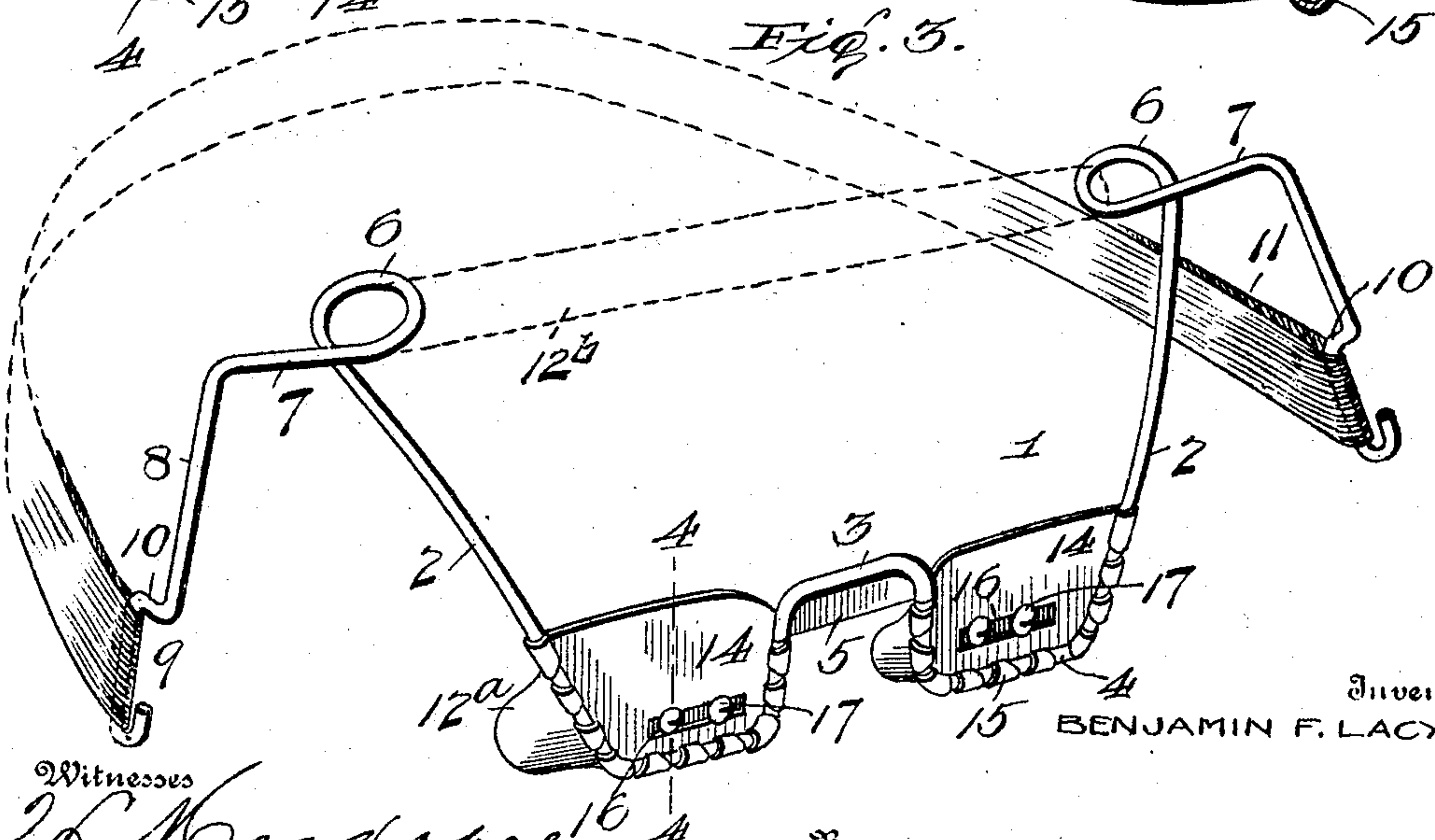
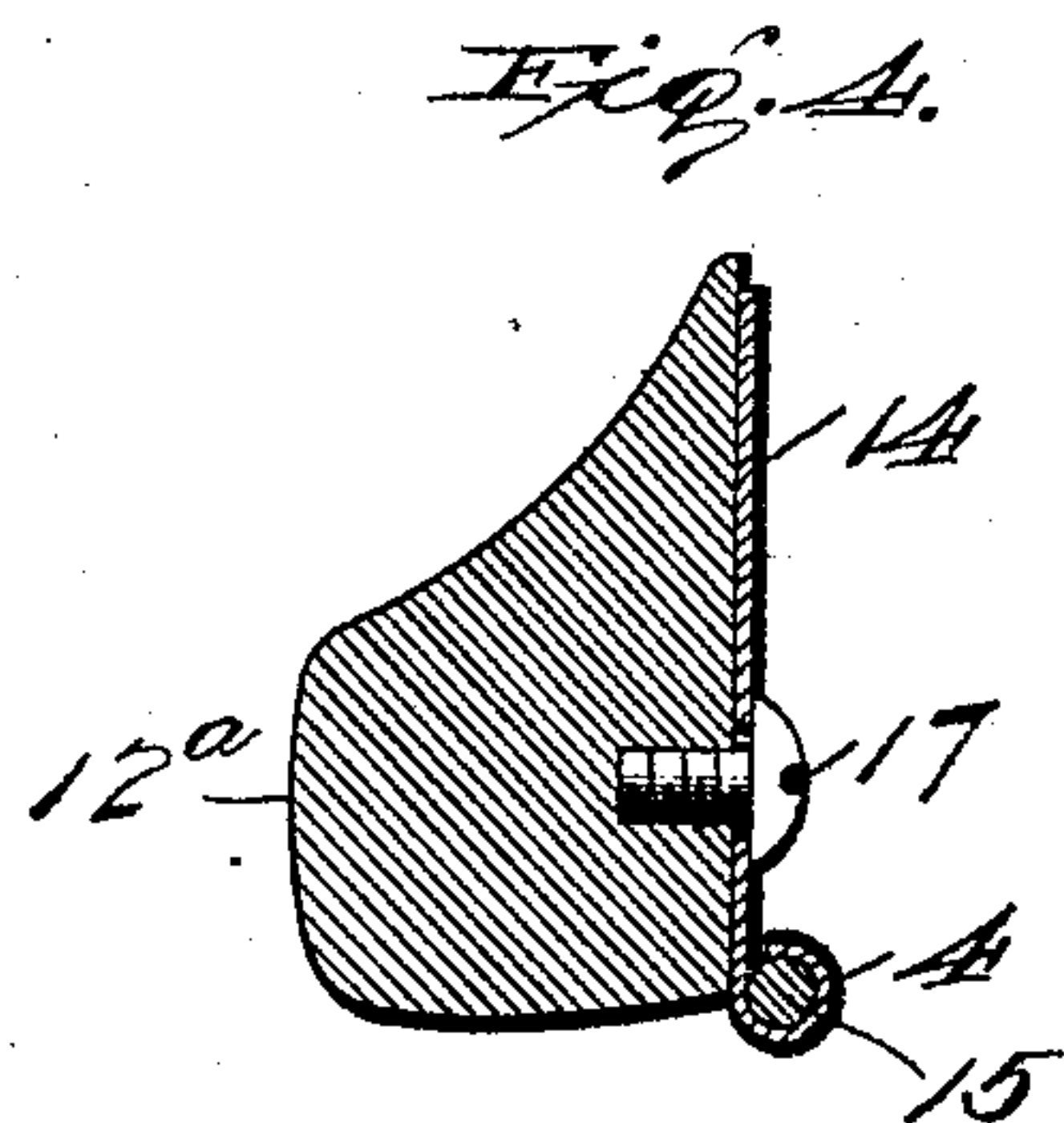
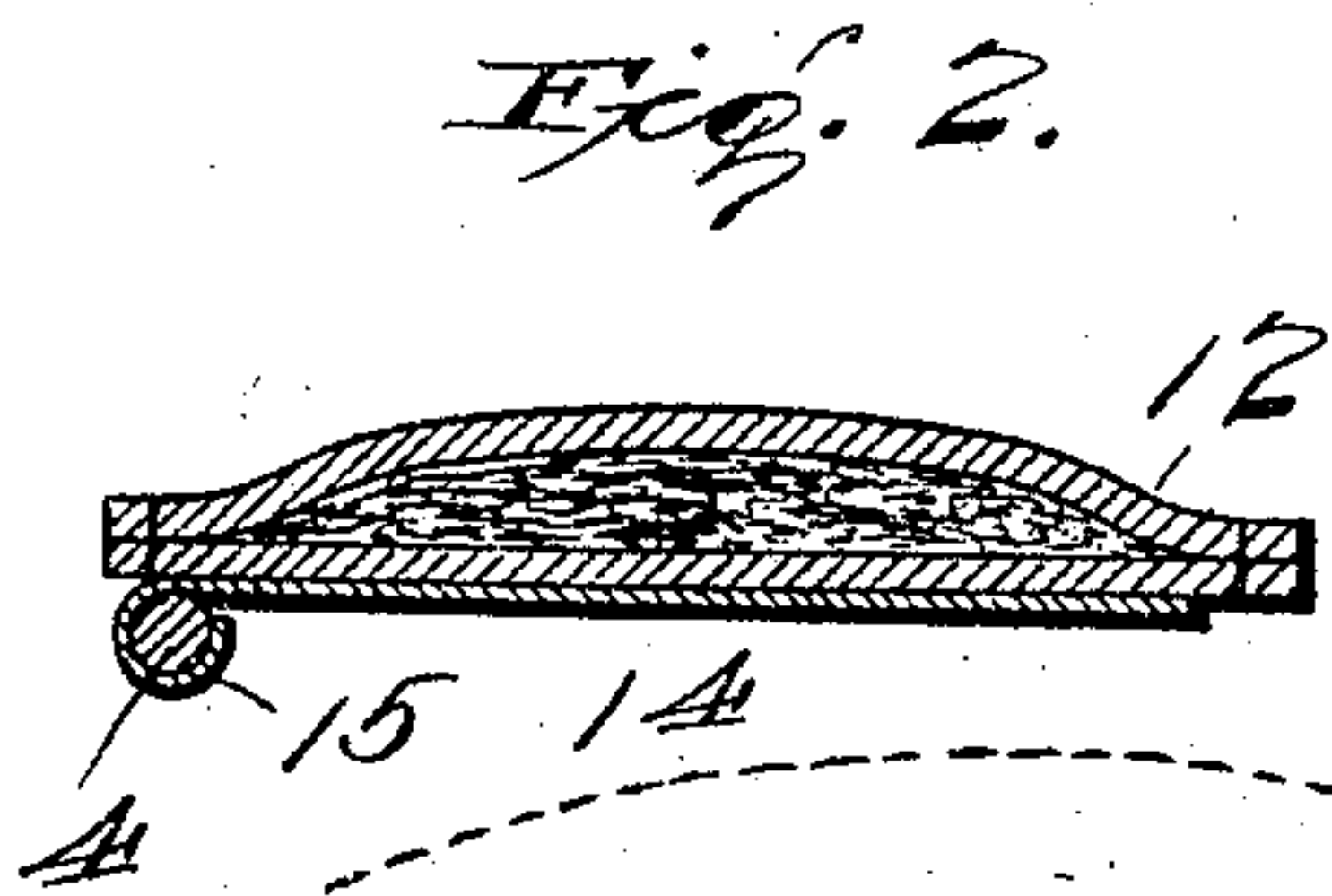
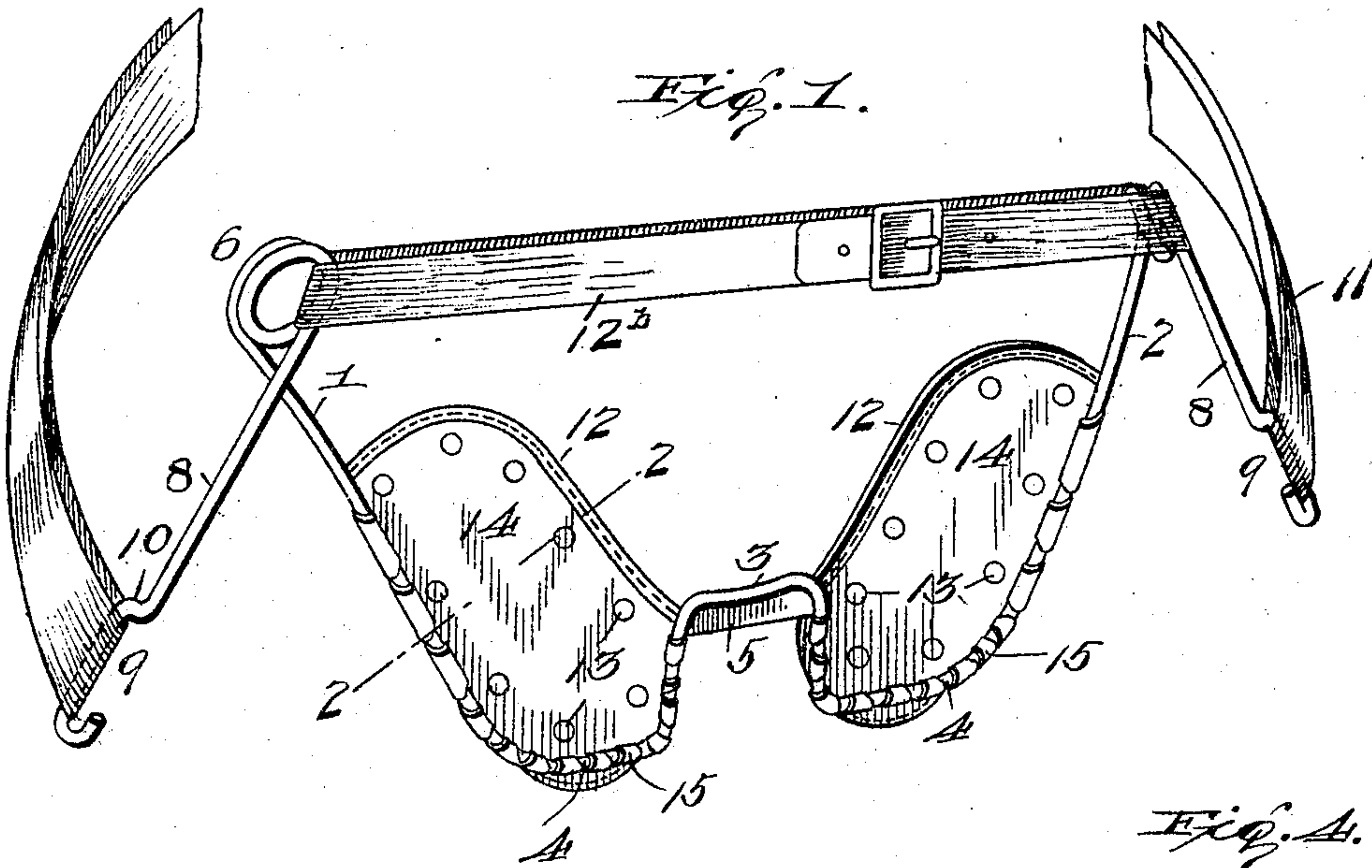


No. 795,624.

PATENTED JULY 25, 1905.

B. F. LACY.
ABDOMINAL SUPPORTER AND TRUSS.
APPLICATION FILED NOV. 22, 1904.



Witnesses
J. H. MacNamee
G. V. Fortie

By

S. P. Wolhaupter
Attorney

Inventor
BENJAMIN F. LACY

UNITED STATES PATENT OFFICE.

BENJAMIN F. LACY, OF PEKIN, ILLINOIS.

ABDOMINAL SUPPORTER AND TRUSS.

No. 795,624.

Specification of Letters Patent.

Patented July 25, 1905.

Application filed November 22, 1904. Serial No. 233,805.

To all whom it may concern:

Be it known that I, BENJAMIN F. LACY, a citizen of the United States, residing at Pekin, in the county of Tazewell and State of Illinois, have invented certain new and useful Improvements in Abdominal Supporters and Trusses, of which the following is a specification.

This invention relates to an improved abdominal supporter and truss, and has special reference to an appliance of this character embodying certain novel and useful improvements over the device covered by my former patent, No. 772,105, dated October 11, 1904.

The invention has in view a novel form of supporter-frame so constructed as to fit over the abdominal cavity at the front side of the body and give perfect comfort to the wearer, while at the same time embodying means, in connection with its securing devices, for being drawn with any desired pressure upon and against the body, thereby serving to depress the entire abdominal cavity and bring the broken ligaments surrounding the hernia in the best possible position for healing.

A special object of the invention in connection with this supporter-frame is to so dispose the lever elements thereof as to properly clear the hips of the wearer, so that the spring-pressure of the frame may be varied materially without discomfort to the patient.

Another important object of the invention resides in the novel means of mounting pads upon the supporter-frame and for adjusting such pads in certain forms.

With these and other objects in view, which will more readily appear as the nature of the invention is better understood, the same consists in the novel construction, combination, and arrangement of parts, which will be hereinafter more fully described, illustrated, and claimed.

The essential features of the invention, residing in the construction of the supporter-frame and the mounting and adjustment of the pads, are susceptible to structural change without departing from the scope of the invention; but certain preferred embodiments thereof are shown in the accompanying drawings, in which—

Figure 1 is a perspective view of a combined supporter and truss embodying certain of the improvements contemplated by the present invention and illustrating stationary pads mounted upon the side loops of the supporter-frame. Fig. 2 is a sectional view on the line 2 2 of Fig. 1, illustrating the attach-

ment of the pad carrier or support to the frame-wire. Fig. 3 is a perspective view of a preferred construction of the supporter and truss. Fig. 4 is a detail sectional view on the line 4 4 of Fig. 3.

Like reference-numerals designate corresponding parts in the several figures of the drawings.

The invention includes in its general organization a spring-wire supporter-frame, designated by the numeral 1 and made from a continuous length of spring-wire of suitable strength, gage, and resilience. This spring-wire supporter-frame is designed to be arranged in an upright position over the abdominal cavity and wholly at the front side of the body and is also designed to be drawn with varying pressure upon and against the body, thereby serving to depress the abdominal wall and bring into close relation the broken ligaments surrounding the hernia to facilitate the healing thereof by natural process. It has been found by practical use that the best results as an abdominal supporter and bandage are accomplished by arching the supporter-frame and bending the same into an approximate W shape. In this form the supporter-frame includes as members thereof the opposite oblique side legs 2, a central upstanding loop 3, and the opposite side loops 4, arranged between such central loop and the side legs. This structure provides a well-defined W formation, and inasmuch as considerable strain is imposed upon the central upstanding loop 3 under the varying pressure to which the supporter-frame may be subjected in applying it to the body the said central loop is preferably reinforced through the medium of a reinforcing-web 5, consisting of a metallic plate of suitable strength extending across the loop 3 and having its edge folded about and permanently secured to the portions of the wire forming the loop, as plainly shown in Figs. 1 and 3 of the drawings.

The side legs 2 of the spring-wire supporter-frame 1 are formed at their upper ends with the spring-coils 6, which in the preferable form of the invention (shown in Fig. 3 of the drawings) consist of a single convolution or coil, and the terminals of the wires at this point in the preferred form are extended outwardly from the said coils in a substantially horizontal direction, as indicated at 7, thus producing at such points what may be properly termed "horizontally-

offset clearance-arms," which are designed to project past the hips of the patient and thereby provide a clearance for the downwardly and outwardly projecting spring lever-arms 8, which are pendent from the outer ends of the clearance-arms 7. The pendent spring lever-arms 8 are provided at their lower extremities with the open belt-hooks 9, the open sides of which hooks are arranged at what may be properly termed the "front" of the supporter-frame, and a distinctive feature of these open belt-hooks resides in forming the lever-arms 8 with laterally-offset bends 10, disposed at the top of the hooks and constituting guard-shoulders to prevent the upward displacement of the main body belt or band 11. The front extremities of the body-belt 11 are detachably engaged within the open belt-hooks 9, whereby the belt may be passed around the hips and back of the body and tightened to any desired degree, according to the pressure to which the frame is to be held over the abdomen. In some hernias a greater degree of pressure is required than in others. Also in some cases a greater compression or bandaging of the abdomen is required, and this may be readily provided for through the adjustment of the body-belt 11 and the leverage of the spring lever-arms 8. Also there may be utilized in connection with the supporter-frame the adjustable front supporting-band 12^b, which extends transversely across the supporter-frame and is engaged in the oppositely-located spring coils or eyes 6 thereof. This band through its adjustment may be readily manipulated to fit the frame and not only assists in adapting the same to fit the abdomen, but also provides a means for holding an umbilical rupture.

While a single convolution or coil is provided in the wire in the preferred form of the invention, it will be understood that a plurality of convolutions in the spring-coil may be utilized, as shown in Fig. 1 of the drawings, without affecting the invention. Also, as indicated in Fig. 1, the horizontally-offset clearance-arm 7 may be dispensed with, though that is regarded as an important feature of the invention.

In addition to the functions already specified for the spring-wire supporter-frame 1, the same is designed to support pads of suitable construction, which are arranged over the hernia or rupture for retaining the latter. Various forms of pads may be utilized in connection with the supporter-frame, and these pads may be either stationary or adjustable, as suggested by the illustration in Figs. 1 and 3 of the drawings. Also the pads may be mounted in various ways; but in all embodiments of the invention an important feature resides in mounting the pads directly upon and over the opposite side loops 4 of the W-shaped frame. Certain preferred ways of mounting the pads are shown in the figures

of the drawings. Referring first to the construction illustrated in Fig. 1, it will be observed that provision is made for mounting pads at both sides of the central upstanding loop 3, so that a single or double hernia may be treated. In Fig. 1 of the drawings the pads are designated by the numeral 12 and may be of any suitable construction and shape, according to the character and extent of hernia to be treated, and said pads are illustrated as being riveted or otherwise permanently fastened, as at 13, to a supporting-plate 14, which may be properly termed a "pad-carrier." This carrier for each pad 12 is arranged entirely inside of the plane of the supporter-frame and is preferably provided around its outer edge with a plurality of integral securing-tongues 15, adapted to be bent around and clenched upon the wire body of the frame 1. The series of said securing-tongues 15 engage with the portions of the wire constituting the side loops of the supporter-frame and extend along the main side legs 2 of such frame, thus providing a strong and reinforced fastening connection for the pad-supports, which insures holding the same rigidly in position, while at the same time compelling the pads to respond to the pressure exerted thereon by the frame.

In the preferred form of the invention (shown in Fig. 3 of the drawings) the pad-carriers or pad-supporting plates 14 are secured to the side loops of the frame in the same manner as the corresponding plates, (illustrated in Fig. 1 of the drawings,) though in the construction shown in Fig. 3 the said plates 14 are of a height coextensive with the height of the central upstanding loop 3 and are provided therein with horizontally-disposed adjustment-slots 16, accommodating the holding-screws 17, which engage in the pads 12^a, arranged at the inner sides of the plates 14. These pads 12^a are illustrated as being of a solid specially-shaped form to adapt them to a particular kind of hernia, and by reason of the slots and screws 16 and 17 each of said pads 12^a is given an independent horizontal adjustment adapted to the hernia.

Various changes in the form, proportion, and minor details of construction may be resorted to without departing from the spirit of the invention or sacrificing any of the advantages thereof.

Having thus described the invention, what is claimed, and desired to be secured by Letters Patent, is—

1. In a device of the class described, an arched spring-wire supporter-frame provided at the upper extremities of its side legs with pendent outwardly-deflected lever-arms having at their terminals forwardly-opening belt-hooks, and also provided with laterally-offset bends constituting guard-shoulders arranged at the upper ends of said hooks, a body-belt engaged at its front ends in the bight of the hooks and

also beneath said guard-shoulders, pad-carriers secured to the legs of the frame, and pads secured to said carriers.

2. In a device of the class described, an upright spring-wire supporter-frame having oblique side legs and provided at the upper ends thereof with spring-coils and clearance-arms horizontally offset from said coils, said clearance-arms having pendent therefrom oppositely-deflected spring lever-arms provided at their lower ends with forwardly-opening belt-hooks, and a body-belt detachably engaged at its front ends in said open hooks.

3. In a device of the class described, an upright W-shaped spring-wire supporter-frame having lever-arms at its ends for the connection of a body-belt therewith, pad-carriers arranged over the side loops of the frame and directly secured to the inner and outer legs which provide the W shape, and pads secured to said pad-carriers.

4. In a device of the class described, an upright W-shaped spring-wire supporter-frame, pad-carriers arranged over the side loops of

the frame and provided at their outer edges with a series of securing-tongues embracing the wire body of the frame, and pads mounted upon said carriers.

5. In a device of the class described, an upright W-shaped spring-wire supporter-frame, stationary pad-carriers extending entirely across the bottom corners of the frame and secured to the inner and outer leg members thereof, pads adjustably mounted at the inner sides of the carriers, and fastening means for said pads.

6. In a device of the class described, a W-shaped spring-wire supporter-frame carrying pads, and a metallic reinforce-web extending across and rigidly secured to the central up-standing loop of the frame.

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

BENJAMIN F. LACY.

Witnesses:

FREDERICK P. MAUS,
FRED SCHAEFER.