

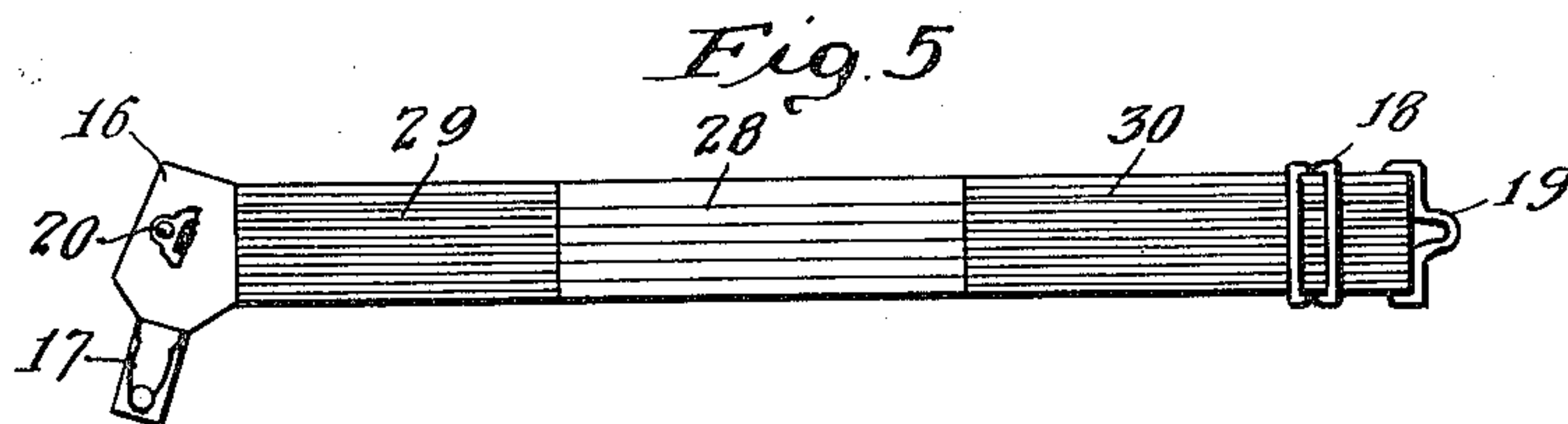
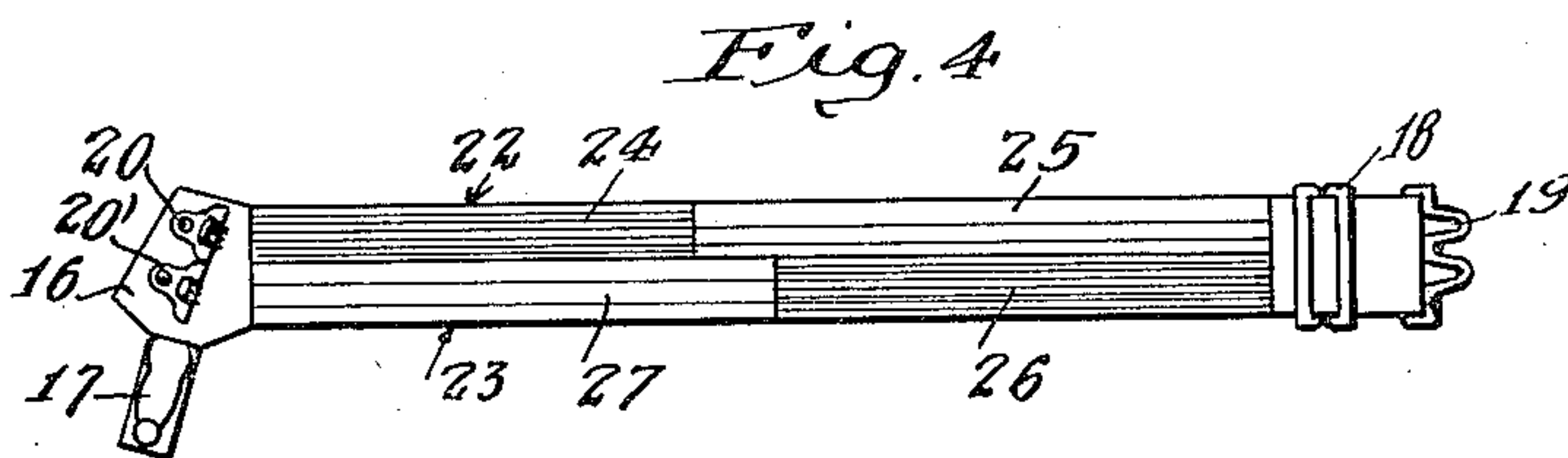
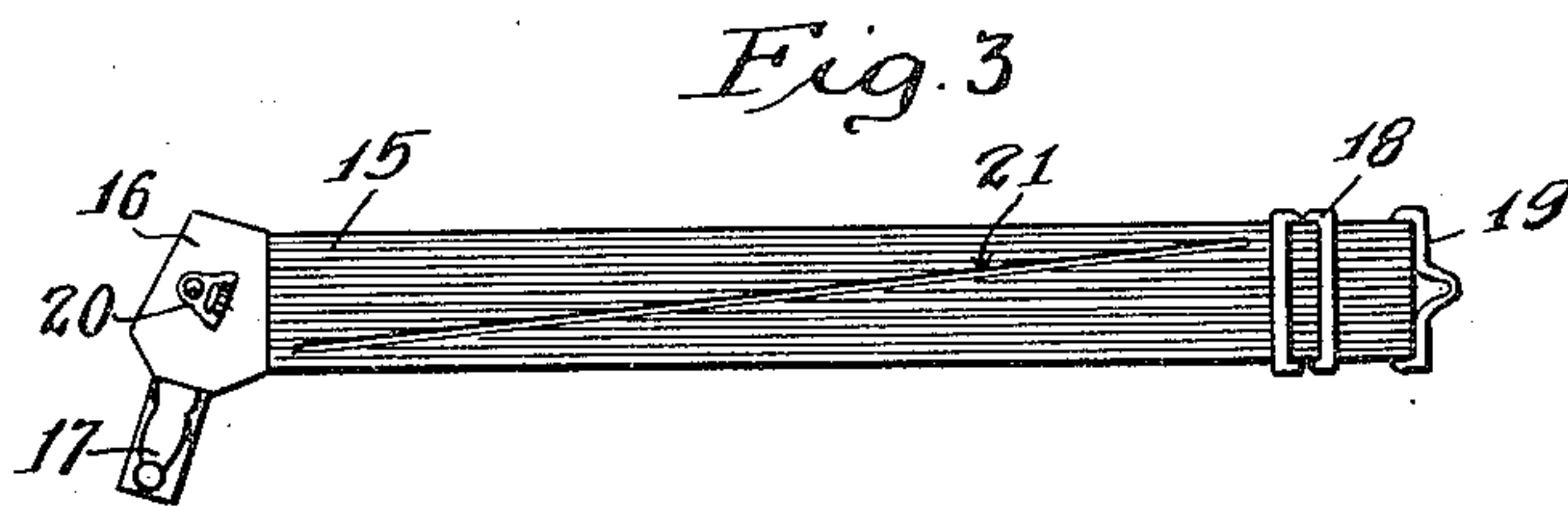
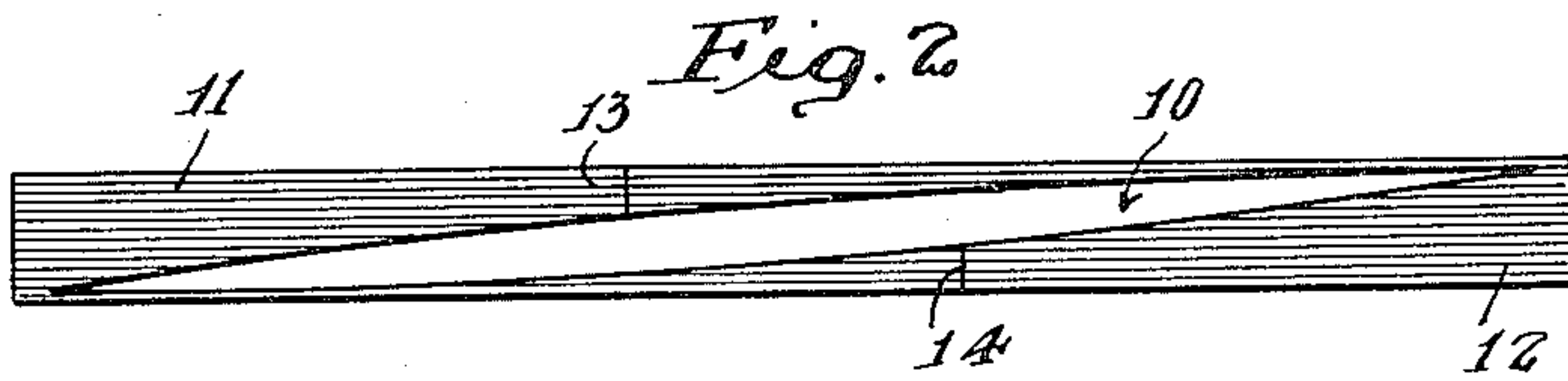
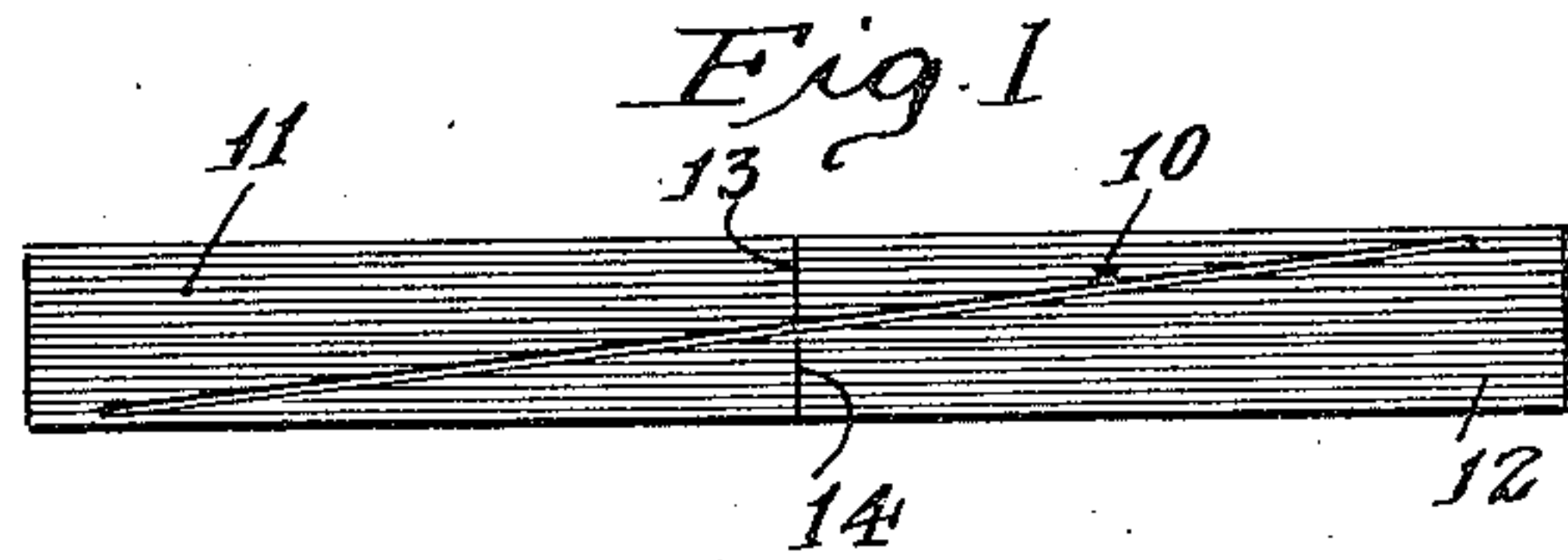
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GARTER BAND

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UNITED STATES PATENT OFFICE

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GARTER BAND

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3 Claims. (Cl. 241—6)

This invention relates to a new and improved garter or hose supporter characterized by its ability to effectively support hose, socks, etc., without undue compression or restriction of the body or limb.

It is well known that the usual type of hose supporter worn by men and encircling the upper portion of the calf restricts the calf very appreciably and thereby impairs circulation to the lower leg and foot. It is acknowledged that it is highly undesirable to restrict circulation and there is some evidence that such restriction is harmful and has a tendency to cause swelling of the veins and arteries in the legs.

In order to effectively support hose, the garter band encircling the upper calf must encircle the leg and hold the same sufficiently to prevent downward displacement by reason of the downward pull of the hose or sock.

This invention is directed toward a garter band which encircles the leg but exerts a minor and inconsequential compression or restriction upon the leg while at the same time it retains its position and overcomes the downward pull of the sock or hose. The garter of this invention, furthermore, permits the calf muscles to expand and contract during movements of the lower leg, such as in walking, without materially changing the restrictive force exerted upon such muscles and without causing a relatively great compressive or restrictive force to be imposed upon such muscles when the calf is in expanded position. These results are accomplished in accordance with this invention by the use of a novel elastic band or garter band construction in which portions of the band are more yieldable than other portions.

In describing this invention, reference will be had to the appended drawing, in which:

Fig. 1 diagrammatically represents one form of elastic band made in accordance with this invention.

Fig. 2 represents the band of Fig. 1 in elongated condition.

Fig. 3 is a representation of a finished single clip, hose supporter made in accordance with this invention.

Fig. 4 is a representation of a modified form of hose supporter made in accordance with this invention.

Fig. 5 is a further modification of a hose supporter made in accordance with this invention.

As shown in Fig. 1, an elastic band of the character usually used in making hose supporters and other elastic strips has been diagonally cut along the line 10 so as to form two triangu-

lar pieces 11 and 12. The elastic material, such as latex or rubber, normally extends longitudinally with the woven, braided or otherwise formed elastic band so that in each of the triangular pieces 11 and 12 elastic elements of varying length are to be found, these elastic elements being directed longitudinally of the band. The line 13 denotes the mid point of the strip 11 and the line 14 denotes the mid point of the strip 12. When the ends of the two portions 11 and 12 are gripped and stretched, the two strips assume the positions indicated in Fig. 2. It will be noted that the thin wedge-like portion of the strip 11 has been elongated to a much greater extent than the base of such triangular portion 11 so that the mid point lines 13 and 14 are now displaced relative to each other. It will be found that in order to produce an elongation of the triangular portions 11 and 12, only a relatively low stress need be applied. In the event an elastic band of the same width as that which has been cut so as to form the portions 11 and 12 were to be subjected to stress, a relatively great stress would have to be applied in order to produce an elongation comparable with the elongation illustrated in Fig. 2.

Each of the portions 11 and 12 are therefore of unequal and varying elasticity throughout their length. The narrow portions are much more yieldable than the wider portions.

An elastic band fashioned into a hose supporter is illustrated in Fig. 3. The elastic band, generally indicated by the numeral 15, is provided with a pad 16 and a hose fastener 17. The elastic band may be provided with an adjustable buckle 18 and a fastening means 19 adapted to cooperate with a fastening means 20 carried by the pad 16. The elastic band 15 may be diagonally cut as along the line 21, the cut edges of the band being suitably stitched, bound or otherwise finished so that in normal wear and usage the intermediate portions of the band 15 or those portions of the band equally spaced from the ends of the cut 21 assume a position at the back of the wearer's leg and directly upon the calf. When the garter of Fig. 3 is adjusted upon the leg of the wearer, it is to be noted that the greatest elasticity (greatest stretch with minimum tension) occurs at the back of the leg or where the garter rests upon the calf. As a result, the expansion of the calf muscles is not restricted and instead the calf muscles are permitted to expand normally and easily when the wearer moves his legs. A sufficient amount of tension is exerted around the leg, however, so as to over-

come the downward pull of the sock or hose attached to the fastener 17.

A similar result may be obtained by forming a garter from a plurality of elastic bands, such bands being of varying yieldability to stretch at different portions. As shown in Fig. 4, for example, the garter may comprise an upper band, generally indicated by the numeral 22, and a lower band 23. The upper band may consist of a section 24 which is less yieldable than the portion 25. The lower band 23, on the other hand, comprises the less yieldable portion 26 and the more yieldable portion 27, the portions 24 and 27 opposing one another at one end of the combined garter whereas the portions 25 and 26 oppose one another at the opposite end of the garter band. The total tension of the combined garter band (combination of 22 and 23) is the same at either end portion of such combined band. Preferably, the less elastic portions 24 and 26 are of shorter length than the more elastic (more yieldable) portions 25 and 27.

As shown in Fig. 5, the garter may comprise a single band of varying elasticity. The more yieldable and more elastic section, such as the section 28, may be incorporated between the stronger, less elastic sections 29 and 30 so that the quite elastic portion 28 comes in contact with that part of the calf which has the greatest expansive movements during motion of the leg. The more equally balanced forms, such as those illustrated in Figs. 3 and 4, are preferred to the form shown in Fig. 5.

Instead of using a single fastening means 20, such as is shown in Fig. 3, the garters are preferably provided with a fastening means capable of preventing pivotal motion when the two ends of the garter are hooked together. For example, as shown in Fig. 4 two fastening elements 20 and 20' may be attached to the pad 16, the element 19 being then provided with two eyelets adapted to cooperate with such means. Instead of providing the garter with a single hose fastener 17, the garter may be provided with two of such fasteners in slightly spaced relation so as to place one of said fasteners on either side of the front portion of the leg. Instead of either diagonally splitting an elastic band as shown in Fig. 3 or forming the garter from two distinct types of

elastic as shown in Fig. 5, an elastic band may be prepared during or after manufacture in which certain of the elastic longitudinally-extending elements are either eliminated or severed so as to create portions or sections in such band which are of greater elasticity (of greater yield) than other portions.

Although the invention has been specifically described as it pertains to hose supporters for use by men, it is to be understood that elastic belts or bands made in accordance with this invention may be used for various other purposes, as for example, garter belts, sleeve garters, surgical belts, etc. All such changes and modifications as come within the scope of the appended claims are embraced thereby.

I claim:

1. In a garter, the combination of an elastic band composed of a plurality of strips of elastic material joined to each other at their ends, each of said strips including a portion of greater elasticity than another portion of said strip, said band being more yieldable intermediate its ends than at points adjacent its ends, and clasp means adapted to removably connect said less yieldable ends.

2. In a garter, the combination of an elastic band provided with end portions, the total width of said band at said end portions being less yieldable than the total width of the band at an intermediate portion, clasp means adapted to removably connect said less yieldable end portions, and a hose fastener carried by one end of said band, the intermediate and more yieldable portion of said band being adapted to fit over the calf of the leg when the garter is worn.

3. In a garter, the combination of an elastic band provided with more and less yieldable portions thereof being less yieldable than the total width of the band at an intermediate portion, a substantially inelastic member carried by one end of said band, clasp means adapted to removably connect said substantially inelastic portion to the other end of the band, and a hose fastener carried by the inelastic portion, said intermediate and more yieldable portion of the band being adapted to fit over the calf of the leg when the garter is worn.

JOHN DOUGLAS LATHROP.

CERTIFICATE OF CORRECTION.

Patent No. 2,021,940.

November 26, 1935.

JOHN DOUGLAS LATHROP.

It is hereby certified that error appears in the printed specification of the above numbered patent requiring correction as follows: Page 2, second column, line 39, claim 3, before "thereof" insert the comma and words , the total width of said band at end portions; and that the said Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 21st day of January, A. D. 1936.

Leslie Frazer

Acting Commissioner of Patents.

(Seal)