(No Model.)

J. BOYLE.

GROMMET.

No. 367,590. Patented Aug. 2, 1887.

Fig. 1.

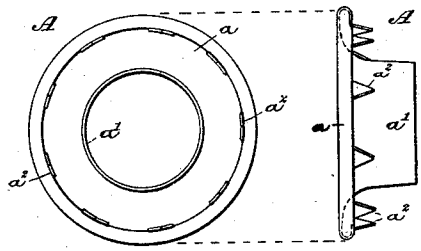


Fig. 2.

Fig. 5.

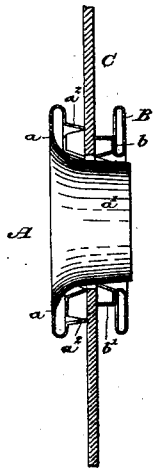


Fig. 3.

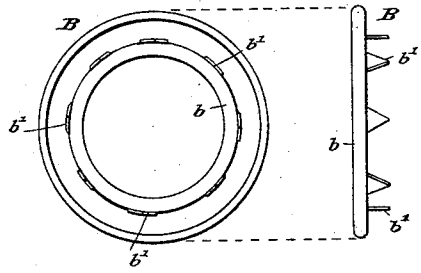


Fig. 4.

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GROMMET.

SPECIFICATION forming part of Letters Patent No. 367,590, dated August 2, 1887.

Application filed December 22, 1886. Serial No. 222,264. (No model.)

To all whom it may concern:

Be it known that I, JOHN BOYLE, a citizen of the United States, and a resident of Brooklyn, Kings county, New York, have invented certain new and useful Improvements in Grommets, of which the following is a specification.

My invention relates to grommets such as are used in sails, tents, and other canvas structures. My grommet is adapted for re-enforcing eyes or holes in textile fabrics of all kinds and for all purposes.

The object of my invention is in part to provide a means for securing the "eyelet" portion of the grommet directly to the canvas or fabric and in part to provide a better means for securing the "cap-plate" of the grommet to the fabric.

My invention consists in providing the outer edge of the eyelet-flange with spurs to penetrate the fabric and clinch down thereon, and in providing the cap-plate of the grommet with an inturned flange or hem on its interior margin and forming on the edge of this hem spurs to penetrate the fabric and clinch down thereon.

The invention will be hereinafter fully described, and its novel features carefully defined in the claims.

In the accompanying drawings, which serve to illustrate my invention, Figure 1 is a face view of the eyelet of the grommet, and Fig. 2 is a side elevation of same. Fig. 3 is a face view of the cap-plate or washer, and Fig. 4 is a side elevation of same. Fig. 5 is a sectional view illustrating the mode of applying the grommet to the fabric.

A represents the eyelet of the grommet as a whole, *a* representing the flange thereof and *a'* the tubular portion that passes through the fabric.

B represents the cap-plate or washer of the grommet as a whole. This cap-plate is in the form of a ring or annulus.

Heretofore it has been customary to turn under a hem on the outer margin of the flange *a* of the eyelet of a grommet, as herein shown; but the clinching down of the tubular part *a'* on the cap-plate has been relied on entirely, so far as I am aware, to secure the eyelet to the fabric and prevent it from being torn away by rough usage. I find that this clinching down of the part *a'* cannot be safely relied on, and that the eyelet will sometimes become detached or loosened, especially if the clinching be not properly performed. In order to provide a direct attachment of the eyelet to the fabric and at the proper points, I form on the margin of the flange *a*, and preferably integrally with the inturned edge of the hem on same, spurs a^2, pointed so as to enter the fabric readily and directed so as to pass through the fabric and clinch down upon the opposite side of same, their points being turned over, so as to clinch by their contact with the inner face of the cap-plate B when the grommet is applied. There may be any desired number of these spurs. In Fig. 1 I have shown nine. By turning under the margin of flange *a*, I secure a rounded and finished edge, and by placing the spurs at the outer edge of the flange I not only provide a direct attachment of the eyelet to the fabric, but an attachment at the proper point to produce the best results, as it keeps the flange margin down close to the fabric all around.

As respects the cap-plate B, it has been customary to provide this with an inturned hem at its outer margin and to form spurs on this hem. I omit these spurs. It has also been customary to form spurs at the inner margin or around the edge of the hole in the ring without forming a hem thereat. These spurs so arranged either miss the fabric entirely by passing through the hole cut in the fabric for the passage of the eyelet, or they enter the fabric too close to the edge of said hole to obtain a firm hold. I obviate this defect in my grommet by turning outwardly a hem, *b*, on the inner margin of the plate or washer B and forming spurs *b'* on the edge of the metal forming this hem. These set far enough outwardly from the margin of the hole in the plate B to obtain a firm hold in the fabric.

In Fig. 5, C represents the canvas or other fabric destined to receive the grommet. The manner of applying the two parts of the latter is clearly illustrated in this figure.

I may or may not turn in the metal to form a hem on the outer margins of the eyelet-flange and the cap-plate B. I prefer to do so, however, as it imparts a finish to these margins.

In order that the spurs on the two parts of

the grommet may not take in the fabric too near the same points, I provide one with an odd number of spurs and the other with an even number. In the drawings one has nine spurs and the other eight; but I do not limit myself to any particular number.

The difficulty with all grommets of this character as heretofore made, where the spreading out and clinching down of the tubular part of the eyelet is relied on to hold the eyelet fast in the fabric, is that the fabric will draw away from the eyelet, owing to the failure of the clinch to hold; and this is especially the case when the grommet is applied to thick materials.

Having thus described my invention, I claim—

1. In a grommet, the cap-plate B, provided with an outwardly-turned hem, *b*, on its inner margin, and spurs *b'*, formed on the edge of the metal of said hem, whereby said spurs are caused to stand away from the inner margin of the plate, substantially as and for the purposes set forth.

2. In a grommet, the combination of the eyelet A, provided with spurs a^2 at the outer margin of its flange, and the cap-plate B, provided with a hem, *b*, on its inner margin, and with spurs *b'* formed on the edge of the metal of said hem.

3. In a grommet, the combination, with the eyelet provided with spurs on its flange, of the cap-plate provided with a single row of spurs, one of said parts having an odd number of spurs and the other an even number, as set forth.

4. In a grommet, the combination of the eyelet comprising a flange, *a*, and a tubular portion, *a'*, said flange being provided with an inturned hem on its outer margin, and with a single row of spurs, a^2, formed on said hem, and the cap-plate provided with an outwardly-turned hem, *b*, and with a single row of spurs, *b'*, formed on said hem, substantially as set forth.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

JOHN BOYLE.

Witnesses:
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FREDK. R. THORNS.