J. VODICKA.

GROMMET.

APPLICATION FILED NOV. 8, 1920.

1,430,129.

Patented Sept. 26, 1922.

Fig. 2

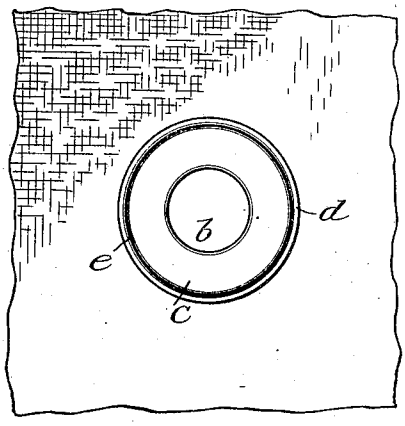


Fig. 1

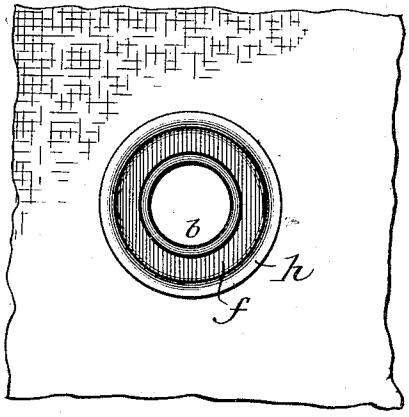


Fig. 3

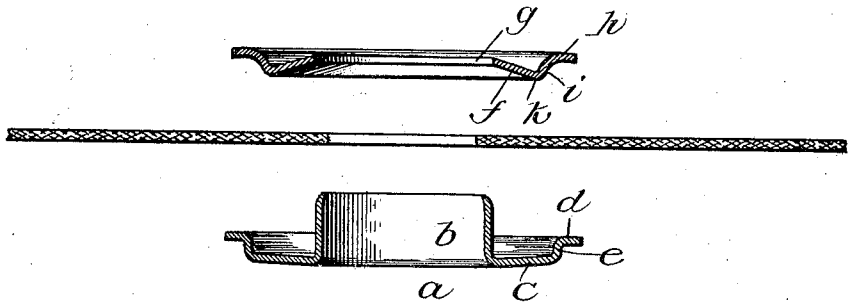


Fig. 4

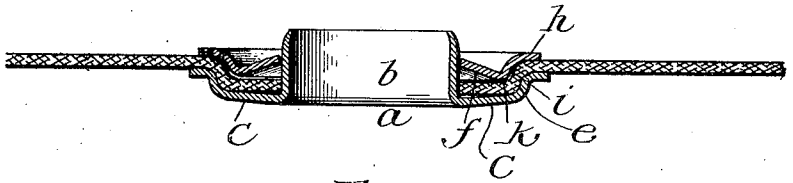
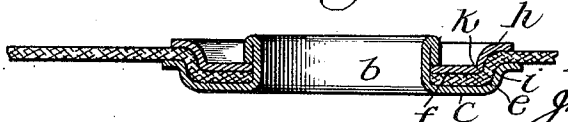


Fig. 5



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UNITED STATES PATENT OFFICE.

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GROMMET.

Application filed November 8, 1920. Serial No. 422,637.

To all whom it may concern:

Be it known that I, JOHN VODICKA, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Grommets, of which the following is a specification.

The well known form of grommet to which the present invention relates comprises a pair of annular disks, one of which, hereinafter called the eyelet, has a concentric tubular neck to be inserted through a perforation in the fabric to which the grommet is to be applied, and the other disk or washer is then slipped over the projecting end of the neck of the eyelet the edge of which is then upset or turned down on the inner edge of the washer to clamp the fabric between the two.

In thus securing the grommets as heretofore made there is a tendency to force the fabric outwardly from the neck, and as there is little or no gripping action except close to the neck the grommet is apt to be only feebly secured to the fabric. It is the purpose of this invention to provide a grommet that firmly grips the fabric not only immediately about the neck of the eyelet but substantially at the periphery of the grommet.

In the drawing accompanying and forming part of this application Fig. 1 is a top plan view of a section of fabric having my improved grommet applied thereto; Fig. 2 a similar view of the bottom of the same; Fig. 3 a transverse section through the detached members of the grommet and a piece of fabric to which it is to be applied; Fig. 4 a cross-sectional view of the fabric and members of the grommet assembled but before the upsetting tool has been applied; and Fig. 5 a similar section through the fabric and with the grommet secured thereto.

Referring more particularly to Figs. 3 and 4 it will be seen that the grommet is formed as usual of two annular members of disks struck up of sheet metal, one of which members *a* (the eyelet) is formed with a neck portion or inner annular flange *b*, an annular dished portion *c* and a raised edge *d*, which rises abruptly from the bottom of the dished portion so as to present a steep wall which even may be slightly inturned or overhung. The flat flange *d'* serves to give strength and rigidity to the edge of the member. The other member or washer of the grommet comprises, before assembly, a frusto-conical inner portion *f* immediately about the aperture *g* which fits upon the neck *b* of the eyelet member, and an outer flanged rim *h* which forms a relatively sharp angle at *g* with said conical portion.

In applying this grommet to the fabric in which a suitable perforation has been formed for the purpose, the neck *b* of the member *a* is thrust through the perforation and the washer member of the grommet is slipped over the neck from the other side of the fabric. Before the upsetting tool or press is applied the parts occupy the position shown in Fig. 4. When the press is operated and the edge of the neck overturned upon the edge of the conical washer the latter is first pressed down on the eyelet at its rim and then expanded, as the cone flattens to the position shown in Fig. 5 so that the outer rim thereof is somewhat expanded and the fabric is gripped between the rims of the eyelet and washer respectively. Thus at the beginning of the operation the fabric is gripped at the edge of the grommet and outward movement thereof prevented. As the upsetting operation is completed the fabric is gripped immediately about the neck of the eyelet. Thus the grommet is tightly secured to and reinforces the fabric and can be separated therefrom only with extreme difficulty.

I claim:

A grommet comprising a member having an approximately cylindrical, tubular neck, a dished portion and an outer raised rim forming an abrupt angle with the dished portion, and a second member comprising a concavo-convex portion, perforated to fit said neck, and having an annular shoulder adapted to be received within the rim of the first said member whereby the second member may be collapsed to expand the shoulder thereof radially to grip a fabric between said shoulder and the rim on the first said member.

JOHN VODICKA.