

W. M. STEVENSON.
WOVEN FABRIC.
APPLICATION FILED JAN. 22, 1907.

905,946.

Patented Dec. 8, 1908.

Fig. 2.

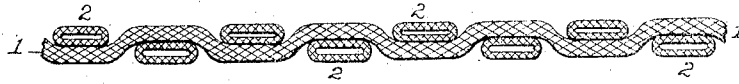


Fig. 3.

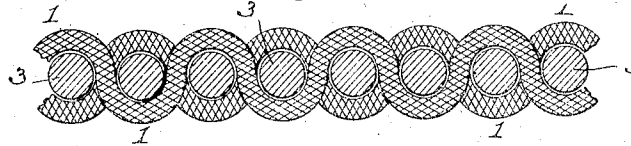


Fig. 1.

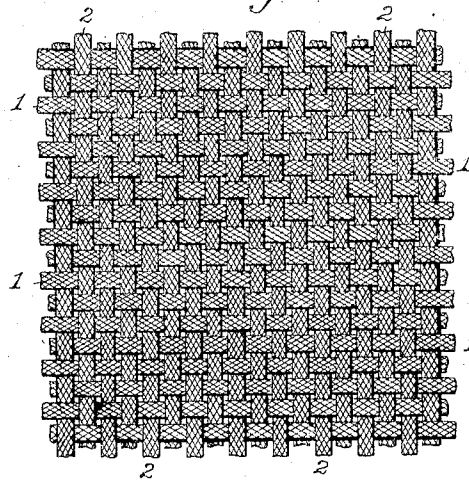
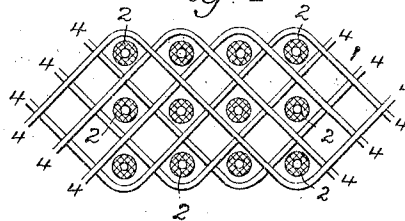


Fig. 4.



Witnesses
Harry L. Smith
Hamilton D. Turner

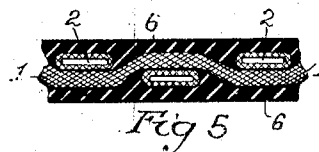


Fig. 5.

Inventor
William M. Stevenson
By his Attorneys
Smith & Fager

UNITED STATES PATENT OFFICE.

WILLIAM M. STEVENSON, OF INDIAN ORCHARD, MASSACHUSETTS.

WOVEN FABRIC.

No. 905,546.

Specification of Letters Patent.

Patented Dec. 3, 1908.

Application filed January 22, 1907. Serial No. 569,591.

To all whom it may concern:

Be it known that I, WILLIAM M. STEVENSON, a citizen of the United States, residing at Indian Orchard, Massachusetts, have invented certain Improvements in Woven Fabrics, of which the following is a specification.

The object of my invention is to provide a woven fabric having greater strength and elasticity than one woven in the usual manner with spun or twisted warp or weft threads, and having other qualities which render it preferable to ordinary woven fabrics for special purposes, such for instance, as the manufacture of wheel tires, hose, belting and the like, in which the woven web is coated with rubber.

In the accompanying drawing: Figure 1 is an exaggerated face view of a piece of woven web made in accordance with my invention; Fig. 2 is a transverse section of the same; Figs. 3 and 4 are like sections of other woven webs embodying my invention; and Fig. 5 is a view of a rubber-coated fabric made in accordance with my invention.

The main feature of my invention consists in using, for the warp or weft, or for both the warp and weft, of the woven web, a braided cord, of hollow tubular form, such cord possessing greater strength than a spun or twisted yarn of like weight and being relatively elastic, because of the tendency of the spirally disposed and intertwined strands of which the braid is composed to assume a straight line when the braid is subjected to tensile strain. This renders the woven web specially available for use in the manufacture of wheel tires, belting, or like articles in which the woven web is combined with a coating or covering of rubber, another advantage of my improved web for such use being that the braided cords present a relatively open mesh and thus permit of the ready penetration of the fluid or plastic rubber or rubber compound and a correspondingly secure hold of the latter upon said woven web.

The fabric shown in Figs. 1 and 2 of the drawing is woven with an ordinary plain weave, having both the warp threads 1 and the weft threads 2 composed of hollow, tubular braided cord, but my invention can also be embodied in webs having either the warp

threads or the weft threads of this character, for instance, Fig. 3 is intended to represent a fabric having warp threads 1 composed of braided cord and weft threads 3 composed of spun or twisted yarn, while Fig. 4 is intended to represent a fabric having weft threads 2 composed of braided cords and warp threads 4 composed of spun or twisted yarn, this fabric being a triple-ply fabric which has been selected for the purpose of showing that my invention is applicable to multiply as well as to single ply webs.

It should be observed that, in the production of my new fabric, the hollow tubular braid is necessarily stretched, to a certain extent, when it is beaten up and confined by the crossed warp threads, but the braid contracts and resumes its hollow tubular form after the fabric leaves the beating up point, and, therefore, the said hollow tubular braid regains, in a great measure, its original or normal elasticity and as a result the fabric thus produced possesses the desired elasticity.

In Fig. 5 I have illustrated a web of the same character as that illustrated in Fig. 2 but having a coating 6 of rubber upon both faces of the same.

It will be observed, on reference to Figs. 1 and 2, that the hollow braided cord composing the weft thread is inserted without twist, and hence lies perfectly straight from selvage to selvage and retains its original elasticity.

I claim:—

1. woven fabric having warp or weft threads composed of hollow, tubular, braided cord possessing substantially its normal elasticity.

2. A woven fabric having both warp and weft threads composed of hollow, tubular, braided cord possessing substantially its normal elasticity.

3. A woven fabric having weft threads composed of hollow, tubular, braided cord possessing substantially its normal elasticity shot in without twist.

4. A rubber coated woven fabric having weft threads composed of hollow, tubular, braided cord possessing substantially its normal elasticity shot in without twist.

5. A rubber-coated fabric having a woven web with warp or weft threads composed of

hollow, tubular, braided cord possessing substantially its normal elasticity.

6. A rubber-coated fabric having a woven web with both warp and weft threads composed of hollow, tubular, braided cord
5 possessing substantially its normal elasticity.

In testimony whereof, I have signed my

name to this specification, in the presence of two subscribing witnesses.

WILLIAM M. STEVENSON.

Witnesses:

WALTER F. HODGES,
CHAS. L. MASON.