No. 10,639. PATENTED MAR. 14, 1854.

E. H. PENFIELD.

METALLIC GROMET FOR SAILS.

Fig: 1.

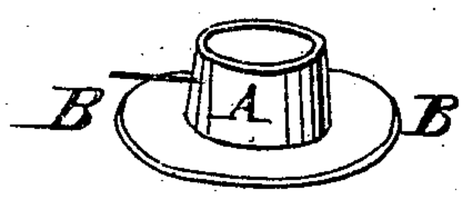

Fig: 2.

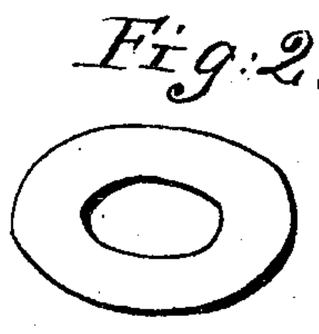

Fig: 3.

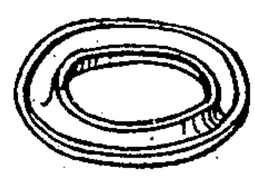

Fig: 5.

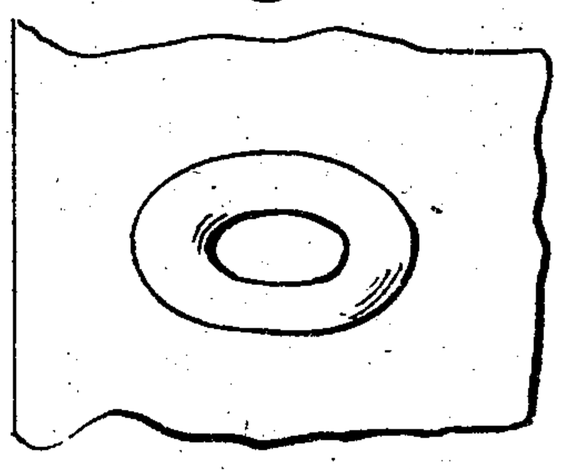

Fig: 4.

UNITED STATES PATENT OFFICE.

ELDRIDGE H. PENFIELD, OF MIDDLETOWN, CONNECTICUT.

METALLIC GROMET FOR SAILS.

Specification of Letters Patent No. 10,639, dated March 14, 1854.

To all whom it may concern:

Be it known that I, ELDRIDGE H. PENFIELD, of the city of Middletown, in the county of Middlesex and State of Connecticut, have invented a new and useful Improvement in Metallic Gromets for Sails, &c.; and I do hereby declare that the following is a full, clear, and exact description of the construction, character, and operation of the same, reference being had to the accompanying drawings, which make a part of this specification, in which—

Figure 1 is a perspective view of the main part of the gromet, showing the cylindrical tube, or ferrule, and one of the disks, or rims, ready to be passed through the cloth, or other material. Fig. 2 is a perspective view of the other disk, or rim, ready to be put onto the cylindrical tube. Fig. 3 is a perspective view of the washer, or circular piece which is to rest upon the cloth between the two disks, to bind the cloth by its edges. Fig. 4 is a view of a transverse section of a gromet having two washers (similar to the one shown in Fig. 3), one being set into the other, with the cloth between them, showing the zig-zag course through which the cloth must pass to draw out of the gromet. Fig. 5 is a view of a gromet set, or fitted, ready for use.

My improvement consists in using one, or more, raised circular washers (either movable or fastened) between the two disks, or rims, outside of the cylindrical tube, or ferrule, in such a position, that the edges of the washer (Fig. 3) may be forced against the cloth by the act of fitting the gromet to the sail, or other article, and that there will be two or more circular edges of the metal pressing on the cloth, in addition to what was used in the old gromet, while it retains all of the old advantages:—and it is less liable to tear the cloth, than the gromet with "teeth or points" on one of its parts (for which I received a patent dated Sept. 17, 1848), while it will hold the cloth with equal, or greater firmness. I make all the parts of the gromet of sheet metal, by raising, or shaping, them with dies, or swages in any of the usual ways. I make the main, or principal part in the form represented in Fig. 1, the part at A representing the cylindrical tube, or ferrule, and B, B the disk, or rim. I make the other disk, or rim, to match the first, as represented in Fig. 2. I make the washer, or intermediate piece, as represented in Fig. 3, and when two such washers are used (as indicated in Fig. 4), I make one a little larger than the other, so that their edges may entwine to form the zig-zag course for the cloth, G, G, as represented, in section, in Fig. 4.

Having made the several parts, as before described, I pass the cylindrical tube, A, through the cloth;—pass the washer, (Fig. 3,) over the tube onto the cloth, (with the edges toward the cloth,) put on the other disks, or rim, (Fig. 2,) and then spread, and set down, the cylindrical tube, (A,) in the usual, or any other, way, and the gromet is complete and fit for use, as shown in Fig. 5.

When I use two washers, I pass one onto the cylindrical tube before I pass the tube through the cloth, and the other afterward, (with the edges toward the cloth, G, G, as shown, in section, in Fig. 4,) and then put on the other disk, or rim, and finish as before, when it will appear as seen in Fig. 5. If thought best, in any case, the washer may be soldered, by it convex side to the concave side of the disk, or rim.

I am aware that metallic gromets have been made with two parts, one being composed of a disk, or rim, and a cylindrical tube, (like Fig. 1,) and the other part of a disk, or rim, only, (like Fig. 2.) And, also that they have been made of two parts, where one of the parts was like Fig. 1, and the other part made similar, except that the tube was made with "teeth or points," (as described in a patent issued to me Sept. 19, 1848.) I therefore do not claim either of these methods, as such, as my new invention, but

What I claim as my invention and desire to secure by Letters Patent, is—

The making of the metallic gromet of three, or more, pieces of metal, (raised to the proper shape,) when the several parts are constructed and arranged, substantially, as herein described.

E. H. PENFIELD.

Witnesses:

S. RANSOM,

R. FITZGERALD,