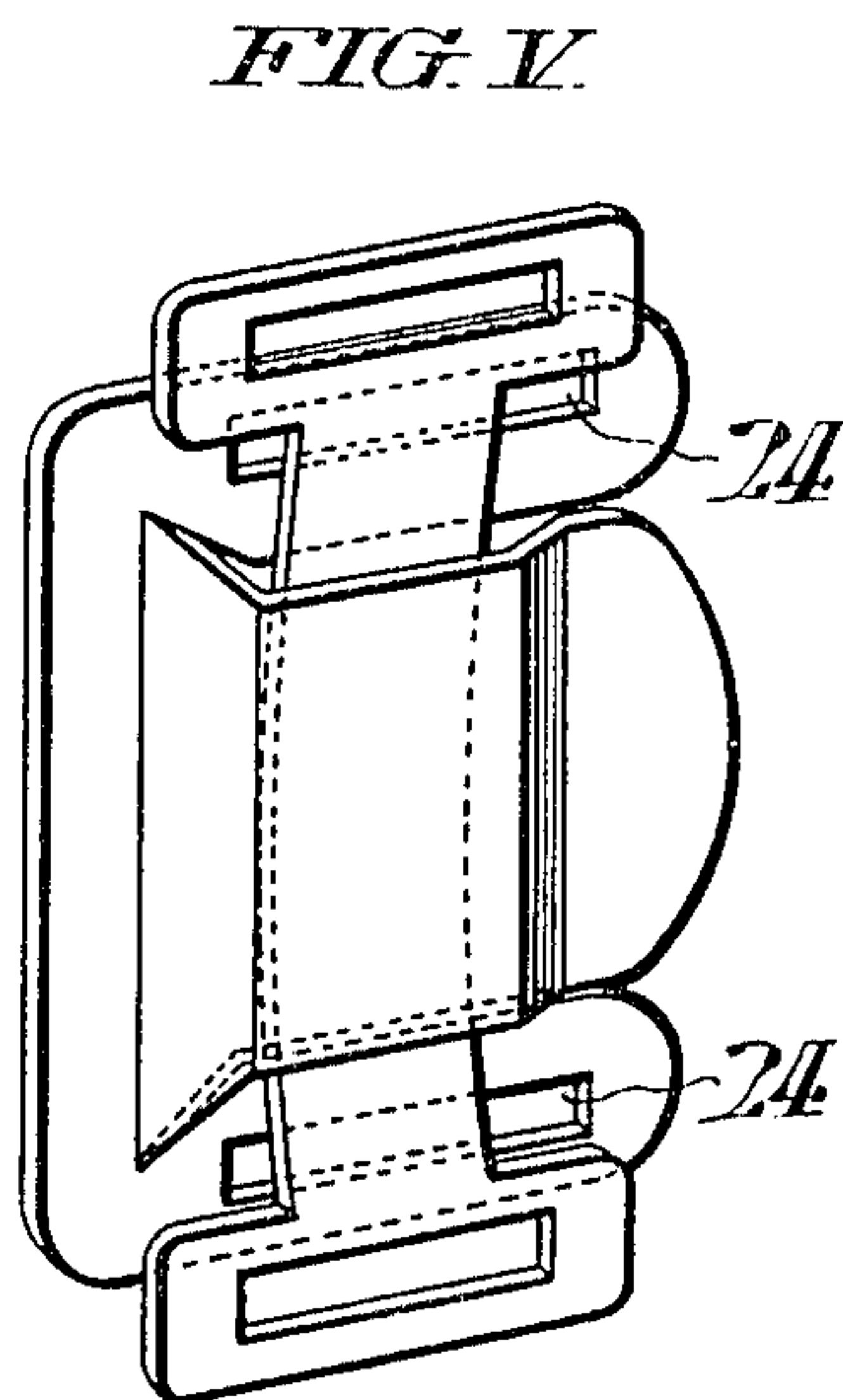
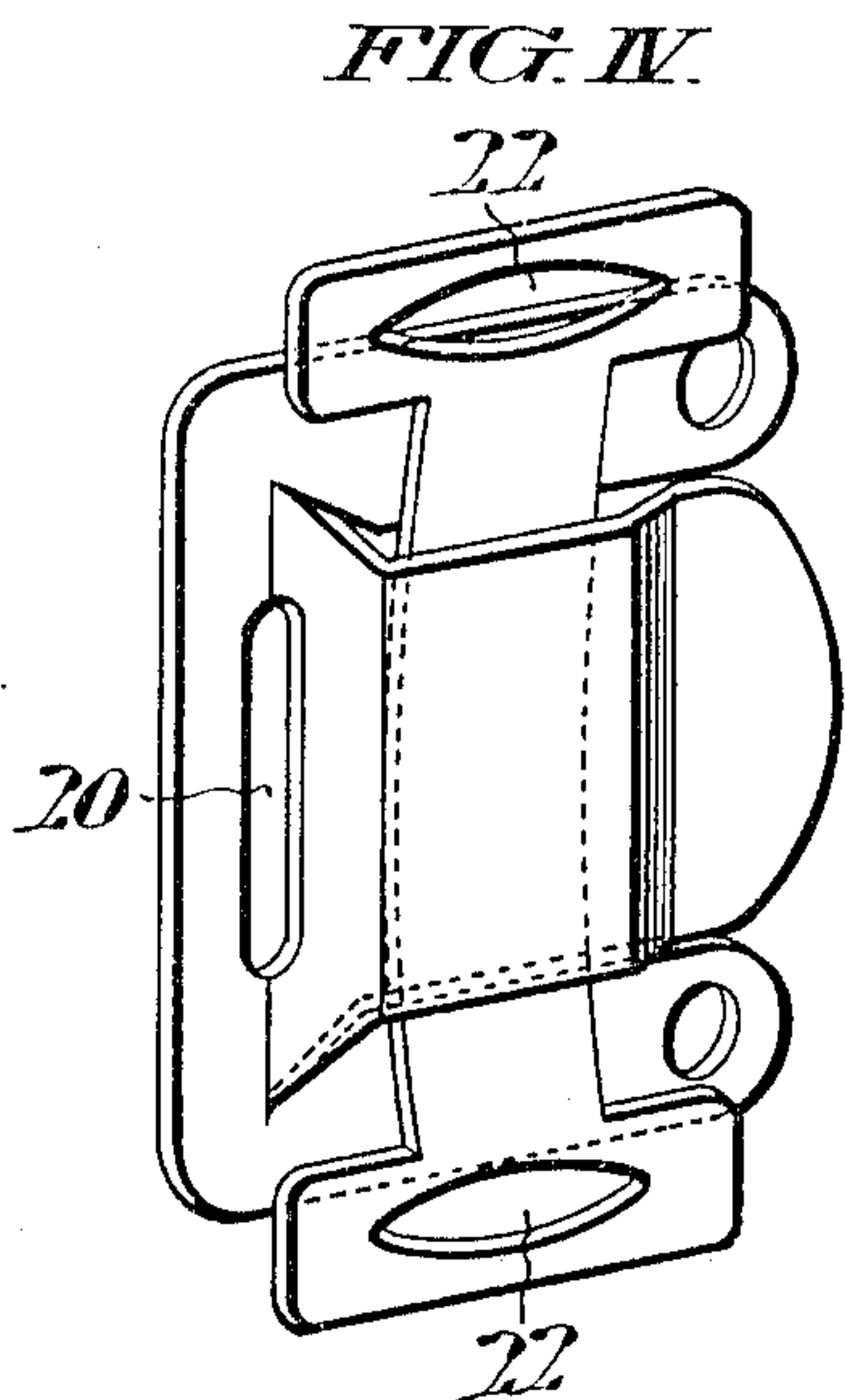
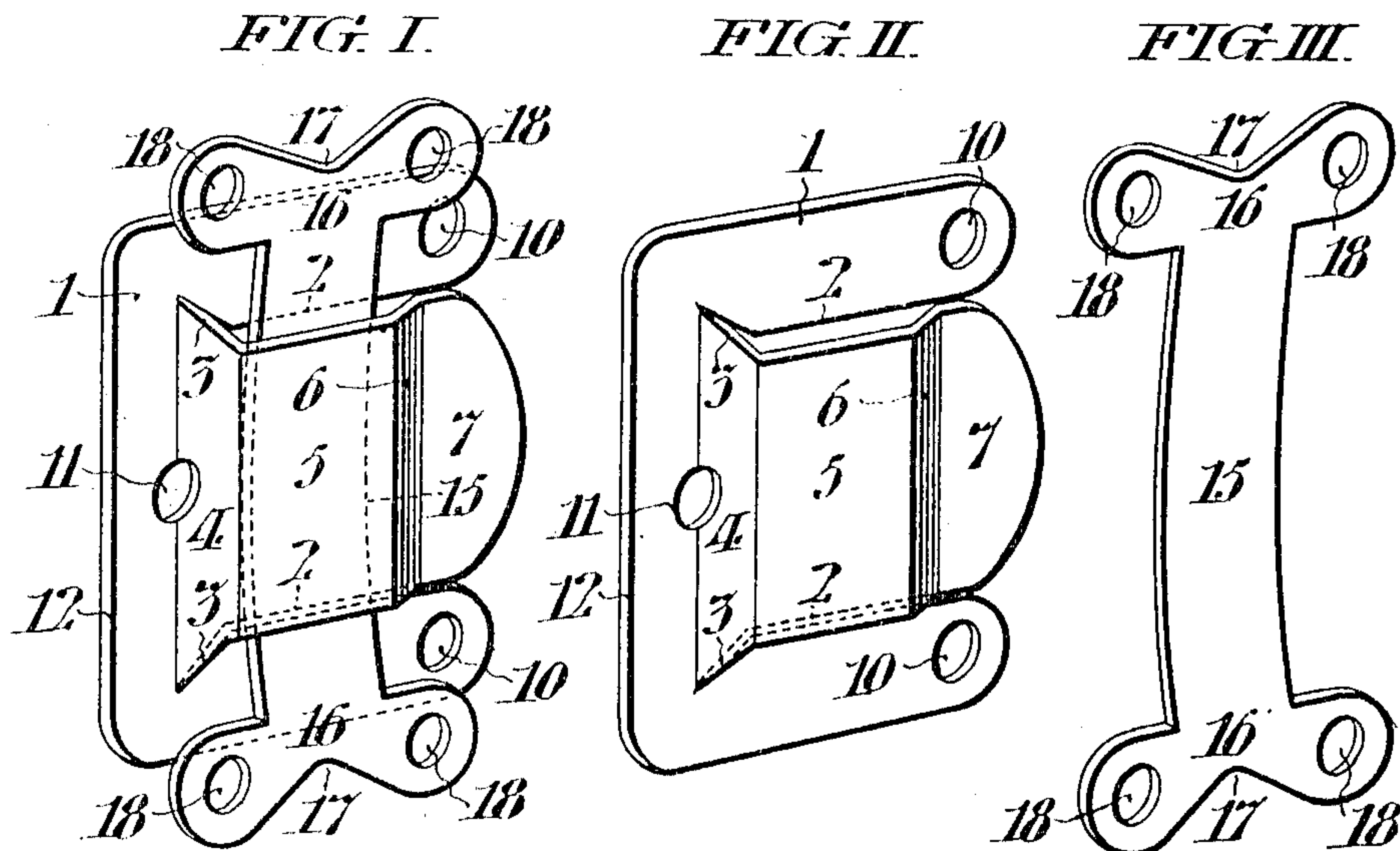


C. B. PATTERSON.  
 HOOK AND EYE.  
 APPLICATION FILED NOV. 3, 1906.

954,458.

Patented Apr. 12, 1910.



WITNESSES:  
*John C. Berger.*  
*Wm. J. Sperl.*

INVENTOR  
 CLARA B. PATTERSON,  
 BY  
*Wiley + Paul.*  
 ATTORNEYS.



# UNITED STATES PATENT OFFICE.

CLARA B. PATTERSON, OF PHILADELPHIA, PENNSYLVANIA.

## HOOK AND EYE.

954,458.

Specification of Letters Patent. Patented Apr. 12, 1910.

Application filed November 3, 1906. Serial No. 341,818.

*To all whom it may concern:*

Be it known that I, CLARA B. PATTERSON, residing at the southeast corner of Fifteenth and Walnut streets, in the city of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Hooks and Eyes, whereof the following is a specification, reference being had to the accompanying drawings.

My invention consists of a flat spring hook for a garment or other purpose, formed of sheet metal by making two cuts into the base plate and bending the part between the cuts in such a way as to form a salient tongue. The eye to be employed with this hook is also preferably cut from sheet metal as hereinafter described.

My invention relates to certain improvements in the construction of hooks and eyes of this type, as described in United States Letters Patent No. 561,289, of 1896, granted under date of June 2nd, to James J. Springer, and involves certain changes and improvements in the cutting and construction of such a hook whereby it is possible to attach the hook to a garment in such a way that the root of the tongue is situated nearer to the edge of the flap of the garment than has heretofore been possible.

In the accompanying drawings, I have illustrated three slightly differing forms of hook and eye, all of which embody my invention, and constitute illustrative types in connection with which I will describe the same.

Figure I shows a hook and eye embodying my present invention. Fig. II shows separately a hook of the same type. Fig. III shows separately an eye of the same type. Fig. IV illustrates a different hook and eye embodying my invention. Fig. V illustrates a different hook and eye also embodying my invention.

"Flat spring" hooks and eyes, as they are termed, constructed according to the Springer patent, have proven very useful and are especially adapted to certain features of garment construction where it is necessary that the flap should lie in very close and flat relation to its opposing surface, as for instance, in military and other uniforms. In these flat spring hooks and eyes the metal plate which forms the base-plate of the hook member is, if properly constructed, an improvement over the bent wire base used in hooks constructed of wire in that when prop-

erly attached to the garment, there is much less liability of its turning after it has been sewed in place. But to secure this end, it has heretofore been found necessary to provide the plate with three eyelets for attachment purposes, two of which (the side eyelets) pierce the side portions of the plate and the other one (the front eyelet) pierces the front edge of the plate centrally near the root of the tongue. In order to provide space and strength for this latter eyelet the plate has been rounded in front of the tongue, but this rounded projection prevents the hook from being sewed on the garment in such a position as to allow the tongue of the hook to spring from a point as near the edge of the flap as is desirable if the flap is to be held hooked closely in place. In flat spring hooks and eyes, as heretofore manufactured, it has not been possible to avoid this difficulty, because the front eyelet could not be placed any nearer to the root of the tongue without being thrown into dangerous proximity to the ends of the cuts in the plate by which the tongue is separated from it. It is the purpose of my present invention to overcome this difficulty. This I accomplish by broadening the tongue and by so shaping the cuts that they flare away from each other near their inner ends, thus making it possible to allow the front eyelet to pierce the plate directly at the root of the hook without that structural weakness which results from putting the eyelet either too near the edge of the plate, or too near to the ends of the cuts in the plate.

Referring to the form of hook and eye which is shown in Figs. I, II and III, it will be observed that the hook is formed of a sheet metal plate 1, generally rectangular in shape but rounded at the corners. In this plate are two parallel cuts 2, 2, the inner ends of which flare at 3, 3, so as to separate from each other and leave a broad root for the tongue where it springs from the plate at the same time leaving sufficient metal at the sides of the cuts to provide for the side eyelets hereinafter referred to. The tongue portion of the plate which is thus formed by these two cuts is bent forward at 4, and runs parallel to the plate for the space marked 5, and is bent down again toward the plate at 6, and has formed at its extremity a bill 7, which is preferably rounded as shown. The two portions of the base plate at the sides of the cuts form the side



plates of the hook member and are pierced with the side eyelets 10, 10. These side eyelets are not in themselves sufficient to insure the proper attachment of the hook to the garment in such a way as to prevent its turning, and accordingly the plate is also pierced by the third or front eyelet 11, which in accordance with my invention pierces the base plate immediately at the root of the hook, preferably piercing to a certain extent the bent part of the root marked 4. In this way the root of the hook is brought in very close proximity to the front edge 12, of the plate. This has not been possible in previous constructions. The eye member which I have illustrated in Fig. III, as accompanying this hook, is also of novel construction. It is stamped from a single sheet of plate metal and consists of the thin body 15, and the end strips 16, 16, at right angles thereto. These end strips are rounded at their extremities and are provided centrally with reëntrant angles 17, 17, occupying the intermediate portions of their sides opposite their attachment to the body 15. Each of these end strips are pierced at both ends with eyelets 18, of which there are therefore four in all, and securing means are passed through each eyelet 18, and around the end of the cross bar 16, thus enabling me to secure a very firm attachment of the eye to the garment. The body 15, is bent, as shown in the drawings, in such a way as to conveniently enter between the tongue and the side portions of the hook member.

In the modification which I have illustrated in Fig. IV, the hook member is in all respects similar to that shown in Figs. I and II, except that the eyelet 11, instead of being a single circular perforation of the base plate is considerably elongated forming an oval 20. This is a very advantageous form of eyelet for securing the firm attachment of the plate of the hook to the garment, but it has heretofore been impossible to provide such a form of eyelet by reason of the limited space provided in the part of the base plate which lies in front of the root of the hook. By broadening the hook as shown, and by flaring the ends of the cuts which separate the tongue from the plate, I am enabled to provide the requisite space to allow the employment of the elongated eyelet 20, without such weakening of the hook as occurs if any portion of this eyelet approaches too near the ends of the cuts. The eye member which is shown in Fig. IV, differs from that shown in Fig. III, in that its end strips lack the reëntrant angle 17, and are provided with an elongated eyelet 22, by means of which the eye may be attached to the garment with less labor than where four eyelets are employed as in Fig. III, and yet as strong and serviceable an attachment secured. If desired, the

securing means for holding the eye member may be passed around each end of the cross bar and through the adjacent end of the elongated slot, thus providing two points of attachment for each cross bar.

In Fig. V, I have illustrated a further variety of my invention. Its method of construction has the same purpose in view as the others, namely, to bring the base of the hook close to the edge of the flap of the garment, but it differs from the hooks which I have previously described, in that the third, or front eyelet, situated near the base of the hook, is dispensed with. This would not be possible were the side plates provided with the small round eyelets shown in the forms previously described by me, but it is rendered possible by the employment of the elongated slots 24, 24, one of which pierces each of the side plates. By means of these two elongated slots an attachment of the hook to the garment is possible, which effectually prevents the turning of the hook member without resorting to the use of the third eyelet. The eye member, shown in Fig. V, is substantially the same as that shown in Fig. IV, the only difference being in the shape of the eyelets which, instead of being oval, are elongated rectangles.

It will be noted that all of the hooks which I have described, have this common principle that the cuts by which the tongue is separated from the plate flare near their ends, thus producing a broad strong root, and permitting the hook to be attached to the garment in such a way that the root of the tongue is nearer the edge of the flap than would otherwise be the case; the eyelet being in every instance so arranged as to permit proper attachment without weakening the plates by their being too near the cuts. It will also be noted that the greater portion of the bending action of the tongue of the hook member in each of the several forms shown takes place in the bend formed by the front strip of the base plate 1, and the inclined member 4, of the tongue, and also in the bend formed by said inclined member 4, and the flat portion 5, of said tongue. In order to prevent the tongue from bending too freely it has been found advisable to flare the root of said tongue as it joins the base member. This prevents too great bending action at this point, thereby lengthening the life of the hook member. It is desirable to maintain the eye member under the tongue and prevent its being withdrawn too easily. To obviate the necessity of widening the entire tongue in order to provide sufficient resistance to the bending action it has been found that flaring the root of said tongue will accomplish the desired result.

The eye members which I have shown all have this common principle that they are



cut from a single sheet of metal and comprise a thin body portion with two broad cross strips at its ends, the latter being suitably pierced with eyelets to permit firm attachment.

Having thus described my invention, I claim:—

10 A flat spring hook composed of a single substantially rectangular piece of sheet metal with two cuts therein, which, for a portion of their length, extend substantially parallel with the sides of said piece, but which flare near their extremities in the di-

rection of the front corners of said piece; the portion between these cuts being bent to form the tongue of the hook, and being pierced between the flaring extremities of the cuts with a front eyelet. 15

In testimony whereof, I have hereunto signed my name, at Philadelphia, Pennsylvania, this first day of November 1906. 20

CLARA B. PATTERSON.

Witnesses:

JAMES H. BELL,  
E. L. FULLERTON.