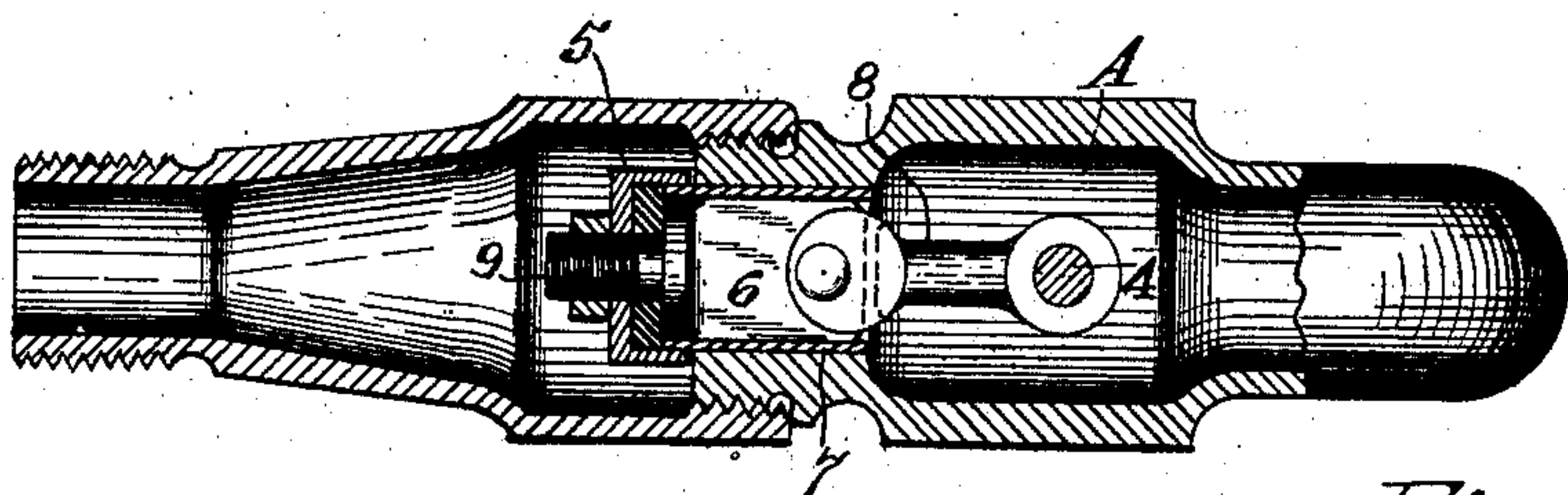


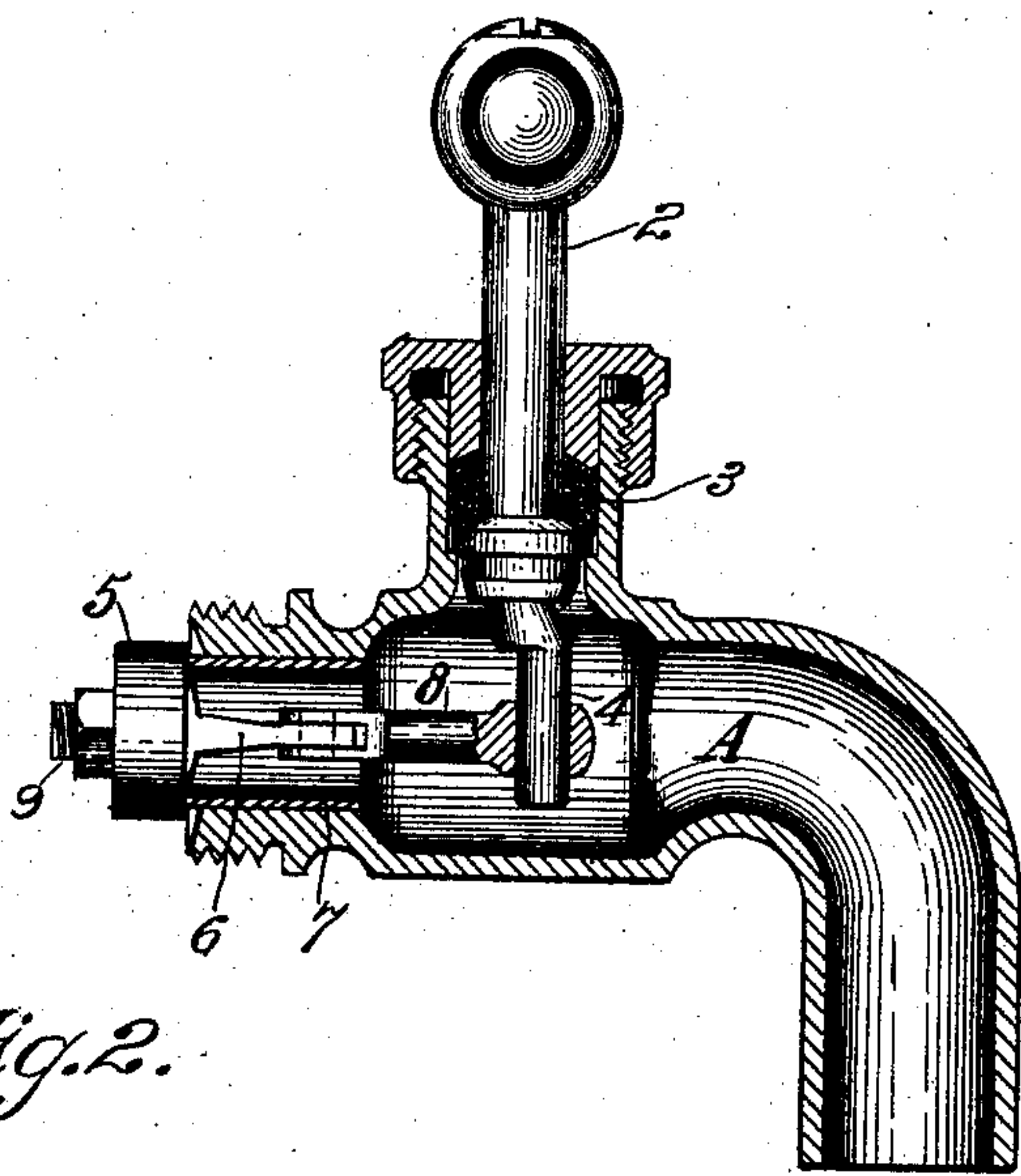
No. 850,679.

PATENTED APR. 16, 1907.

D. SMITH.  
COMPRESSION COCK.  
APPLICATION FILED DEC. 19, 1905.



*Fig. 1.*



*Fig. 2.*

Witnesses:

*F. E. Maynard*  
*J. H. House*

Inventor:

*Daniel Smith*  
*By Geo. H. Strong atty*



# UNITED STATES PATENT OFFICE.

DAVID SMITH, OF SAN FRANCISCO, CALIFORNIA.

## COMPRESSION-COCK.

No. 850,679.

Specification of Letters Patent.

Patented April 16, 1907.

Application filed December 19, 1905. Serial No. 292,502.

*To all whom it may concern:*

Be it known that I, DAVID SMITH, a citizen of New South Wales, residing at the city and county of San Francisco and State of California, have invented new and useful Improvements in Compression-Cocks, of which the following is a specification.

My invention relates to improvements in what are known as "compression-cocks."

It consists in a novel arrangement of the connecting-rod between the eccentric and the valve operated thereby, a guide for the valve, and an improvement in the seat upon which the valve closes.

It also comprises a combination of parts and details of construction which will be more fully explained by reference to the accompanying drawings, in which—

Figure 1 is a horizontal sectional view of the improved compression-cock. Fig. 2 is a vertical sectional view thereof.

In what are known as "compression-cocks" the turnable shaft or stem has an eccentric upon the end within the conveying-passage, and the valve or plug has a rigid extension which connects with the eccentric-shaft, so that when the shaft and the eccentric are turned in one direction the valve or plug will be lifted from its seat to allow a flow through the passage and when turned in the other direction the passage will be closed. It will be evident from the fact that the extension from the valve or plug is rigid that the plug must be tilted from one side to the other in following the rotation of the eccentric, which swings the parts out of line and may at any time cause leaks.

In my improvement the valve is guided so as to move in straight lines to and from the seat, and a connecting-rod is jointed or pivoted to the valve-stem and to the crank or eccentric by which it is operated, so that the valve will always move in a direct line. I have here shown an ordinary bib-cock with my improvement applied thereto; but it will be manifest that they may be used in any form where a flow of fluid is to be controlled.

A represents the chamber and passage through which the fluid is to flow.

2 is a shaft or stem having a handle of any description on the outer end by which it may be turned. This shaft or stem passes through a stuffing-box, as at 3, and its inner end is bent to form a short crank or eccentric, as shown at 4.

The valve 5 is in the form of a cup having

a suitable substance contained within it to form a seat. Such substance may be rubber, fiber, or wood with its end grain toward the seat or any suitable or well-known material which will form a tight closure. This cup is secured to a valve-stem or sliding part 6, which is movable within a tube 7 at this end of the passage, and this extension forms the seat against which the valve is closable, so that when the valve is drawn down it fits upon the edge of the extension and forms a close seat. The part 6 has a width sufficient to make an easily-sliding fit within the tube 7 and of sufficient length to prevent its oscillating from one side to the other, so that the valve will always be maintained parallel with its seat. The inner end of the part 6 has connected with it one end of a connecting-rod 8, the other end of which is attached to the crank or eccentric 4 of the turnable shaft 2, previously mentioned. It will thus be seen that when the shaft is turned the connecting-rod will act to move the valve either to or from its seat, and by reason of the guide with which the valve is movable the latter will always close fairly upon the seat. In addition to this the comparatively narrow edge of the tube 7 which forms the seat will insure a tight closure of the valve when the two are in contact.

In order to adjust the valve in case of wear or leakage, I have shown the cup adapted to screw upon the screw-threaded extension of the valve-stem, (shown at 9,) so that by a partial turn of the cup in case of leakage it may be advanced so as to insure a closure.

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

1. An improved compression-cock comprising a casing having a fluid-passage through it, said casing having a stuffing-box, a shaft passing through said stuffing-box, having its inner end provided with a crank or eccentric, a rod arranged at right angles to the shaft and having one end connected to said crank or eccentric, a valve-stem having a flat inner portion pivotally connected to the other end of said rod, said stem having a width about equal to the portion of the fluid-passage in which it operates whereby said stem is guided in its movements by the inner wall of said passage, said stem having, also, a threaded portion a cup fitted upon the threaded portion of the stem and having a packing adapted to bear against the inlet end



wall of the fluid-passage, and means for securing the cup to the stem.

2. An improved compression-cock consisting of a casing having a fluid-passage through  
5 it, said casing having a tube fitted within its inlet end and projecting beyond the end of the casing to form a narrow-edge valve-seat, a shaft turnably mounted in the casing and having a cranked or eccentric inner end, a  
10 rod connecting with the cranked end of the shaft, a valve-stem having a relatively thin flat portion pivotally connected to the rod said flat portion having a width about equal to the inner diameter of said tube whereby

the stem is guided in its movements, said 15 stem having its opposite end threaded, a cup fitted to the threaded end of the stem and having a packing to engage the narrow-edge valve-seat formed on the end of said tube, and a nut on the threaded end of the stem 20 and bearing against said cup.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

DAVID SMITH.

Witnesses:

W. F. RICKMAN,  
J. W. LEAHY.