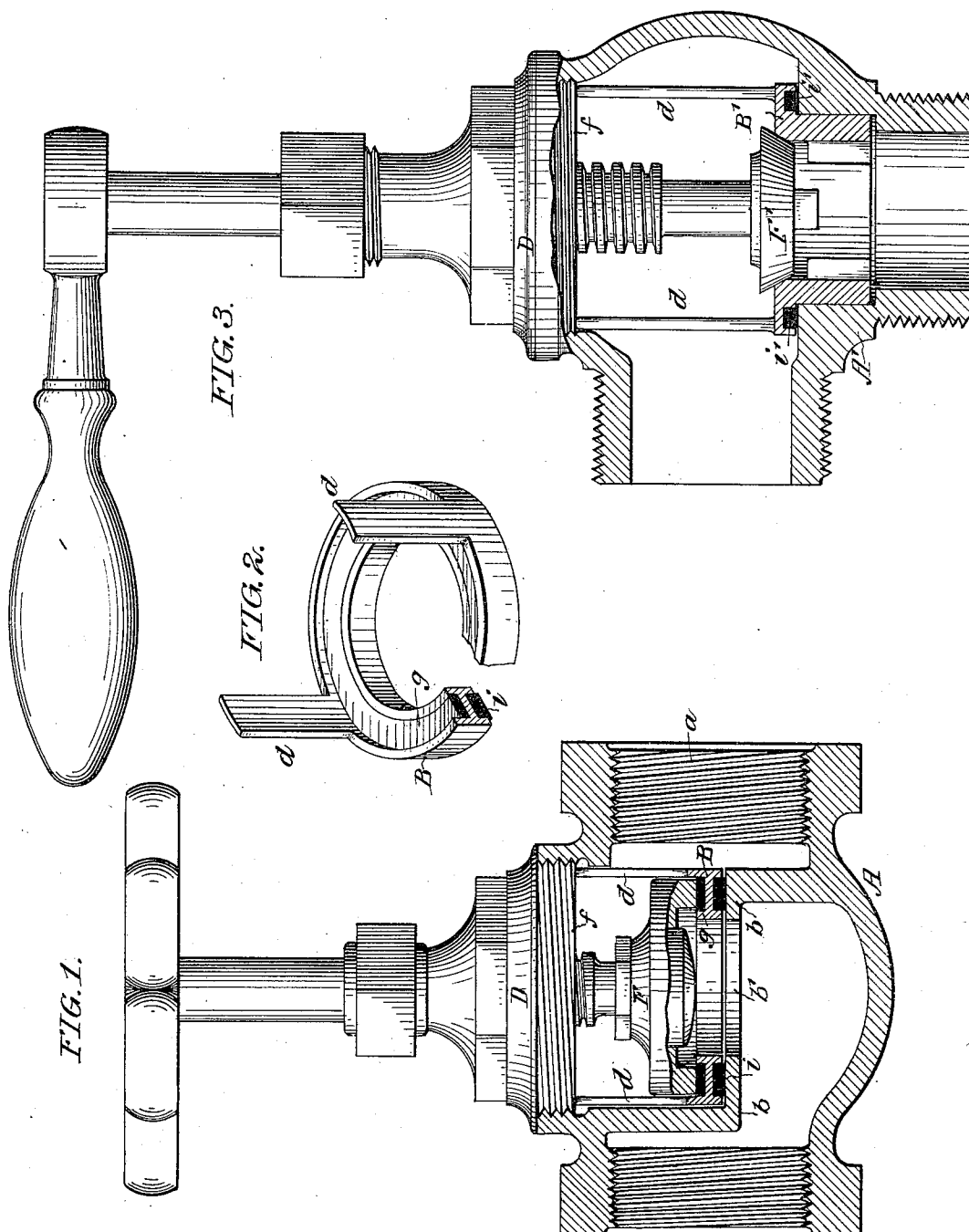


(No Model.)

J. HULME.
STOP VALVE.

No. 579,876.

Patented Mar. 30, 1897.



Witnesses:
Amos H. H. H.
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UNITED STATES PATENT OFFICE.

JAMES HULME, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR OF FIFTY-ONE ONE-HUNDREDTHS TO FREDERICK CHASE, OF SAME PLACE.

STOP-VALVE.

SPECIFICATION forming part of Letters Patent No. 579,876, dated March 30, 1897.

Application filed December 3, 1895. Serial No. 570,919. (No model.)

To all whom it may concern:

Be it known that I, JAMES HULME, a citizen of the United States, residing in Philadelphia, Pennsylvania, have invented certain
5 Improvements in Stop-Valves, of which the following is a specification.

The object of my invention is to so construct a stop-valve as to provide for the ready removal and replacing of the valve-seat without adding materially to the cost of the valve,
10 a further object being to provide for the use of a composition seat for the valve without risk of the rapid destruction of the same by steam or hot fluids flowing through the valve,
15 and a still further object being to insure a certain amount of elasticity in the valve-seat, so that slight inequalities either in the seat or in the seating-surface of the valve will be compensated for and the tight closing of the
20 valve thus rendered possible.

In the accompanying drawings, Figure 1 is a view, partly in section and partly in elevation, of a stop-valve with seat constructed in accordance with my invention. Fig. 2 is a
25 perspective view of the valve-seat detached from the valve and partly broken away in order to show the construction of the same, and Fig. 3 is a sectional view illustrating a modified form of valve embodying my invention.
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In Fig. 1, A represents the valve-casing, which is of the ordinary globe-valve form and has at each end a threaded neck *a* for the reception, respectively, of the supply and discharge pipes, these threaded necks being separated by the usual partition *b*, in which is formed an opening *b'* for the flow of the steam or other fluid through the valve. Resting upon the partition *b* is a detachable valve-seat, consisting of a ring B with upwardly-projecting arms or fingers *d* of such length as to come into contact with the inner end of the threaded stem *f* of the cap or bonnet D of the valve, said threaded stem *f* of the
45 cap screwing into the usual threaded opening in the top of the casing. By this means the valve-seat is firmly retained in its position upon the partition *b* of the valve, and any accidental displacement of said valve-seat in the handling or use of the valve is
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effectually prevented, but upon removing the cap or bonnet D the valve-seat can be readily removed and replaced by another.

The upper face of the ring B is grooved for the reception of a ring *g*, which may consist of any of the usual compositions employed in valves of this class, this ring serving as a seat for the annular bearing-face of the valve F and being free from the direct impact of the steam or other fluid flowing
60 through the valve, so as to prevent the rapid wear or disintegration of the composition, which is an objection to that class of valves in which the composition is carried by the valve instead of by the seat. The under face
65 of the ring B is also grooved for the reception of a ring *i*, which may be of the same character as the ring *g* or of any material possessing a limited amount of elasticity and of a refractory character, so that it will not
70 be injuriously affected by heat, this ring *i* constituting a packing for the under side of the valve-seat, so as to prevent leakage between the same and the partition *b*. This ring *i* projects slightly below the under face
75 of the ring B, and consequently is susceptible of a limited amount of compression or expansion. Hence when the valve is screwed down firmly upon the ring *g* the ring *i* constitutes a compensating support for the ring
80 B in that it permits a slight yield of said ring at one side or the other to accommodate any departure from true alinement of the bearing-face of the valve, and thus prevents leakage due to such imperfection.
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In Fig. 3 I have illustrated the embodiment of my invention in a valve structure having a conical valve F' and a ground seat B' for the same, this seat having a tubular projection adapted to an opening in the casing A'
90 of the valve and having on its under side a groove for the reception of a packing-ring *i'* of a character and construction substantially similar to the ring *i* of the valve, as shown in Fig. 1, said ring *i'* resting upon a seat in
95 the valve-casing A' and performing the same function as the ring *i*.

Having thus described my invention, I claim and desire to secure by Letters Patent—
100

The combination of a valve-casing with a detachable valve-seat having arms or fingers projecting into contact with the inner face of the detachable cap or bonnet of the valve,
5 said seat having in the upper face a groove containing a packing-ring constituting the bearing for the valve and in the under face a groove containing a compressible ring which projects slightly below the under face of the
10 seat and rests upon a support provided there-

for in the valve-casing, substantially as specified.

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

JAMES HULME.

Witnesses:

FRANK BECHTOLD,
WILL. A. BARR.