

1,027,897.

Patented May 28, 1912.

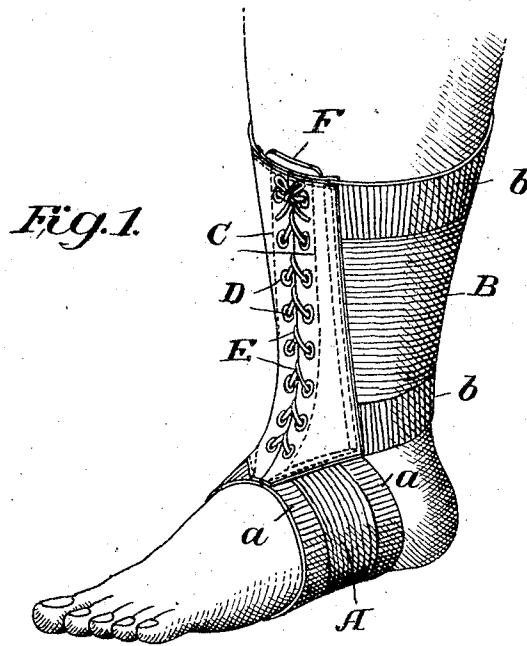
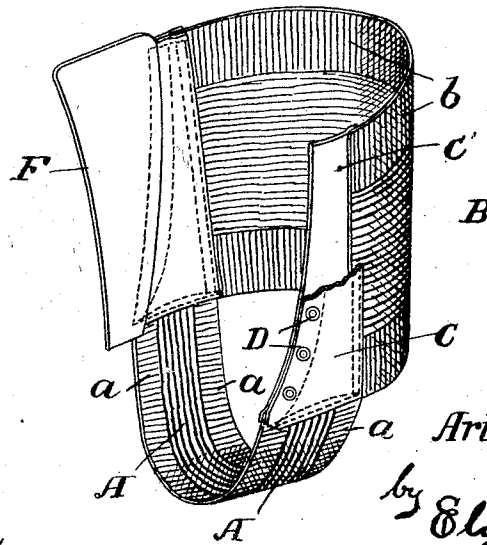


Fig. 2.



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UNITED STATES PATENT OFFICE.

ARTHUR QUENZER, OF NEW YORK, N. Y.

ANKLE-SUPPORTER.

1,027,897.

Specification of Letters Patent.

Patented May 28, 1912.

Application filed July 2, 1909. Serial No. 505,597.

To all whom it may concern:

Be it known that I, ARTHUR QUENZER, a citizen of the United States, residing in the borough of Brooklyn, city of New York, in the county of Kings and State of New York, have invented certain new and useful Improvements in Ankle-Supporters, of which the following is a specification.

My invention relates to devices for supporting the ankle, and is more particularly intended as an ankle supporter for use in case of a sprain or other injury to the foot or ankle.

The object of my invention is to provide a simple and improved bandage which will furnish ample support for the injured part and yet will be sufficiently resilient to yield to the natural movements of the body.

My invention will be understood from the following description, taken in connection with the accompanying drawings, in which—

Figure 1 is a perspective view illustrating my ankle supporter as it appears in position upon the foot of a wearer; and Fig. 2 is a perspective view of the supporter, a portion being broken away to show the manner of construction of the same.

Protectors for the joints of the arms or legs have heretofore been constructed of elastic material, but in so far as I am aware, prior to my invention they have not been so constructed that they could be adapted to different shapes and sizes of limbs and yet permit a movement of the injured member or a change in the yielding pressure exerted.

My improved ankle-supporter comprises an arch-supporting bottom member A and an ankle member B, each divided longitudinally and composed preferably of an integral piece of elastic knitted fabric or webbing. I have shown the elastic fabric having the central body portion formed with longitudinally extending warp-threads, and provided with selvages *a, a*, and *b, b*, upon either side. The adjacent edges of the body of the ankle-member and bottom member upon either side are joined to an angular front strip C, which thus constitutes the retaining or supporting member for the elastic parts and is preferably made of a soft pliable material or leather and of such shape that when brought together by means of lacing strings passing through eyelets D, the proper

pressures are brought upon the foot by the two portions of the supporter encircling the instep and ankle respectively.

The essential feature of my invention is the provision of elastic ankle and arch-supporting members arranged substantially at right angles so that the component stresses or pressures around the instep and ankle unite in a substantially uniformly distributed pull upon the non-elastic retaining front portion, while the particular details of construction can be varied to suit the varying conditions of use.

In order that there may be no irritation or injury to the parts of the foot or ankle resulting from a pressure of the lacing or the eyelets, I provide a tongue or flap F, sewed or otherwise secured to the inner side of one of the front retaining portions C. When in position on the foot of the wearer, this tongue overlaps upon either side in the rear of the line of eyelets and thus presents a smooth surface next to the limb of the person. Although not absolutely necessary, I prefer to have an additional layer of the kid or leather border strip C' back of the eyelets. I have shown the front retaining or supporting portion made of two layers overlapping the edges of the main body member and the arch-supporting bottom member secured thereto by means of one or more rows of stitching, while the eyelets D only pass through the outer layer.

Inasmuch as the body portion of both ankle and arch-supporting members is elastic, my ankle supporter may readily be used in conjunction with a form or mold of wood, rubber, metal, or other material, or with an arch support for the instep.

As previously pointed out, the non-elastic front portion C, of leather or other suitable pliable material which constitutes the retaining member for the other elastic members, is provided with rear edges extending on a line from top to bottom, so that it will conform to the elastic strip passing around the ankle and receive a direct pull therefrom without distortion of the ankle member, and said front portion is also provided with bottom edges extending on a line from front to rear so that it will receive a direct pull of the elastic strip passing under the instep without distortion thereof. When the supporter is in position on the foot of

the wearer, the ankle and arch-supporting members constitute in effect tubular members, and the angular relation of the rear and bottom edges of the front retaining portion C, causes the tension, or pull to be properly distributed along the line of the instep.

The arrangement disclosed herein was originally a part of my application which eventuated in Patent No. 921,563, dated May 11, 1909, in which it was shown that it is not absolutely necessary to divide the arch-supporting member.

The advantages of my ankle-supporter will be appreciated by physicians, nurses, and others familiar with the use of bandages and the care of injured parts of the body. I have provided a supporter which will be sufficiently yielding to the movements of the bones and muscles of the ankle and foot, and yet will furnish a sufficient support to the injured member.

While I have described my improved bandage as applied to the ankle, it may be found useful to bind and support other portions of the body.

It is evident that the details of construction may be varied and changes made therein without departing from the spirit of my invention or the scope of my claims.

Having now described my invention, what I claim and desire to secure by Letters Patent is—

1. An improved ankle support and protector of the class described, comprising a flexible non-elastic front portion having rear and bottom edges and constituting the retaining means for carrying elastic members, a main body consisting of elastic fabric or webbing and extending from edge to edge of said front portion and connected at its ends with said rear edges of the non-elastic front portion and adapted to surround the ankle, and a bottom member consisting of elastic fabric or webbing and extending from edge to edge of said front portion at the bottom and having its ends connected to said bottom edges of said non-elastic front

portion and adapted to pass under the instep.

2. An improved ankle support and protector of the class described, comprising a divided ankle-member having a front portion constituting the retaining means for carrying elastic members and consisting of flexible or pliable and non-elastic material and adapted to fit over the front portion of the instep and conform thereto and having its rear edges at each side extending on a line from top to bottom and its bottom edges at each side extending on a line from front to rear, and a main body-member consisting of a strip of elastic fabric or webbing and extending from edge to edge of said front portion and connected at its ends with said rear edges at each side of the front portion and adapted to surround the ankle, and an arch-supporting bottom member consisting of a strip of elastic fabric or webbing and extending from edge to edge of the sides of said non-elastic front portion and having its ends connected with said front to rear bottom edges of said non-elastic front portion and adapted to pass under the instep.

3. An improved ankle support and protector of the class described, comprising flexible non-elastic front strips constituting retaining members, a body consisting of a strip wholly of elastic fabric or webbing and extending from edge to edge of said front strips and connected at its ends with the rear edges of said front strips and adapted to surround the ankle, and a bottom member consisting of a strip wholly of elastic fabric or webbing and extending from edge to edge of said front strips at the bottom and having its ends connected with the bottom edges of said front strips and adapted to pass under the instep.

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

ARTHUR QUENZER.

Witnesses:

FREDA NEHLS,
ARTHUR BUIST.