E. I. JAFFE.

RELEASABLE SELF FASTENING BUTTON.

APPLICATION FILED DEC. 18, 1917.

1,277,595.

Patented Sept. 3, 1918.

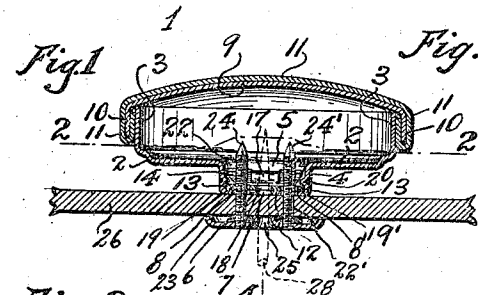


Fig. 1

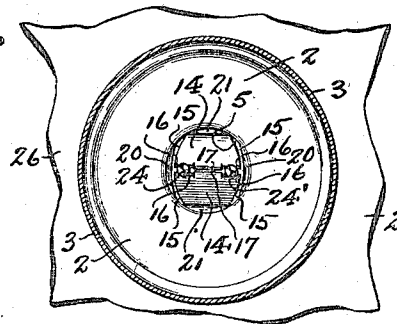


Fig. 2

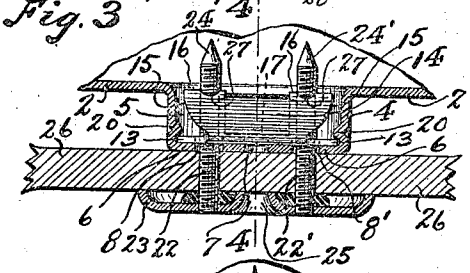


Fig. 3

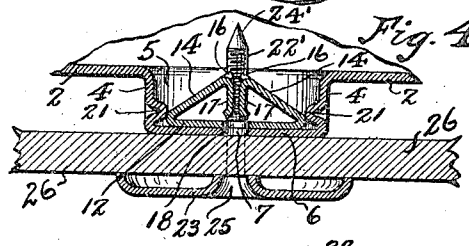


Fig. 4

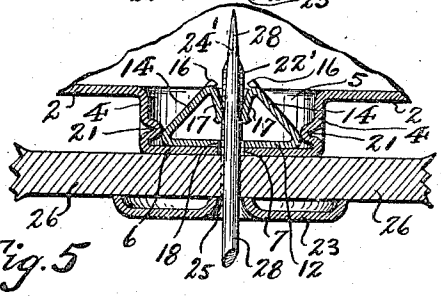


Fig. 5

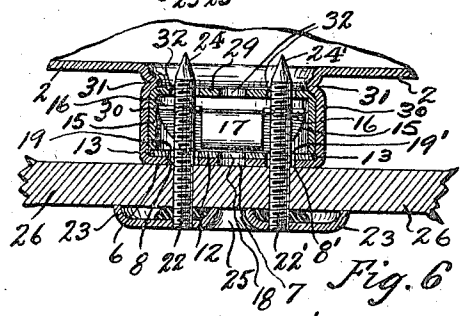


Fig. 6

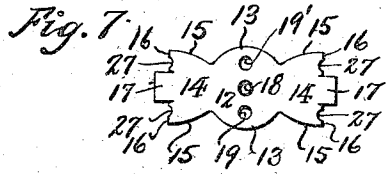


Fig. 7

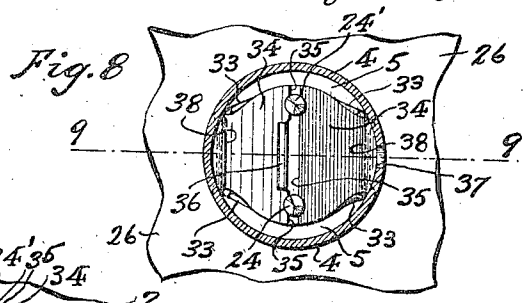


Fig. 8

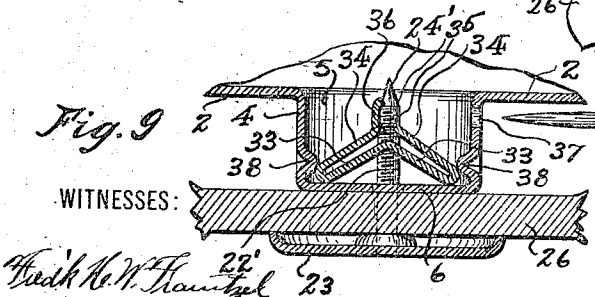


Fig. 9

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UNITED STATES PATENT OFFICE.

EDWARD I. JAFFE, OF NEW YORK, N. Y.

RELEASABLE SELF-FASTENING BUTTON.

1,277,595. Specification of Letters Patent. Patented Sept. 3, 1918.

Application filed December 18, 1917. Serial No. 207,754.

To all whom it may concern:

Be it known that I, EDWARD I. JAFFE, a citizen of the United States, residing at New York, in the county of Bronx and State of New York, have invented certain new and useful Improvements in Releasable Self-Fastening Buttons; 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, reference being had to the accompanying drawings, and to characters of reference marked thereon, which form a part of this specification.

The present invention has reference, generally, to improvements in releasable self-fastening button for garments, and the like; and the present invention relates, more particularly, to novel improvements in the construction and arrangement of parts of a releasable self-fastening button of the general type patented by myself and Elias Jaffe in previous Letters Patent of the United States, dated November 7th, 1916, No. 1,204,159.

The present invention has for its principal object to provide a more compact arrangement of the novel releasable self-fastening parts, and to further provide an arrangement of said parts that will operate to hold the button against twisting or turning, so that when such buttons are used with military or other uniforms, and for such use bear insignia or designs on their faces, the said insignia or designs are always maintained right side up so that they are readily discerned. And, furthermore, the novel fastening means is so devised that not only is turning, swiveling or twisting of the button thereon prevented, but such turning, etc., being prevented, lessens, and in fact substantially eliminates, the wear of the fastening devices on the cloth of the garment to which they are attached, thus also preventing the button from sagging or hanging loosely down upon the face of the garment, and therefore assuring and maintaining the snug, tightly secured, squarely outwardly faced arrangement of the button upon the garment.

Another object of the present invention is to provide an improved construction of releasable spring gripping jaws, adapted to be opened or released by the insertion of a needle or other sharp instrument therebetween, and being so constructed that pulling strains upon the button will be prevented from distorting or bending out of proper shape said jaws.

Other objects of the present invention, not at this time more particularly enumerated, will be clearly understood from the following detailed description of the same.

With the various objects of my present invention in view, the same consists, primarily, in the novel construction of releasable self-fastening button hereinafter set forth; and the invention consists, furthermore, in the novel arrangements and combinations of the various devices and parts as well as in the details of the construction of the said parts, all of which will be hereinafter more fully described, and then finally embodied in the claims appended hereto.

The invention is clearly illustrated in the accompanying drawings, in which:—

Figure 1 is a vertical cross section through the complete button as the same appears when in fastened relation to a garment or the like; and Fig. 2 is a horizontal section, taken on line 2—2 in said Fig. 1, looking downward.

Fig. 3 is a detail vertical cross section of the lower portion of the button showing the releasable self-fastening parts thereof, the spring gripping jaw devices being shown in elevation, and said view being drawn on an enlarged scale; Fig. 4 is a similar detail vertical transverse section, taken on line 4—4 in said Fig. 3; Fig. 5 is a detail vertical transverse section, similar to that shown in Fig. 4, but illustrating the manner of releasing the fastening devices of the button; Fig. 6 is a detail vertical cross section, similar to that shown in Fig. 3, but illustrating a slightly modified construction of means for securing the spring gripping jaws in proper assembled position; and Fig. 7 is a face view of a blank from which the novel spring gripping jaw devices may be formed.

Fig. 8 is a detail longitudinal section showing a slightly modified construction of the releasable spring gripping jaw devices; and Fig. 9 is a detail vertical transverse section through the same, taken on line 9—9 in said Fig. 8.

Similar characters of reference are employed in all of the hereinabove described views, to indicate corresponding parts.

Referring now to said drawings, the reference character 1 indicates the complete

novel construction of releasable self-fastening button made according to and embodying the principles of my present invention, the same comprising a back-plate or shell 2, provided at its marginal edge with an upwardly turned flange or rim 3. Said back-plate or shell 2 is further provided with a centrally disposed downwardly or outwardly projecting hollow boss 4 which provides a centrally disposed chamber or well 5, provided in its bottom wall 6 with a centrally disposed opening 7 giving access thereinto of a releasing instrument, and being further provided, in diametrical alinement with said opening 7, with a pair of shank openings or passages 8 and 8′, one at each side of said opening 7.

The reference character 9 indicates a face or cover-shell, preferably of concavo-convex form, and provided at its marginal edge with a downwardly turned flange or rim 10. Said face or cover-shell may be covered with an ornamental covering 11 of any desired kind, or it may have embossed thereon or have otherwise applied thereto, or to its covering, a desired insignia or design. The marginal flange or rim 10 of said face or cover-shell is engaged over said marginal flange or rim 3 of said back-plate or shell 2 in secured relation to the latter.

The reference character 12 indicates the main body or base-plate of spring gripping jaws device, the same having at each end a tongue portion or extension 13, and at its opposite sides, and integrally formed therewith, a pair of spring jaw-members 14, the side marginal edges 15 of which curve outwardly from their point of connection with said main body or base-plate so as to provide a sufficient width of free gripping edges 16. The said spring jaw-members 14 are bent upwardly and inwardly toward each other from said main body or base-plate 12, so that their free gripping edges 16 converge toward each other. Connected with each gripping edge, intermediate its ends, is an integrally formed downwardly turned lip 17, which is normally vertically disposed, and which terminates slightly short of the surface of said main body or base-plate 12. The said lips 17 are thus disposed opposite each other and longitudinally parallel, the same being normally slightly separated one from the other. Said main body or base-plate 12 is provided with a centrally disposed opening 18, and on each side thereof shank openings or passages 19 and 19′. Said opening 18 is alined beneath the ends of said lips 17, and said openings or passages 19 and 19′ are alined beneath the gripping edges 16 of the jaw-members 14. Said main body or base-plate 12 is inserted within said chamber or well 5 formed by the hollow boss 4 in such a position that its respective openings 18, 19 and 19′ are registered with the respective openings 7, 8 and 8′ of the bottom wall of said chamber or well 5. In order to secure said main body or base-plate, and parts connected therewith, in fixed relation to said hollow boss 4, the side walls of the latter are pressed inward over the tongue portions or extensions 13 of said main body or base-plate 12, thus providing holding ribs or lips 20, which prevent upward movement of said main body or base-plate. In order to prevent lateral twisting or turning movement of said main body or base-plate 12, which would tend to displace said openings 18, 19 and 19′, and the gripping edges 16 of the jaw-members 14 alined above said openings, from properly associated registration with the openings 7, 8 and 8′ of the bottom wall of said chamber or well 5, similar holding ribs or lips 21 are pressed inwardly from the opposite side walls of said hollow boss 4, in holding engagement with the lower side portions of said jaw-members 14, as shown in Figs. 2, 4 and 5 of the drawings.

The reference characters 22 and 22′ indicate a pair of diametrically spaced threaded shanks, which are secured to and extend upwardly from a suitable head or anchor flange 23. The free ends of said shanks are ground to sharpened points to provide piercing points 24 and 24′. Said shanks are so spaced apart, that when the same are presented against the bottom wall of said hollow boss 4, they will respectively enter the openings 8 and 8′, and also extend through the alined openings 19 and 19′ of the main body or base-plate 12, and then upwardly between the gripping edges 16 of the jaw-members 14. Said head or anchor flange 23 is further provided with a releasing instrument opening 25 which alines itself vertically with the openings 7 and 18 of the boss 4 and main body or base-plate 12 respectively. While I have stated that the said shanks 22 and 22′ are threaded, it must be understood that such threads are specified only as one convenient means for roughening the shanks to properly receive the gripping action of the jaw-members 14, and that other means of roughening the said shanks may be employed, such as by providing the same with transverse annular grooves, or by file cut surfaces, or, in fact, in any other convenient or desirable manner.

In securing the button to the cloth 26 of a garment or other article, the piercing points 24 and 24′ of the shanks 22 and 22′ are thrust through the cloth until the head or anchor flange 23 is brought up against the innerside thereof. The free ends of the shanks 22 and 22′ are then respectively passed through the alined shank passages 8 and 8′ and 19 and 19′, respectively, of the boss 4 and main body or base-plate 12, upwardly between the opposed gripping edges

16 of the spring jaw-members 14, said edges 16, owing to the upwardly inclined disposition of the spring jaw-members 14, readily yielding to the passage of the roughened surface of said shanks therebetween in said upward direction, since movement of the shanks in said upward direction tends to spring the jaw-members 14 apart. When, however, it is sought to pull either the button off of the shanks, or the shanks out of the button, the engagement of roughened surface of the shanks with the gripping edges tends to move the spring jaw-members downward, and since the latter are inclined upwardly, the said gripping edges are caused to move toward each other in the attempt of the spring jaw-members to describe the arc of movement about their fixed edges, and consequently it follows that said gripping edges 16 are more firmly than ever forced into holding or binding engagement with the roughened surfaces of said shanks. Therefore the greater the pull or strain upon the button, the greater is the resistance offered thereto by the gripping edges 16 of the jaw-members 14, hence an exceedingly secure fastening of the button to the garment or other article is provided. In order to provide a still firmer engagement of the gripping edges 16 with the shanks 22 and 22′ the former may be indented, as at 27, to conform substantially to the cylindrical or other contour of the shanks, thus assuring a greater portion of said gripping edges in engagement with said shanks.

Since there are two shanks provided, spaced laterally one from the other, and since each shank pierces the cloth 26 separately, it follows that, the shanks cannot turn in the cloth, since one shank obstructs the turning of the other, consequently, the button cannot swivel or turn on the cloth, nor can the button itself swivel or turn on the shanks, since each shank is separately engaged, at a point off-set from the center of the button, by the jaw-members 14. It therefore follows that buttons bearing special insignia or designs on their faces, once being fastened to properly present said insignia or designs cannot be twisted or turned to displace the latter from proper presentation; nor can a swiveling or turning of the shanks in the cloth so wear the latter that the pierced hole is enlarged to the extent permitting the button to droop from properly fastened position, as so frequently happens with single shank buttons. For these reasons the button provides an exceedingly efficient and neat button for military and other uniforms.

I wish also to call attention to the fact that since the lips 17, depending from the edges of the jaw-members 14, extend downwardly almost to the main body or base-plate 12, they serve as stops by engaging the latter when pulling force on the button tends to spring together and downwardly the jaw-members 14, thus limiting such downward movement of the jaw-members to that necessary to the firm engagement thereof with the shanks 22 and 22′, but preventing such downward movement being forced to the point where improper distortion of the spring jaw-members beyond proper recovery is effected. This function of the lips is important, and is in addition to their function of coacting with a releasing instrument below described.

In order to release the fastening means of the button from normal holding engagement, so that the button may be removed from the shanks 22 and 22′, and consequently from the garment or article to which it is attached, I employ a sharpened releasing instrument 28, such for example as an ordinary sewing needle or an awl, or the like. The sharp piercing end of such instrument is inserted through the opening 25 in said head or anchor flange 23, and then thrust through the cloth 26 so that the same passes through the registered openings 7 and 18 respectively of the boss 4 and main body or base-plate 12, and thence upwardly between the opposed lips 17. In thus passing between the lips 17 the spring jaw-members yield to the thrust, permitting the instrument to pass between the same to not only separate the jaw-members but to also hold them so separated, that the gripping edges 16 are removed from their normal engagement with the shanks 22 and 22′, and consequently liberating the shanks so that the button may be pulled away from the same, or the shanks pulled out of the button, all of which is illustrated more particularly in Figs. 1 and 5 of the drawings.

Referring now to Fig. 6 of the drawings I have illustrated therein a slightly modified construction of means for retaining the spring gripping jaw devices in fixed relation to the chamber or well formed by the boss 4. In this construction in place of the ribs or lips 20 and 21, I provide a cap-piece or shell 29, having a downwardly extending marginal flange 30. Said cap-piece or shell 29 is thrust into the chamber or well 5 so as to cover said gripping jaw devices, and so that the marginal flange 30 presses down in holding engagement upon the extensions 13 of the main body or base-plate 12. Said cap-piece itself is held in place by means of an inwardly pressed holding rib 31 pressed out of the wall of said boss 4. Said cap-piece is also provided with openings 32 through which the shanks 22 and 22′ and instrument 28 may extend.

Referring now to Figs. 8 and 9 I have illustrated therein a slightly modified construction of gripping jaws device. In this

construction I provide an inverted V-shaped base 33 secured within the well or chamber 5 of the boss 4 by means of holding ribs 38. Integrally connected with said base 33, are the spring jaw-members 34, and bent into upward and inward inclination, so as to normally parallel said V-shaped base and to be spaced normally slightly away therefrom. The converging edges of the jaw-members 34 have the gripping edges 35 for engaging the shanks 22 and 22′, and turned upwardly from one of said gripping edges 35 is a lip 36, the other or opposite gripping edge having no such lip. In this construction downward strains upon the jaw-members tending to abnormally distort the same, are prevented by the stopped contact of said jaw-members with the surfaces of said V-shaped base. The arrangement for introducing the releasing instrument 28 is modified, since in this construction the releasing instrument opening 37 is formed in the side wall of said boss 4 opposite the inward face of the lip 36. By inserting the instrument 28 through said opening 37, and thence against the lip 36 to apply pressure thereto, the jaw-member 34 to which the lip 36 is connected, is forced away from the shanks 22 and 22′, so that by slightly inclining the shanks away from the opposite jaw-member 34, the same may be freed from the latter and then removed from between the jaw-members, thus unfastening the button.

While in the above specification I have mentioned metallic and cloth covered button faces, it must be understood that my button back, with its novel releasable self-fastening devices, may be readily adapted for attachment to the backs of any kind of button desired, such as pearl, stone, bone, composition, or any other kind of button face.

I am aware that some changes may be made in the several arrangements and combinations of the various devices and parts of my novel button, as well as in the details of the construction of the same, without departing from the scope of said invention as set forth in the foregoing specification, and as defined in the appended claims. Hence, I do not limit my invention to the exact arrangements and combinations of the several devices and parts as described in the foregoing specification nor do I confine myself to the exact details of construction of said parts as illustrated in the accompanying drawings.

I claim:—

1. In a device of the kind described, a back-plate having a centrally chambered portion therein; a spring-gripping jaws device secured within said chambered portion, comprising a pair of upwardly inclined converging spring jaw-members; an anchor-head, a pair of sharp pointed roughened shanks secured to and extending upwardly from said anchor-head in laterally spaced relation to each other; means giving said shanks access to the interior of said chambered portion for their admission upwardly between and in engagement with said jaw-members; and means permitting a releasing instrument access to said jaw-members to separate the same from holding engagement with said shanks.

2. In a device of the kind described, a back-plate having a centrally chambered portion therein; a spring gripping jaws device secured within said chambered portion, comprising a pair of upwardly inclined converging spring jaw-members; an anchor-head, a pair of sharp pointed roughened shanks secured to and extending upwardly from said anchor-head in laterally spaced relation to each other; means giving said shanks access to the interior of said chambered portion for their admission upwardly between and in engagement with said jaw-members, means permitting a releasing instrument access to said jaw-members to separate the same from holding engagement with said shanks; and means for stopping said spring jaw-members against abnormal distortional movement due to pulling strains when engaged with said shanks.

3. In a device of the kind described, a back-plate having a centrally chambered portion therein, a spring gripping jaws device, comprising a base-plate, a pair of upwardly inclined converging spring jaw-members extending from the sides of said base-plate, indented gripping edges at the free ends of said jaw-members; means for securing said base-plate in fixed relation to said chambered portion of said back-plate; an anchor-head, a pair of sharp pointed roughened shanks secured to and extending upwardly from said anchor-head in laterally spaced relation to each other; means giving said shanks access to the interior of said chambered portion of said back-plate for their admission upwardly between said spring jaw-members and in engagement with said indented gripping edges of the latter; and means permitting a releasing instrument access to said jaw-members to separate the same and liberate said shanks from engagement with said indented gripping edges of said jaw-members.

4. In a device of the kind described, a back-plate having a centrally chambered portion therein; a spring gripping jaws device, comprising a base-plate, a pair of upwardly inclined converging spring jaw-members extending from the sides of said base-plate, indented gripping edges at the free ends of said jaw-members; means for securing said base-plate in fixed relation to said chambered portion of said back-plate;

an anchor-head, a pair of sharp pointed roughened shanks secured to and extending upwardly from said anchor-head in laterally spaced relation to each other; means giving said shanks access to the interior of said chambered portion of said back-plate for their admission upwardly between said spring jaw-members and in engagement with said indented gripping edges of the latter; and means permitting a releasing instrument access to said jaw-members to separate the same and liberate said shanks from engagement with said indented gripping edges of said jaw-members, and means for stopping said spring jaw-members against abnormal distortional movement due to pulling strains when engaged with said shanks.

5. In a device of the kind described, a back-plate having a centrally chambered portion therein; a spring gripping jaws device comprising a base-plate, a pair of upwardly inclined converging spring jaw-members extending from the sides of said base-plate, longitudinally opposite end extensions connected with said base-plate, downwardly extending lips connected with the free edges of said jaw-members intermediate their ends, said lips being opposed and spaced slightly apart and terminating short of said base-plate; ribs formed in the sides of said chambered portion of said back-plate in retaining engagement with said extensions of said base-plate; an anchor-head, a pair of sharp pointed roughened shanks secured to and extending upwardly from said anchor-head in laterally spaced relation to each other; means giving said shanks access to the interior of said chambered portion of said back-plate for their admission upwardly between said spring jaw-members and in engagement with the latter on either side of said lips; and means permitting a releasing instrument access to and between said lips of said jaw-members to separate the latter and disengage the same from said shanks.

6. In a device of the kind described, a back-plate having a centrally chambered portion therein; a spring gripping jaws device comprising a base-plate, a pair of upwardly inclined converging spring jaw-members extending from the sides of said base-plate, longitudinally opposite end extensions connected with said base-plate, downwardly extending lips connected with the free edges of said jaw-members intermediate their ends, said lips being opposed and spaced slightly apart and terminating short of said base-plate; ribs formed in the sides of said chambered portion of said back-plate in retaining engagement with said extensions of said base-plate; and similar ribs formed in the sides of said chamberel portion of said back-plate at right angles to said first mentioned ribs and adapted to engage the sides of said base-plate and its jaw-members to hold the same against lateral displacement; an anchor-head, a pair of sharp pointed roughened shanks secured to and extending upwardly from said anchor-head in laterally spaced relation to each other; means giving said shanks access to the interior of said chambered portion of said back-plate for their admission upwardly between said spring jaw-members and in engagement with the latter on either side of said lips; and means permitting a releasing instrument access to and between said lips of said jaw-members to separate the latter and disengage the same from said shanks.

7. In a device of the kind described, a back-plate having a centrally disposed outwardly extending hollow boss; a spring gripping jaws device secured within said boss, comprising a base-plate having a pair of upwardly and inwardly inclined converging spring jaw-members terminating in opposed gripping edges, downwardly extending lips intermediate of the ends of each gripping edge of said jaw-members, said lips being vertically parallel and spaced slightly and oppositely apart; an anchor head, a pair of laterally spaced shanks having roughened surfaces secured to and extending upwardly from said anchor head each shank terminating in a piercing point, said anchor head having a centrally disposed releasing instrument opening; said base-plate of said gripping jaws device and said bottom wall of said hollow boss having registered openings for the admission of said shanks upwardly between and in engagement with said gripping edges of said jaw-members; and said base-plate of said gripping jaws device and said bottom wall of said hollow boss having centrally disposed registered openings alined between said central opening of said anchor-head and said lips of said jaw-members for the admission of a releasing instrument upwardly between said lips of said jaw-members to separate the gripping edges of the latter from engagement with said shanks.

8. In a device of the kind described, a back-plate having a centrally disposed outwardly extending hollow boss; a spring gripping jaws device secured within said boss, comprising a base-plate having a pair of upwardly and inwardly inclined converging spring jaw members terminating in opposed gripping edges, downwardly extending lips intermediate of the ends of each gripping edge of said jaw-members, said lips being vertically parallel and spaced slightly and oppositely apart; an anchor head, a pair of laterally spaced shanks having roughened surfaces secured to and extending upwardly from said anchor head each shank terminating in a piercing point, said anchor head having a centrally disposed releasing

instrument opening; said base-plate of said gripping jaws device and said bottom wall of said hollow boss having registered openings for the admission of said shanks upwardly between and in engagement with said gripping edges of said jaw-members; and said base-plate of said gripping jaws device and said bottom wall of said hollow boss having centrally disposed registered openings alined between said central opening of said anchor-head and said lips of said jaw-members for the admission of a releasing instrument upwardly between said lips of said jaw-members to separate the gripping edges of the latter from engagement with said shanks; inwardly pressed ribs formed in the side walls of said hollow boss for engaging the longitudinally opposite ends of said base-plate to retain the latter against vertical displacement; and inwardly pressed ribs formed in the side walls of said hollow boss at right angles to said first mentioned ribs for engaging the sides of said base-plate and its jaw-members to hold the same against lateral displacement.

In testimony, that I claim the invention set forth above I have hereunto set my hand this 14th day of December, 1917.

EDWARD I. JAFFE.

Witnesses:

GEORGE D. RICHARDS,

FRED'K H. W. FRAENTZEL.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."