No. 625,963. Patented May 30, 1899.

G. H. BLISS.

FASTENING DEVICE FOR BOXES, TUBS, &c.

(Application filed May 31, 1898.)

(No Model.)

Fig: 2.

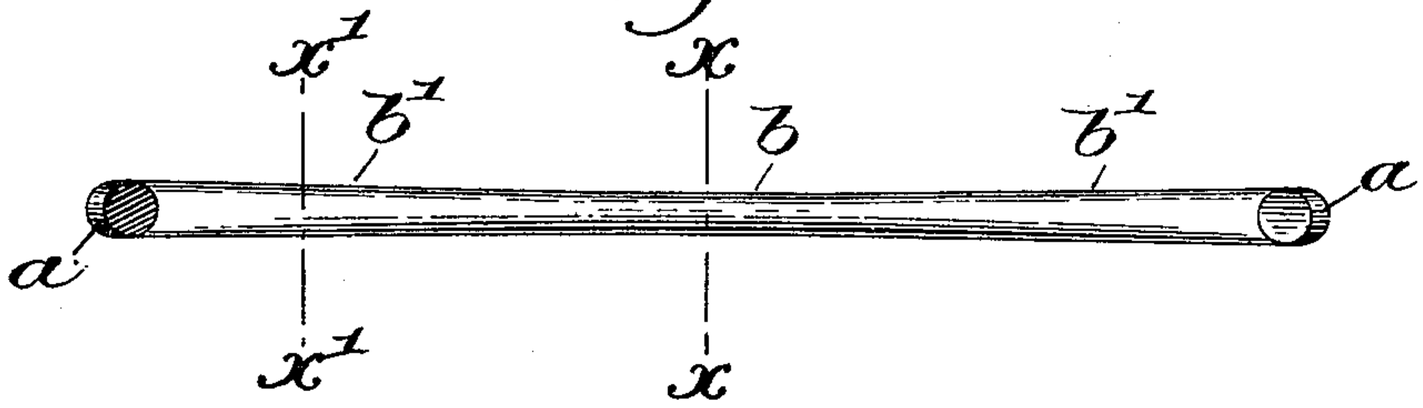

Fig: 1.

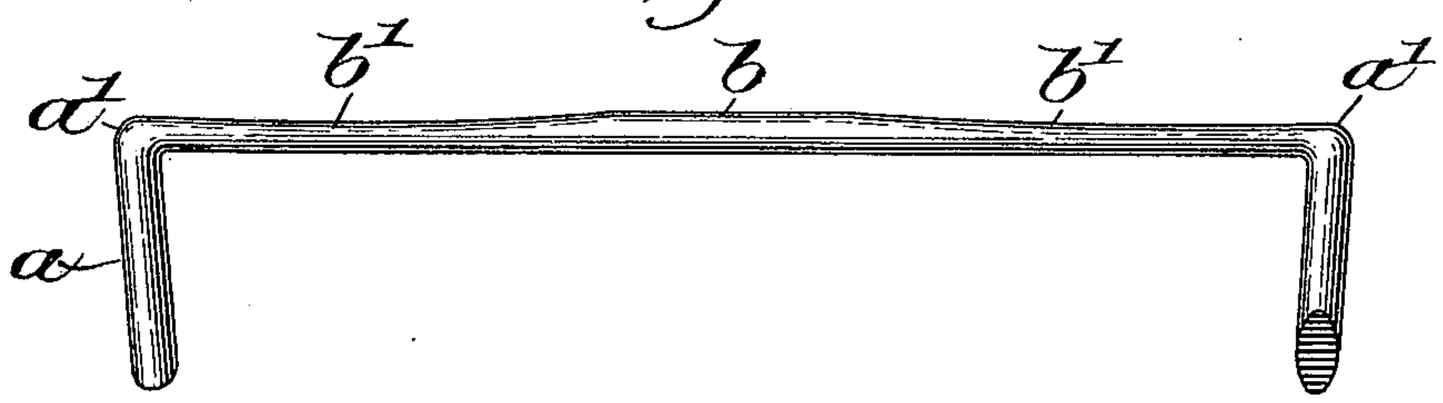

Fig: 3.

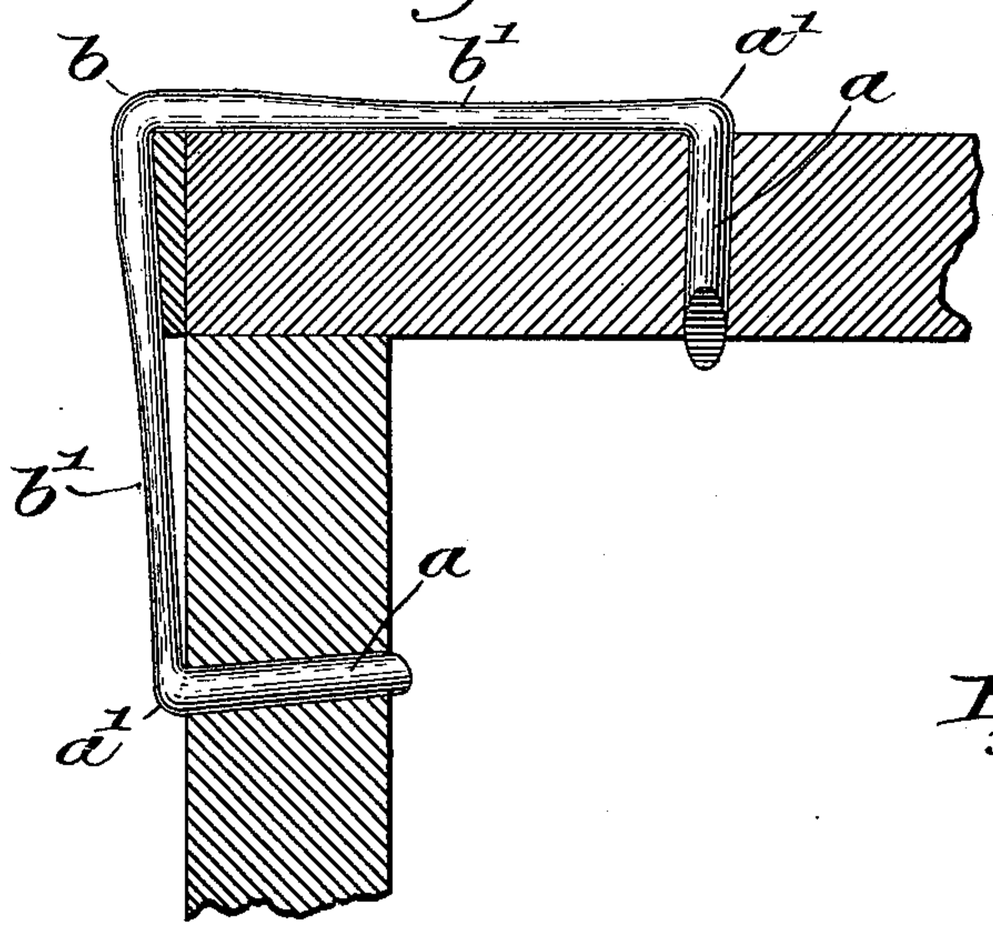

Fig: 4.

Fig: 5.

Witnesses.
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UNITED STATES PATENT OFFICE.

GEORGE H. BLISS, OF BOSTON, MASSACHUSETTS.

FASTENING DEVICE FOR BOXES, TUBS, &c.

SPECIFICATION forming part of Letters Patent No. 625,963, dated May 30, 1899.

Application filed May 31, 1898. Serial No. 682,096. (No model.)

To all whom it may concern:

Be it known that I, GEORGE H. BLISS, of Boston, county of Suffolk, State of Massachusetts, have invented an Improvement in Fastening Devices for Boxes, Tubs, &c., of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

Several forms of staple-like fastening devices have been devised for securing in place the covers or tops of wooden boxes, tubs, or other similar vessels, the device comprising, essentially, two driving legs or prongs and a connecting-crown, the latter being bent around the corner of the box or tub to which the fastening is applied.

In practice the fastening devices are usually made of tinned or coppered wire shaped or swaged in suitable dies to the proper form.

One fastening now in use has its crown thinned and broadened by swaging; but in order to render the crown soft enough to be bent without cracking the device must be annealed after swaging, and usually a retinning or recoppering is necessary to obviate the effect of such annealing, increasing the cost of production. In another form the crown is provided with transverse lines of weakness—that is, the amount of metal is reduced at several points to facilitate bending; but either the before-mentioned objections exist or a very high grade of wire must be employed.

In my efforts to produce at a low cost a fastening device of the general type herein referred to I have discovered that I can use a comparatively cheap grade of soft wire and obtain highly satisfactory results by swaging only the portions of the crown adjacent the legs. By so doing the body of the crown remains in its original soft condition, the parts adjacent the legs are hardened by compression and flattened to present a better surface to be struck by the hammer, and the annealing and subsequent resurfacing of the fastening are entirely obviated.

Figure 1 in side elevation is an enlarged view of a fastening device embodying my invention. Fig. 2 is an under side view thereof. Fig. 3 in side elevation shows the device in use, the top and side of the box being shown in section. Fig. 4 is an enlarged transverse section on the line $x\,x$, Fig. 2; and Fig. 5 is a similar view on the line $x'\,x'$, Fig. 2.

In practicing my invention I take a blank of suitable length, preferably of soft tinned or coppered wire of the requisite diameter, and by means of suitable dies form the blank into the shape shown in Figs. 1 and 2, the fastening comprising driving-legs $a\,a$, joined by a crown b of suitable length. As is usual, the legs are beveled at their ends and are bent at a', where they join the crown. The central portion of the crown retains the shape and diameter of the blank; but at each end, adjacent the bends a', the crown is swaged or flattened, as at b', the swaging extending to the tops of the legs. This swaging serves by its compressive action to not only harden the crown adjacent the legs, thereby imparting the desired and necessary stiffness thereat, but it prevents a flat surface to be struck with a hammer in applying the device. Now when the crown is applied, as shown in Fig. 3, the soft and unswaged body portion is readily bent without any tendency to break or crack, the swaged portion b' of the crown lying along the top and side of the box or other vessel.

It will be obvious that very simple and inexpensive dies are required, and a relatively cheap grade of wire can be used in the manufacture of the fastening, the full cross-section of the unswaged portion of the crown being utilized at the bend.

By referring to Figs. 1 and 2 it will be seen that the flattening of the ends of the crown decreases gradually from the heads of the legs to the main or central portion of the crown.

Having described my invention, what I claim, and desire to secure by Letters Patent, is—

1. A staple-like fastening for boxes, tubs, &c., consisting of two driving-legs, and a connecting-crown having a relatively soft body portion to facilitate bending, and end portions hardened by compression, located adjacent the legs and between them and the body of the crown, substantially as described.

2. A staple-like fastening for boxes, tubs, &c., consisting of two driving-legs, and a connecting-crown having a substantially cylindrical, soft central body portion to facilitate bending, and flattened end portions between said body and the legs and forming driving-

surfaces for the latter and hardened by compression, substantially as described.

3. A staple-like fastening for boxes, tubs, &c., consisting of two driving-legs, and a connecting-crown having its end portions only swaged adjacent and extending inwardly from the legs, substantially as described.

4. A staple-like fastening for boxes, tubs, &c., consisting of driving-legs, and a connecting-crown the body portion thereof corresponding in size and cross-section with the legs, and flattened and hardened by compression between the latter and the body portion, substantially as described.

5. A staple-like fastening for boxes, tubs, &c., consisting of driving-legs, and a connecting-crown having a relatively soft central body portion, tapering and being hardened by compression from the latter to the legs and forming flat driving-surfaces therefor, substantially as described.

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

GEORGE H. BLISS.

Witnesses:
JOHN C. EDWARDS,
AUGUSTA E. DEAN.