

No. 768,099.

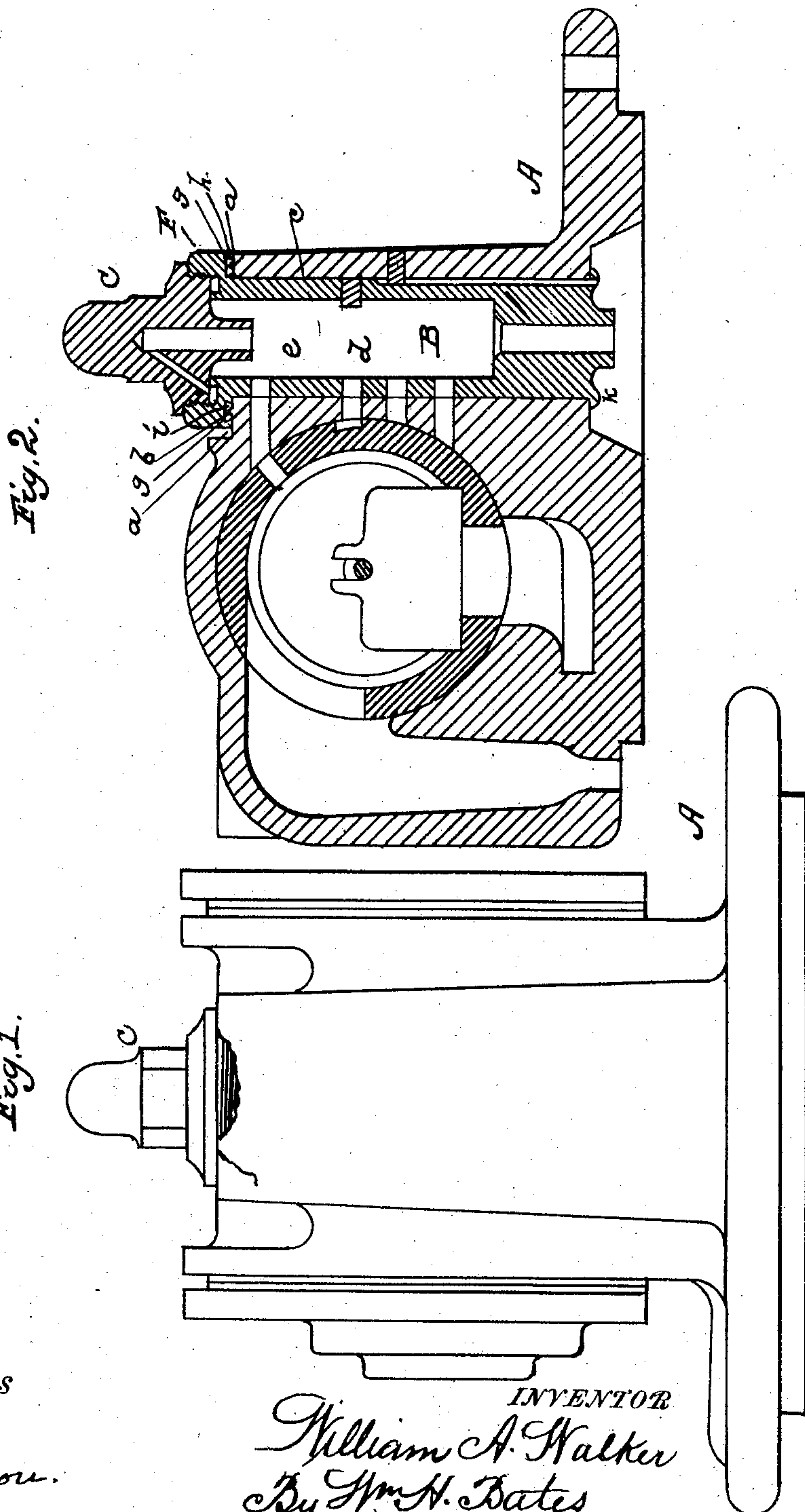
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W. A. WALKER.

BUSHING FOR TOP HEADS OF AIR PUMPS.

APPLICATION FILED APR. 6, 1904.

NO MODEL.



WITNESSES
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UNITED STATES PATENT OFFICE.

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BUSHING FOR TOP HEADS OF AIR-PUMPS.

SPECIFICATION forming part of Letters Patent No. 768,099, dated August 23, 1904.

Application filed April 6, 1904. Serial No. 201,857. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM A. WALKER, a citizen of the United States, residing at Baltimore, in the State of Maryland, have invented new and useful Improvements in Bushings for the Top Heads of Air-Pumps, of which the following is a specification.

This invention has relation to improvements in bushings for the top heads of air-pumps; and it consists in the novel construction, combination, and arrangements of parts of which it is composed, all as will be hereinafter more fully explained, and particularly pointed out in the appended claim.

My invention is designed more particularly for repairing the top head when the upper portion thereof is broken or injured, thus providing means whereby repairs can be made readily.

The annexed drawings, to which reference is made, fully illustrate my invention, in which—

Figure 1 represents a side view of a top head of an air-pump, showing the head in an injured condition; and Fig. 2 is a vertical sectional view of a top head, showing my device applied thereto.

As my invention relates solely to the bushing for the head I deem it unnecessary to describe the working parts, such as valves, stems, &c., usually contained in these top heads.

Referring by letter to the accompanying drawings, A designates the top head of an air-pump, the upper portion of which is provided with a flat surface, as at *a*, and a projecting and pointed annular surface or ring *b*, surrounding the vertical opening *c* in the casting A. Within this space or opening *c* is vertically arranged the bushing B, of peculiar construction, the same comprising the body *d*, having the usual interior chamber *e* for the slide-valves commonly used in pumps of this character, and at the upper portion of the bushing the same is constructed with an annular offset F, providing a shoulder *g*, which latter is also provided with an annular groove *h*, that is dovetailed, in which is arranged a packing of soft metal *i*, and the inner upper end of said bushing is formed with female screw-threads and an annular projec-

tion to receive the cap C, while the lower portion of the bushing is provided with an annular projection *k*, that engages the top head, as shown clearly in Fig. 2, this projection being in its normal condition when placed in the head straight, and when the bushing is inserted the lower edge is upset or hammered outward or turned up, forming a head that grasps the top head and securely holds the bushing in place, and at the same time by means of this close connection at the lower end of the bushing steam is prevented from working up into the ports.

It will be observed from the above description, when taken in connection with the annexed drawings, that my device forms an attachment for repairing the injured pumps and that when the top head is broken, cracked, or in any manner injured that portion so injured after the ordinary bushing has been removed is cut away to a flat surface. A circular projection or ring is formed on this flat surface in cross-section representing an inverted V and forming a seat, after which the head is bored out to suit said bushing and my improved bushing is substituted therefor, the packing providing a tight joint between the head or upper portion of the bushing and the upper face or top of the casting, at the same time said bushing is held securely in position by the annular flange at the lower end thereof.

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

The combination with the valve-casting provided with an opening and a seat for the bushing, and the bushing constructed with the offset, having the dovetailed groove and soft-metal packing, the lower end of the bushing being upset for securing the same to the casting as herein shown and described.

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

WILLIAM A. WALKER.

Witnesses:

LEWIS G. MEYER,
RICHARD T. FRANCK.