

(No Model.)

T. P. BOULGER.  
HEEL PROTECTOR.

No. 585,859.

Patented July 6, 1897.

Fig. 1.

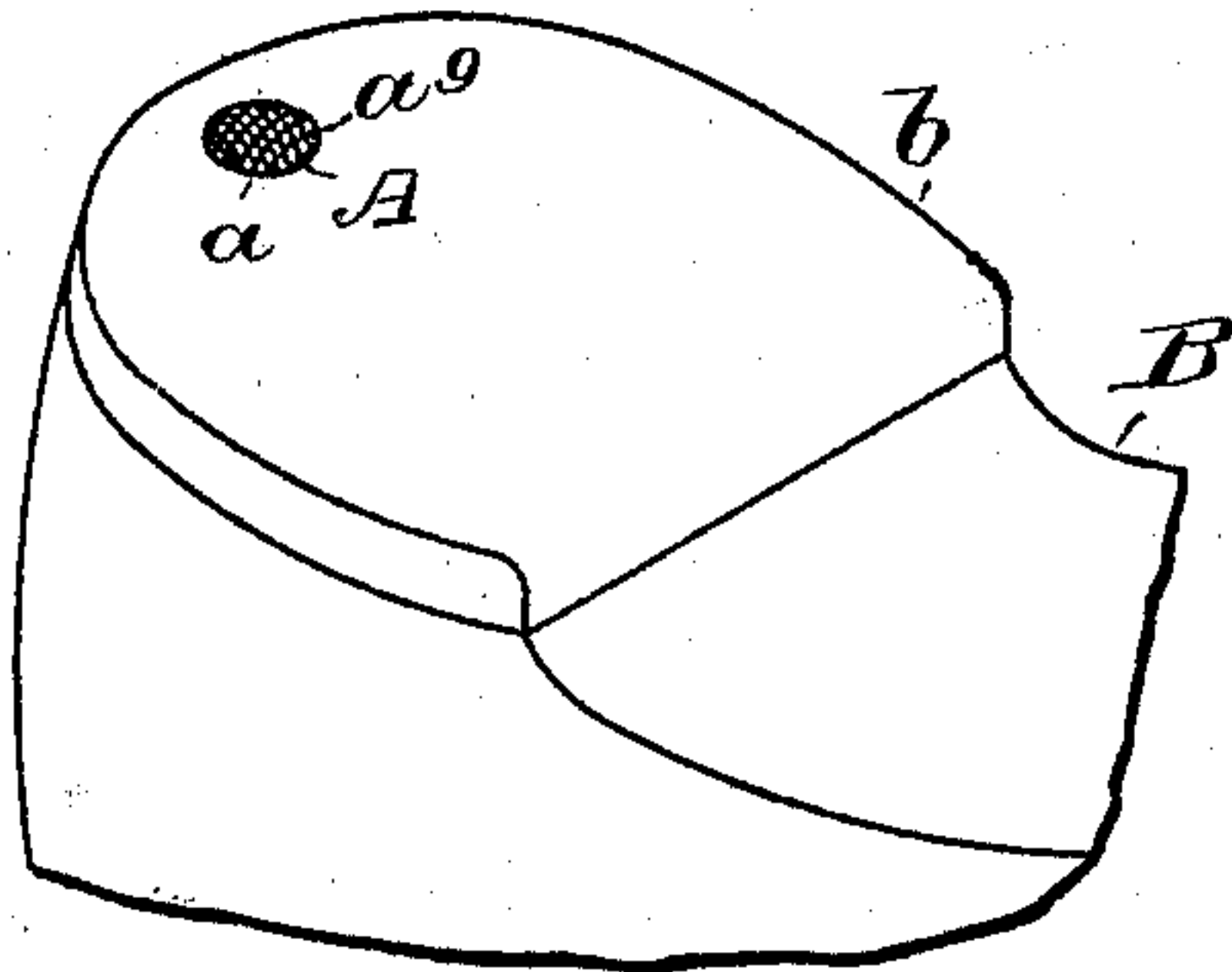


Fig. 2.

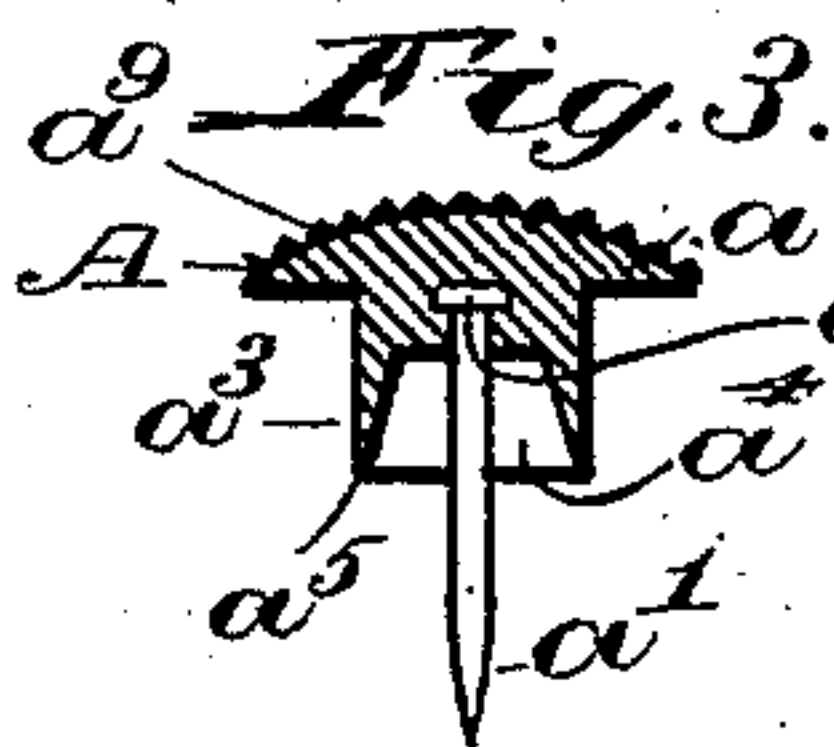
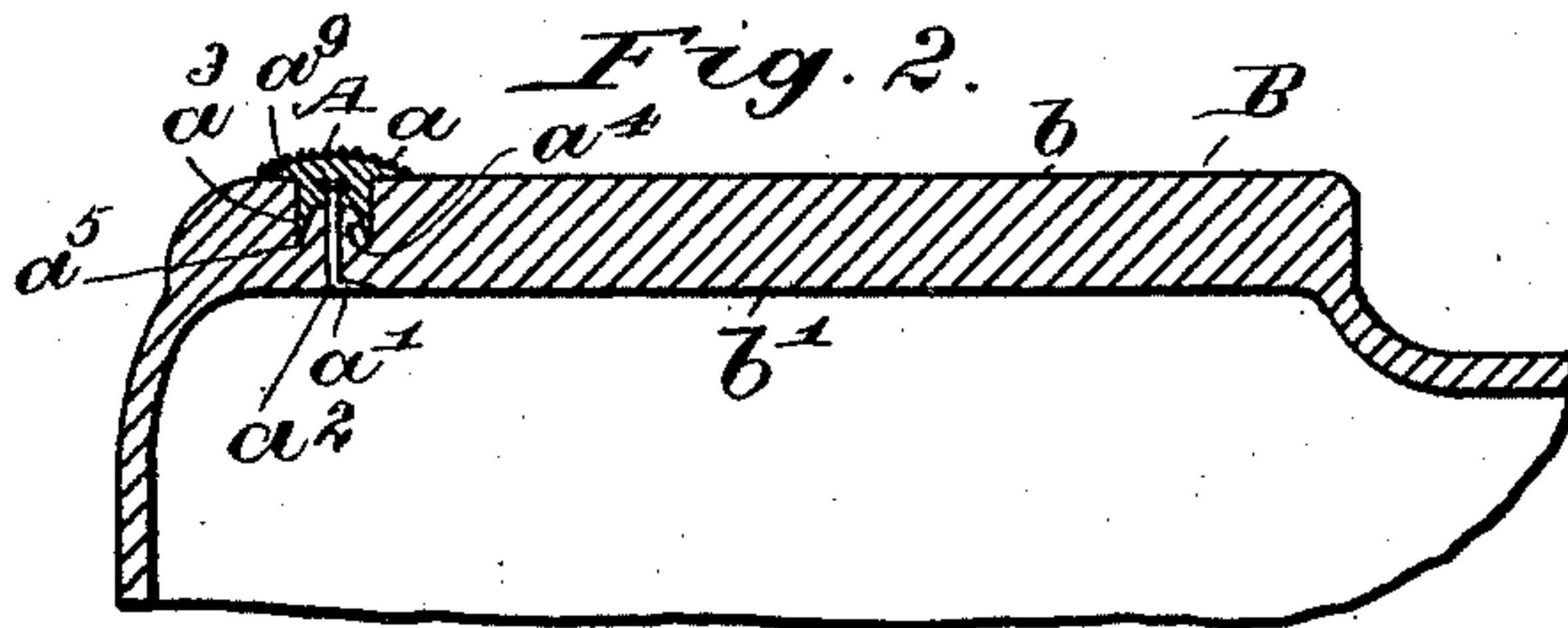


Fig. 4.

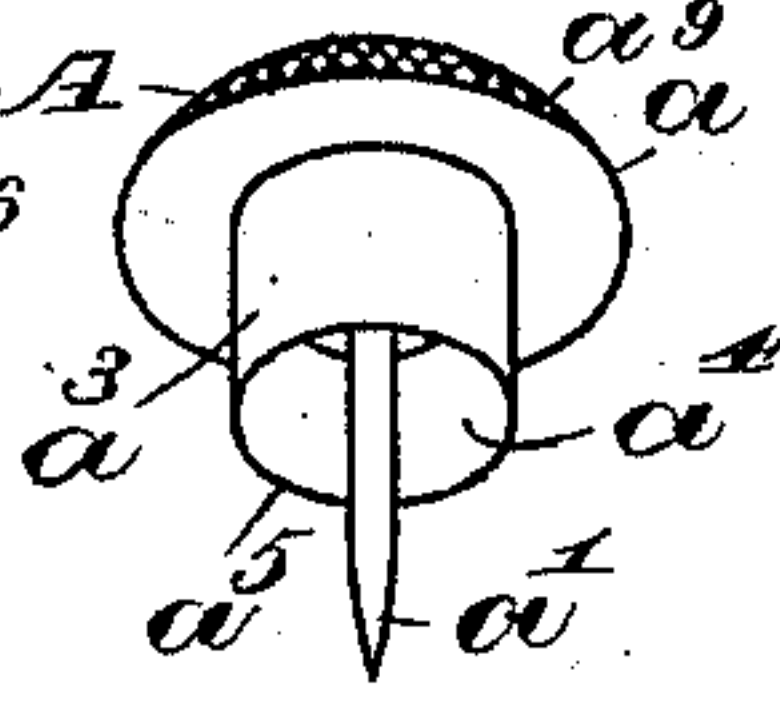
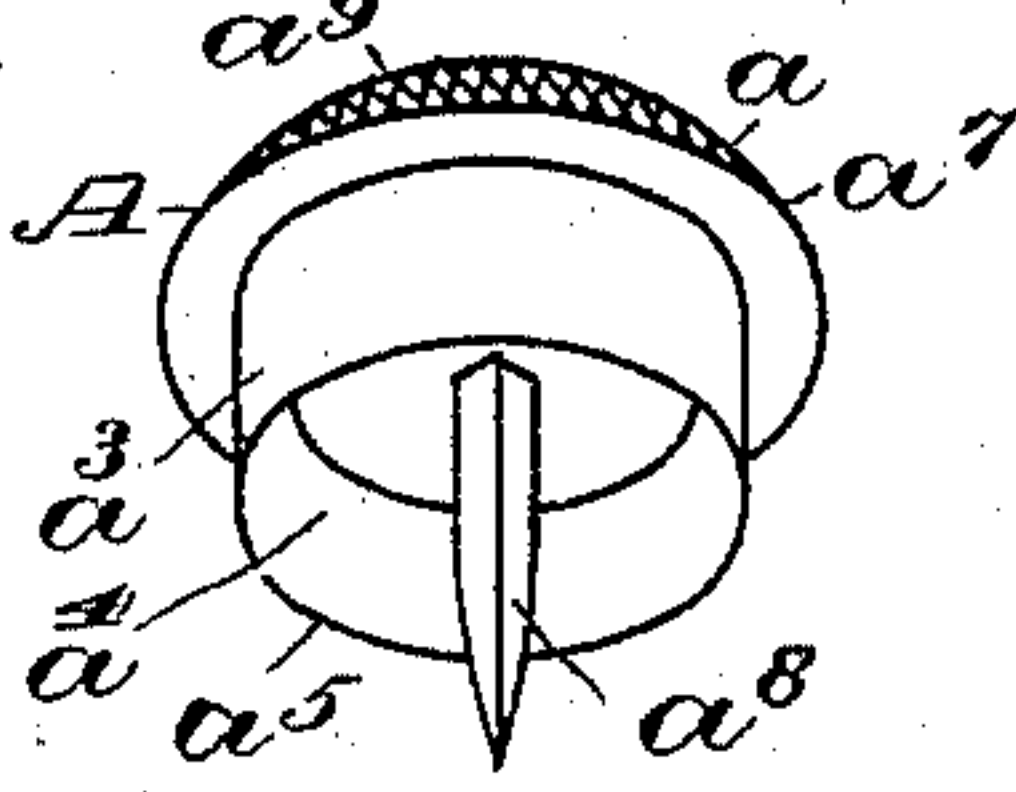


Fig. 5.



Witnesses—  
Kirkley Hyde.  
Chas. H. McEvoy

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Thomas P. Boulger,  
By Albert M. Moore,  
His Attorney.

# UNITED STATES PATENT OFFICE.

THOMAS P. BOULGER, OF LOWELL, MASSACHUSETTS.

## HEEL-PROTECTOR.

SPECIFICATION forming part of Letters Patent No. 585,859, dated July 6, 1897.

Application filed September 8, 1896. Serial No. 605,125. (No model.)

*To all whom it may concern:*

Be it known that I, THOMAS P. BOULGER, a citizen of the United States, residing at Lowell, in the county of Middlesex and Commonwealth of Massachusetts, have invented a certain new and useful Improvement in Heel-Protectors, of which the following is a specification.

My invention relates to heel-protectors; and it consists in the devices and combinations hereinafter described and claimed.

The heel-protector herein shown and described is more particularly adapted to guard the heels of rubber overshoes, which are usually thin as compared with the heels of other shoes intended for outdoor use, the inside or top of the heels of such overshoes being usually recessed to receive the heels of inner shoes and being soon worn through at or near the back of the heels. When the heels of such overshoes are worn through, the shoes are practically worthless and are usually discarded. The heel-plates provided with attaching points or spikes commonly used on the heels of leather shoes are not adapted for use on rubber overshoes, as the holes made by the attaching-points penetrate the heel, and the holes around said points open while the wearer walks and admit water.

The protector herein described is provided with a dam intimately attached to or integral with the plate or head of the protector and surrounding the attaching-point at an interval therefrom adapted to penetrate only partly through the rubber heel in such a manner as to prevent water from reaching the hole made by said point.

In the accompanying drawings, Figure 1 is an isometric perspective view of the heel portion of an inverted overshoe provided with my invention; Fig. 2, a vertical central section of the protector and the heel portion of the shoe; Fig. 3, a central vertical section of a protector; Figs. 4 and 5, enlarged isometric perspective views of protectors, the protector shown in Fig. 5 being adapted to be made of cast metal, while those shown in the other figures would preferably be struck up in dies.

The heel-protector A, Figs. 1 to 4, consists of a head  $a$ , an attaching-point  $a'$ , rigidly secured therein and adapted to be driven into and through the heel  $b$  of an overshoe B and

to be clenched or bent over the top or inside  $b'$  of said heel, as shown at  $a^2$  in Fig. 2, and a dam or annular flange  $a^3$ , which projects down from the underside of the head  $a$ , around the attaching-point  $a'$ , leaving a space  $a^4$  between said point  $a'$  and dam  $a^3$ . When the point  $a'$  is driven into the heel until the underside of the head  $a$  comes in contact with the bottom of the heel, the lower edge  $a^5$  of the dam  $a^3$ , which is sharp, cuts into the substance of the heel, allowing such substance to fill the space  $a^4$  between said dam and point, as shown in Fig. 2, and absolutely prevents any water from reaching the hole formed by the attaching-point.

The head  $a$  with the dam  $a^3$  may be struck up in the same well-known manner as the heads of solid-headed cartridge-shells are formed, and the point  $a'$  may be provided with an enlargement  $a^6$ , which, being inserted in said head  $a$ , is retained in place by forcing the material of said head  $a$  over said enlargement  $a^6$  by the method employed in making upholsterers' tacks. Again, the head  $a^7$ , Fig. 5, may be cast upon an attaching point or brad  $a^8$ , previously inserted in the mold, in an obvious manner. In any case the dam must be formed integral with the head or so attached thereto as to leave no opening between said head proper and dam, as such an opening would admit water and defeat the object of the invention, and it will be better to make the dam of less depth on the inside than on the outside and to make the opening in the dam contract toward the head, as shown in Figs. 2 and 3, to compress the material of the heel within the dam against the shank of the attaching-point to prevent leakage.

It is preferable to roughen the outer surface of the head, as shown at  $a^9$ . Except as above noted the device shown in Fig. 5 is like what is shown in the other figures.

The above-described protector may be attached to the heels of rubber or leather boots to prevent wear.

The device above described is inexpensive, may be attached without the use of tools, and will greatly prolong the duration of the heel to which it is attached.

I claim as my invention—

1. The combination of the head, provided



with a dam or annular flange, and the attaching-point, secured in said head within said dam but out of contact therewith.

2. The combination of the head, provided  
5 on its inner face with a dam or annular flange and having its outer face roughened, and the attaching-point, secured in said head, within said dam but out of contact therewith.

3. The combination of the head, provided  
10 with a dam or annular flange, and the attaching-point, secured in said head within said dam but out of contact therewith, said dam having a less depth on the inside than on the outside, to contract the material, to  
15 which it is applied, within said dam around said attaching-point.

4. The combination of the head, provided  
20 with a dam or annular flange, and the attaching-point, secured in said head within said dam but out of contact therewith, said dam

being contracted from its open end inward, to compress the material, to which it is applied, against said attaching-point.

5. The combination of the head, provided  
25 with a dam or annular flange, and the attaching-point, secured in said head within said dam but out of contact therewith, said dam having a less depth on the inside than on the outside and being contracted from its open end inward, to compress the material, to  
30 which it is applied, against said attaching-point.

In witness whereof I have signed this specification, in the presence of two attesting witnesses, this 29th day of August, A. D. 1896. 35

THOMAS P. BOULGER.

Witnesses:

ALBERT M. MOORE,  
KIRKLEY HYDE.