D. BOURQUE.

TURNBUTTON FASTENER.

APPLICATION FILED JAN. 6, 1920.

1,385,039. Patented July 19, 1921.

Fig. 1.

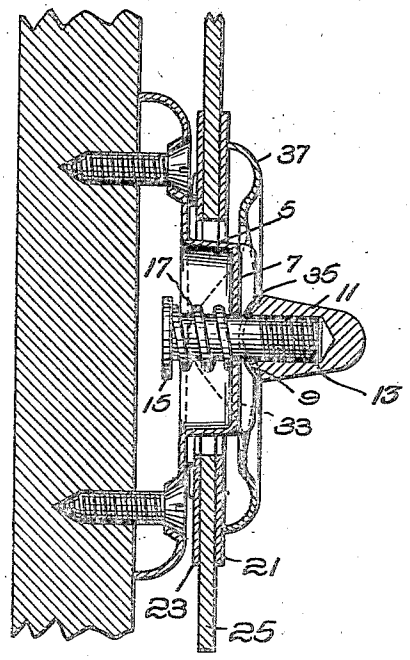


Fig. 2.

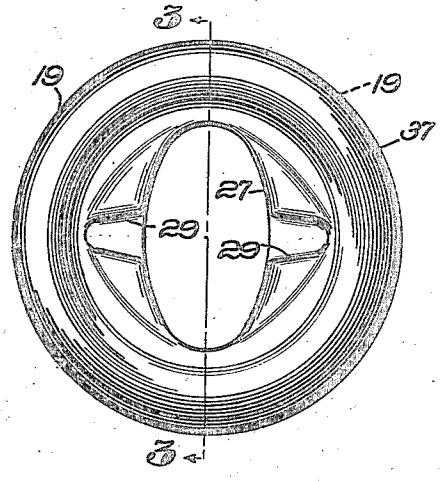
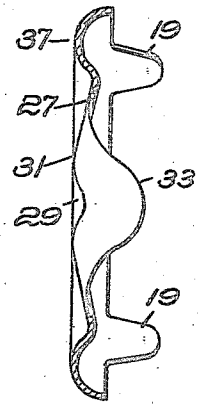


Fig. 3.



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UNITED STATES PATENT OFFICE.

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TURNBUTTON-FASTENER.

1,385,039. Specification of Letters Patent. Patented July 19, 1921.

Application filed January 6, 1920. Serial No. 349,749.

To all whom it may concern:

Be it known that I, DAVID BOURQUE, a citizen of the United States, and a resident of Amesbury, county of Essex, and State of Massachusetts, have invented an Improvement in Turnbutton-Fasteners, of which the following description, in connection with the accompanying drawings, is a specification, like characters on the drawings representing like parts.

This invention relates to turnbutton fasteners and more particularly to a construction of eyelet for use with such fasteners. The advantages obtained by the improved construction will appear in the course of the description.

In the accompanying drawings I have shown an illustrative embodiment of my invention and in these drawings—

Figure 1 is a central vertical section of a turnbutton and the eyelet in place thereon;

Fig. 2 is a plan view of the eyelet; and

Fig. 3 is a section on the line 3—3 of Fig. 2.

Referring to Fig. 1 of the drawings I have there shown a turnbutton fastener embodying the improved form of eyelet and have shown this form of eyelet with a turnbutton of known type, substantially as disclosed in the patent to Murphy, 853,206, May 7, 1907. As herein shown the turnbutton comprises a body 5 of oblong and preferably elliptical form having in its outer face intersecting grooves 7 and 9 corresponding to the major and minor axes of the ellipse and providing seats for the head 11 in its various positions. The head 11 is of a height corresponding to the longer dimension of the body and when turned to the position shown in the figure projects beyond the sides thereof and is adapted to engage an eyelet and hold it in embracing relation to the body 5 in well known manner. The head 11 is herein rotatably and yieldably mounted on the body of the turnbutton by means of the pin 13 projecting inwardly through the body and between the head 15 of which and the inner surface of the outer face of the body is interposed the spring 17 which normally presses the button head 11 toward the left in the figure and seats the same firmly against the outer face of the body portion 5.

The improved form of eyelet herein disclosed may be constructed as shown in Figs. 2 and 3 of a suitable blank of sheet metal and may as shown be round in contour and have marginal prongs 19 adapted to pass through outer and inner washers 21 and 23 (see Fig. 1) on opposite sides of a curtain 25 or other element which is to be secured by the fastener and adapted to be clenched on the inner washer 23. The eyelet is provided with a suitable elliptical opening 27 adapted to embrace the body portion 5 of the turnbutton and at the extremities of the minor axis recesses 29 may be provided to receive the sides of the head when it is in its traversing position shown in Fig. 1.

In accordance with my invention I form the face of the eyelet adjacent the opening 27 in such manner that the extremities of the major axis are countersunk relative to the extremities of the minor axis and as best shown in Fig. 3 the metal may be pressed at the sides of the opening 27 to provide protuberances 31 along the longer sides of the opening 27 sloping gradually downwardly in either direction from the extremities of the minor axis toward the extremities of the major axis. It will be apparent that when the eyelet is placed over the turnbutton and the head 11 turned toward the position shown in Fig. 1 its sides will ride along the surfaces 31 which will act in the manner of cams and gradually press the eyelet over toward the left in Fig. 1.

When the parts are secured together the eyelet need be placed only very roughly over the turnbutton and will be automatically pressed home in proper position as the head of the button is turned, no effort being required to press the eyelet home before manipulating the head 11.

It follows from what has just been said that it is possible when using eyelets of this sort practically to construct fasteners with much less clearance between the parts, thereby minimizing the possibility of play and noisy rattle. As a further improvement I prefer to continue the metal from which the eyelet is formed inwardly on two sides of the opening, preferably at the extremities of the minor axis, to provide rearwardly extending ears 33 (see Fig. 3) which ears may be so proportioned that they may, as shown in Fig. 1, make contact with the base of the fas-

tener when the parts are assembled. In the illustrative example they actually make contact with a part of the turnbutton which forms an attaching flange therefor but in turnbuttons having other fastening means it will be understood that they might contact with the part on which the button was mounted. I use the word "base" of the fastener in a somewhat extended sense as just explained.

As the head rides up the cams 31 it gradually presses the eyelet rearwardly until the ears make contact with the base of the fastener and conveniently these ears may be so proportioned that when the head is finally seated there is a slight clearance between the same and the base of the groove 9 as indicated at 35 in Fig. 1. The spring 17 is somewhat compressed and acts resiliently on the eyelet to hold the ears 33 pressed against the base of the turn button. By this means any possibility of the parts rattling in use is entirely obviated. If the rib formed by the rear of the head 11 is seated in the recesses 29, the eyelet and the head of the fastener are held interlocked with a rib and groove connection by the tension of the spring 17 and the head prevented from accidentally turning. Preferably the displacement of the head is such as not to remove the same from the groove 9 in the base so that both the base and the head of the eyelet are secured together in an interlocking relation under spring tension.

The ears 33 are of comparatively great width and are preferably curved to the contour of the sides of the body 5 and lie close to the same. Thus whether they contact with the base of the fastener or not they provide bearing surfaces tending to hold the parts in alinement and resisting such tipping of the eyelet in use as might be unsightly.

In the embodiment of the invention here shown the eyelet is formed with a raised margin 37 which may be substantially of the height of the crest of the protuberances 31 as best shown in Fig. 3, thus protecting them from injury and further providing for a neat and attractive appearance.

Having thus described in detail the particular embodiment of my invention shown by way of illustration in the accompanying drawings the principles exemplified thereby which I claim as new and desire to secure by Letters Patent I shall express in the following claims.

Claims:

1. An eyelet for a turnbutton fastener having an oblong opening and a face gradually inclining upwardly to the minor axis of the opening providing cam surfaces over which the turnbutton head may ride in movement to traversing position.

2. An eyelet for a turnbutton fastener having an oblong opening, a face inclining upwardly to the minor axis of the opening and a raised margin substantially of the height of high portion of said face.

3. An eyelet for a turnbutton fastener having an oblong opening, protuberances paralleling the major axis thereof and sloping downwardly toward their ends and portions extending rearwardly through the opening for bearing on the base of the turnbutton.

4. An eyelet for a turnbutton comprising a sheet metal frame inclosing an oblong opening and embossed to provide protuberances paralleling the major axis of the opening and sloping toward their ends, the metal at the sides of the opening extending rearwardly for bearing on the base of the turnbutton.

5. A turnbutton having a body, a head rotatably mounted thereon, an eyelet adapted to encircle the body and be held thereon in traversing relation and having a face provided with protuberances coöperating with the inner face of the head and inclined upwardly to the minor axis of the opening.

6. A turnbutton having a body, a head rotatably mounted thereon, an eyelet adapted to encircle the body and be held thereon in traversing relation and having a face provided with protuberances coöperating with the inner face of the head and inclined upwardly to the minor axis of the opening and a raised margin substantially of the height of the high portion of the face.

7. A turnbutton having a body, a head rotatably and resiliently mounted thereon, an eyelet adapted to encircle said body and be held thereon by the head in traversing position, said eyelet having provision for limiting its inward movement and having cam means coöperating therewith and acting on said head against the resiliency of its mounting.

8. A turnbutton having a body, a head rotatably mounted thereon, an eyelet adapted to encircle the body and be held thereon by the head in traversing position, cams on the eyelet on which the head rides to traversing position and resilient means adapted to be tensioned by such action to hold head and eyelet in engagement.

9. A turnbutton having a body substantially elliptical in plan and a rotating head and a coöperating eyelet the margin of which is continued inwardly at opposite sides of the opening therein to provide relatively wide ears conforming to the adjacent parts of the body.

10. A turnbutton having a body, a head rotatably and resiliently mounted thereon, an eyelet adapted to encircle said body and be held thereon by the head in traversing position, said eyelet at the extremities of one axis of the opening being countersunk relatively to the extremities of the other axis

and having an effective thickness greater than the effective height of said body whereby to displace the head against the resiliency of its mounting when the same is turned to locking position.

11. A turnbutton having a body, a head rotatably and resiliently mounted thereon, an eyelet adapted to encircle said body and be held thereon by the head in traversing position, said eyelet formed to displace the head outwardly against the resiliency of its mounting when it is brought to traversing position and having provision for rib and groove interlocking connection therewith in such position.

12. A turnbutton having a body, a head rotatably and resiliently mounted thereon, an eyelet adapted to encircle said body and be held thereon by the head in traversing position, said body having a groove to receive the head in traversing and said eyelet being formed to displace the head outwardly against the resiliency of its mounting without removing the same from said groove and having itself a groove to receive the head in such traversing position.

In testimony whereof I have signed my name to this specification.

DAVID BOURQUE.