

No. 811,406.

PATENTED JAN. 30, 1906.

H. F. KEIL.
AIR GOODS.

APPLICATION FILED MAY 15, 1905.

3 SHEETS—SHEET 1.

Fig. 1.

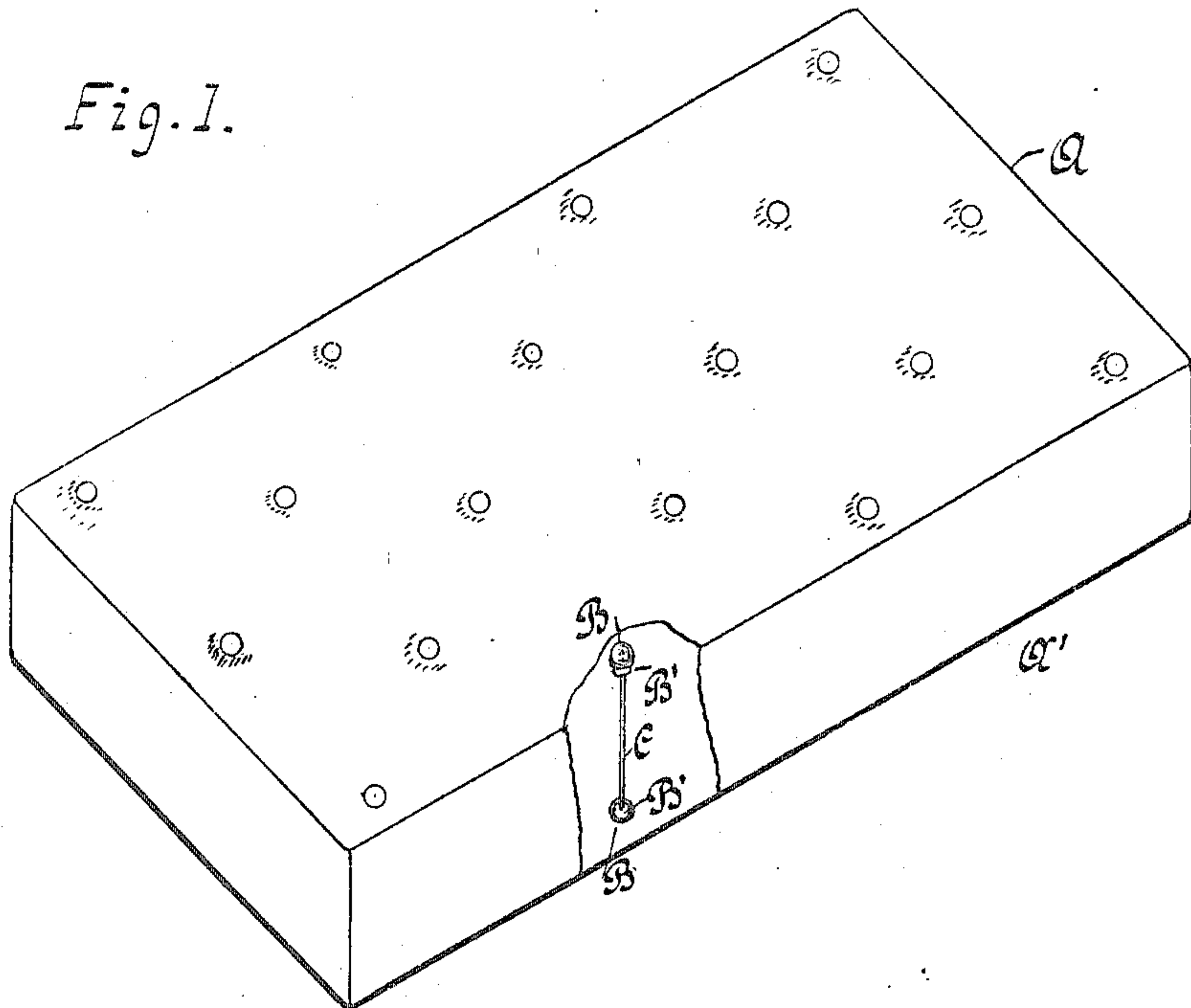


Fig. 2.

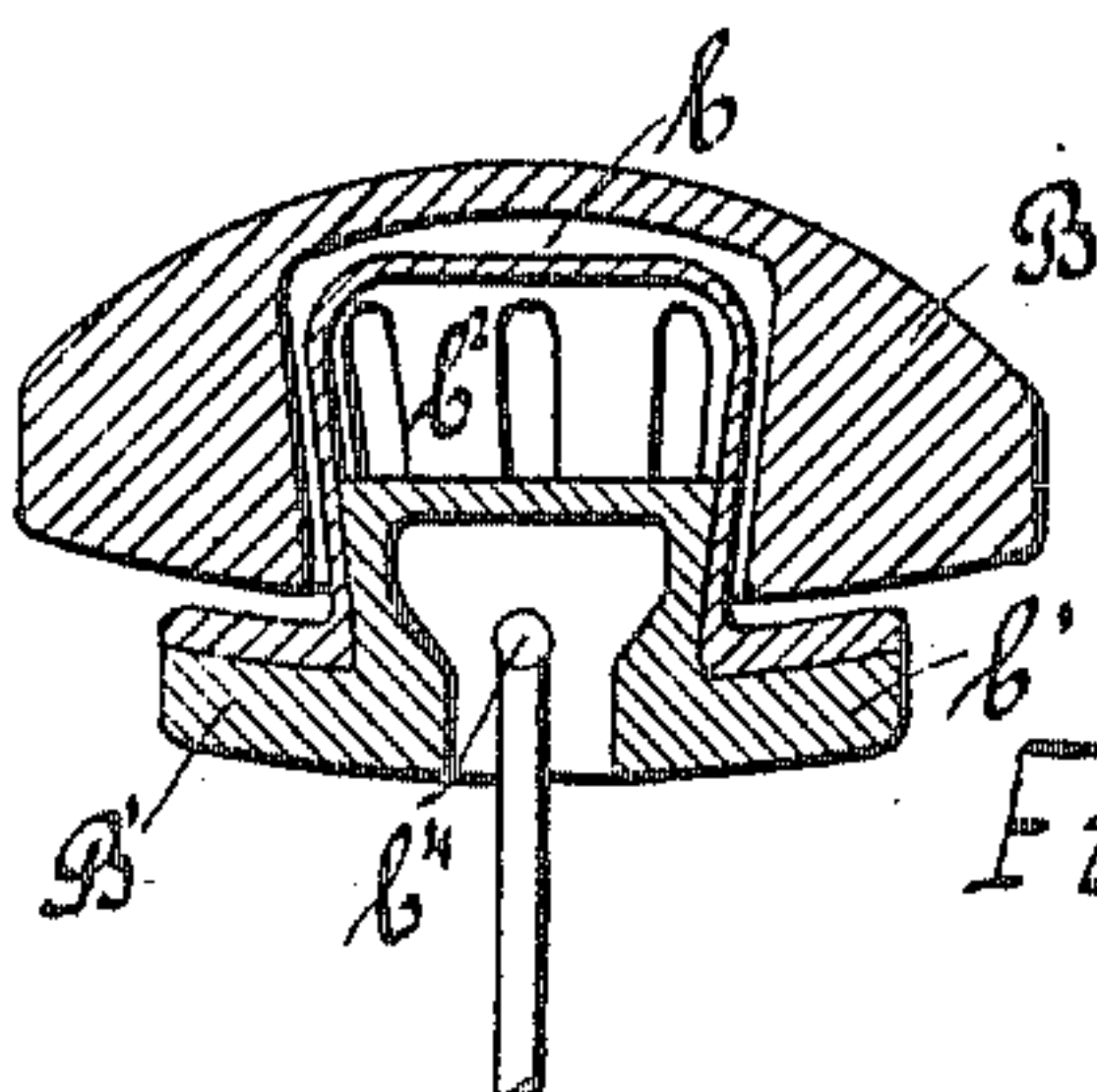
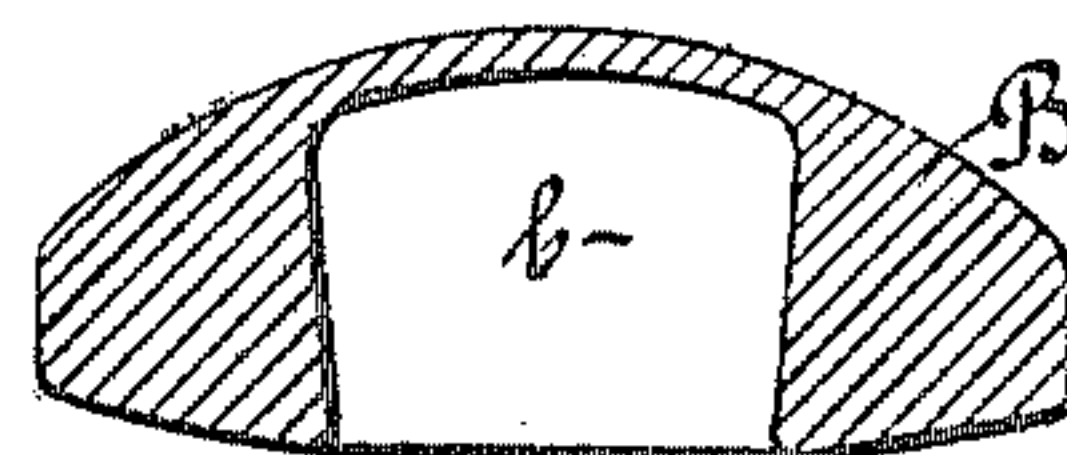
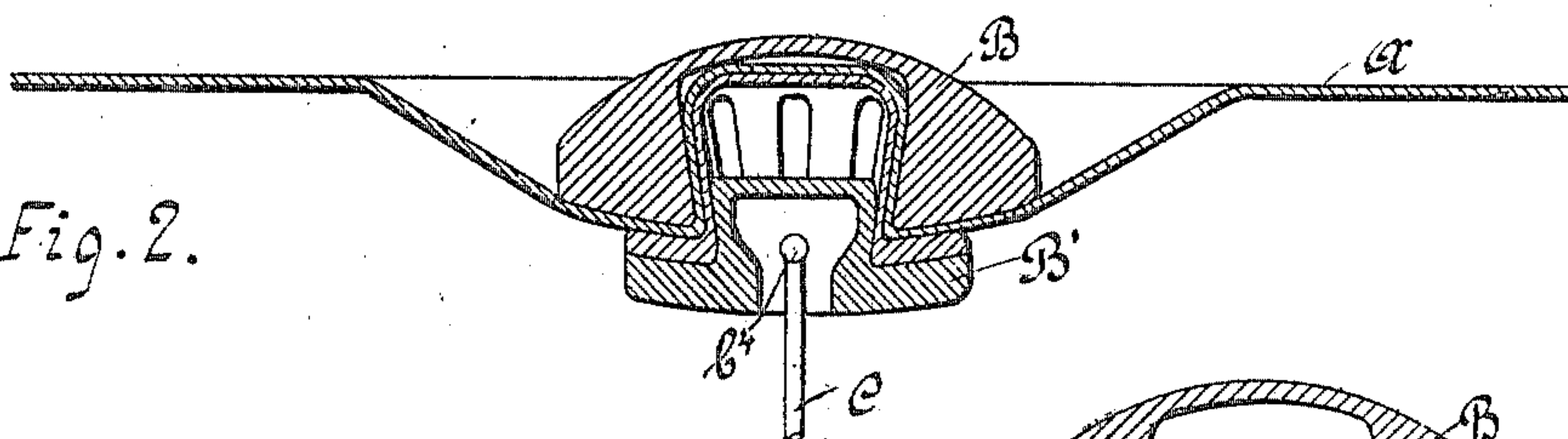


Fig. 3.

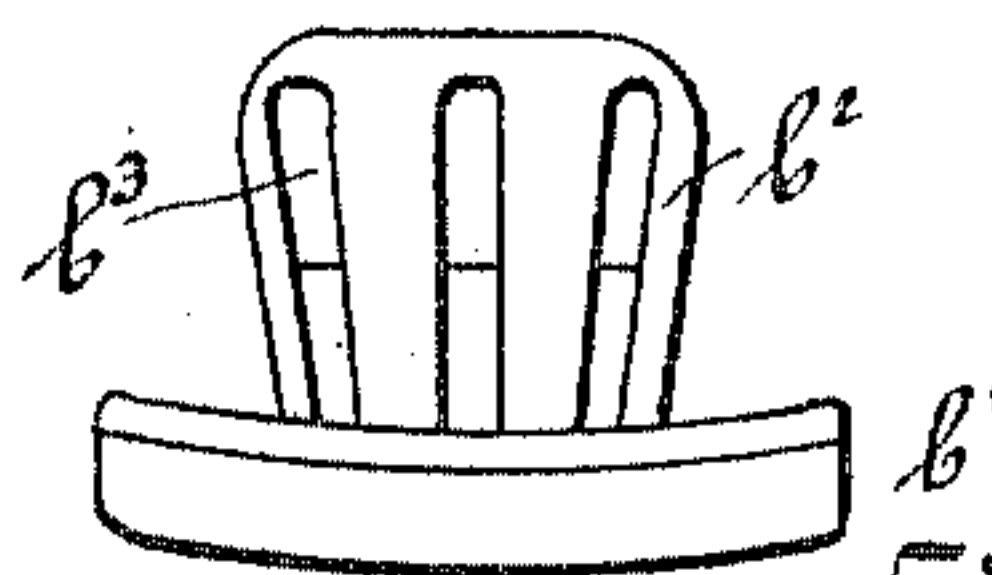


Fig. 4.

Witnesses
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3 SHEETS—SHEET 2.

Fig. 5.

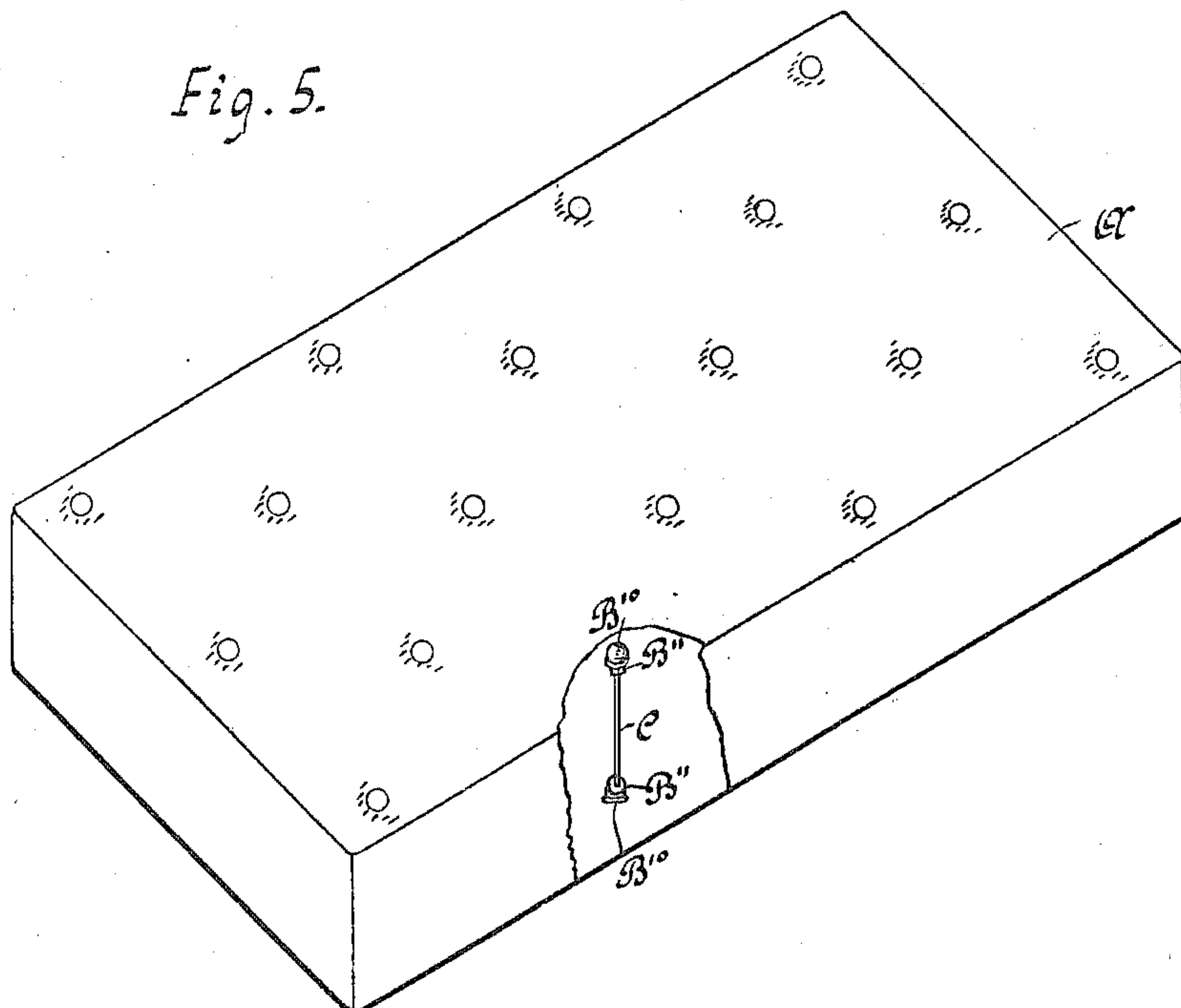


Fig. 6.

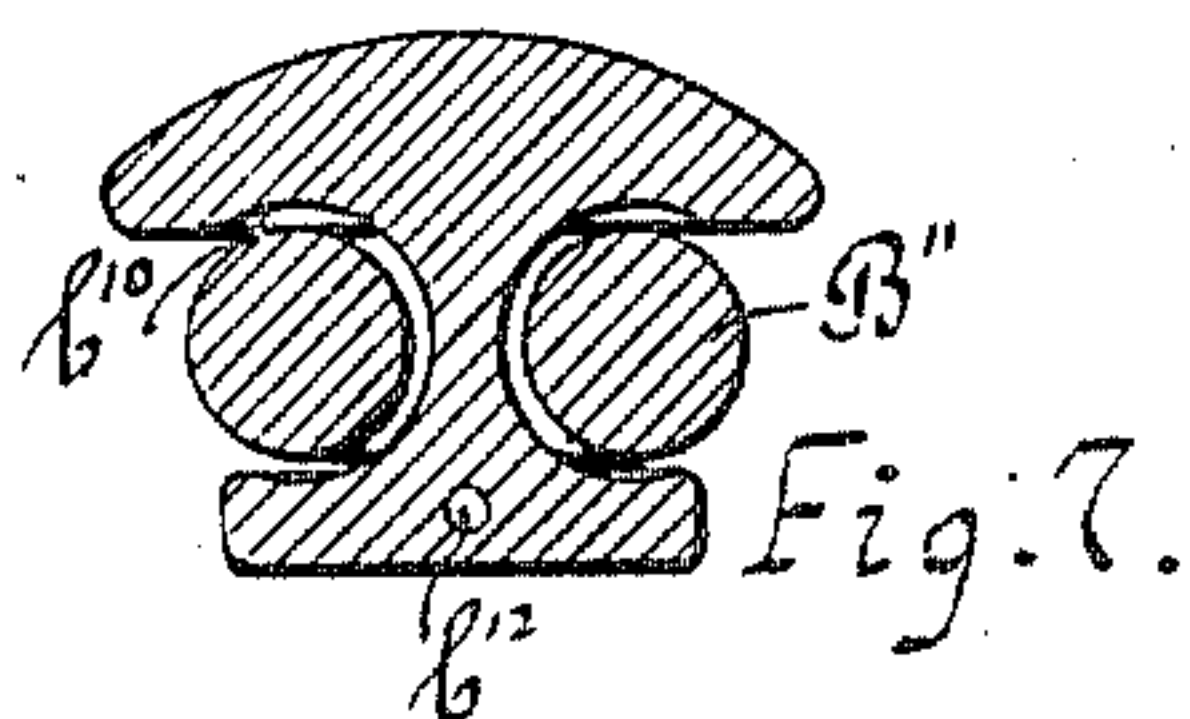
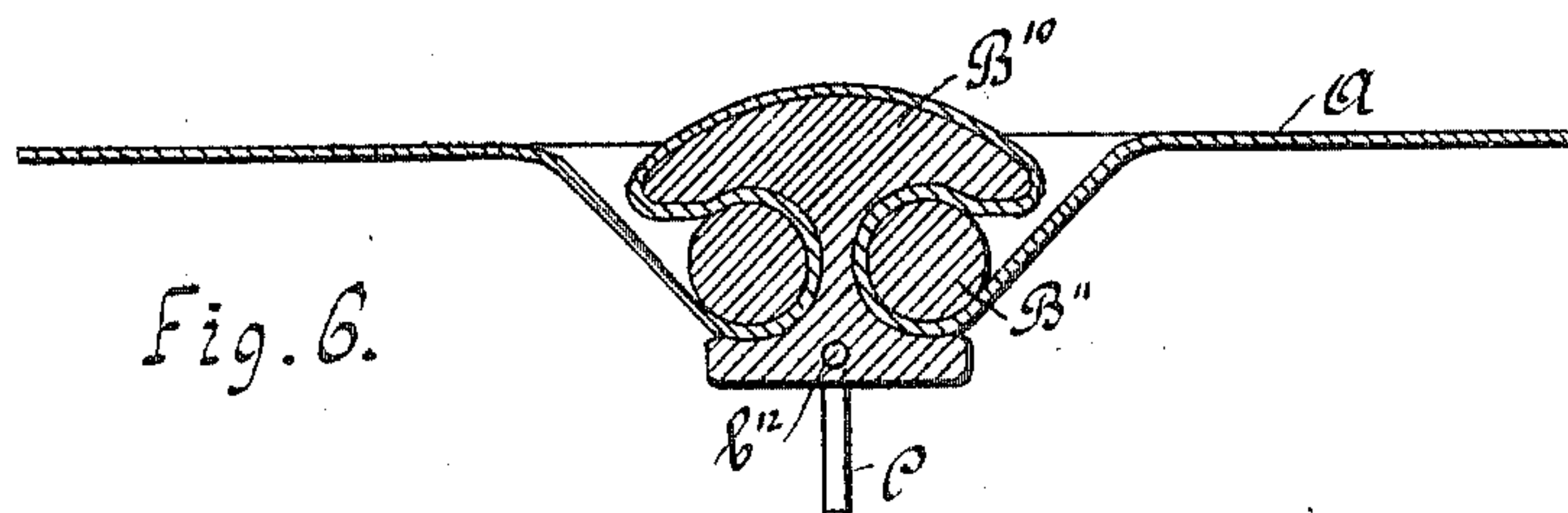


Fig. 7.

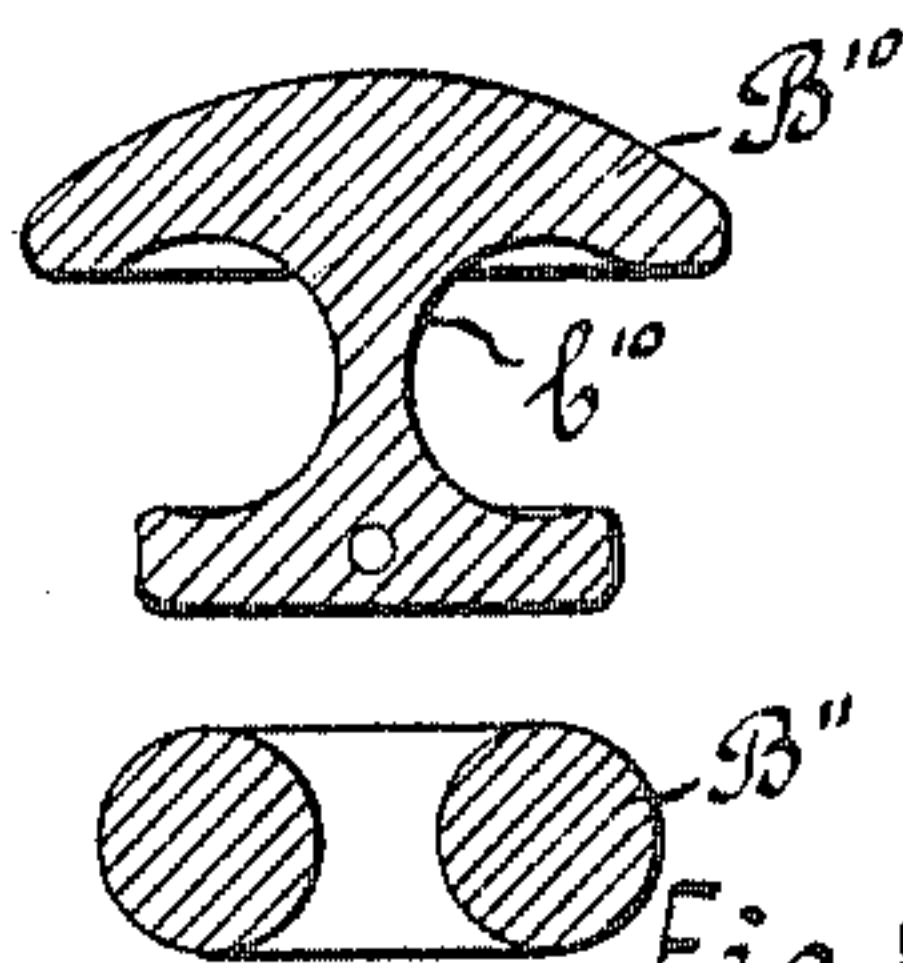


Fig. 8.

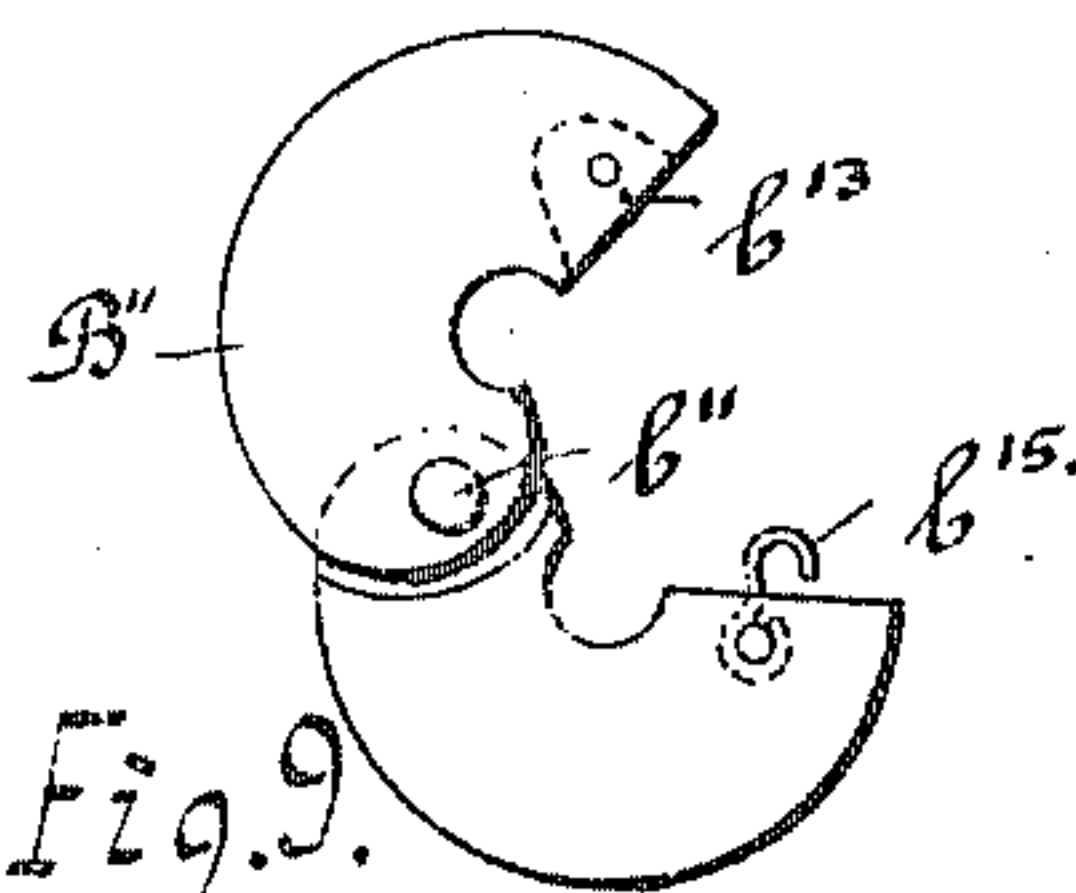


Fig. 9.

Witnesses
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3 SHEETS—SHEET 3.

Fig. 10.

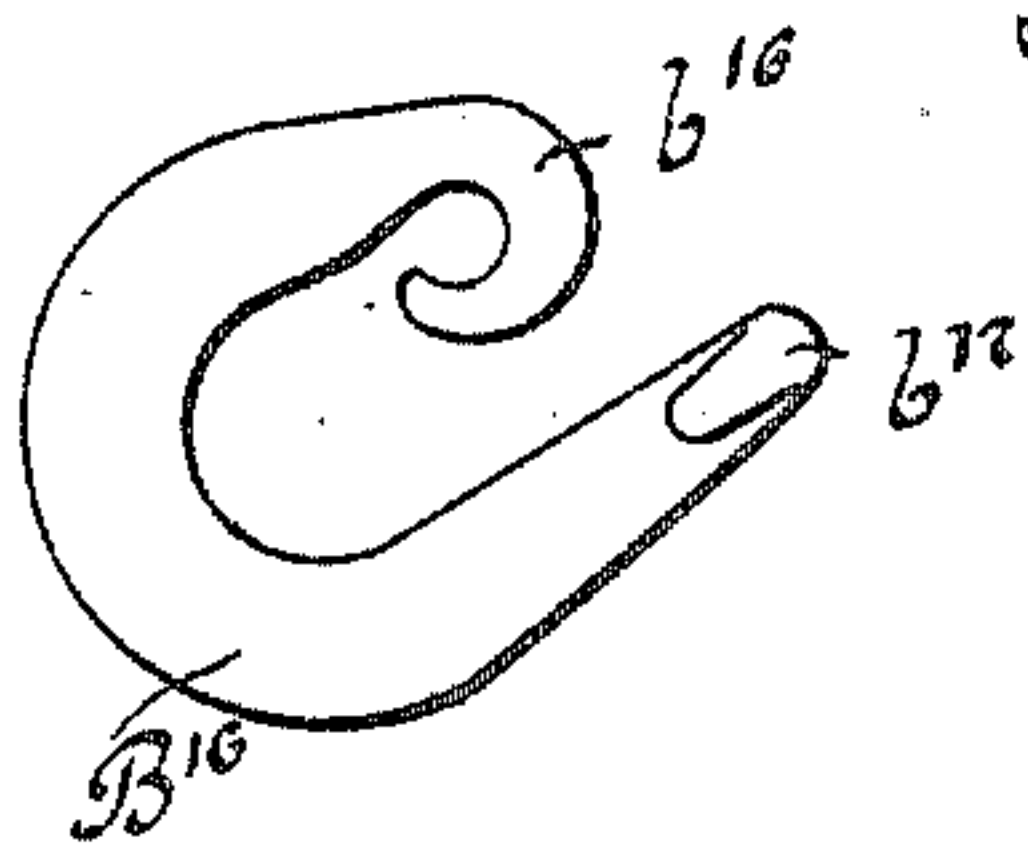


Fig. 11.

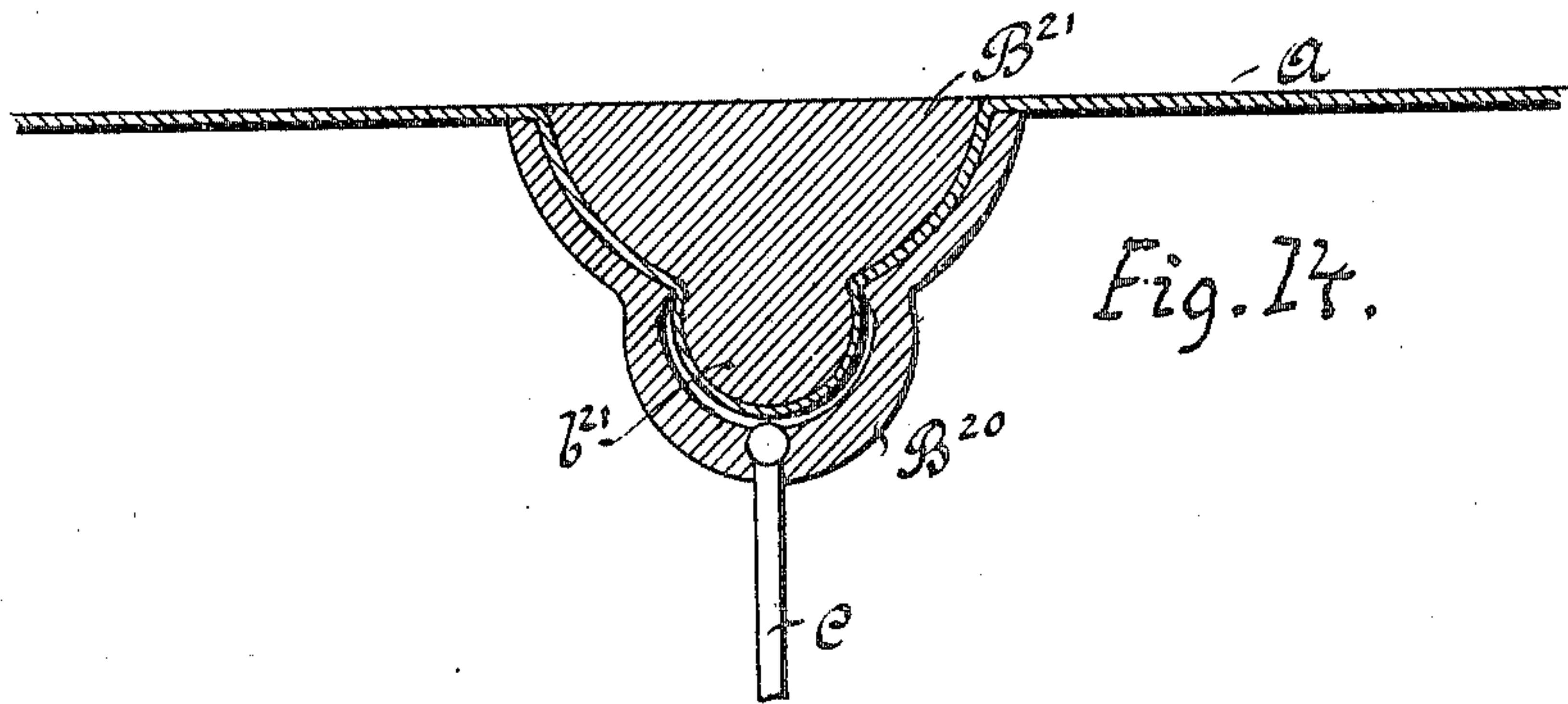
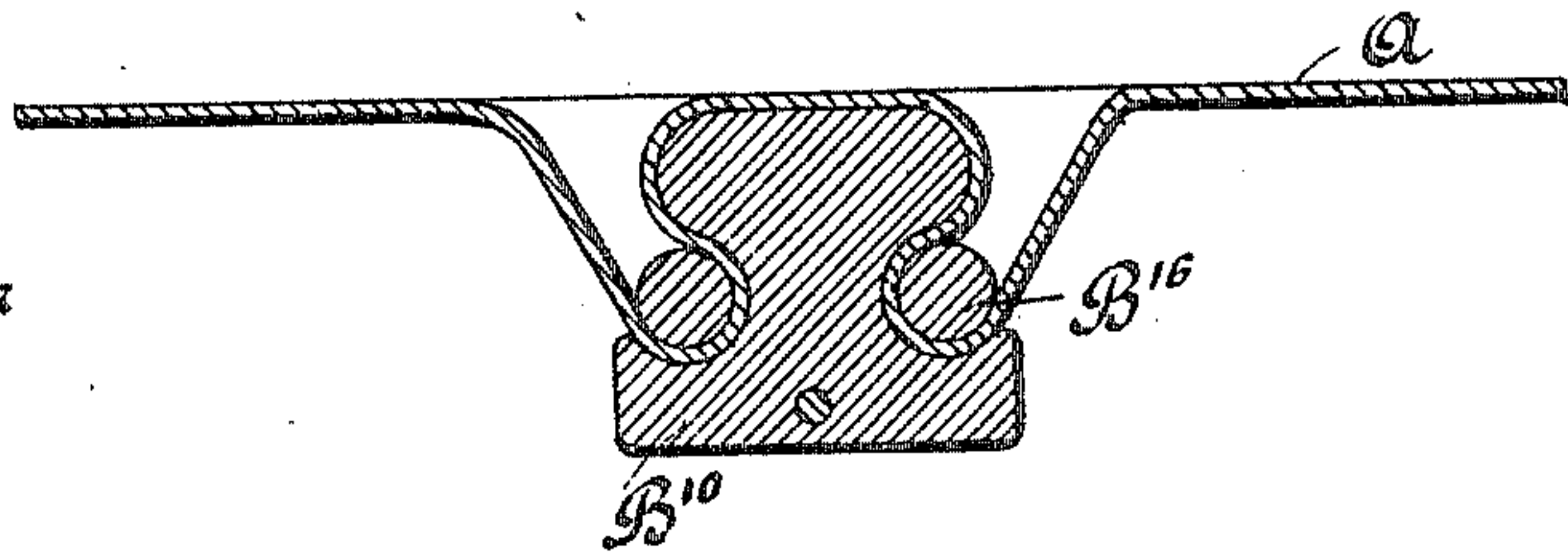


Fig. 14.

Fig. 12.

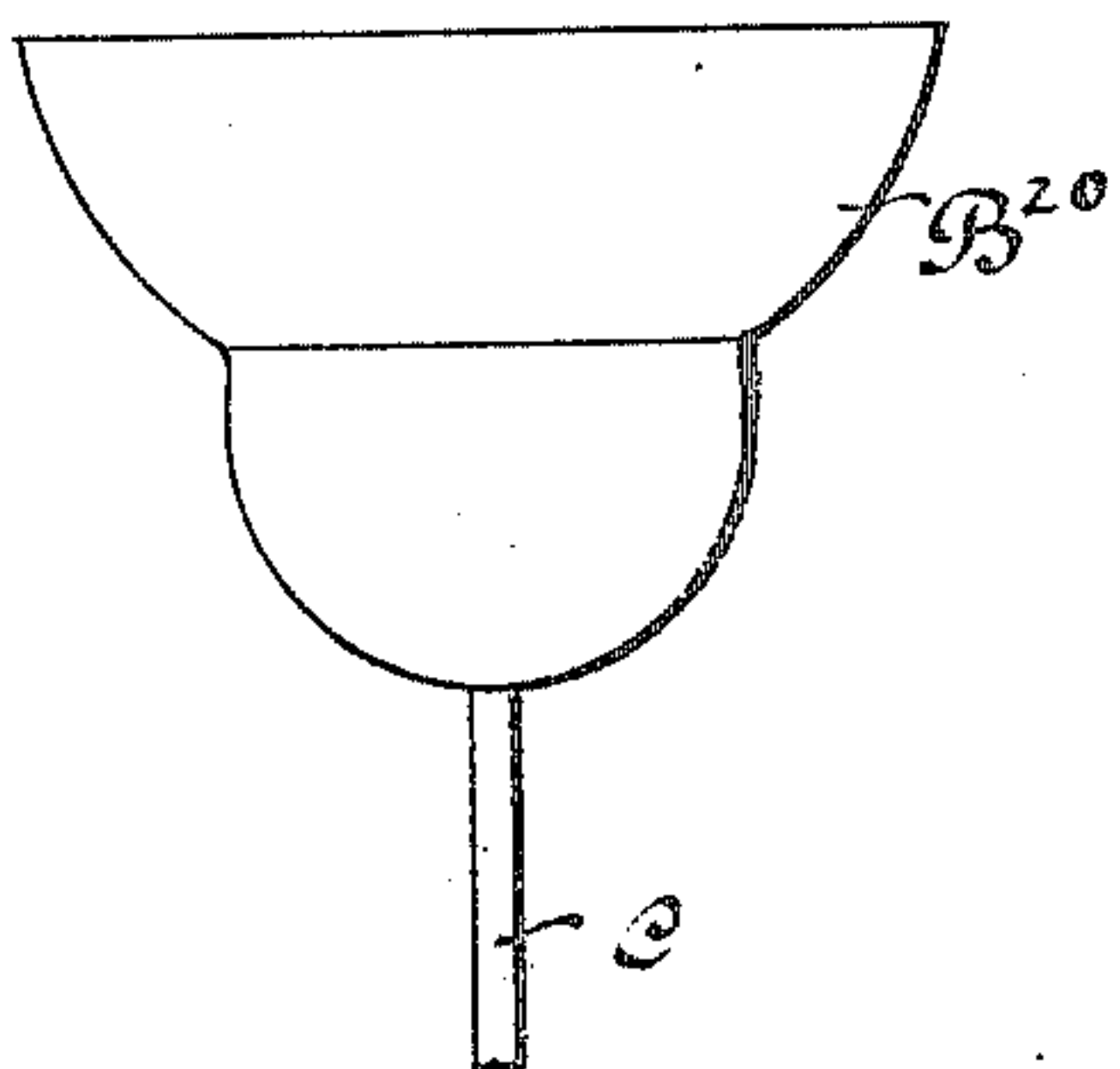
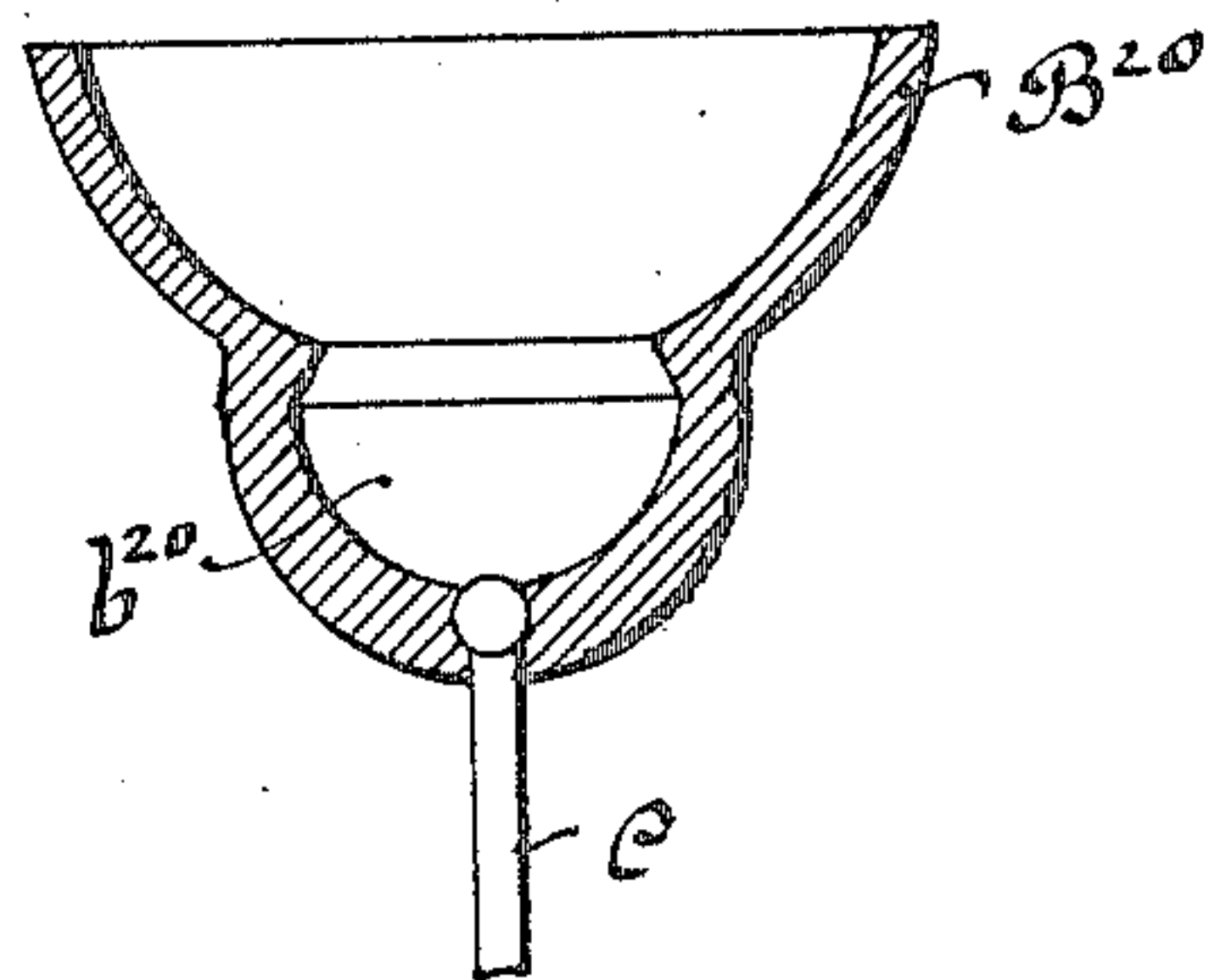
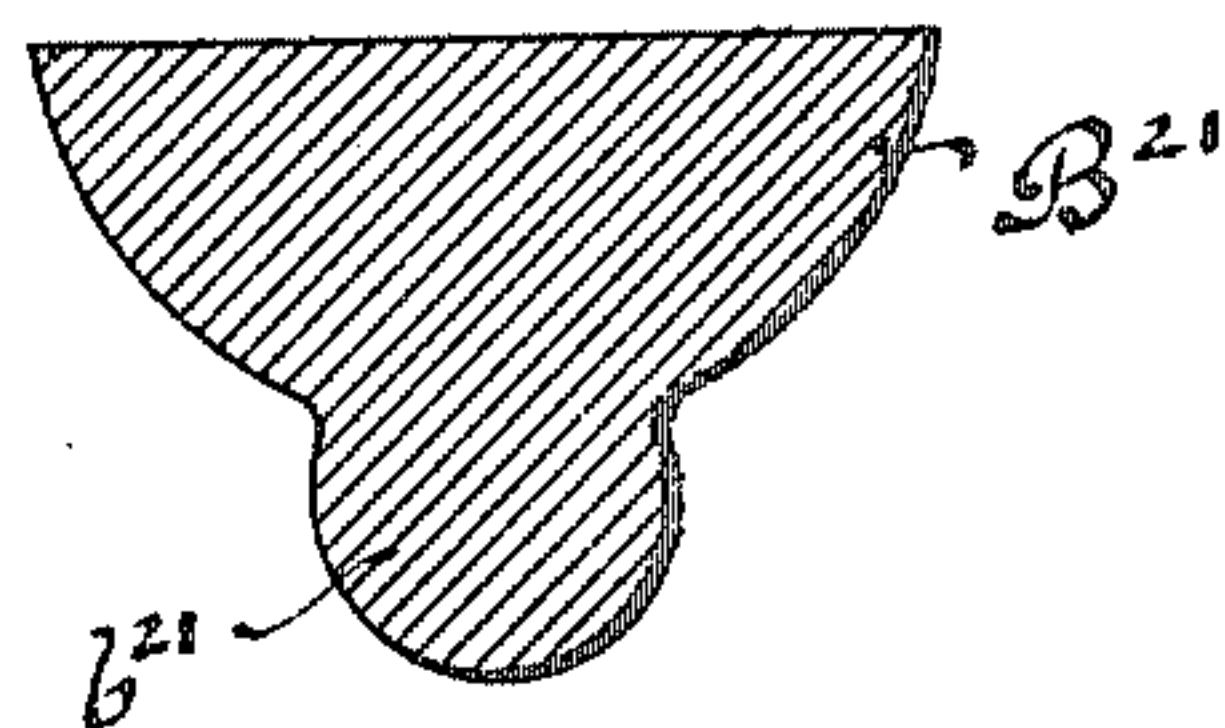


Fig. 13.



Witnesses
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for
Rob. Schwarz

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By his Attorney J. O. Fowler, Jr.

UNITED STATES PATENT OFFICE.

HENRY FRANCIS KEIL, OF BRONXVILLE, NEW YORK.

AIR GOODS.

No. 811,406.

Specification of Letters Patent.

Patented Jan. 30, 1906.

Application filed May 15, 1905. Serial No. 260,555.

To all whom it may concern:

Be it known that I, HENRY FRANCIS KEIL, a citizen of the United States of America, and a resident of Bronxville, in the county of Westchester and State of New York, certify that I have invented a certain new and useful Improvement in Air Goods, of which the following is a specification, the same being a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to inflatable and deflatable beds, cushions, and analogous devices, and has especial relation to the construction of mattresses and the like having tie-pieces or stays extending from the upper to the lower fabrics and used with a view of keeping the parts of the cushion, &c., in proper relative position and of strengthening the entire body of the same, the said beds, &c., being readily portable and when inflated being comfortable so as to readily conform to the different positions taken by the user, which beds, &c., will retain the air under all normal conditions; and it has for its object the provision of an article of the class described which will be economical to manufacture and efficient and durable in practical use.

With this object in view the invention consists in certain novel features of construction and arrangement of parts, all of which will be hereinafter described, and specifically pointed out in the drawings which accompany and form a part of this specification, and in which—

Figures 1 and 5 are perspective views of my invention in the form of mattresses with a portion removed to show the stays with caps or heads thereof. Figs. 2 and 6 are cross-sections of the mattresses shown in Figs. 1 and 5, respectively. Figs. 3 and 4 are sectional views of the stay head or cap shown in Fig. 1 in detail and on a larger scale in respectively closed and open positions. Figs. 7 and 8 are sectional views of the stay shown in Fig. 5 in respectively closed and open positions. Fig. 9 is a view of one of the members of the stay head or cap in an open position. Fig. 10 is a view of another form of clasp or outer member. Fig. 11 is a sectional view of the same applied to the inner member. Fig. 12 is an elevation of another form of stay head or cap constructed according to my invention. Fig. 13 is a sectional view of the same, the members thereof being

in an open position; and Fig. 14 is a sectional view of the said head or cap applied to a fabric.

Like letters of reference indicate like parts in all the views.

Referring particularly to the drawings, A denotes an inflatable bed or like pneumatic device made of suitable flexible sheet material, preferably elastic, the upper and lower fabrics being held together by means of stays having a preferably flexible body portion *c* and a cap or head located at each end of the same. The stay-heads consist ordinarily of two detachable members constructed and arranged to be engaged, interlocked, or otherwise suitably fastened together.

In the cap or head shown in Figs. 1 to 4, inclusive, the same consists of an outer member B, which may be rigid in construction and which is formed with a recess or cavity *b*. The inner member B' consists of a top plate or section engaged with a lower plate *b'* and having a knob *b²*, preferably resilient or yielding in action by reason of apertures or orifices *b³*, formed in the same, the two members B B' being constructed and arranged to be snapped or locked together, as shown in Fig. 3. The member B' also has suitable means for being engaged with the flexible body member C of the stay, as by means of a perforation *b⁴*.

The fabric A is passed between the two members when in an open relation, and upon being snapped or locked together the fabric will be rigidly clasped or held between the two said members without puncturing or otherwise marring the said fabric, as is shown in Fig. 2. The head or clasp shown in Figs. 5 to 9, inclusive, consists of two members B¹⁰ and B¹¹, both of which members when interlocked are preferably rigid or non-yielding in action. The inner member B¹⁰ consists of a button having an annular groove *b¹⁰*, and the outer member B¹¹ consists of a ring which is preferably hinged, as at *b¹¹*, and provided with interlocking means consisting of a latch *b¹⁵* and a catch or keeper *b¹³*, located, respectively, at the free ends of the two sections of the said member. In this instance the inner member B¹⁰ is preferably provided with suitable means for attachment with the flexible body member C of the stay, as a perforation *b¹²*, formed in the same. In the operation of this embodiment of my invention the fabric A is passed over the top of the inner member B¹⁰, and the outer member B¹¹ is then clasped

and locked around the said inner member, thereby rigidly holding the fabric in the groove of the said inner member B¹⁰, as is shown in Fig. 6, without puncturing or otherwise marring the said fabric.

In air goods constructed according to my invention no leaks can occur, as the fabric is not punctured, and the pull is evenly distributed over all portions of the fabric that are in contact with the caps or heads, whereby the said pneumatic cushions, &c., are rendered very serviceable and durable in practical use.

The inner member of the stay-head B¹⁰ may be used in connection with a preferably metal binding device, as a ring or outer member B¹⁶, as shown in Figs. 10 and 11, the ends b¹⁶ and b¹⁷ thereof being clasped or fastened together.

In the stay-head illustrated in Figs. 12 to 14 the preferably wooden inner member B²⁰ is formed with an undercut recessed portion b²⁰, into which the knob b²¹ of the outer member B²¹ may be inserted. When these two members are placed on opposite faces of an elastic fabric and clasped together, as shown in Fig. 14, the fabric will be rigidly held therebetween without puncturing the same.

Having thus described and ascertained the nature of my said invention and in what manner the same is to be performed, it being kept in mind that in law the substitution of equivalents works no variation in the substance of the same, I would have it understood that what I claim as my invention is—

1. An air mattress or cushion comprising imperforate air-proof flexible side pieces, and non-distensible stays having at each end heads formed of a plurality of parts constructed and arranged to be snapped together, the opposite inner members of each pair of heads being tied to the stays and engaging the inner surfaces of the said side pieces, and the outer imperforate members, upon the parts of the heads being snapped together, engaging the outer surfaces of the said side pieces without puncturing or cutting the same to form rigid air-proof joints, whereby outward movement of the side pieces is prevented and the impermeability of the same is preserved.

2. An air mattress or cushion comprising imperforate air-proof flexible side pieces and stays having at each end heads formed of a plurality of parts constructed and arranged

to be snapped together, the opposite inner members of each pair of heads being tied to the stays and engaging the inner surfaces of the said side pieces, and the outer imperforate members, upon the parts of heads being snapped together, engaging the outer surfaces of the said side pieces without puncturing or cutting the same to form air-proof joints, whereby outward movement of the side pieces is prevented and the impermeability of the same is preserved.

3. An air mattress or cushion comprising imperforate air-proof flexible side pieces and non-distensible stays having at each end heads formed of a plurality of parts constructed and arranged to be snapped together, the opposite inner members of each pair of heads being tied to the stays and engaging the inner surfaces of the said side pieces, and the outer imperforate members, upon the parts of the heads being snapped together, engaging the outer surfaces of the said side pieces without puncturing or cutting the same to form rigid air-proof joints, the jointures being practically in a plane parallel to that of the faces of the side pieces and at right angles to the stays, whereby outward movement of the side pieces is prevented and the impermeability of the same is preserved.

4. An air mattress or cushion comprising imperforate air-proof flexible side pieces and stays having at each end heads formed of a plurality of parts constructed and arranged to be snapped together, the opposite inner members of each pair of heads being tied to the stays and engaging the inner surfaces of the said side pieces, and the outer imperforate members, upon the parts of the heads being snapped together, engaging the outer surfaces of the said side pieces without puncturing or cutting the same to form air-proof joints, the jointures being practically in a plane parallel to that of the faces of the side pieces and at right angles to the stays, whereby outward movement of the side pieces is prevented and the impermeability of the same is preserved.

In testimony of the foregoing specification I do hereby sign the same, in the city of New York, county and State of New York, this 10th day of May, 1905.

HENRY FRANCIS KEIL.

Witnesses:

JOSEPH FETK,
DIEDRICH STEGEN.