

Oct. 25, 1949.

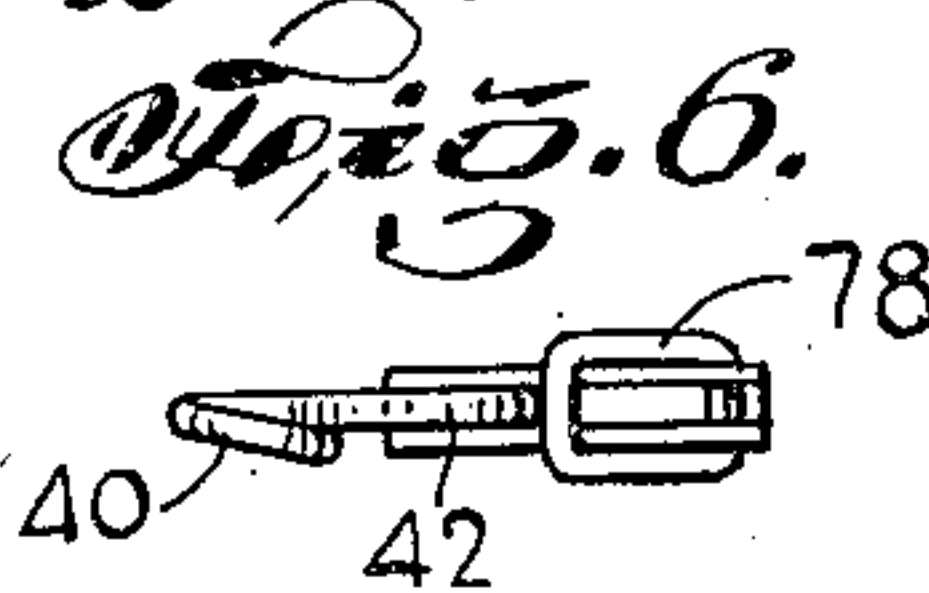
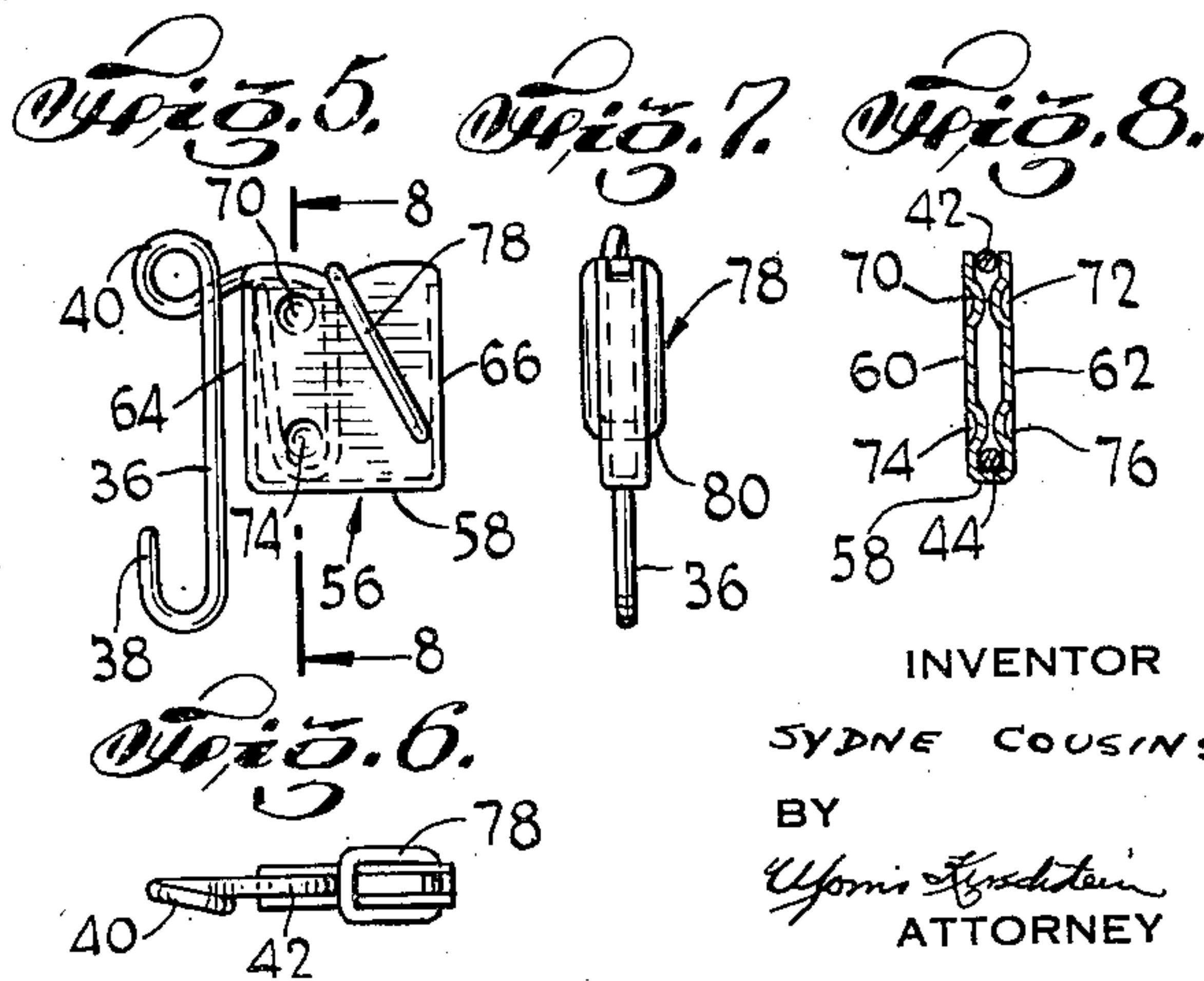
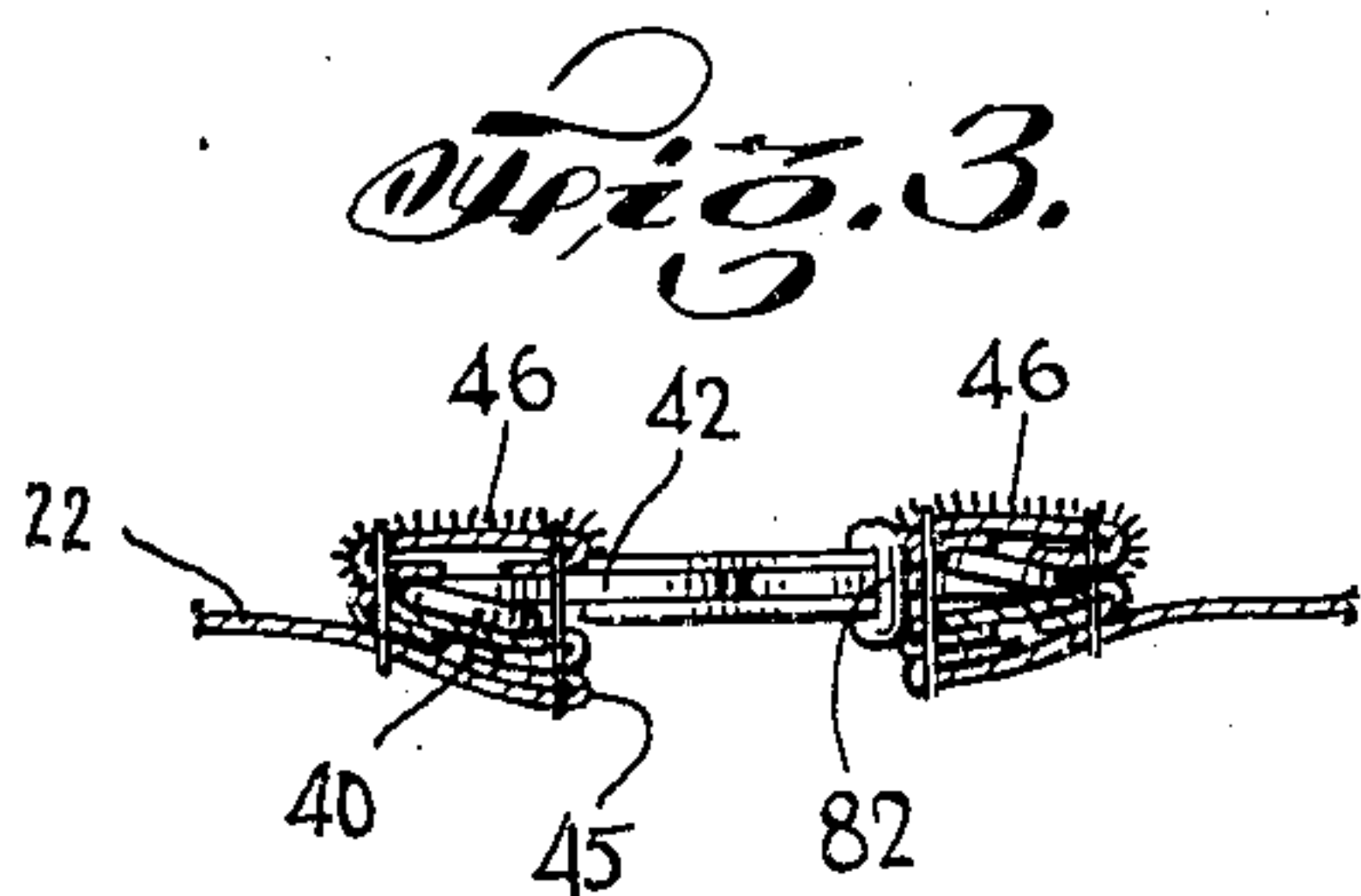
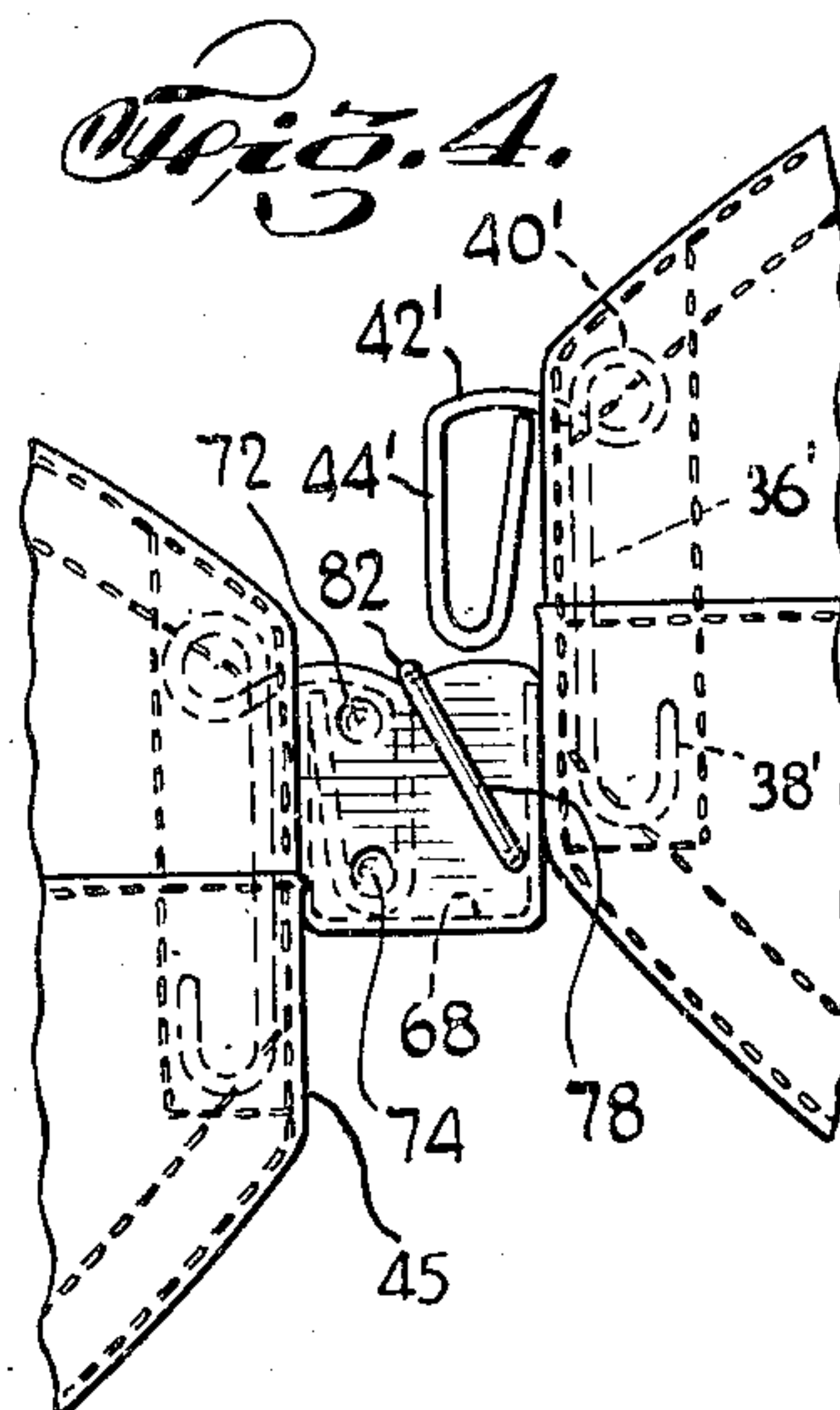
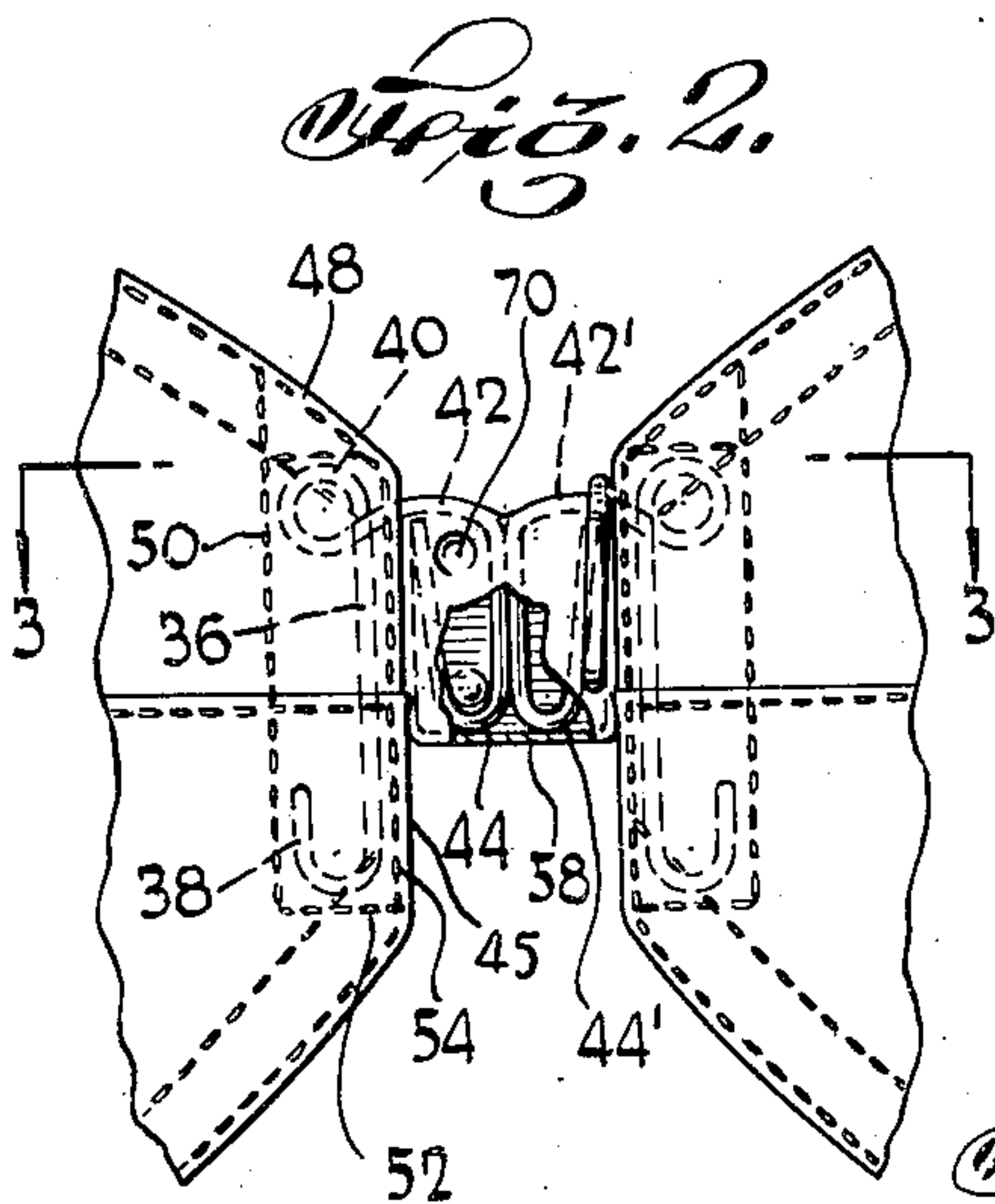
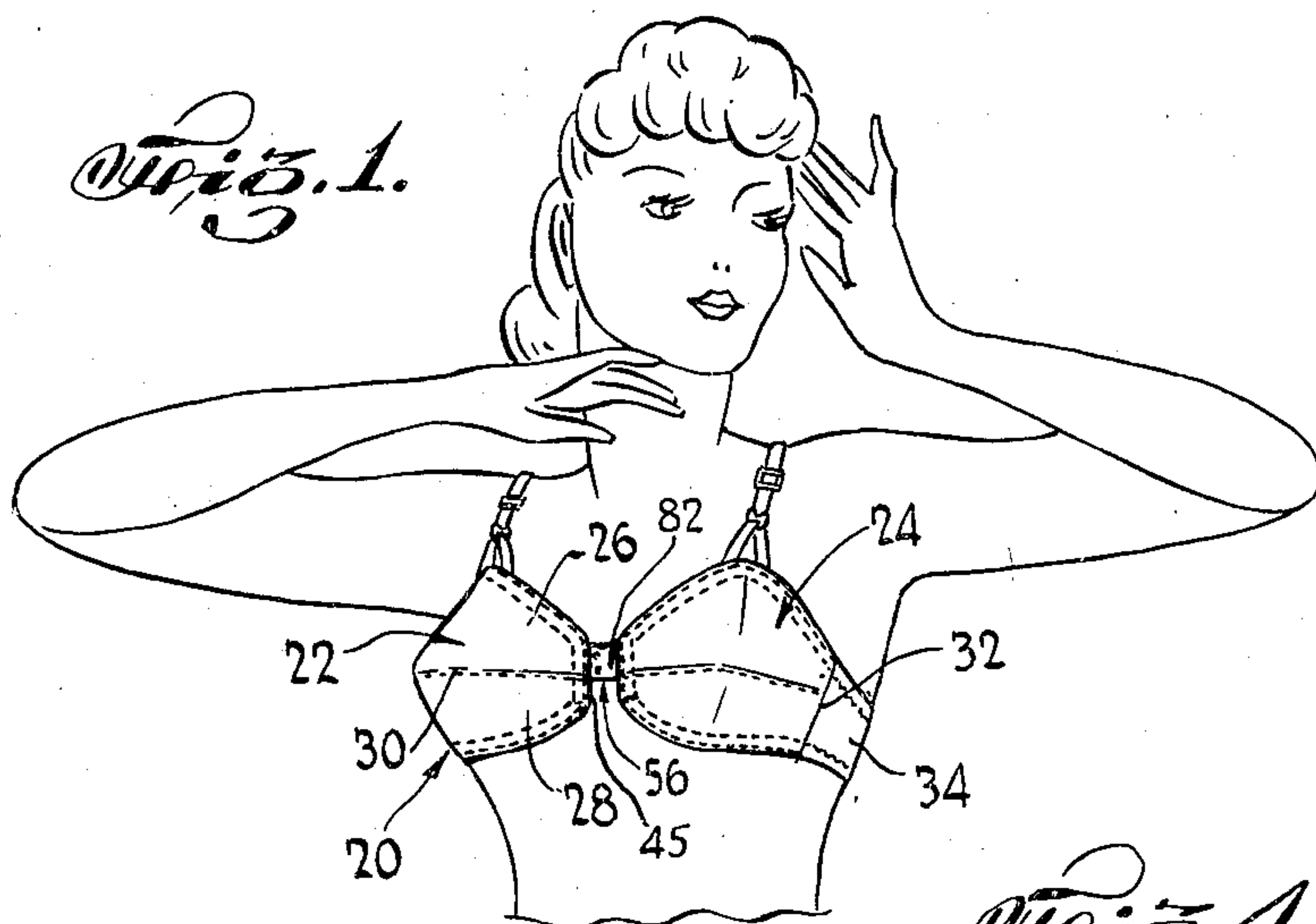
S. COUSINS

2,485,571

BRASSIERE

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2 Sheets-Sheet 1



INVENTOR  
SYDNE COUSINS  
BY  
*Wm. H. L. L. L.*  
ATTORNEY

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S. COUSINS

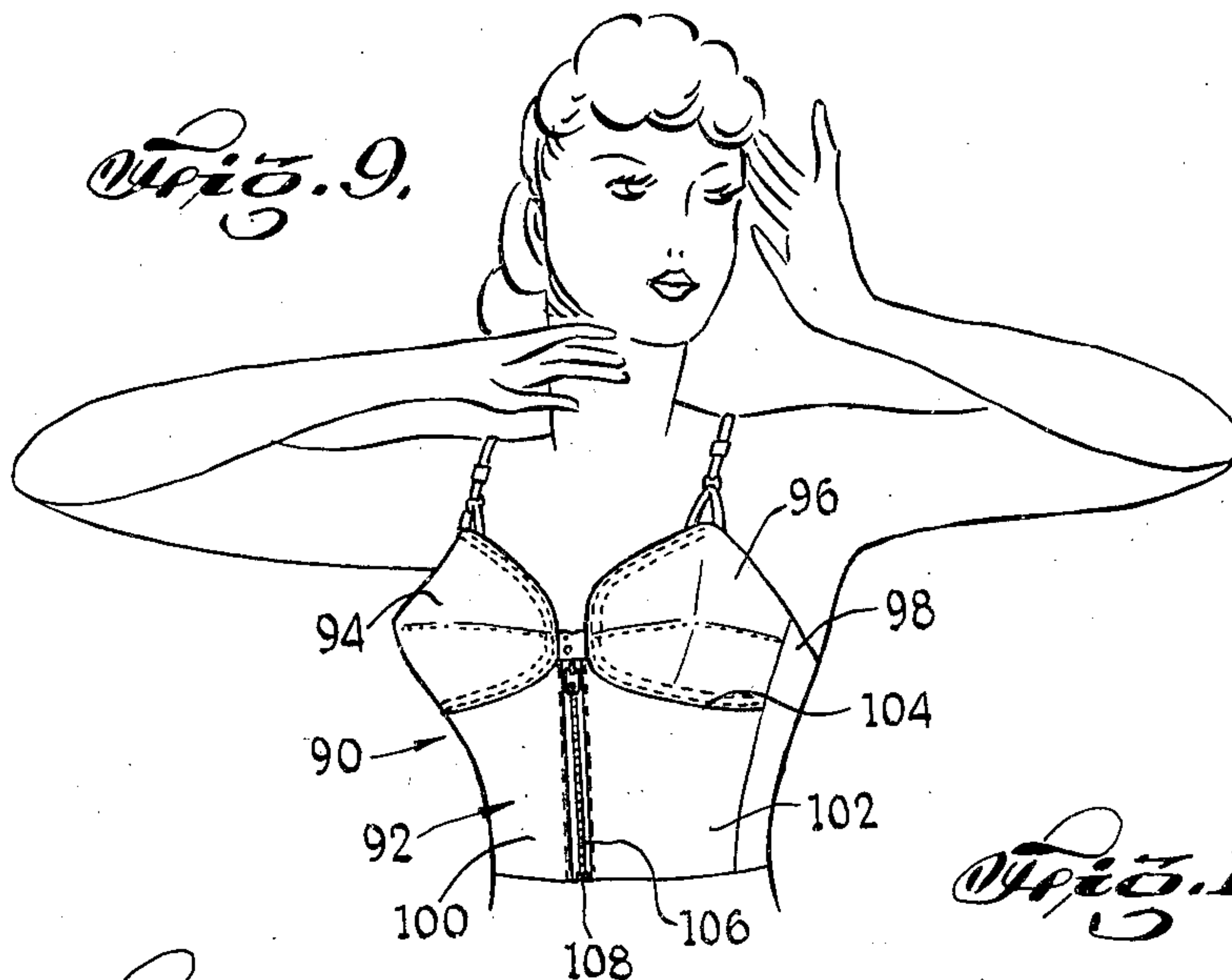
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BRASSIÈRE

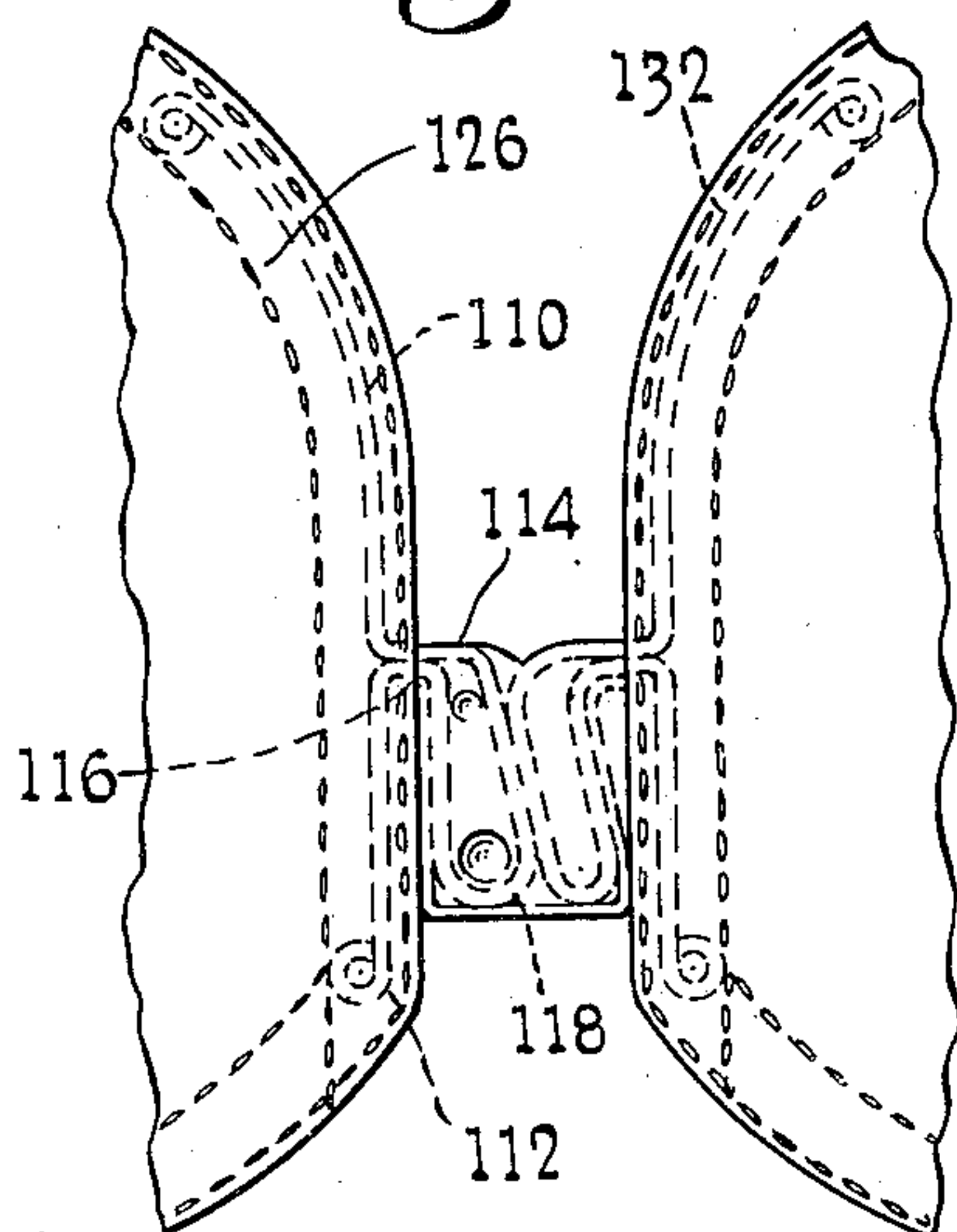
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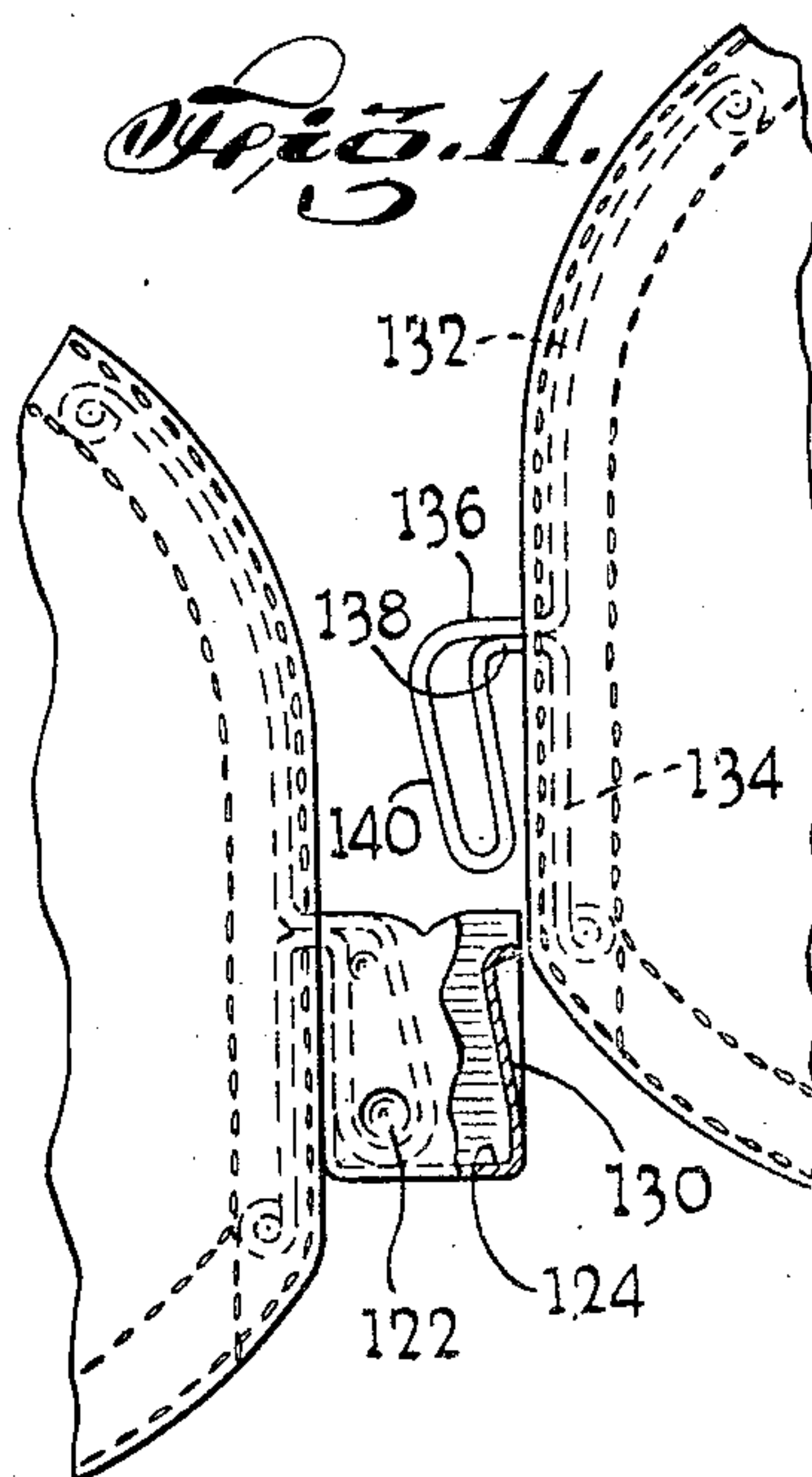
*Fig. 9.*



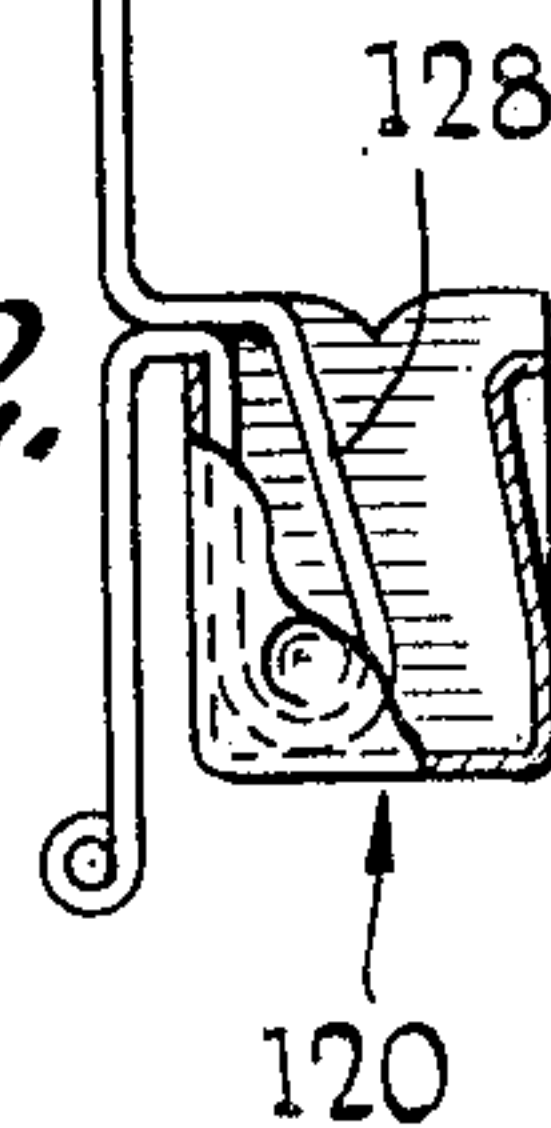
*Fig. 10.*



*Fig. 11.*



*Fig. 12.*



INVENTOR  
SYDNE COUSINS  
BY  
*W. J. L. L. L. L.*  
ATTORNEY



## UNITED STATES PATENT OFFICE

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BRASSIÈRE

Sydne Cousins, Long Beach, N. Y.

Application August 29, 1947, Serial No. 771,282

5 Claims. (Cl. 2—42)

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This invention relates to garments for molding and supporting the breasts and which will, for convenience, hereinafter be referred to as "brassières," it being understood that the garments either may comprise undergarments, parts of undergarments, outer garments or parts of outer garments. More specifically the invention relates to brassières in which the bust cups have reinforcing elements associated therewith.

It is an object of the invention to provide a brassière of the character described wherein the stiffening elements of the two bust cups carry rapidly detachable interengaging means so that the brassière may be opened at the front rather than the rear of a wearer.

It is another object of the invention to provide a brassière of the character described in which the interengaging means is of a simple and yet easily manipulated construction capable of being manufactured at a low cost and used by a wearer without instructions.

It is a further object of the invention to provide a brassière of the character described which affords an excellent degree of uplift and separation.

Other objects of the invention will in part be obvious and in part pointed out hereinafter.

The invention accordingly consists of the features of construction, combinations of elements and arrangements of parts which will be exemplified in the constructions hereinafter described and of which the scope of application will be indicated in the appended claims.

In the accompanying drawings, in which are shown various possible embodiments of the invention,

Fig. 1 is a perspective view of a brassière embodying the invention as it appears on a lay figure;

Fig. 2 is an enlarged fragmentary view, in partial section, of the front central portion of the brassière shown in Fig. 1, the two bust cups being shown with the interengaging means coupled;

Fig. 3 is a sectional view taken substantially along the line 3—3 of Fig. 2;

Fig. 4 is a view similar to Fig. 2, illustrating the interengaging means uncoupled;

Fig. 5 is a front view of one of the halves of the interengaging means as it appears when removed from its associated bust cup;

Figs. 6 and 7 are top and side views, respectively, of the half of the interengaging means shown in Fig. 5;

Fig. 8 is a sectional view taken substantially along the line 8—8 of Fig. 5;

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Fig. 9 is a view similar to Fig. 1 of a brassière embodying a modified form of the invention;

Fig. 10 is an enlarged fragmentary view, in partial section, of the front central portion of the brassière shown in Fig. 9, the two bust cups being shown with the interengaging means coupled;

Fig. 11 is a view similar to Fig. 10 but with the interengaging means uncoupled; and

Fig. 12 is a front view, in partial section, of one of the halves of the interengaging means shown in Fig. 10.

In general, the several objects of the invention are achieved by providing each of the bust cups with a reinforcing frame made from some suitable self-form-maintaining materials as, for example, metal wire, plastic covered metal wire, or synthetic plastic, which frame extends around at least a portion of the periphery of the bust cup and has a part disposed adjacent the inner side edge of the bust cup, this being the edge of the bust cup adjacent the sternum. Each frame carries one half of a rapidly detachable interengaging means which either is formed in one piece with the frame or is integrally connected thereto in some suitable fashion. The two halves of the interengaging means thus are adapted to be coupled to one another over the sternum of a wearer whereby to hold the two bust cups together at the center of the brassière.

The outer side edges of the bust cups are suitably connected by a flexible strip which runs across the back of a wearer and may comprise a circumferentially elastic portion to permit the brassière to expand and contract with movement of the wearer's torso.

The interengaging means is located below the top edges of the bust cups so that if desired, a marked zone of separation can be formed. This permits the brassière to be worn under a dress having a plunging neckline.

In accordance with the preferred form of the invention, shown herein, one half of the detachable interengaging means includes a socket and the other half a pin or the like receivable in the socket. Optionally the socket and projection are so mutually arranged or, alternatively, additional means is provided such that the two halves of the interengaging means can be locked together to prevent the brassière from opening unintentionally.

Referring now in detail to the drawings, and more particularly to Figs. 1 through 8, the reference numeral 20 denotes a brassière embodying the invention. Said brassière comprises two



bust cups 22, 24 of conventional construction, each consisting by way of example of a pair of upper and lower fabric panels 26, 28 stitched together along a seam 30, and so constructed as to impart the requisite domed-shape to the bust cups.

The outer side edges 32 of the bust cups are permanently connected, as by stitching, to the opposite ends of the elongated fabric strip 34 of circumferentially resilient material. If desired, only the center of said strip need be of circumferentially elastic material.

Pursuant to my invention, each bust cup has incorporated therein a reinforcing element which carries one-half of a rapidly detachable interengaging means, whereby the brassière is separable at the front of the wearer so that the joining or the detaching of the two ends thereof can be performed far simpler than at the back.

The reinforcing element associated with the bust cup 22 is fabricated from steel wire which is enamel coated to prevent rusting and improve its appearance. Said wire includes a vertical reach 36 whose lower end is formed into a retroverted hook 38 and whose upper end is shaped in the form of an eye 40 which runs into a horizontal reach 42 having a U-shaped portion 44 depending therefrom. All of said parts, i. e. the vertical reach 36, the retroverted hook 38, the eye 40, the horizontal reach 42 and the U-shaped portion 44 are formed from a single piece of wire. The part of the wire constituting the vertical reach, the retroverted hook and the eye act as the reinforcing element for the bust cup and accordingly said part is fastened to the material of the bust cup at the periphery thereof adjacent the inner side edge 45. This reinforcing part is disposed at the back of the bust cup, being retained in place by means of a short length of fabric tape 46 which overlies said part and is sewed to the bust cup. The retaining tape is stitched to the bust cup along the lines 48, 50, 52 and 54, said lines defining a substantially rectangular enclosure or pocket within which the reinforcing part is captively secured. It will be understood that the specific manner of retention of the reinforcing part and its disposition on either the front or back surface of the bust cup has no effect on the operation of the invention. Said reinforcing part imparts a definite inner boundary to the bust cup 22 beyond which the flesh of the bust contained within said cup cannot extend. The reinforcing part also serves, because of its position, to provide a clear cut zone of separation between the breasts.

It will be understood that, if desired, the reinforcing part of the wire may extend further around the periphery of a breast than indicated and can even form a completely circular reinforcing portion.

The horizontal reach 42 and U-shaped portion 44 function as members of one of the halves of the detachable interengaging means. The U-shaped portion is received within a shallow sheet metal box 56 constituting a bottom wall 58, a front wall 60, a back wall 62 and side walls 64, 66, the top of the box being open. The distance from the front to the back of the sheet metal is substantially equal to the diameter of the wire forming the U-shaped portion 44 and the distance between the two end walls 64, 66 of the box are substantially in excess of the distance between the two legs of the U-shaped portion. The distance from the top of the box to the bottom wall 58 thereof is substantially equal to the

height of the U-shaped portion. Thus, when the U-shaped portion is inserted within the box 56 with one leg thereof against the end wall 64 and the bottom thereof touching the bottom wall 58, said U-shaped portion will fill up one side of the box completely and leave an open space 68, hereinafter referred to as the "socket," at the other side of the box.

Suitable means is provided to permanently secure the U-shaped member to the box whereby the socket becomes a permanent and integral part of the reinforcing element for the bust cup 22. Any conventional means may be employed, e. g. welding, but by way of example the connection is shown herein as constituting two matching pairs of projections 70, 72 and 74, 76 formed on the interior surface of the sheet metal walls of the box, these pairs of projections being located respectively adjacent the bend of the U-shaped member 44 and below the horizontal reach 42. The projections can be formed by suitable indenting tools in a manner well known to the art.

The reinforcing element associated with the other bust cup 24 is identical with that employed in connection with the bust cup 22 in order to obtain economy in fabrication. For convenience, all the parts of the latter reinforcing element will be referred to herein by the same numerals as those of the first reinforcing element, being primed, however, to distinguish the same.

The pocket 68 is sufficiently large and of the proper shape to snugly receive the U-shaped portion 44' whereby the two halves of the rapidly detachable interengaging means can be secured quickly and easily to one another, so that, in effect, said detachable interengaging means constitutes a pin-and-socket connection, the pin (the portion 44') being integrally formed with the reinforcing element of one of the bust cups and extending from the inner side edge of said cup and the socket (the pocket 68) being integrally formed with the reinforcing element of the other bust cup and extending from the inner side edge thereof.

There is a tendency for an interengaging means such as that just described in detail, to separate when the wearer's torso is moved energetically, and, to prevent this from occurring, means preferably is included to optionally lock the two halves of said detachable interengaging means to one another. In the form of the invention being described such means comprises a wire bail 78 having its two ends 80 intumed and rotatably received in registered openings provided therefor in the sides of the socket 68. The top edge of the horizontal reach 42' is upwardly convex and is so shaped that when the bail 78 is swung clockwise from its unlocked position shown in Fig. 4, the top 82 of said bail will frictionally engage and slightly depress said horizontal reach and when the top of the bail approaches the eye 40' it will barely disengage the reach 42'. The latter or locked position of the bail is shown in Fig. 2. The bail can be swung back to unlocked position by hand, but as long as it is in the locked position it cannot inadvertently move back over the bump (high spot) on the horizontal reach 42'.

In Figs. 9 through 12 there is shown a brassière 90 embodying a modified form of the invention. Said brassière is of the long line type and includes an abdominal band 92 in addition to conventional bust cups 94, 96. The outer edges of the band and bust cups are registered and secured to side panels 98 (only one of the two panels are shown). The rear edges of said panels are connected to a circumferentially resilient panel (not shown) at



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the back of the brassière. Said abdominal band is in two sections 100, 102, one section being disposed beneath each bust cup and having its upper edge secured to the bottom edge of the bust cup by a line of stitching 104. The inner side edges of the two band sections 100, 102 are fastened to one another by a vertically arranged line of any well known type or rapidly detachable attaching means, such for example as a slide fastener 106 having a separable bottom stop 108.

The half of the rapidly detachable interengaging means which, pursuant to this invention, is carried by the bust cup 94, is made from wire. The reinforcing part thereof, which is located at the inner side edge of said bust cup, constitutes two aligned vertical reaches 110, 112. The bottom end of the reach 110 and the upper end of the reach 112 terminate in juxtaposed horizontal reaches 114, 116, respectively, and said horizontal reaches run into the downwardly diverging legs of a U-shaped portion 118 which is received within a shallow box 120 of sheet metal and is permanently secured thereto, as by means of indentations 122. The U-shaped portion fills up approximately one-half of the space within the shallow box leaving the remaining space open to form a socket 124.

Attention is called to the fact that the upper vertical reach 110 extends beyond the inner side edge of the bust cup 94 to the upper edge thereof so that, as indicated earlier herein, said reinforcing part can extend around parts of the base of the bust cup other than the inner side edge thereof.

The two vertical reaches are held in the bust cup by means of a backing tape (not shown but similar to the tape 46 of Fig. 3) and lines of stitching 126.

It will be observed that the leg 128 of the U-shaped portion 118, which defines one side wall of the socket 124, slopes upwardly toward the bust cup 94 which includes the reinforcing part from which said U-shaped portion extends. Thus this side wall of the socket slopes upwardly away from the other bust cup 96.

The opposite side wall 130 of the socket is approximately parallel to the leg 128 whereby both socket side walls slope upwardly toward the bust cup with which the socket is integral.

The half of the rapidly detachable interengaging means carried by the bust cup 96 likewise is made from wire and includes a reinforcing part located at the inner side edges of said bust cup. Said reinforcing part comprises two aligned vertical reaches 132, 134 which are symmetrical with the vertical reaches 110, 112. The bottom end of the reach 132 and the upper end of the reach 134 terminate in juxtaposed horizontal reaches 136, 138, respectively, said horizontal reaches running into a U-shaped portion 140. This U-shaped portion is so shaped and dimensioned that it will be snugly received within the socket 124. Since the socket is sloped upwardly away from the bust cup 96, the U-shaped portion 140 is given a similar slope.

To don the brassière 90 the same is placed on a wearer with the back of the brassière at the rear of the wearer and the two bust cups over the breast of a wearer. The two halves of the bottom stop 108 are coupled and the stringers of the slide fastener 106 intermeshed either before or after the interengaging halves are brought together. The U-shaped portion 140 which comprises the pin of the interengaging means is inserted into the socket 124.

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When the brassière is circumferentially stressed by movement of the wearer, the pin will not tend to rise out of the socket inasmuch as the angular inclination of said pin and socket tends to force the pin deeper into the socket when the two halves of the interengaging means are pulled in a direction away from one another.

It will thus be seen that there are provided brassières which achieve the several objects of the invention and are well adapted to be employed successfully on a commercial scale.

As various possible embodiments might be made of the above invention and as various changes might be made in the embodiments above described, it is to be understood that all matter herein set forth or shown in the accompanying drawings is to be interpreted as illustrative and not in a limiting sense.

Having thus described the invention there is claimed as new and desired to be secured by Letters Patent:

1. In a brassière comprising a pair of bust cups, means extending across the back of a wearer to connect the outer side edges of said bust cups to one another: a pair of separate wire reinforcing frames, and means to incorporate each of said frames in a different one of said bust cups with each frame extending around at least a portion of the periphery of the bust cup and having a part disposed adjacent the inner side edge of the bust cup, one of said frames having rigidly fixed thereto a vertical pin and the other of said frames having rigidly fixed thereto a vertical socket which is adapted to receive the pin whereby the two ends of the brassière may be detachably secured to one another over the sternum of the wearer.

2. In a brassière comprising a pair of bust cups, means extending across the back of a wearer to connect the outer side edges of said bust cups to one another: a pair of separate wire reinforcing frames, and means to incorporate each of said frames in a different one of said bust cups with each frame extending around at least a portion of the periphery of the bust cup and having a part disposed adjacent the inner side edge of the bust cup, one of said frames including a portion formed into a vertical pin, the other of said frames being rigidly fixed to a vertical socket which is adapted to receive said pin, said pin and socket being disposed between the bust cups, whereby the two ends of the brassière may be detachably secured to one another over the sternum of the wearer.

3. A brassière as set forth in claim 2 wherein the socket and pin slope upwardly toward the bust cup having the socket associated therewith.

4. A brassière as set forth in claim 2 wherein a swinging bail is provided on the socket which is rotatable between two positions, in one of which an end of the bail overlies the pin so as to prevent withdrawal thereof from the socket and in the other of which said end of the bail is clear of the pin.

5. In a brassière comprising a pair of bust cups, means extending across the back of a wearer to connect the outer side edges of said bust cups to one another: a pair of separate wire reinforcing frames, means to incorporate each of said frames in a different one of said bust cups with each frame extending around at least a portion of the periphery of the bust cup and having a part disposed adjacent the inner side edge of the bust cup, one of said frames having rigidly fixed thereto a vertical pin and the other of said frames



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having rigidly fixed thereto a vertical socket which is adapted to receive the pin whereby the two ends of the brassière may be detachably secured to one another over the sternum of the wearer, and means to rigidly detachably lock the pin and socket together against relative vertical movement.

SYDNE COUSINS.

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