W. A. YOUNG.

GROMET.

APPLICATION FILED APR. 3, 1915.

1,171,295. Patented Feb. 8, 1916.

Fig. 1.

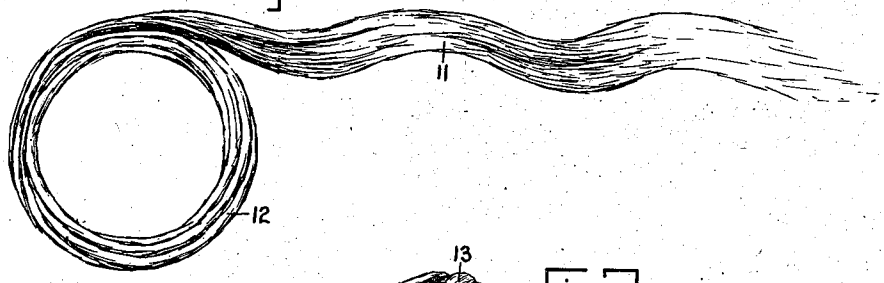


Fig. 2.

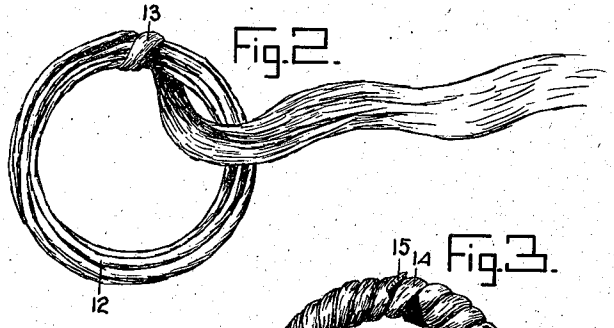


Fig. 3.

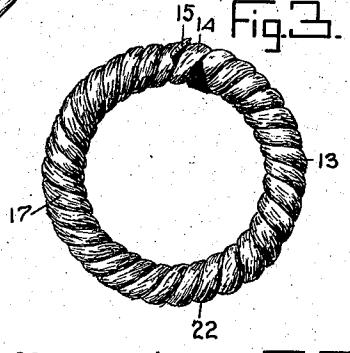


Fig. 4.

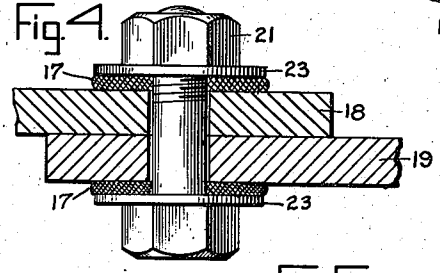


Fig. 5.

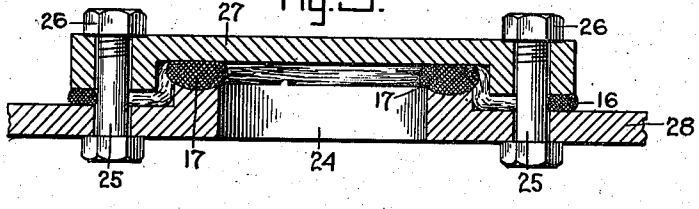
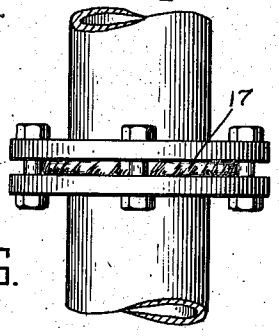


Fig. 7.



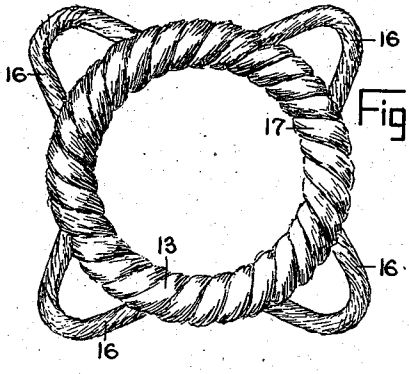


Fig. 6.

WITNESSES

C. F. Reichenbach.

INVENTOR

William A. Young

BY Munn & Co

ATTORNEYS

UNITED STATES PATENT OFFICE.

WILLIAM A. YOUNG, OF NEW YORK, N. Y.

GROMET.

1,171,295. Specification of Letters Patent. Patented Feb. 8, 1916.

Application filed April 3, 1915. Serial No. 18,966.

To all whom it may concern:

Be it known that I, WILLIAM A. YOUNG, a citizen of the United States, and a resident of the city of New York, Astoria, borough of Queens, in the county of Queens and State of New York, have invented a new and Improved Gromet, of which the following is a full, clear, and exact description.

Among the principal objects which the present invention has in view are: to provide an article of the character mentioned having even resistance throughout; to simplify the construction of devices of the character mentioned, to reduce the cost of such construction; and to provide an article of the character mentioned having structural, grouped packing members of different thicknesses for utilization in different ways.

Drawings.—Figure 1 shows a device of the character mentioned and the preliminary stage in the operation of forming the same; Fig. 2 shows the secondary stage in forming the article; Fig. 3 shows the completed article; Fig. 4 is a sectional view showing a bolt-connected structure, and a gromet constructed and arranged in accordance with the present invention as sealing the bolt-hole formed in said structure; Fig. 5 is a sectional view showing a construction employing a hand-hole, a covering cap therefor, bolts for structurally uniting the same, and a gromet for sealing the hand-hole and the bolt-holes surrounding the same; Fig. 6 is a view of a gromet constructed for service such as indicated in Fig. 5. Fig. 7 is a side elevation of two sections of pipe, the joint between which is sealed by a gromet constructed in accordance with the present invention.

Description.—As seen in the drawings, and particularly in Fig. 1 thereof, a skein 11 of fiber is lightly twisted upon itself and wrapped to form an open-centered coil 12. When the coil 12 is deemed to have sufficient body, the skein is passed around itself to form a wrap 13. The wraps 13 are continued until the coil 12 is completely covered, as shown in Fig. 3 of the drawings, and the loose end of the skein 11 is turned back under the last wrap 14 to form what is known as a "half-hitch" to hold the trimmed end 15 when the loose end is severed therefrom by means of shears or any other suitable cutting implement. The gromet thus formed is then treated by immersion in white- or red-lead, or in any suitable or desired form of bituminous products, such as pitch.

When the gromet is made in the modified form shown in Fig. 6 of the drawings, the loops 16 are produced by more tightly wrapping the skein 11 and one of the coils 12 thereof, and by enlarging certain of the coils so that the loop sections are extended from the general circle of the completed coil. When the loops are arranged substantially as shown in Fig. 6 of the drawings, the skein is wound on the coil 12 to complete the relatively thickened body portion 17 of the gromet.

In their application, gromets 22 such as shown in Fig. 3 of the drawings, are employed to seal the openings formed in metal plates 18 and 19 provided to receive bolts 20. The bolts 20 are engaged by nuts 21, and the gromet 22 is held between said plates 18 and 19 and a washer 23 which provides a bearing surface for the nut 21. This gromet is pressed to the flattened condition shown best in Fig. 4 of the drawings.

When a gromet such as shown in Fig. 6 of the drawings is employed, the body portion 17 thereof is disposed about a hand-hole 24, while the loops 16 extend outward and surround securing bolts 25, shown best in Fig. 5 of the drawings. When the nuts 26 engaging the bolts 25 are manipulated to draw the cover 27 upon the body portion 17 of the gromet, the edge of the cover 27 seats upon the loops 16, to likewise close the entrance of the bolt-holes with which a plate 28 is provided.

Claims:

1. As an article of manufacture, a gromet having a flat coil consisting of a loosely twisted skein disposed to form a ring; a covering for said ring formed by wrapping the loose end of said skein around the same to form successive spiral wraps, the outer wrap being seated upon the finished end of the skein to bind the latter in position; and a suitable filling for said ring and wraps, said filling being impervious to water.

2. As an article of manufacture, a gromet having a flat coil consisting of a loosely twisted skein disposed to form a ring; and a cover for said ring formed by wrapping the loose end of said skein around the same to form successive spiral wraps, the outer wrap being seated upon the finished end of the skein to bind the latter in position, said

gromet being saturated with a permeating fluid impervious to water.

3. As an article of manufacture, a gromet having a flat coil consisting of an unraveled fiber skein disposed to form a ring; and a covering for said ring formed by wrapping the loose end of said skein around the same to form successive spiral wraps, the outer wrap being seated upon the finished end of the skein to bind the latter in position, said gromet being saturated with a permeating fluid impervious to water, said fluid having a non-setting, dense body for avoiding the passage of water therethrough.

4. As an article of manufacture, a gromet having a relatively large body portion, and a series of loops integrally connected with said body portion and extending laterally therefrom, said loops being adapted to form auxiliary seals for the protection of areas adjacent the area covered by said body portion.

5. As an article of manufacture, a gromet having a relatively large, circular body portion formed of skeined material wrapped upon itself, a portion of said material being extended laterally from said body portion to form auxiliary, relatively small loops.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WILLIAM A. YOUNG.

Witnesses:
E. F. MURDOCK,
PHILIP D. ROLLHAUS.