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Patented Apr. 2, 1901.

J. ROBERTSON & J. R. KENDALL.
TOGGLE FOR STRETCHING LEATHER.

(No Model.)

(Application filed Dec. 26, 1900.)

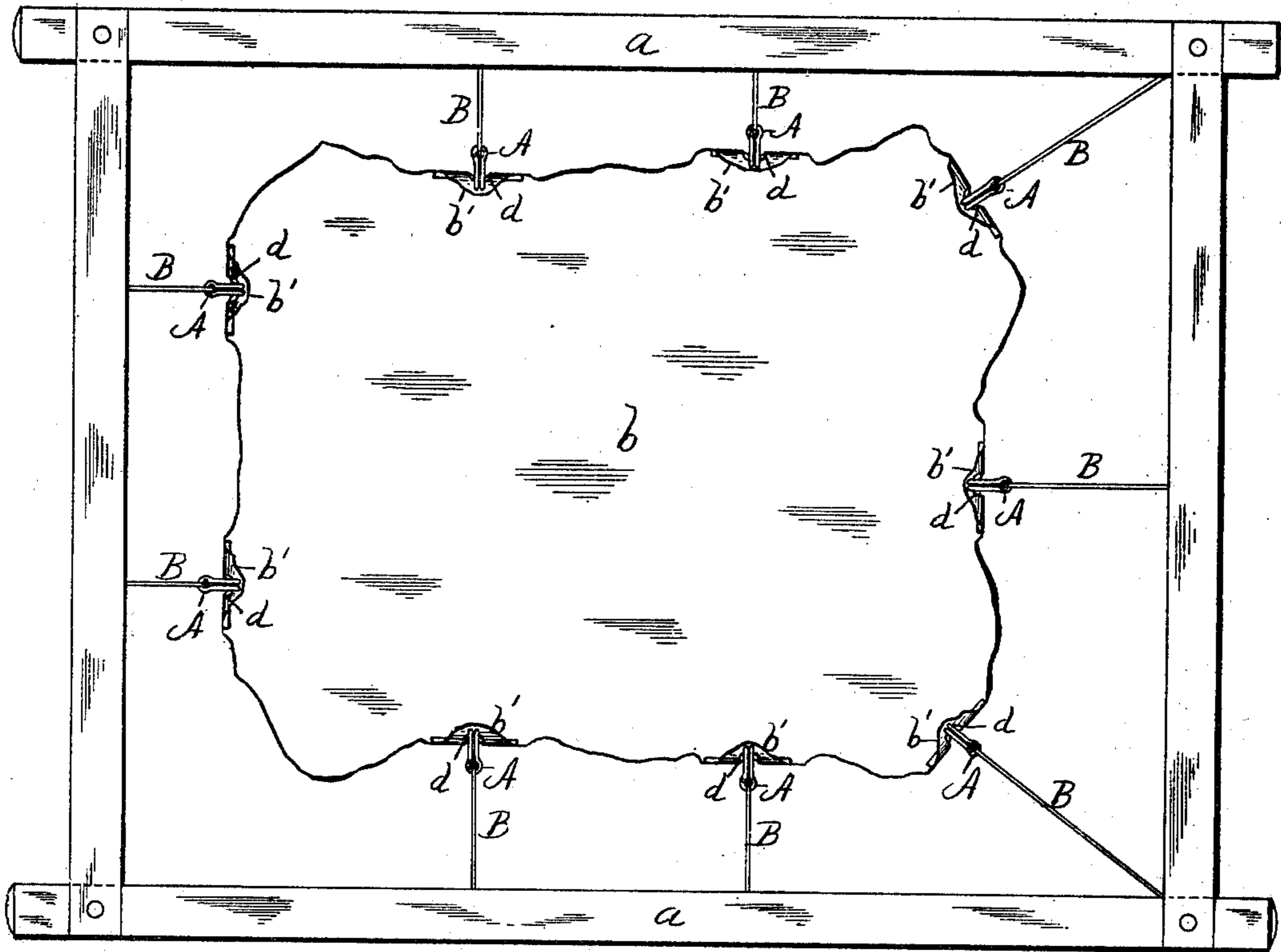


Fig. 1.

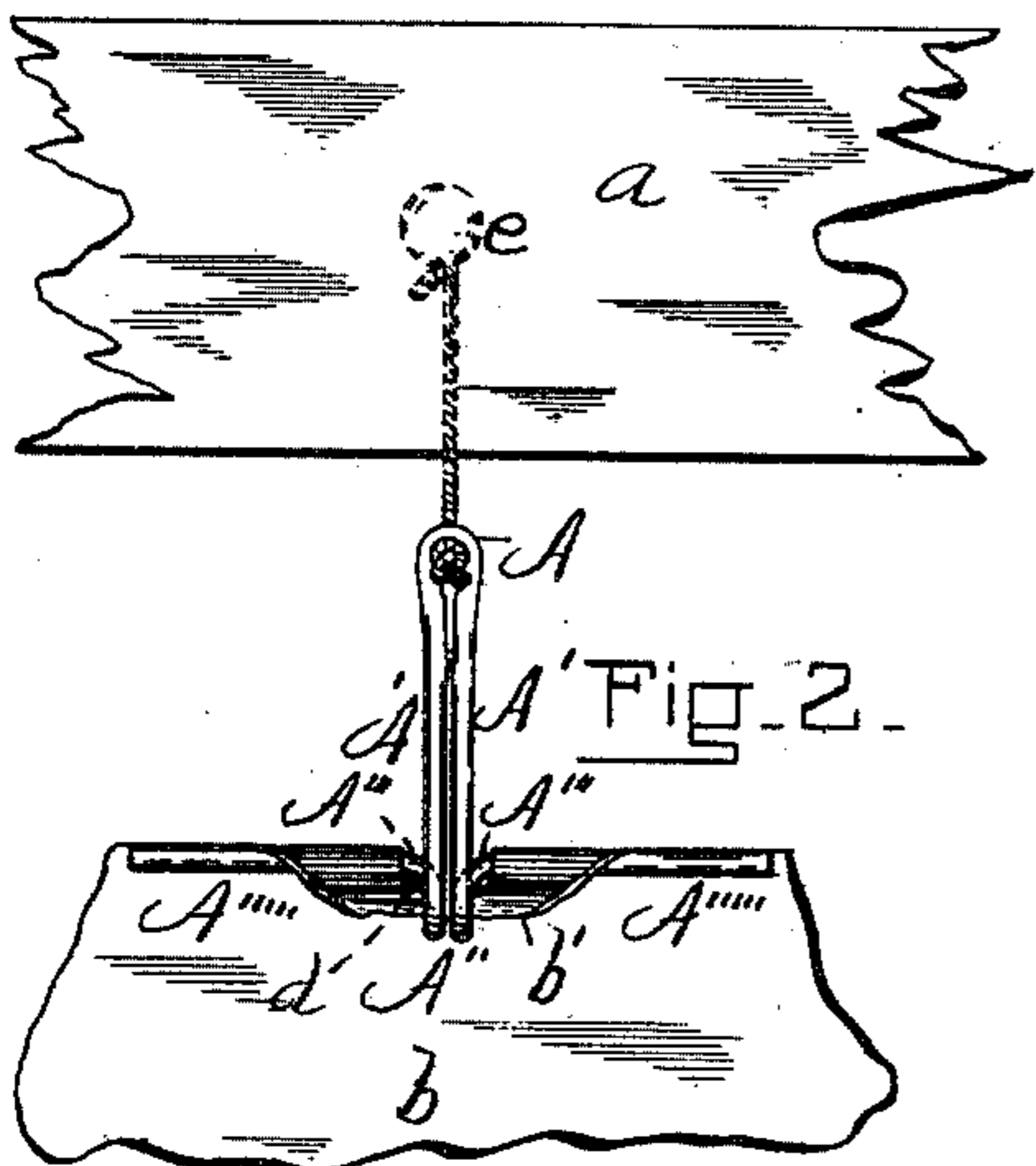


Fig. 2.

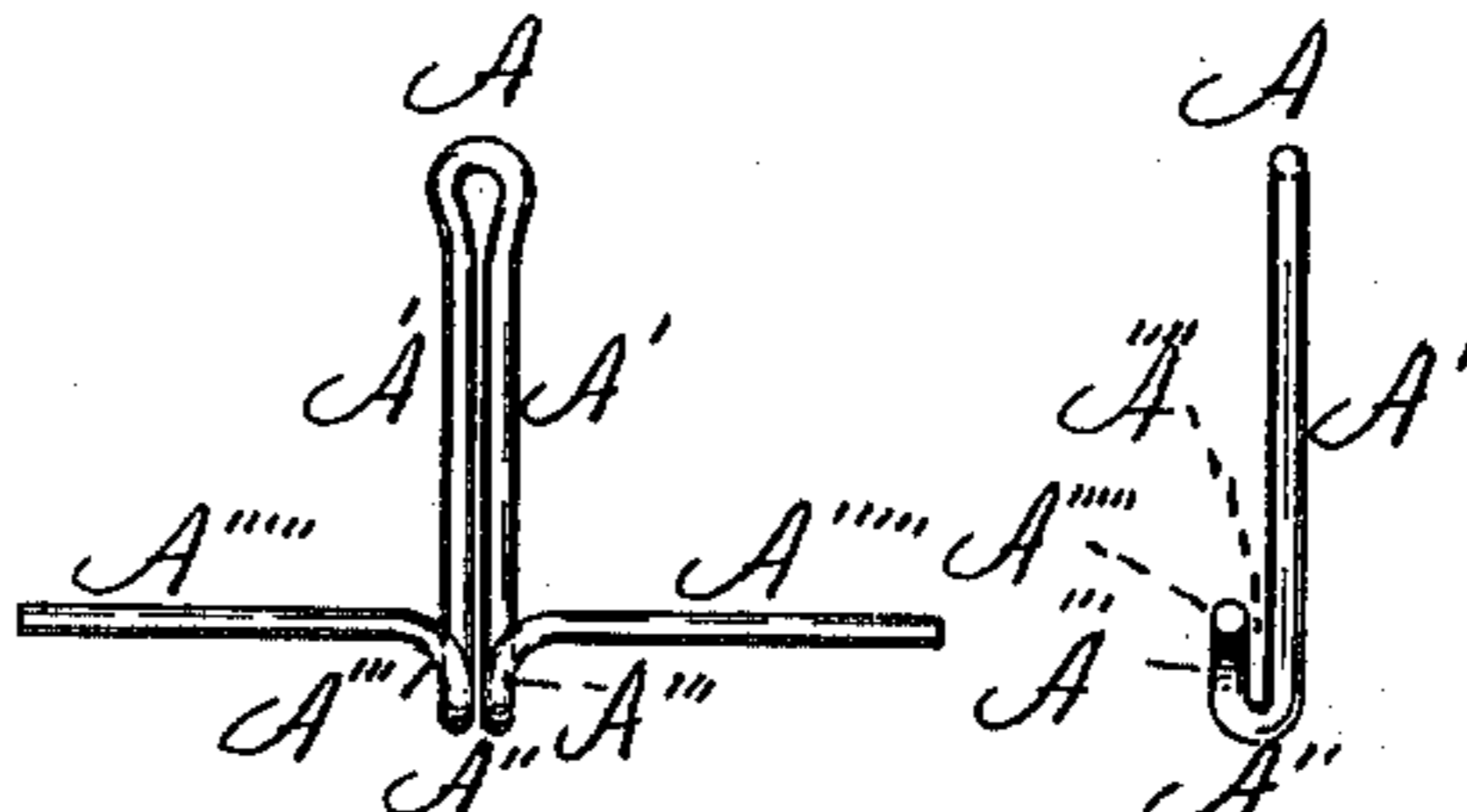


Fig. 3.

Fig. 4.

WITNESSES.

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JAMES ROBERTSON AND JAMES R. KENDALL, OF WOBURN, MASSACHUSETTS.

TOGGLE FOR STRETCHING LEATHER.

SPECIFICATION forming part of Letters Patent No. 670,969, dated April 2, 1901.

Application filed December 26, 1900. Serial No. 41,018. (No model.)

To all whom it may concern:

Be it known that we, JAMES ROBERTSON and JAMES R. KENDALL, citizens of the United States, residing in Woburn, in the county of Middlesex and State of Massachusetts, have invented a new and useful Improvement in Toggles for Stretching Leather and Skins, of which the following is a specification.

In manufacturing patent and enameled leather the hide or skin is stretched upon a frame, which is usually rectangular in shape, for the purpose of applying the coatings. The edge of the skin is connected with the frame by means of cords, one end of each of which is secured to the frame and the other end to a small contrivance termed in the trade or art a "toggle," the cord extending through a hole in the leather and having its inner end secured around the toggle, which lies under and next to the skin. The toggle now in common use consists of a small cylindrical wooden piece. After the application of the coatings to the leather the frame, with the leather stretched upon it, is subjected to heat, with the effect that the leather shrinks and considerable strain is thereby produced at the holes where the cords from the frame extend through to the toggles. As the cord bears directly on the edge of the hole the strain has a tendency to tear the skin at that point and pull the edge away from the toggle, thus tearing out the skin and releasing the toggle. It is the object of this invention to provide a toggle which will obviate this difficulty and resist the strain produced by the shrinking of the skin without tearing it or releasing the toggles.

The nature of the invention is fully described in detail below and illustrated in the accompanying drawings, in which—

Figure 1 is a plan view of the under side of a skin stretched upon a frame and secured in position by means of my improved toggles. Fig. 2 is an enlarged plan view of a portion of the under side at the point of the connection of the edge of the skin and the frame by means of one of my improved toggles. Fig. 3 is a plan view of the upper side of one of the toggles removed. Fig. 4 is a side or edge view of the same.

Similar letters of reference indicate corresponding parts.

a represents a frame, such as is commonly used in stretching skins or leather, and *b* represents a skin stretched within said frame. The kind of skin or the exact proportions of the frame are not material, as any suitable frame may be employed or a skin of any size applied thereto. This skin is furnished with holes *d* at suitable points near the edge of the skin for the purpose of connecting said edge with the frame and stretching the skin taut. It is desirable, of course, to make these holes as near the edge as practicable without danger of tearing the skin and pulling out the toggles.

Each of our toggles consists of a piece of metal or wire, preferably round in cross-section and bent into the shape indicated in Figs. 2, 3, and 4. The central or middle portion of this wire is slightly spread, so as to constitute the eye or loop *A*, from the inner end of which the two portions of the wire extend at *A'*, parallel and nearly or quite in contact to the points *A''*, at which they are bent downward, and thence rearward and slightly outward at *A'''*, so as to form a pocket or groove at *A''''*, and thence outward or apart, as shown, so that the parts *A''''* of the wire next the opposite ends are in a straight line.

B represents the cords, secured at their outer ends to suitable headed tacks or equivalent devices *e*. The inner ends of the cords extend through the looped or spread portions and are held in position by suitable knots *B*, preferably on the under side of the toggles.

It will readily be seen that the strain upon the skin does not come at one point—namely, at the outer edge of the hole *a*—as is the case where the cord extends through the hole, but at the opposite side edges of the hole and continuously along the two arms *A''''* for some little distance. This is well illustrated in Fig. 2, in which the position taken by the leather is shown. The leather outside the hole is drawn by the stretching of the skin into the recess or groove *A''''* and forms a fold *b'*, which lies flat against the under surface of the leather. Thus the arms *A''''* are covered by the fold for a considerable distance each side of the hole and assist in taking the strain, so that the strain upon the skin is distributed along the arms as far as they are covered by the fold or flap *b'*. Hence in practice it is found that

the skin will bear very much more strain when its edges are secured by my improved toggles than when cords extend through the holes to cylindrical toggles below, and said cords ; thereby pull directly against the outer edges of the holes.

In another application, executed by us at even date herewith, a toggle is described having spreading arms, but without the construction which is produced by the downwardly and rearwardly extending portions A'' and A''', whereby the fold b' is produced in the leather. It is the object of the present invention to enable the leather to sustain a greater strain without tearing than in the case of the invention described in the said specification, although the holes may possibly be set a little farther back from the edge.

Having thus fully described our invention, what we claim, and desire to secure by Letters Patent, is—

The herein-described improved toggle for stretching leather or skins, comprising a central portion adapted to extend outwardly through a hole in the skin near the edge thereof, formed with a downwardly-extending portion A'', the rearwardly-extending portions A''', and the outwardly-extending arms A''''', whereby a pocket or groove A'''' is produced into which the leather or skin folds as it is being stretched, substantially as set forth.

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Witnesses:

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