

No. 640,222.

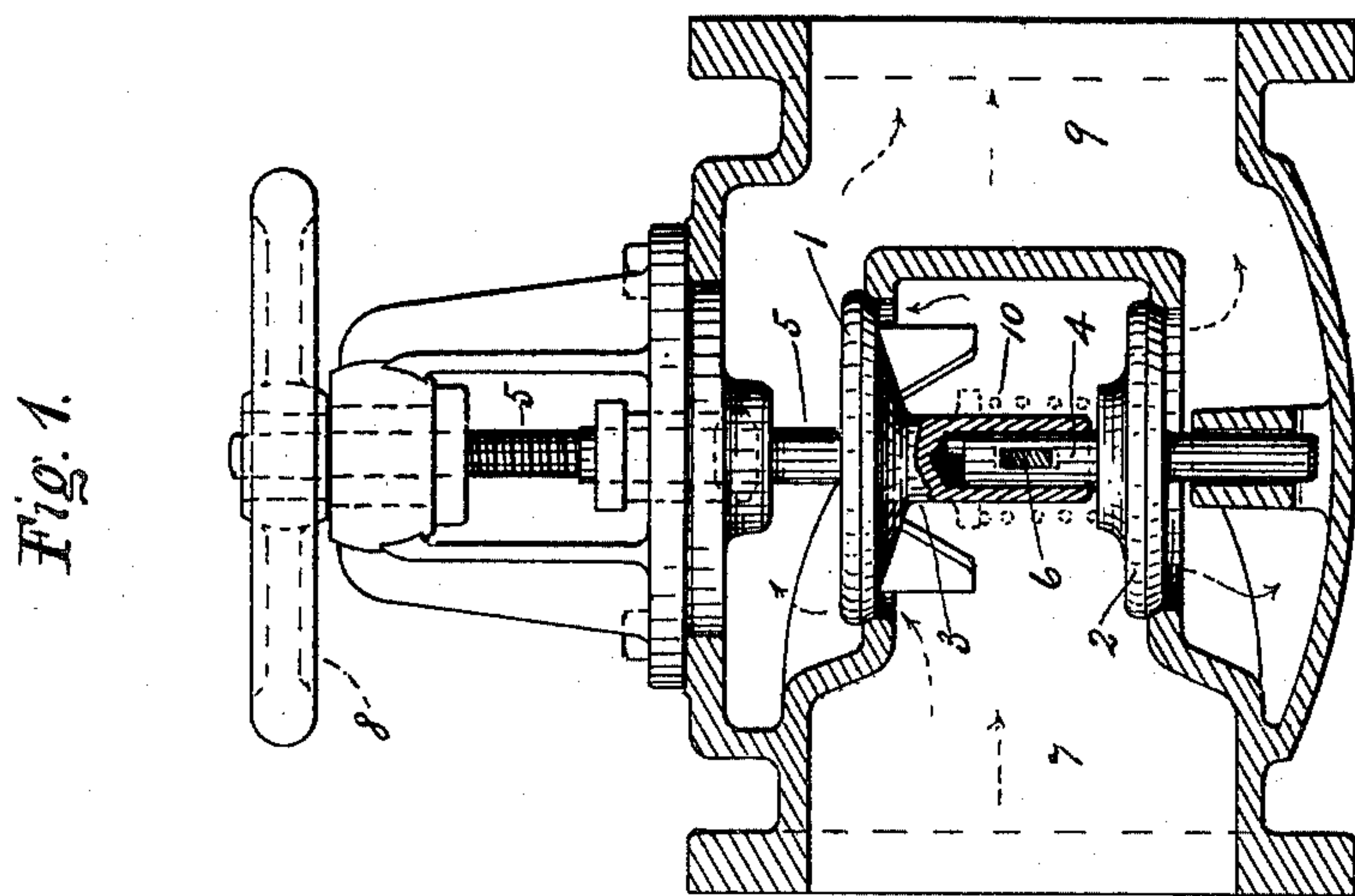
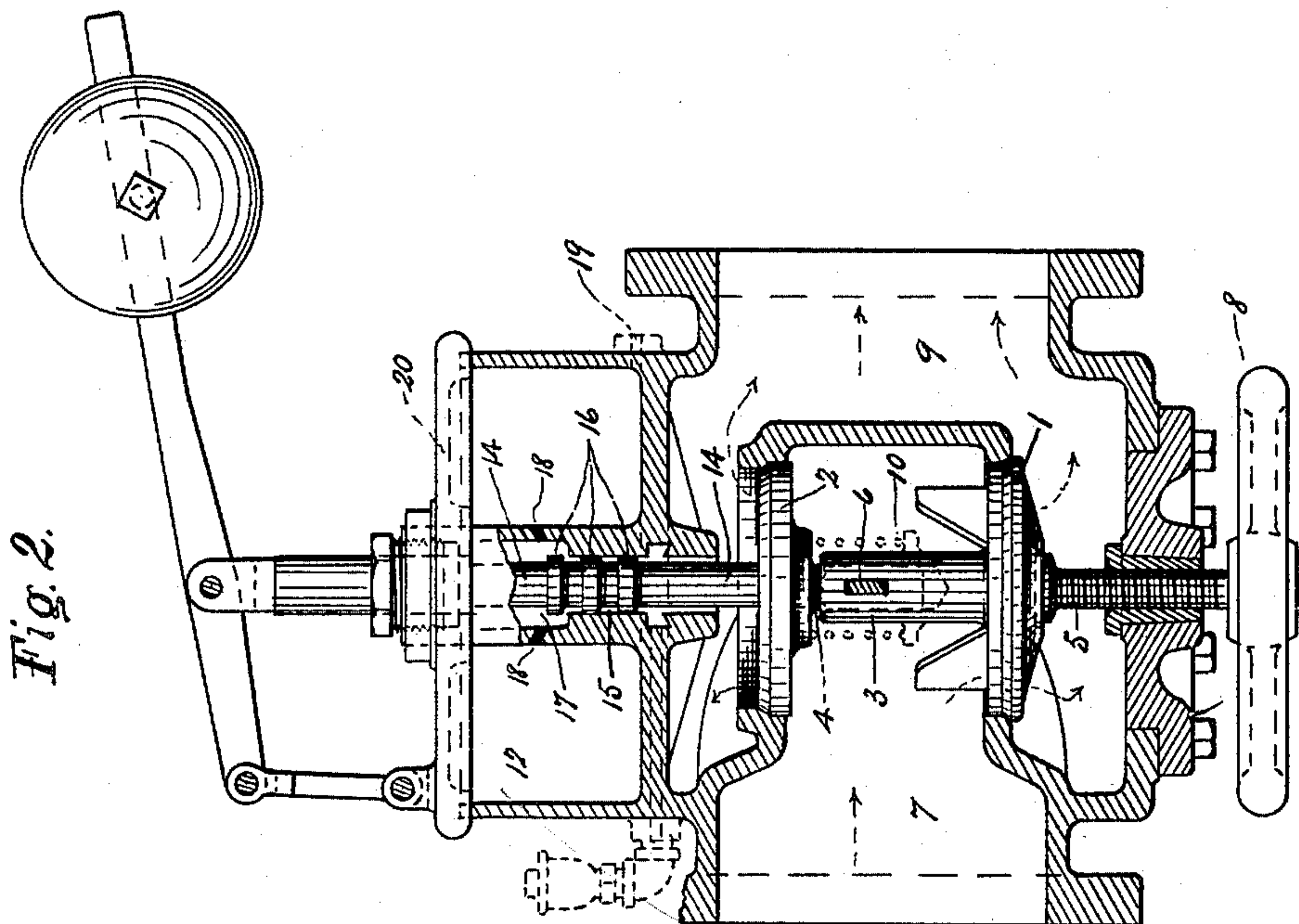
Patented Jan. 2. 1900.

G. B. PRICE.  
PRESSURE VALVE.

(Application filed Sept. 29, 1898.)

(No Model.)

2 Sheets—Sheet 1.



Witnesses:  
Jas. H. Price  
R. H. Taylor

Inventor:  
George B. Price

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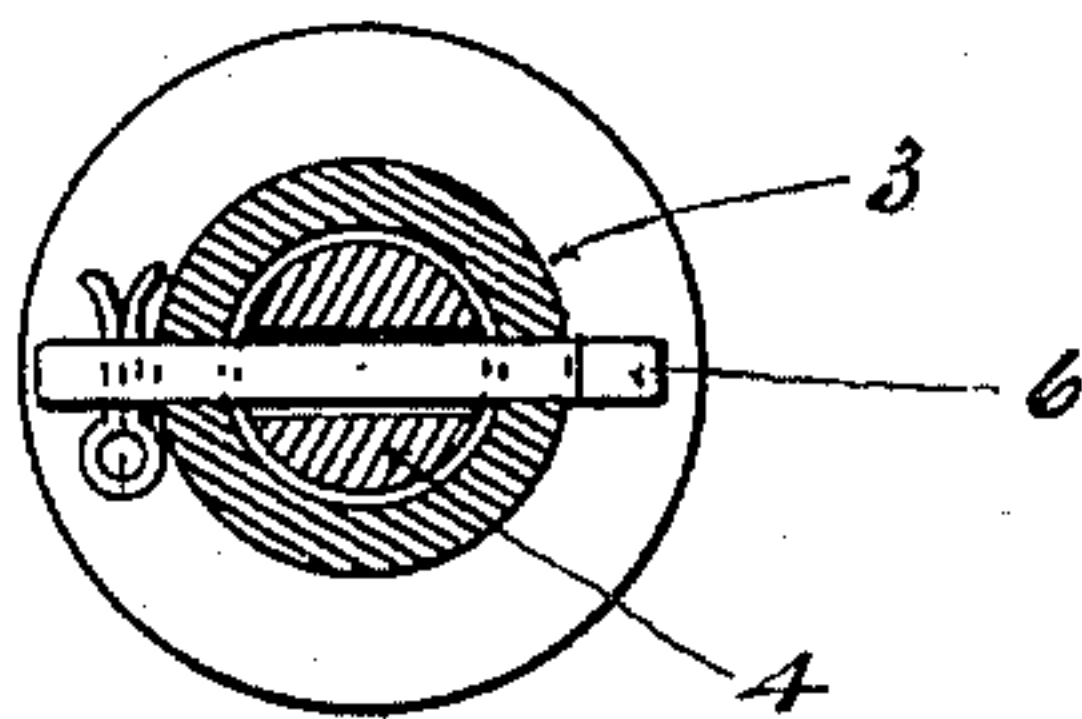
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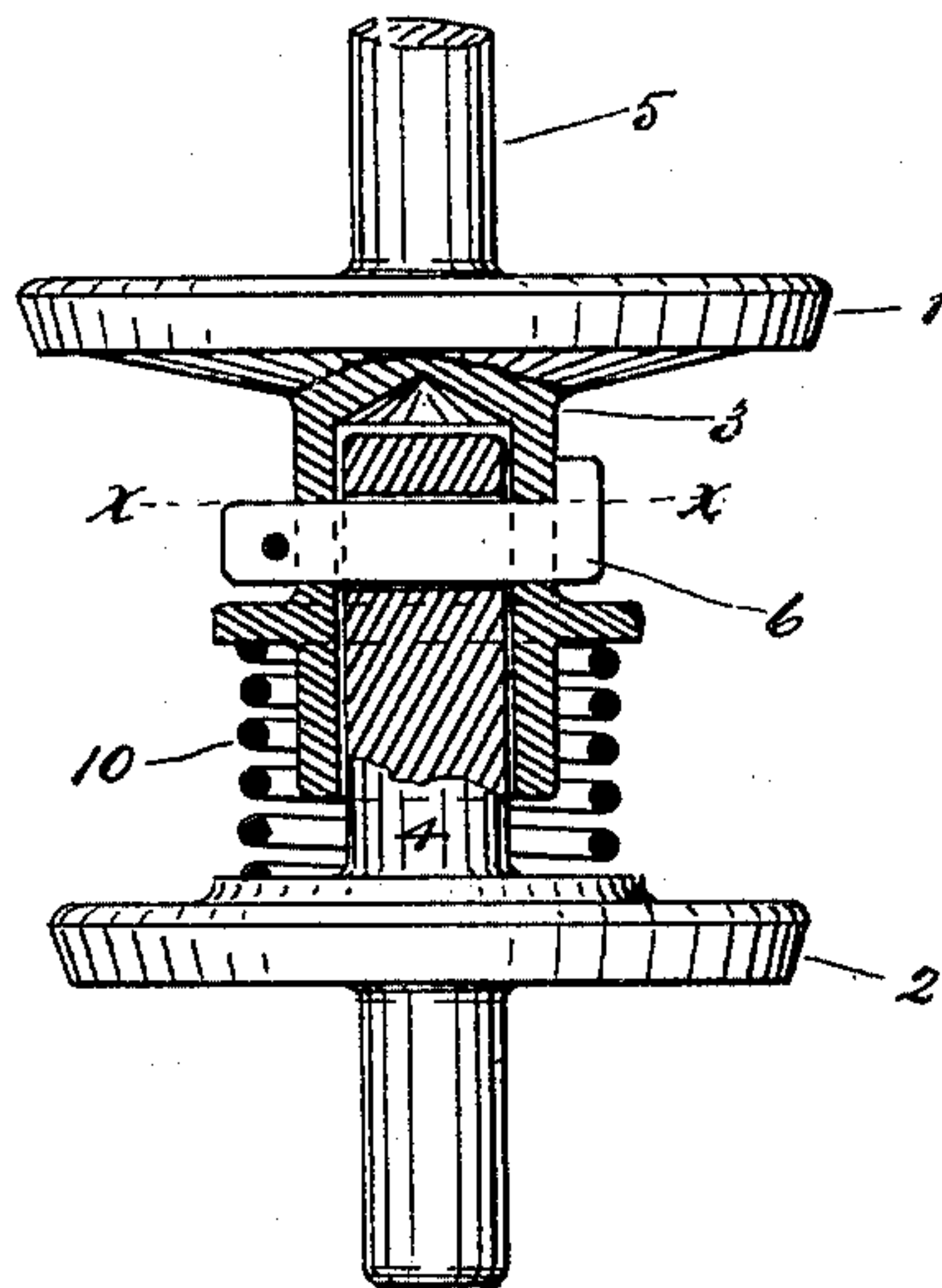
(No Model.)

2 Sheets—Sheet 2.

*Fig. 4.*



*Fig. 3.*



*Witnesses:*

*D. D. Lord*  
*Charles Sharpley Pastoring*

*Inventor:*

*George B. Price*



# UNITED STATES PATENT OFFICE.

GEORGE B. PRICE, OF PHILADELPHIA, PENNSYLVANIA.

## PRESSURE-VALVE.

SPECIFICATION forming part of Letters Patent No. 640,222, dated January 2, 1900.

Application filed September 29, 1898. Serial No. 892,249. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE B. PRICE, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented a new and useful Improvement in Pressure-Valves, of which the following is a specification.

My invention relates to improvements in pressure-valves.

10 In the accompanying drawings, Figure 1 shows my invention adapted to use as a stop-valve, while Fig. 2 shows my improvements when applied in a combined reducing and stop valve. These views show vertical sections through the valves.

15 The first purpose of my invention is to produce a practically-balanced valve having a free double discharge and also capable of being firmly closed down on its two seats, regardless of varying temperatures or pressures.

I am aware that many attempts have been made to accomplish these desirable ends, but heretofore unsuccessfully, for the reason that the two heads or pistons being usually connected by a rigid member could not both be kept tight upon their seats under varying temperatures and expansions, which, it has been found, vary unequally in the movable and the rigid parts of the valve. In my invention I seek to overcome this difficulty by destroying the absolute rigidity of the member connecting the two heads, and so permit each head to naturally find its own seating-surface, as a single-seat valve would do, yet retaining, for all practical purposes, the balance of a rigidly-continuous piston. The manner in which I accomplish this is shown by Figs. 1 and 2. Fig. 3 shows an enlarged detail of the two heads and connecting parts, in elevation view, while Fig. 4 is a cross-section, cut horizontally on line *x x* of Fig. 3.

Referring to Figs. 1, 3, and 4, to the head 1 is appended a central stem 3. The opposite head 2 has likewise a central stem 4, meeting, inclosing, or entering a portion of the stem 3. A pin, key, or other fastening device 6 connects these two stems, but in such manner as to permit a slight longitudinal movement of the two heads toward or apart from each other. It will now be readily seen from the construction that if the screw-spindle 5, Fig. 1, is moved by hand-wheel 8 so as

to raise the head 1 the connected stems 3 4 will raise also the head 2, permitting at once a double discharge of the fluid confined in the chamber 7 into the outer or enveloping chamber 9, and, contrariwise, the valve being open, if the spindle 5 is screwed down it will force the head 1 against its seat, at the same time carrying the head 2 also down very nearly to contact, when the now pent-up pressure in the chamber 7 will instantly force it down and hold it tightly against its seat. In certain uses, as where a back pressure may accumulate, &c., a coil-spring 10 in compression may be used to further insure the head 2 keeping its seat.

Fig. 2 shows the same general elements of the double-seated valve adapted to use as a combined reducing and stop valve, with accessory modifications. The spindle 5 is here not attached to the head 1, but is screwed against or free from it, as required. Its purpose in this case is simply to force and hold the head 1 against its seat when the valve is to be closed tight, as a stop-valve. The permanent stem 14 may either attach to a flexible diaphragm above, as in some types of reducing-valves, or be prolonged, as here shown, into a rod with piston-faces 16, moving within the small cylinder 15 and having its downward thrust occasioned by the ordinary ball-and-lever or any suitable spring device.

When the stem 14 is used as a piston, I prefer enlarging the upper portion of short cylinder 15 into chamber 17, which is perforated with small holes 18, leading into enveloping chamber 12. Any fluid escaping past the piston-faces 16 passes through holes 18 into chamber 12 and may be there evaporated or drained off at boss 19. A cover or cap 20 closes the top of chamber 12 and furnishes suitable support for attaching the necessary pressure-regulating mechanism.

What I claim as new and original is—

1. A pressure-valve having two opposite movable disks or heads closing against two seats; said heads being permanently but not rigidly connected by stems or shanks fitted and held together by a pin, key or coupling connection permitting the two heads to recede or approach each other on their common longitudinal axis; together with suitable means for guiding, raising and lowering said heads



within an inclosing chamber; substantially as shown.

2. A pressure-valve consisting of two movable heads on a common axis, separated and  
5 held together by a coupling admitting of longitudinal play; a spring interposed between the heads; and means for guiding, raising and lowering said heads; substantially as shown.

3. In a pressure-valve a leakage-chamber  
10 surrounding the neck inclosing the valve-

stem, a smaller leakage-chamber within the said neck connecting by small holes with the outer surrounding chamber and a discharge-orifice from said outer chamber; substantially as shown.

GEORGE B. PRICE.

Witnesses:

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