

(No Model.)

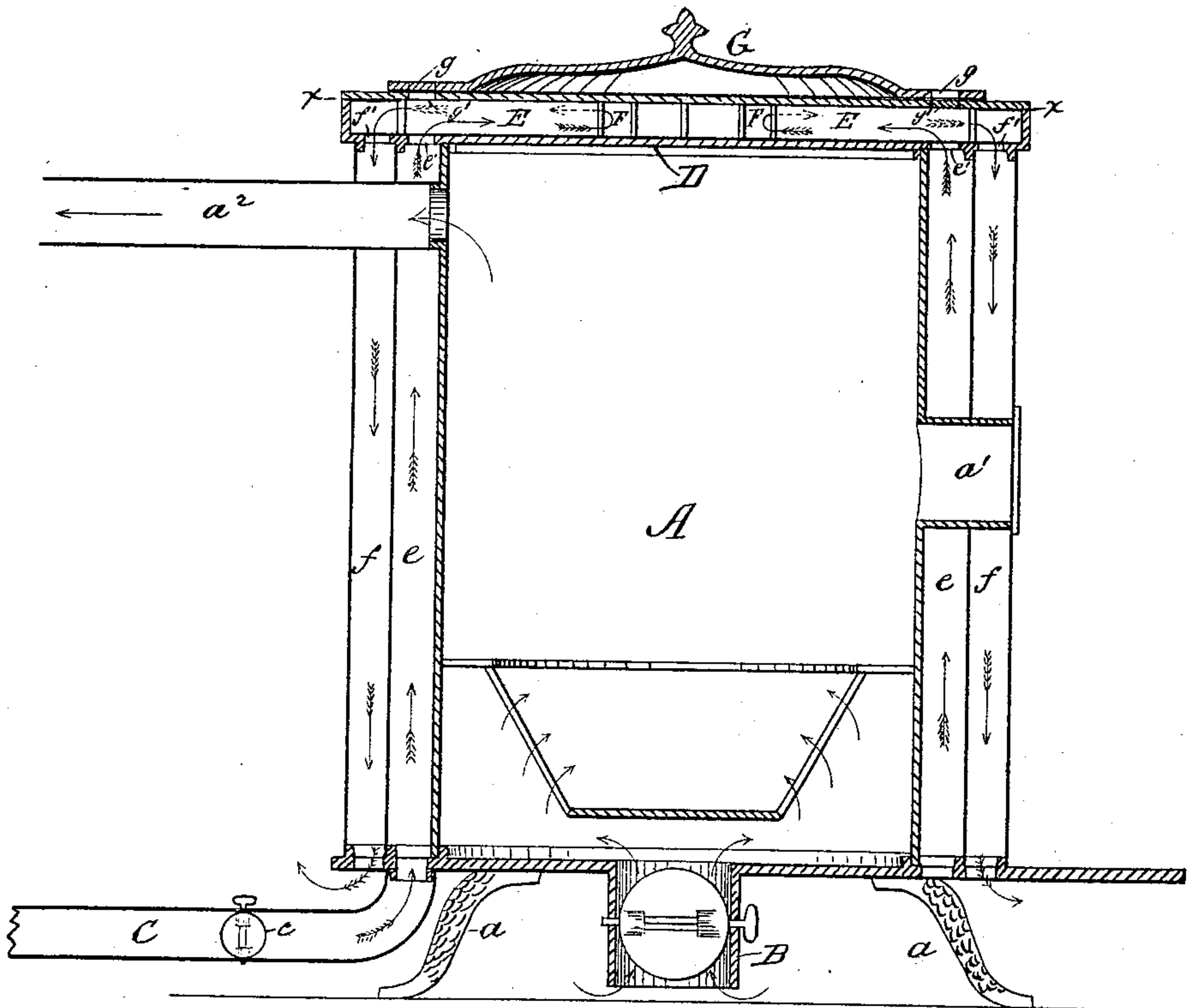
2 Sheets—Sheet 1.

R. A. REW.  
HOT AIR STOVE.

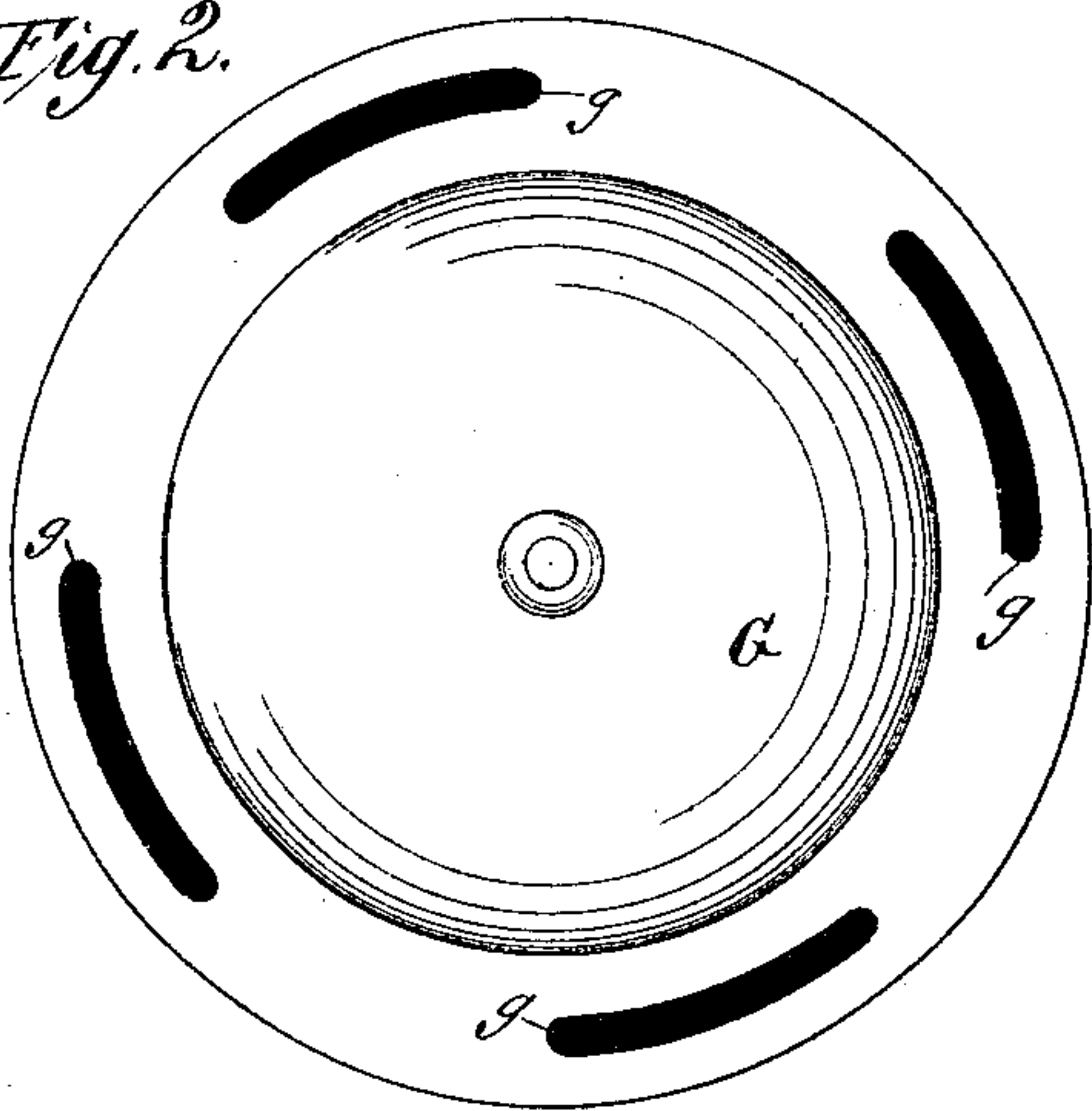
No. 328,809.

Patented Oct. 20, 1885.

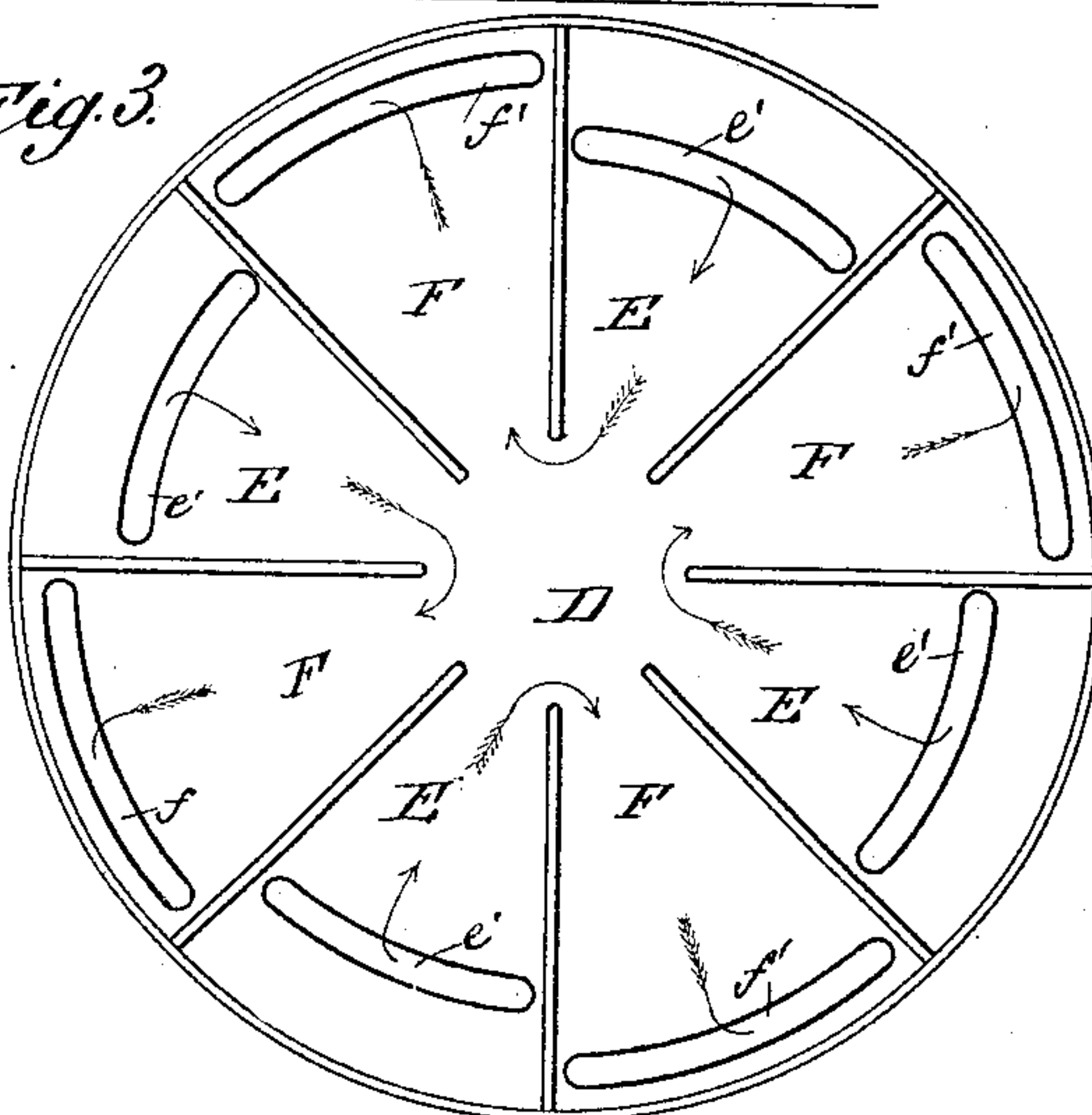
*Fig. 1.*



*Fig. 2.*



*Fig. 3.*



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*John Kemon*

INVENTOR:

*Richd. A. Rew*

BY

*Wm. L. C.*

ATTORNEYS.

(No Model.)

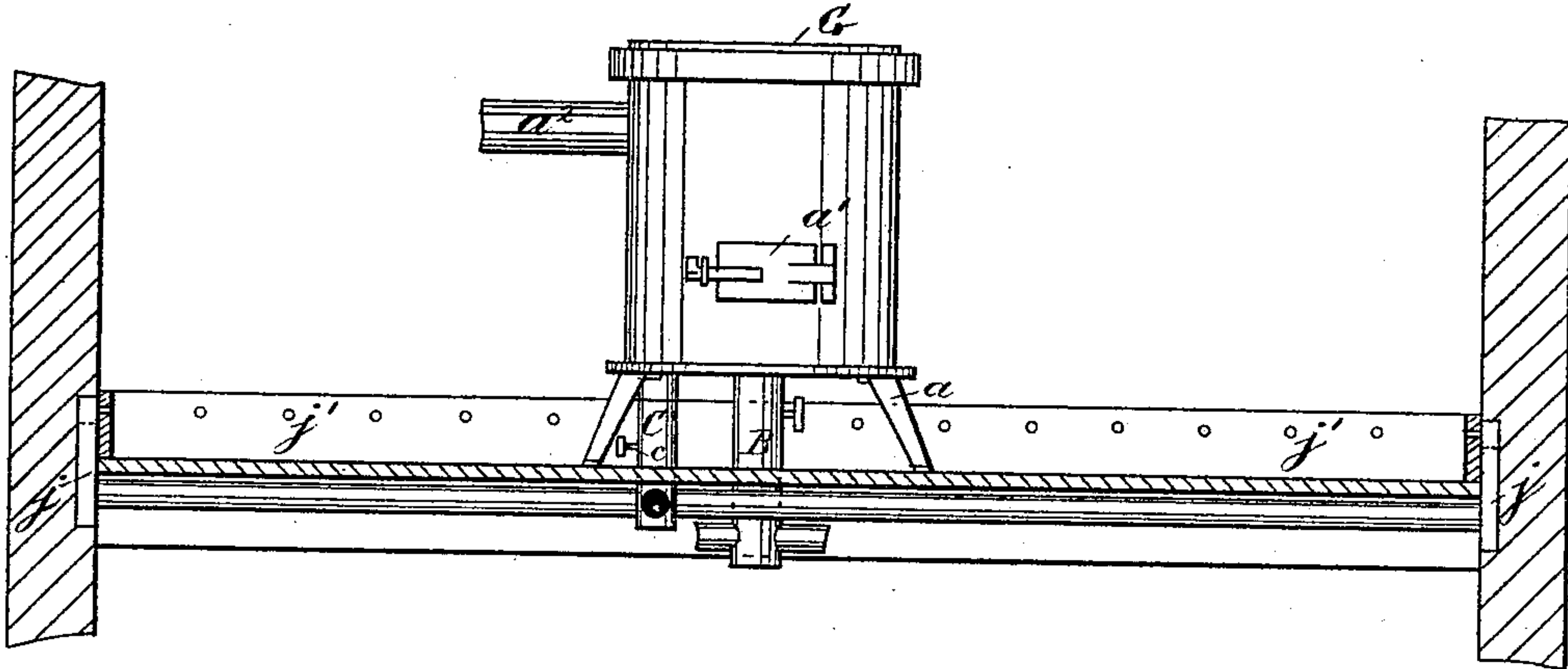
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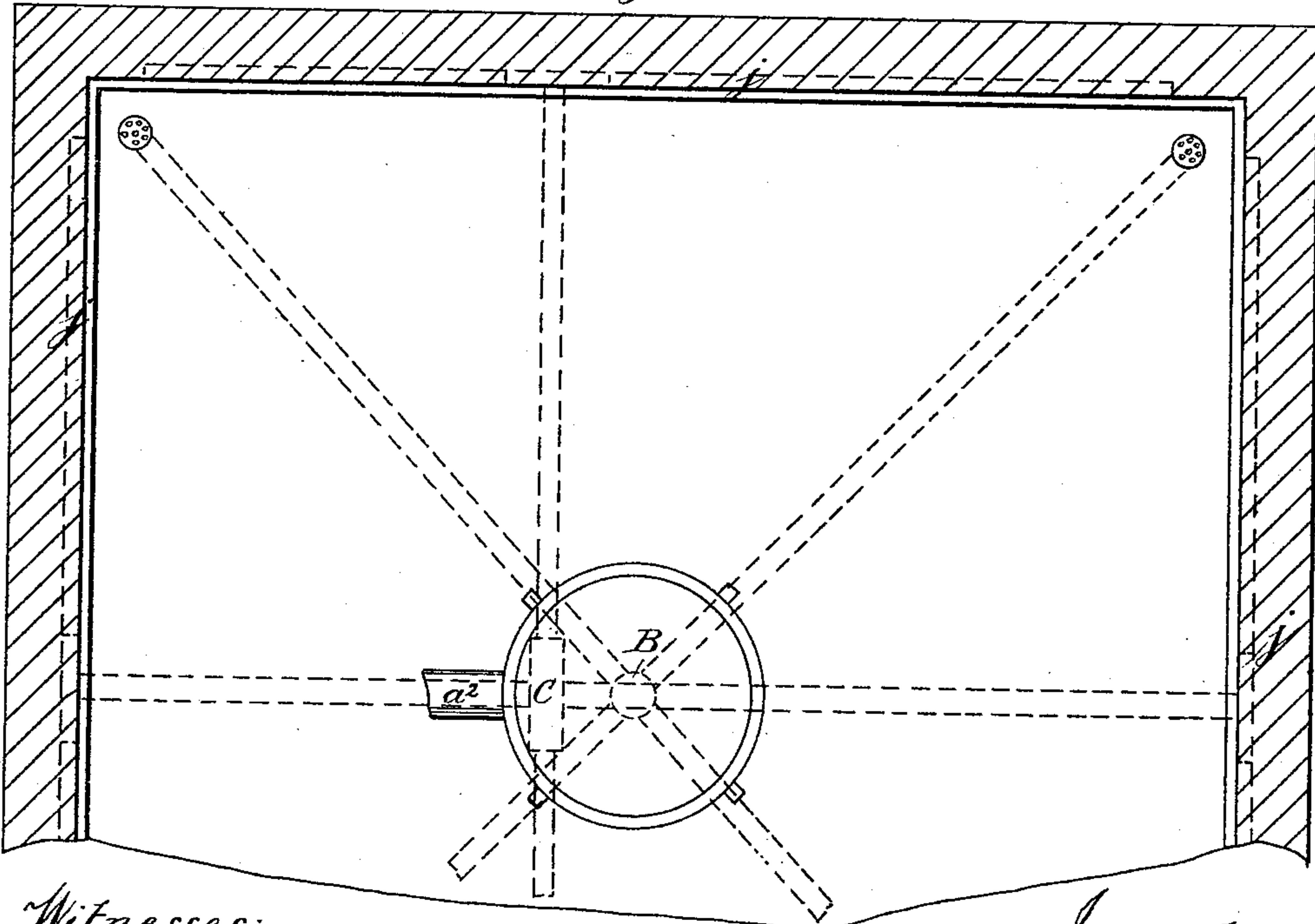
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*Fig. 4.*



*Fig. 5.*



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# UNITED STATES PATENT OFFICE.

RICHARD A. REW, OF POMEROY, WASHINGTON TERRITORY.

## HOT-AIR STOVE.

SPECIFICATION forming part of Letters Patent No. 328,809, dated October 20, 1885.

Application filed December 29, 1884. Serial No. 151,437. (No model.)

*To all whom it may concern:*

Be it known that I, RICHARD A. REW, a citizen of the United States, residing at Pomero-  
roy, in the county of Garfield, Washington  
Territory, have invented certain new and use-  
ful Improvements in Hot-Air Stoves, of which  
the following is a description.

Figure 1 is a sectional elevation through the  
center of my improved stove, taken so as to  
show the openings and passages. Fig. 2 is a  
plan of the top of the stove. Fig. 3 is a sec-  
tion through the top of the stove on the line  
*xx* in Fig. 1. Fig. 4 shows the application  
of my stove to a large hall or room. Fig. 5 is a  
plan view of the same.

My invention relates to that class of stove  
used for heating rooms in dwelling-houses;  
and it consists in the detailed construction  
hereinafter more fully described, whereby a  
supply of cold pure air is taken into the stove,  
warmed to any desired temperature, and dis-  
charged into the apartment to be heated sep-  
arately from the supply of air taken into the  
stove to support combustion, and so that the  
impure gases contained in the apartment shall  
be drawn into the stove with the latter sup-  
ply of air and discharged up the stove-pipe,  
and thus keep the apartment thoroughly ven-  
tilated and filled with pure air of an agreeable  
temperature.

I will now proceed to describe my inven-  
tion with reference to the accompanying draw-  
ings, in which similar letters of reference where  
used in the different figures indicate corre-  
sponding parts.

A is the stove, provided with legs *a*, on which  
it stands, firing-door *a'*, and stove-pipe *a''*, for  
removing the products of combustion.

B is a pipe supplying air to the grate in the  
stove. This pipe is carried down nearly to  
the floor of the apartment. All the air re-  
quired to support combustion in the stove  
must pass through this pipe.

C is a second pipe connected to the inner  
casing surrounding the stove and extending  
to the outside of the building or some other  
part of the same, where a supply of cold pure  
air can always be obtained, and provided with  
the damper *c* underneath the stove (see Fig.  
4) for regulating the supply.

D is a hollow distributing-chamber, divided  
by radial partitions into communicating sec-  
tions E and F, whereof sections E have open-  
ings *e'* in the bottom of the plate, which com-  
municate with the space *e*, between the mid-  
dle and inner casings of the stove, and open-  
ings *g* on the top side of the plate, the use of  
which will be explained more fully hereinaf-  
ter. The sections F have openings *f'* in the  
bottom of the plate, which communicate with  
the space *f* between the outer casing and the  
middle casing of the stove.

G is the cover-plate, having openings *g* cor-  
responding with the openings *e'* in the top of  
the distributing-chamber, which is fastened  
in the top of the stove, while the cover-plate  
G can be turned around, so as to cover the  
holes *e'* in section F of the distributing-cham-  
ber, more or less, as required.

When the holes *g'* are closed by the cover-  
plate, the action of the stove is as follows:  
Pure cold air enters through the pipe C and  
is partly heated in its upward passage through  
the space *e* surrounding the stove. It then  
passes through openings *e'* into the sections E  
of the distributing-chamber. From thence it  
passes into the sections F, through openings *f'*,  
and downward through the space *f*, between  
the inner and outer casings, and is discharged  
into the apartment around the bottom of space  
*f*, which is sufficiently low down to cause the  
warm air to fill the whole of the room. The  
heat can be regulated by turning the cover-  
plate G, when the openings *g* coincide with the  
openings in sections F of the distributing-cham-  
ber, the heated air passing upward through  
these openings instead of passing downward  
through the space *f*, as indicated by the ar-  
rows in the drawings. All the impure air in  
the apartment, which has been breathed and  
contains carbonic-acid gas, naturally gravi-  
tates to the floor and is removed from thence  
by the pipe B which supplies the air required  
for combustion to the grate, and is discharged  
together with the products of combustion up  
the stove-pipe *a''*. Foul air is thus constantly  
being removed and its place supplied with  
pure air obtained through the pipe C and  
warmed in its passage through the casings of  
the stove.



When the apartment to be heated is very large, as in the case of a school or other public building, I sometimes prefer to carry the pipe B below the floor and connect other pipes to it, which rise above the floor again in the corners or other convenient parts of the room, so as to collect the foul air from several points. These pipes may advantageously have their ends where they come above the floor made with small perforations, so as to decrease the liability of their becoming stopped up. I also sometimes prefer to carry the pipe C beneath the floor, as shown in Figs. 4 and 5, subdividing it into smaller branch pipes when the room is very large. These branch pipes I attach to channels *j* in the walls at the back of the mop-boards and provide a series of small holes, *j'*, in the mop-boards, communicating between the air in the room and the said channels, so that the supply of cold air may be taken from various points and at a sufficient distance above the perforated openings of the pipes which collect the foul air from the floor of the room and convey it by the pipe B to the grate of the stove.

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

1. The combination of the cold-air-supply pipe C, distributing-chamber D, divided into communicating sections by radial partitions, and the stove A, provided with inner and outer casings forming the spaces *e* and *f*, substantially as and for the purpose herein described.

2. The combination of the cold-air-supply pipe C, distributing-chamber D, having communicating sections or compartments E F, provided with openings *e' f'*, and the cover-plate G, provided with the openings *g*, registering with the openings *e'*, together with the inner and outer casings, substantially as described and shown, and for the purpose set forth.

3. The combination of the cold-air-supply pipe C, distributing-chamber D, cover-plate G, the pipe B, for removing foul air, and the stove A, provided with inner and outer casings forming the spaces *e* and *f*, substantially as described and shown, and for the purpose set forth.

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Witnesses:

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