

No. 816,503.

PATENTED MAR. 27, 1906.

G. H. F. SCHRADER.
STOPPER FOR HOT WATER BAGS.

APPLICATION FILED DEC. 9, 1905.

FIG. 1.

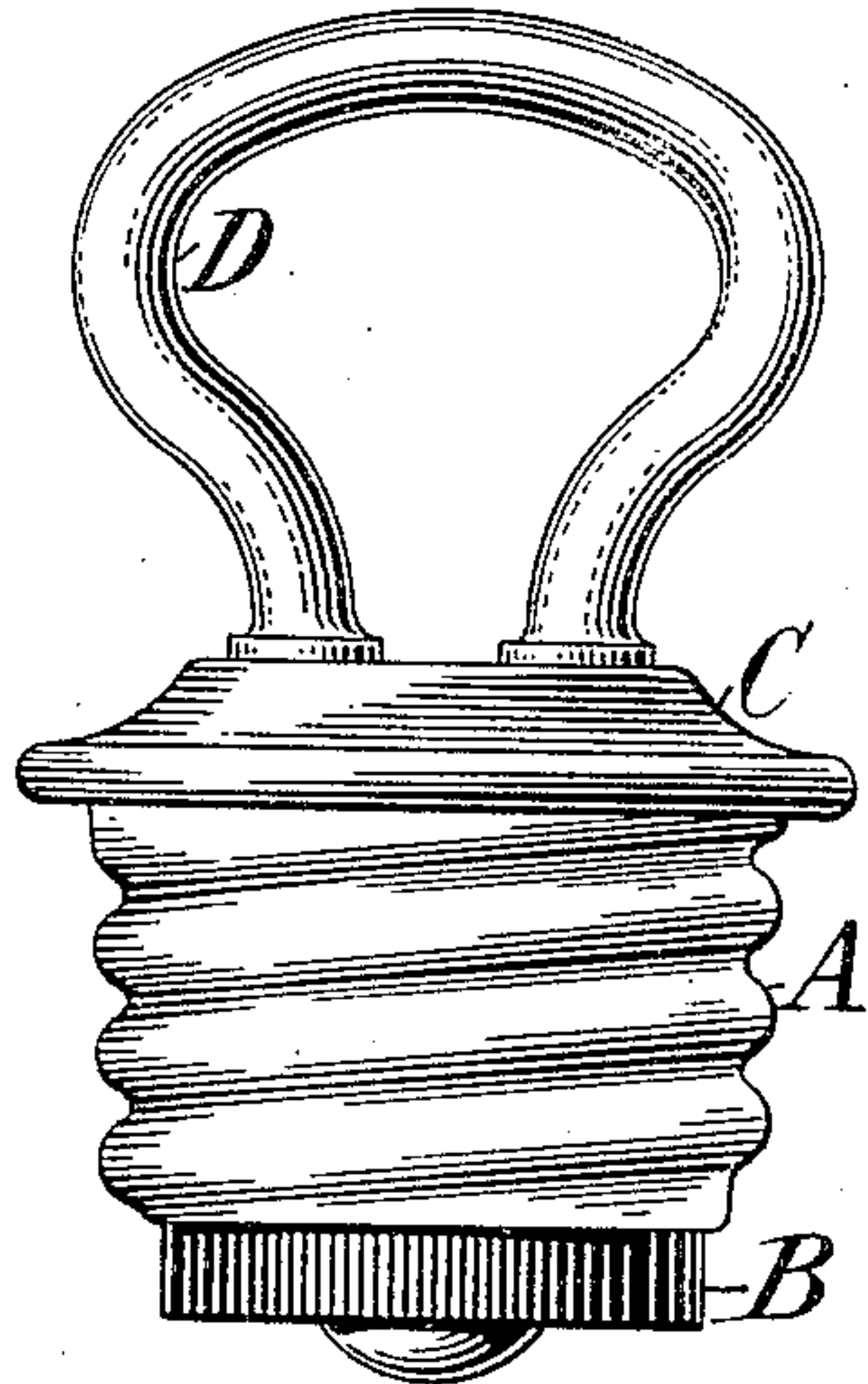


FIG. 2.

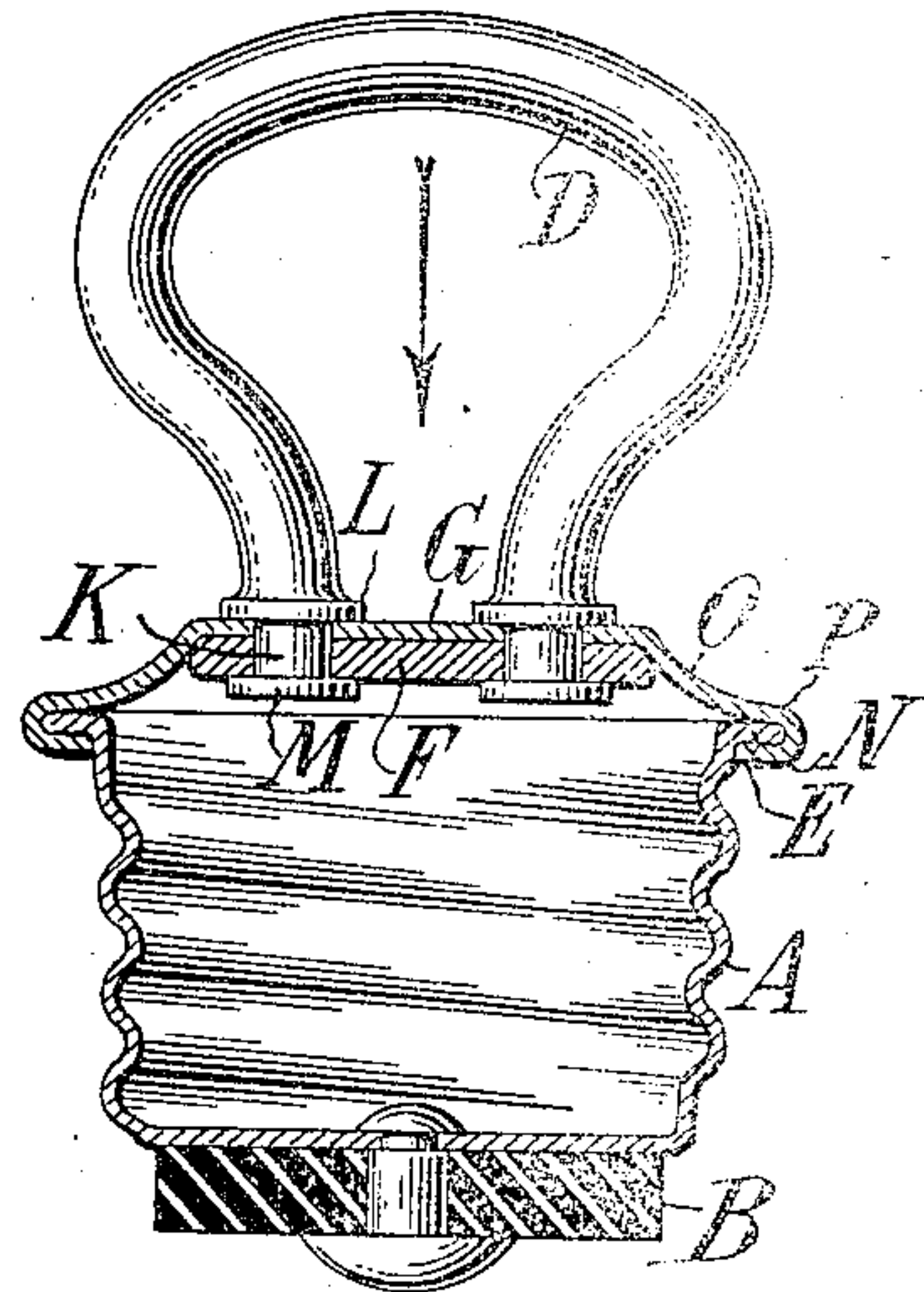


FIG. 3.

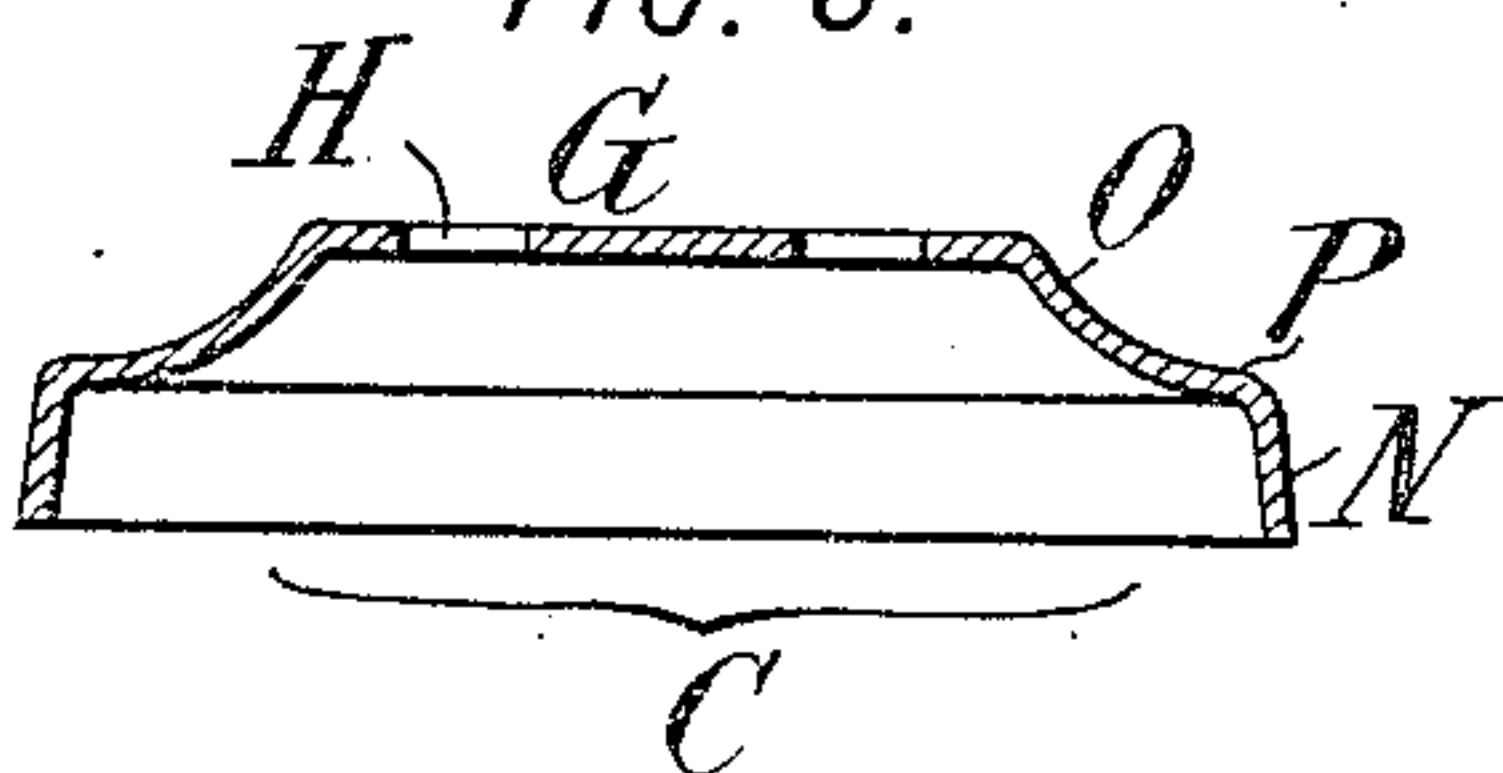


FIG. 5.



FIG. 4.

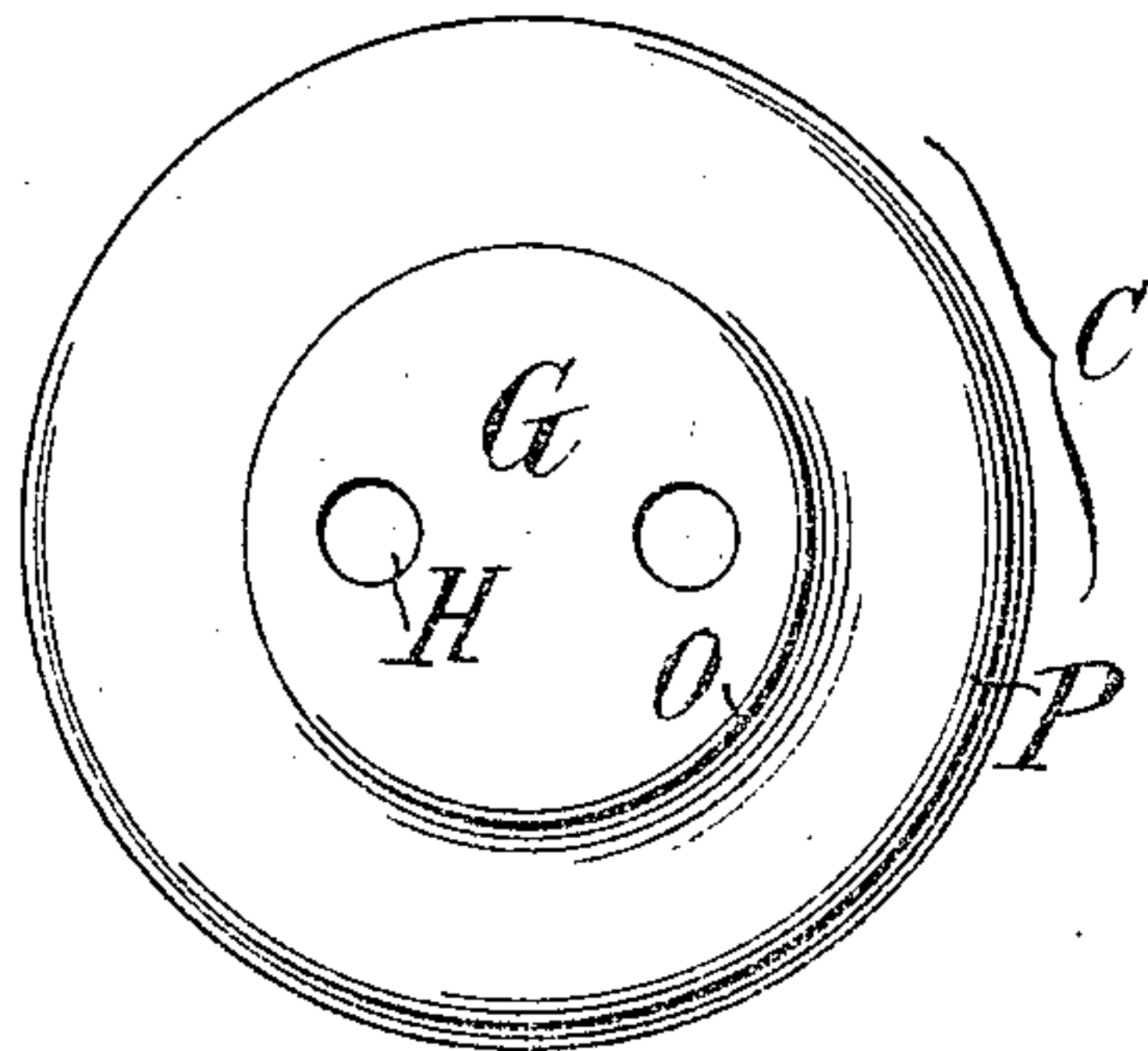
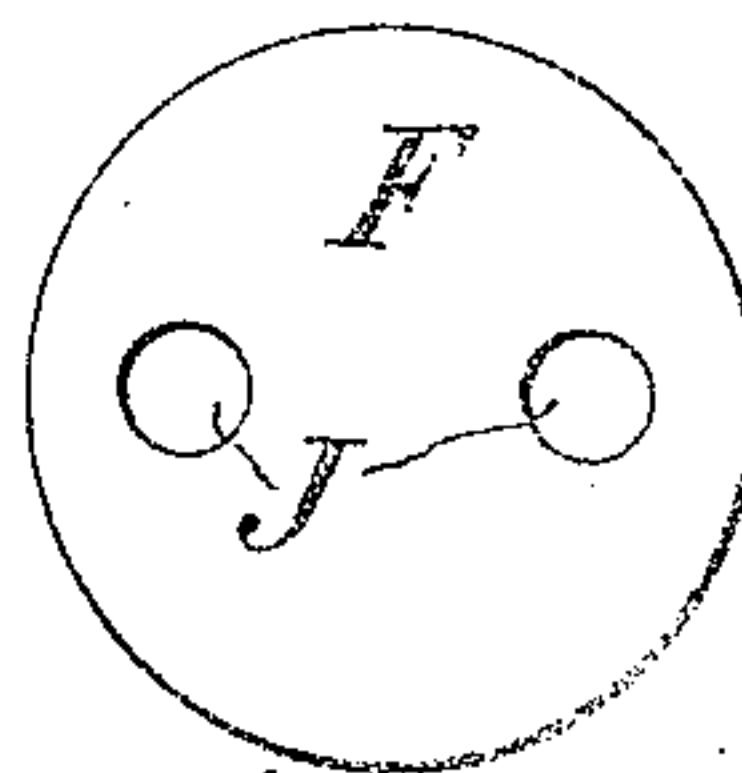


FIG. 6.



WITNESSES:

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STOPPER FOR HOT-WATER BAGS.

No. 816,503.

Specification of Letters Patent.

Patented March 27, 1906.

Continuation of application Serial No. 99,895, filed March 25, 1902. This application filed December 9, 1905. Serial No. 291,105.

To all whom it may concern:

Be it known that I, GEORGE H. F. SCHRADER, a citizen of the United States, residing in the town of Greenburg, in the county of Westchester and State of New York, have invented certain new and useful Improvements in Stoppers for Hot-Water Bags, of which the following is a specification.

The present application is a continuation of my prior application, Serial No. 99,895, filed March 25, 1902.

My invention aims to provide an improved stopper for water-bags which shall be stronger and more easily manufactured than similar stoppers heretofore in use.

My invention aims to provide also a stopper having the various advantageous features hereinafter specified in detail.

Referring to the accompanying drawings, illustrating embodiments of my invention, Figure 1 is an elevation of a stopper embodying my invention. Fig. 2 is a vertical section of the same. Figs. 3 and 4 are respectively a section and plan of the head. Figs. 5 and 6 are respectively a section and plan of the reinforcing-plate.

In making stoppers of the general class to which my invention pertains it is customary to form them with a body comprising a bottom plate (to which usually a rubber washer is attached) and a screw-threaded side wall. The upper edge of the side wall is usually flanged outward and a head fastened thereon by having its outer edge crimped or bent under such flange. To this head the thumb-piece by which the stopper is screwed into and out of the bottle is attached. It is very difficult to crimp heavy sheet metal around the flange of the body so as to fasten it tightly to such flange. In order to avoid this difficulty, I propose to fasten the head of the stopper to the body, as before, but to make the head of thin easily-bent material at its edges and to reinforce it at its central portion, where it receives the strain of turning, and also to provide a stiffening-ring around the central portion to resist more effectually the transverse or pushing pressure to which it is subjected in use, so as to form practically a head with a central portion of extra thickness and a surrounding ring of extra stiffness and to retain at the same time an edge of maximum flexibility.

Referring now to the drawings, A indicates the body of my stopper, on the bottom of which is riveted or otherwise attached a rubber washer B. The head C is attached to the upper edge of the body A, as shown, and the thumb-piece D is preferably a separate piece of metal attached to the head. At the upper edge of the body A there is an outwardly-extending flange E. The head C is originally of the shape shown in Fig. 3. The head is of easily-bendable material and is stamped of such shape as to bend up the central portion G, whereby an approximately vertical stiffening-ring O is formed between the central portion and the edge P, which rests upon the flange of the body. A reinforcing-plate F of approximately the size and shape of the central portion G of the head and closely fitting in the socket formed thereby is provided, and registering perforations H and J are made in the reinforcing-plate and the head.

The parts are assembled as shown best in Fig. 2. The two ends K are passed through the perforations H and J of the head C and the reinforcing-plate F. The shoulders L, formed on the thumb-piece D near its ends, limit the position of the head and reinforcing-plate on the ends of the thumb-piece. The ends are then enlarged, preferably by swaging or riveting, as shown at M, so as to unite the reinforcing-plate, the head, and the thumb-piece rigidly and permanently to each other. The head is then set down on the body, its expanded lower portion N resting over the flange E. The portion N is then bent or crimped under the flange, so as to fasten the head tightly thereto.

The plate F, fitting within the socket formed in the head, practically converts all the central portion into metal of extra thickness and by the close fit of its edges against the portion O braces the latter from inward collapse when the stopper is pushed in by pressure in the direction of the arrow in Fig. 2.

What I claim is—

1. A stopper for hot-water bags having a sheet-metal body with a flange at its upper edge, and a sheet-metal head with its edge crimped over said flange, said head being of easily-bendable metal to permit it to be crimped tightly upon said flange and being bent at its center to form a ring stiffening it against the transverse pressure to which it is

subjected in use and to form a central socket, a reinforcing-plate filling said socket and clamped closely to the flat central portion thereof, and a handle extending transversely to the plane of the head and having its ends passing through the central portion thereof and through said reinforcing-plate and clamping said plate tightly to the central portion of the head to form practically a part thereof, so that the head has practically a central portion of extra thickness and a surrounding ring of extra stiffness whereby it is adapted to resist pressure upon the handle, and an edge of maximum flexibility to form a close joint with the flanged body.

2. A stopper for hot-water bags having a sheet-metal body A with an outward flange E at its upper edge and a sheet-metal head C having its edge N crimped over said flange, said head being of easily-bendable material to permit it to be crimped tightly upon said flange and being bent up at its center to form a stiffening-ring O resisting more effectually the transverse pressure to which it is sub-

jected in use, and to form a central socket, a reinforcing-plate F fitting closely in said socket so as to brace said stiffening-ring against inward collapse and clamped closely to the flat central portion G, and a handle extending transversely to the plane of the head and having its ends passing through the central portion thereof and through said reinforcing-plate and clamping said plate to the central portion of the head to form practically a part thereof, so that the head has practically a central portion of extra thickness and a surrounding ring of extra stiffness braced against inward collapse, whereby it is adapted to better resist pressure upon the handle, and an edge of maximum flexibility to form a close joint with the flanged body.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

GEORGE H. F. SCHRADER.

Witnesses:

ALBERT G. SEARLE,
J. ELSENER, Jr.