

No. 769,807.

PATENTED SEPT. 13, 1904.

J. D. STIRCKLER.

FASTENER.

APPLICATION FILED FEB. 9, 1901.

NO MODEL.

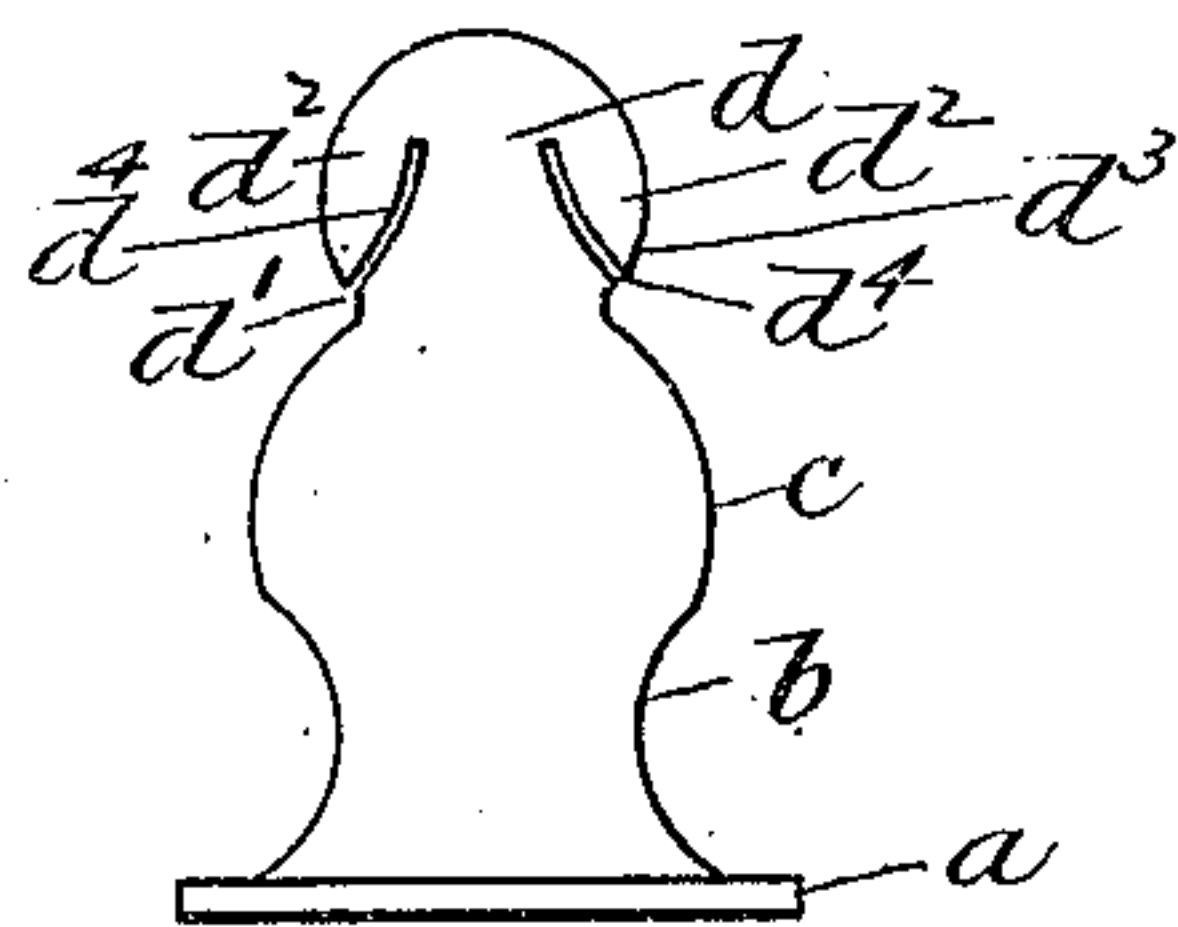


Fig. 1.

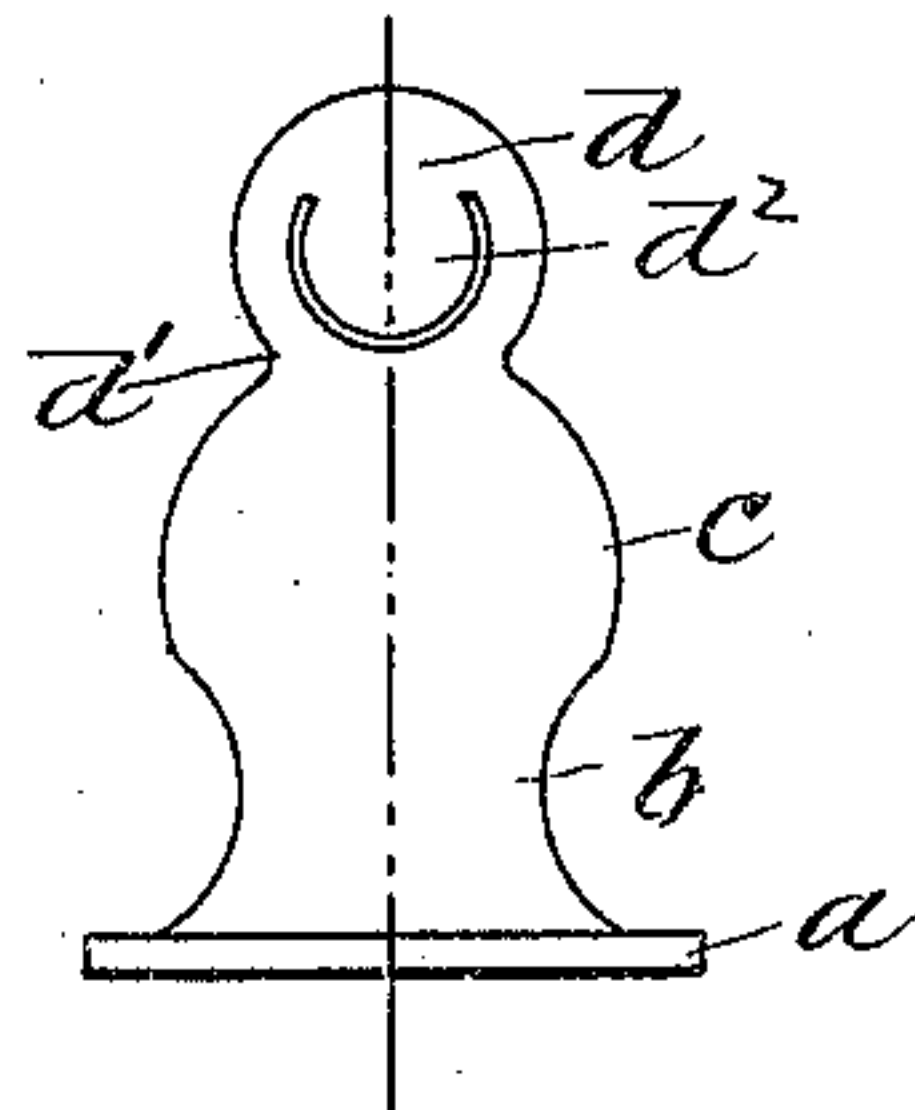


Fig. 2.

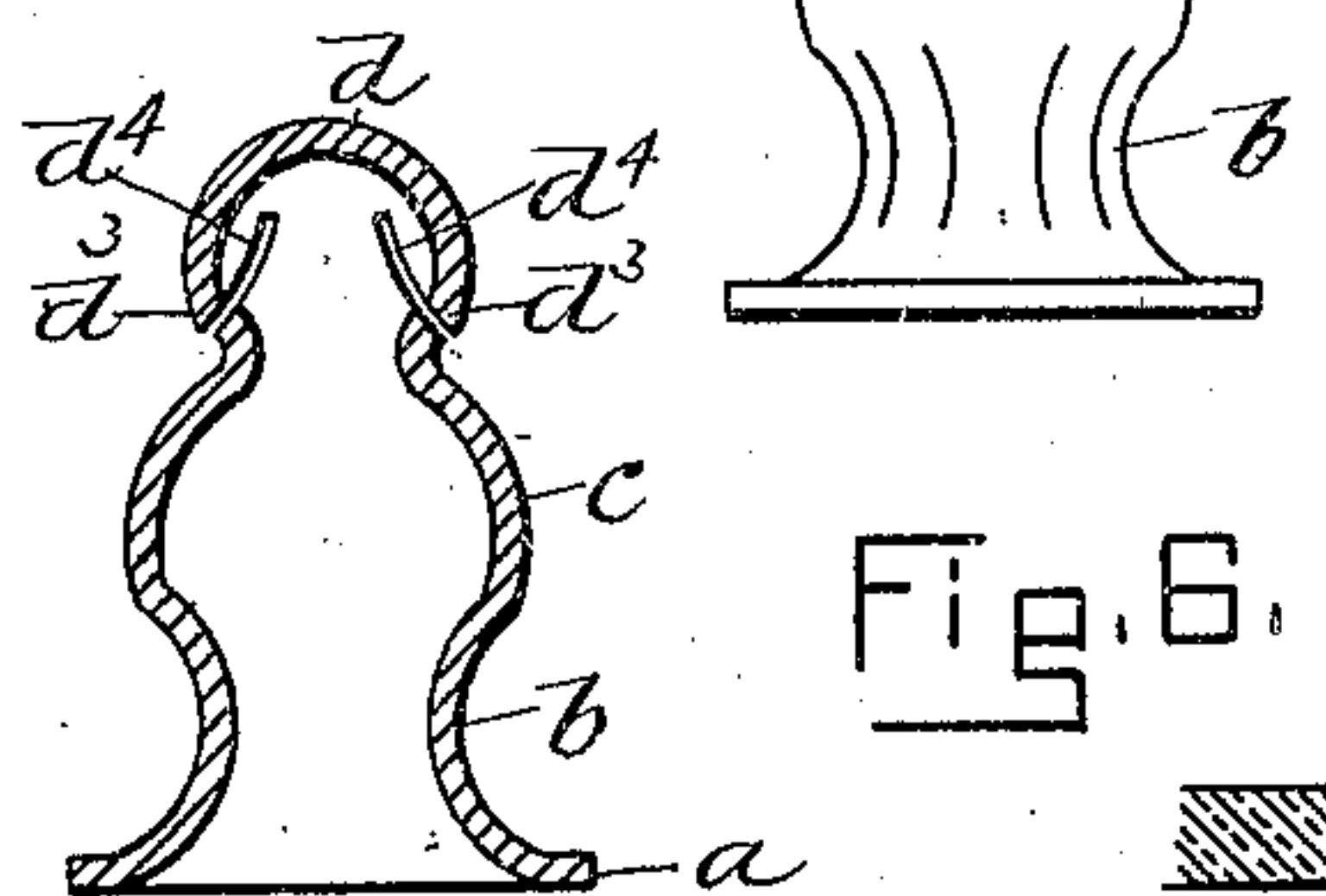


Fig. 3.

Fig. 6.

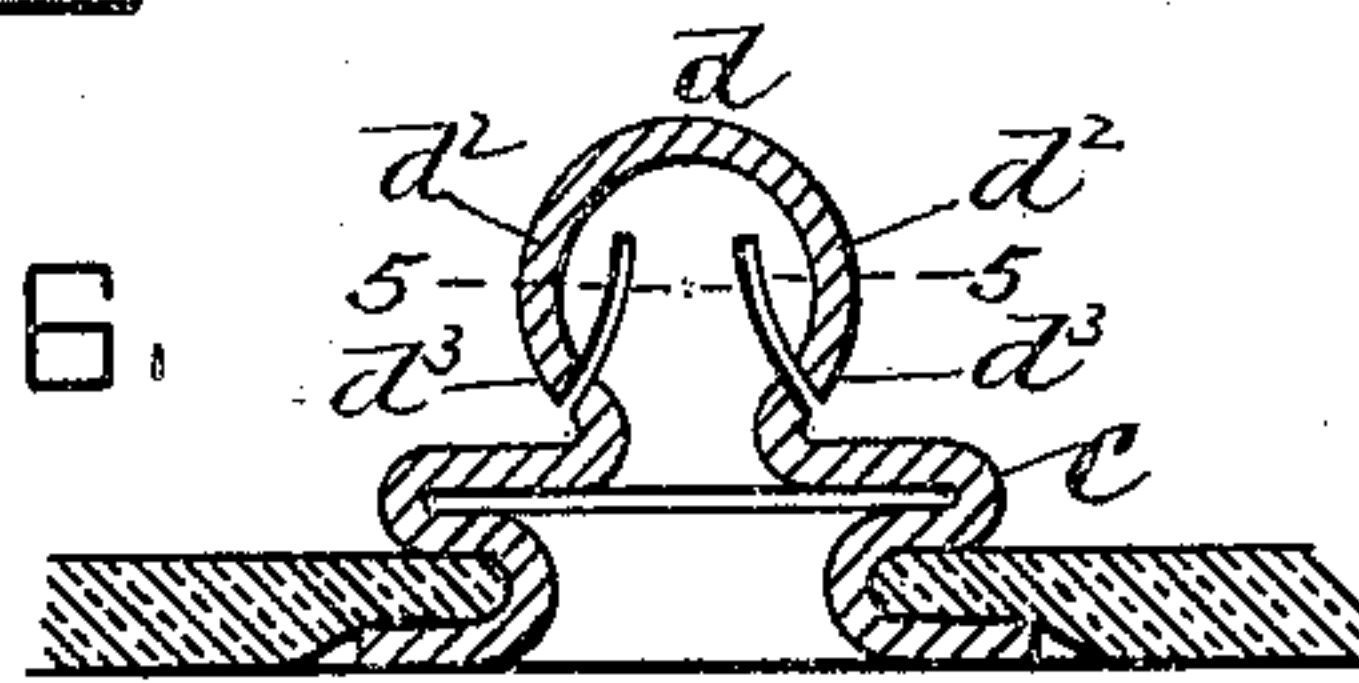


Fig. 4.

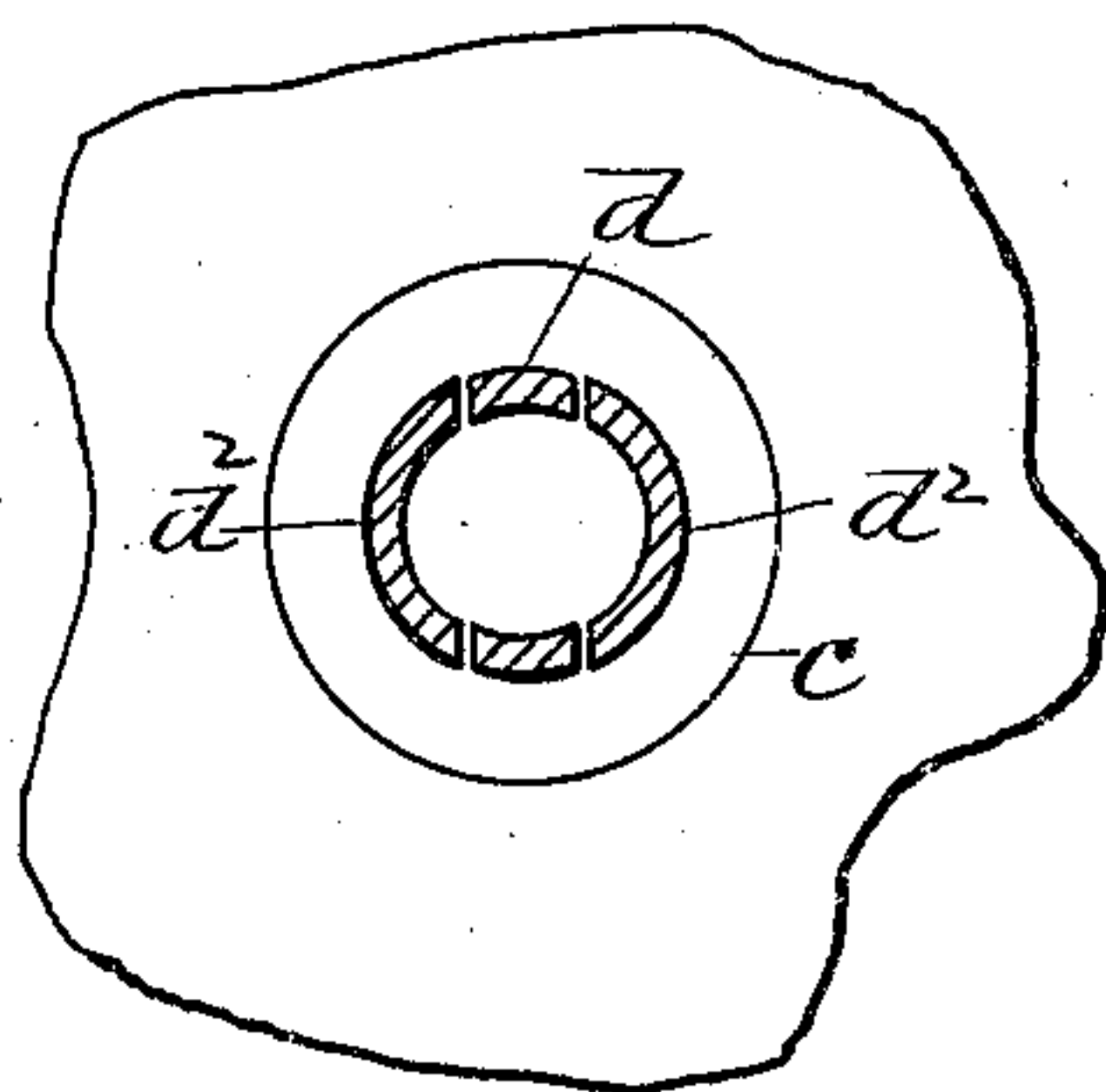


Fig. 5.

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# UNITED STATES PATENT OFFICE.

JOHN D. STIRCKLER, OF BOSTON, MASSACHUSETTS, ASSIGNOR, BY MESNE ASSIGNMENTS, TO BALL & SOCKET MANUFACTURING COMPANY, OF CHESHIRE, CONNECTICUT, A CORPORATION OF CONNECTICUT.

## FASTENER.

SPECIFICATION forming part of Letters Patent No. 769,807, dated September 13, 1904.

Application filed February 9, 1901. Serial No. 46,646. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN D. STIRCKLER, a citizen of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented a new and useful Improvement in Fasteners, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part of this specification, in explaining its nature.

The invention relates to the means for providing a ball member of a ball-and-socket fastener with expansibility or resiliency.

It is represented as embodied in a structure having some of the features of the patented fastener described in my Letters Patent No. 647,889, dated April 17, 1900.

Referring to the drawings, Figure 1 is a view in elevation of an unset yielding ball member having the features of my invention. Fig. 2 is another view in elevation of the same turned one-quarter. Fig. 3 is a sectional view upon the dotted line of Fig. 2. Fig. 4 is a sectional view representing the member as set to material. Fig. 5 is a view in section upon the dotted line 5 5 of Fig. 4. Fig. 6 represents in elevation a modified form in which the yielding ball or head is obtained by means of one slit, and the neck is represented as slitted to form a structure like that of one of the structures of my said Patent No. 647,889.

In the drawings, *a* is a preformed inner flange, *b* a formative neck, and *c* a partially formed outer flange-making section. These sections correspond to similar sections of the device of my said patent and cooperate in the setting of the fastener to material as described therein. At the outer end of the partially formed flange-forming section *c* is the resilient ball *d*. It is integral with the flange-forming section, hollow, spherical in shape from the neck *d'*, and has one or more yielding sides *d''*, the inner ends *d'''* of which are separated from the neck *d'* and a portion of the ball by slits *d''''*, which extend from or near the neck *d'* diagonally upward and inward to any desired extent, thereby forming in the ball one or more sides which at their inner

end or ends are detached from the remainder of the ball and at their outer end or ends are integral with the remainder of the ball and which provide the ball with one or more resilient sections which upon the application of pressure will yield toward the remainder of the ball and which upon the release of said pressure will expand to its or their original position.

It will be noted that the resilient portion of the device is a segment of a sphere, so that its section in any direction is bow-shaped. Thus the said resilient portion is stronger than if it were made of a strip of metal of the same kind and gage, but straight in cross-section and bent into a segment of a circle or of a spiral.

In Fig. 6 I have shown in elevation the yielding or resilient ball as obtained by means of one slit only extending inward and upward from the neck of the fastener. When one slit only is employed, it is desirable that its angle be more inclined than when two are used.

Having thus fully described my invention, I claim and desire to secure by Letters Patent of the United States—

1. A yielding ball member of a ball-and-socket fastener provided with resiliency by one or more slits extending from near the neck of the ball diagonally upward and inward, but leaving the outer end or top of the ball uncut, the resilient portion of the member being substantially a segment of a sphere, as and for the purposes set forth.

2. A one-piece resilient ball member of a ball-and-socket fastener having a preformed inner flange, a neck, a finished outer flange formed in the act of setting the ball to material, and a resilient ball integral with the last-named flange, said ball having a continuous top, and one or more yielding sides formed by a slit or slits extending from near the neck of the ball upward and inward, to form a segment of the spherical head, every section of which is bow-shaped, as described.

JOHN D. STIRCKLER.

In presence of—

M. D. NEWMAN,  
P. K. DUMARESE.