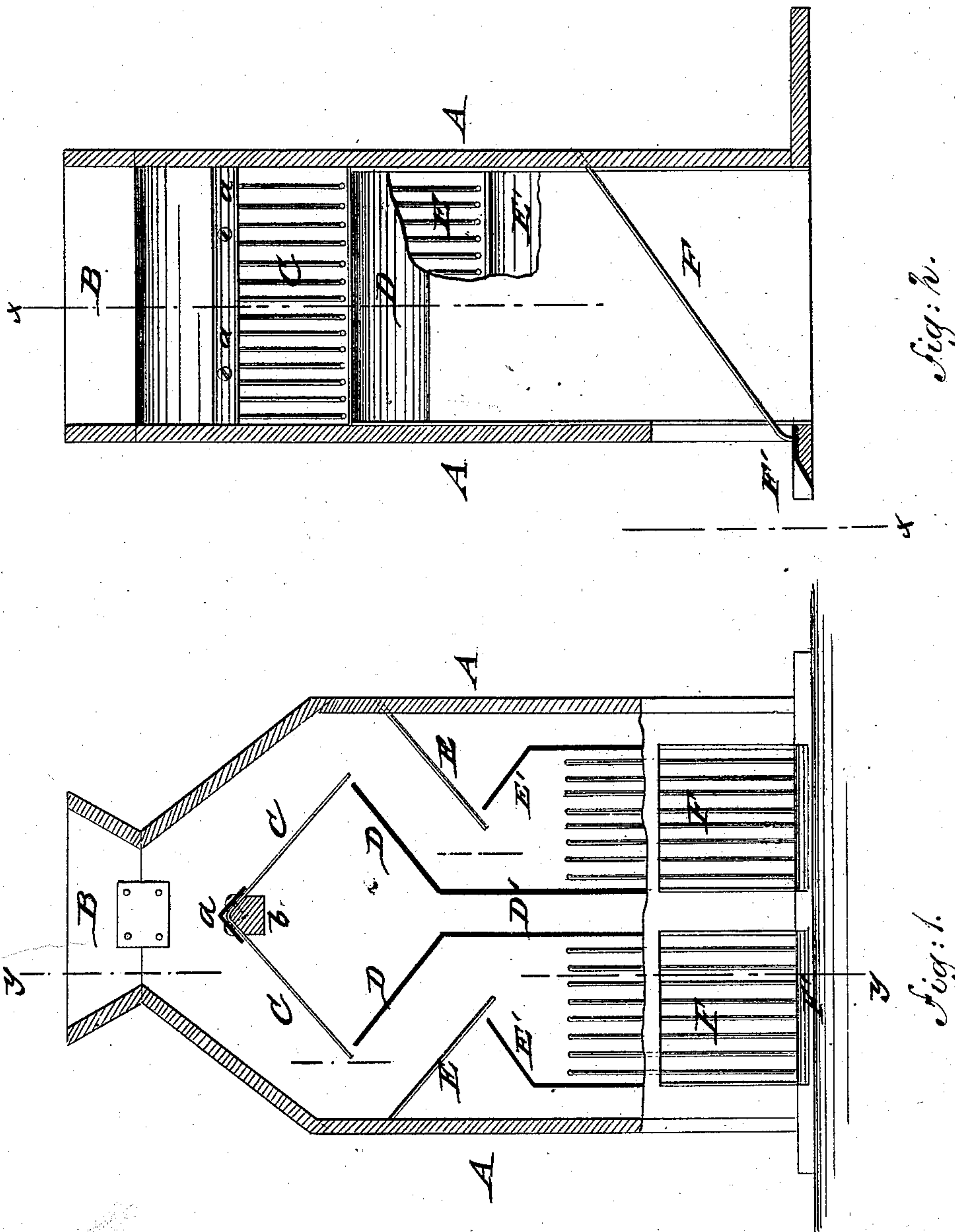


T. H. BADGER.

ASH-SIFTER.

No. 187,801.

Patented Feb. 27, 1877.



WITNESSES:

C. Geo. N. J. J.
John Goettschals.

INVENTOR:

T. H. Badger

BY

M. M. M.

ATTORNEYS.

UNITED STATES PATENT OFFICE

THOMAS H. BADGER, OF BOSTON, MASSACHUSETTS.

IMPROVEMENT IN ASH-SIFTERS.

Specification forming part of Letters Patent No. 187,801, dated February 27, 1877; application filed June 20, 1876.

To all whom it may concern:

Be it known that I, THOMAS H. BADGER, of Boston, in the county of Suffolk and State of Massachusetts, have invented a new and Improved Automatic Ash Sifter, of which the following is a specification:

In the accompanying drawing, Figure 1 represents a vertical longitudinal section on the line *x x*, Fig. 2; and Fig. 2, a vertical transverse section on line *y y*, Fig. 1, of my improved ash-sifter.

The invention refers to an ash-sifter that works in automatic manner without shaking or revolving screens, and separates the unburnt coal quickly and reliably from the ashes at a saving of time and labor.

The invention consists in placing below the hopper of an ash-sifter fingers that are inclined downwardly from each other, and others that are inclined from side of vessel downwardly toward each other.

The coal is conducted from one series of fingers to the other, while the ashes are screened off and conveyed through the channels to a suitable receptacle.

In the drawing, A represents the outer casing of my improved ash-sifter, that is provided at the top part with a hopper, B, through which the ashes are introduced into the sifter. A double series of inclined fingers, C, of wire or other suitable material, is arranged below the hopper, being applied, by means of an angular sheet-metal top or cap-piece, *a*, to a lateral saddle or support, *b*, so as to be rigidly secured in position. The ashes are divided by the roof-shaped cap-piece, and conducted over the fingers at both sides of the same, the partially-burnt coal sliding freely, by its own gravity, over the fingers, without being impeded by cross wires or bars. The ashes are

dropped at the same time between the fingers onto inclined plates D, that connect with lateral partitions D', forming a hopper with exit-channel at the center part of the sifter. A second series of fingers, E, is arranged below the upper fingers, at an inclination in opposite direction to the same, and attached to the sides of the casing. Inclined conducting-plates E', with exit-channels along the sides of the sifter, convey the ashes that are separated from the coal, on its passage over the second series of fingers, to a suitable receptacle at the bottom of the sifter. The unburnt coal particles are finally conducted to a lowermost series of fingers, F, that extend from the rear wall to the front wall of the sifter, and then through an exit-spout, F', to a receiving-receptacle. The mass receives the necessary motion by falling from one series of fingers to the one next below, which separates at the same time the unburnt coal and ashes, collecting both in suitable receptacles at the bottom of the sifter.

The sifter accomplishes its work automatically by merely depositing the ashes in the top hopper, and requires no shaking, sliding, or turning of the screens or other attendance.

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

The combination, in an ash-sifter, with fingers C C, attached to median cap *a*, and inclined from each other, of the fingers E E, attached to side of vessel, and downwardly-inclined toward each other, substantially as and for the purpose specified.

THOMAS H. BADGER.

Witnesses:

STATIE P. NEAL,
JAMES E. FARWELL.