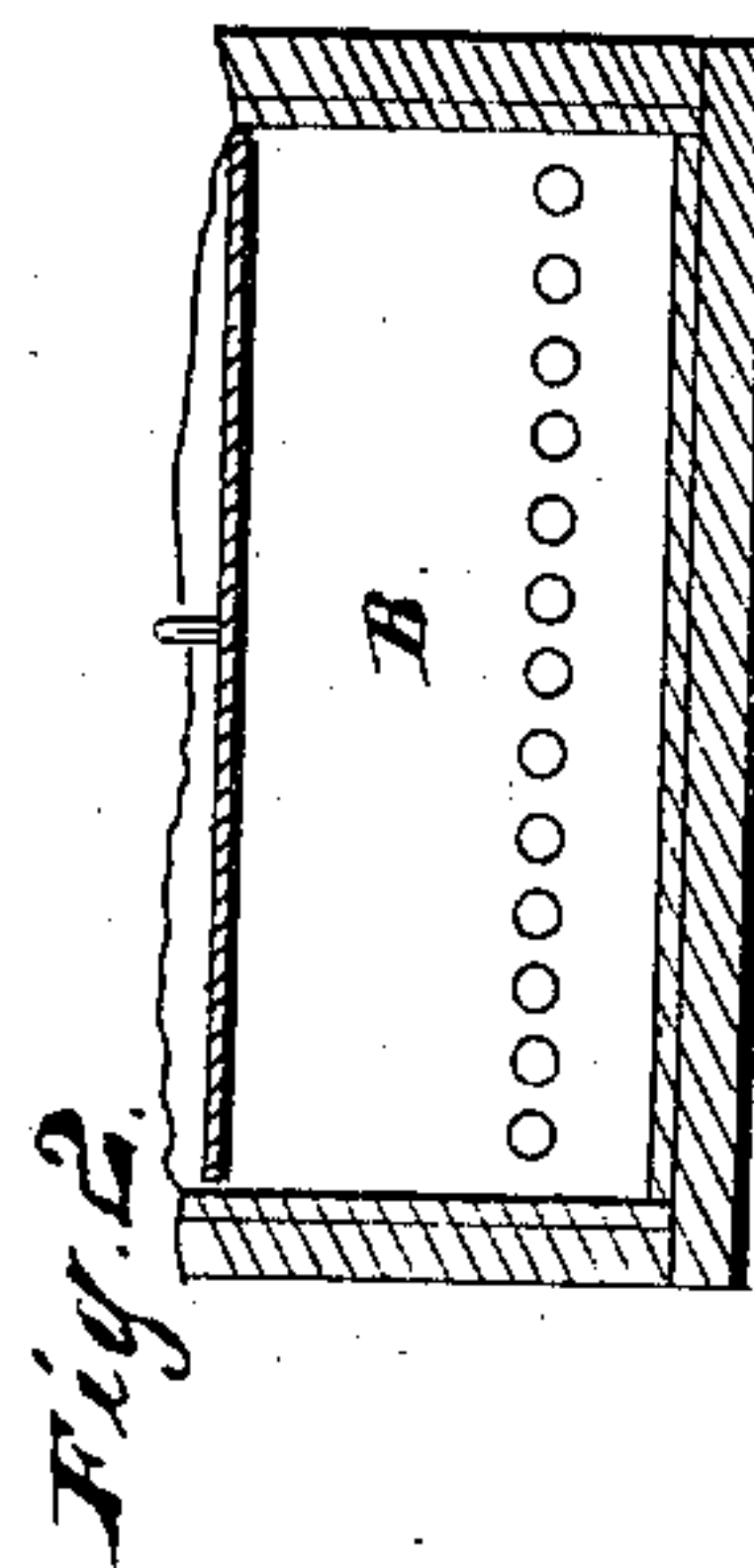
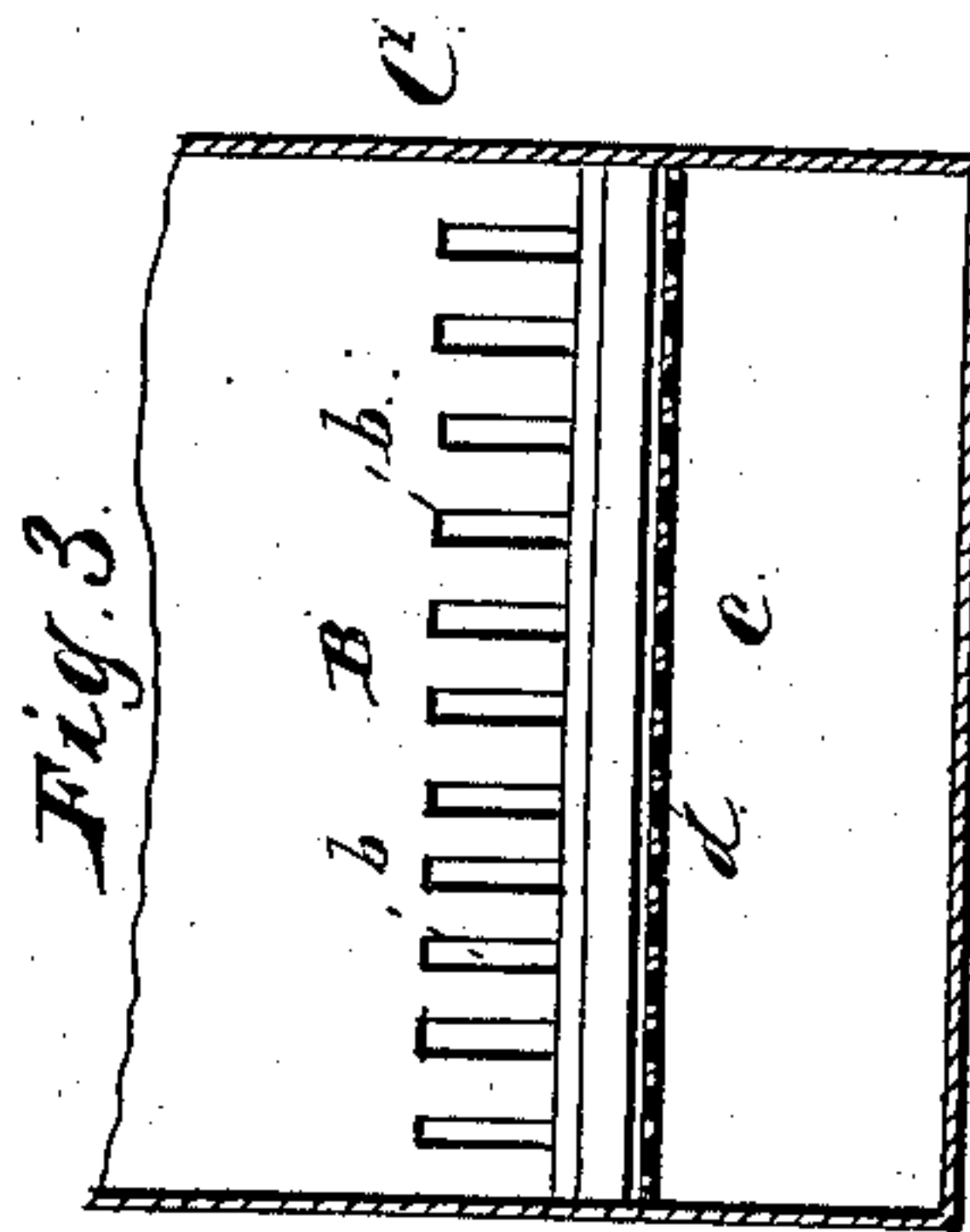
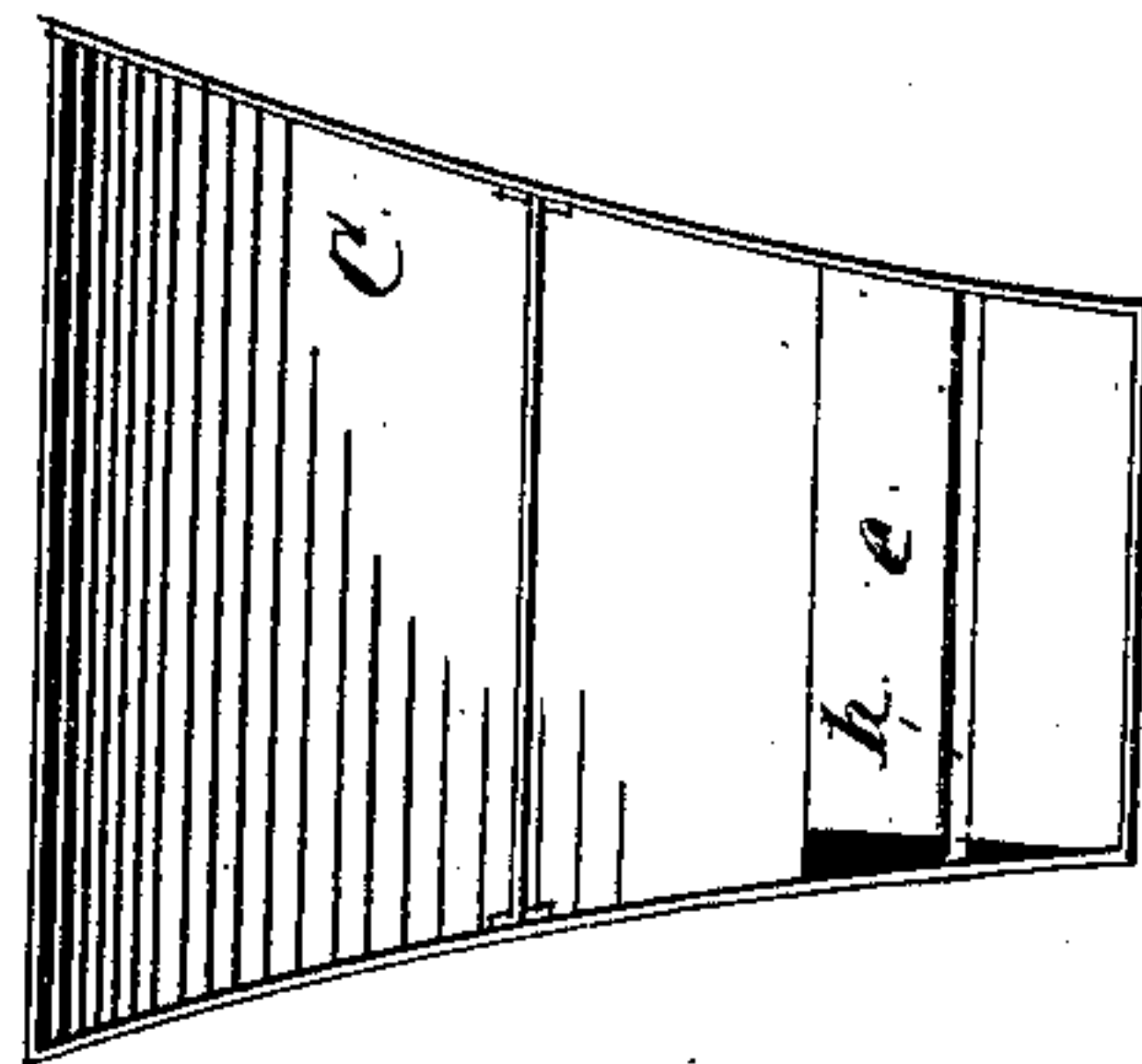
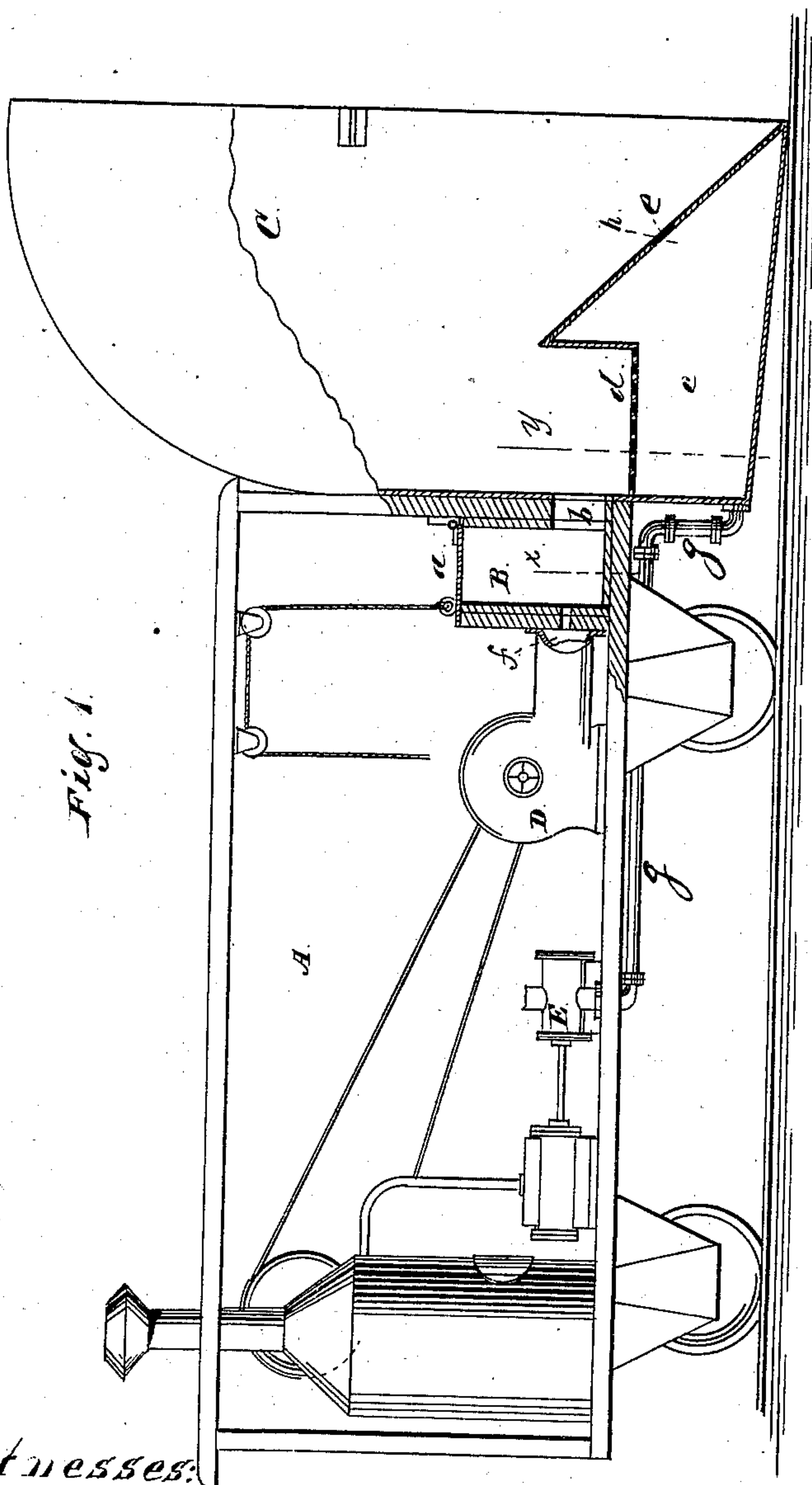


(No Model.)

C. G. CROSS.
Means for Removing Snow from Railroad Tracks.
No. 231,902.

Patented Sept. 7, 1880.



Witnesses:

Henry F. Brown
C. W. Bond.

Inventor:

Christopher G. Cross,
By West & Bond Attys

UNITED STATES PATENT OFFICE.

CHRISTOPHER G. CROSS, OF CHICAGO, ILLINOIS.

MEANS FOR REMOVING SNOW FROM RAILROAD-TRACKS.

SPECIFICATION forming part of Letters Patent No. 231,902, dated September 7, 1880.

Application filed April 20, 1880. (No model.)

To all whom it may concern:

Be it known that I, CHRISTOPHER G. CROSS, residing at Chicago, in the county of Cook and State of Illinois, and a citizen of the United States, have invented a new and useful Improvement in Means for Removing Snow from Railroad-Tracks, of which the following is a full description, reference being had to the accompanying drawings, in which—

Figure 1 is a side elevation with the side of the car removed, some parts being in section. Fig. 2 is a section at *x* of Fig. 1, looking to the left; Fig. 3, a section at *y* of Fig. 1, looking to the left; Fig. 4, a front view on a reduced scale.

The object of my invention is to provide an efficient method of removing snow from railroad tracks, which I accomplish by means of heat and devices for applying the same, as hereinafter fully described.

In the drawings, A represents a suitable car. B is a furnace located, as shown, at the front end of the car, and extending across the same. It is to be suitably made, and should be lined with fire-brick. It may be covered by a hinged cover, *a*, which may be raised to put in fuel.

In the front of the fire-chamber and car are a number of openings, *b*, for the passage of heat and smoke.

C is a hood secured to the front of the car. It has flaring sides, and is wider at the top than at the bottom, the bottom being a little wider than the railroad-track with which the car is to be used. At the bottom of the hood is a receptacle, *c*, for water, covered by a strainer, *d*. *e* is a plate placed at an angle within and at the lower end of the hood, partly covering the receptacle *c* for water. The hood must be made in a substantial manner, and may be strengthened by braces.

D is a fan, of suitable size, for the purpose of furnishing a strong air-blast to the fire in the furnace B. *f* is a chamber from which the air passes, through suitable openings in the rear wall of the furnace, to the fire in the furnace B. The fan is to be driven in any suitable manner. I think the most convenient way will be to provide a small steam-engine in the car A, which may be driven by steam from a suitable boiler also located in the car

A. I also provide a small steam-pump, E, for the purpose of pumping water from the receptacle *c*. *g* is a tube leading from the pump to the receptacle *c*.

A slot, *h*, may be provided in the plate *e* for the purpose of directing water which may run down on such plate into the receptacle *c*.

The operation is as follows: A good fire is to be kept in the furnace B, and by means of the fan a strong blast can be produced and an intense heat maintained, which will be driven out through the openings *b*, which are the only outlets from the furnace. The car is to be propelled in any suitable manner along the track, and as it passes along the snow on the track will pass into the hood C, and will be rapidly melted by the action of the heat from the furnace, and the water will pass into the receptacle *c*, from which it can be pumped and delivered at the side of the track.

When the nature of the track and side ditches permits, the water may be permitted to flow from the receptacle *c* to the sides of the track.

The speed at which the car A may be driven will depend upon the quantity and compactness of the snow and the intensity of the heat.

As the fan must revolve rapidly, and the speed of the car will vary under different conditions, it will be desirable to run the fan by power independent of that which drives the car.

Two furnaces might be used, located one above the other.

I regard the hood as an important feature. It gathers the snow and directs it to the heat, and the forward end of the hood will be filled with snow when there is a large body of it, so that no heat will escape. Even when the snow is not deep it will be carried up the incline, and be so brought to the blast that all, or nearly all, the heat will be utilized.

What I claim as new, and desire to secure by Letters Patent, is as follows:

1. A car containing a furnace provided with openings *b* in front for the passage of heat, and a fan or other suitable known means for producing an air-blast, in combination with a hood, C, adapted to gather the snow on a railroad-track and present the same to the action of the hot blast from the furnace, substantially as and for the purpose set forth.

2. A car containing a furnace provided with openings *b* in front for the passage of heat from the furnace, and a fan or other known means for producing an air-blast, in combination with a hood, *C*, adapted to gather the snow and present the same to the action of the hot blast, and a water-receptacle, *c*, all

constructed and operating substantially as and for the purposes specified.

CHRISTOPHER G. CROSS.

Witnesses:

E. A. WEST,

O. W. BOND.