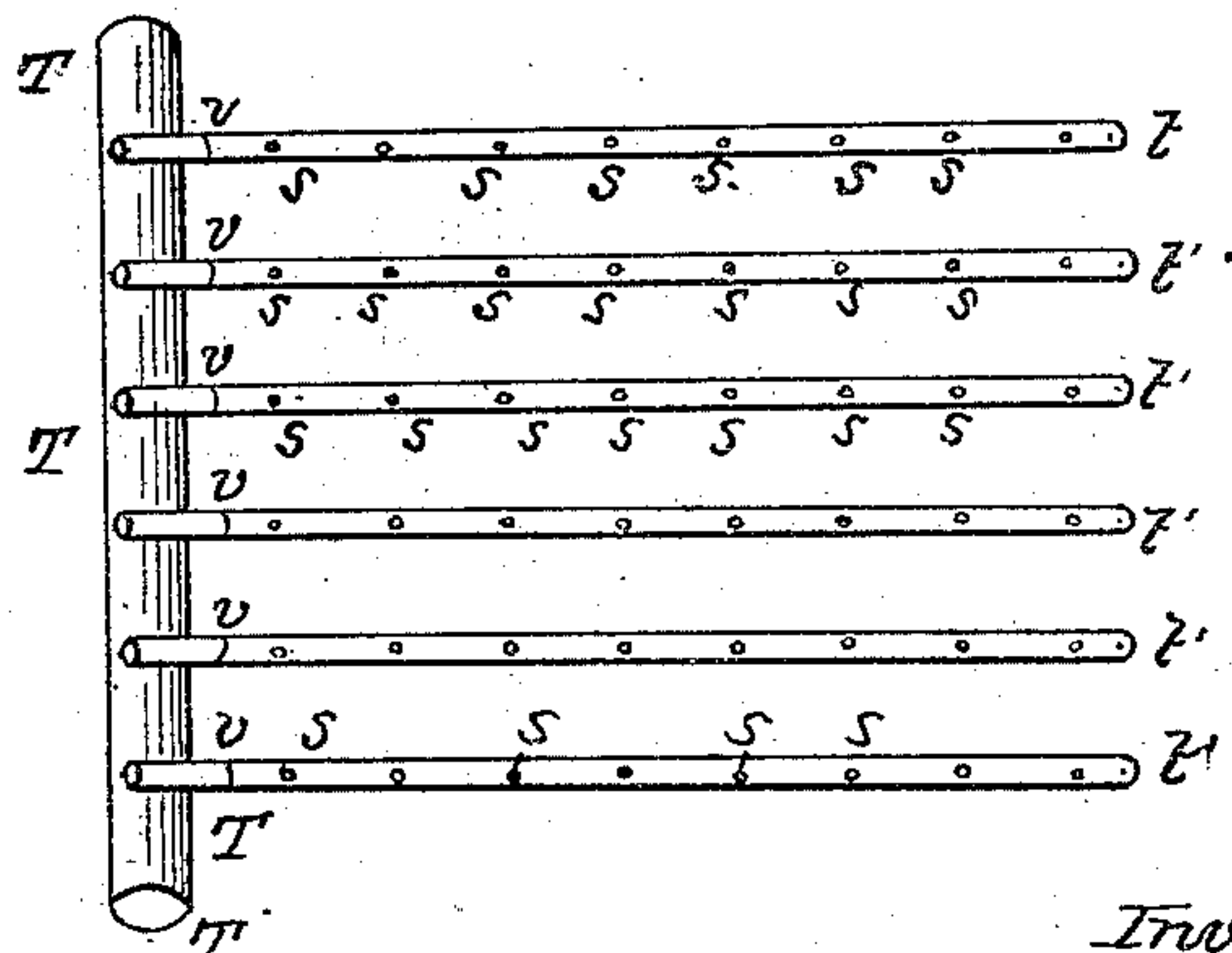
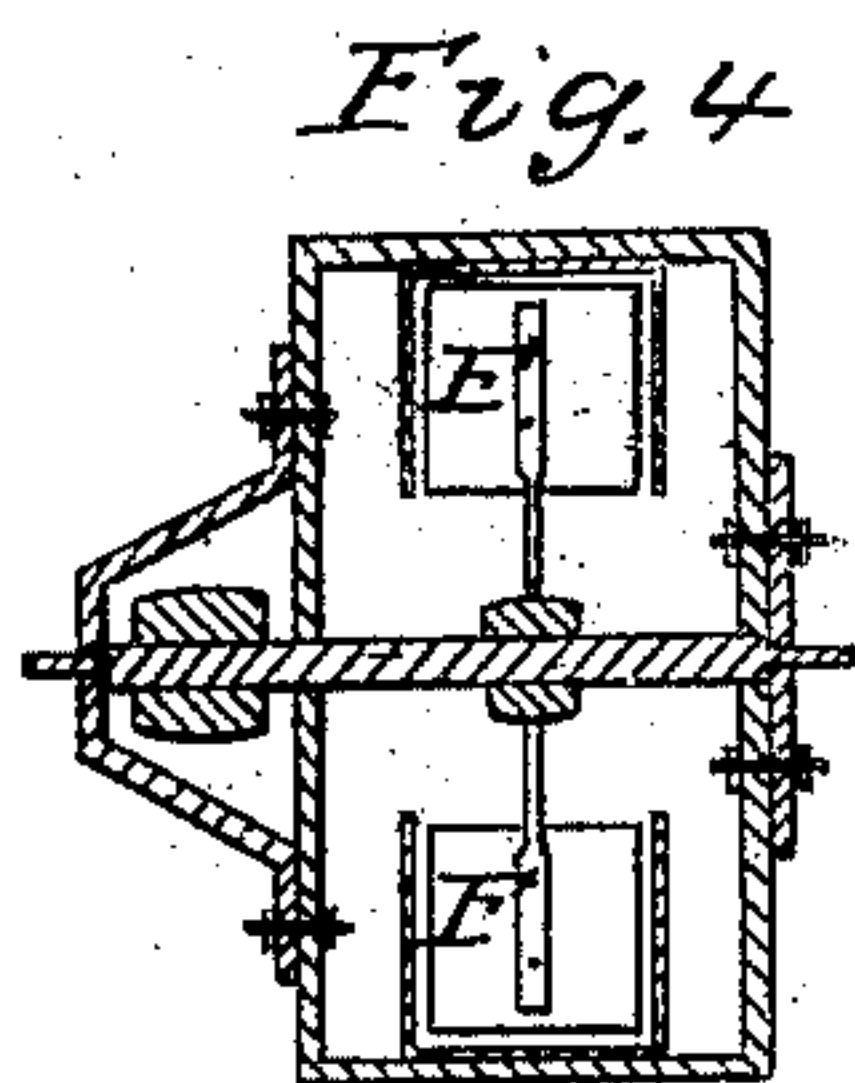
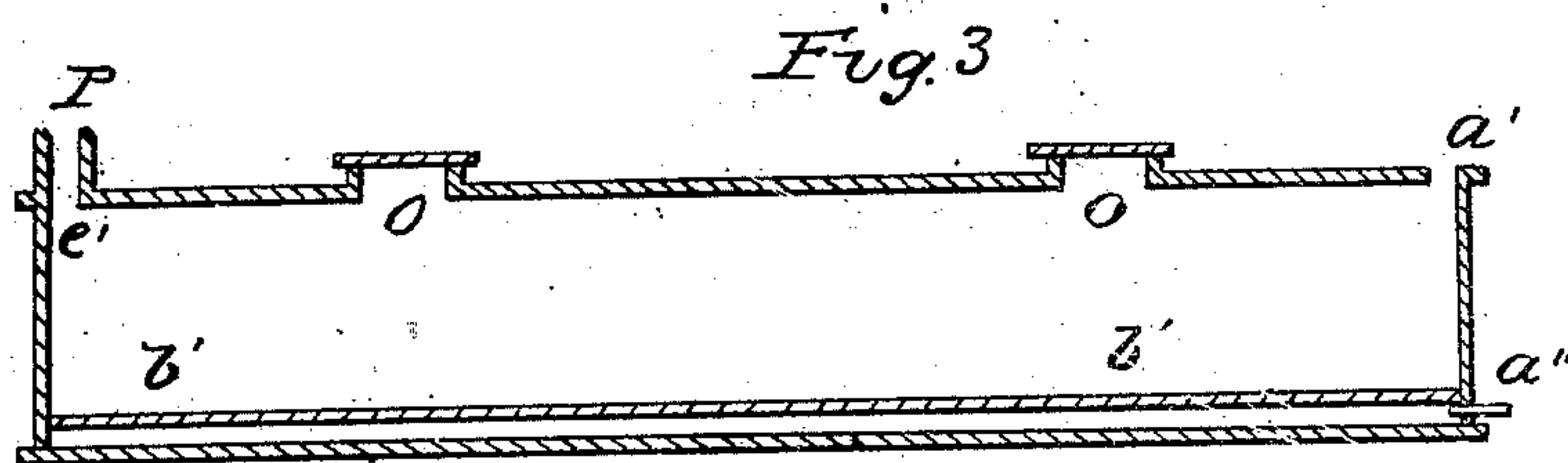
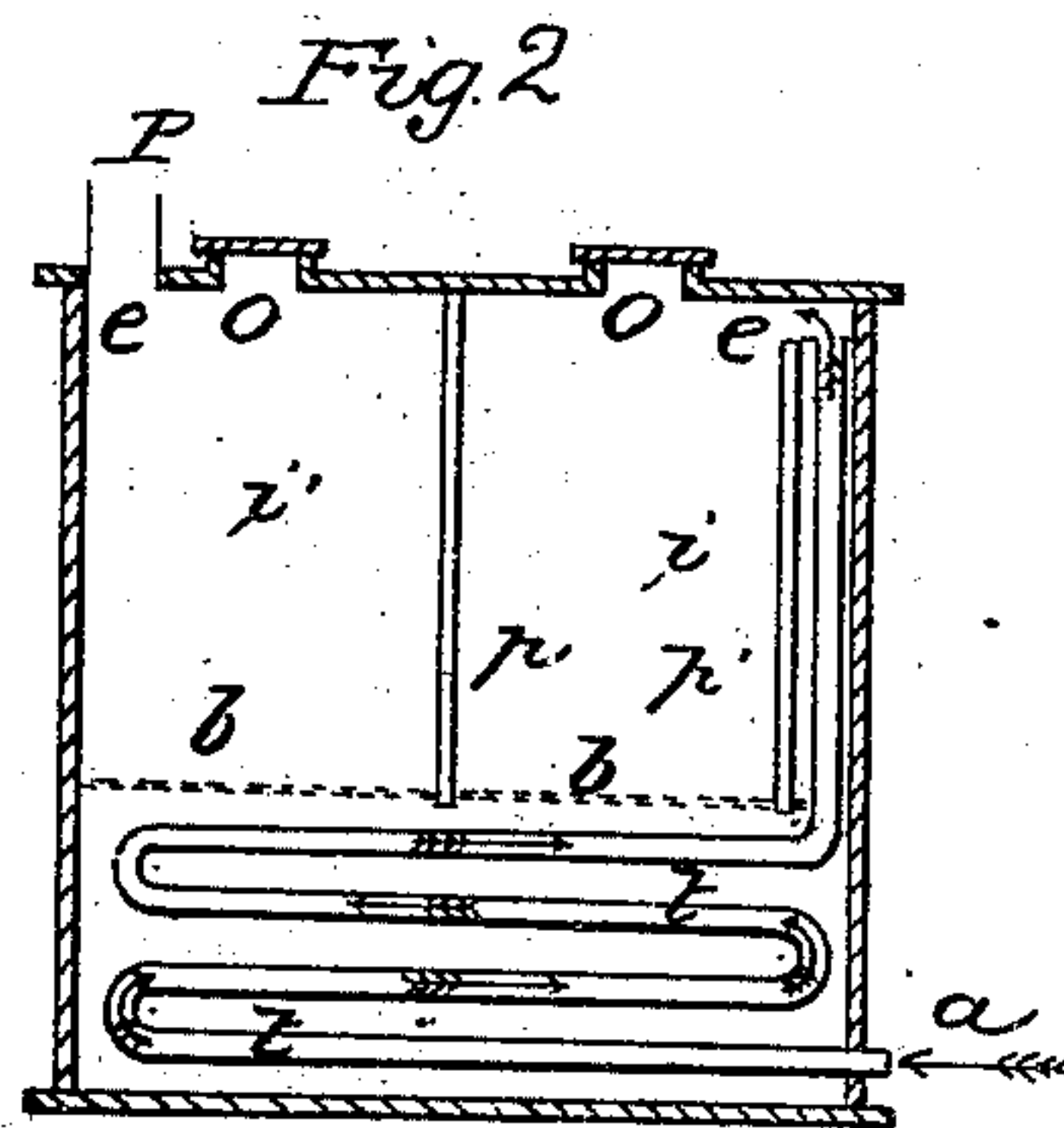
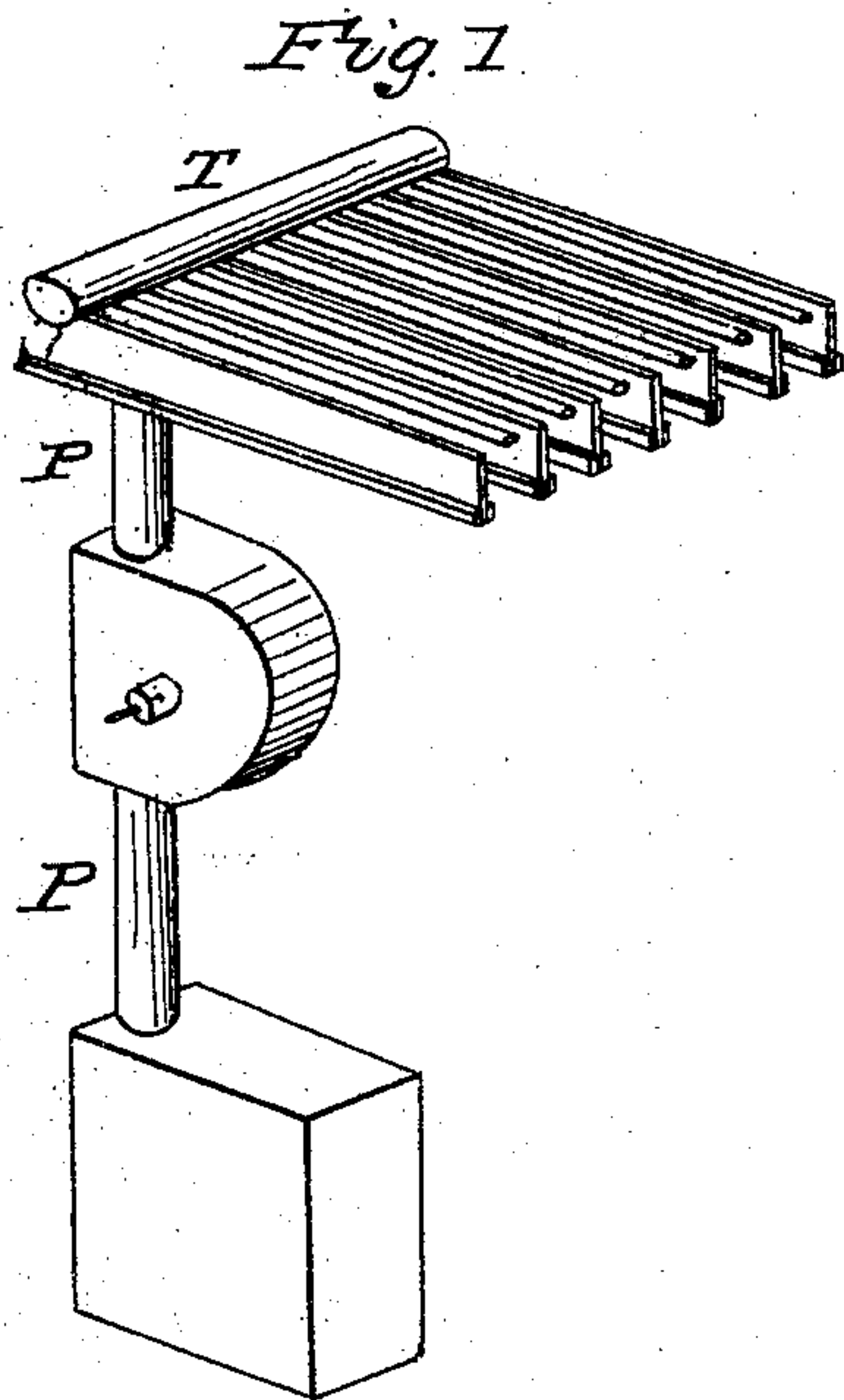


M. J. KELLY.  
Atmosphere Cooler.

No. 44,731.

Patented Oct. 18, 1864.



Witnesses  
Robert Wilson  
Robert French.

Inventor  
Moses J. Kelly.

# UNITED STATES PATENT OFFICE.

MOSES J. KELLY, OF CHICAGO, ILLINOIS.

## IMPROVED ATMOSPHERE-COOLER.

Specification forming part of Letters Patent No. **44,731**, dated October 18, 1864; antedated October 6, 1864.

*To all whom it may concern:*

Be it known that I, MOSES J. KELLY, of Chicago, in the county of Cook and State of Illinois, have invented a new and useful machine for cooling carcasses where hung to cool in slaughtering-establishments, cooling halls, railroad-cars, grain-bins, the holds of vessels, and other places and apartments in which it may be desired to reduce the temperature of the atmosphere by the introduction of cool or cold air, which I denominate an "Atmospheric Cooler;" and I hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a perspective view; Figs. 2 and 3, respectively, vertical longitudinal sections of two forms of chests or receptacles for ice; Fig. 4, a section of the fanners used for giving motion to the air with the casing in which the same is inclosed; and Fig. 5, an under side view of the tubes or conductors through and by which cold or cool air is conveyed and distributed to the carcasses hanging in slaughtering-establishments.

The form of ice-chest represented in Fig. 2 is constructed substantially as follows: The length about the same as the height, and the width one-half the length, made air and water tight, with bottom *b*, of loose boards, one-third the distance from bottom to top. A tight partition, *p*, extends from the top to the loose bottom, and another, *p'*, from the loose bottom *b* to *c*. A flattened metallic tube, *t t*, &c., as wide as the box will admit, or a system of small tubes extending from *a* in the direction of the arrows to *c*. At *o o* are openings or hatches for filling the parts *i i* with ice. The cold water resulting from the thawing of the ice descends below the loose bottom *b* and surrounds the tubes *t t*, so that the air which enters them at *a* is somewhat cooled before it passes into the ice-apartment *i* at *c*, and still further cooled in passing down through the ice in that apartment and under the partition *p*, and up through the ice in the apartment *i'* into the pipe *P* at *e*.

Fig. 3 represents another form of ice-chest or chamber used when it is not necessary to economize by the use of the cold water re-

sulting from the thawing of the ice, of length, width, and depth such as to contain an amount of ice necessary for the work to be done. The air entering at *a'*, or at *a'''*, is cooled in passing over or through the ice, of which the box should be kept full or nearly so, before it enters the pipe *P* at *e'*; or an ice-house, where one is at hand, may be so arranged as to supply cool air, in which case a tight covering is made over all or a portion of the ice in such ice-house as low as the ice will admit, so that the air, being admitted on one side, is sufficiently cooled by being brought in contact with the ice before it passes out at the other side into the pipe *P*, as at *e*.

Fig. 4 represents common fanners *F* inclosed within an air-tight casing, or otherwise directly connected with the pipe *P*, so that (the fanners being put in motion by a belt on the pulley or otherwise) all the air they move is drawn through the pipe *P*.

In Fig. 5, *T* represents the large pipe, tube, or conductor overhead in slaughtering-establishments, leading from the fanners; and *t' t'*, &c., smaller ones leading from it, immediately over each row of carcasses, and in which *s s s* are slots or openings from which currents of air issue and descend or are driven upon each carcass, or part of one, as may be desired. At *v* are valves which serve to shut off the air from the small tubes at pleasure.

Now, the ice being arranged in either of the aforesaid ways and the fanners put in rapid motion, a portion of air is rapidly cooled and forced through the pipe *P'* into any place or apartment to be cooled, and there distributed through and from a sufficient number of small perforated tubes to properly equalize the air thus introduced or distributed to the carcasses hanging in slaughtering-houses, through the system of tubes represented in Figs. 1 and 5 as aforesaid.

What I claim as my invention, and desire to secure by Letters Patent, is—

The combination of the fanners *F*, the system of tubes *T t' t'*, &c., and the ice-chest or depository in either of said forms, as and for the purpose shown and represented.

MOSES J. KELLY.

Witnesses:

ROBERT WILSON,  
ROBERT FRENCH.