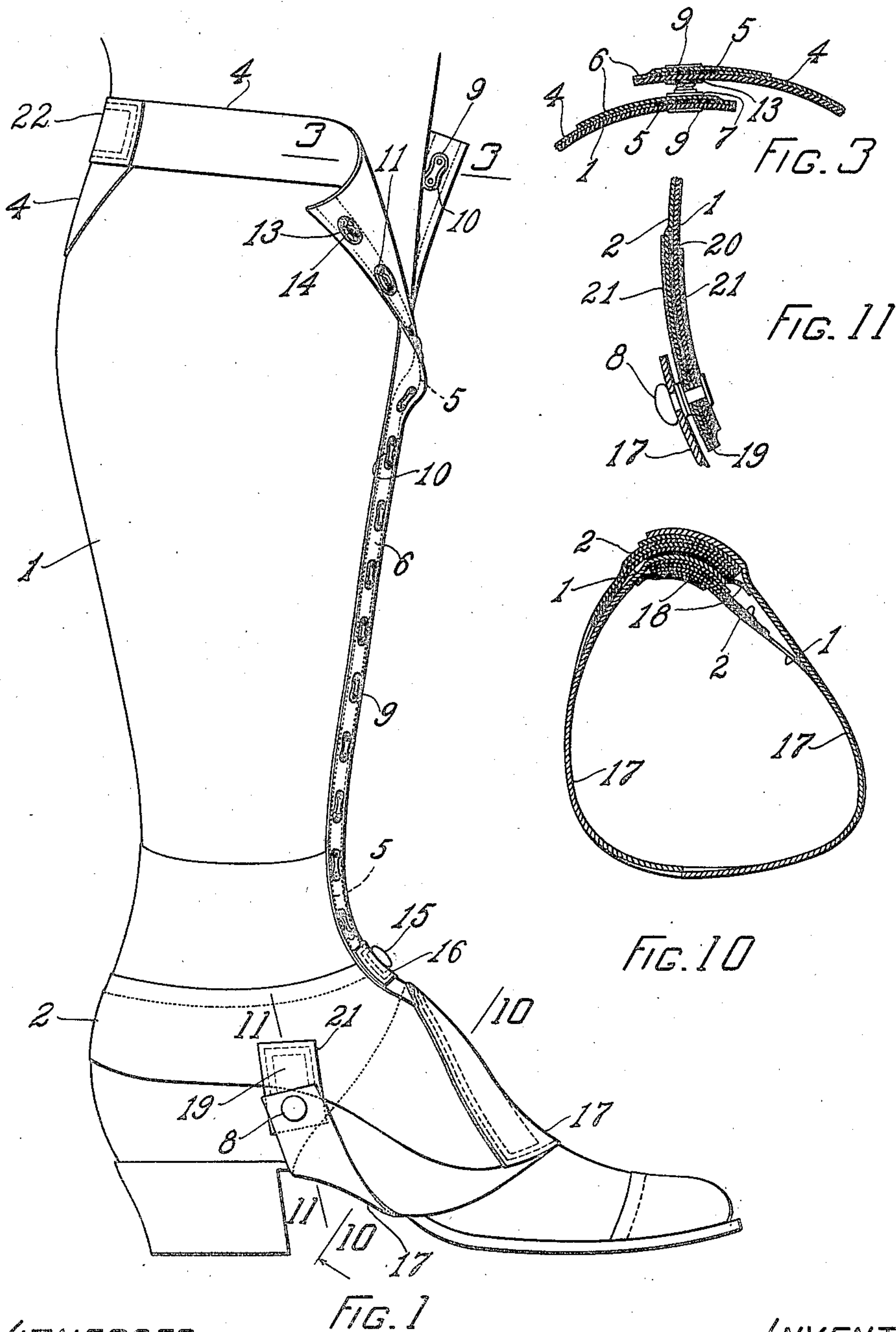


H. B. FOWLER.
STORM LEGGING.

APPLICATION FILED NOV. 21, 1907.

Patented Nov. 10, 1908.
2 SHEETS—SHEET 1.

903,464.



WITNESSES
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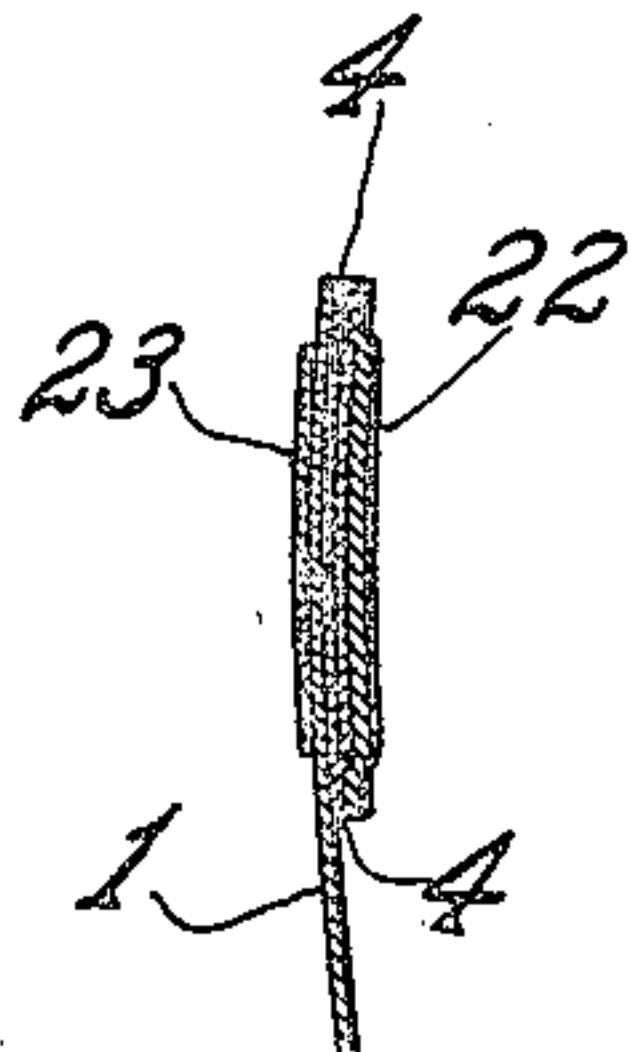
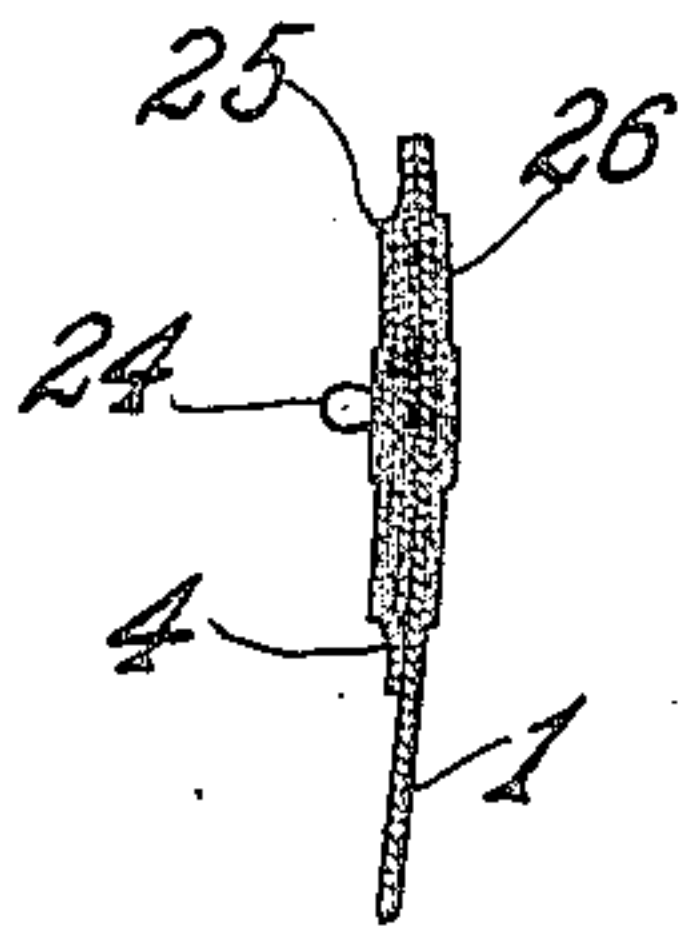
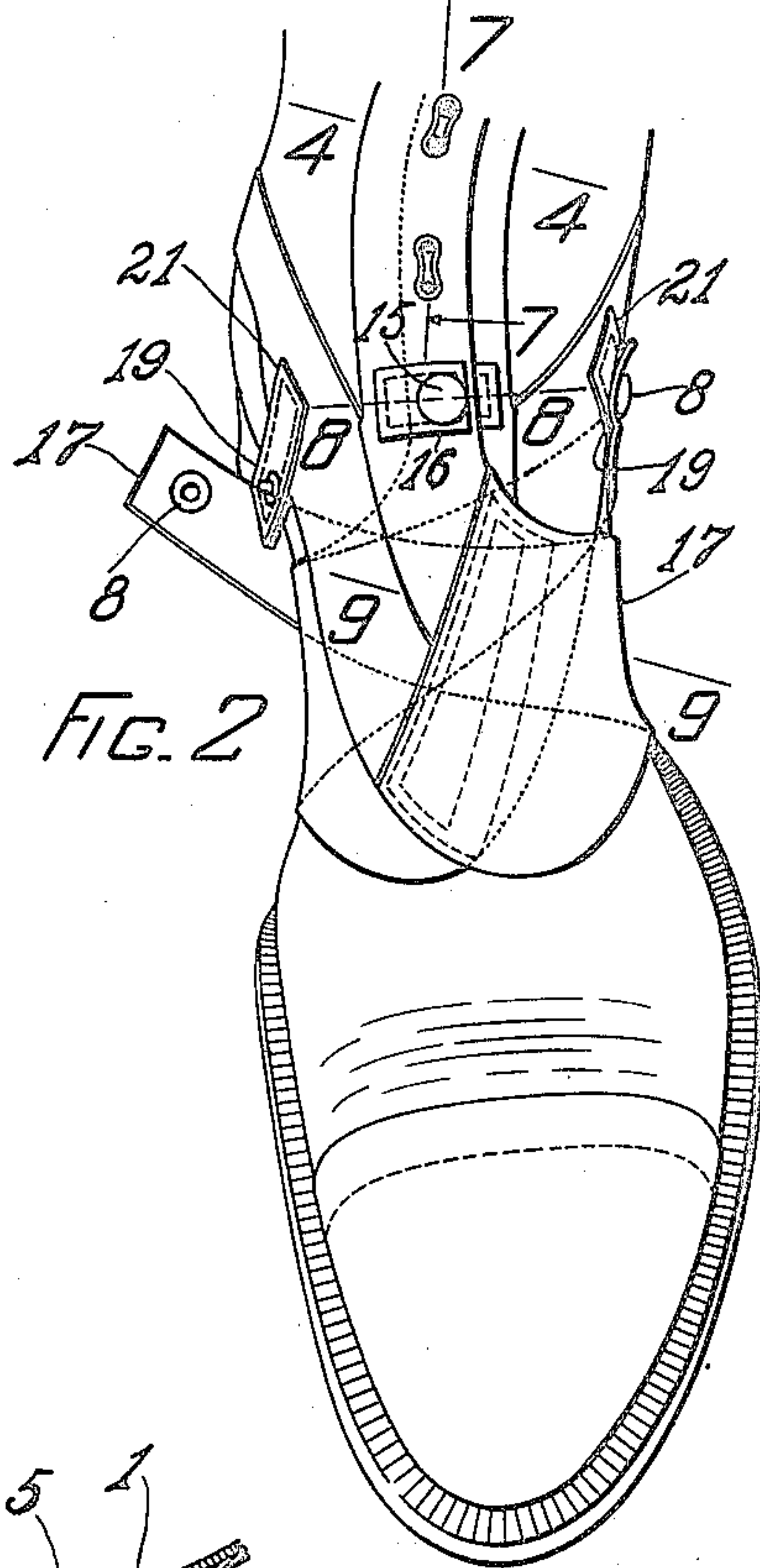
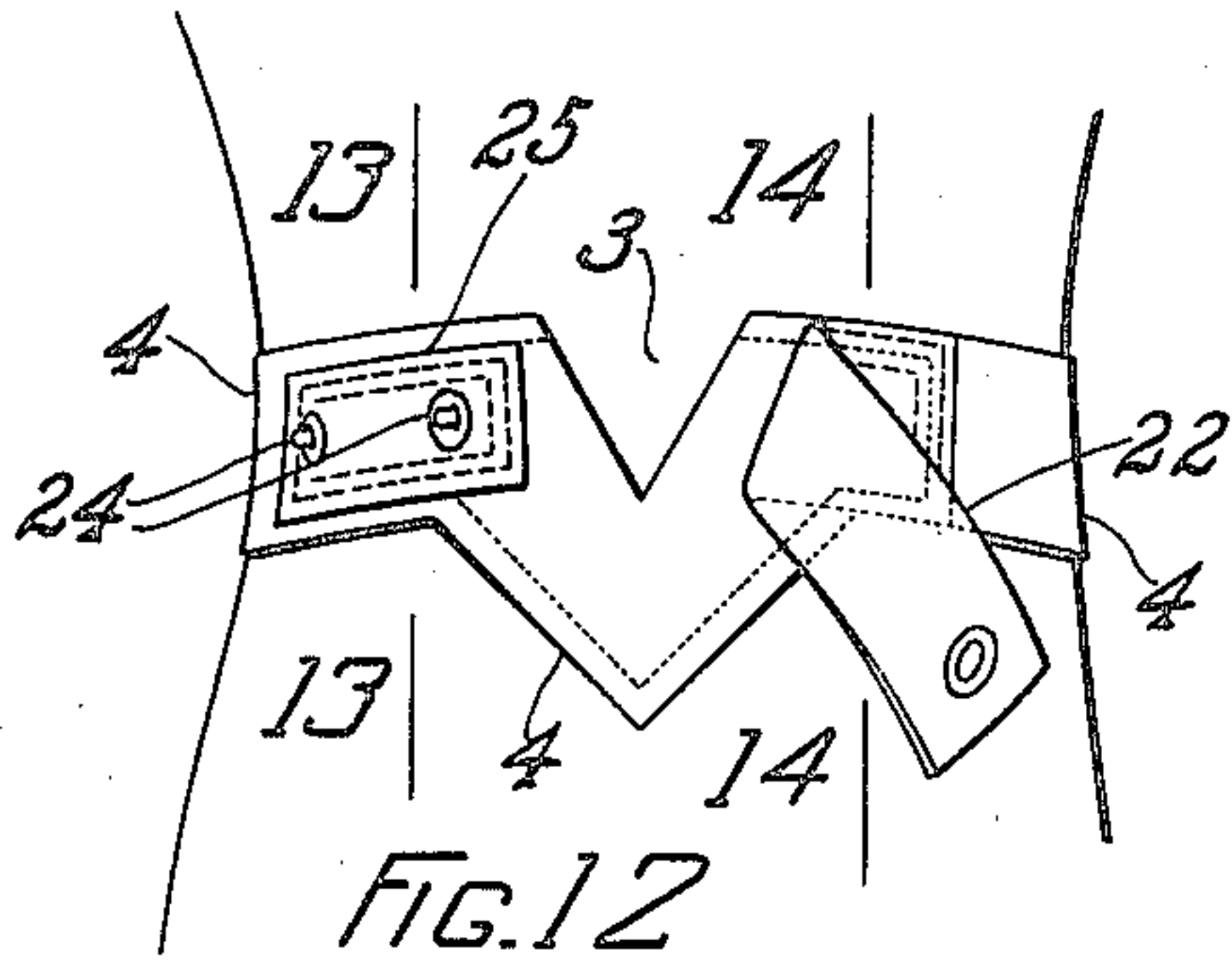


FIG. 13

FIG. 14

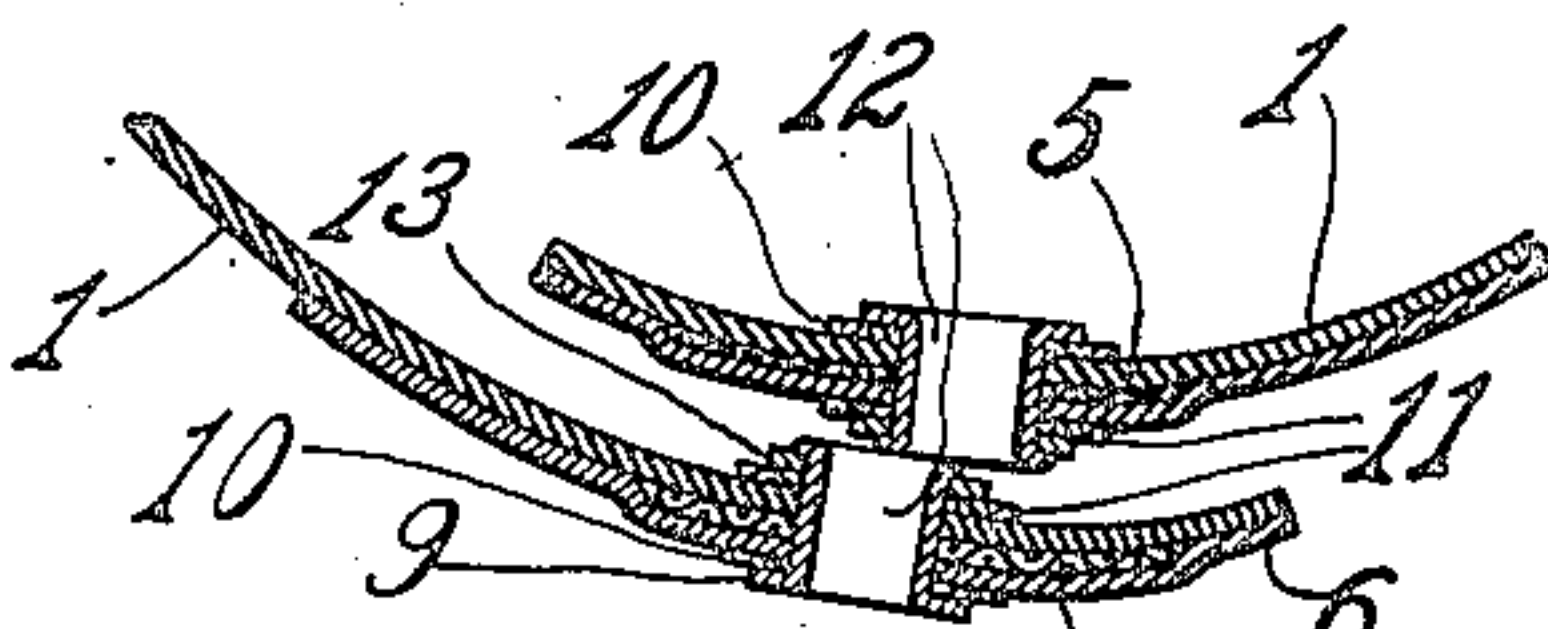


FIG. 4

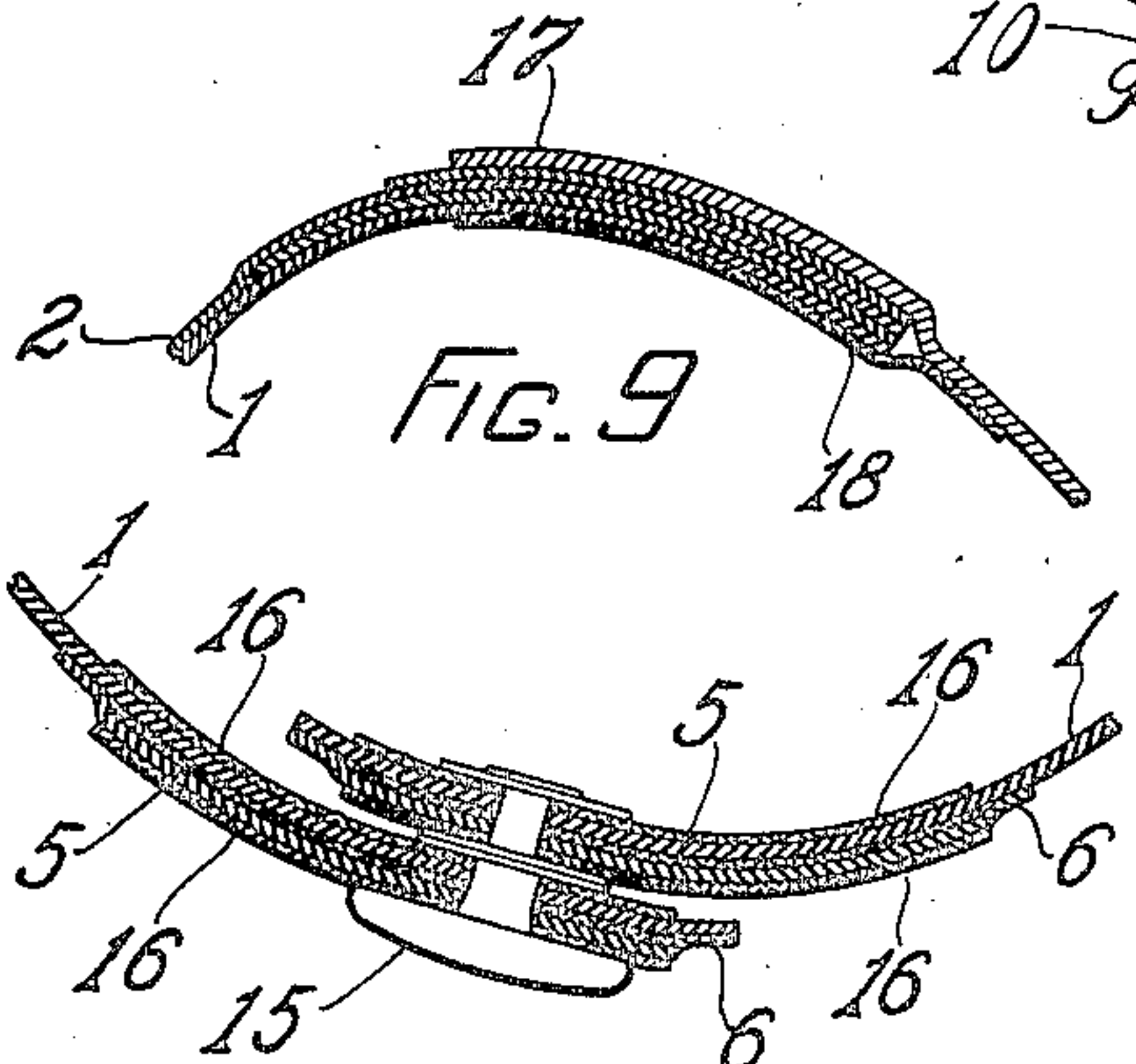


FIG. 9

FIG. 8

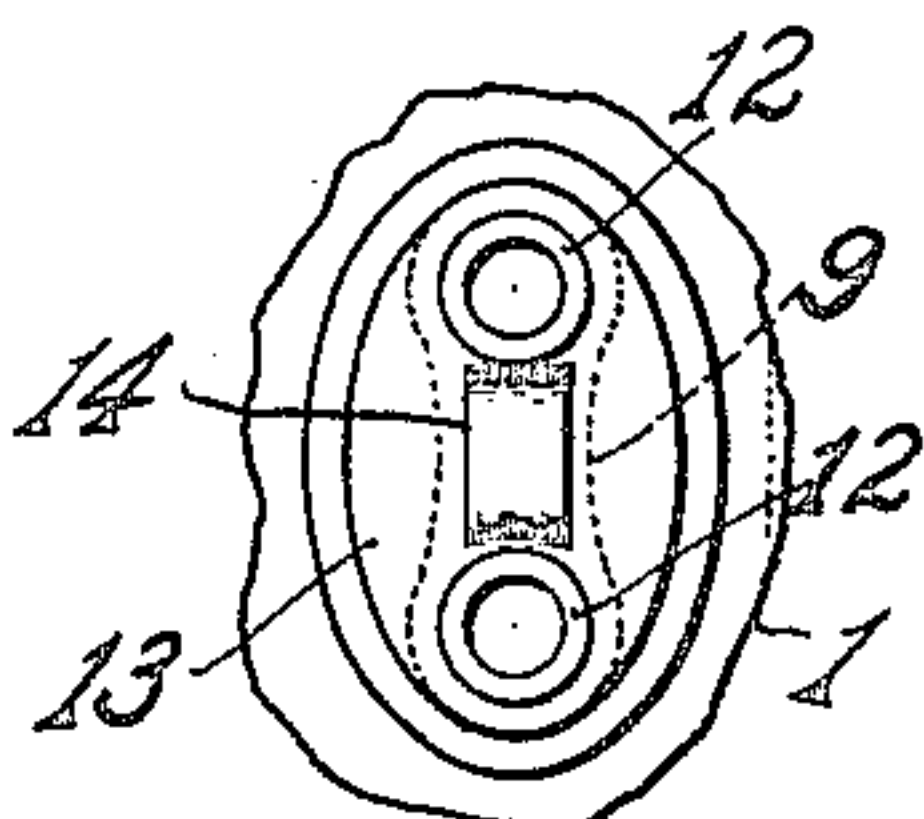


FIG. 5

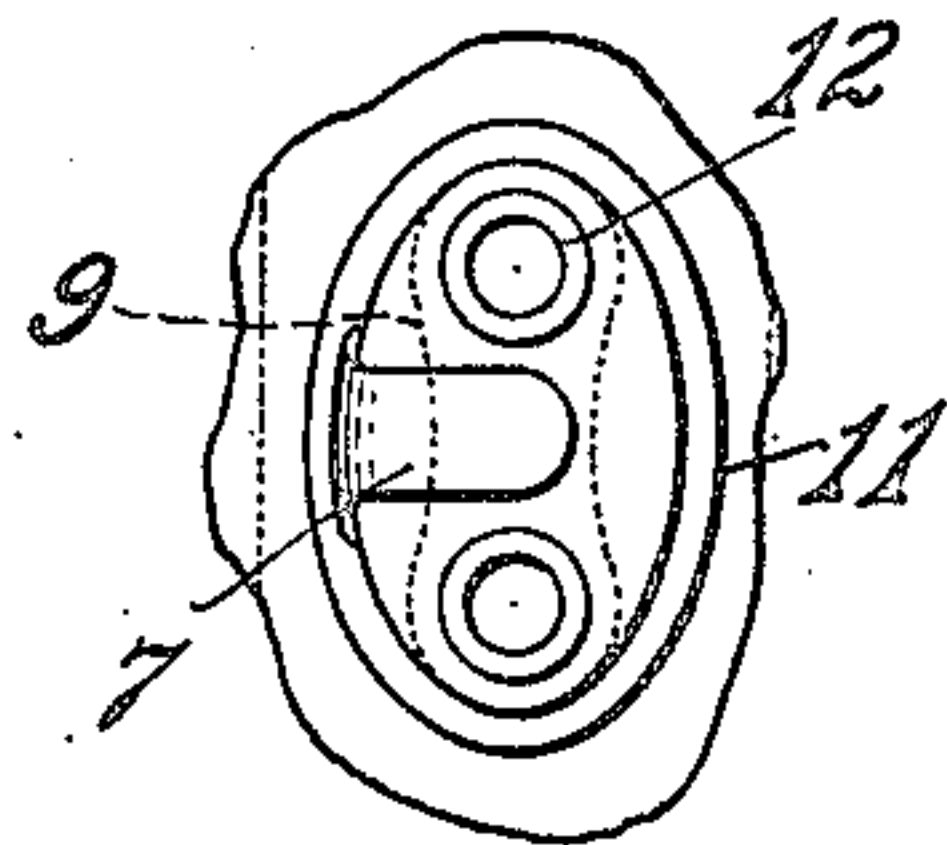


FIG. 6

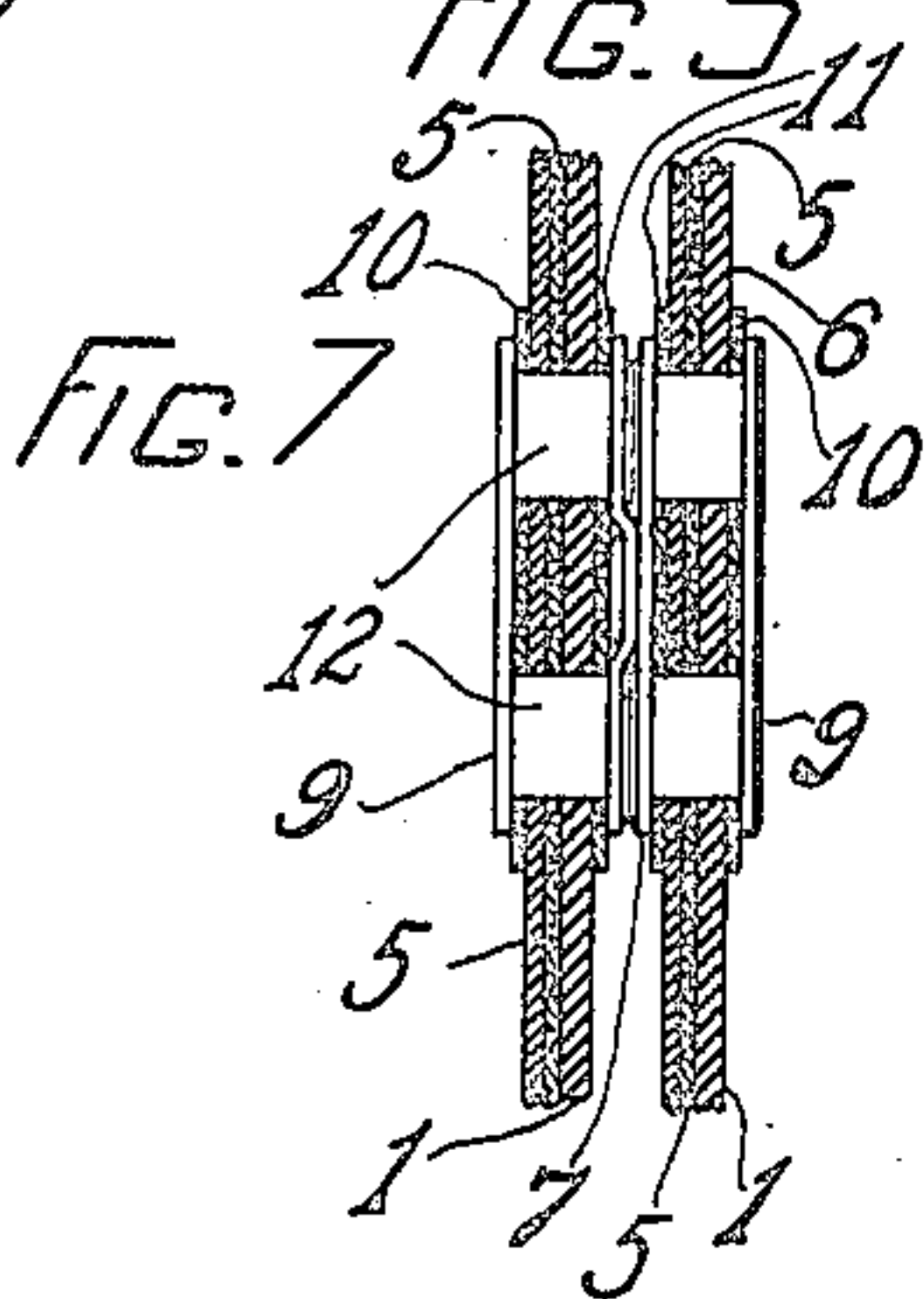


FIG. 7

WITNESSES

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UNITED STATES PATENT OFFICE.

HENRY B. FOWLER, OF NEWARK, NEW JERSEY, ASSIGNOR, BY DIRECT AND MESNE ASSIGNMENTS, TO THE FOWLER-LEIGHTON COMPANY, OF PORTLAND, MAINE, A CORPORATION OF MAINE.

STORM-LEGGING.

No. 903,464.

Specification of Letters Patent.

Patented Nov. 10, 1908.

Application filed November 21, 1907. Serial No. 403,200.

To all whom it may concern:

Be it known that I, HENRY B. FOWLER, a citizen of the United States, residing at Newark, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Storm-Leggings; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to an improvement in storm leggings.

This legging is intended primarily for use by women. When a woman walks in wet weather she gathers her skirts in one hand in the endeavor to keep them dry. When so held, the water thrown from the heel in picking up the foot strikes the stockings and the skirts, thus wetting the latter even though they be held away from the ground. If a woman wears short skirts the effect is the same; in both cases the swish of the wet skirts against the legs wets the stockings. No woman will wear leggings to protect herself from wetting her stockings if they are unsightly or disfiguring.

The object of this invention is to produce a waterproof legging of such material as to form an efficient protection against water and at the same time to make it of such material that it is neither unsightly nor cumbersome. Thick or non-conforming leggings will not be worn, therefore this legging is made of thin material so as not to be cumbersome and unsightly. It is made of waterproof material so as to shed water and it is made of material which is elastic enough to conform to the shape of the leg, and being made of these materials in this way it is either unnoticeable or unobjectionable.

The legging forming the subject of this invention presents a sightly and pleasing appearance, and in its preferred form is made of thin elastic rubber which conforms to the leg and affords an adequate protection against water.

One of the features of this invention resides in strengthening and reinforcing the parts of the legging in such places and manner as to enable it to resist the unusual strains incident to putting on and taking off; another relates to the construction by which the fastening devices are durably secured in the material; and another is to produce a

construction adapted for use with low shoes in which a spat portion is provided which is neatly and securely held in position on the shoe.

The invention consists in the storm legging hereinafter described and particularly defined in the claims.

In the accompanying drawings Figure 1 is a side elevation of a legging adapted for use with low shoes; Fig. 2 is a perspective plan illustrating the construction of the spat portion of the legging; Figs. 3 to 14 inclusive illustrate details of construction.

In the drawings the layers of materials are exaggerated in thickness somewhat for clearness of illustration.

The legging taken as a whole comprises a leg portion and a spat, the leg portion being slit down the front and the spat portion extending around over the upper part of the instep of the shoe and being provided with instep strap extensions which cross each other over the top of the instep and extend in opposite directions under the instep and are secured at their ends to the lower edge of the spat portion at the inside and outside of the foot. At the back of the top edge of the legging is provided an adjustable gore, by means of which the legging may be taken up or let out to fit the wearer. This adjustment is secured by cutting a gore from the back of the legging and providing a strap secured at one side and adapted to be fastened at the other side by one or the other of two ball members of a ball-and-socket fastener.

In the drawings the body portion of the legging is indicated by the reference character 1, the spat is marked 2, and the gore device at the back is marked 3.

In making a legging of thin elastic rubber it is important that it be reinforced along the top, the bottom, the closing slit, at the gore and where the instep strap extensions are secured. In the illustrated embodiment the upper margin of the legging 1 is reinforced first by a strip 4 of rubber which is integral with the rubber of the legging and which extends to the gore down around the gore and round on the other side to the slit. This reinforce is of the same material as the body of the legging and strengthens the upper edge to resist the greater strains to which it is subjected. The bottom of the legging is reinforced in a somewhat similar manner.

From the lower edge of the legging, that is, at the lower edge of the spat, to a point about on the level of the ankle joint, the spat is the equivalent of three thicknesses of the rubber of which the body portion of the legging is made. From the ankle joint to a point somewhat thereabove, which would be approximately the top of an ordinary shoe, the legging is made of two thicknesses. This is conveniently accomplished in the manufacture of the legging by allowing the form on which the legging is made to remain in the rubber composition slightly longer over that portion of the legging extending from the shoe top to the bottom of the spat. The third layer over the spat portion of the legging is conveniently accomplished by laying on an additional layer of thicknesses of the body portion of the legging.

The closing slit is held closed by means of fasteners, hook members being provided on one side and eye members being provided on the other side. The edges of the legging are reinforced as shown in Fig. 3, which is a section on the line 3—3, Fig. 1, showing the edges in closed position. The body of the legging is indicated by the reference character 1, the top edge reinforce is indicated at 4, the slit edge is reinforced by the cloth 5, and the covering piece of rubber 6. It will be seen that the hook-and-eye members in the edge leave an opening between the overlapped edges of the legging which affords room for ventilation. In Fig. 4, which is a section on line 4—4, Fig. 2, is shown a horizontal section of the overlapping edges of the legging taken through one of the riveted eyelets by which the hook-and-eye members are secured to the edges respectively.

We may now conveniently proceed to a description of the hook-and-eye members by means of which the opening is held closed, and the mode of securing them in the edges of the legging. The eye member is shown in plan Fig. 5. The hook member is shown in plan in Fig. 6. A vertical section through the hook-and-eye members is shown in Fig. 7, a horizontal section through the riveted eyelets of the hook-and-eye members is shown in Fig. 4. It will be observed that this hook is extended from the edge of the hook plate back over the hook plate. This is a feature which is not to be overlooked in the construction of a successful legging of highly elastic material, as if the hook were to extend out over the soft rubber legging it would be liable to expand up under the hook in such a way as to obstruct the closing of the hook. On the outside of the legging opposite the hook plate 7 is a clamp plate 9. Between the clamp plate 9 and the material of the legging on one side and the hook plate 7 and the material of the legging on the other side are introduced layers of cloth 10 and 11. These layers of

cloth 10 and 11 prevent the hook plate 7 and the clamp plate 9 from cutting into the rubber. The clamp plate 9 is provided with rivets 12 struck up from the material of the plate, which pass through holes in the layers of cloth, the edge of the legging and the hook plate 7, and are riveted over the hook plate to secure them in position. The eye member consists of a plate 13 provided with an eye 14 struck up from the center of the eye plate. The eye 14 is struck up from the center of the eye plate 13 so that the portion of the plate which surrounds the hole produced by the removal of the eye 14 holds the rubber from rising under the eye to impede the insertion of the hook in the eye. The eyes are secured to the opposite edge of the legging in the same manner as the hooks.

At the bottom of the slit and at the top of the spat portion of the legging is a ball-and-socket fastener 15. A section through the edges of the legging at this point is shown in Fig. 8. Here the severest strain is exerted upon the material and it is most liable to tear, so the edge where the members of the ball-and-socket fastener are secured is provided with additional cloth reinforcing strips 16 which not only serve to prevent the members of the ball-and-socket fastener from cutting into the rubber, but which also act to prevent the tearing or cutting of the material of the legging with the fingers in opening and closing the socket fasteners.

The material of the legging is extended down into the spat and beyond the ball-and-socket fastener 15 which may be termed the instep fastener. It is extended in opposite directions and prolonged into what are termed herein, instep strap extensions 17. In the illustrated and preferred embodiment the instep strap is of leather, and it tapers in width from the middle of the front of the foot to its end, where a ball-and-socket fastener is provided by means of which it is attached to the tab on the side of the spat to which its other end is permanently attached. These two instep strap extensions fold, the one over the other, as shown in Fig. 2, and when they are pulled down over the instep of the foot and drawn around under the instep and secured upon the opposite side, they act not only to hold the spat smoothly down over the instep, but to hold the legging down on the shoe so as to cover the edge of the shoe. A section on the line 9—9, Fig. 2, shown in Fig. 9, illustrates the means by which the instep strap extension is secured to the spat portion of the legging. The instep strap extension 17 is sewed fast to the edge of the spat portion of the legging, which is reinforced by means of a number of layers of rubber and a layer of cloth 18 to receive and hold the stitches. The overlapping bases of the instep strap extension are shown in Fig. 10, which is a section taken on line 10—10, Fig. 1. The ball-

and-socket fastener 8 in the end of the instep strap extension affords the means for securing it to the spat tab 19 on the side of the spat. This construction is shown in Fig. 11 in which the tab is shown in section. Not only is the tab reinforced by an intermediate layer 20 of cloth, but it is reinforced upon both sides with layers of cloth 21 so as to form a good support for the ball member of the ball-and-socket fastener.

The construction of the gore adjusting device is shown in Figs. 12, 13 and 14. The gore proper 3 is cut in the back of the top edge of the legging and on one side is secured the adjusting strap 22 which is sewed fast to the margin of the legging on one side of the gore opening. A reinforcing piece of canvas 23 is provided on the opposite side from the strap 22 to receive and support the stitching by which the strap is secured. The ball members 24 are riveted through the opposite edge of the gore opening, cloth reinforcing pieces 25 and 26 being provided upon opposite sides of the material in order to prevent the cutting of the washers into the rubber of the legging. This legging, it will be seen, may be adjusted to fit the leg by means of the gore adjustment above described, and by its inherent elasticity it closely embraces the leg to the ankle, and at the bottom it is held down over the foot irrespective of prominences on the shoes caused by buckles or bows, and it closely embraces the instep of the foot and is held down over the edge of the shoe. It will be noted that the invention is not necessarily limited in certain aspects to a construction provided with the spat portion.

Having described the invention what is claimed is:—

1. A legging having an instep strap extension extended from the one side over the other side down under the instep of the shoe and adapted to be fastened at its end to the same side of the legging to which it is attached.

2. A foot covering having an instep strap

extension consisting of a strap extending from the instep around under the hollow of the foot, and means for securing the strap at the opposite end to the side of the covering to which it is attached.

3. A legging consisting of a single layer of thin elastic conforming material having an expansible reinforce of similar material at its upper and lower edges.

4. A legging of thin elastic conforming material provided with a slit, hook-and-eye members for closing the slit, reinforcing material in the edge of the legging, non-expansible longitudinally with relation to the slit.

5. A legging of thin elastic conforming material having a slit and elastic reinforces of similar material at its top and bottom edges vulcanized integrally therewith, fastening devices in the edges of the slit and a longitudinally non-elastic reinforce under the fastening devices.

6. A legging of thin elastic conforming material having elastic expansible reinforces of similar material at its top and bottom edges vulcanized integrally therewith, slitted longitudinally, provided with fasteners in the slit edges, and a longitudinally non-elastic reinforce vulcanized in and covered by the material of the slit edges.

7. A legging of thin elastic conforming material having a slit, provided with a non-elastic reinforce in the edges of the slit, fasteners riveted through the non-elastic reinforce and cloth washers between the fasteners and the material to prevent the cutting of the latter.

8. A legging of thin elastic conforming material having a slit, provided with a non-elastic reinforce at the edges of the slit and with a rubber reinforce over the non-elastic reinforce extended beyond the edge of the non-elastic reinforce.

In testimony whereof I affix my signature, in presence of two witnesses.

HENRY B. FOWLER.

Witnesses:

R. RICHARDS,

GEO. T. ENGELHARD.