

W. H. Towers,

Elastic Roll.

No. 112,988.

Patented Mar. 21, 1897.

Fig. 1.

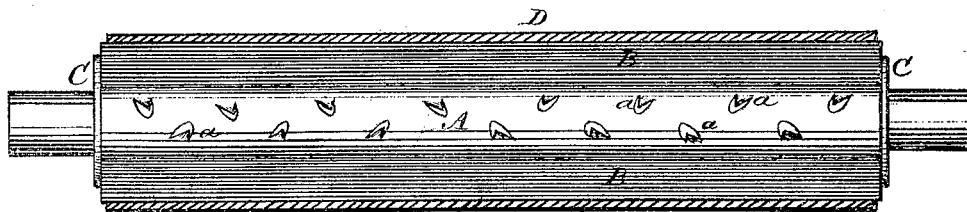


Fig. 2.

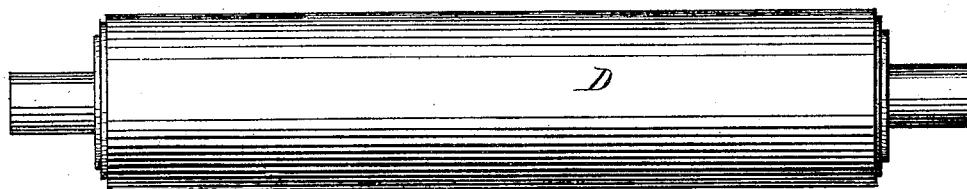
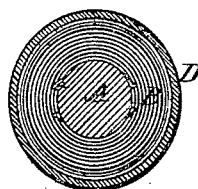


Fig. 3.



Witnesses:

Chas. E. Jones, Jr.
John Utman

Inventor:

W. H. Towers

United States Patent Office.

WILLIAM H. TOWERS, OF BOSTON, MASSACHUSETTS.

Letters Patent No. 112,988, dated March 21, 1871.

IMPROVEMENT IN ELASTIC ROLLS.

The Schedule referred to in these Letters Patent and making part of the same.

Be it known that I, WILLIAM H. TOWERS, of Boston, county of Suffolk, State of Massachusetts, have made a new and useful Improvement in Elastic Rolls; and I hereby declare the following to be a full and exact description of the same, reference being had to the accompanying drawing which forms part of this specification, in which—

Figure 1 shows a longitudinal section of a roll made according to my invention;

Figure 2 is a perspective view of the same; and Figure 3, a cross-section.

Heretofore there have been two serious difficulties in the manufacture of elastic rolls, such as used for clothes-wringers and other similar purposes. The first arises from the difficulty of preventing the roll from turning on its shaft. This arises from the fact that the center of the roll, being composed of pulpy or weak material, will tear when subjected to great stress, as in using the rolls. The other difficulty arises from the expense of making, compounding, and vulcanizing the entire roll. This requires a careful making of the roll, and then subjecting in proper molds to the heat required for vulcanizing. By my improvement both these difficulties are overcome.

In a former patent, No. 104,514, issued to me, and dated June 21, 1870, I have described a roll made by securing to a shaft fibrous material saturated with water-proof substances.

My present invention consists in fibrous material coated with water-proof material wound around a shaft, and covered with a shell of vulcanized rubber.

The following description will enable any one to make and use my invention.

In the drawing—

A is an ordinary roller-shaft, which has spurs or burrs, *a a*, the burrs being turned in opposite directions on different parts or rollers.

On this shaft is wound, by the machine commonly used for that purpose, cloth, cotton drill, duck, or other fabric water-proofed, and coated with rubber till the body B of the roll is formed.

To prepare the cloth I water-proof it with any of the material ordinarily used for that purpose, and coat it on one side with rubber, so as to form what is known as friction-goods in the trade.

The fabric is wound tightly around the shaft, so that the spurs *a a* come through until a sufficient thickness is formed to bury them. This will prevent all turning of the roll on the shaft. The winding is continued till the desired size is reached. The continuous sheet is then cut off, and the end cemented to the roll with rubber cement.

The ends of the roll are confined by the washers C C, in the usual manner. The roll is then dried, and is fit for use without anything further. But I prefer to cover the whole with a tube of vulcanized rubber, D.

The roll thus formed is in appearance exactly like a roll made wholly of rubber, and has the advantage that it will not break from the shaft or turn on it.

The portion B may be formed, partly or wholly, of other yielding material, and then cemented and covered with the rubber shell D. But I prefer the fabric prepared as before described, and wound tightly around the shaft.

Having thus described my invention,

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

1. The improved roll herein described, composed of a shaft, A, water-proof fabric or fibrous material, B, and rubber shell or covering D, substantially as set forth.

2. The combination of shaft A, body B, of rubber-coated fabric, and washers C C, all substantially as described.

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

WM. H. TOWERS.

Witnesses:

SAML. P. JONES, Jr.,
JOHN URIAN.