

(No Model.)

J. J. SWEENEY.
FLOATING SKIMMER FOR BOILER CLEANERS.

No. 569,070.

Patented Oct. 6, 1896.

Fig. 1.

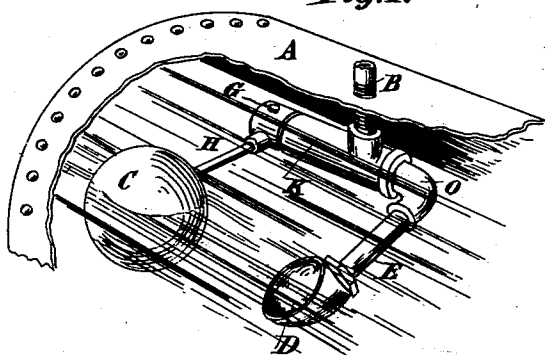


Fig. 2.

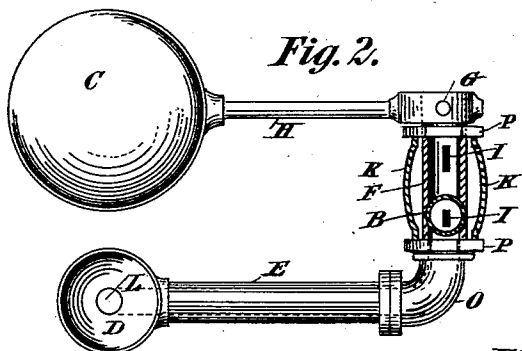


Fig. 3.

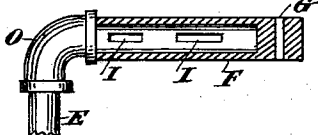
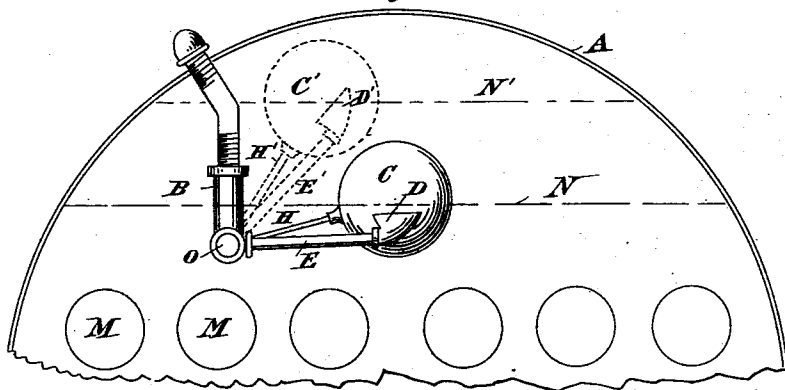


Fig. 4.



Witnesses

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UNITED STATES PATENT OFFICE.

JOHN J. SWEENEY, OF LOUISVILLE, KENTUCKY.

FLOATING SKIMMER FOR BOILER-CLEANERS.

SPECIFICATION forming part of Letters Patent No. 569,070, dated October 6, 1896.

Application filed March 21, 1896. Serial No. 584,295. (No model.)

To all whom it may concern:

Be it known that I, JOHN J. SWEENEY, a citizen of the United States, residing at Louisville, in the county of Jefferson and State of Kentucky, have invented a new and useful Improvement in Floating Skimmers for Boiler-Cleaners, of which the following is a specification.

My invention relates to improvements in the automatic skimmers for boiler-cleaners in which the muddy and impure scum on the water is driven by its own force into a cup which, notwithstanding changes in the level of the water, remains slightly below the surface and at a fixed depth, thence out through a pipe, after which it may be forced back into the boiler after passing through a precipitator or settling-chamber, in which the mud and other similar substances are deposited.

The objects of my improvement are, first, to keep said cup at a fixed and certain depth below the surface of the water; second, to afford an easy and convenient mode of detaching the projecting parts of the contrivance, so as to afford easy ingress into the boiler for the purposes of cleaning, &c. I prefer to have a cup at the end of the pipe E, but the contrivance would work, though poorly, without it. I attain these objects by means of the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view of the contrivance, including a view of the rear portion of the boiler. Fig. 2 is a top view of the contrivance, including section of tube K and pipe F. Fig. 3 is a view in detail of the detachable pipe hereinafter described shown in Fig. 2 between G and E. Fig. 4 is a horizontal view looking along the length of the boiler, showing at what point of the boiler the contrivance is to be introduced and showing by the solid and dotted lines the variation in the position of the contrivance according to the changes in the level of the water. In this figure the lines N and N' show the level of the water in the two cases. M M show the probable position of the boiler-tubes.

In all the figures the same letters represent the same parts.

D is a cup having in it an opening L, connecting with a pipe E. This pipe is curved

at the point O, forming an elbow, so that the portion F runs nearly or quite at right angles to the portion marked E. At the other end this pipe is closed, as shown in Fig. 3. To the closed end is attached, by the means of the pin G, a rod H, which holds a float C, so that the cup D, the pipes E and F, the rod H, and the float C form a rigid structure.

The pin G can be readily removed, so as to release the rod H. Without the pin G the contrivance would be effective, but the parts could not readily be removed nor replaced in the same exact relative position.

In the pipe F are one or more openings I I, preferably in the form of slots, as shown in Figs. 2 and 3. The outer tube K K encircles the pipe F, leaving a space between the two, and bearing on it only at two points P P, so that when said tube K K is firmly held the rigid structure mentioned may revolve freely. Into this tube K K is introduced the pipe B, which leads the water out from the boiler A.

The contrivance works as follows: The pipe B is firmly attached to the boiler-shell or to an outside pipe and to the tube K. The float C lies on the water, partially submerged, and the rod H is adjusted to such a length that the cup D, attached indirectly to it, will be at the desired depth below the water's surface. With any change in the level of the water the position of the cup, being governed by the float, varies accordingly, the bearings P P permitting the whole structure to revolve freely, while the outer tube K K remains fixed. The pin G holds the rod H in proper position.

The water, or scum, which is to be removed, is forced through the pipes E and F and through the slots I I into the space between the pipe F and the tube K, thence through the pipe B out of the boiler.

To afford ingress into the boiler, or if repairs of the contrivance should be necessary, the pin G can be removed. The rod H, bearing the float C, thus becomes detached. The pipe F, bearing the pipe E, and the cup D are then readily drawn out of the tube K. Thus nothing of the contrivance remains in the boiler except the pipe B and the tube K. Fig. 3 shows the part thus drawn out, representing the place whence the pin has been withdrawn.

The efficiency of the contrivance may be increased by attaching wings to aid the natural current in the direction of the cup.

I am aware that the idea of having the
5 scum in a boiler forced into a cup, thence out of the boiler, is not new.

I am also informed that the idea of regulating the cup's position by a float is not original with me; but

10 What I do claim as my invention, and desire to secure by Letters Patent, is—

1. In floating skimmers for boiler-cleaners, the combination of the float C attached to the rod H, the curved pipe F O E, having an
15 opening I, being attached to said rod by the removable pin G, so that when the pin is removed the rod H can be detached and the pipe F O E can be withdrawn from the tube K; the waste-pipe B holds the tube K, which
20 encircles the pipe F, bearing on it only at two points, allowing the pipe F to revolve freely so as to form a swinging joint, and being convex so as to leave a space between the pipe F and the tube K; the portion E of the pipe F O E
25 bears at its end and being convex so as to leave space between the tube and cup D to receive the water or scum, all substantially as described.

2. In floating skimmers for boiler-cleaners
30 the combination of the float C attached to the rod H, the curved pipe F O E, having an opening I, being attached to said rod by removable pin G; the waste-pipe B holds the

tube K, which encircles the pipe F, bearing on it only at two points, allowing the pipe F
35 to revolve freely so as to form a swinging joint, all substantially as described.

3. In floating skimmers for boiler-cleaners the combination of the float C attached to the rod H, the curved pipe F O E having an
40 opening I being firmly attached to said rod; the waste-pipe B holding the tube K, which encircles the pipe F bearing on it only at two points allowing it to revolve freely so as to form a swinging joint, all substantially as
45 described.

4. In floatingskimmers for boiler-cleaners, the combination of the float C attached to the rod H, the curved pipe F O E having an
opening I being firmly attached to said rod; 50 the tube K encircling the pipe F, bearing on it only at two points, allowing the pipe F to revolve freely within it so as to form a swinging joint.

5. The combination of a rod H attached to 55 the pipe F O by means of the removable pin G; the tube K encircling said pipe and bearing only at two points, allowing the pipe to revolve freely within it so as to form a swinging joint, principally for use in automatic
60 floating skimmers for boiler-cleaners as herein described.

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Witnesses:

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