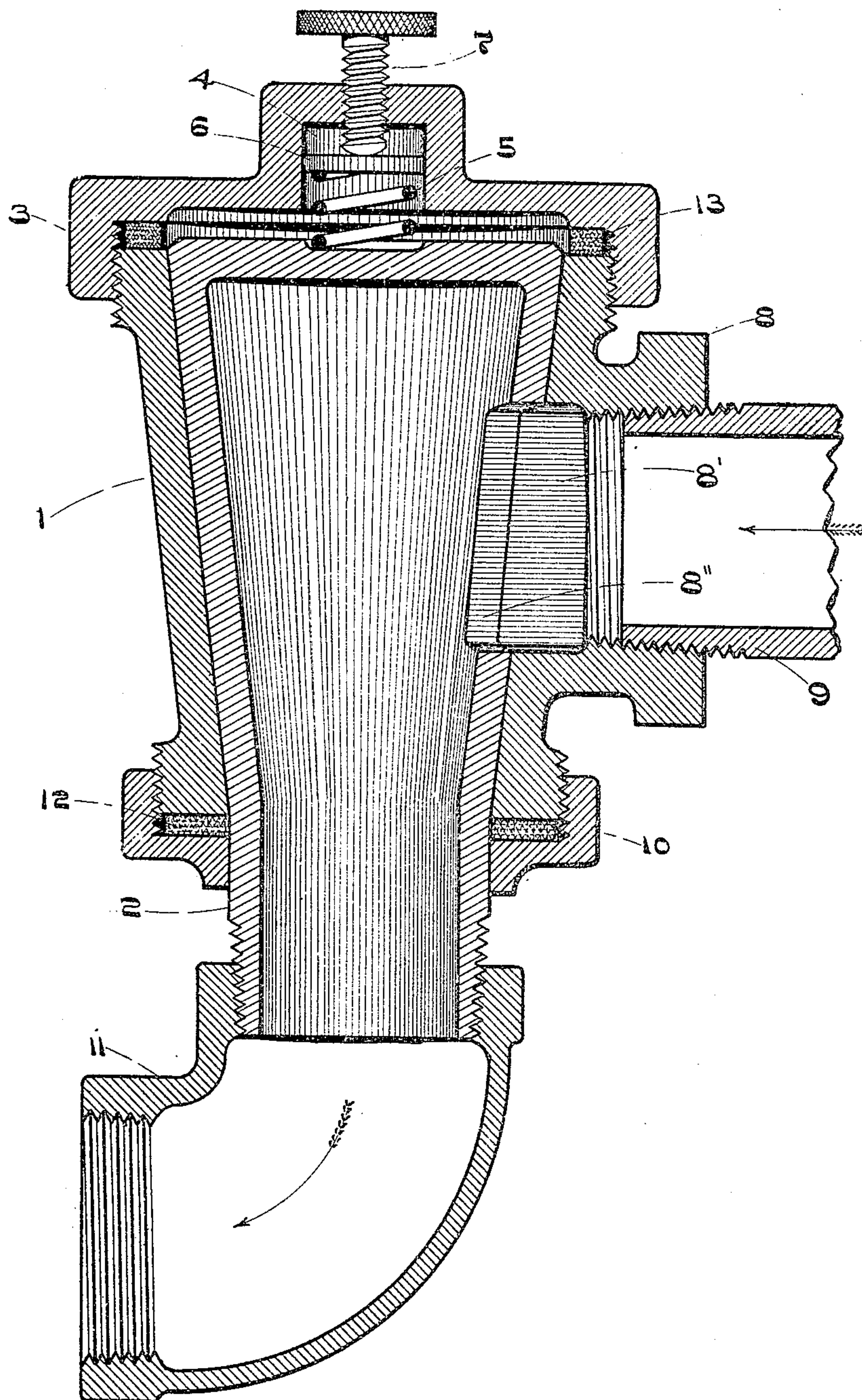


No. 801,170.

PATENTED OCT. 3, 1905.

D. F. ANDREWS.
COMBINATION STOP COCK AND SWING JOINT.

APPLICATION FILED JUNE 25, 1903.



WITNESSES

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DAVID FRANK ANDREWS, OF FRANKLIN, PENNSYLVANIA.

COMBINATION STOP-COCK AND SWING-JOINT.

No. 801,170.

Specification of Letters Patent.

Patented Oct. 3, 1905.

Application filed June 25, 1903. Serial No. 163,023.

To all whom it may concern:

Be it known that I, DAVID FRANK ANDREWS, a citizen of the United States, residing at Franklin, in the county of Venango and State of Pennsylvania, have invented certain new and useful Improvements in a Combination Stop-Cock and Swing-Joint, of which the following is a specification, reference being had therein to the accompanying drawing.

My invention relates to an improved combination stop-cock and swing-joint, and will be fully understood by a reference to the accompanying drawing, which forms a part of this specification.

The object of my device is to provide a combination stop-cock and swing-joint wherein wear is automatically taken up and leakage is certainly and efficiently provided against by means which causes the plug or valve of the stop-cock to be continuously and automatically held to its seat by a determinable and adjustable pressure.

The structural elements of my device are as follows:

1 is the body of the stop-cock.

2 is the plug or valve.

3 is a cap screw-threaded to the larger end of the body 1.

4 is a chamber centrally located in cap 3.

5 is a spiral spring seated in chamber 4 of cap 3, with one end thereof bearing against the larger end of plug 2.

6 is a follower seated upon the upper end of spring 5.

7 is a screw adapted to bear upon follower 6 and to regulate the tension of spring 5.

8 is an internally-screw-threaded boss formed about a lateral opening in body 1. 8' is the lateral opening in said body.

8'' is a lateral opening in plug 2, adapted to be brought into register with opening 8' in body 1.

9 is a pipe inserted in boss 8.

10 is a cap screwed to the smaller end of body 1 and through which plug 2 projects.

11 is a pipe-fitting screwed to the smaller projecting open end of plug 2.

12 and 13 represent a packing of any suitable character.

By an inspection of the drawing it is readily seen that plug 2 is a taper plug revolubly seated in a taper seat formed in body 1 and that said seat is a continuous opening through said body 1. Said plug 2 is hollow, closed at its larger end and open at its smaller end,

which smaller end is extended outside of body 1 and cap 10 and externally screw-threaded for the reception of a pipe-fitting.

The cap 3 is internally screw-threaded and adapted to screw upon the larger end of body 1, and for the purpose of preventing leakage of any fluid which might find its way between the periphery of the plug or valve and its seat I place within said cap, between the same and the upper face of the body, a yieldable packing 13, which effectually prevents any leakage at that point. Cap 10 has an opening through which plug 2 passes, and said cap is also internally screw-threaded and screwed upon the externally-screw-threaded smaller end of body 1, and a packing 12 is placed between the lower face of the body and the inner face of said cap 10, so that when said cap is screwed firmly against the packing the resulting pressure upon the same tends to crowd it out and cause it to bear more firmly against the periphery of the plug or valve 2, which passes through the same, which effectually stops all leakage at this point.

The device here shown is constructed for and especially adapted to use about refineries where the various products of petroleum are being handled. To those familiar with such products it is a well-known fact that heretofore it has been quite impossible to procure a combined stop-cock and swing-joint which would positively prevent leakage of oil, and especially the more volatile kinds when hot. With the device here shown all leakage is effectually overcome.

Spring 5 bears against the larger closed end of plug 2 and holds the same always firmly to its seat and whereby wear is always automatically taken up. By means of the screw 7 the pressure of the spring may be regulated to any desired amount.

Plug 2 has formed therein a lateral opening 8'', adapted to be brought into register with the lateral opening 8' in body 1, thereby opening the cock, and to be again carried out of register with said opening, whereby the cock is closed. About said opening 8' is formed an internally-screw-threaded boss 8, wherein a pipe 9 may be introduced, which leads to a storage of liquid to be drawn through the cock, the direction of the flow of liquid being indicated by the arrows.

By using two of my devices and screwing the threaded end of plug 2 into boss 8 a universal swing-joint is obtained, and be it un-

derstood that a number of openings 8" could be readily formed in plug 2 without departing from the scope of my invention.

Having thus described my device, what I
5 claim as new, and desire to secure by Letters Patent, is—

In a device of the class described, the combination with a valve-casing having a lateral passage formed in one side thereof; of a hollow, tapering plug having an opening lying
10 in the same horizontal plane as the passageway of the valve-casing, said plug being closed at its upper end and communicating with a discharge-pipe at its lower end, a cap screwed

upon the upper end of the valve-casing and
forming a closure therefor, said cap having a
chamber formed therein, a spring seated in
said chamber and bearing against the upper
end of said tapered plug and means control-
lable from the exterior of the valve-casing
for adjusting the tension of said spring. 15 20

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

DAVID FRANK ANDREWS.

Witnesses:

THOMAS MCGOUGH,
J. ANDREWS.