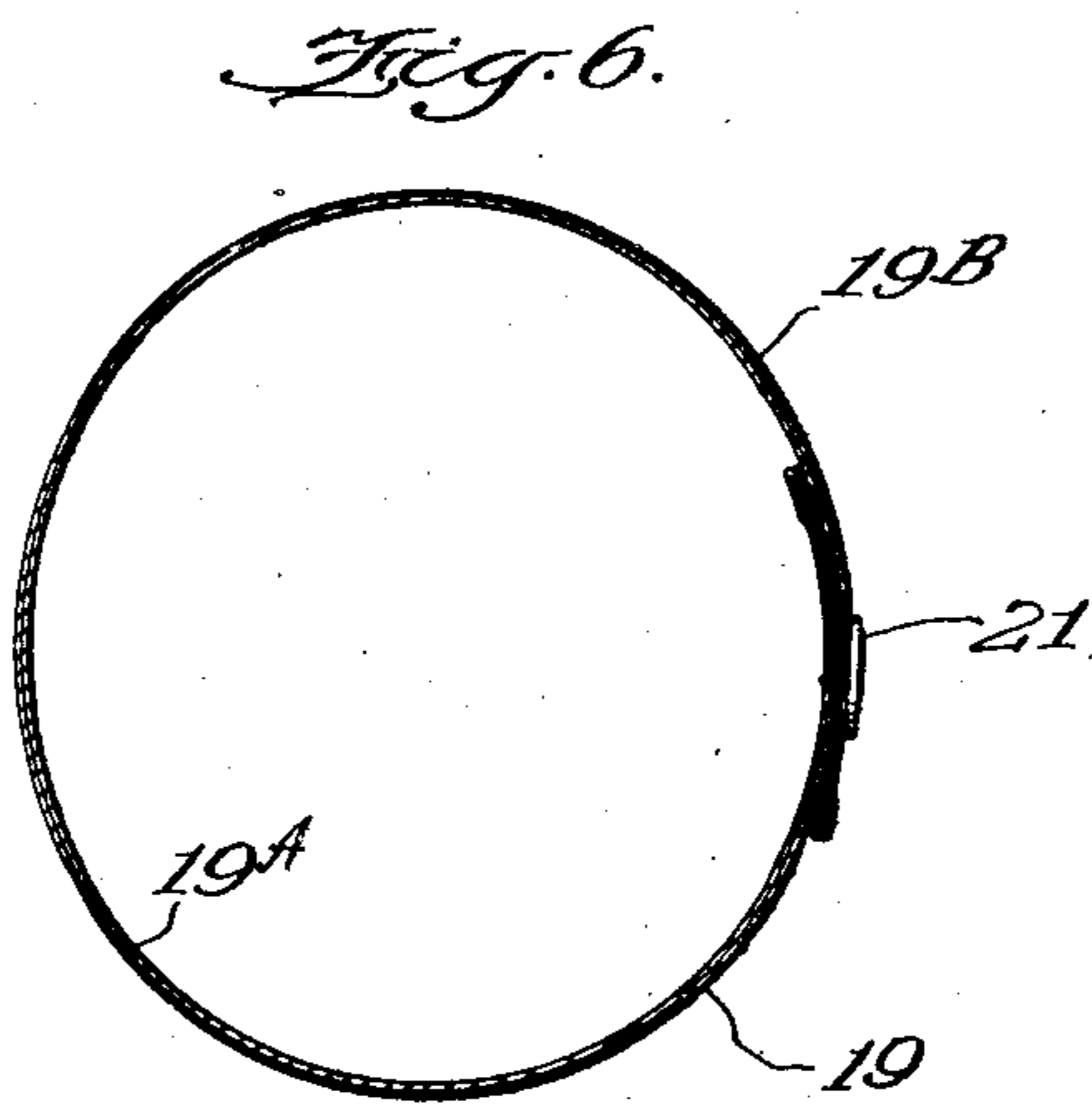
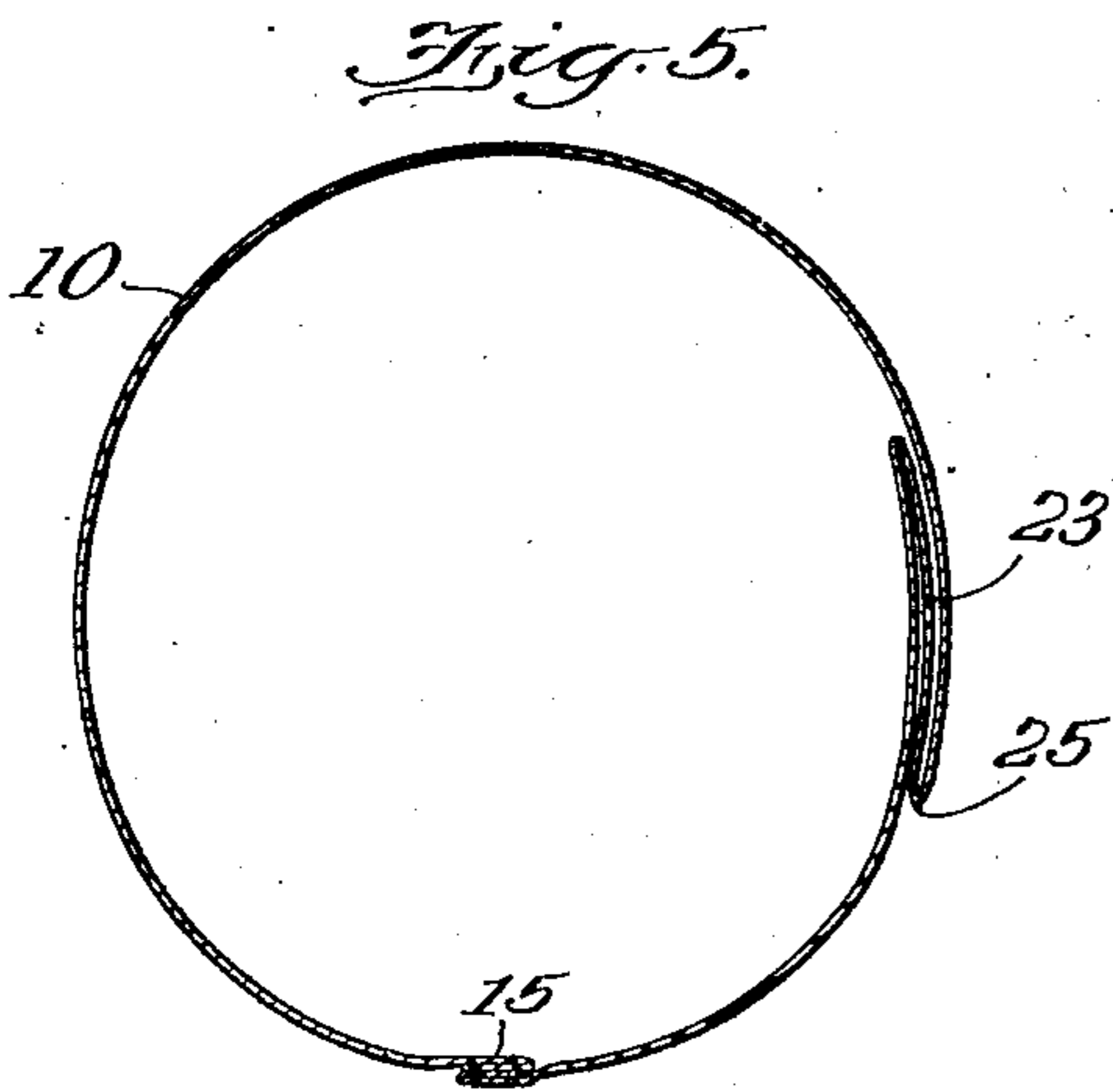
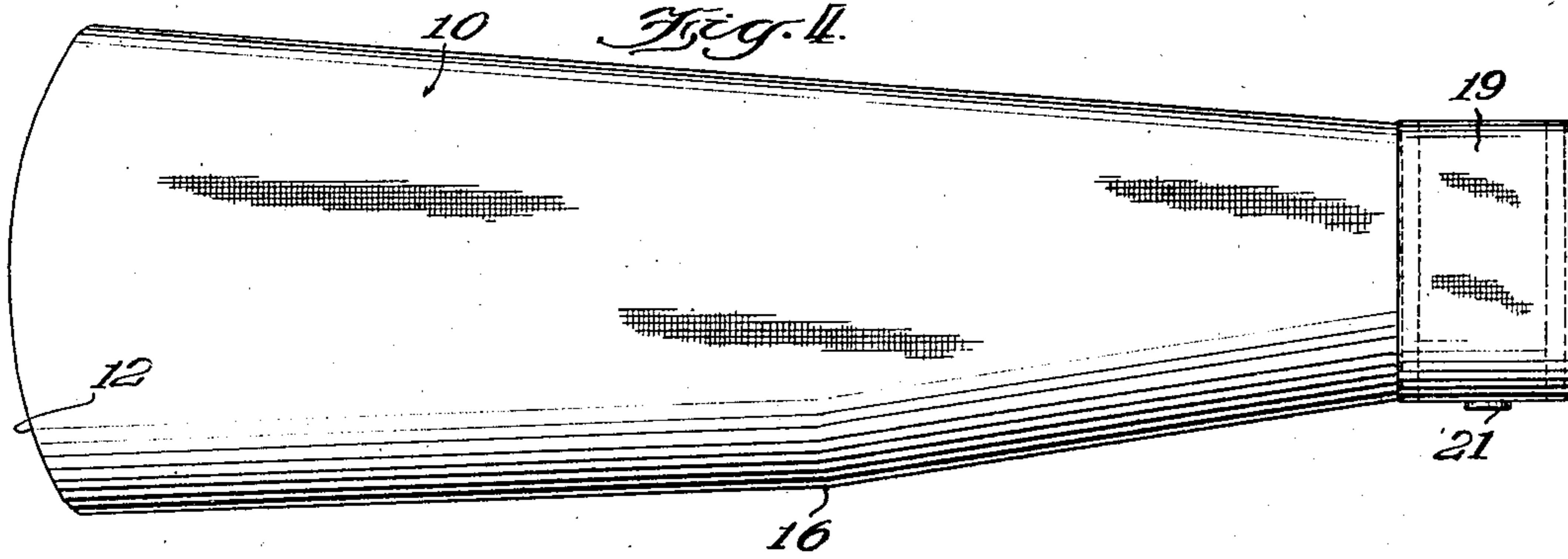
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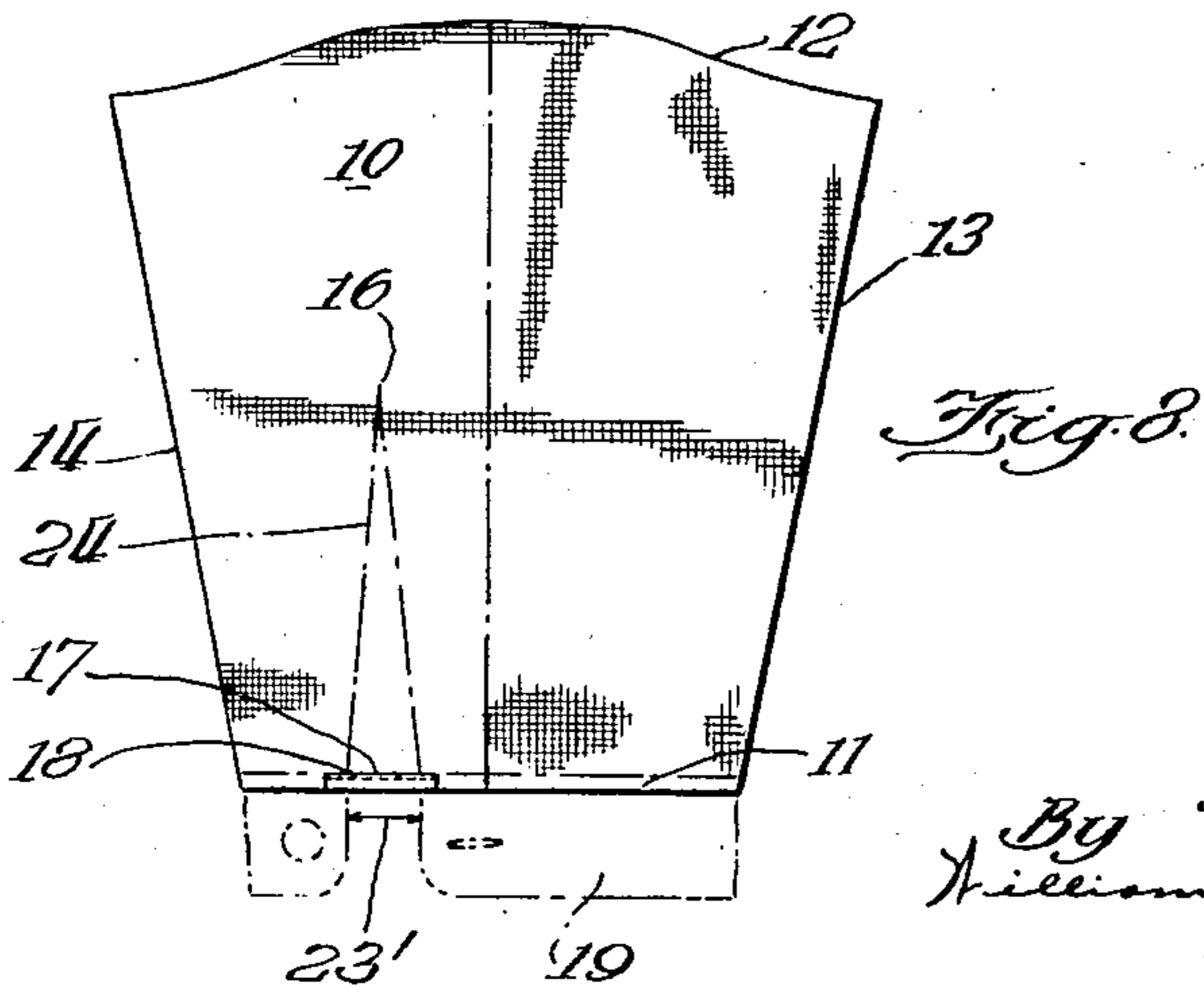
SHIRT SLEEVE

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3 Sheets-Sheet 2



*Fig. 7.*



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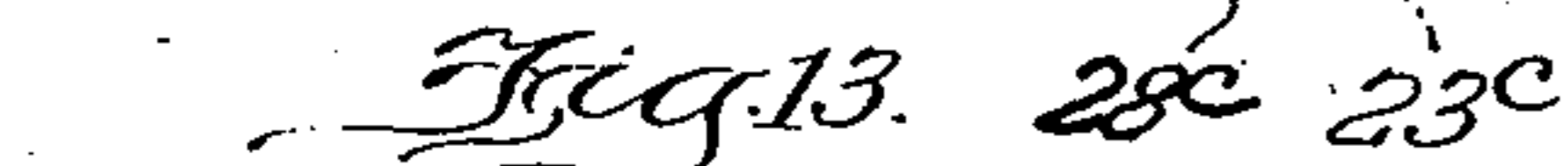
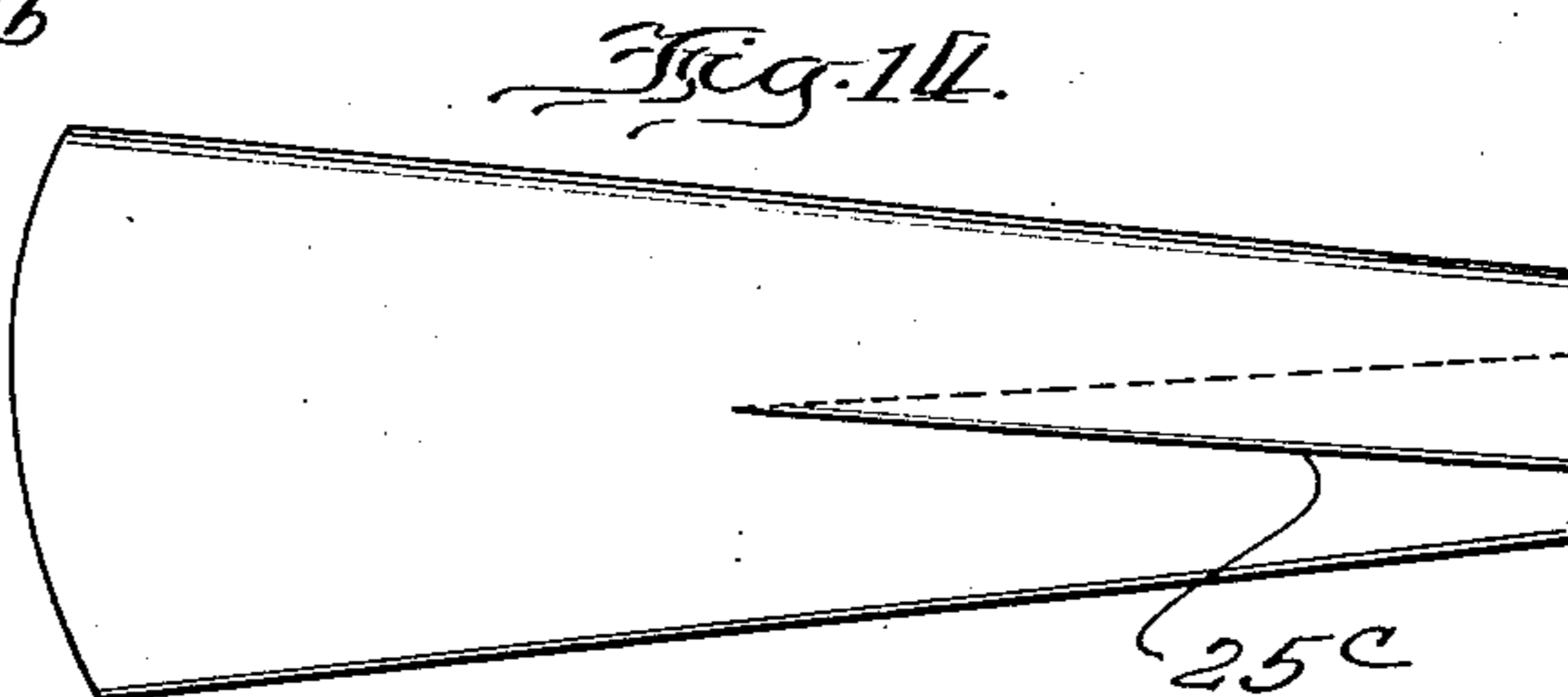
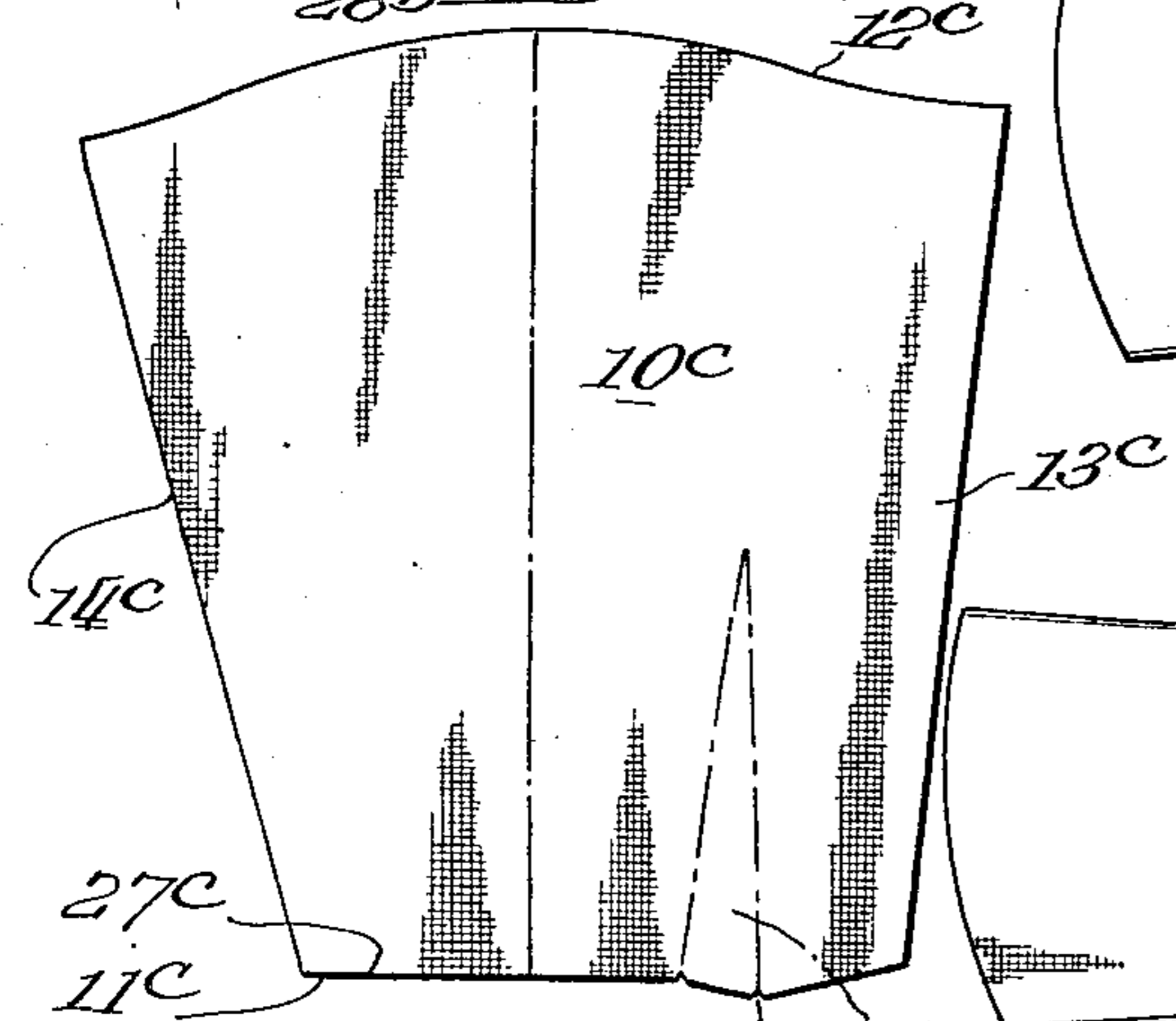
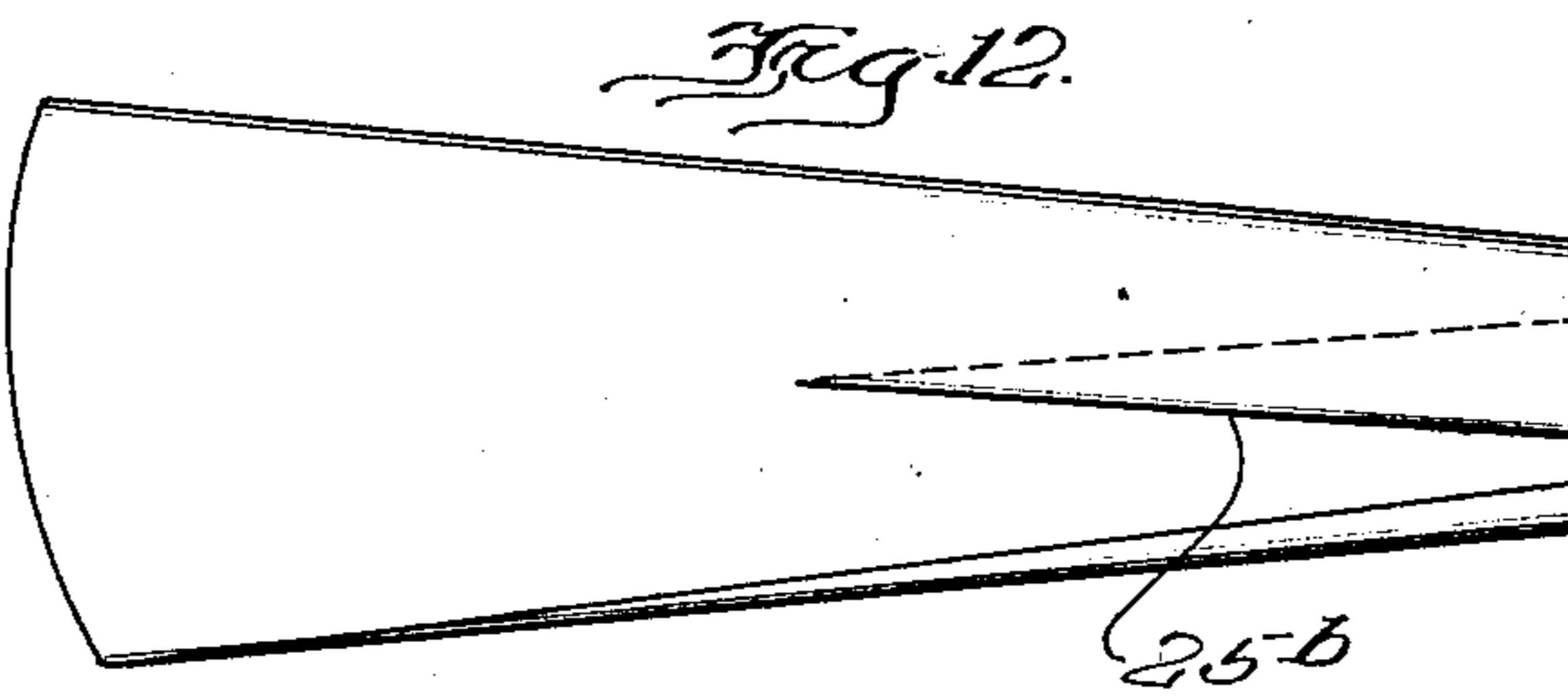
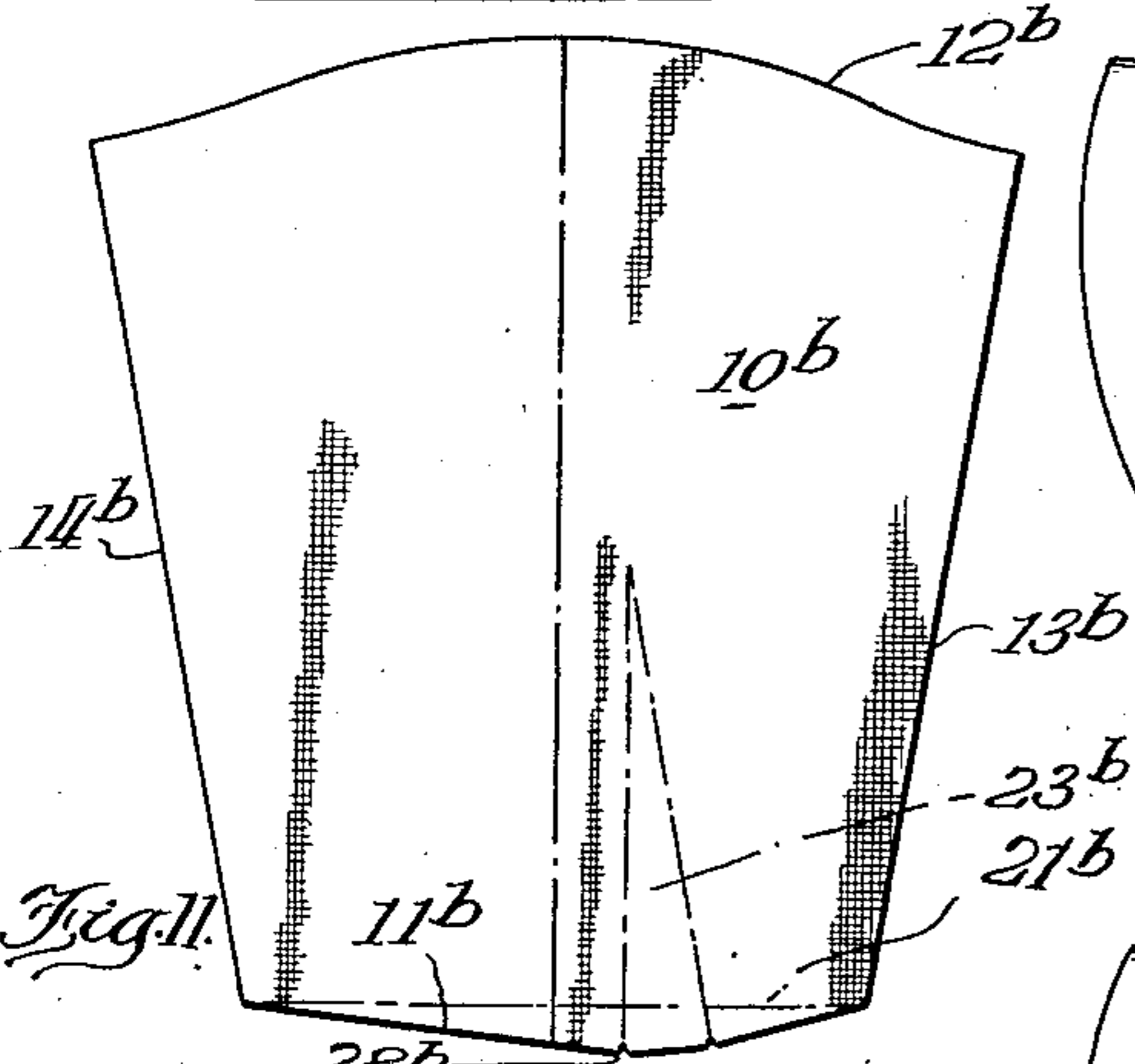
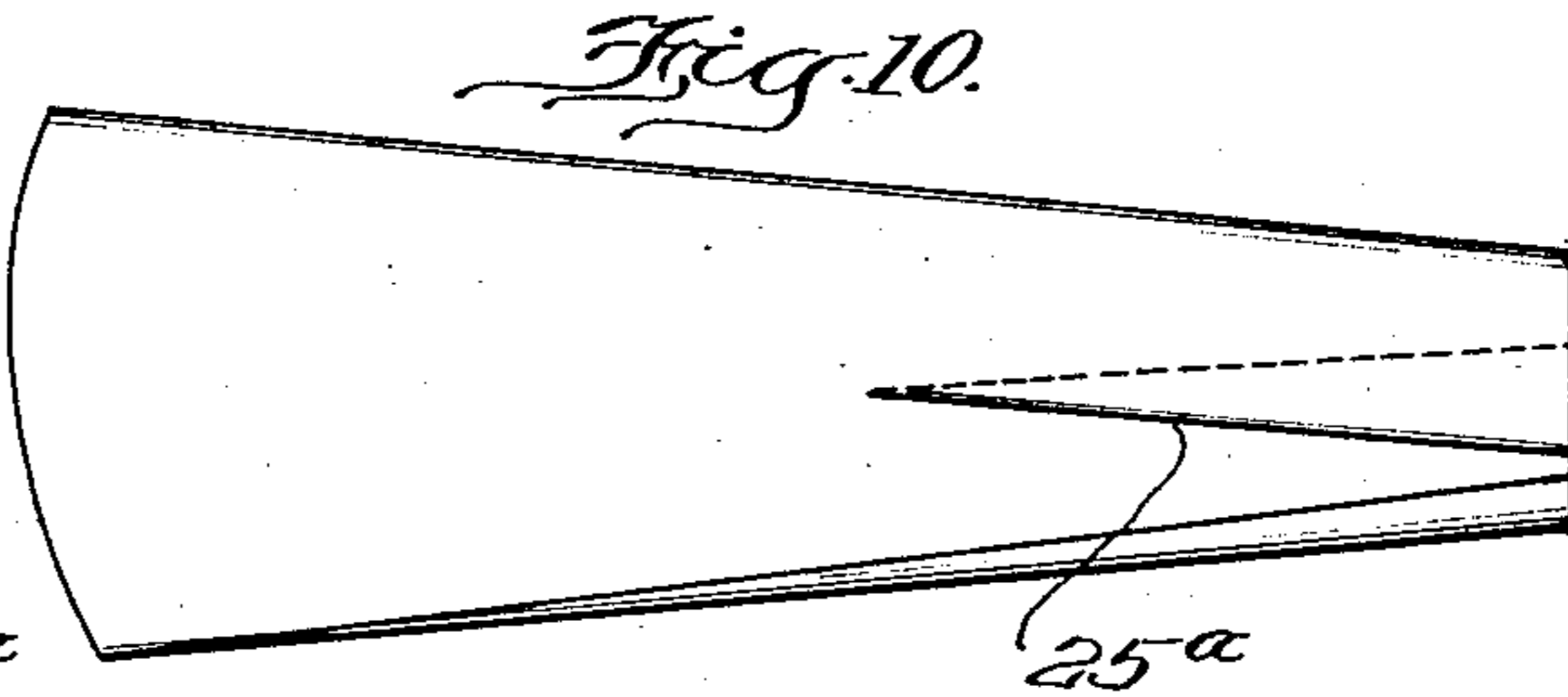
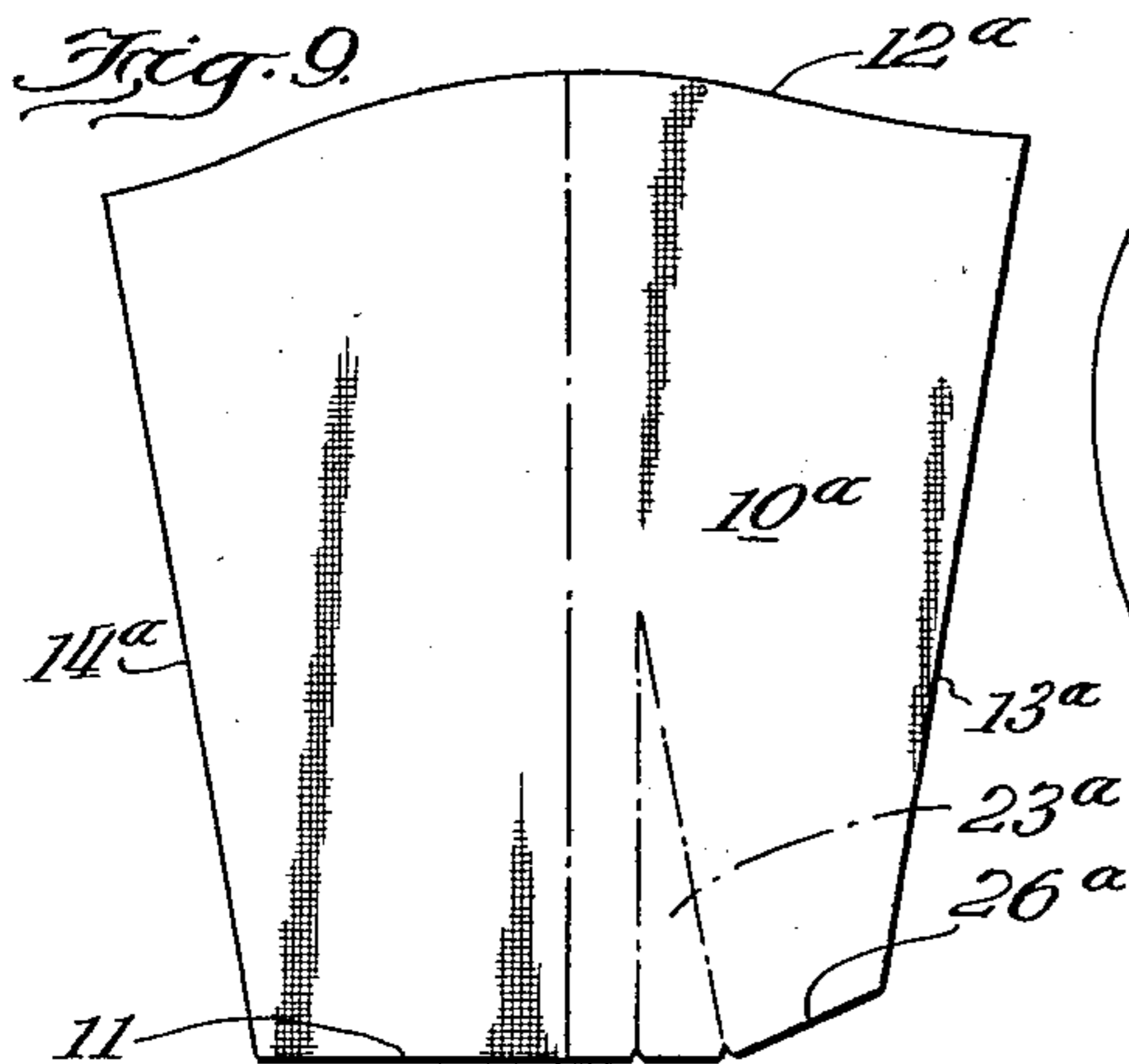
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SHIRT SLEEVE

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3 Sheets-Sheet 3



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# UNITED STATES PATENT OFFICE

2,098,847

## SHIRT SLEEVE

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Application April 10, 1935, Serial No. 15,631

11 Claims. (Cl. 2—125)

My invention relates to shirt sleeves.

Among the objects and features of my invention are: a roomier sleeve, and especially one providing more room at the elbow, a sleeve which is easily rolled up to or past the elbow; the elimination of the placket slit at the outer end of the sleeve with its attendant exposure of the wrist and forearm to the water and dirt and spattered paint and grease, and the danger of the sleeve being caught on projecting parts of machinery, fixtures, etc.; because of the elimination of the placket slit, the elimination of the outer placket dressing member and the facing for the placket slit; the retention of a tailored and fitted appearance to the sleeve despite the greater roominess; the retention of the normal appearance of the conventional cuff—and in fact the use of a conventional cuff of standard size, shape and appearance—despite the elimination of the conventional slit opening extending upwardly from the cuff, as distinguished from the unsightly appearance of extra folds in the cuff which has attended many previous attempts to eliminate the placket slit; reinforcement at the cuff opening against tearing of the sleeve; a sleeve pattern layout which will provide for a dart-like fold leading upwardly from the cuff end of the sleeve and still retaining a planar circular end for the sleeve when in use; provision for keeping the dart-like fold in its proper arrangement against pulling out or reversing itself; and, in general, an improved appearance for the sleeve.

In general, my invention is characterized by the elimination of the usual placket slit with its customary facing and placket, and the substitution therefor of an unslit sleeve of greater fulness, having a wrist circumference greater than the circumference of the cuff, so that when the cuff is buttoned the sleeve, at the region of the normal overlap of the cuff, is doubled upon itself into a fold, which, when in use, tapers up to and disappears at the elbow point, to throw a maximum of fulness at the elbow to eliminate all binding there when the arm is flexed. When the cuff is unbuttoned, the fold in the sleeve is opened so that the sleeve adjacent the cuff is of increased circumference and permits the ready insertion of a large hand or the easy rolling up of the sleeve. The cuff when buttoned has the appearance of the usual cuff, and the sleeve adjacent the wrist is neatly fitted because of the overlap which lies down neatly against the arm. The sleeve being unslitted, there is no opportunity for an unsightly exposure of the arm or un-

derwear sleeve through the slit, or no opportunity for dirt to get into the arm through the slit, and no danger of the slit enabling the sleeve to catch on protruding parts.

The foregoing, together with further objects, features and advantages of my invention are set forth in the following description of a specific embodiment thereof and illustrated in the accompanying drawings referred to, wherein:

Fig. 1 is a view of the sleeve laid flat upon a table, with the cuff opened and the goods stretched out to full area of double thickness, the elbow point and rearward side of the arm being exposed to the top;

Fig. 2 is a view similar to Fig. 1 and likewise flat, but showing the cuff buttoned and the resulting fold in the sleeve extending up to the shoulder, this representing the preferable disposition of the sleeve after laundering or manufacture and preparatory to the usual folding of the shirt;

Fig. 3 is a view similar to Fig. 2, but showing the sleeve in rounded-out position approximating the position when in use, when the fold to the cuff terminates at the elbow point to throw greater fulness there;

Fig. 4 is a plan view of the sleeve of Fig. 3 to illustrate how the fulness is thrown to the elbow point by the fold;

Fig. 5 is a transverse section taken on the line 5—5 of Fig. 3 above the cuff;

Fig. 6 is a transverse section similar to Fig. 5, but taken through the cuff;

Fig. 7 is a longitudinal fragmentary section through the end of the cuff and adjacent the sleeve body;

Fig. 8 is a developed pattern of the sleeve piece;

Fig. 9 is a development or pattern layout of a modified form of sleeve body which can be used in lieu of the pattern layout shown in Fig. 8;

Fig. 10 is a view somewhat similar to Fig. 3, but showing the sleeve member of Fig. 9, before the cuff is attached;

Figs. 11 and 12 are similar to Figs. 9 and 10 respectively, but show a different pattern layout;

Figs. 13 and 14 are also similar to Figs. 9 and 10 respectively, but show still another pattern layout, and

Fig. 15 is a view similar to Fig. 3, but showing a two-button cuff.

Starting with the sleeve pattern or body as illustrated in Fig. 8, the sleeve body 10 is bounded by a cuff edge 11, a shoulder edge 12, and longitudinal seam edges 13 and 14 which are sewn

together by stitching 15 to form the usual in-seam and give a generally cylindrical form to the sleeve. In Fig. 8 there is illustrated by dot and dash lines the contour to be assumed by the cuff when sewn in position, and also the folded-over web 23 of the sleeve running from the elbow point 16 to the cuff edge 11. Inasmuch as the cuff is of lesser circumference than the sleeve at the cuff edge 11, the gap 23' in the cuff edge 11, which will not be margined by the cuff, is dressed and strengthened by a reinforcing strip 17 folded over the cuff edge 11 and stitched thereto by the stitching 18.

After the reinforcing strip 17 has been applied and the stitching 15 made to seam the longitudinal edges of the sleeve together to form the rounded sleeve, the cuff 19 is secured to the cuff edge 11 of the sleeve by stitching 20. The cuff 19 comprises an inner ply 19A and an outer ply 19B suitably stitched together around their margins. The cuff at each end slightly overlaps the adjacent end of the reinforcement 17 so that there is a continuous reinforcement for the cuff edge 11 of the sleeve either by the reinforcing strip 17 or by the cuff itself. One end of the cuff carries the usual button 21 and the other end the usual button hole 22. When the sleeve with the attached cuff is laid flat as in Fig. 1 and then the cuff is buttoned as in Fig. 2, the sleeve, being of greater circumference at the cuff edge, than the circumference of the buttoned cuff, a fold or over-lapped web 23 results in the sleeve. As best seen in Fig. 5, this fold portion 23 constitutes the diagonal web of a Z-shaped cross section and in plan, as indicated by the dotted lines in Fig. 8, its shape is that of a greatly elongated isosceles triangle.

The sleeve is preferably so constructed and arranged that at the cuff edge 11 of the sleeve body the portion 23 is of a circumferential length which equals the overlap of the cuff when buttoned. In this way the entire gap between the two ends of the cuff is thrown into the folded portion 23 when the ends of the cuff are overlapped and buttoned. If the gap were shorter than the overlap of the cuff ends when buttoned, some of the cuff itself would have to be folded back in order to provide circumferential length for the folded-back portion 23.

As shown in Fig. 2, when the shirt is laid out flat preparatory to folding for shipment, the fold preferably extends all of the way to the shoulder edge 12 where the sleeve is sewn into the body and yoke. The fold is preferably similarly arranged when the shirt is ironed after laundering. This disposition of the fold permits the sleeve to lie flat. However, when the shirt is in use the wearer's elbow pulls the fold out at the elbow point 16 to give a full circumference at the elbow for greater freedom. Then the fold starts at the elbow point and extends down to the same position at the cuff edge of the sleeve. On Fig. 2 I have indicated the fold line 24 extending to the shoulder, but in Fig. 3, where the sleeve is rounded out in use, I have indicated the fold line 25 running to the elbow point 16, but I have indicated the fold line 24 in a dot and dash line for comparison. From the structural standpoint analogous to sheet metal work, the sleeve when in the position of Figs. 2 and 3 assumes the form of a slightly tapering cylinder from the sleeve to the elbow, but from the elbow to the cuff, on account of the fold 24, the sleeve continues as a very definitely tapering cone down to the cuff. Thus, as best shown by Fig. 3, there is a fulness

to the elbow point 16, giving the sleeve a definitely tailored fit for the elbow.

The buttoned down cuff holds the folded portion 23 along the fold 24 and close to the underlying portion of the overlapped sleeve so that adjacent the cuff the sleeve presents a very neat appearance.

The sleeve extending circumferentially continuous down to the cuff, there is no slit popping open to reveal the arm or underwear sleeve. Similarly, the elimination of the slit prevents snow, wind and rain from coming in contact with the arm, and also prevents spattered paint from reaching the arm. As compared with a slitted sleeve, my fold 25 affords no opportunity for catching on protruding parts of machinery, hardware, etc., because any projection catching beneath the folded-over portion merely opens up the fold and passes by.

The cuff itself is of standard size and construction and presents the normal appearance of the usual cuff. In previous attempts to use folds extending toward the cuff of sleeves, the fold was extended across the cuff itself, which has resulted in an awkward and ungainly appearance for the cuff.

When it is desired to roll up the sleeve, the cuff can be unbuttoned, thereby increasing the circumference of the sleeve by twice the length of the gap between the ends of the cuff. For men's shirts I prefer to make this gap about two inches; thus some four inches of additional circumference is made available for rolling up the sleeve.

As will be seen from Fig. 8, the sleeve body piece requires, because of the greater fulness of the sleeve, considerably more goods than does the body of the conventional sleeve, but, on the other hand, no material is required for a sleeve placket and facing for a sleeve placket slit. It becomes unnecessary to pucker the sleeve end where sewn to the cuff, and this facilitates ironing in subsequent launderings, as well as the operation of sewing on the cuff. While the sleeve body piece of the contour shown in Fig. 8 will suffice for practice purposes, there is some advantage, justifiable in higher priced shirts, to sacrifice some of the yardage economy of cutting by making the cuff edge of the sleeve irregular to insure, with greater geometric exactness, that when the sleeve piece is formed into the sleeve and the dart-like fold incorporated therein, the circular sleeve edge will lie in a plane. In order to use a standard cuff and preserve the parallelism of its edges, I prefer to insure that the outer exposed edge of the sleeve lies in a plane by making the cuff edge of the sleeve pattern irregular, rather than making the sleeve edge of the cuff irregular.

In Figs. 9, 11 and 12 I have shown different contours or profiles for a sleeve body especially at the cuff edge, these being arranged so that when the lateral edges of the sleeve are sewn together to bring it into a generally cylindrical form as in Figs. 10, 12 and 14, respectively, the cuff edge of each sleeve will lie in a plane. This not only makes a more sightly appearance for the end of the cuff itself, but also tends to prevent the dart-like fold of the sleeve pulling out or reversing itself.

In Fig. 9 one end of the cuff edge of the sleeve body 10a is cut away obliquely, as shown at 26a. This end of the cuff edge of the sleeve is the one which juxtaposes the line which will constitute the fold 25a which overlies rather than underlies

the web portion 23a. In order that the lateral edges 13a and 14a be of equal length, since they have to be sewn together, the side 13a, which is shortened at the bottom by the oblique cut-off 26a, is lengthened at the top end, as shown in Fig. 9. That is to say, in Fig. 9 the upper end of the lateral edge 13a is higher than the upper end of the lateral edge 14a. The cuff edge 11a, aside from the portion 26a, is straight and at right angles to the center line of the sleeve pattern.

In Fig. 11 the lateral edges 13b and 14b and the shoulder edge 12b are symmetrical about the center line of the pattern. The cuff edge 11b is neither straight nor at right angles to the center line of the pattern, as would be represented by the straight base line 27b indicated in Fig. 11. Here the inner fold line of the folded web portion 23b extends below the normal base line 27b to form the lowermost point 28b of the cuff edge 11b. The cuff edge 11b extends obliquely from this point 28b to the respective lateral edges 13b and 14b at the intersection therewith of the base line 27b.

In Fig. 13 the sleeve body 10c is cut on a pattern where the taper for the sleeve is thrown primarily onto the side 14c, with the side 13c more nearly parallel with the center line. Here the cuff edge 11c extends along the base line 27c, which is at right angles to the center line, from the lateral side 14c to the web portion 23c. The remainder of the cuff edge 11c is cut on two oblique lines. The cuff edge of the folded web portion 23c extends from the base line obliquely down to a low point 28c below the base line. From the point 28c the cuff edge slopes upwardly, meeting the lateral edge 13c above the base line. This makes it necessary for the lateral edge 13c to be correspondingly higher where it meets the shoulder edge 12c than is the lateral edge 14c. In each of these three sleeve pattern layouts shown in Figs. 9 to 14 inclusive, the conformation of the sleeve piece is such that when in use with the cuff buttoned, the sleeve will hang with its bottom edge in a plane at a normal to the axis of the sleeve. It will thus be seen that by these pattern layouts I have solved the problem peculiar to my folded-over but unslit sleeve construction.

When the sleeve is cut by the pattern layout of Fig. 8, there is some tendency for the two ends of the cuff to pivot about the single button, especially when the sleeve fold is subject to unusual strains. The result is that the cuff edge will not set so neatly, the fold tends to pull out and in extreme cases reverse itself.

The use of the pattern layouts of Figs. 9 to 14 inclusive, because they normally hang with the cuff edge in a plane, tend to a substantial extent to prevent this pivoting about the single button. However, either with the sleeve pattern layout of Fig. 8 or with the other three modifications shown, it may be advisable to employ two spaced fastening means for the cuff to prevent this pivoting action. In Fig. 15 I have shown this feature incorporated by the expedient of a pair of buttons 21d in lieu of the single button 21 of Fig. 3. The same objective may be accomplished using the single button of Fig. 3 and an auxiliary snap fastener at the overlapping portions of the sleeve edge of the cuff.

While I have described the specific embodiments of my invention, many modifications may be made without departing from the spirit of the invention and I do not wish to be limited to the precise details set forth but desire to avail my-

self of all changes within the scope of the appended claims.

I claim:

1. A shirt sleeve comprising a generally cylindrical sleeve body having at one end a shoulder edge adapted to be sewn to a shirt body and at the other end a cuff edge, and a cuff having a sleeve edge sewn to the cuff edge of the sleeve, the cuff projecting beyond the cuff edge of the sleeve and of lesser circumferential length than the cuff edge of the sleeve, leaving a gap between the ends of the cuff.

2. A shirt sleeve comprising a generally cylindrical sleeve body having at one end a shoulder edge adapted to be sewn to a shirt body and at the other end a continuous cuff edge, and a cuff having a sleeve edge sewn to the cuff edge of the sleeve, the cuff projecting beyond the cuff edge of the sleeve and of lesser circumferential length than the cuff edge of the sleeve, having a gap between the ends of the cuff, a portion of the sleeve adjacent the cuff, when the cuff ends are overlapped, constituting the web of a sleeve fold Z-shaped in transverse section, the web being triangularly shaped with its base at, and substantially co-extensive with, the gap and its sides extending convergingly up-sleeve.

3. A shirt sleeve comprising a generally cylindrical sleeve body having shoulder and cuff ends but unslit therebetween, a cuff sewn at one edge to the cuff end of the sleeve and projecting therebeyond, the cuff being of lesser length than the circumferential length of the cuff edge of the sleeve leaving a gap between the ends of the cuff exposing to the gap a portion of the cuff end of the sleeve, and cooperating fastening means on the respective ends of the cuff for holding the cuff ends overlapped a distance substantially equal to the length of the gap, the sleeve body, when the cuff ends are thus overlapped, including a folded-under web portion extending with converging sides upwardly of the sleeve from the gap.

4. A shirt sleeve comprising a generally cylindrical sleeve body having shoulder and cuff ends but unslit therebetween, a cuff sewn at one edge to the cuff end of the sleeve and projecting therebeyond, the cuff being of lesser length than the circumferential length of the cuff edge of the sleeve leaving a gap between the ends of the cuff exposing to the gap a portion of the cuff end of the sleeve, and cooperating fastening means on the respective ends of the cuff for holding the cuff ends overlapped a distance not greater than the length of the gap, the sleeve body, when the cuff ends are thus overlapped, including a folded-under web portion extending with converging sides upwardly of the sleeve from the gap.

5. A shirt sleeve comprising a generally cylindrical sleeve body having shoulder and cuff ends but unslit therebetween, a cuff sewn at one edge to the cuff end of the sleeve and projecting therebeyond, the cuff being of lesser length than the circumferential length of the cuff edge of the sleeve leaving a gap between the ends of the cuff exposing to the gap a portion of the cuff end of the sleeve, a reinforcing marginal strip sewn along the edge of the sleeve body at the gap and anchored at its ends to the respective ends of the cuff, and cooperating fastening means on the respective ends of the cuff for holding the cuff ends overlapped a distance not greater than the length of the gap, the sleeve body, when the cuff ends are thus overlapped, including a folded-under

web portion extending with converging sides upwardly of the sleeve from the gap.

5 6. A shirt sleeve comprising a generally cylindrical sleeve body having at one end a shoulder edge for securement to the shoulder of a shirt body and having at the other end a continuous cuff edge, and a cuff having an exposed edge and a sleeve edge, parallel with the exposed edge, sewn to the cuff edge to project therebeyond and of lesser circumferential length than the cuff edge, having a gap in the latter between the ends of the cuff whereby, when the ends of the cuff are overlapped, a folded-over web is defined in the body of the sleeve in the form of an elongated triangle whose base is substantially said gap and whose sides extend convergingly in an up-sleeve direction, a means for retaining the edges of the cuff in substantially planar positions comprising a pair of spaced-apart buttons and buttonholes on the respective overlapped ends of the cuff.

10 7. A shirt sleeve comprising a generally cylindrical sleeve body having at one end a shoulder edge for securement to the shoulder of a shirt body and having at the other end a continuous cuff edge, and a cuff having an exposed edge and a sleeve edge, parallel with the exposed edge, sewn to the cuff edge and of lesser circumferential length than the cuff edge, having a gap in the latter between the ends of the cuff whereby, when the ends of the cuff are overlapped, a folded-over web is defined in the body of the sleeve in the form of an elongated triangle whose base is substantially said gap and whose sides extend convergingly in an up-sleeve direction, the cuff edge of the sleeve body, in planar development, having its low point at the region of said gap.

15 8. A shirt sleeve comprising a generally cylindrical sleeve body having at one end a shoulder edge for securement to the shoulder of a shirt body and having at the other end a continuous cuff edge, and a cuff having an exposed edge and a sleeve edge, parallel with the exposed edge, sewn to the cuff edge and of lesser circumferential length than the cuff edge, having a gap in the latter between the ends of the cuff whereby, when the ends of the cuff are overlapped, a folded-over web is defined in the body of the sleeve in the form of an elongated triangle whose base is substantially said gap and whose sides extend convergingly in an up-sleeve direction, the cuff edge of the sleeve body, in planar development, being inclined up-sleeve on at least one side of the region of the gap to such extent that, when the web is folded over, the cuff edge of the sleeve becomes substantially a straight line.

20 9. A shirt sleeve comprising a generally cylindrical sleeve body having at one end a shoulder edge for securement to the shoulder of a shirt body and having at the other end a continuous cuff edge, and a cuff having an exposed edge and a sleeve edge, parallel with the exposed edge, sewn to the cuff edge and of lesser circumferential

length than the cuff edge, having a gap in the latter between the ends of the cuff whereby, when the ends of the cuff are overlapped, a folded-over web is defined in the body of the sleeve in the form of an elongated triangle whose base is substantially said gap and whose sides extend convergingly in an up-sleeve direction, the cuff edge of the sleeve body, in planar development, being inclined up-sleeve on at least one side of the region of the gap to such extent that, when the web is folded over, the cuff edge of the sleeve becomes substantially a straight line at right angles to the medial line of the planar development of the sleeve body.

10. A shirt sleeve comprising a generally cylindrical sleeve body having a shoulder edge for sewn securement to the shoulder of a shirt body and having at the other end a cuff edge, and a cuff having an exposed edge and a sleeve edge, substantially parallel therewith, sewn to the cuff edge of the sleeve body to project downwardly therebeyond, cooperating fastening means adjacent the respective ends of the cuff for detachably holding the cuff ends closed in predetermined overlapping arrangement, the shirt body being so cut and sewn to the cuff that the cuff is of lesser length than the width of the cuff edge of the sleeve body in relation to its flat development with its material in its normal flat form, such excess width of the cuff edge of the sleeve body occurring between the ends of the cuff, the sleeve body, when the cuff is closed by said fastening means, having a double fold, Z-shaped in cross section, extending taperingly from the overlapped cuff ends upwardly at least to the elbow point and considerably beyond the lower margin of the sleeve body which faces the overlap of the cuff ends.

11. A shirt sleeve comprising a sleeve body formed from a piece of woven fabric material having its median longitudinal line extending along one set of threads of the goods and having its lateral edges sewn together to form the longitudinal sleeve seam, an upper edge constituting a shoulder edge for sewn securement to the shoulder of a shirt body and a lower edge forming a cuff edge, a cuff having an exposed lower edge and an upper edge substantially parallel therewith and sewn to the cuff edge of the sleeve body, the cuff being of lesser length than the lower margin of the shirt body, when the latter is in the normal flat position of its material, whereby a gap is left between the ends of the cuff, said gap occurring at a spaced distance from said longitudinal sleeve seam, and from said median line, and cooperating fastening means on the cuff adjacent its respective ends for detachably holding the cuff ends in overlapped relation at the region of said gap, the sleeve body, when the cuffs are thus overlapped, having a double fold, Z-shaped in cross section, tapering toward and extending at least as high as the elbow point.

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