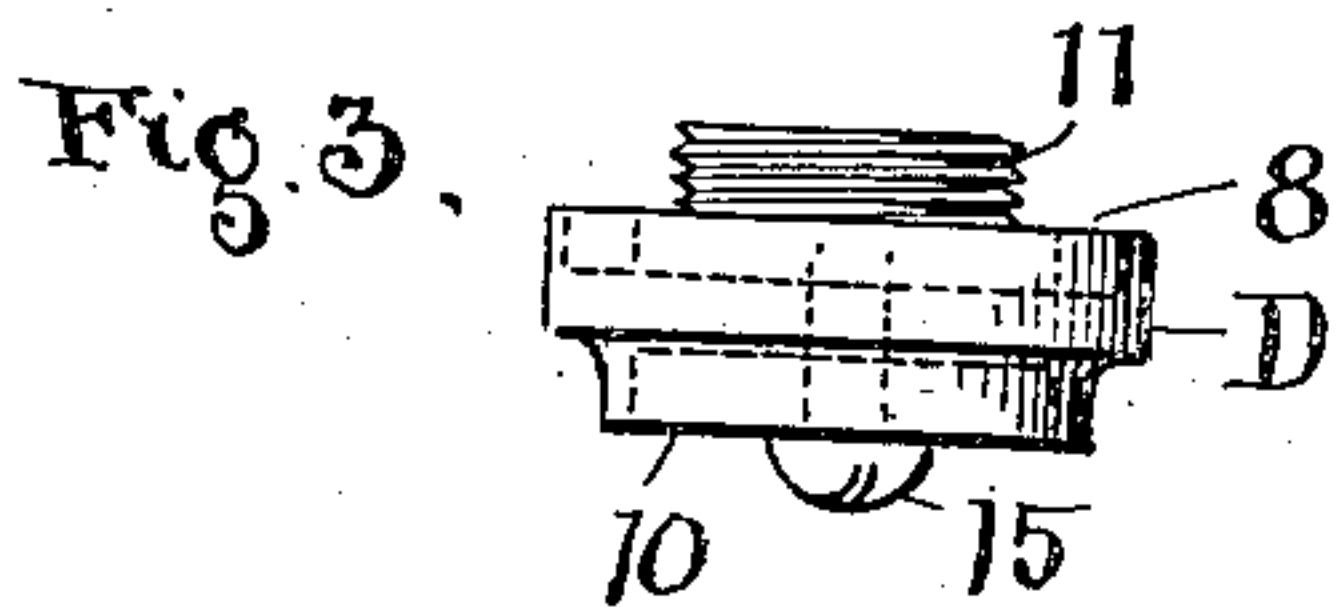
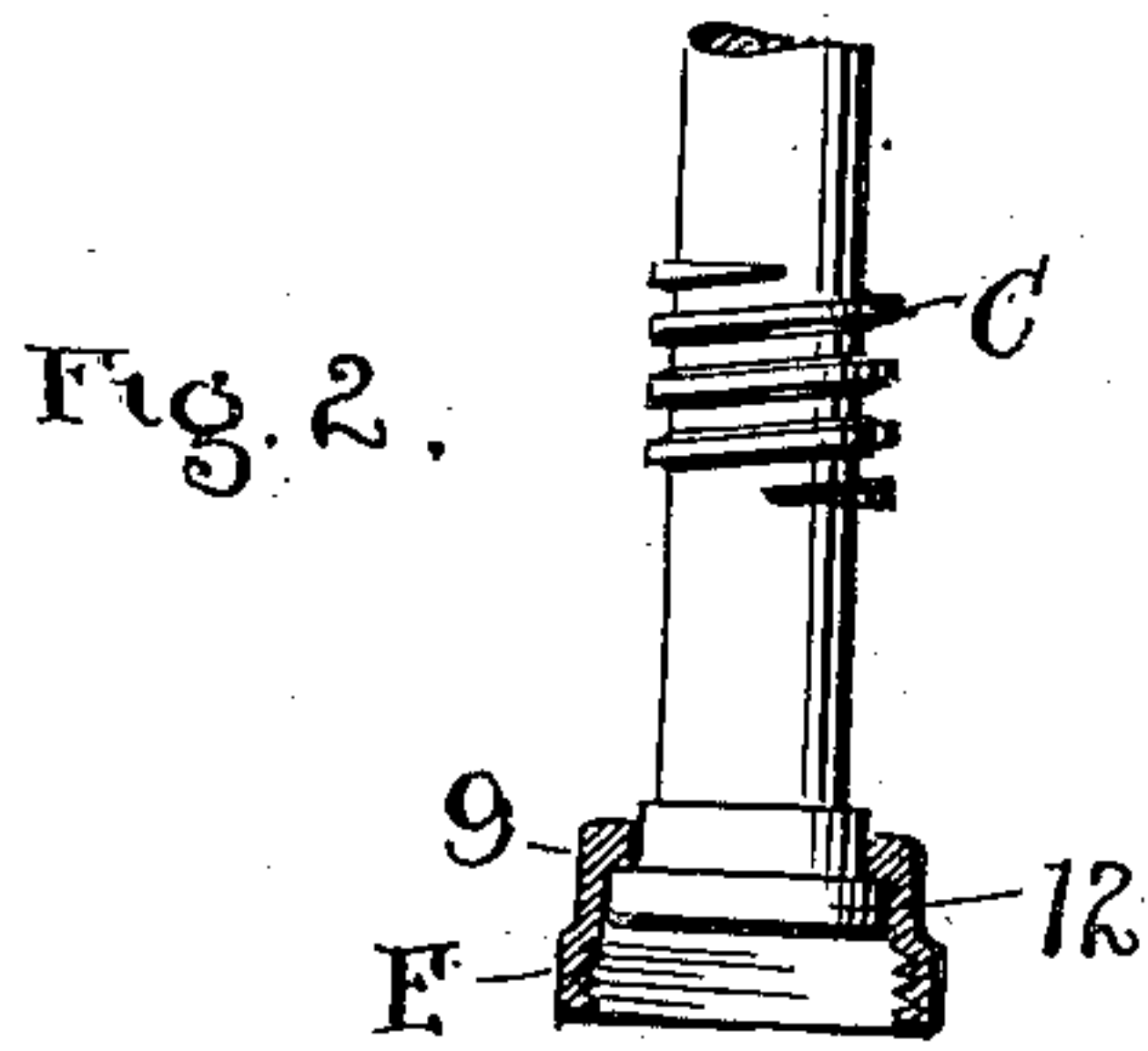
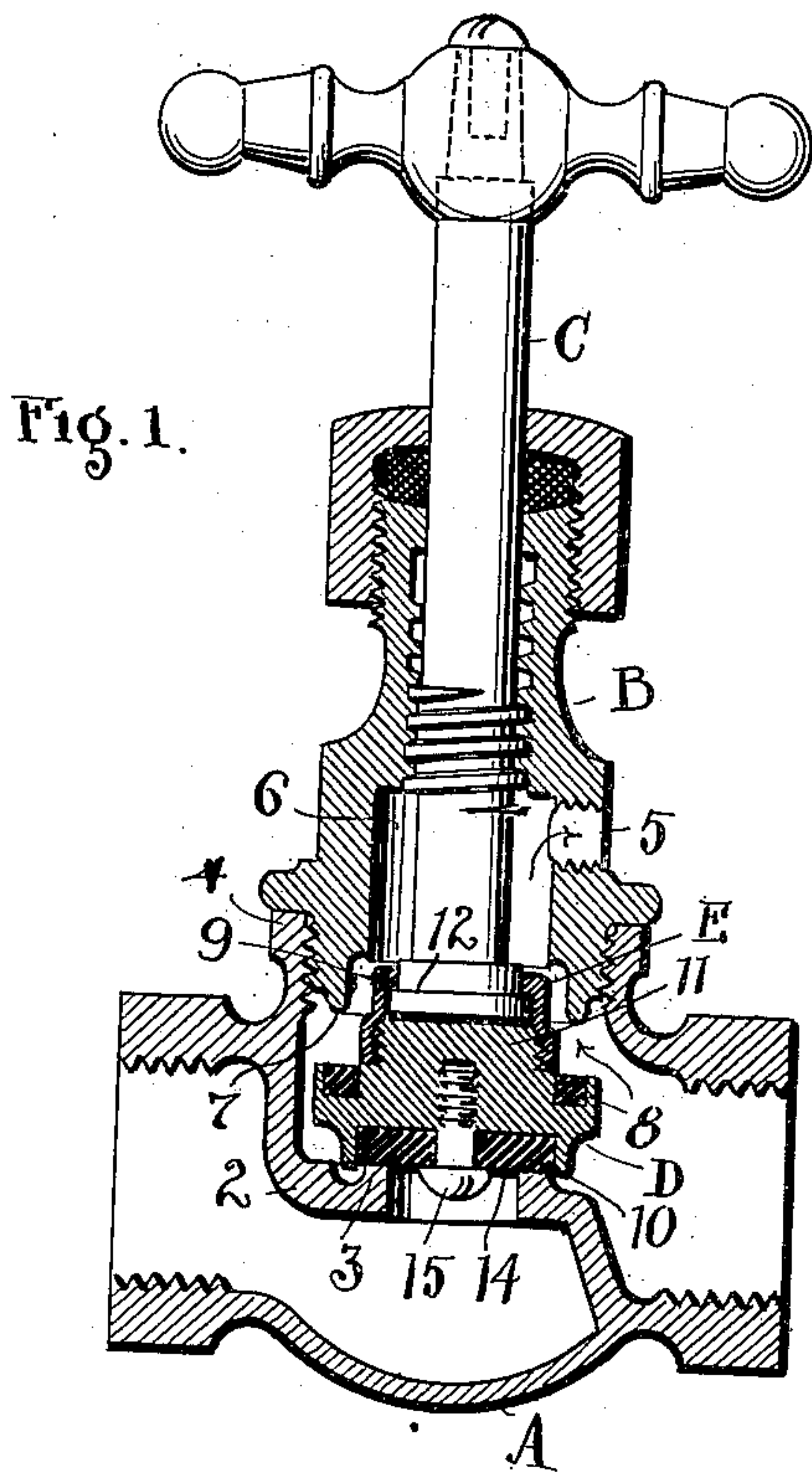


No. 898,383.

PATENTED SEPT. 8, 1908.

J. N. MORTIMER.  
STOP AND WASTE VALVE.  
APPLICATION FILED OCT. 25, 1906.



ATTEST.  
E. M. Fisher.  
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INVENTOR  
John N. Mortimer

By Frederick Moore Atty.



# UNITED STATES PATENT OFFICE.

JOHN N. MORTIMER, OF CLEVELAND, OHIO, ASSIGNOR TO THE CENTRAL BRASS MANUFACTURING COMPANY, OF CLEVELAND, OHIO, A CORPORATION.

## STOP AND WASTE VALVE.

No. 898,383.

Specification of Letters Patent.

Patented Sept. 8, 1908.

Application filed October 25, 1906. Serial No. 340,461.

*To all whom it may concern:*

Be it known that I, JOHN N. MORTIMER, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Stop and Waste Valves, and do declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to stop and waste valves and the invention consists in the construction, combination and arrangement of parts substantially as shown and described and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a vertical sectional elevation of the invention. Fig. 2 is a detail of the lower portion of the valve stem and a section of the valve shell thereon and Fig. 3 is a side elevation of the valve body.

A represents the main casing of the valve which has a central diaphragm 2 and a valve seat 3 therein as usual, and a threaded neck 4 at its top.

B represents a bonnet or cap having direct threaded engagement with said neck as shown, or such connection might be by a coupling nut if preferred and which is an equivalent and well known connection. Said cap is threaded internally at its top for engagement of stem C and has an annular chamber 6 at its bottom provided with a waste outlet 5 and a valve seat 7 at its lower edge and which is also the bottom of said cap.

Valve D is loosely mounted on head 12 of the valve stem and is provided with a shoulder 8 about its side adapted to engage seat 7 as well as being provided with a piston portion 9 above seating shoulder 7 adapted to enter chamber 6 in the cap and close the same in advance of seating of the valve at 7.

This valve also has a seating portion 10 at its bottom adapted to occupy valve seat 3 and suitable fibrous or other seat packing may be employed in or with both said seating portions 8 and 10, respectively, and the travel from one seat to the other is relatively slight but still sufficient to adequately open the valve for a free flow of the water through the valve when the waste is closed and to close said flow when the waste is opened.

Structurally the valve comprises a solid

body and an internally threaded shell E, 55 screwed onto reduced portion 11 of said body and loosely engaged over head 12 of the valve stem by an inturned flange at its top, so that said valve will always be free to rotate in respect to its stem and grind its seats to an even surface all around. The tubular extension 9 is on this shell, and said extension or piston is designed to so closely fit within the wall of chamber 6 that it practically cuts off the waste as soon as it enters said space. The valve as an entirety, therefore, comprises extension 9 as well as the seating portions 8 and 10, and this complete embodiment is free so far as the rotations of the valve spindle are concerned but confined as to axial or direct movement thereon, by reason of shell E engaging over the shoulder on head 12 of the valve stem and said head otherwise abutting against the top of valve body D. The valve stem, therefore, has positive control of the valve axially but not rotarily.

The piston or extension 9, or its equivalent, may be used, and such equivalent may be of metal or rubber and adapted, as in the present construction, to shut off the water gradually, when the valve is raised from its main seat in diaphragm 2. The seating disk 14 on the bottom of the valve is secured to the valve body by screw 15, but said screw does not enter the valve stem and hence does not hinder the free rotation of the valve on its stem as above described.

By the foregoing construction the valve will seldom, if ever, seat twice at exactly the same place, because it will be more or less but not wholly influenced by the rotary movements of the valve stem, and this will afford a ground but not a worn seat for the valve at all three points of its engagement and absolutely avoid leakage for an indefinite period of service.

What I claim is:

1. The casing having a main fluid passage and a main valve seat therein, a bonnet on said casing and a valve stem threaded in said bonnet having a head on its bottom, said bonnet having an annular chamber with a waste orifice at its side and provided with a bottom edge adapted to form a valve seat, a valve member mounted on the lower end of said stem comprising a shell rotatably and detachably engaged on the head of said stem and having a piston extension adapted to fit



closely in said annular chamber and having its entering edge portion adapted to close the waste chamber immediately upon initial rotation of the valve stem, and a valve body 5 having a seating shoulder adapted to engage the valve seat on said bonnet for final sealing of said waste chamber, and said valve body having a removable connection with said shell and a seating portion at its bottom opposite the main valve seat. 10

2. A stop and waste valve comprising a casing having a main water passage and valve seat therein, a chambered bonnet detachably connected with said casing having a 15 waste outlet at one side and an annular valve seat at its bottom, a valve stem having threaded connection with said bonnet and provided with a head at its lower end, and a triple seat valve detachably connected to 20 said stem and head comprising a body having a seating portion at its bottom for the main valve seat, an annular seating shoulder about said body adapted to engage the bottom valve seat on said bonnet, and a piston 25 portion detachably connected with said body and constructed to enter and to closely fit within the bonnet chamber and adapted to

initially close the same upon initial opening movement of the main valve.

3. A stop and waste valve having a main 30 water passage and valve seat therefor and a bonnet having a piston chamber and waste outlet therefrom, in combination with a screw valve stem mounted upon said bonnet and having a valve detachably and rotatably 35 secured thereto at its lower end and comprising a member recessed at its bottom and having a screw extension at its top and an annular shoulder about the member provided with an annular recess in its top surface and pack- 40 ing in said recesses, and a threaded fastening shell adapted to screw upon said screw extension having a tubular piston portion rotatably sleeved and secured upon said valve stem and adapted to enter said piston cham- 45 ber and cut off said waste outlet upon initial opening movement of the stem and valve thereon.

In testimony whereof I sign this specification in the presence of two witnesses.

JOHN N. MORTIMER.

Witnesses:

R. B. MOSER,  
E. M. FISHER.