

No. 862,613.

PATENTED AUG. 6, 1907.

A. J. CUMNOCK.  
FABRIC AND GARMENT.  
APPLICATION FILED APR. 30, 1904.

3 SHEETS—SHEET 1

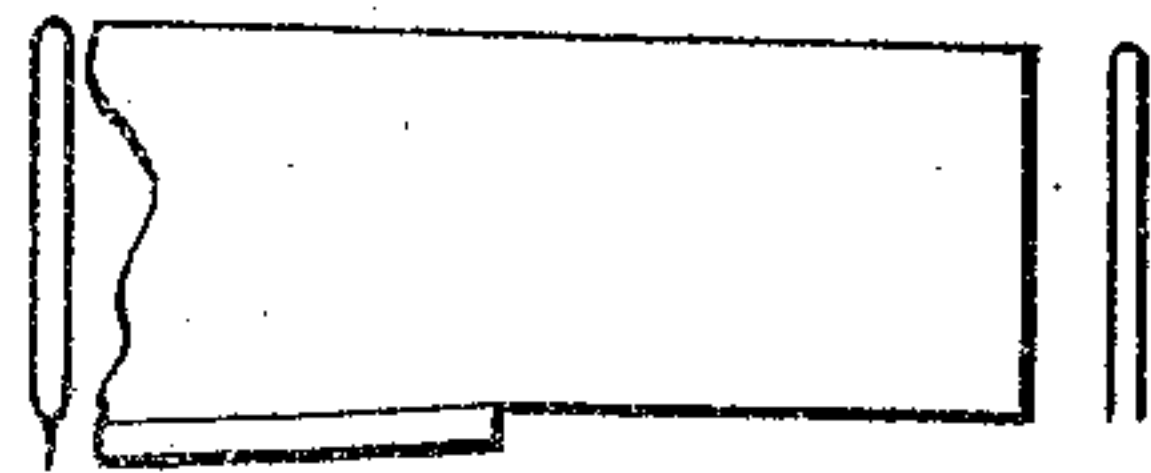
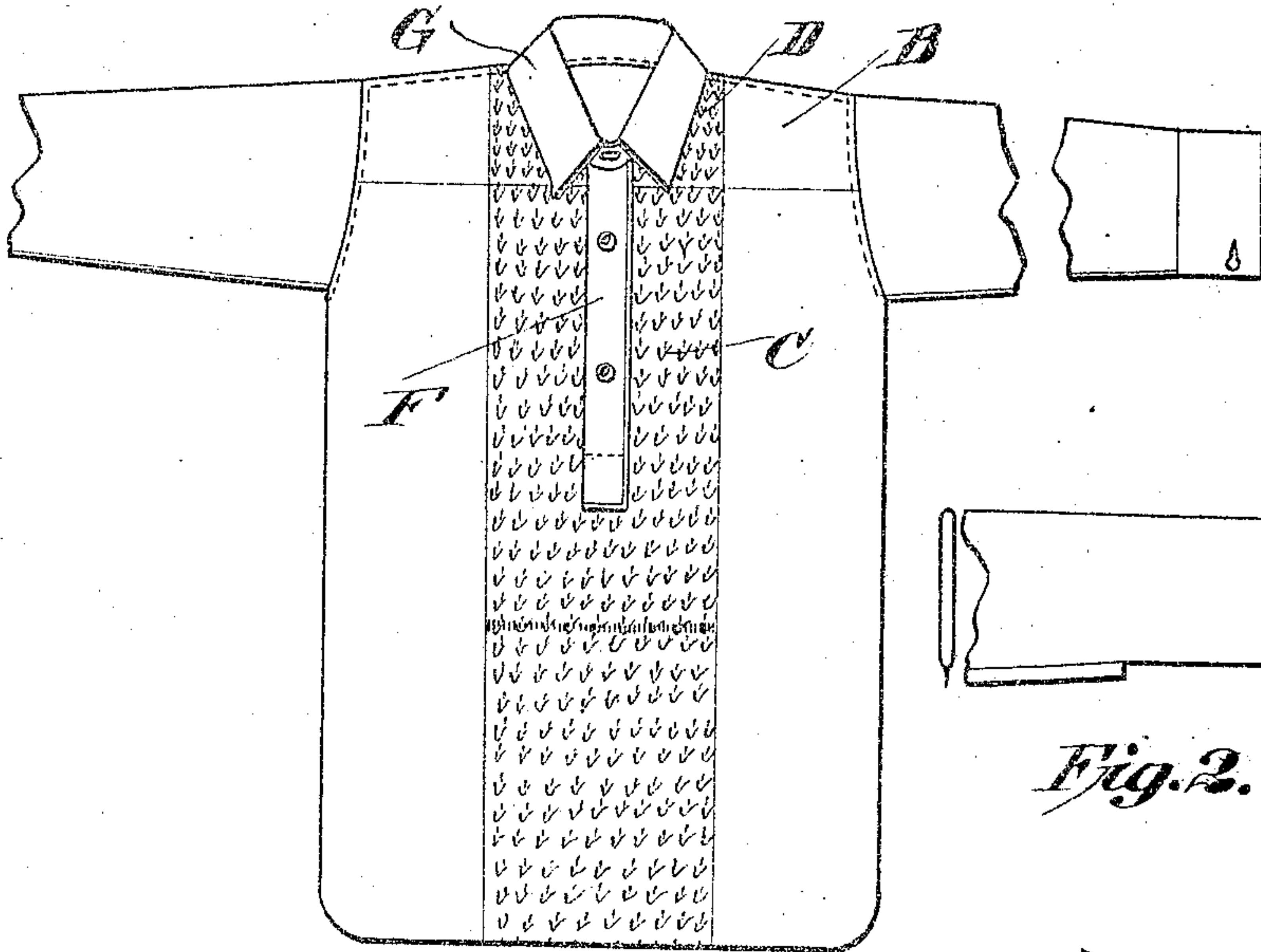


Fig. 2.

Fig. 1.

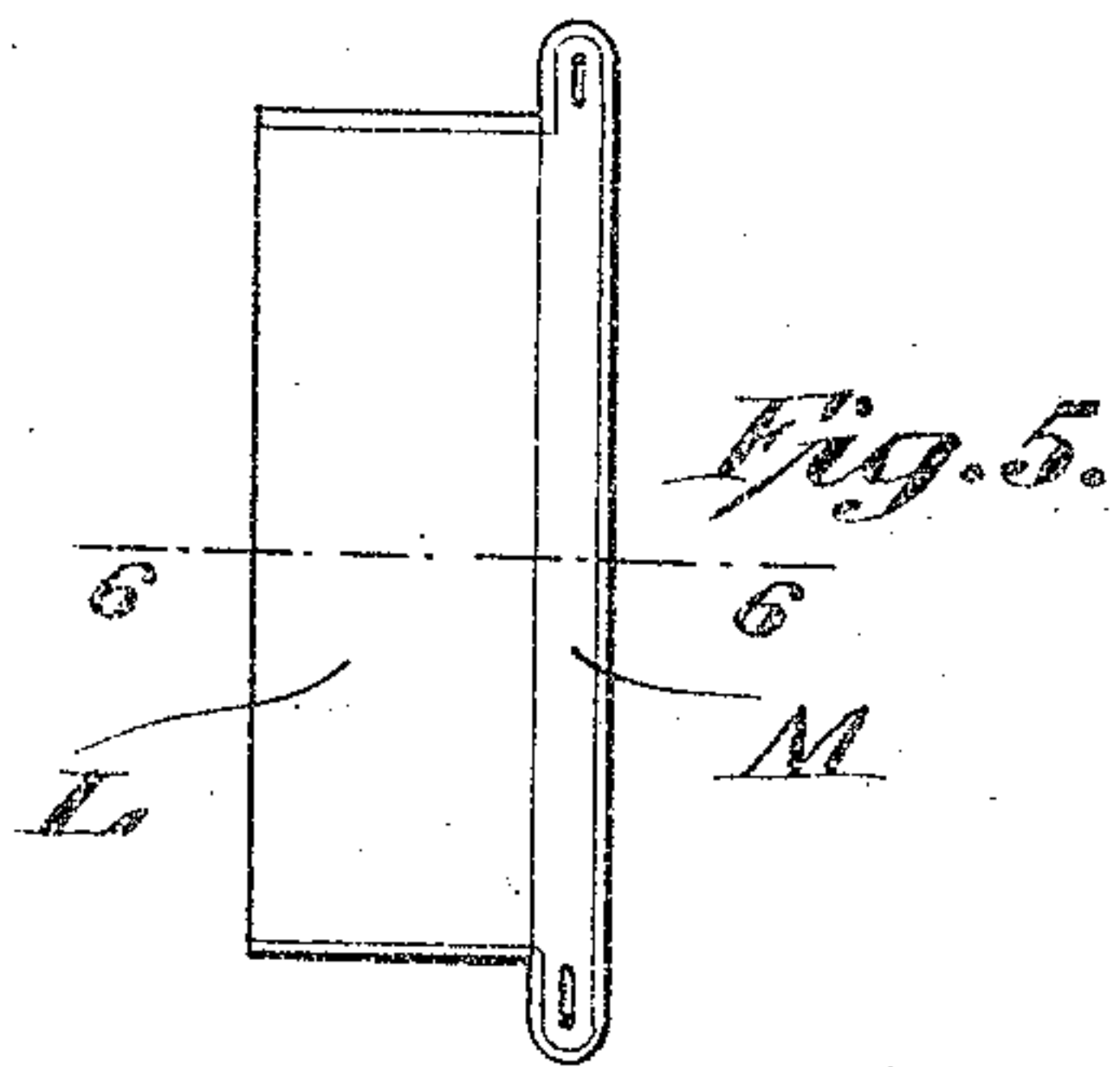


Fig. 6.

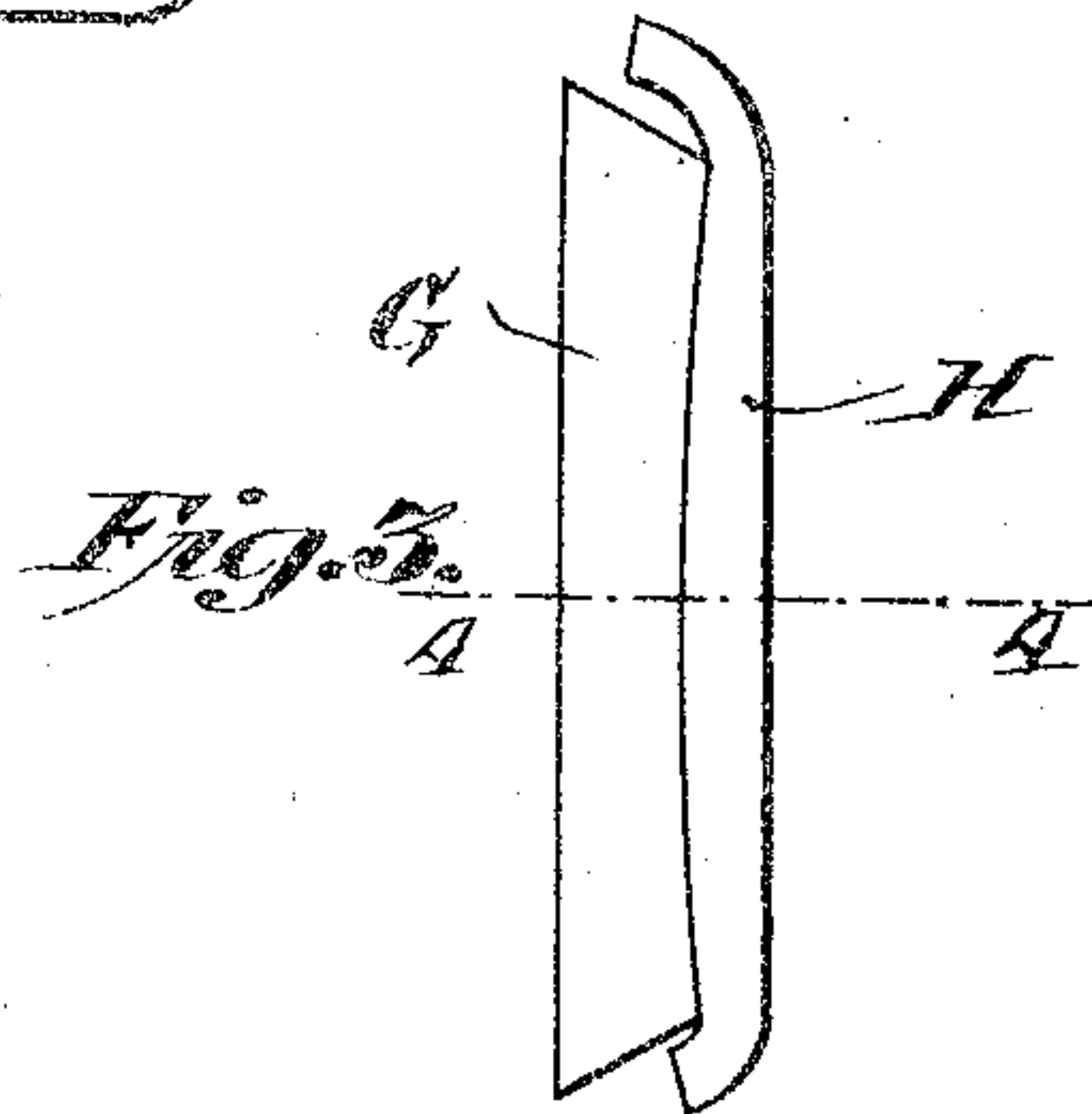


Fig. 3.

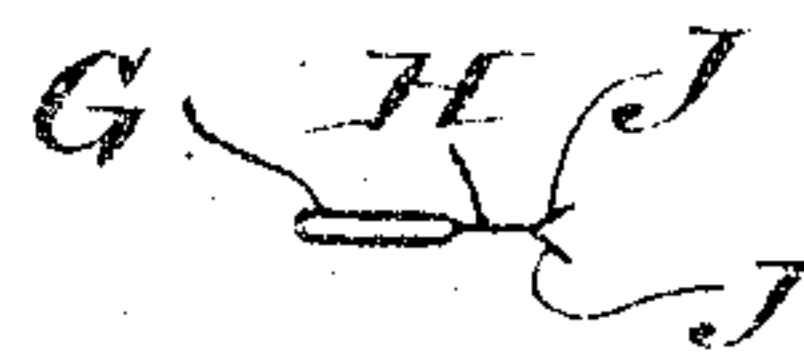


Fig. 4.

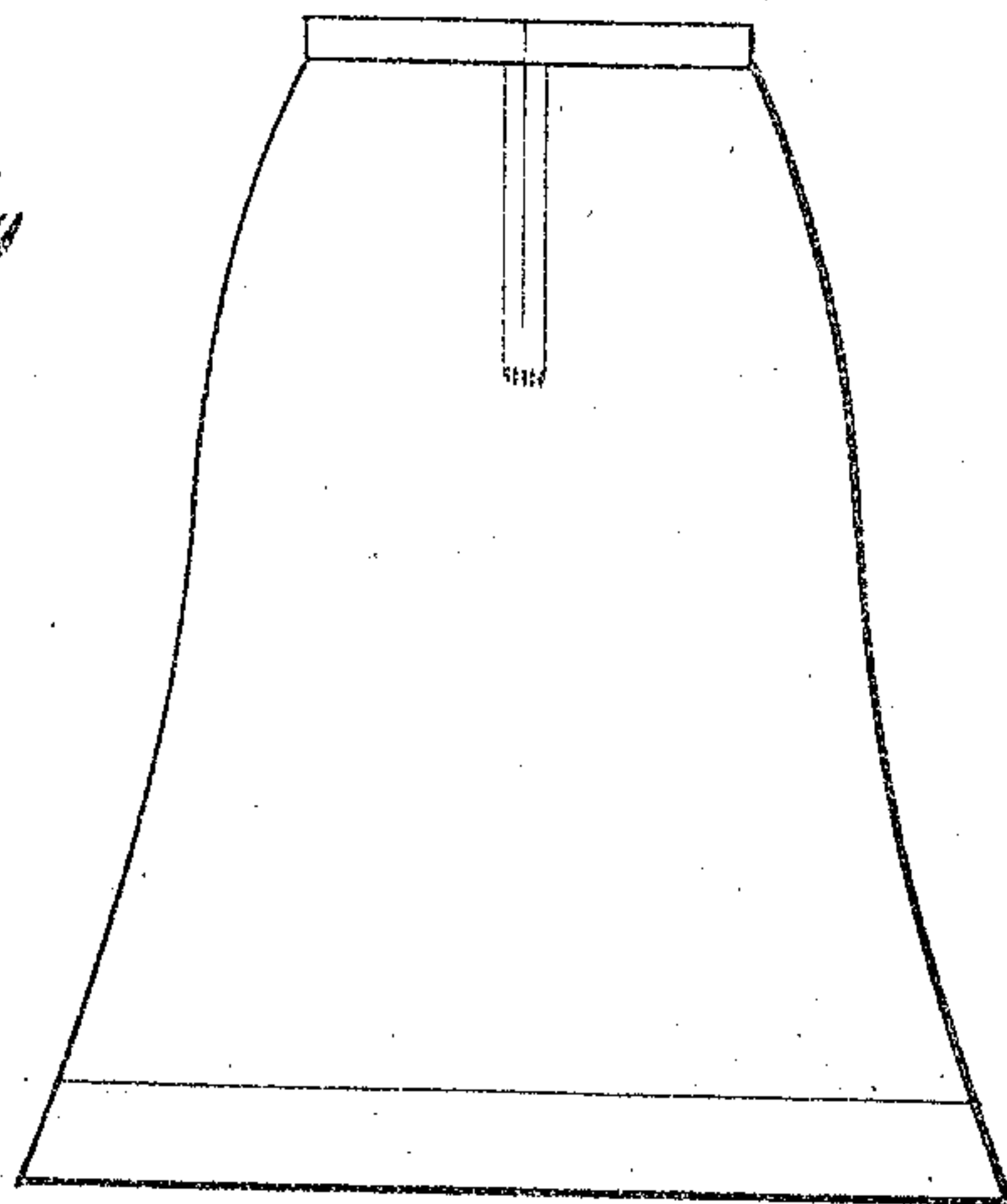


Fig. 7.

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3 SHEETS—SHEET 2.

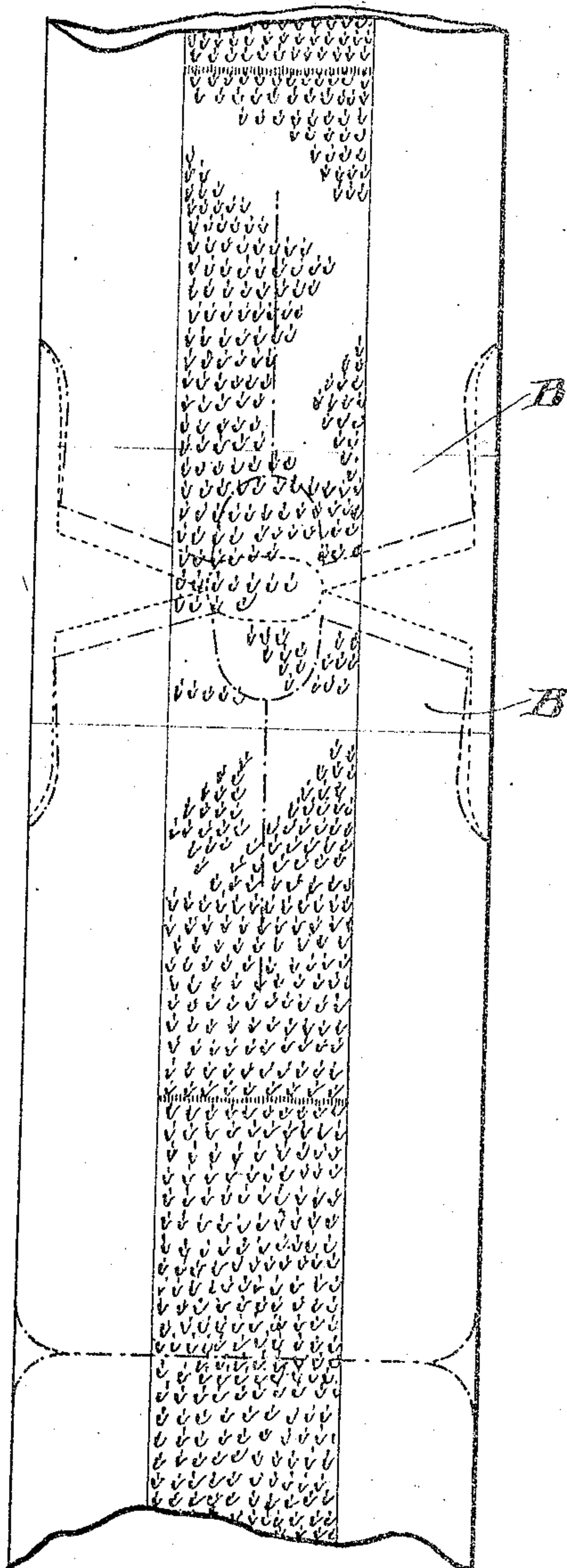


Fig. 8.

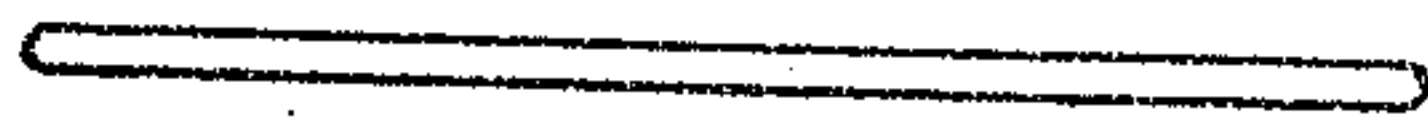


Fig. 9.

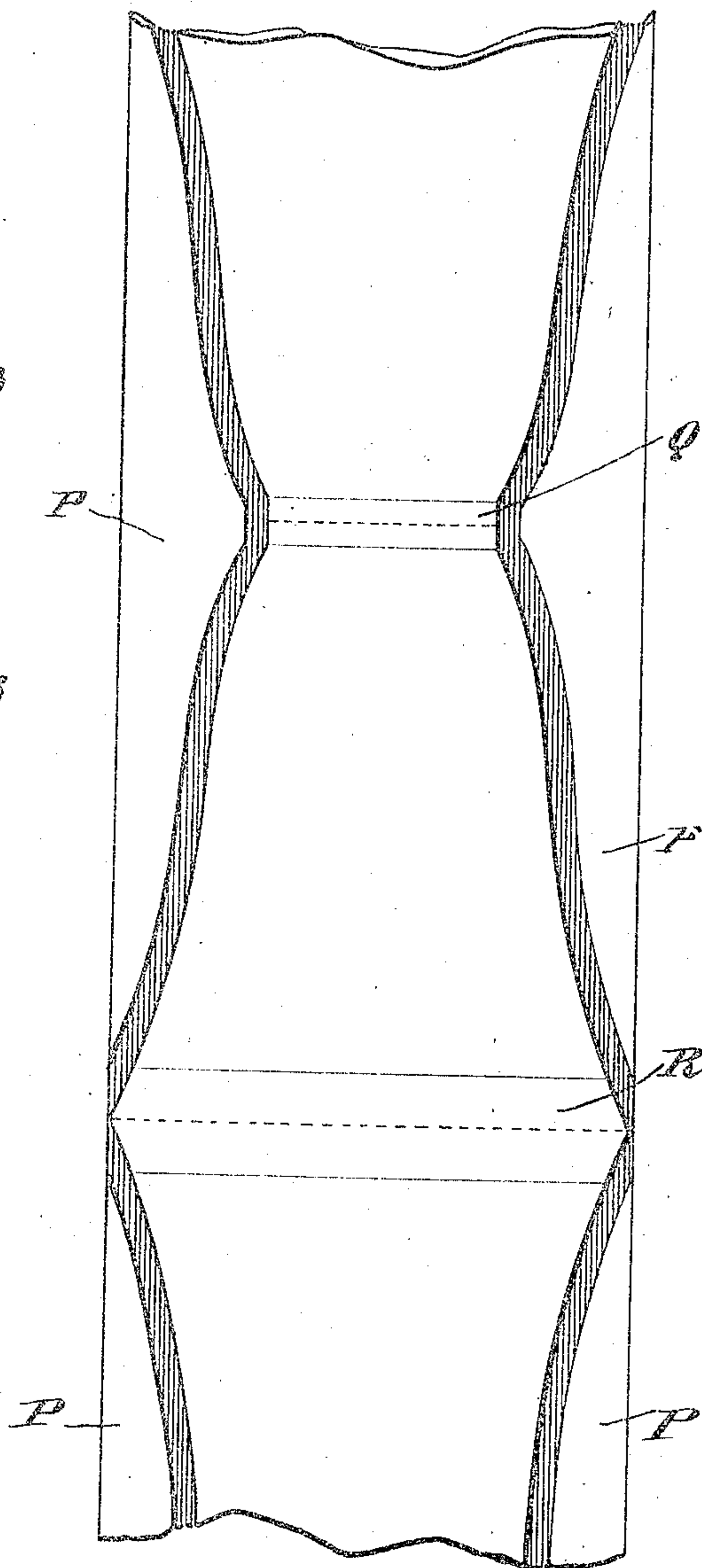


Fig. 10.

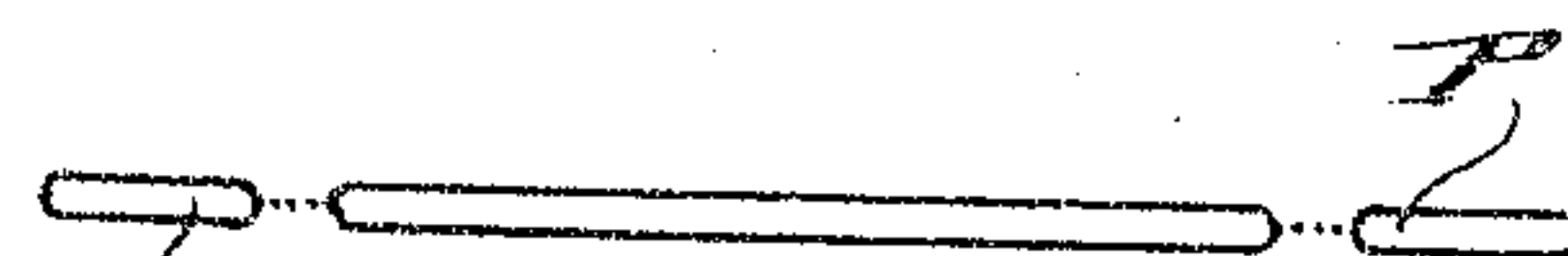


Fig. 11.

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3 SHEETS—SHEET 3.

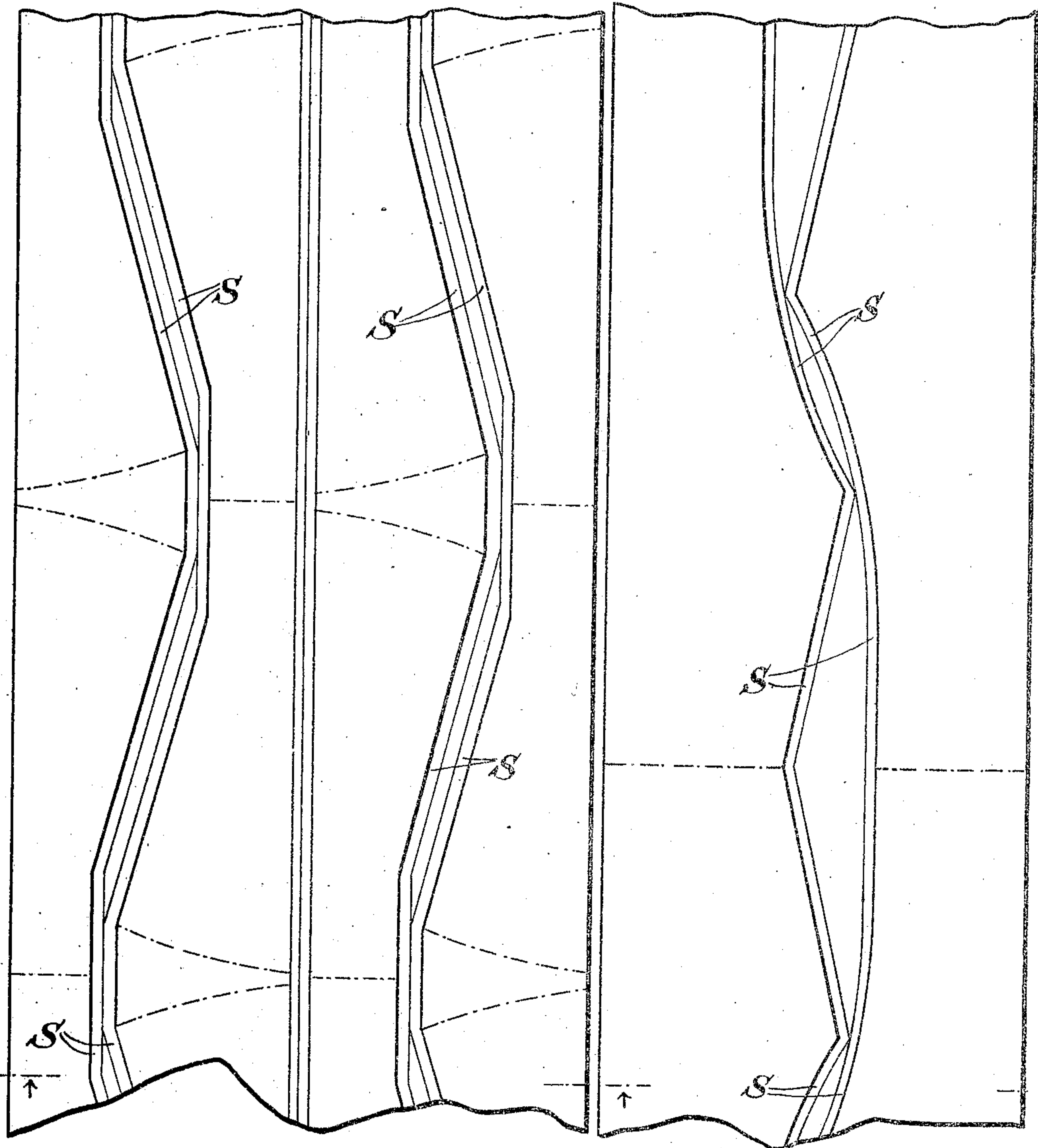


Fig. 12.

Fig. 14.

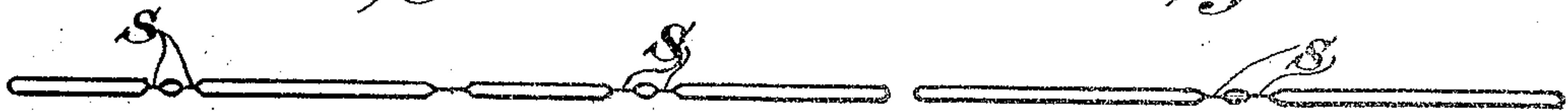


Fig. 13.

Fig. 15.

Witnesses  
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# UNITED STATES PATENT OFFICE.

ARTHUR JAMES CUMNOCK OF RYE, NEW YORK.

## FABRIC AND GARMENT.

No. 862,613.

Specification of Letters Patent.

Patented Aug. 6, 1907.

Application filed April 30, 1904. Serial No. 205,695.

*To all whom it may concern:*

Be it known that I, ARTHUR JAMES CUMNOCK, a citizen of the United States, residence and post-office address Rye, New York, have invented certain new and useful Improvements in Woven Fabrics and Garments, of which the following is a specification, accompanied by drawings.

The prime object of the invention is to simplify and reduce the cost of manufacturing garments and other articles of woven fabric.

Certain other objects are also accomplished, as will be apparent from the following description of the invention.

The accompanying drawings illustrate several preferred forms of the invention as applied to garments, and from this the nature of the invention and its several parts as variously applied will be readily understood.

In the drawings, Figure 1 shows a shirt embodying certain parts of the invention. Fig. 2 is a detail to show the construction of a portion of the sleeve. Fig. 3 shows a collar and manner of attaching it to a shirt. Fig. 4 shows a cross-section of the same on the plane 4-4 and the manner of applying it to a shirt. Figs. 5 and 6 are face view and section on the plane 6-6 of a cuff. Fig. 7 shows a skirt. Fig. 8 shows one part of the invention as applied to the body portions of shirts. Fig. 9 is a diagrammatic cross-section of the same. Fig. 10 shows one part of the invention as applied to skirts. Fig. 11 is a diagrammatic cross section of the same. Fig. 12 shows a fabric embodying several sleeve members for shirts in accordance with this invention. Fig. 13 is a diagrammatic section of the same. Fig. 14 is a similar view showing trousers legs woven in the fabric. Fig. 15 is a diagrammatic section of the same.

In Figs. 1 to 4 the construction of a shirt consisting of four woven parts in addition to the trimmings, is shown, the body portion and each of the sleeves and collar being woven in the loom, and requiring only to be cut out, sewed together, and finished in certain minor respects and trimmed. While all this might be accomplished on a Jacquard loom at considerable expense, I have made my present invention in connection with another invention which forms the subject-matter of a co-pending application, filed Aug. 15, 1904, Serial No. 220,737 and by which these articles can be more cheaply and expeditiously made, by harness weaving than by the ordinary methods of cutting them out and manufacturing them in the usual manner by hand or by sewing machines from cloth. But this present application concerns the fabric and the articles themselves, and not the apparatus by which they can be economically manufactured.

Referring to Figs. 1 and 2, the sleeve members consist of tapered, tubular seamless woven members or

fabrics, which, after being woven in a piece of fabric require only to be cut out along the outlines plainly indicated in the weaving, and with more or less hand-finishing and minor particulars are ready to be attached to the body portion of the shirt without requiring the seaming of the length of the sleeve, and without requiring the use of expert cutters. As seen in Fig. 2, the cuff portion of the sleeve is made to be folded back and sewed to form the finished cuff of Fig. 1. The rest of the sleeve may be woven with a flat selvage along one or both lines where the seams would ordinarily cut, and this flat selvage may be turned over and hemmed to give the appearance of the ordinary seam, or, as will be seen in connection with the other figures, the selvage may be omitted and a perfect tubular sleeve without seams be used. The method of construction will be further referred to in connection with Figs. 8 to 15.

The body portion of the shirt is woven in tubular form, preferably many shirt bodies being woven in a single fabric, as will be explained, as is illustrated in Figs. 8 and 9. The yoke portion B of the shirt is formed in the width itself by a double filling or by doubling the warp thread, the ends being clipped off, as will be well understood; preferably, however, by doubling the filling as the yoke extends across the entire width. The bosom portion of the shirt C may also be of thickened or reinforced material, this being preferably thickened by doubling the warp threads, as the bosom does not extend the entire width of the fabric. Where the bosom and the yoke B meet, the double warp may continue through the yoke, thus increasing the thickness of the yoke at the portion D where shirts are very apt to wear out first.

F is the trimming for the buttonholes down the front, which preferably is not made in the same piece with the body of the shirt, but is sewed on afterwards.

Print patterns may be applied to the body of the shirt before it is cut from the piece of fabric, and as the shape and location of the shirt is already determined in the fabric before it is cut out, the pattern may conform to the shape of the finished article. For the same reasons the patterns may be formed by weaving different colored or different quality of threads. Also, the extra warp threads forming the bosom may be of different color or texture from the remainder of the shirt and the bosom portion may be made in a different weave, as, for example, drill; while the rest of the shirt is a plain weave. All this is illustrated in Fig. 1. The construction of the collar of the shirt is shown in Figs. 3 and 4.

The turn-over portion G and edge of the collar is woven in tubular formation, the neck-band H being a single thickened or interwoven piece with prefer-



ably two projecting edges J which may be used in making a hem and joining the neck-band to the shirt body. The finishing of the ends and the buttonholes, and the attaching of the collar to the shirt bosom may require 5 hand labor with the aid of sewing machines.

Figs. 5 and 6 show a detachable cuff, the main part L of which is of tubular form with the band M of single thickened fabric. This only requires hemming at the ends and along the band and the formation of the buttonholes after it is cut out from the fabric in which it is 10 woven.

Fig. 7 shows a skirt of woven tubular material thickened like the bosom in Fig. 1 around the placket hole and thickened and reinforced like the yoke (Fig. 1) 15 around the waist-band and around the bottom of the skirt if desired.

Figs. 8 and 9 show the way the body portion of the shirt is woven in the fabric before it is cut out, the loose warp threads having been trimmed off. This figure 20 shows that the printed or ornamental pattern is printed on the tubular fabric in a direct and fixed relationship to the article to be made from the fabric. Also, that the weaving of the bosom and yokes has a certain and definite relation to the article to be cut therefrom. The 25 dot-and-dash lines indicate the lines of cutting that are to be followed in cutting out the shirts on the upper face of the tubular fabric, while the dotted lines indicate similar lines on the under side of the tubular fabric. These lines may be made in the weave, so that the use of 30 a pattern in cutting is not required. It will be seen from Fig. 8 that the yoke B is longer in the back and comes up higher than in the front, and that the neck is lower and deeper in the front portion and higher and shallower in the back portion. Consequently great 35 economy of material is effected by reversing the garments alternately in the fabric so that the back of one shirt meets the front of the adjacent shirt.

Figs. 10 and 11 show the way the members may be woven in a continuous tubular fabric, the skirts being 40 alternately placed waist to waist and bottom to bottom reversely. The tubular waist portions S' at the edges of the narrower portion of the skirt at P are of course trimmed away afterward. The thickened portion of the waists and skirt bottoms are shown at Q and R respectively. 45

Figs. 12 and 13 show the way the sleeves may be woven in a continuous strip of fabric, alternate sleeves being reversely placed so that cuff meets cuff and shoulder meets shoulder. The interwoven portions or bias 50 selvages S clearly show how to cut out the sleeves without the use of any other guide. It will be understood that the waist portions S' between the selvages S are also woven in tubular form. Similarly, Fig. 14 shows trousers legs made with selvages S, though it must be 55 understood that both the sleeves and trousers can be made without the selvages, like the skirts in Figs. 10 and 11. Selvages, however, when turned over and sewed, strengthen the material and resemble seams.

The foregoing are only examples of the many garments and articles that may be made by the use of this 60 invention, and it does away with the use of expert cutters and with much of the work of making up after the cutting. The fabric after the weaving and before cutting may be sold to shirt makers and others, or may

be manufactured in the finished article at the place 65 where the fabric is woven.

The portions of the fabric, after weaving and cutting, may also advantageously be sold to shirt or other garment makers to be manufactured as desired. In cutting out, e. g., the shirt bodies shown in Figs. 1 and 8 of 70 the drawings, it will be seen that the opposite sides or faces thereof are of different contours, particularly at the shoulder seams and arm scyes of the shirt bodies, as shown in dotted lines, Fig. 8. The contours of both of these sides are broken and ordinarily bi-laterally symmetrical. By providing these cut portions with the 75 bosoms printed or woven therein and with the reinforced yokes already described, all waste is saved and the garments may be economically made up by hand or otherwise. Many other of the advantages and the varied 80 uses to which the invention or parts of it may be applied, will be readily apparent to those familiar with the weaving and manufacture of garments and other articles.

I claim and desire to secure by Letters Patent the following: 85

1. A tubular woven garment or article having a thickened or reinforced portion woven therein in which the weft is increased relatively to the other portions.
2. A tubular woven garment or article having a yoke interwoven in the fabric and of greater weight or thickness than other portions. 90
3. A tubular woven garment or article having a yoke interwoven in the fabric and of greater weight or thickness than other portions, the weft being relatively heavier or 95 thicker than in other portions.
4. A woven garment or article having a tubular woven portion with a thickened area woven into the fabric.
5. A woven garment or article having a tubular seamless woven body portion with a yoke interwoven therein. 100
6. A woven garment or article having a tubular seamless woven body portion with a yoke interwoven therein and of thickened or heavier fabric.
7. A tubular garment or article having a woven collar, cuff, or other portion of double fabric woven integrally 105 with a single thickness of adjacent fabric.
8. A garment or article having a tubular woven member with ornamental patterns in a regular relationship to the outline of the article.
9. A garment or article having a tubular woven member 110 with ornamental patterns in a regular relationship to the outline of the article, said patterns being in part woven in the fabric and in part printed or applied thereto.
10. A garment or article having a tubular woven member with ornamental patterns in a regular relationship to the 115 outline of the article, and woven in the fabric.
11. A garment or article having a tubular woven member with ornamental patterns in a regular relationship to the outline of the intended article and printed thereon.
12. As a new article of manufacture, a woven fabric having tubular seamless articles woven therein longitudinally 120 of the warp threads with the weft threads extending transversely of the tube and adapted to be cut therefrom, the weft threads being continuously interwoven into the fabric.
13. As a new article of manufacture, a woven fabric 125 having tubular seamless articles woven therein and adapted to be cut therefrom, the weft threads being continuously interwoven into the fabric the warp threads extending lengthwise of the tubes and the weft threads transversely thereof, the said articles being reversely placed 130 and in one or more rows in the fabric.
14. As a new article of manufacture a woven fabric having tubular tapered articles woven therein in a continuous succession of tubes extending lengthwise of the warp 135 threads and transversely of the weft.
15. As a new article of manufacture a woven fabric having tubular tapered articles woven therein with one or more thickened or reinforced areas. 135



16. As a new article of manufacture a woven fabric having tubular tapered articles woven therein with one or more selvages adapted to be cut the warp threads extending lengthwise of the tubes and the weft threads transversely thereof and being continuously interwoven into the fabric.

17. As a new article of manufacture a woven fabric having tubular tapered articles woven therein and reversely placed in the fabric with the tubular portions forming one or more continuous tubes.

18. As a new article of manufacture a woven fabric having tubular tapered articles woven therein, with one or more bias selvages adapted to be cut with the tubular portions forming one or more continuous tubes.

19. As a new article of manufacture a woven fabric having a continuous series of tubular garment members or articles woven therein with thickened or reinforced areas with outlines by which they can be cut out.

20. As a new article of manufacture a woven fabric having tubular garment members or articles woven therein with one or more selvages extending in continuous lines in the same general direction as the warp and the tubes of said articles.

21. As a new article of manufacture a woven fabric having tubular garment members or articles woven therein with one or more bias selvages extending continuously from article to article.

22. As a new article of manufacture a woven fabric having a continuous series of tubular garment members or articles woven therein with bias selvages between adjacent articles adapted to be cut in cutting but the articles said selvages being of constant width.

23. As a new article of manufacture a woven fabric having tubular garment members or articles woven therein with selvages dividing the fabric into a plurality of tubular portions that extend in continuous lengths along the fabric.

24. As a new article of manufacture a woven fabric having tubular garment members or articles woven therein with one or more selvages reversely placed alternately in one or more rows in the fabric with the tubes extending continuously.

25. As a new article of manufacture a woven fabric having a plurality of tubular garment members or articles woven side by side therein with one or more selvages separating them with the tubes thereof extending continuously.

26. As a new article of manufacture a woven fabric having a plurality of tubular garment members or articles woven side by side therein with one or more oblique selvages separating and outlining them in continuous tubes or rows.

27. As a new article of manufacture a woven fabric having a continuous series of tubular garment members or articles woven side by side therein with one or more selvages of curving form separating and outlining the said articles and of constant width.

28. As a new article of manufacture a woven fabric having a plurality of tubular garment members or articles woven side by side therein with one or more interwoven areas between them said articles forming a plurality of continuous tubes.

29. As a new article of manufacture a woven fabric having a plurality of tubular garment members or articles woven side by side therein with one or more reinforced or thickened areas.

30. As a new article of manufacture a woven fabric having garment members or articles woven therein in part tubular and in part of single thickness of fabric approximately equal in thickness to one side of the tubular fabric.

31. As a new article of manufacture a woven fabric having a continuous series of garment members or articles woven therein and outlined by bias selvages of constant width adapted to be cut in making garments or articles.

32. As a new article of manufacture a woven fabric having garment members or articles woven therein thickened in portions and outlined by selvages adapted to be cut.

33. As a new article of manufacture a woven fabric having a continuous series of garment members or articles woven therein and outlined by bias selvages of constant

width adapted to be cut in making garments or articles and reversely placed alternately in one or more rows lengthwise of the fabric.

34. As a new article of manufacture a woven fabric having garment members or articles woven therein and outlined by selvages adapted to be cut in making garments or articles and also thickened in portions or areas and reversely placed alternately in the length of the fabric.

35. As a new article a tubular woven fabric having garment members or articles woven therein and outlined by a visually distinct weave and having differences in pattern at different portions of the areas of the said members or garments in definite relation to the said outlining of the garment.

36. As a new article a tubular woven fabric having garment members or articles woven therein and outlined by a visually distinct weave and reversely placed alternately in the fabric such visually distinct weave extending in continuous line or lines of unvarying width but varying in position relatively to the edges of the fabric forming a waving line longitudinally of the fabric.

37. As a new article a tubular woven fabric having garment members or articles woven therein and outlined by a visually distinct weave and having thickened or reinforced areas.

38. A woven fabric having tubular garment members or articles woven therein with bias selvages between adjacent articles of substantially constant width and adapted to be cut in cutting out the article, and with tubular waste portions between adjacent selvages, substantially as set forth.

39. As a new article of manufacture, a woven fabric having a continuous series of tubular tapered articles woven therein with one or more curved parts, and selvages conforming to curved lines in the articles, said selvages being of approximately uniform width.

40. As a new article of manufacture, a woven fabric having a continuous series of tubular tapered articles woven therein and reversely placed in the fabric with one or more selvages between them, said selvages being of approximately constant width.

41. A woven tubular fabric having thickened portions at desired intervals on one side only of the tubular web.

42. A woven tubular fabric having thickened portions containing additional threads at desired intervals at one side only of the tubular web.

43. A woven tubular fabric having thickened portions having additional warp threads at desired intervals at one side only of the tubular web.

44. A woven tubular fabric having thickened portions at desired intervals at one side only of the tubular web, said thickened portions being of less width than such side of the web.

45. A woven tubular fabric having portions of a weave differing from that of the body of the fabric at desired intervals at one side only of the tubular web.

46. A woven tubular fabric having portions of a weave differing from that of the body of the fabric at desired intervals at one side only of the tubular web, said portions being of less width than such side.

47. As a new article of manufacture, a tubular woven portion of a tubular web, the transversely cut edges of which portion are of different contours on their opposite faces.

48. As a new article of manufacture, a tubular woven portion of a tubular web, the transversely cut edges of which portion are of different contours on their opposite faces, which faces correspond to the original faces of the web as woven.

49. As a new article of manufacture, a tubular woven portion of a tubular web, the transversely cut edges of which portion are of different contours on their opposite faces, the width of said portion being equal to that of the web as woven.

50. As a new article of manufacture, a tubular woven portion of a tubular web, the transversely cut edges of which portion are of different broken contours on their opposite faces.

51. As a new article of manufacture, a tubular woven portion of a tubular web, the transversely cut edges of



which portion are of different contours, each of which is bi-laterally symmetrical on its opposite faces.

52. As a new article of manufacture, a tubular woven portion of a tubular web, the transversely cut edges of which portion are of different contours on their opposite faces, one of said faces having a portion of a pattern differing from that of the other face.

53. As a new article of manufacture, a tubular woven portion of a tubular web, the transversely cut edges of which portion are of different contours on their opposite faces, one of said faces having a portion of a weave differing from that of the other face.

54. As a new article of manufacture, a tubular woven portion of a tubular web, the transversely cut edges of

which portion are of different contours on their opposite faces, one of said faces having a thickened portion.

55. As a new article of manufacture, a woven fabric consisting of two woven layers woven together along a portion of their margins to form a woven tubular web, and the two layers or faces thereof being cut transversely of the tube in differing contours as set forth.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

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Witnesses:

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S. R. NICHOLS.