

A. Michel,

Wash Boiler,

Nº 84,204,

Patented Nov. 17, 1868.

Fig. 1.

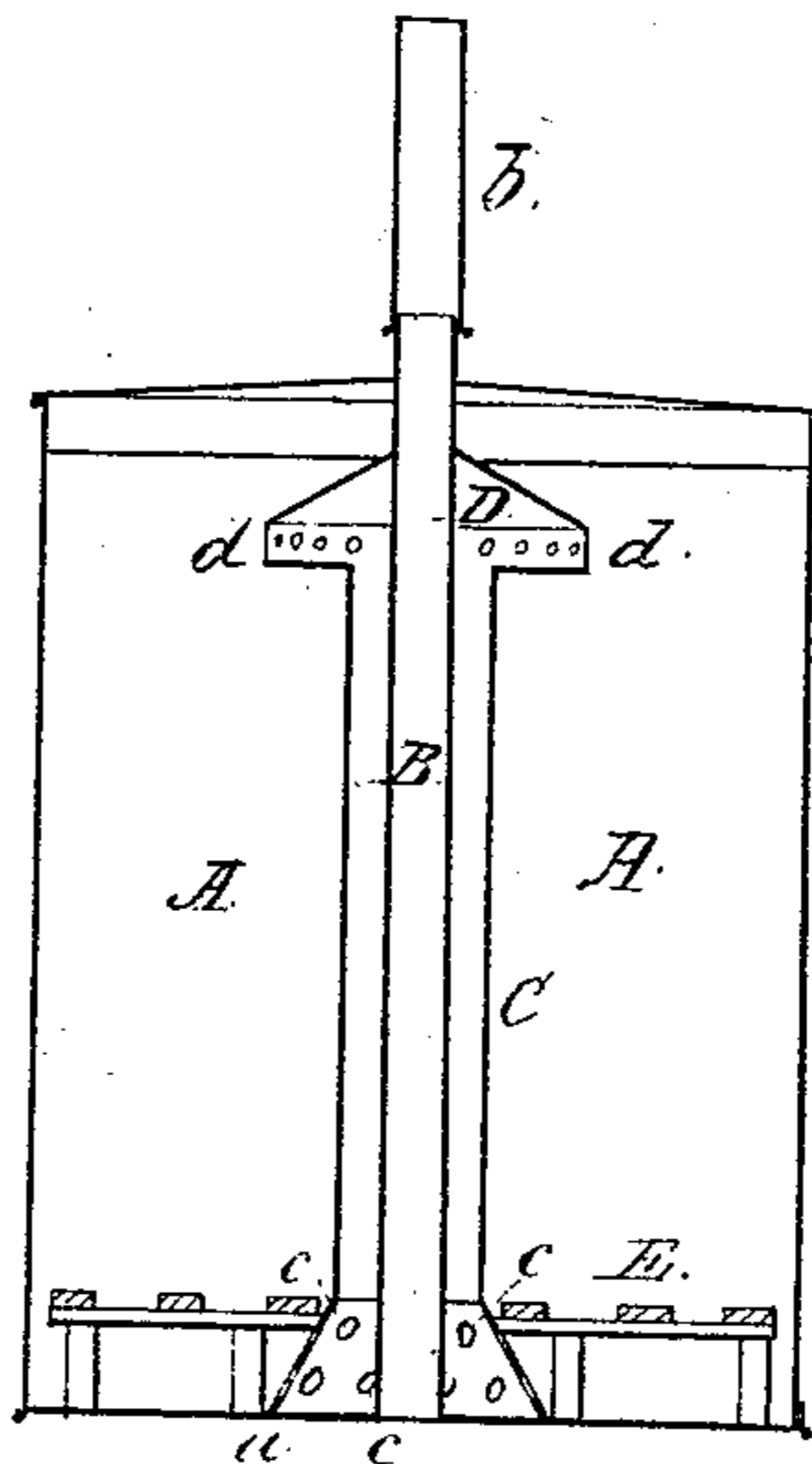
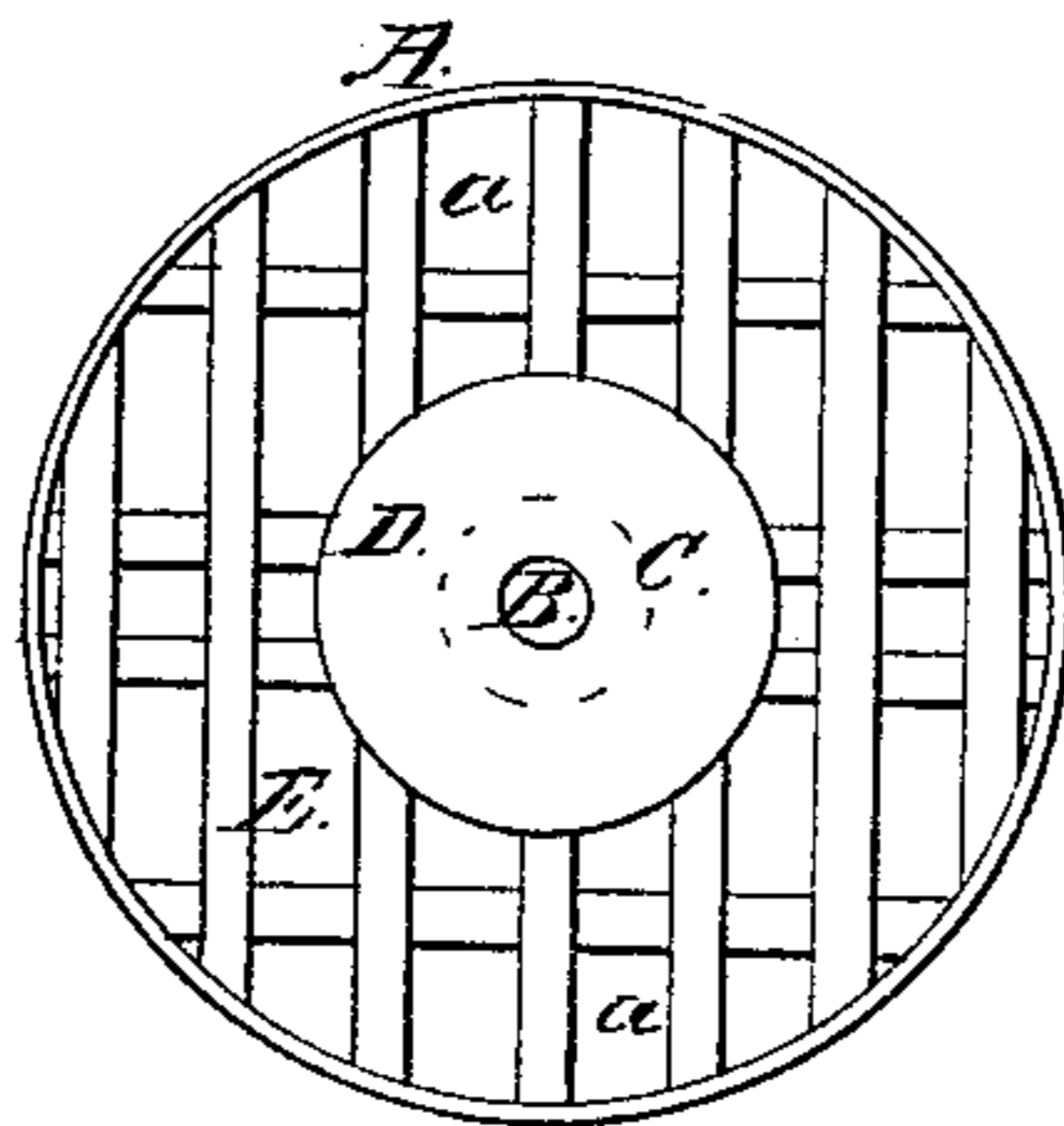


Fig. 2.



Witnesses:

Geo. P. Herthel

Robert Burns

Inventor:

A. Michel

United States Patent Office.

ANTOINE MICHEL, OF ST. LOUIS, MISSOURI, ASSIGNOR TO HIMSELF, JAMES S. HANNAN, AND NAPOLEON MOISAU, OF SAME PLACE.

Letters Patent No. 84,204, dated November 17, 1868.

IMPROVEMENT IN WASH-BOILERS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, ANTOINE MICHEL, of St. Louis, in the county of St. Louis and State of Missouri, have made certain new and useful Improvements in Wash-Boilers and hydraulic heaters; and I do hereby declare that the following is a full and clear description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

The nature of my invention is in such an arrangement of flue or flues, for the application of heat, as shall make said application more perfect and economical, and in such an arrangement of pipes or ducts encircling such flues as shall direct the flow of most heated particles of fluid upward to a discharging-head, from which such heated fluid is precipitated upon the substances beneath and round about, these being, in the usual application of my invention, soiled clothes or garments which are thus to be cleansed.

To enable those skilled herein to make and use my said invention, I will describe its construction and operation, referring herein to—

Figure 1, as a vertical sectional elevation; to

Figure 2, as a plan.

I construct the vessel or boiler A of any usual material and form, but arranged that the heat may be applied in the ordinary manner to the bottom, *a*, thereof.

In order that the heat may be the better applied, I arrange the flue or flues B in said boiler A, through which the hot gases arising from the burning fuel may ascend, and I arrange, at the upper end of said flue B, an extension-piece, *b*, to carry the gases to a chimney, or otherwise dispose thereof. In this manner, any liquid in the vessel A is subject to heat by direct application upon the bottom, *a*, and also by the flue or flues B.

About the flue or flues B, I arrange a pipe-duct, C, which is cone-shaped at bottom, and supported on *a*, and has there the perforations *c*.

Said duct rises, and at its top is the discharging-head D, again arranged with perforated side at *d*.

It is well known that the fluids, subjected to great heat, expand and flow upwardly; hence, owing to the application of heat at *a*, the fluid in contact therewith will rise, and it will be guided and expedited in its further upward motion by the application of heat in the flue or flues B. Thus a current of fluid takes place, by which the heated fluid passes, through the holes *c*, into the duct C, and up to the head D, and thereupon it discharges through the holes *d* herefrom, and falls, with considerable force, upon the mass of clothes or other matter beneath, thus penetrating the said mass, and acting to scour and cleanse the same.

In order that the clothes or other things placed within the vessel A may not clog and close the perforations *c*, and thus check the flow of fluid to the discharging-head, I arrange a grating, E, upon the bottom, *a*, the said grating being of any convenient form or material.

I am aware that tubes have been used to direct the flow of heated fluids; but it will be seen that I have arranged within the conducting-tube a heater-flue, which greatly accelerates the flow of said fluids, and herein I believe to be a valuable improvement.

Having thus fully described my invention,
What I claim, is—

1. The arrangement of a heating-flue, B, within each conducting-pipe C, for the purpose of accelerating and directing the flow of fluid.

2. The combination of the vessel A, its flues B, duct C, perforated at *c*, and discharging-head D, perforated at *d*, substantially as and for the purposes set forth.

In witness of which invention, I have hereunto set my hand, in presence of—

Witnesses:

GEO. P. HERTHEL, Jr.,
ROBERT BURNS.

A. MICHEL.