J. W. ALBERS.

SEALING DEVICE FOR FOOT BALL BLADDERS AND THE LIKE.

APPLICATION FILED SEPT. 26, 1911.

1,037,406. Patented Sept. 3, 1912.

Fig. 1.

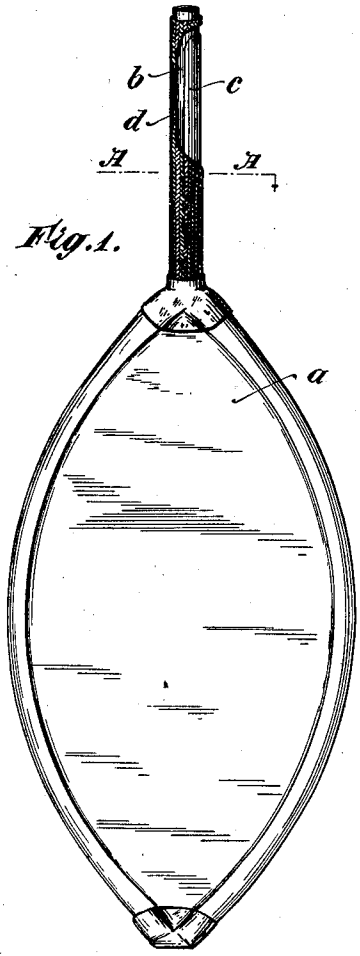


Fig. 2.

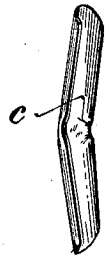


Fig. 3.

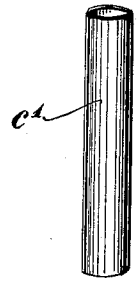


Fig. 4.

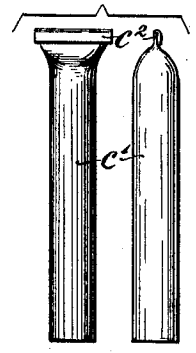
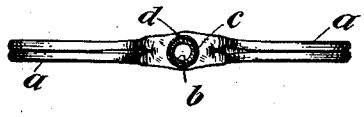


Fig. 5



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UNITED STATES PATENT OFFICE.

JOHANN WILHELM ALBERS, OF HARBURG, GERMANY.

SEALING DEVICE FOR FOOT-BALL BLADDERS AND THE LIKE.

1,037,406. Specification of Letters Patent. Patented Sept. 3, 1912.

Application filed September 26, 1911. Serial No. 651,357.

To all whom it may concern:

Be it known that I, JOHANN WILHELM ALBERS, a subject of the King of Prussia, residing at Harburg, in the Kingdom of Prussia and German Empire, have invented Improved Sealing Devices for Foot-Ball Bladders and the Like, of which the following is a specification.

The indiarubber bladders inflated with air and inclosed in a leather casing such as used for footballs and the like have a projecting tube through which the air is blown or pumped into the bladder, after which the tube is firmly tied. A string or the like for tying the tube does not make an air-tight joint especially when a heavy string is used; it is true that a heavy string does not cut the indiarubber of the tube as readily as twine but, on the other hand, it more readily will loosen under the pressure in the bladder and the shifting of this pressure during the play so that the air can escape and the ball will become deflated. A wire is likewise not suited for tying the tube as, like twine, it will cut the rubber.

My present invention relates to a novel means for sealing indiarubber bladders of all kinds in which neither string nor wire is employed and the inflation tube is not tied or twisted as heretofore. The novel means resides broadly in the fact that a rigid but flexible member which conforms to the tube is connected with the tube after the bladder has been inflated by merely bending over the tube and said member together. This bending makes a perfect air tight joint. The rigid member preferably consists of a piece of sheet metal (iron, brass or the like) which is of sufficient rigidity that it will retain the form given it by bending. The indiarubber mass of the tube embedded in the metal at the bend forms a reliable air-tight joint.

My novel sealing means, therefore, consists of a flexible piece of sheet metal or other suitable material which is bent over together with the inflation tube of the bladder in such a way that the tube will be securely closed.

In the accompanying drawing Figure 1 illustrates the indiarubber bladder in its collapsed condition. Fig. 2 shows an embodiment of the rigid, but flexible member. Fig. 3 illustrates another embodiment, and Fig. 4 illustrates a still further embodiment while Fig. 5 is a section along line A—A in Fig. 1.

In Fig. 1 *a* is the indiarubber bladder and *b* the inflation tube also of india-rubber. The tube *b* is covered with a sheet metal strip *c* bent of semicircular cross section such as shown in Fig. 2. Over this strip is slipped a piece of rubbered fabric *d* in order to maintain the strip *c* in firm contact with the tube *b*.

After the bladder has been inflated the tube and sheet metal strip *c* are bent together say at the place where the section line A—A is shown in Fig. 1. If desired, several bends may be given to the tube and strip, but usually a single bend will be found quite sufficient to effect an air-tight joint.

Instead of employing a strip of sheet metal such as shown in Fig. 2 a small tube or hollow cylinder *c* (Fig. 3) may be employed equally advantageously. The cylinder can be closed at one end c^2 (Fig. 4) by pressing it together or in any other manner. In any event the cylinder is placed over the tube *b* of the bladder *a* and if it is of the right diameter it requires no further means to fix it to the tube *b*. The fabric *d* can be dispensed with altogether. If the sheet metal cylinder is closed at the end c^2 as shown in Fig. 4 it is placed upon the tube *b* in the manner of a cap so that the end of the tube is covered.

I claim:—

1. The combination with a foot-ball bladder or the like having an inflation tube, of a member of pliable material conforming to said tube and adapted to be firmly connected therewith by bending both said member and tube together so as to form an air-tight closure for said tube.

2. The combination with a foot-ball bladder or the like having an inflation tube, of a strip of flexible sheet metal conforming to said tube and adapted to be firmly connected therewith by bending both said strip and tube together so as to form an air-tight closure for said tube.

3. The combination with a foot-ball bladder or the like having an inflation tube, of a member made of flexible sheet metal of a cross-section to conform to said tube and adapted to be firmly connected therewith by bending both said member and tube together so as to form an airtight closure for said tube.

4. The combination with a foot-ball bladder or the like having an inflation tube, of a member made of pliable material conforming to said tube and adapted to be firmly connected therewith by bending both said member and tube together so as to form an airtight closure for said tube, and a piece of fabric for keeping said member in firm contact with said tube.

5. The combination with a foot-ball bladder or the like having an inflation tube, of a flexible metal tube adapted to be passed over said inflation tube and to be firmly connected therewith by bending both said inflation tube and said metal tube together, so as to form an airtight closure for said inflation tube.

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

JOHANN WILHELM ALBERS.

Witnesses:

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