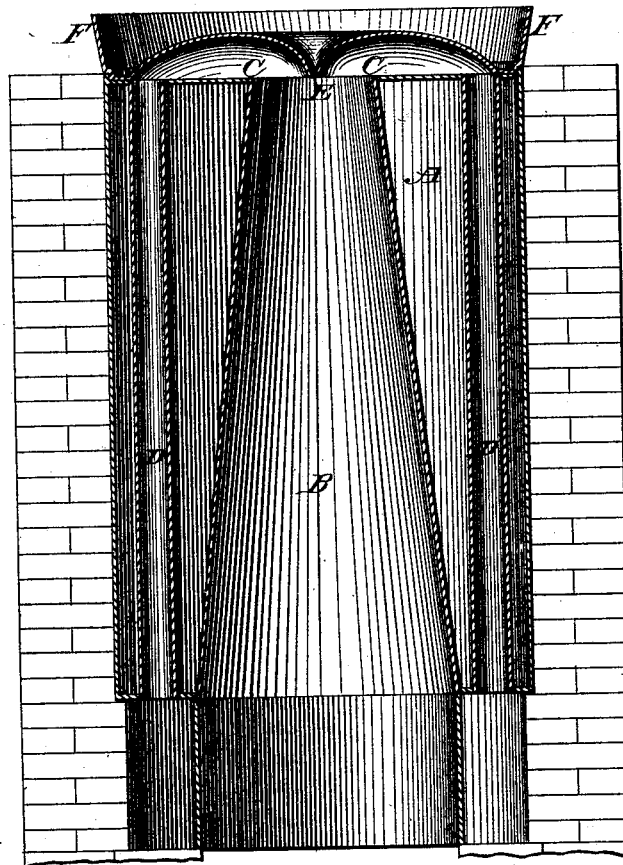


E. A. & W. E. WOOD.  
Steam-Boilers.

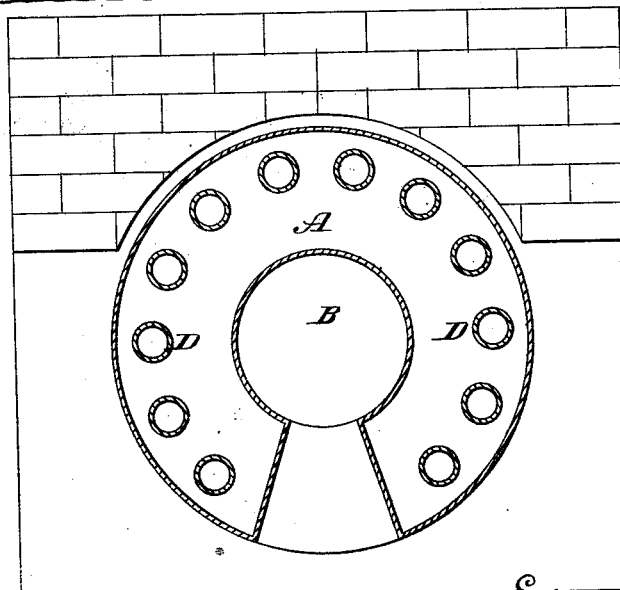
No. 218,695.

Patented Aug. 19, 1879.

*Fig. 1.*



*Fig. 2.*



*Witnesses:*

*Francis G. Wood*  
*Wm. B. Crittenden.*

*Inventors:*

*Edmund A. Wood*  
*William E. Wood.*

# UNITED STATES PATENT OFFICE.

EDWIN A. WOOD AND WILLIAM E. WOOD, OF UTICA, NEW YORK.

## IMPROVEMENT IN STEAM-BOILERS.

Specification forming part of Letters Patent No. **218,695**, dated August 19, 1879; application filed April 9, 1879.

### *To all whom it may concern.*

Be it known that we, EDWIN A. WOOD and WILLIAM E. WOOD, of the city of Utica, county of Oneida, and State of New York, have invented a new and useful Improvement in Steam-Boilers, of which the following is a specification, reference being had to the accompanying drawing, making part of this specification.

The invention relates to a steam-generator easily and cheaply made, effective in operation, and accessible for cleaning or repairs.

A is a vertical boiler, with a central vertical conical flue, B, extending through the boiler, its lower and larger end fitted with a grate for the reception of fuel, and its upper and smaller end brought to as small a diameter as will allow free passage for the products of combustion.

Except in the smallest sizes, the boiler is provided with one or more rows of smaller vertical flues, D D, extending through the boiler and arranged around the central flue. A cap, C, sufficiently large to cover the upper head of the boiler, is placed over the upper head, but enough above the ends of the flues to allow of a free draft. This cap forms a tight joint with the upper edge of the shell of the boiler where there are surrounding flues, or is made large enough to overhang the boiler where there are no outer flues. The lower side of cap C pre-

sents a surface concave from the circumference of the cap to its center, where it terminates in a projection, E, which should come directly over the central flue, and serves to divide and turn the draft along the curved surface of the cap into the outer flues, D D, which lead into a smoke-passage, or, where no outer flues are used, to turn the draft downward around the outside of the boiler through a smoke-passage between the shell of the boiler and its setting on its way to the chimney. Cap C may also have a raised rim, F F, on its upper side, so as to form a dish, which may be filled with ashes or other non-conductor, to prevent radiation of heat and as a measure of safety. This cap can be readily removed for cleaning the boiler.

We claim as our invention—

In a vertical boiler having a central flue, the cap C, provided on its under side and at its center with a conical deflector, and between its center and outer circumference with a concave conducting-passage for the smoke and gases, the upper side of said cap serving as a dish for the reception of a non-conducting material, whereby the radiation of heat is prevented, substantially as shown and described.

EDWIN A. WOOD.  
WILLIAM E. WOOD.

Witnesses:

FRANCIS G. WOOD,  
WM. B. CRITTENDEN.