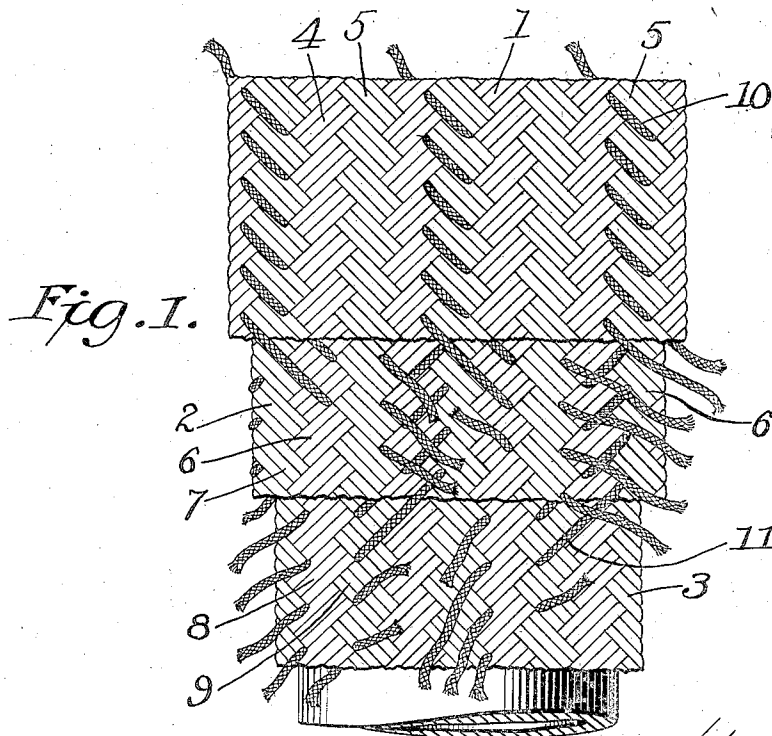
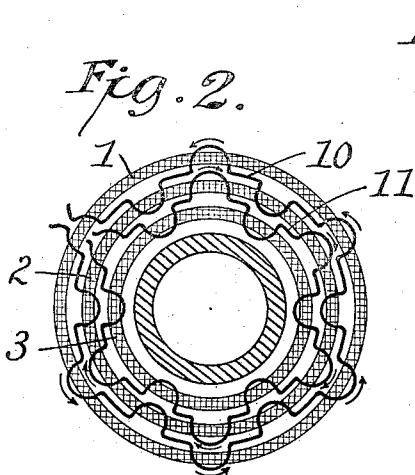
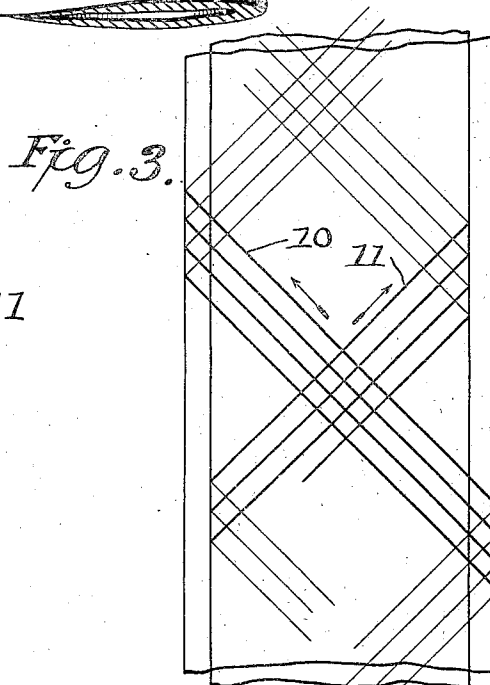


H. Z. COBB.
BRAIDED FABRIC FOR HOSE.
APPLICATION FILED SEPT. 30, 1912.

1,104,778.

Patented July 28, 1914.



Witnesses:
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UNITED STATES PATENT OFFICE.

HENRY Z. COBB, OF WINCHESTER, MASSACHUSETTS, ASSIGNOR TO REVERE RUBBER COMPANY, A CORPORATION OF RHODE ISLAND.

BRAIDED FABRIC FOR HOSE.

1,104,778.

Specification of Letters Patent.

Patented July 28, 1914.

Application filed September 30, 1912. Serial No. 723,039.

To all whom it may concern:

Be it known that I, HENRY Z. COBB, a citizen of the United States, residing at Winchester, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Braided Fabric for Hose, of which the following is a full, clear, and exact disclosure.

My invention relates to that class of fabrics that are formed by being braided on a machine known as a braiding machine, in which the bobbins are caused to travel in circular paths and pass sinuously in and out between each other so as to braid the strands or yarn carried by the bobbins, in the form of a cylindrical tube having one or more plies or layers.

The object of my invention is to produce a fabric cylindrical in form and one which may be utilized particularly in the manufacture of hose, although the same may be used in connection with other articles requiring a braided covering. This tubular or cylindrical fabric may be impregnated or combined with rubber compounds or similar substances or rendered more durable by vulcanization or analogous processes.

The present invention does not relate to the combining of rubber or other similar substances with the fabric disclosed, since such compounds may be applied to the fabric in any preferred or well-known way. This invention, however, relates to a tubular fabric comprising three distinct plies or layers which are combined or locked together by series of strands which interlace with the adjacent strands of the respective layers. The layers of the braided fabric and the interlocking strands are formed simultaneously upon the braiding machine, the bobbins of the interlocking strands being caused to intercept the paths of the bobbins which carry the strands to form the other layers, at requisite points as the forming of the layers or plies progresses.

The particular object of this invention is to produce a tubular fabric composed of three plies or layers, the layers being united or locked together by supplementary strands in such a manner that the tension strains produced are equally balanced so that twisting of the fabric is prevented, while at the same time the fabric can be braided progressively and the respective interlocking strands applied simultaneously with the forming of

the respective layers. This result is accomplished as will hereinafter be more particularly pointed out and claimed in the accompanying claims.

For a detailed description of one form of my invention, reference may be had to the following specification and the accompanying drawing forming a part thereof, in which:

Figure 1 is a side view of a portion of a cylindrical tube such as hose, showing the respective layers of the fabric cut away and indicating the position of the interlocking strands and their relative arrangement. Fig. 2 is a diagrammatic view showing a cross-section of the tubular fabric and indicating the course of the strands uniting the layers, and Fig. 3 is a diagrammatic view indicating a longitudinal portion of the braided fabric and the course that the uniting strands take in a longitudinal direction.

Referring to the drawing: The numeral 1 indicates the outer layer or ply of the braided fabric. The numeral 2 indicates the intermediate layer and the numeral 3 indicates the inner layer. It will be seen that each of these layers consists of two sets of strands indicated by numerals 4 and 5, 6 and 7, and 8 and 9 respectively. The respective sets of strands in each layer are interlaced with each other and pass about the article in opposite directions. In this form of my invention the interlocking or uniting strands 10 follow the same direction as the strands 5 and 6 of the adjacent layers or webs 1 and 2 respectively, while the interlocking strands 11 follow the direction of the strands 7 and 8 of the adjacent layers or webs 2 and 3 respectively. The direction of these two sets of interlocking strands are transverse to each other and the strains produced by them will be counterbalanced for the reason that there are an equal number of interlocking strands between each of the adjacent layers or webs. In other words, in the example illustrated, it will be seen that in each layer there are 24 sets of parallel strands running in each direction, or 48 sets of strands in both directions in each layer of the fabric. It will also be seen that there are 24 interlocking strands between the outer and intermediate layers and 24 interlocking strands between the intermediate and inner layers. Since each of the layers has an equal number of strands in

both directions and there are an equal number of interlocking strains running in both directions, the resulting tension produced by all of the strands will be equalized and
5 there will be no tendency of the fabric to twist when completed.

As shown in the illustration, the independent sets of strands of each layer of the fabric, consist of three strands or picks,
10 but I do not desire to be limited to this particular number as any convenient number may be used which will produce the required result for any particular purpose.

Having thus described this form of my
15 invention, what I claim and desire to protect by Letters Patent, is:

1. The improved fabric which consists of

an odd number of distinct and parallel tubular braided webs, and a series of interlocking strands between each of said parallel
20 webs, the respective sets of interlocking strands running in opposite directions.

2. The improved braided fabric comprising three distinct parallel tubular braided webs and a series of interlocking strands
25 between each of the said adjacent webs, said interlocking strands running helically about the article in opposite directions.

Signed this 19th day of Sept., 1912.

HENRY Z. COBB.

Witnesses:

A. Y. TUCKER,
T. O. BARNARD.