May 17, 1966 M. M. HARRISON 3,251,108

BUCKLE FOR ADJUSTABLE SHOULDER STRAP

Filed Sept. 17, 1964 2 Sheets-Sheet 1

FIG. 1

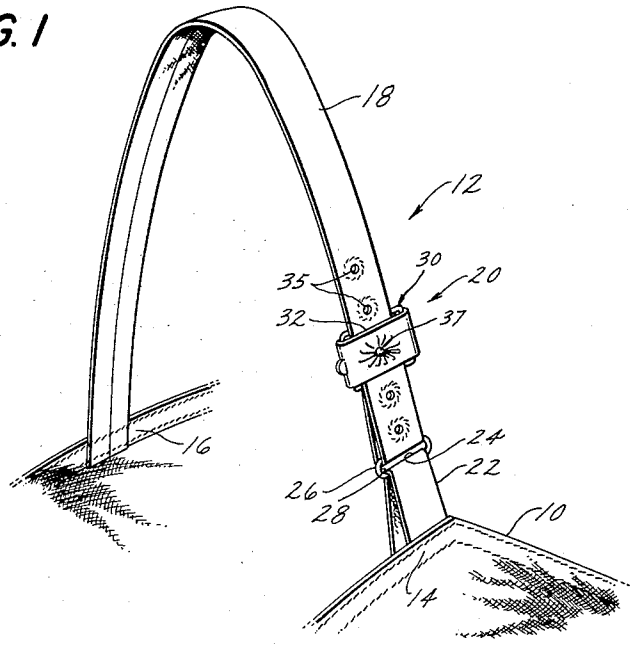
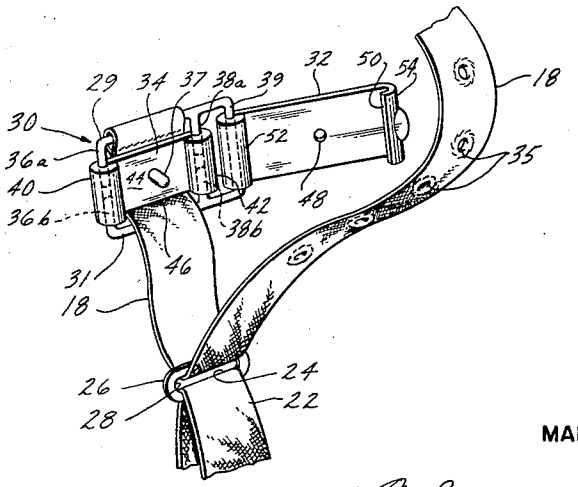



FIG. 2




INVENTOR.
MARLENE M. HARRISON

BY McCormick, Paulding & Huber

ATTORNEYS

May 17, 1966 M. M. HARRISON 3,251,108

BUCKLE FOR ADJUSTABLE SHOULDER STRAP

Filed Sept. 17, 1964 2 Sheets-Sheet 2

FIG. 3

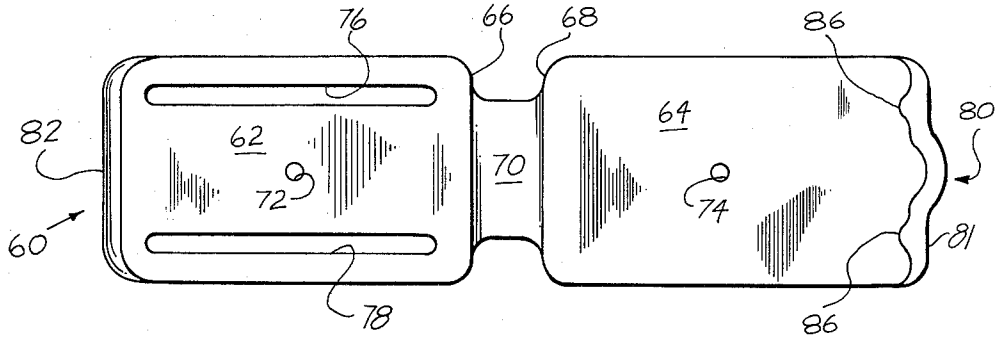
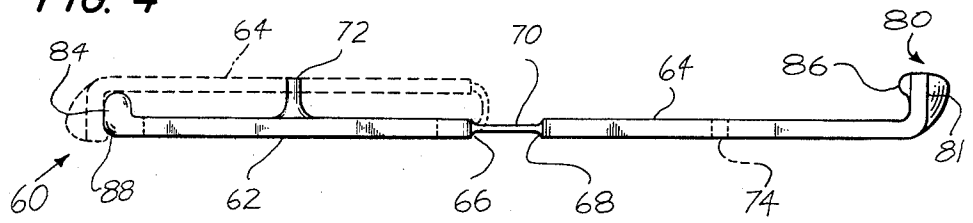



FIG. 4




INVENTOR.
MARLENE M. HARRISON
BY
McCormick, Paulding & Huber
ATTORNEYS

United States Patent Office 3,251,108 Patented May 17, 1966



3,251,108

# BUCKLE FOR ADJUSTABLE SHOULDER STRAP

Marlene M. Harrison, 131 Michael Ave., East Hartford, Conn.

Filed Sept. 17, 1964, Ser. No. 398,477
3 Claims. (Cl. 24—166)

This application is a continuation-in-part of my co-pending application, Serial No. 306,154, filed September 3, 1963, on Adjustable Shoulder Strap for Undergarment or the Like, now abandoned.

The present invention relates to shoulder straps, and more particularly to a novel buckle construction for use with an adjustable shoulder strap of the type normally used on women's undergarments.

The general object of the present invention is to provide a buckle for an adjustable strap which does not slip or become loosened during use.

A more specific object is to provide a one-piece buckle which has a novel hinged cover portion, so constructed that the buckle is well adapted to be formed by a plastic injection molding process.

The drawings show preferred embodiments of the invention and such embodiments will be described, but it will be understood that various changes may be made from the constructions disclosed, and that the drawing and description are not to be construed as defining or limiting the scope of the invention, the claims forming a part of this specification being relied upon for that purpose.

Of the drawings:

FIG. 1 is a perspective view of an undergarment equipped with an adjustable strap of the present invention;

FIG. 2 is a perspective view of the adjustable strap of FIG. 1 showing the buckle cover in its open position;

FIG. 3 is a plan view of an alternative buckle construction of the same general type as shown in FIG. 1;

FIG. 4 is a side view of the FIG. 3 buckle, a cover portion of said buckle being shown in its closed position in broken lines.

Referring now to FIG. 1 in greater detail, a lady's slip **10** is there shown with an adjustable shoulder strap **12** of the present invention attached thereto at front and back portions, **14** and **16** respectively, in a conventional manner as by stitching or the like. As shown, said strap comprises a first length **18**, one end of which is attached to said back portion **16** and the other end of which is free and supports a buckle assembly **20**. The adjustable strap **12** also comprises a short loop **22** folded along itself and stitched to said front portion **14** of the slip at both its ends. The intermediate part **24** of said short loop **22** comprises a free unattached end which carries an elongated eye **26**. This eye has an opening **28** therein to receive said short loop and to receive the first mentioned strap length **18**. Although the looped second strap is shown it will of course be understood that other constructions could be utilized. For example, a single strap arrangement such as that used in the first strap **18** might be applied here, or conversely, a double strap arrangement might be used in place of the single strap **18**.

With particular reference to FIG. 2, the buckle assembly **20** will be seen to comprise a frame member **30** to which said first strap **18** is attached, cover means **32** pivotally connected to said frame member, and a cross member **34** which carries the prong means **37**. A portion of said first strap **18** is perforated as shown, and anyone of these perforations **35**, **35** can be inserted on the prong **37** thereby providing a shoulder strap **12** which is adjustable along its length.

The frame member **30** is generally rectangular, having two opposite sides adapted to releasably support the cross



member **34**. These sides are defined in part by two posts **36***a* and **38***a*, which extend downwardly from the upper portion **29** of said frame member and in part by two upwardly extending posts, **36***b* and **38***b*, each of which are aligned with said downwardly extending posts **36***a* and **38***a* and integrally connected to the lower portion **31** of said frame member. A U-shaped extension **39** extends laterally from the upper and lower portions of said frame member and provides the pivotal connection between said frame member and the cover means **32**. This U-shaped extension also serves to integrally connect these upper and lower frame portions, **29** and **31** respectively, and it will be apparent that as so constructed these portions can be spread apart for assembling the buckle and its associated strap **18**, the free end of said strap having been previously stitched to form a loop adapted to fit around the upper portion **29** of the frame member **30**. It should be noted that the various parts of the buckle assembly **20** are preferably fabricated from a suitable resilient plastic material. The just described frame member **30** and the cross member **34** could be integrally formed by a plastic injection mold process if desired. Such a construction would, however, require that the strap **18** be stitched or otherwise attached to the resulting buckle at assembly in some manner other than that just described.

As mentioned, with reference to the construction shown, the cross member **34** is provided with suitable openings for receiving the posts **36***a*, **36***b*, **38***a* and **38***b*, which form the sides of the frame member **30**. As shown, these openings are defined by opposite end portions **40** and **42** of said cross member **34**. An intermediate portion **44** is generally flat, with an integrally constructed projection which defines the above-mentioned prong means **37** located generally in the center of said flat portion **44**. A lower longitudinal edge **46** of the cross member cooperates with the lower portion **31** of the frame member to define a slot through which the strap **18** is passed during assembly of the buckle **20**. As so arranged, the prong is located at the front of the buckle and is readily accessible to the wearer of an article of clothing equipped with the shoulder strap **12**. The strap **18** is assembled with the perforated portion threaded through the eye **26**, and the wearer in using the adjustable shoulder strap **12** need only place the strap **18** against the open buckle of FIG. 2 so that one of the perforations **35** coincides with the prong **37**.

The function of the cover means **32** is to secure the strap **18** so that no slipping of the shoulder strap **12** can occur. A hole **48** is provided in the cover **32** for receiving the prong **37** as the cover is closed, and a catch **50** is provided on the cover to releasably engage the left-hand end portion **40** of the cross member **34**. As mentioned, the right-hand end **52** of the cover is pivotally connected to the U-shaped extension **39** and the catch **50** is therefore located at the free left-hand end **54** of the cover **32**. It will be apparent that the particular side of the buckle on which the cover is pivoted is not critical and that the catch **50** need not be located at the extreme opposite end of the cover as shown, but may be located at any convenient distance from the pivoted end and may engage any convenient part of the buckle **20**. For example, the prong means **37** could be adapted to engage a suitably located catch on said cover means, and as long as the resulting cover is releasably held in a closed position over said prong means at least some of the advantages to the present invention will be realized.

Turning now to the alternative buckle construction shown in FIGS. 3 and 4, a unitary buckle **60** of one-piece injection molded plastic material is provided in place of the buckle assembly **20** of the above-described embodiment. More particularly, the buckle **60** comprises

a generally rectangular frame portion **62** and a generally rectangular cover portion **64**. The portions **62** and **64** are integrally connected to one another along their adjacent side edges **66** and **68** respectively by a flexible hinge portion **70** which is of reduced cross section to permit the cover portion **64** to be moved relative to the frame portion **62**. The plastic material from which the buckle **60** is fabricated is preferably a resilient thermoplastic such as polyethylene or the like.

The frame portion **62** of the buckle **60** includes an integrally formed prong **72** generally centered therein and projecting forwardly to receive an opening **74** in the cover portion **64** when the latter is closed, as shown by the broken lines of FIG. 4. Two slots **76** and **78** are defined in said frame portion adjacent its upper and lower side edges respectively. These slots **76** and **78** receive the end of the perforated portion of the strap **18** in the same manner as discussed hereinabove with reference to the previous embodiment.

The cover portion **64** is provided with a suitable catch **80** for releasably engaging a left-hand edge **82** of the frame member **62** opposite the edge **66** thereof. The edge **82** preferably includes a thickened portion **84** as shown in FIG. 4 so that the inner surface of the cover portion **64** is spaced from the adjacent surface of the frame portion **62** to provide room for the strap **18** (not shown). The catch **80** is integrally formed in an upstanding leg **81** of the cover opposite the edge **68** and comprises two spaced projections **86**, **86** for releasably engaging a cooperating abutment **88** at the left-hand edge **82** of the frame portion **62** as shown at the left-hand side of FIG. 4.

The invention claimed is:

**1.** A unitary buckle of resilient thermoplastic adapted for use with a shoulder strap which can be attached to the back portion of an article of clothing at one of its ends and has a perforated free end portion adapted to be received in an eye adjacent the front portion of said article, said buckle comprising a generally rectangular frame portion having two slots extending along upper and lower side edges thereof so that the free end of said perforated strap portion can be attached to said frame portion generally behind the same, a prong integrally formed in said frame portion and projecting forwardly to selectively receive any one of the perforations in said perforated strap portion, a generally rectangular cover portion of said buckle having an opening to receive said post, a hinge portion of said buckle integrally connected to a side edge of said frame portion and to an adjacent side edge of said cover portion, said hinge portion being of smaller cross sectional area than the adjacent side edges of said frame and cover portions so that said cover portion can be resiliently closed over said frame portion.

**2.** A unitary buckle as set forth in claim **1** wherein said cover portion includes an integrally formed catch at the free edge thereof opposite said hinged edge for engaging a cooperating abutment at the edge of said frame portion to hold the cover portion in its closed position.

**3.** A unitary buckle as set forth in claim **2** wherein said catch comprises an upstanding leg having two spaced inwardly extending projections for engaging said edge of said frame portion, and wherein said last mentioned edge includes a thickened portion for engaging an inner surface of said cover portion to define a space for said perforated strap when said cover portion is closed.


**References Cited by the Examiner**

UNITED STATES PATENTS

| | | | |
|---|---|---|---|
| 212,390 | 2/1879 | Lobenstein | 24—166 X |
| 698,470 | 4/1902 | Drake | 24—198 |
| 1,856,776 | 5/1932 | McDermott et al. | 24—180 |
| 2,863,196 | 12/1958 | Shears | 24—73 |

FOREIGN PATENTS

| | | |
|---|---|---|
| 514,451 | 12/1930 | Germany. |
| 473,783 | 10/1937 | Great Britain. |
| 208,598 | 5/1940 | Switzerland. |



WILLIAM FELDMAN, *Primary Examiner.*

DONLEY J. STOCKING, *Examiner.*

E. SIMONSEN, *Assistant Examiner.*