

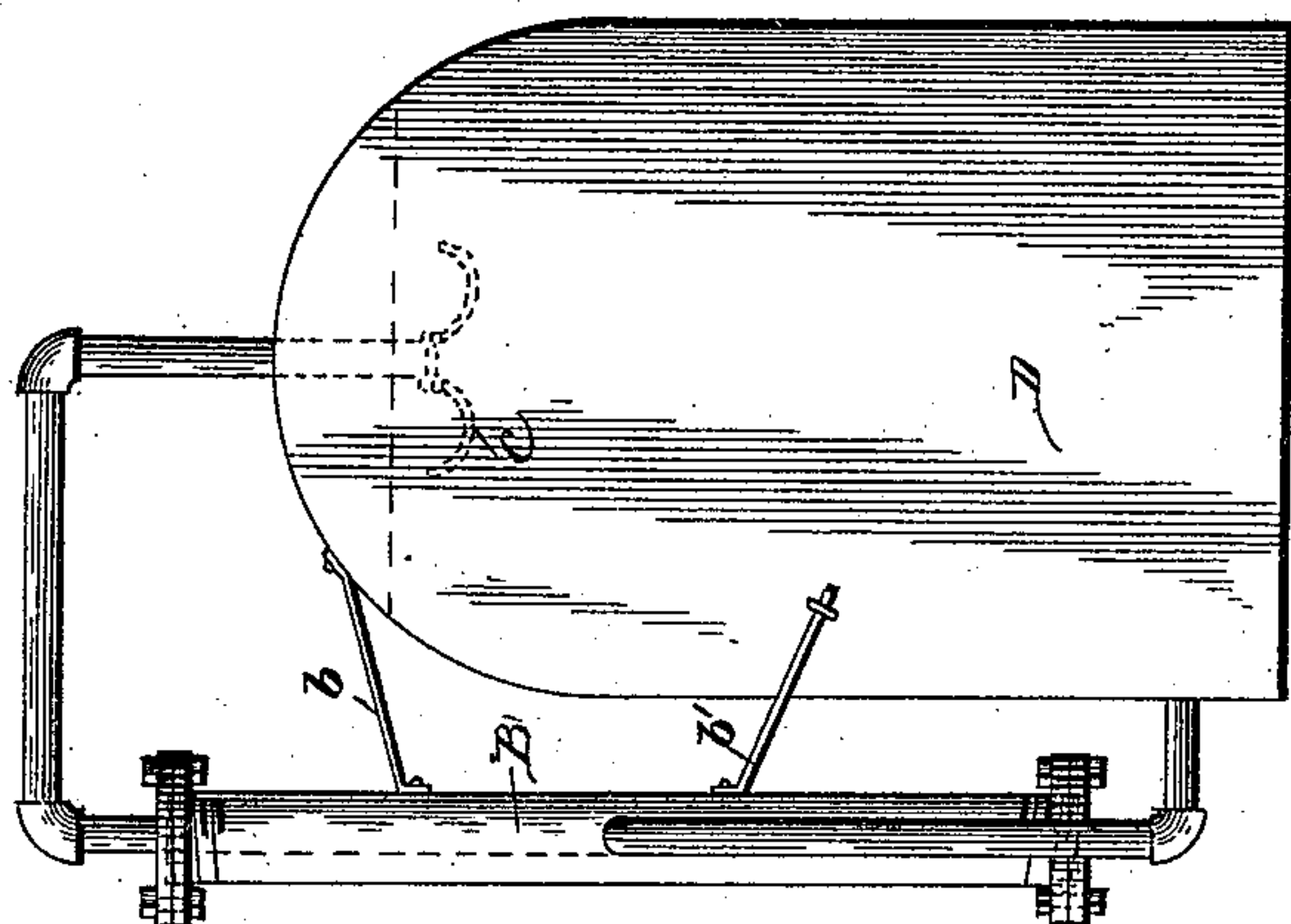
(No Model.)

S. C. LA HATT.  
BOILER CLEANER.

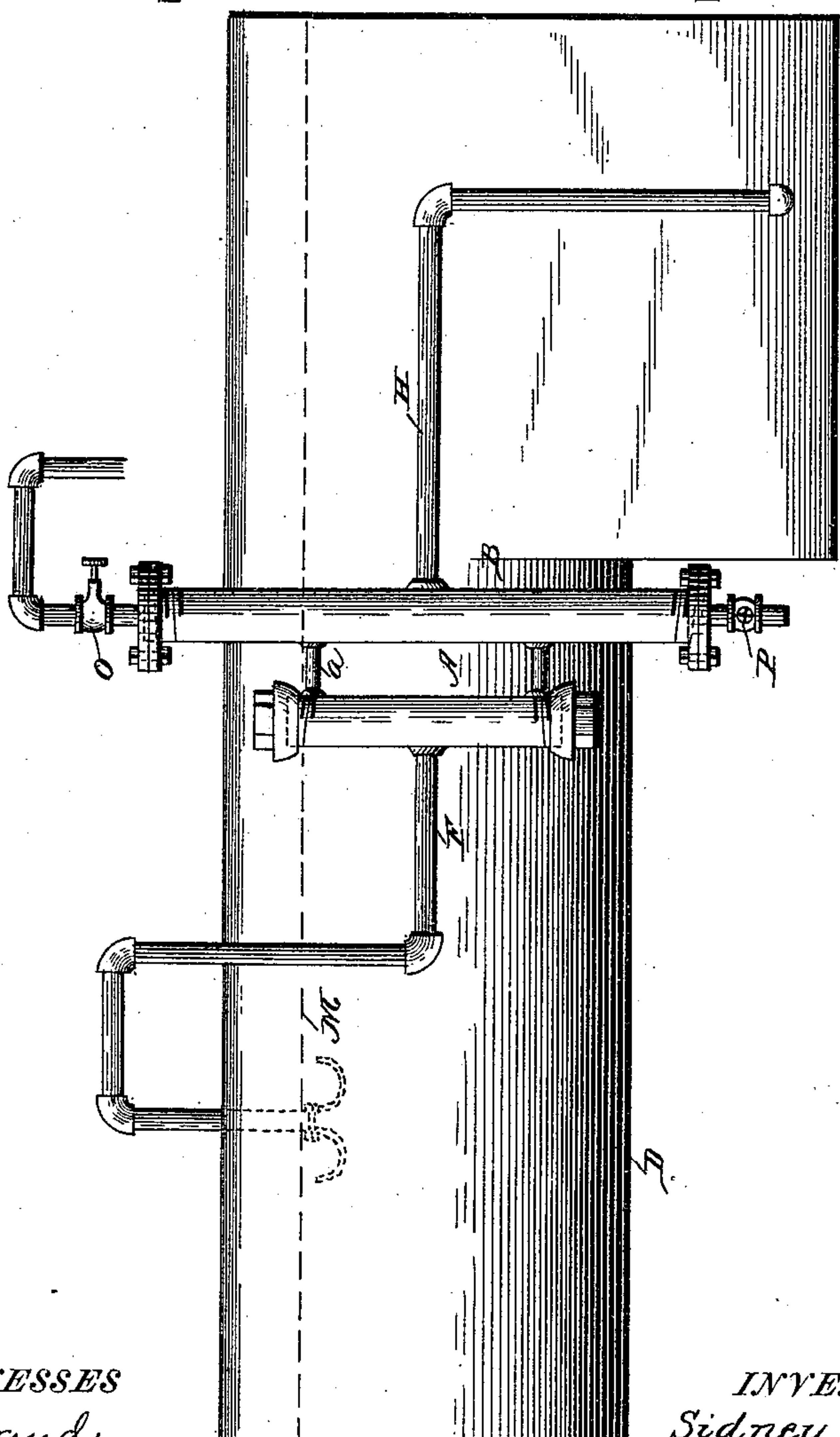
No. 447,192.

Patented Feb. 24, 1891.

*Fig. 2.*



*Fig. 1.*



WITNESSES  
F. L. Ourand.  
Van Buren Hillyard.

INVENTOR  
Sidney C. La Hatt.  
By *R. A. Lacy*  
his Attorneys.

# UNITED STATES PATENT OFFICE.

SIDNEY CARLTON LA HATT, OF ALEXANDRIA, MINNESOTA.

## BOILER-CLEANER.

SPECIFICATION forming part of Letters Patent No. 447,192, dated February 24, 1891.

Application filed August 4, 1890. Serial No. 360,928. (No model.)

*To all whom it may concern:*

Be it known that I, SIDNEY CARLTON LA HATT, a citizen of the United States, residing at Alexandria, in the county of Douglas and State of Minnesota, have invented certain new and useful Improvements in Boiler-Cleaners; 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.

This invention relates to means for purifying the water in steam-boilers, and has for its object to provide a simple and compact arrangement for separating the impurities from the water in the boiler and separating the scum and light substance from the mud and heavy matter, the former rising to the top of the separating-chamber and the latter settling to the bottom thereof.

The improvement consists of two drums of unequal length, the shorter drum being connected at its middle with the top of the boiler and at its ends with the longer drum at points distant from the ends thereof, the longer drum being connected at its middle with the bottom portion of the boiler and provided at each end with blow-off cocks.

The improvement also consists of the novel features, which will be hereinafter more fully described and claimed, and which are shown in the annexed drawings, in which—

Figure 1 is a side view of a boiler, showing the improved cleaner in position. Fig. 2 is an end view of the boiler, showing the manner of attaching the cleaner thereto.

The boiler D is of ordinary construction. The cleaner, arranged in juxtaposition to the boiler and secured thereto by braces *b* and *b'*, is composed of the two drums A and B, which are preferably long and narrow and set upright, the drum A being considerably shorter than drum B and connected at or near its ends with the drum B by the short tubes *a a*, and at its middle with the top portion of the boiler by the pipe F, which extends a short distance below the water-line M in the boiler, and is provided with the hood C, which gathers in the scum. The drum B is connected at its middle with the lower portions of the boiler by the pipe H, and is provided at its ends with blow-off cocks O and P, respectively. The drums are arranged with reference to the boiler so that their mid-

dle comes directly opposite a horizontal line passing centrally through the boiler, thereby obtaining the best possible results. The pipes F and H connect with the drums in the same horizontal plane, which plane corresponds with the horizontal medial line of the boiler.

The operation of the invention is as follows: When the water in the boiler becomes heated, it will circulate through the cleaner in the following manner: through pipe F to drum A, in which it will divide and pass to drum B, through tubes *a a*, and return to the boiler through pipe H. The heavy impurities will deposit in drum B and the lighter impurities will rise to the top of the said drum. When cock O is opened, the impurities collected in the upper portion of drum B will be blown off, and when cock P is opened the sediment in the lower portion of the said drum will be blown off.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. The combination, with a boiler, of a cleaner arranged in juxtaposition thereto and composed of two drums of unequal length, the shorter drum having communication at its ends with the longer drum at points distant from the ends of the said longer drum, and pipes connecting the top portion of the boiler with the middle of the shorter drum, and the lower portion of the boiler with the middle of the longer drum, respectively, substantially as set forth.

2. The combination, with the boiler, of the two drums A and B, of unequal length, arranged with their middle in the plane of or above the horizontal medial line of the boiler, the shorter drum being connected at its ends with the longer drum at points distant from the ends thereof, a pipe connecting the middle of drum A with the top portion of the boiler, the upper end of the pipe extending below the water-line in the boiler, a pipe connecting the middle of drum B with the lower portion of the boiler, and blow-off cocks at the ends of drum B, substantially as described.

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

SIDNEY CARLTON LA HATT.

Witnesses:

E. W. TAYLOR,  
IRA M. NOYES.