

No. 684,554.

Patented Oct. 15, 1901.

A. H. SAWTELL.
INFLATABLE ARTICLE.
(Application filed Feb. 25, 1898.)

(No Model.)

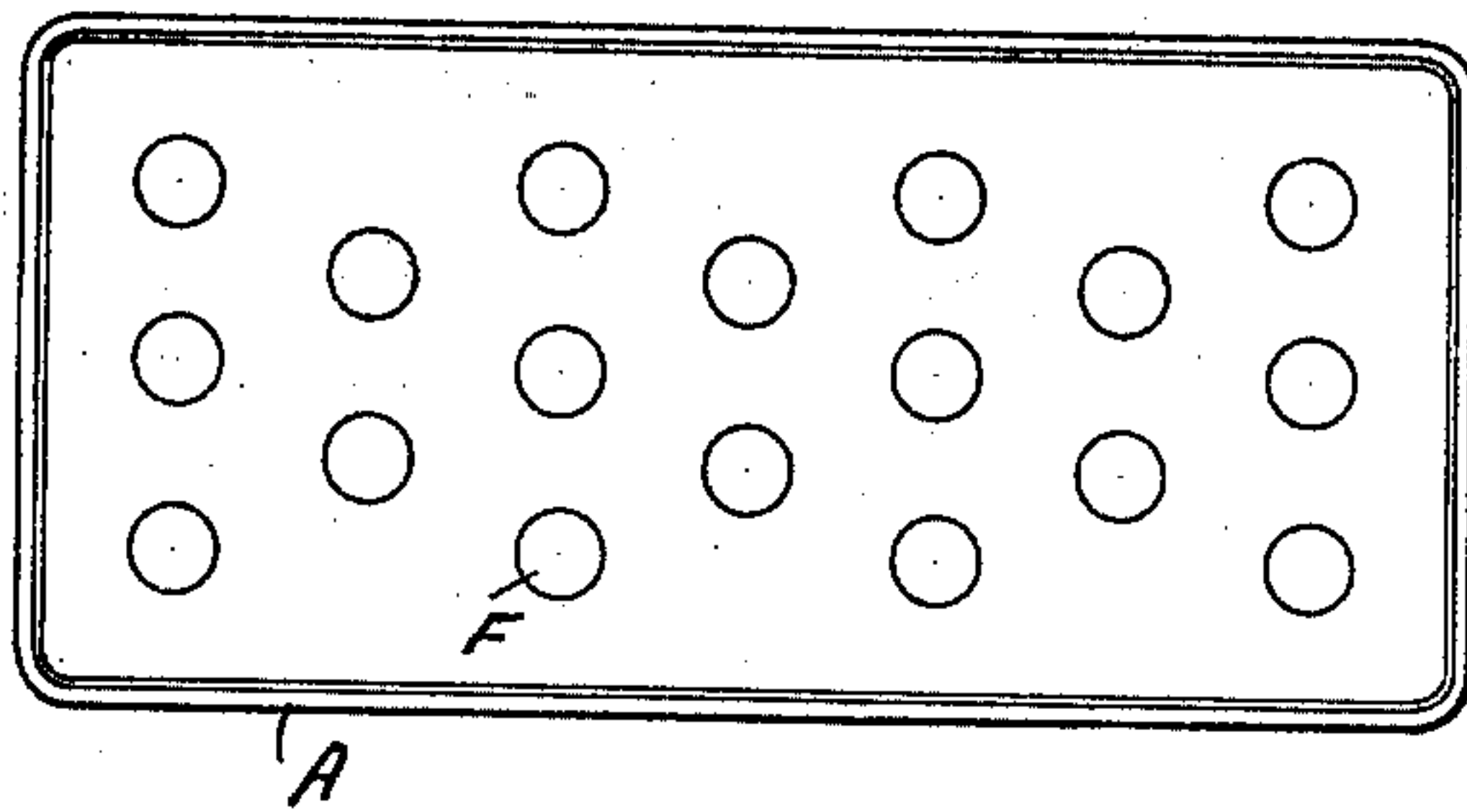


FIG. 1.

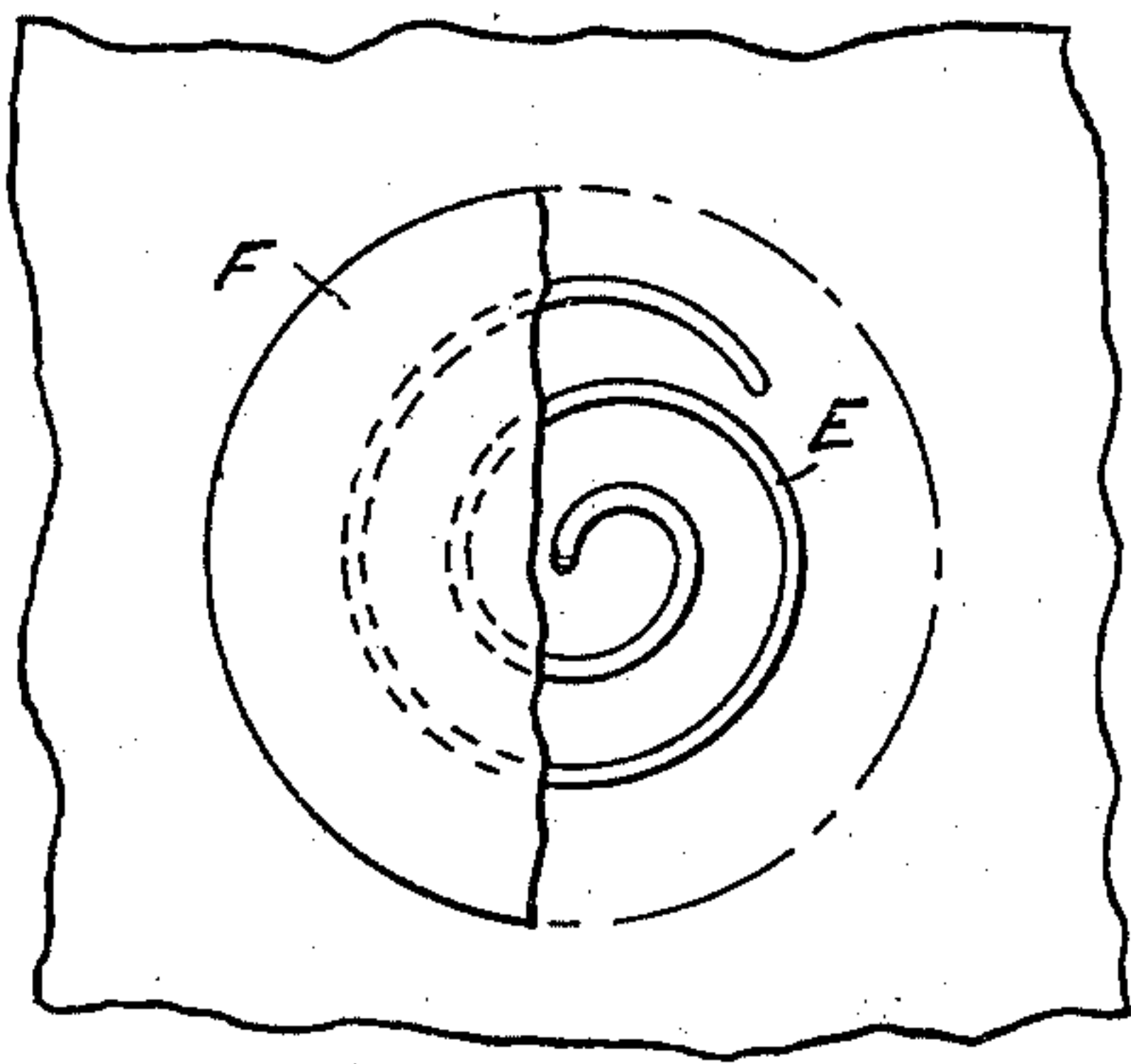


FIG. 2.

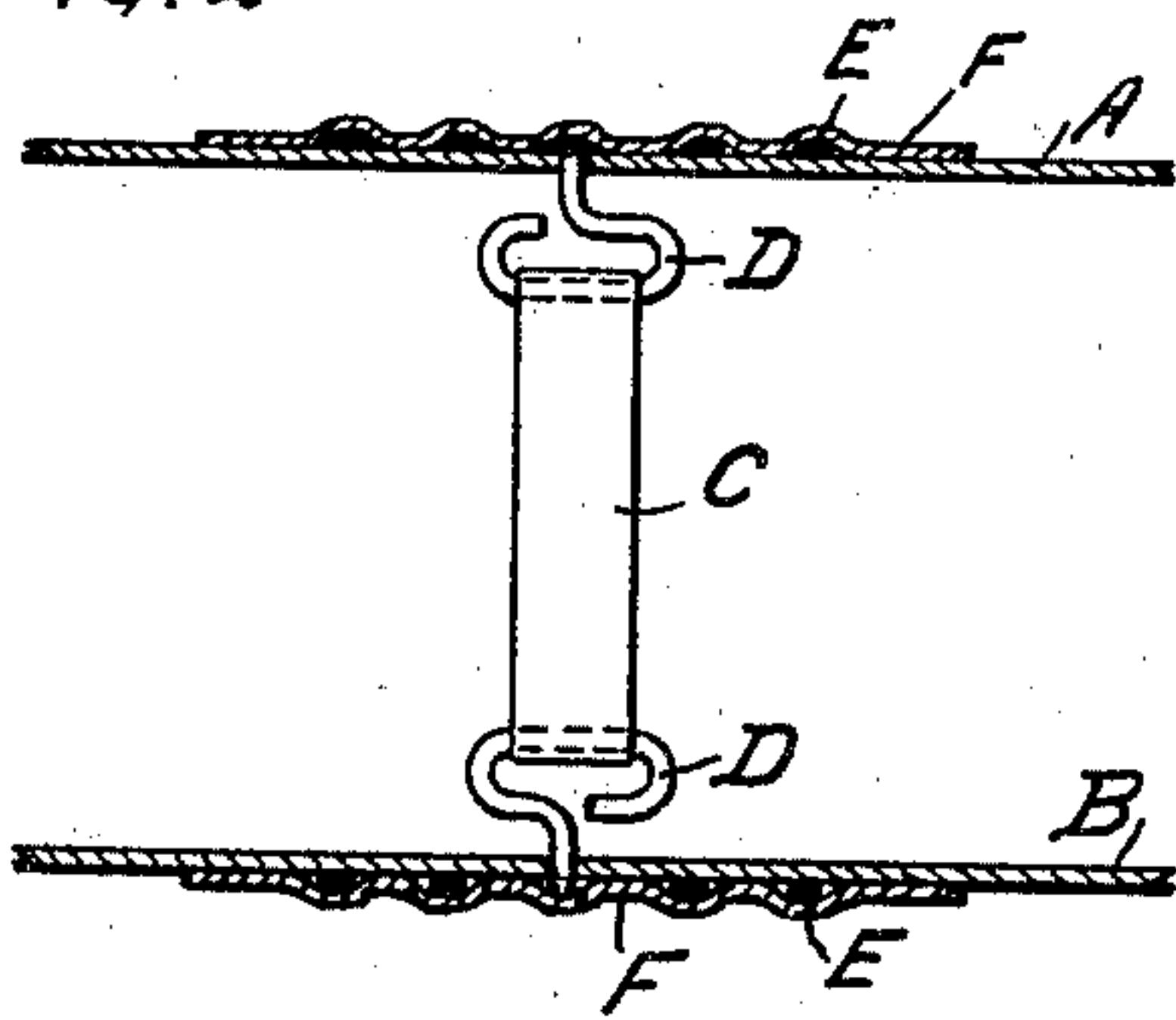


FIG. 3.

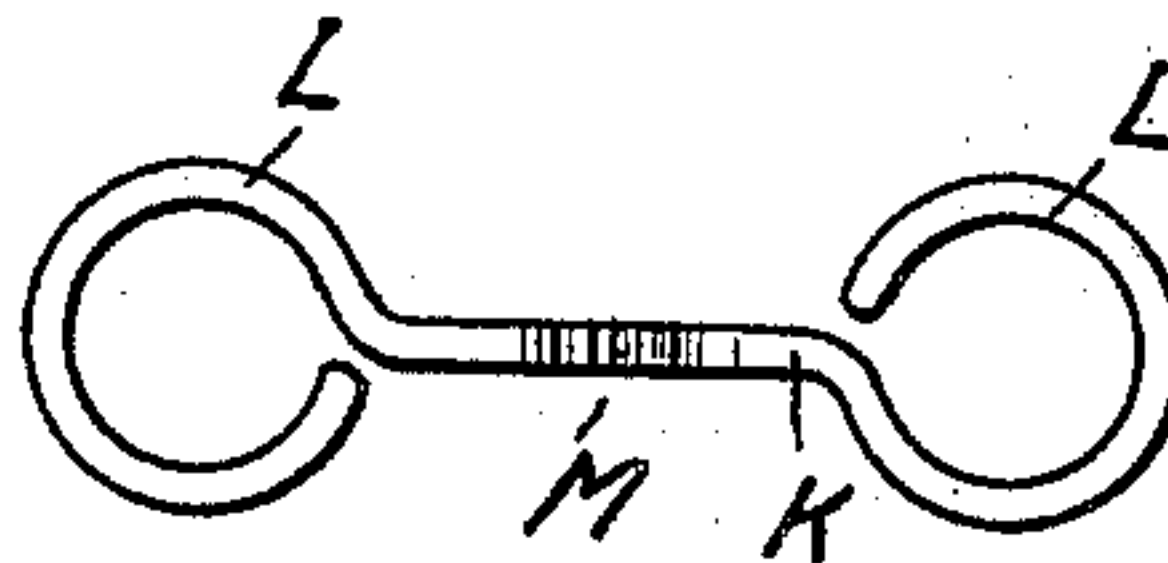


FIG. 4.

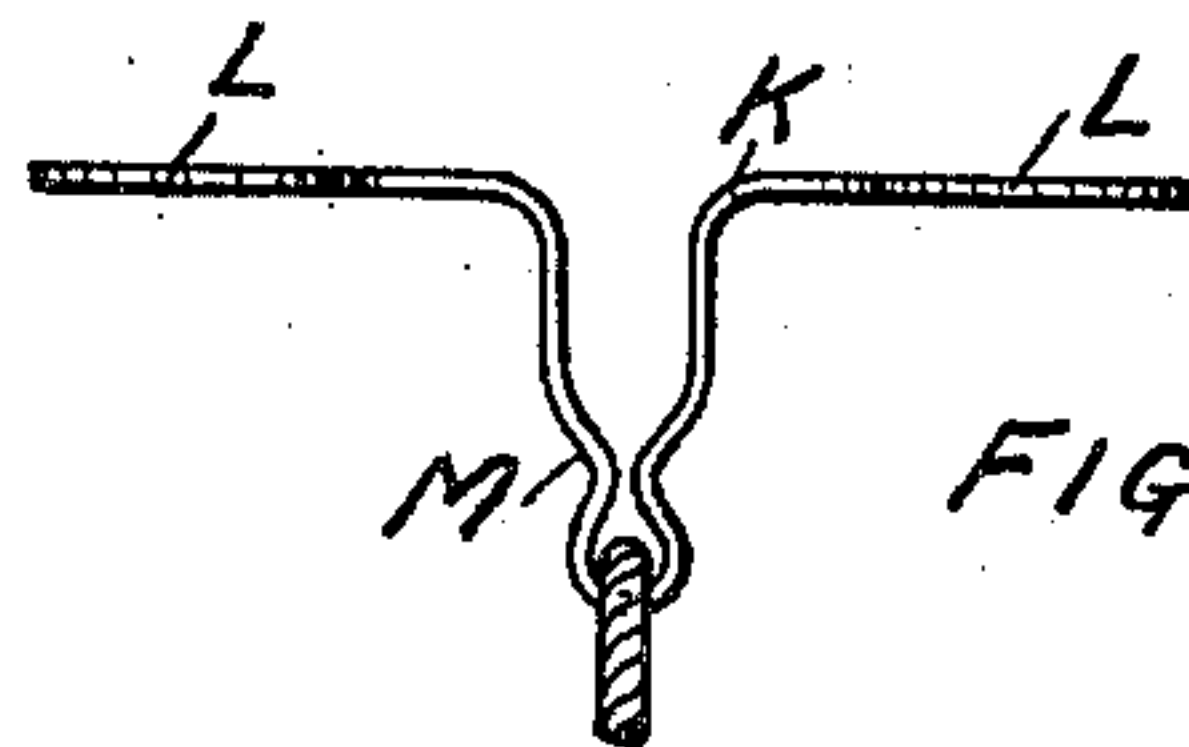


FIG. 5.

WITNESSES,

R. A. Bate

Ira L. Fish

INVENTOR,

Albert H. Sawtell

BY

Wilmuth H. Thurston
ATT'Y.

UNITED STATES PATENT OFFICE.

ALBERT H. SAWTELL, OF MALDEN, MASSACHUSETTS, ASSIGNOR TO THE MECHANICAL FABRIC COMPANY, OF PROVIDENCE, RHODE ISLAND, A CORPORATION OF RHODE ISLAND.

INFLATABLE ARTICLE.

SPECIFICATION forming part of Letters Patent No. 684,554, dated October 15, 1901.

Application filed February 25, 1898. Serial No. 671,685. (No model.)

To all whom it may concern:

Be it known that I, ALBERT H. SAWTELL, of Malden, county of Middlesex, State of Massachusetts, have invented certain new and useful Improvements in Inflatable Articles; and I do hereby declare the following specification, taken in connection with the accompanying drawings, forming a part of the same, to be a full, clear, and exact description thereof.

10 The invention relates to inflatable articles such as mattresses, cushions, pillows, &c., and more especially to the means for connecting to the walls of the article the stays which hold the walls in proper relation to each other when the article is inflated.

15 The object of the invention is to provide means for securely connecting the stays to the walls without danger of leakage, which may be readily and conveniently applied in constructing the article or may be readily removed and replaced should a stay be broken.

20 To these ends the invention comprises stays united to plates held in place upon the outer surface of the article by caps, which overlie the plates and are united with the walls of the article. By this construction the strain upon the stays is effectively resisted by the plates without danger of injuring the fabric and the plates are securely held in position between the cap and the face of the article, the cap also preventing leakage. Moreover, should a stay become broken the caps over one of the plates to which the stay was secured may be readily removed to enable the removal of the plates and the insertion of a new stay, after which the plates and caps may be replaced.

30 The form of plate employed may be varied, but it is preferred to use a plate formed of wire coiled into a flat spiral and provided with an eye or loop at the inner end, and this plate in itself forms one feature of the invention. This form of plate may be applied to the wall of the article by passing the free end of the wire through a very small hole formed in the wall and then turning the spiral until the plate lies upon the upper side of the wall with the eye projecting from the inner side.

35 Referring to the drawings, Figure 1 is a plan view of an air-mattress embodying the

invention. Fig. 2 is a plan view showing the preferred form of plate and the manner of securing the same to the walls. Fig. 3 is a sectional view of the same. Fig. 4 is a plan, and Fig. 5 a side elevation, of a modified form of plate.

Referring to Figs. 2 and 3, A and B represent the two opposite walls of an air-mattress or similar article formed of the usual rubber-faced fabric, the fabric being on the inner side and the rubber facing upon the outer side. C represents one of the stays for connecting the walls A and B together and may be of any suitable form, as a wire, cord, chain, or a loop of tape, as shown. The ends of the stay C are connected to loops or eyes D, projecting from the walls A B and formed upon or secured to plates E, located upon the outside of the walls. The plates E shown in these figures consist of flat spiral coils of wire, at the inner ends of which the loops D are formed. The plates E are secured to the walls A B by means of caps of rubber-faced fabric F, which extend beyond the edge of the plates and are secured to the walls both outside of the plates and through the openings in the plate formed by the spaces between the convolutions of the wire. The plates are thus securely held in place and all danger of leakage is obviated.

80 In applying the plates to the walls a hole is formed in the wall by a sharp-pointed awl, and this hole may be formed by spreading the threads of the fabric, so that said fabric is not injured. The end of the wire coil is then forced through the hole and the coil turned until the flat spiral is upon the opposite side of the fabric from the loop. The cap F is then applied to the fabric over the plate by cement or otherwise. After the mattress has been constructed the parts are preferably united by vulcanization, and the plates E are then practically embedded in rubber upon the outside of the walls of the mattress.

Should a stay become broken, the cap F may be stripped off and the plate E removed by drawing the loop D through the walls of the mattress, the hole being slightly enlarged for this purpose. A new stay may then be connected to the opposite loop D and to the

removed loop and the removed loop again thrust through the wall and the plate again secured in place.

5 In Figs. 4 and 5 is shown another form of plate. In this form the plate is composed of a piece of wire K, having its ends bent to form the flat rings L and having its central portion bent to form the loop M. This plate may be applied to the walls of the mattress
10 or other inflatable article in the same manner as described with reference to the other forms of plates.

While the plate may be of either of the above forms or of other forms, it is preferred
15 to use a plate formed of a wire coiled into a flat spiral for the reason that such a plate may be cheaply and conveniently made and may be applied to the walls of the article with the loop or eye projecting from the op-
20 posite side without injuring the threads of the fabric. Moreover, with this form of plate the plate will readily conform to the curves

in the walls of the article when it is inflated and without any tendency to cut the fabric or to become loosened and cause leakage. 25

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

1. Means for connecting a stay to the wall of an inflatable article consisting of a flat spiral coil of wire having its inner end ex- 30 tending through the wall and formed into a loop or eye, and a cap covering the flat spiral and secured upon the outer face of the wall.

2. In an inflatable article, plates consisting of flat spiral coils of wire upon the outer 35 faces of the walls, loops or eyes on the inner ends of said coils within the walls, a stay connecting said loops or eyes, and caps covering said plates and secured to the walls.

ALBERT H. SAWTELL.

Witnesses:

R. A. BATES,

W. H. THURSTON.