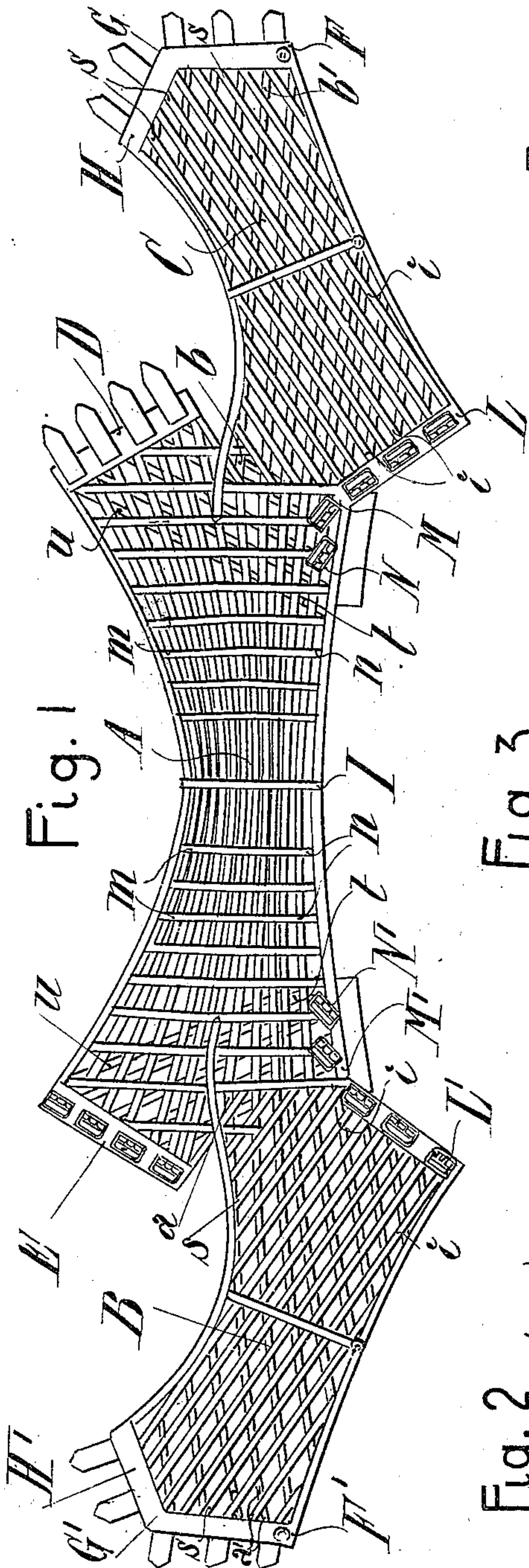


No. 819,975.

PATENTED MAY 8, 1906.

G. BRACCO, SR.  
PELVICAL BELT OR BAND.  
APPLICATION FILED JUNE 8, 1904,

2 SHEETS—SHEET 1.



WITNESSES:

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Rene' Duine

Fig. 4

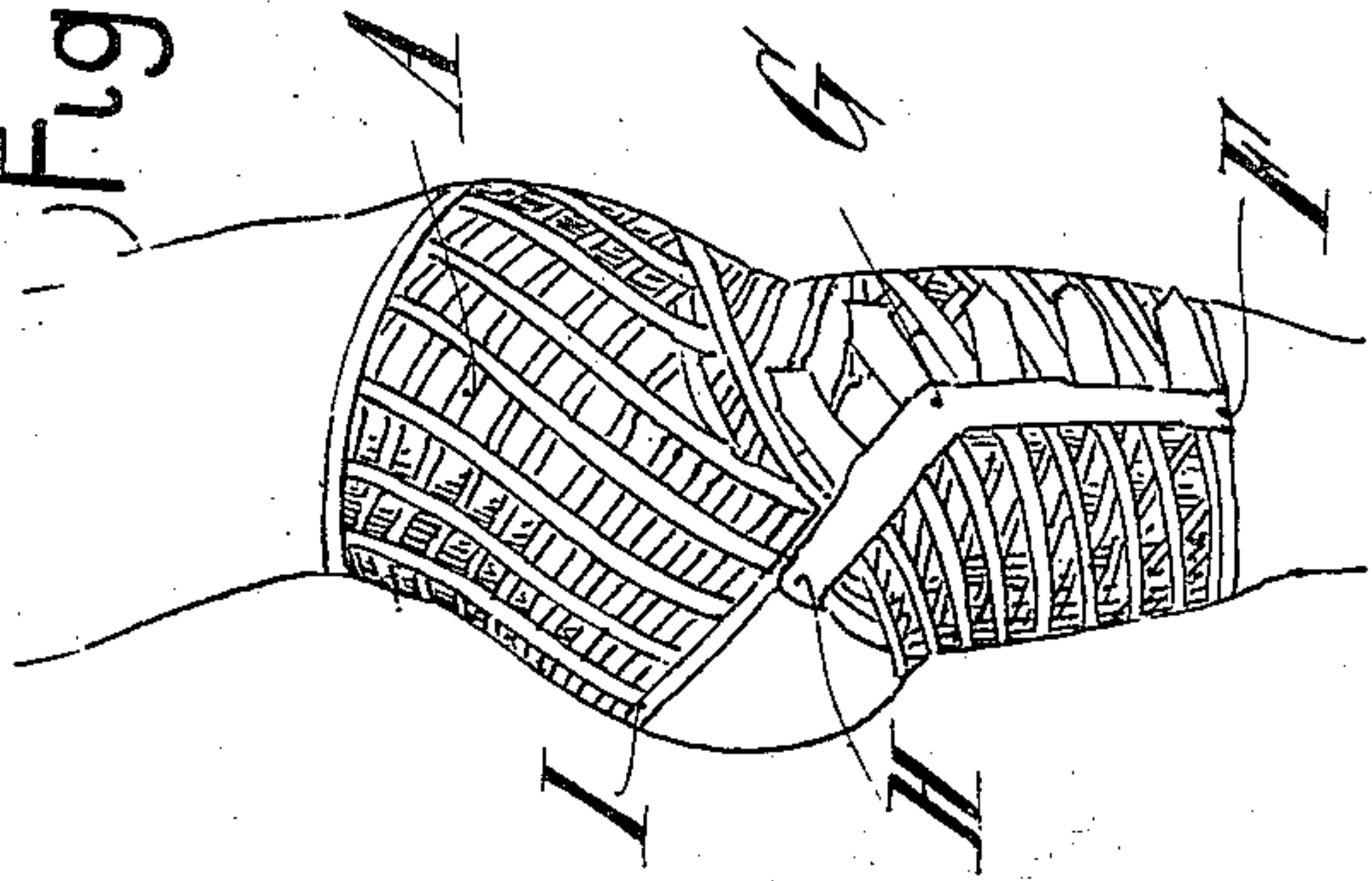


Fig. 3

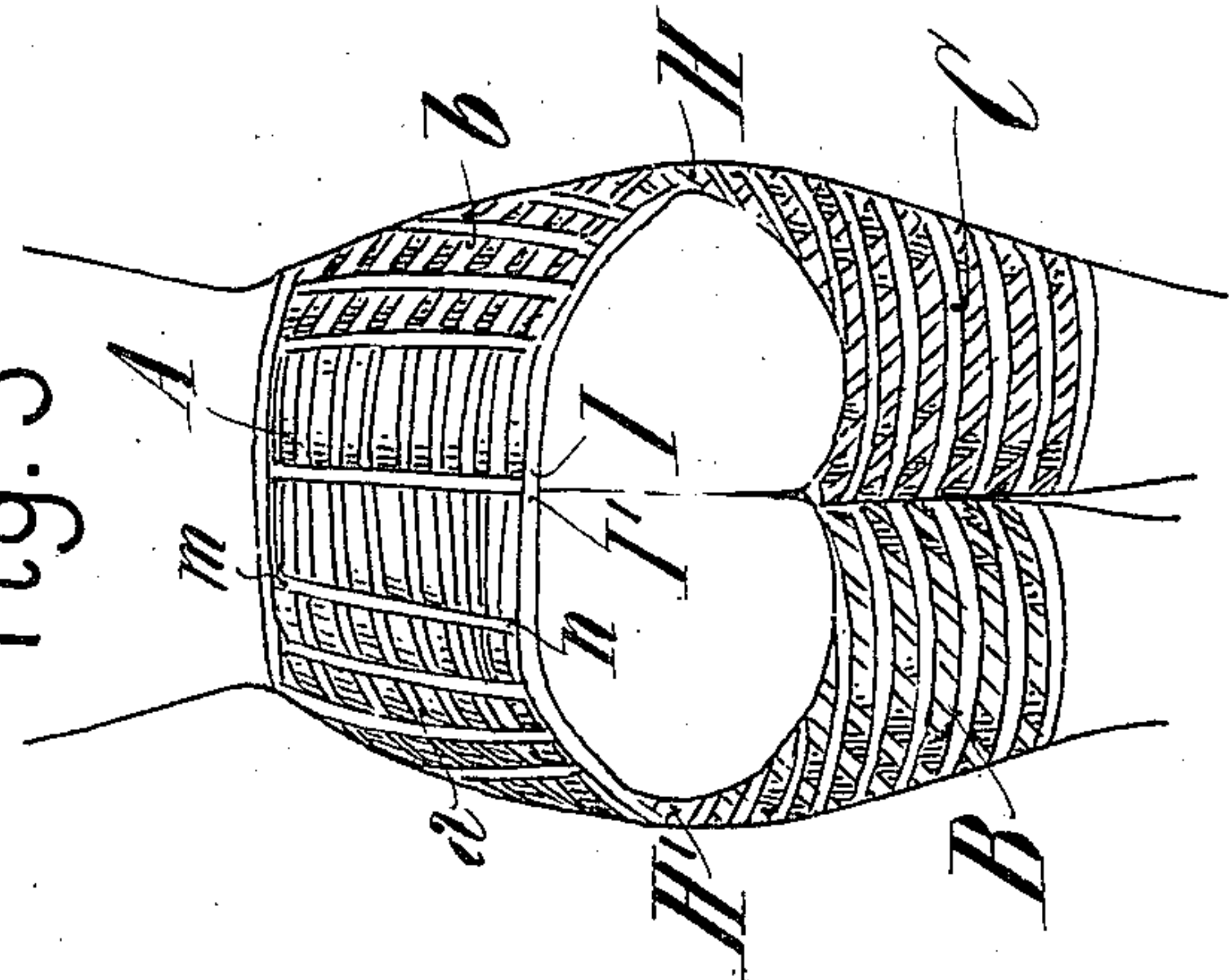
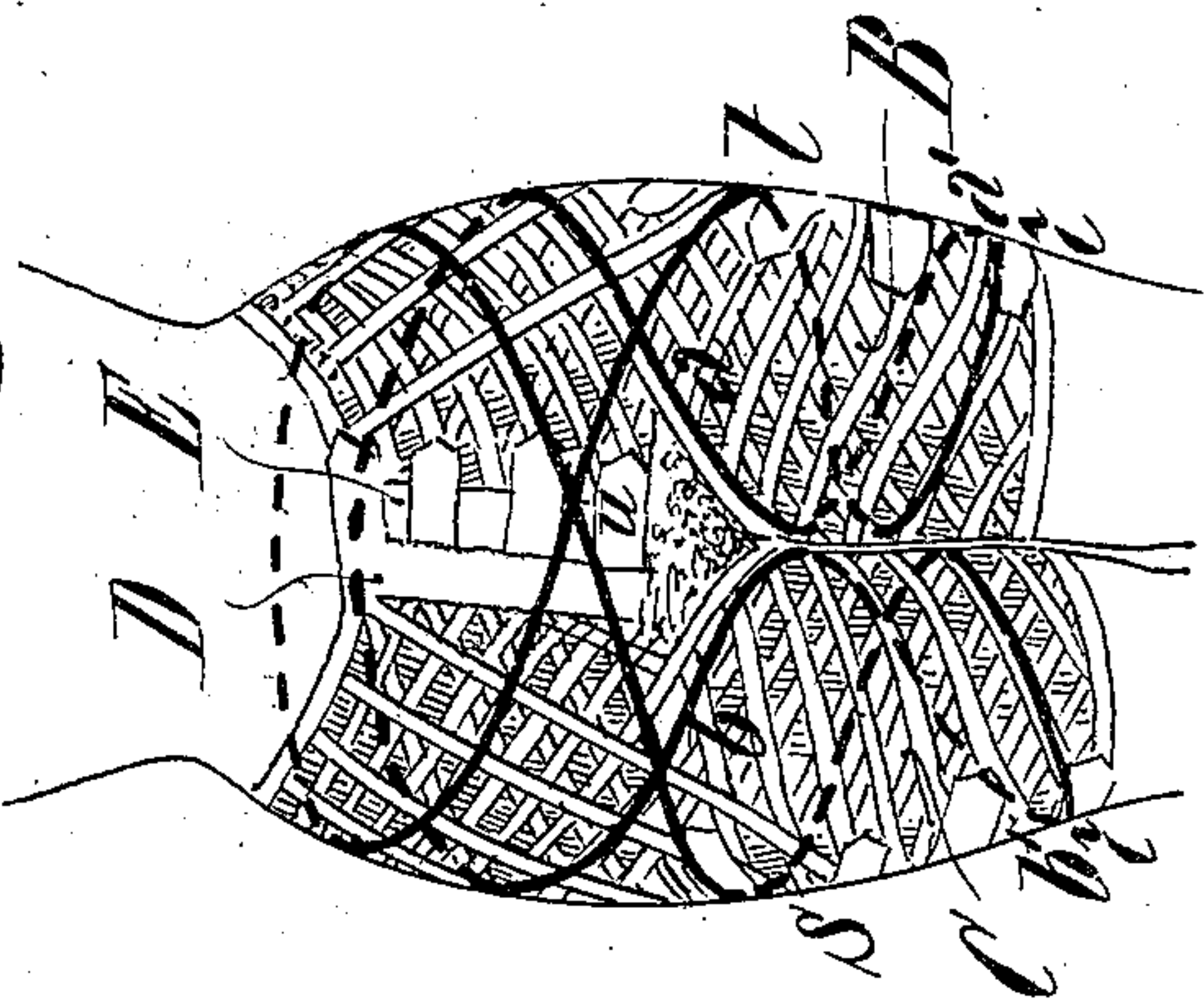


Fig. 2



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2 SHEETS—SHEET 2.

FIG. 5.

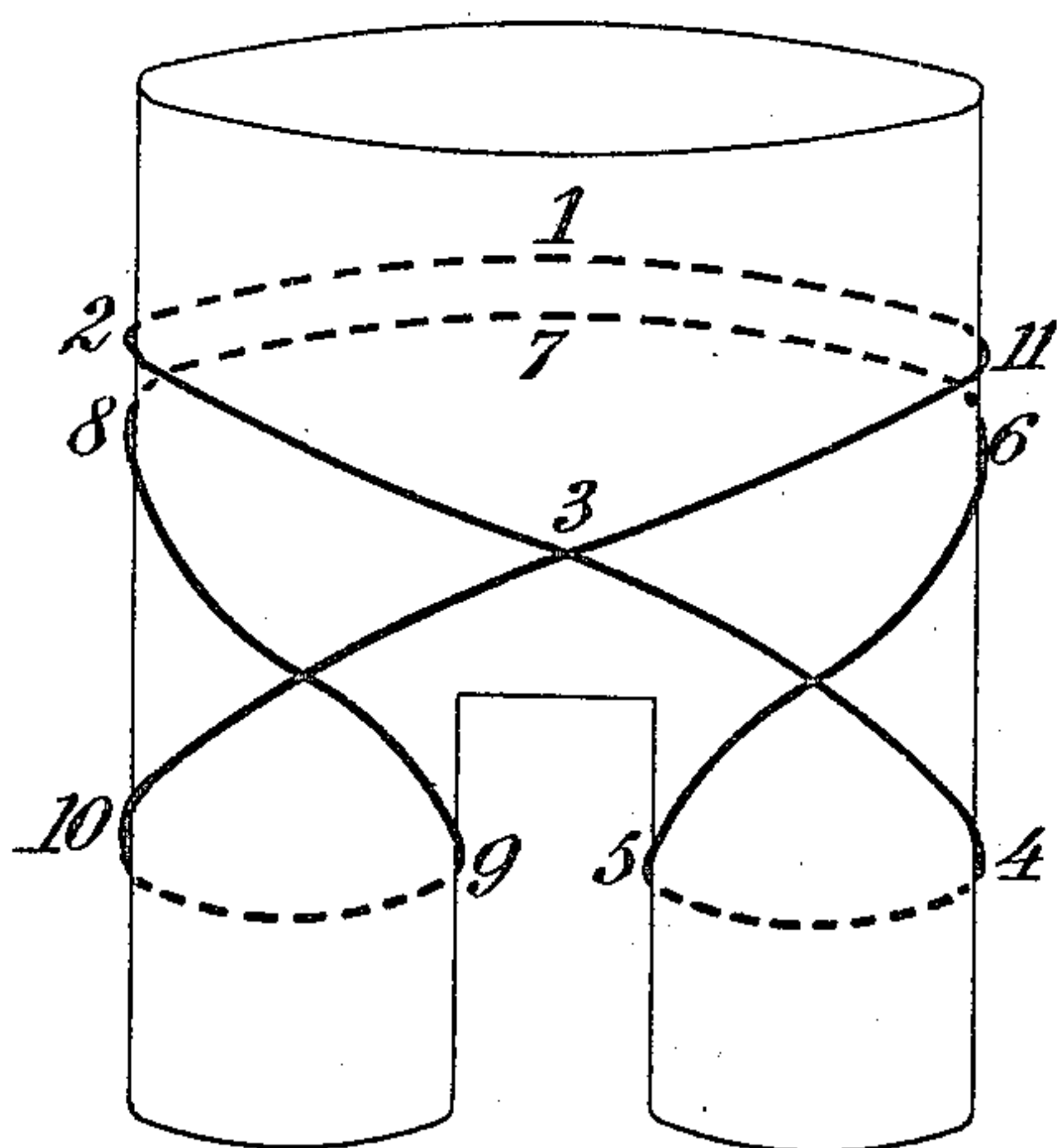


FIG. 6.

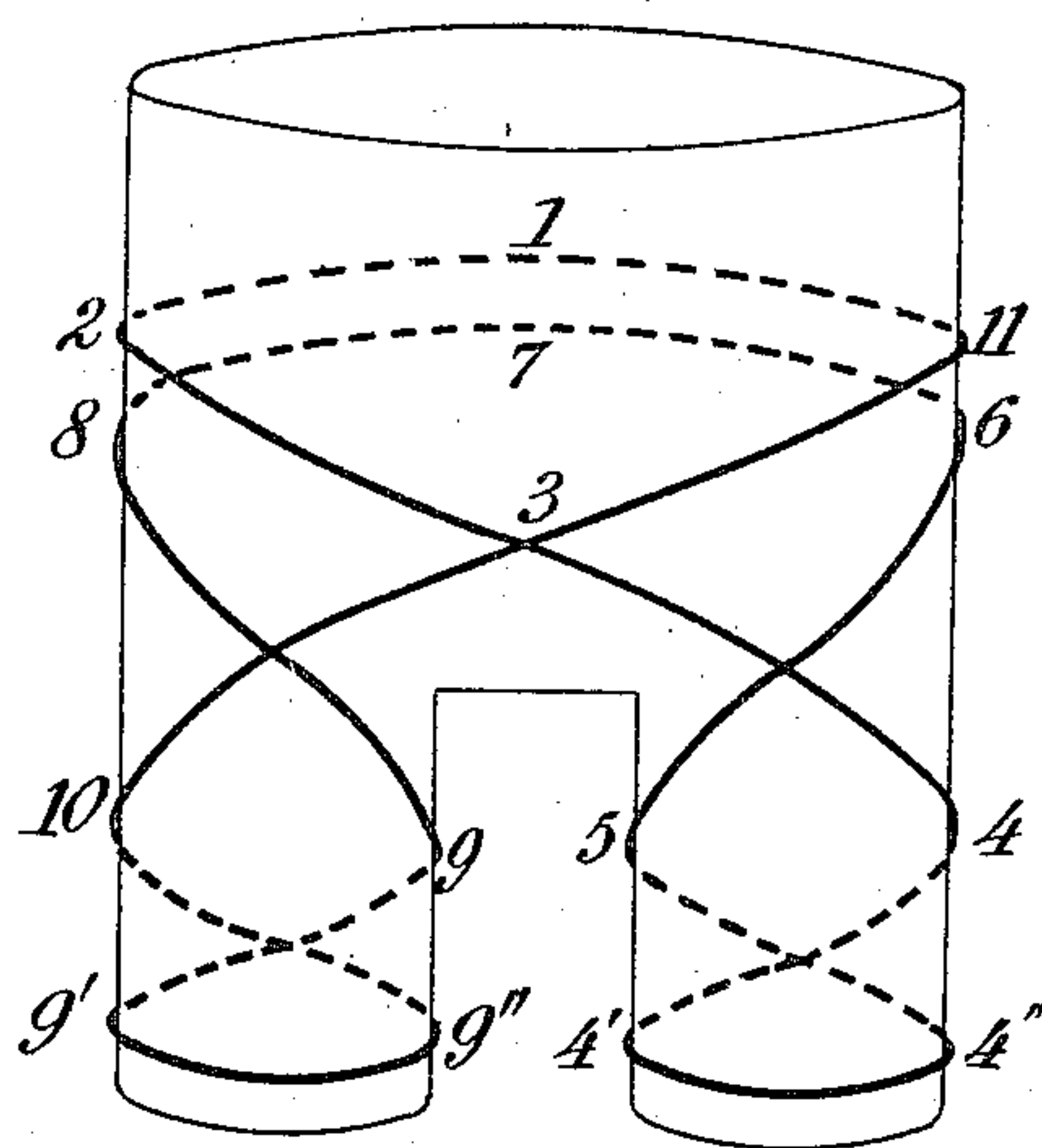
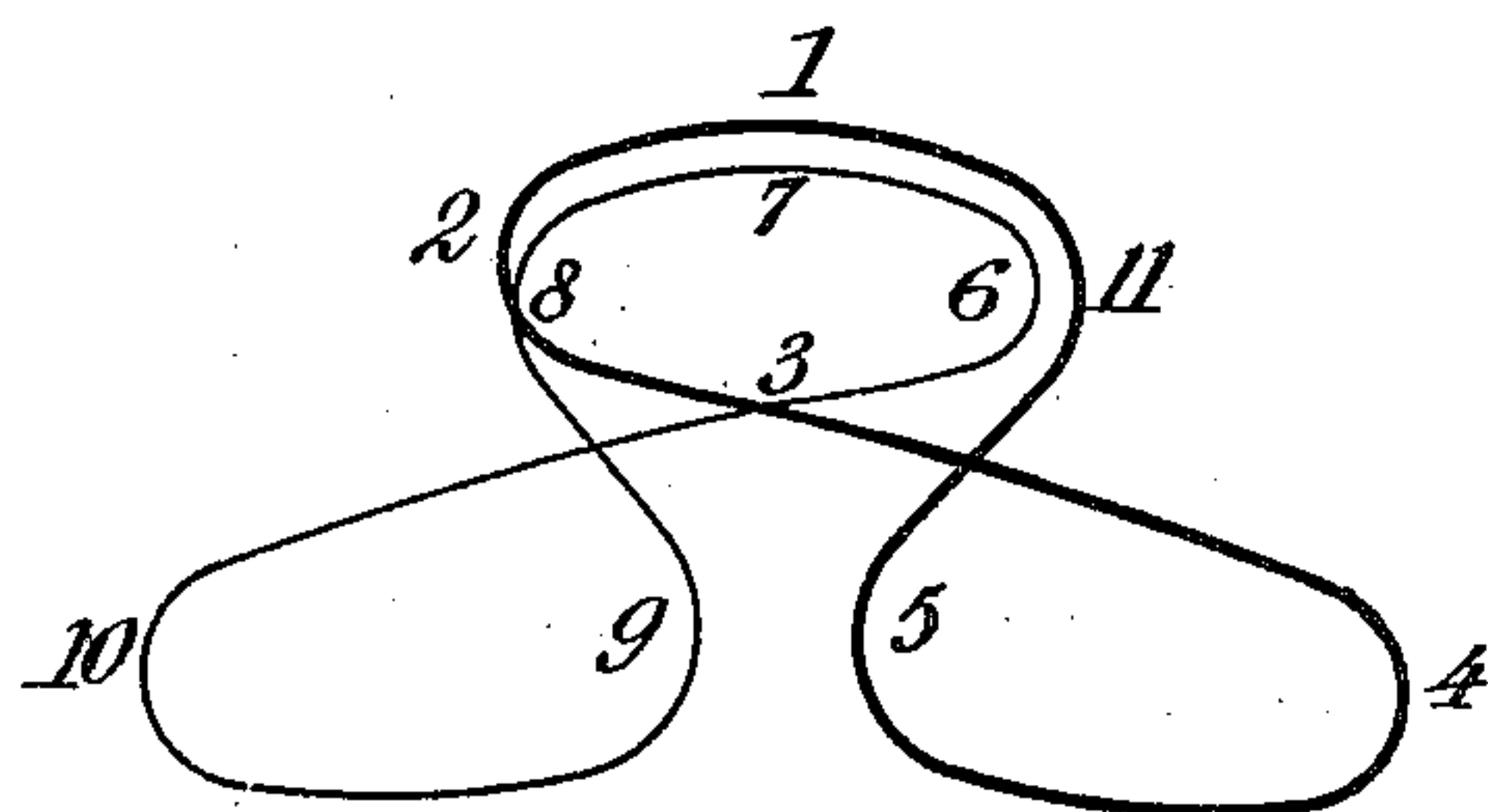


FIG. 7.



WITNESSES:  
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INVENTOR:  
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# UNITED STATES PATENT OFFICE.

GUGLIELMO BRACCO, SR., OF TURIN, ITALY.

## PELVICAL BELT OR BAND.

No. 819,975.

Specification of Letters Patent.

Patented May 8, 1906.

Application filed June 8, 1904. Serial No. 211,575.

*To all whom it may concern:*

Be it known that I, GUGLIELMO BRACCO, Sr., doctor and surgeon, a subject of the King of Italy, residing at Turin, Province of Turin, and Kingdom of Italy, have invented certain new and useful Improvements in Pelvical Belts or Bands, of which the following is a specification.

The object of my invention is to provide a belt or band for supporting or compressing the abdominal viscera or some of them in such cases when the conditions of the body, either by reason of sickness or other cause, require such a treatment.

This invention is particularly intended to assist women in state of pregnancy and after childbed.

Belts or bands on such principle are already known in practice; but this invention differs from others because of its peculiar form, which fits the body better than any other and renders the belt steadier and more fixed to the body, to the full advantage of its therapeutical function.

Figure 1 shows the belt entirely laid open; and Figs 2, 3, 4 show front, back, and side views, respectively, of a belt applied to the body of a person. Figs. 5, 6, and 7 are diagrams representing more clearly the directions of the several strips.

This belt or band is composed of three portions clearly distinguished from each other—viz., a central portion, or, properly speaking, a pelvical portion, A and two side or thigh portions B C, the first one intended to cover the pelvis or abdomen and the latter ones intended to cover the thighs. The belt is provided with three systems of buckles, one for the central or pelvical portion, the two others for the thigh portions, respectively. When the band or belt is placed on the body, the first system D E runs following a straight vertical line in correspondence with the xiphopubical line through the full width of the belt or band. The other two systems are made of two segments, the lower of which, F G F' G', runs vertically on the external side of the thigh, while the upper one, G H G' H', follows the direction of the lower border I H of the central portion of the belt by the buttocks.

The general shape of the band or belt is rendered evident by the several figures of the

drawings; but the following features are particularly remarkable:

First. The upper border runs in the front near by the navel and follows on the flanks and the back near by the upper margin of the iliac bones.

Second. The upper border of the thigh portions has a shape which appears curvilinear in Fig. 1, and when the belt or band is applied on, said border follows exactly the inguinal, genitocrural, and gluteal plies by the root of the thighs and is connected directly to a middle fiber *a b* of the back central portion of the belt or band. Said middle fiber *a b* extends beyond the central portion, becoming a fiber *a' b'* of the thigh portions, the same thing happening for all fibers in part A lower than the said fiber *a b*.

Third. The portion of belt or band which lies below the middle fiber *a b* is functionally and materially one and the same piece, embracing jointly thighs and pelvis.

Fourth. The systems of buckles N M N' M', M L M' L', with their respective tongues H G H' G', G F G' F', are such that the first one coöperates to connect the thigh portion with the central portion of the band or belt, while the second is employed to bind the thighs and generate a friction sufficient to prevent any movement of the belt. This action substitutes with better efficiency and less molestation the ordinary underthighs of other belts.

The functional characteristic of this belt or band is consequently its steadiness in respect of the person employing it, which steadiness is due to the fact that the band or belt can cover the thighs and the pelvis with a perfect coöperation and connection of all its parts. Said belt or band can be made to measure or upon a personal model, so as to fit to all sinuosity of the body. To this end it may be adopted—for instance, a common method consisting in obtaining a model of the body by means of a starched or plastered band and then making the band or belt according with said model.

My band or belt may be made of any of the known materials—such, for instance, as cloth of various qualities; but I prefer the system of make which is shown in the drawings and forms a part of the present invention. According with this system the belt or band is



made of strips of small width—for instance, one centimeter wide—intercalated and sewed to each other, so as to form a kind of network. By so doing it becomes easy to attain the aimed result that the portion of belt or band below the fiber or strip  $a a' b b'$  be functionally and materially one and the same piece embracing jointly thighs and pelvis. In fact, all the strips which are formed under  $a b$  and have a direction parallel to the same are common to the central and to the side portions of the belt or band, so that every element of the side portions bears for its pull on the back of the person and the central and side portions of the belt or band are consequently coacting in a single effort. The first system of strips comprises such strips having a direction nearly parallel to the middle fiber  $a a' b b'$  of the central portion.

A second system comprises strips, such as  $m n$ , having a direction nearly perpendicular to the first one and constitutes with them the tissue or texture of the central portion. The strips of this system have a direction parallel to the backbone. A third system of strips is formed in the side portions and comprises strips like  $r s$ , crossing under a small angle the parts of the first system, which extend in such side portions and constitutes with them the tissue or texture of the same side or thigh portion. Lastly, a fourth system comprises strips, such as  $t u$ , occupying a space near the junction between the central and side portions and forms a sort of penetration of the  $r s$  system into the front part of the central portion. The first system, comprising strips parallel to  $a b$ , reacts to the traction of the buckles  $E D$ ,  $F G F' G'$ . The second system or  $m n$  system has only the object of strengthening the central portion. The third or  $r s$  system reacts to the traction of buckles  $F G F' G'$ ,  $L M L' M'$ . The fourth or  $t u$  system reacts to the buckles  $G H G' H'$ ,  $M N M' N'$ ,  $D E$ .

The described construction of the belt or band by means of strips can be clearly characterized and identified in the practice by saying that the pulling-strips—that is, with the exception of the secondary or filling strips, such as  $m n$ —have the same position as would be assumed by a cord which were wound around the pelvis and the thighs, following a sort of double 8, as shown at Fig. 2. If we suppose to have made such winding with a sufficient number of strips parallel to each other and if now we cut them vertically on the abdomen and under the angle  $H G F$  on the sides, as shown in Fig. 4, we obtain a belt or band which laid open has the form of Fig. 1 and the functional characters previously described. If instead of many small strips we employed a single large strip or band, we would obtain a belt having no more the appearance of a network, but the ap-

pearance of a belt made with the usual stuffs. It is easily understood that the principle of construction now described allows to modify in the practice some details without parting from the spirit of the invention. For instance, the buckles  $D E$  could be made in the back instead of in front. This, however, would be troublesome.

It is a known fact that a cylindrical spiral formed of a flexible band wound tightly around the cylindrical surface has the fundamental peculiarity that the resultant of the forces at any point is normal to the cylindrical surface, so that the band exerts a normal pressure upon the said cylindrical surface and has no tendency to slip on the same. This technical effect constitutes the principal advantage of the present invention, the several strips of which the belt is composed exerting a normal pressure upon the body without any tendency to displacement of either the body or the strip. This freedom from lateral displacement of the body is a therapeutical point of great value.

The spiral arrangement will be understood more clearly from Figs. 5, 6, and 7, in which are lines representing the directions of the several parallel strips. These figures show at 2 3 4, 5 6, 8 9, and 10 3 11 the four spiral portions of each strip which compose practically the frame of the belt, and these spiral pieces are joined by connecting-pieces 2 1 11, 8 7 6, 10 9, and 4 5. These connecting-pieces not being spirally formed might have a slight tendency to slip, but not so much as to seriously affect the usefulness of the belt. As far as pieces 2 1 11 and 6 7 8 are concerned this tendency is of practically no importance, because the belt has in the back of the body a firm and immovable support, and the tension of the belt causes a degree of friction which is more than sufficient to keep the belt in its proper position. As to the connections between 4 and 5 on the one hand or 9 and 10 on the other hand, it is preferable to double them by an extra turn around the thigh in order to increase the friction. This gives the shape shown in Fig. 6, which comprises the supplementary turns 4 4' 4'' 5 and 9 9' 9'' 10, corresponding to the form of the belt shown in full in Fig. 2. Fig. 7 shows in approximate plan how the convolutions of the strip form practically a double 8.

What I claim is—

1. A belt for supporting the abdominal viscera, composed of a central portion for the pelvis and side portions for the thighs, fastening means for the central portion, and separate means for fastening the thigh portions, the several parts being made of strips attached to each other to form a wide belt adapted to cover substantially all the abdominal viscera, said strips being arranged in lines passing spirally around the pelvis and



thighs when the parts are fastened in place, so as to exert a normal pressure without any tendency to lateral displacement.

2. A belt for supporting the abdominal viscera, composed of a central portion for the pelvis and side portions for the thighs, fastening means for the central portion, and separate means for fastening the thigh portions, the several parts being made of strips attached to each other to form a wide belt adapted to cover substantially all the abdominal viscera, said strips being adapted, when the parts are fastened in place, to lie along lines passing spirally around the pelvis from a point at the back, along lines 2, 3, 4, and 10, 3, 11, thence back of the legs, thence along lines 5, 6, 7, and 9, 8, 7, approximately parallel to the lines 1, 2, 3, 4, and 1, 11, 3, 10, whereby said strips exert a normal pressure without any tendency to lateral displacement.

3. A belt for supporting the abdominal viscera, composed of a central portion for the pelvis and side portions for the thighs, fastening means for the central portion, and

separate means for fastening the thigh portions, the several parts being made of strips attached to each other to form a wide belt adapted to cover substantially all the abdominal viscera, said strips being adapted, when the parts are fastened in place, to lie along lines passing spirally around the pelvis from a point at the back, along lines 2, 3, 4, and 10, 3, 11, thence back of the legs, thence along lines 5, 6, 7, and 9, 8, 7, approximately parallel to the lines 1, 2, 3, 4, and 1, 11, 3, 10, said spiral strips including also supplementary turns 4, 4', 4'', 5, and 9, 9', 9'', 10, around the thighs, whereby said strips exert a normal pressure without any tendency to lateral displacement.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

GUGLIELMO BRACCO, SENIOR.

Witnesses:

MARIO CAPUCCIO, [L. S.]

GOTTARDO C. PIRONI. [L. S.]