

No. 755,582.

PATENTED MAR. 22, 1904.

W. S. RICHARDSON.

SOCKET MEMBER.

APPLICATION FILED FEB. 14, 1901.

NO MODEL.

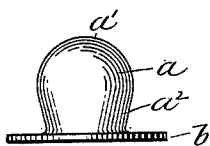


Fig. 1.

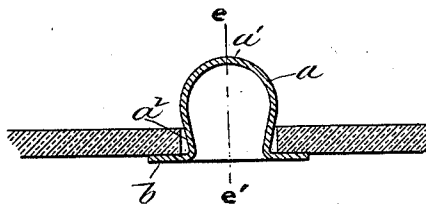


Fig. 2.

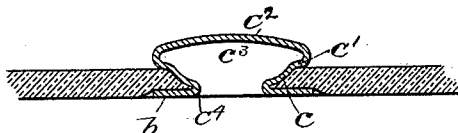


Fig. 3.

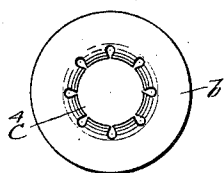


Fig. 5.

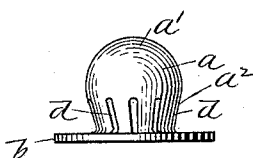


Fig. 4.

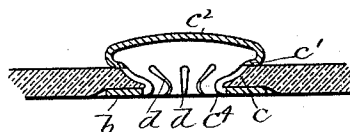


Fig. 6.

WITNESSES:
J. J. Raymond
M. D. Newman
W. E. Flaherty

INVENTOR:
Wm. S. Richardson
by his atty
Clark & Raymond

UNITED STATES PATENT OFFICE.

WILLIAM S. RICHARDSON, OF BOSTON, MASSACHUSETTS, ASSIGNOR TO
THE BALL AND SOCKET FASTENER COMPANY, OF PORTSMOUTH, NEW
HAMPSHIRE, A CORPORATION OF NEW HAMPSHIRE.

SOCKET MEMBER.

SPECIFICATION forming part of Letters Patent No. 755,582, dated March 22, 1904.

Application filed February 14, 1901. Serial No. 47,344. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM S. RICHARDSON, a citizen of the United States, and a resident of Boston, in the county of Suffolk and State of Massachusetts, have invented a new and useful Improvement in Socket Members, 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 a one-piece socket member of a ball-and-socket fastener having a preformed inner flange and also having a structure whereby in the act of setting the fastener a continuous outer cap or top is formed, an outer attaching-flange created, a conical ball-receiving cavity established, and a socket-entrance defined.

In the drawings, Figure 1 is view in elevation of the unset socket member. Fig. 2 is a view in longitudinal section of the unset member, representing it assembled with the material, but before attachment to it. Fig. 3 represents in section the material and the set socket member. Fig. 4 is a view in elevation of a modified form of the member. Fig. 5 is a view in plan inverted of the set modified form, and Fig. 6 is a view in vertical section of a modified form of the member set and of the material.

Referring to the drawings, *a* represents a hollow structure rising from the flange *b*. The said structure has a rounded top or dome *a'* and an inverted conical section *a''*, from the lower edge of which the flange *b* extends. The parts are integral and are proportioned and shaped so that in the act of setting the member to material the flange *b* becomes the inner flange of the socket member, the conical section *a''* forms the neck *c* of the set member, and the outer fastening-flange *c'* and the top or dome *a'* becomes the continuous cap *c''* which covers the flange *c'*. The act of setting the member also establishes the ball-holding cavity *c'''* and defines the socket-entrance *c''''*, which is surrounded by the flange *b*. It is to be noted that the total height of the socket-piece along a medial line, as *e e'*, Fig. 2, is

shown relatively great as compared to the thickness of the material and as compared to the portion of said socket ultimately composing the ball member *c'''*. This height of socket-piece is to provide an adequate retaining-flange *c'* without causing the top *c''* to be in a position to interfere with the insertion of the ball member. If desired, the structure may have in the parts *a''* and in the preformed flange *b* the slits *d*, which are vertical in the section *a''* and radial in the flange *b*, and such structures are represented in Figs. 4, 5, and 6. The socket-piece thus shaped is adjusted in a hole in the material to which it is to be set with the preformed flange upon the under side of said material and the dome upon the outer side thereof. Pressure is then applied to the under flange and to the dome, which causes the structure to be flattened and shortened, a continuous cap to be established, the outer attaching-flange to be formed, which laps upon the outer side of the material opposite that upon which the preformed flange bears and which coöperates with it in securing the member to the material, the socket-entrance to be defined, and the conical ball-receiving cavity immediately within the socket-entrance established. The socket member thus set is a complete one-piece structure in that it has upon one side of the material to which it is applied a continuous cap adapted to have any ornamentation impressed upon it while it is being attached or otherwise, a continuous integral upper attaching-flange which is covered by the cap, an integral neck which is held in the material, an integral preformed continuous inner flange, a socket-mouth, and a ball-holding cavity.

The socket member when of the structure of Figs. 1, 2, and 3 is used with a spring or yielding ball member, and when of the structure of Figs. 4, 5, and 6 may be used with an unyielding ball member.

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

1. An integral socket-piece characterized by a dome-shaped head the arc of which is slightly

greater than ninety degrees on either side of a vertical medial line, a body of inverted-conical shape of which the upper portion of the walls form a substantially tangential continuation of the curve of the head, and the lower portion of walls a restricted neck or socket-entrance, and a flange extending outward from such neck or entrance substantially at right angles to said medial line, whereby, upon the application of pressure in setting, said piece will collapse as set forth.

2. An integral socket member, characterized by a neck - section comprising the socket-entrance, the lower portion of said neck-section being continued into an outward - extending lower retaining-flange, the upper portion of

such section being continued into a socket-chamber section, the walls of which extend upward and outward, first, for the distance of its embrace by the material at an easy angle sufficient to permit free movement of the ball member, then at an abrupt angle to form a retaining-flange at the upper surface of the material, and a comparatively flat head or closure to said chamber-section above said abrupt outward turn being formed by an abrupt inward turn of walls to a common center.

WILLIAM S. RICHARDSON.

Witnesses:

F. F. RAYMOND, 2d,
SAUL SIPPERSTEIN.