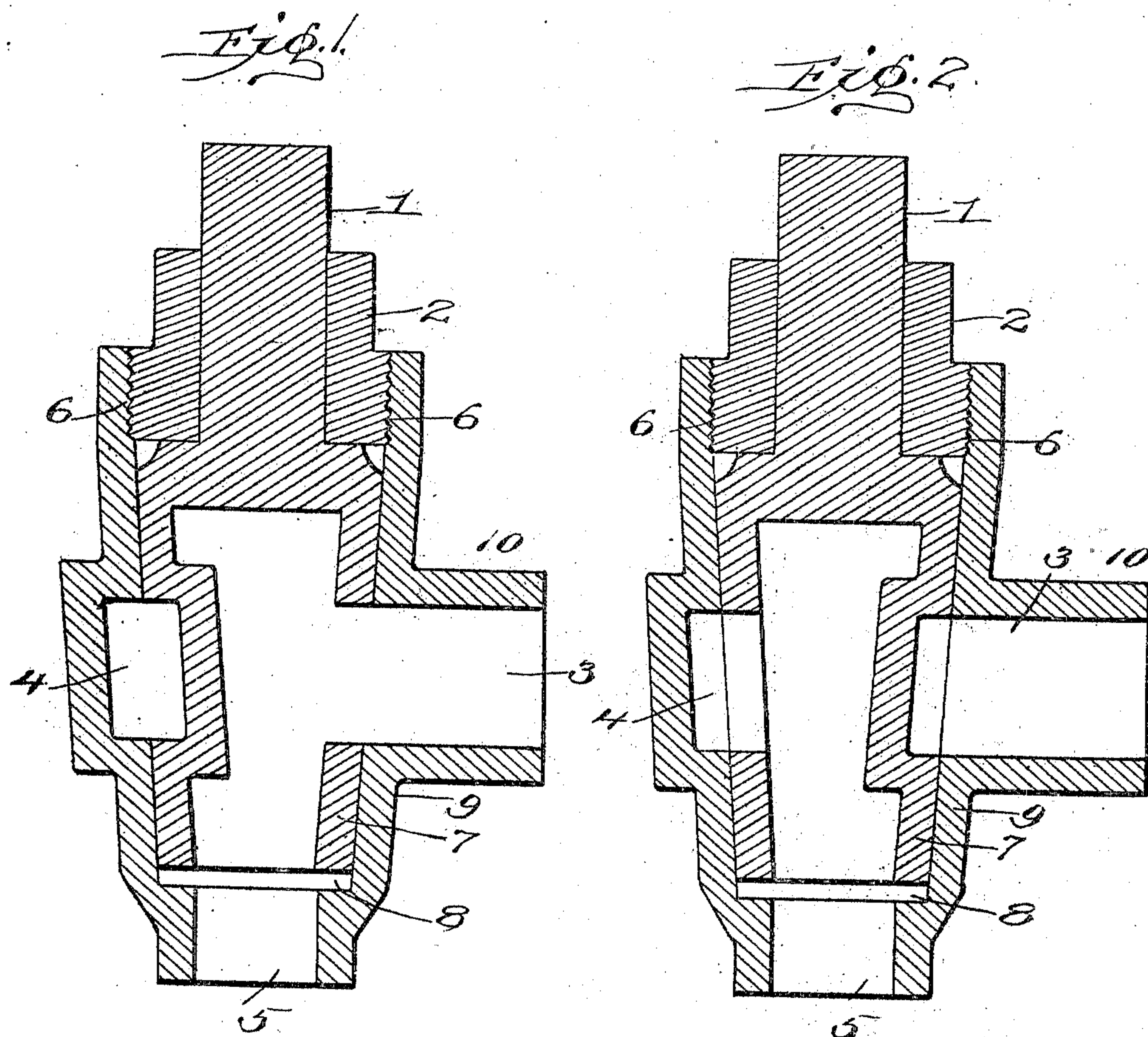


J. F. ZENGLER.
BOILER BLOW-OFF COCK.
APPLICATION FILED MAY 7, 1908.

950,982.

Patented Mar. 1, 1910.



Witnesses

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UNITED STATES PATENT OFFICE.

JACOB F. ZENGLER, OF DENVER, COLORADO.

BOILER BLOW-OFF COCK.

950,982.

Specification of Letters Patent.

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Application filed May 7, 1908. Serial No. 431,466.

To all whom it may concern:

Be it known that I, JACOB F. ZENGLER, a citizen of the United States, residing at Denver, in the county of Denver and State of Colorado, have invented certain new and useful Improvements in Boiler Blow-Off Cocks; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to blow-off cocks, and the object of my invention is to produce a blow-off cock that will have a retaining chamber for the retention of scale and other impurities, and also one that will have the least possible bearing surface.

A further object of my invention is to do away with all packing by a peculiar construction of the valve, and my invention discloses further objects which will appear and be described and claimed hereinafter.

I achieve these results by the device illustrated in the accompanying drawings, in which—

Figure 1 is a vertical section of my blow-off cock, showing the valve open. Fig. 2, is a vertical section showing the same device with the outlet closed.

Similar numerals refer to similar parts throughout the several views.

My device is very simple, being composed of but few parts and consequently not liable to get out of order or be clogged by scale or impurities and the like.

Referring to the drawings, 1 is the stem of the valve 7, having an opening at 3 and having a bearing against the shoulder 6—6 of the follower or nut 2. The seat of the valve, at rest, is against the casing 9, but under pressure its bearing will be against the nut 2 as already stated. Opposite the outlet 3 is a sediment chamber 4 in which the scale and other impurities may be deposited.

The valve is attached to the outlet pipe from the boiler by means of the usual threaded pipe at the opposite end of the valve from the stem 1, and the valve is manipulated from the stem 1 by any desired means. The threaded nut 2 serves to keep the valve in position in the valve casing by its bearing against the shoulder 6—6 of the valve aforesaid.

Besides the sediment chamber, applicant claims another advantage for his device, in that, only during the turning of the valve

plug 7, does the steam come in contact with any bearing surface. This prevents any corroding of the valve, and allows, the sediment, if any, to settle in the chamber 4. The recess in the plug is intended to catch the scale deposited by back pressure. Ordinarily boilers are arranged in series or as a battery. That is, several different boilers are connected with the same blow off pipe. The result is that when one boiler is blowing off, there is back pressure of steam against all of the other blow off cocks, and if the valve plug should be made with a smooth outer surface, that is, without this recess, a part of the bearing surface would be exposed to this back pressure through outlet 3, and there would be a deposit of scale and sediment on this surface, preventing or retarding the operation of the valve plug. In the improved construction the sediment is deposited in the recess and not on a bearing surface. If the sediment chamber in the casing were not provided, then whenever the valve plug is in the position shown in Fig. 2, the steam would come in contact with the bearing surface through the opening in the valve plug and this bearing surface would become covered with sediment and scale and the latter would prevent or at least retard the turning of the valve plug and would cut the bearing surfaces.

A further advantage is that applicant's construction does away with the packing which is a necessary part of other valves.

What I claim and desire to secure by Letters Patent of the United States is:—

In a blow-off cock, a casing having at one side an outlet opening and at its other side in line with the opening one member of a sediment chamber outstanding from the wall of the valve seat, a plug provided with an inset member defining the other member of the sediment chamber, and an outlet opening, the last-named outlet opening being arranged to register with the sediment chamber, and means for adjusting the plug relative to the sediment chamber and the outlet opening of the casing whereby to secure a steam-tight joint to compensate for wear.

In testimony whereof I affix my signature in presence of two witnesses.

JACOB F. ZENGLER.

Witnesses:

ISABEL M. STRONG,
CARLE WHITEHEAD.