

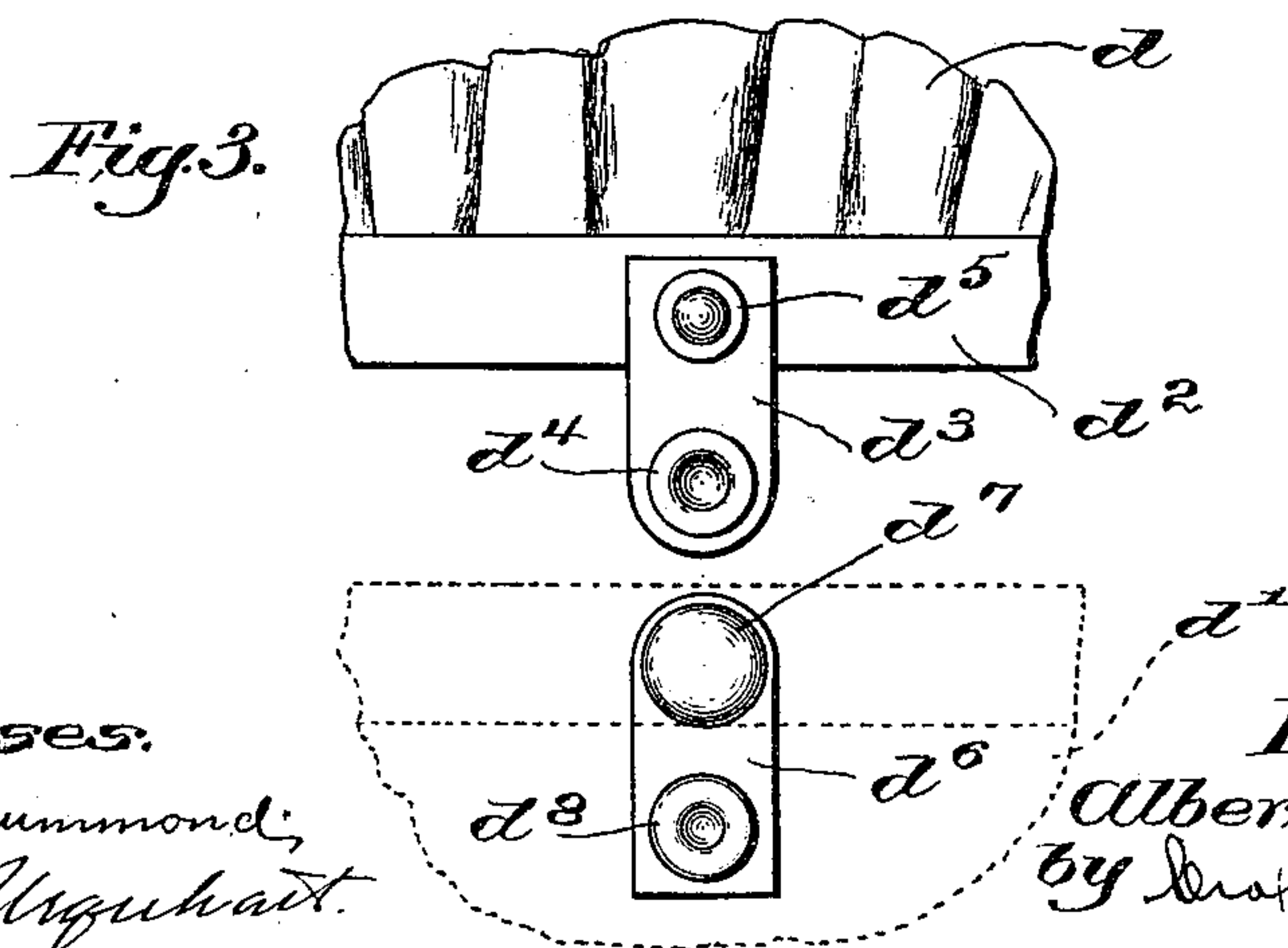
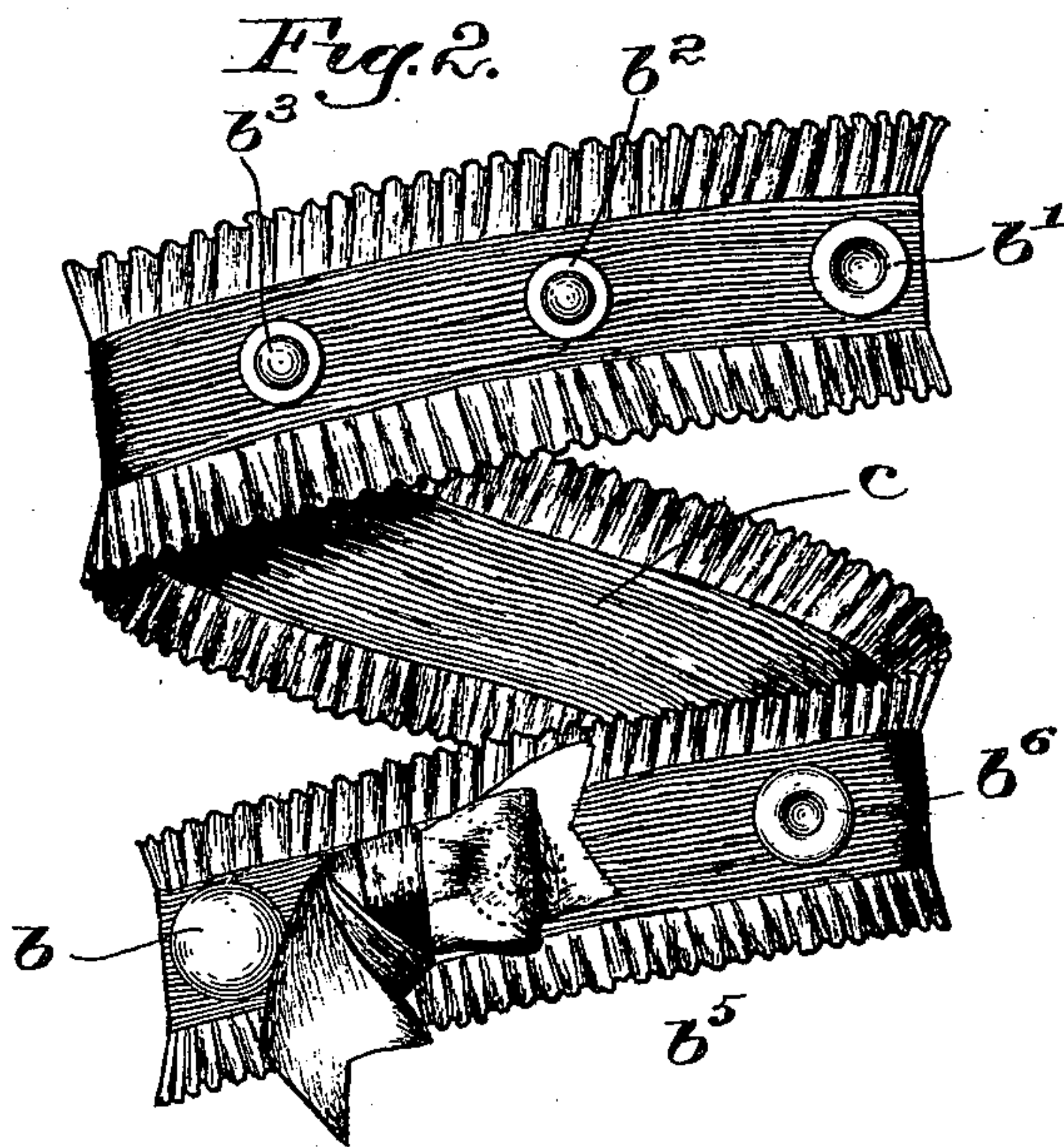
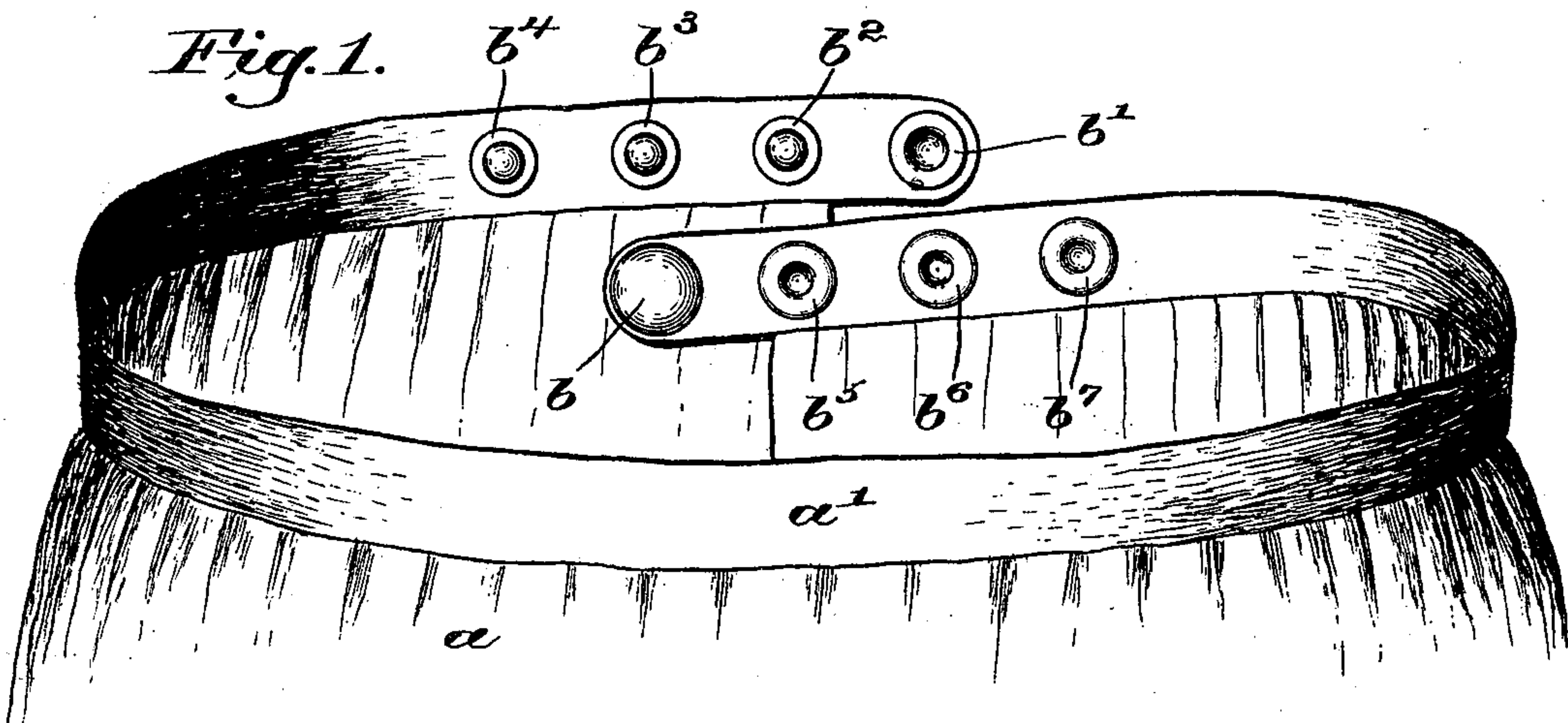
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Patented Nov. 21, 1899.

A. N. BULLENS.  
FASTENER FOR GARMENTS, &c.

(Application filed Mar. 8, 1899.)

(No Model.)



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# UNITED STATES PATENT OFFICE.

ALBERT N. BULLENS, OF NEWTON, MASSACHUSETTS.

## FASTENER FOR GARMENTS, &c.

SPECIFICATION forming part of Letters Patent No. 637,445, dated November 21, 1899.

Application filed March 8, 1899. Serial No. 708,188. (No model.)

*To all whom it may concern:*

Be it known that I, ALBERT N. BULLENS, of Newton, county of Middlesex, State of Massachusetts, have invented an Improvement in Fasteners for Garments, &c., of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

My invention is an improved fastening device particularly intended for articles of apparel and personal convenience.

My object is to provide a fastener which shall hold tenaciously and be practically incapable of being pulled apart by a longitudinal strain or pull and will be largely automatic in its fastening and unfastening, usual ball-and-socket fasteners being preferably employed, and which at the same time will be instantaneously detachable and free from all complicated and expensive construction.

When a simple ball-and-socket fastening is provided on a strap or band, for example, it being understood that the ball is on one part and the socket on the opposite part, if the two are snapped together and then the two ends of the bands are pulled longitudinally, the ball and socket will be readily pulled apart, due to the slight tipping of one on the other because of the fact that the two ends of the band lie in adjacent planes and not in one and the same plane.

My invention therefore resides in providing such an arrangement that a longitudinal pull, as above described, will not disconnect the fastenings, but the latter will hold tenaciously without any tendency to tip away from each other and slip apart under a longitudinal pull on the band or strap to which they may be secured; and to this end I provide a plurality of balls and sockets on each of the parts to be fastened together, arranged in a series extending in the direction in which the strain or pull is exerted on the band or garment, one or more of the sockets being provided in each series or on each of the two parts which are to be bound together.

The details of construction and further advantages of my invention will appear more fully in the course of the following description, reference being had to the accompanying drawings, illustrative of various embodi-

ments of my invention, and the latter will be more particularly defined in the appended claim.

In the drawings, Figure 1 is a perspective view of a portion of a dress-skirt or similar article whose band is provided with an attaching device made according to my invention. Fig. 2 is a similar view of a garter or armlet provided with my invention, and Fig. 3 is a fragmentary view showing my invention applied to a shirt-waist and skirt for maintaining the two together.

It will be understood that my invention is applicable to a large variety of uses, and for convenience of illustration I have herein shown it applied to usual wearing-apparel, a skirt *a* being indicated in Fig. 1, whose band *a'* is provided at its ends with sockets *b b'*, facing each other, the latter opening inwardly and the former opening outwardly, and adjacent these sockets and extending longitudinally in opposite directions therefrom are a series of balls *b<sup>2</sup> to b<sup>7</sup>*, the backs of the balls *b<sup>5</sup> to b<sup>7</sup>* being shown in Fig. 1.

In Fig. 2 I have shown a usual elastic band *c*, similarly provided with sockets *b b'* and balls *b<sup>2</sup> b<sup>3</sup>*, adjacent the socket *b'* and in the line of strain therefrom, and balls *b<sup>5</sup> b<sup>6</sup>*, adjacent and in line with the socket *b*.

In Fig. 3 a shirt-waist *d* is shown at the upper part of the figure, and a skirt *d'* is indicated in dotted lines at the lower part of said figure, the band *d<sup>2</sup>* of the waist being provided with a depending strap *d<sup>3</sup>*, having a socket *d<sup>4</sup>* at its lower end and a ball *d<sup>5</sup>* at its upper end, while the skirt has a similar strap *d<sup>6</sup>* secured to its inner side and carrying a socket *d<sup>7</sup>* at its upper end and a ball *d<sup>8</sup>* at its lower end, arranged facing the socket and ball of the strap *d<sup>3</sup>*, so that the socket *d<sup>7</sup>* will cooperate with the ball *d<sup>5</sup>* and the ball *d<sup>8</sup>* will cooperate with the socket *d<sup>4</sup>* when the two straps are snapped together.

In use a socket *b* will be snapped over any one of the opposite balls, thereby securing one end of the band to the opposite part of the band, and then a socket *b'* will be snapped over the corresponding ball of the first-mentioned end of the band, thereby securing the other end of the band. If now a considerable strain is brought to bear on the band, the ball-and-socket fastenings will hold tena-



ciously against the severest pull. If, however, only one of the ball-and-socket fastenings is secured, a very slight pull will separate it, for the reason that there is nothing to prevent the two parts of the ball and socket from turning angularly to the plane of the disruptive pull, so that one tends to tip away from the other, permitting the ball readily to pull out; but when, however, the two ball-and-socket fastenings are arranged in longitudinal alinement, as shown, then they mutually prevent any possibility of such angular tipping, with the result that the action of one on the other under the pulling strain is a shearing action and causes the socket to grip even more firmly against the ball rather than to loosen or tip away therefrom.

My invention must not be confused with simply using two fastenings instead of one, as my invention resides in so arranging and employing the two fastenings that their natural liability to pull apart is prevented. For example, if a wide band were provided with two or more sets of fastenings arranged transversely across the ends of the band instead of extending longitudinally thereof, as here shown, then a longitudinal pull on the band would simply pull all the fastenings open, and would do this readily without requiring much of a pull; but the moment that the fastenings are arranged in a series in the direction of the pull then they support each other and they cannot be pulled apart.

My invention, while exceedingly simple, is of unusual importance and advantage, inasmuch as it provides a cheap and convenient fastening which is absolutely secure and exceedingly strong and is therefore the very thing which is required in many situations, not only for skirt-bands, garters, and skirts, as shown, but for securing heavy top-coats, neck-protectors, trousers-straps, and various other kinds of fastening-bands and overlying flaps, and other articles, which, so far as I am aware, have usually been liable to pull

apart excepting when provided with expensive or awkward fastenings.

I employ any usual ball-and-socket fastenings, which are secured in the cloth, leather, or other material in the usual manner.

Besides affording the unusually strong and unyielding securing means, as above explained, my fastening is very readily and quickly undone simply by taking hold of the free end of the overlying part of the band or strap and pulling outwardly, whereupon the ball-and-socket fastenings are readily pulled apart in the usual manner.

I prefer to employ a socket and more than one ball adjacent thereto, as shown, my object being to give ready adjustment to suit different sizes—as, for example, referring to Fig. 1, if the user has a small waist the socket  $b$  and the ball  $b^1$  and the socket  $b'$  and the ball  $b^2$  will be used, whereas if the user's waist is larger the socket  $b$  will cooperate with the ball  $b^3$ , or, if a still larger band is required, the socket  $b$  will cooperate with the ball  $b^2$ , the socket  $b'$  cooperating with the ball  $b^1$  in the last case.

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

The herein-described fastener for fastening together overlying parts, consisting of socket members of ball-and-socket fastenings secured adjacent the free ends of said overlying parts, and adjacent said socket members and at equal distances therefrom and in alinement with the direction of separating pull or strain on the two parts ball members to cooperate with said socket members, substantially as described.

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

ALBERT N. BULLENS.

Witnesses:

GEO. H. MAXWELL,  
FREDERICK L. EMERY.