

No. 648,068.

Patented Apr. 24, 1900.

T. J. COOKSON.
STEAM SEPARATOR.

(Application filed June 23, 1898. Renewed Sept. 21, 1899.)

(No Model.)

Fig. 1.

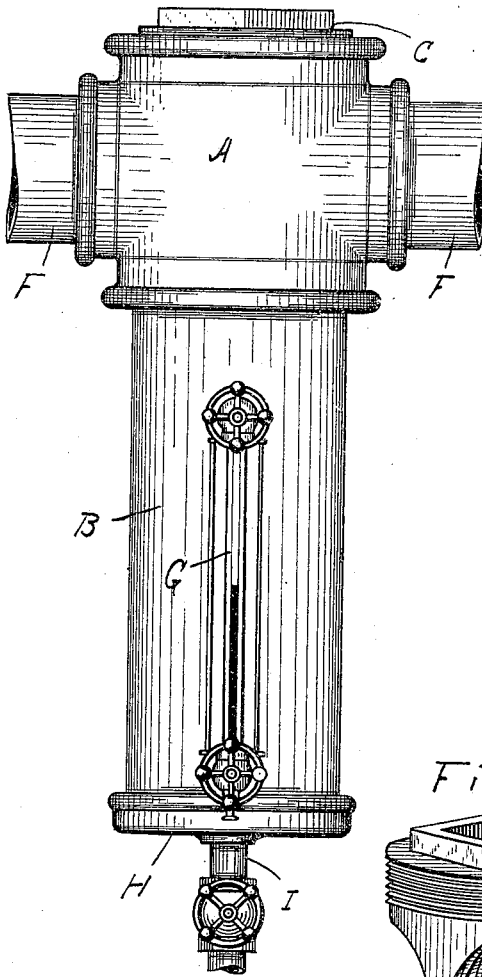


Fig. 2.

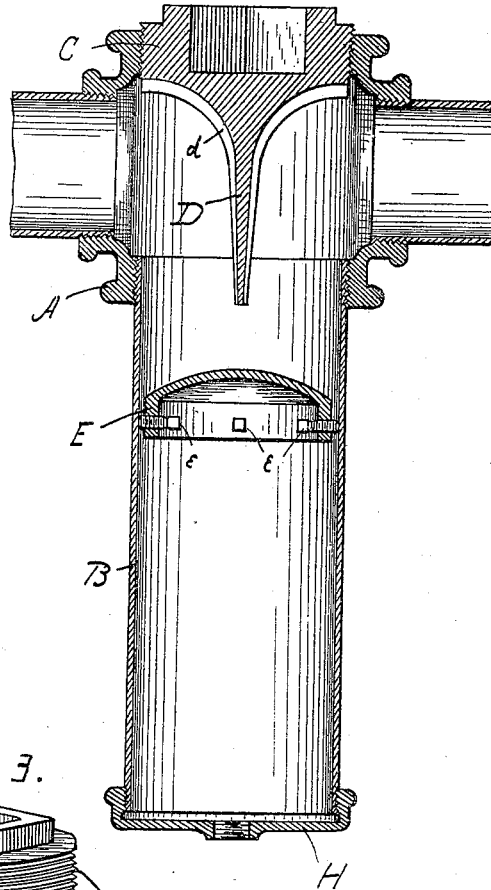


Fig. 3.

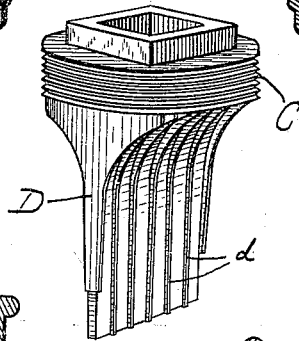


Fig. 4.

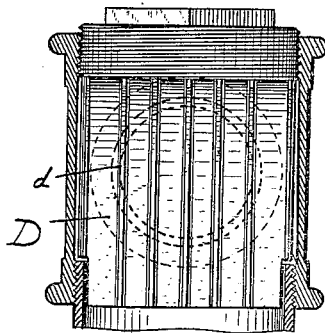
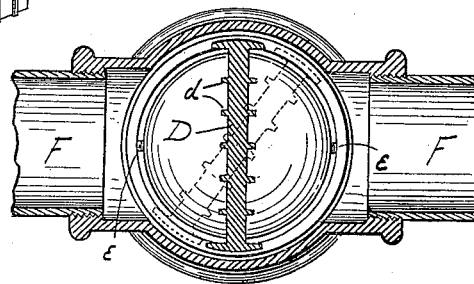


Fig. 5.



WITNESSES.

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UNITED STATES PATENT OFFICE.

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STEAM-SEPARATOR.

SPECIFICATION forming part of Letters Patent No. 648,068, dated April 24, 1900.

Application filed June 23, 1898. Renewed September 21, 1899. Serial No. 731,279. (No model.)

To all whom it may concern:

Be it known that I, THOMAS J. COOKSON, a citizen of the United States, residing at Joliet, county of Will, State of Illinois, have
5 invented a new and useful Improvement in Steam-Separators, of which the following is a specification.

My invention belongs to that class of separators in which the steam strikes against a
10 baffle-plate and is deflected against a diaphragm. Its object is to provide a separator that can be cheaply and easily constructed, can be easily taken apart for cleaning, can be used with steam passing through it in
15 either direction, and can be adjusted to different flows of steam.

It consists of a cross-coupling having a plug screwed into the top, which carries the baffle-plate, and a pipe screwed into the bottom, in
20 which the diaphragm is placed.

It further consists of details hereinafter more fully described, and particularly pointed out in the claims.

Figure 1 is a side elevation of my invention.
25 Fig. 2 is a sectional view of the same. Fig. 3 is a perspective view of the plug and baffle-plate removed. Fig. 4 is a view of the baffle-plate looking in the direction of the flow of the steam, the cross-coupling being in section.
30 Fig. 5 is a sectional view at right angles to Fig. 2.

A represents the cross-coupling; B, the pipe screwed into the bottom; C, the plug screwed into the top; D, the baffle-plate; E,
35 the diaphragm; F F, the inlet and outlet ports; G, the water-glass; H, the cap screwed onto the pipe B, and I the drain-pipe.

The operation of my separator is as follows: The steam enters through the pipes F
40 F from either direction, strikes upon the baffle-plate D, and is deflected downward upon the diaphragm E. This baffle-plate is provided with corrugations or ribs *d* the more thoroughly to intercept the steam and separate the water, oil, &c., from the steam. It is
45 attached to or forms a part of the plug C, which screws into the top of the cross A and can be set at different angles to the line of entrance of the steam, as shown in dotted lines in Fig.
50 5. In this way a different motion may be im-

parted to the steam and more or less resistance prevented, as desired. The baffle-plate is curved, as shown, symmetrically on each face to deflect the steam downward from whichever
55 side it enters. The steam is deflected upon the diaphragm E, which is set in the pipe B at any desired height, being held in position by the set-screws *e*. It is of slightly less diameter than the pipe, leaving a narrow passage-way for the water around its edge. Its upper
60 surface is convex, so that the water will run off at the edge. By setting this diaphragm nearer or farther from the lower edge of the baffle-plate D the resistance to the steam may be increased or diminished. The parts are
65 similar and present the same obstruction to the steam from whichever side it enters, thus making the separator reversible.

The water-gage G indicates the height of the water in B, and when it rises too high it may
70 be drawn off through I.

When it is desired to clean the separator, the cap H is removed and the diaphragm taken out or the plug C is unscrewed, giving free
75 access to all parts.

It will be understood from the foregoing description that I have produced a separator adjustable to different uses and constructed,
80 with the exception of the baffle-plate and diaphragm, of stock material—that is, piping and couplings usually carried in stock—for all ordinary sizes.

In case it is desired to dispense with the separator or to remove it it will only be necessary to screw out the plug C and the pipe
85 B and screw in plugs at top and bottom in their places and the steam connection will be complete and unobstructed.

What I claim, and desire to secure by Letters Patent, is—

1. The herein-described separator consisting of the combination of the chamber A, the ports F, F, therein, the adjustable baffle-plate D therein, and the chamber B below said chamber A; all substantially as shown and described.
90 95

2. The herein-described separator, consisting of the combination of the chamber A, the ports F, F, therein, the removable plug C, the baffle-plate D, upon or carried by said
100

plug, and the chamber B, below said chamber A; all substantially as shown and described.

3. The herein-described separator consisting of the combination of the inlet and outlet ports F, F; the chamber A; the baffle-plate D therein, adjustable axially; the chamber B and the diaphragm E in said chamber B, all substantially as shown and described.

4. The herein-described separator, consisting of the combination of the inlet and outlet ports F, F, the baffle-plate D, the chamber B, and the adjustable diaphragm E in said chamber B, all substantially as shown and described.

5. The herein-described separator, consisting of the combination of the inlet and outlet ports F, F, the adjustable baffle-plate D, the

chamber B, and the adjustable diaphragm E therein, all substantially as shown and described.

6. The herein-described separator, consisting of the cross-coupling A, having the inlet and outlet ports F, F, at each side, and the openings at the top and bottom, the plug C, which screws into the top opening, the baffle-plate D attached to said plug, and the pipe or chamber B, having the adjustable diaphragm E therein, which screws into the bottom opening; all substantially as shown and described.

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Witnesses:

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