

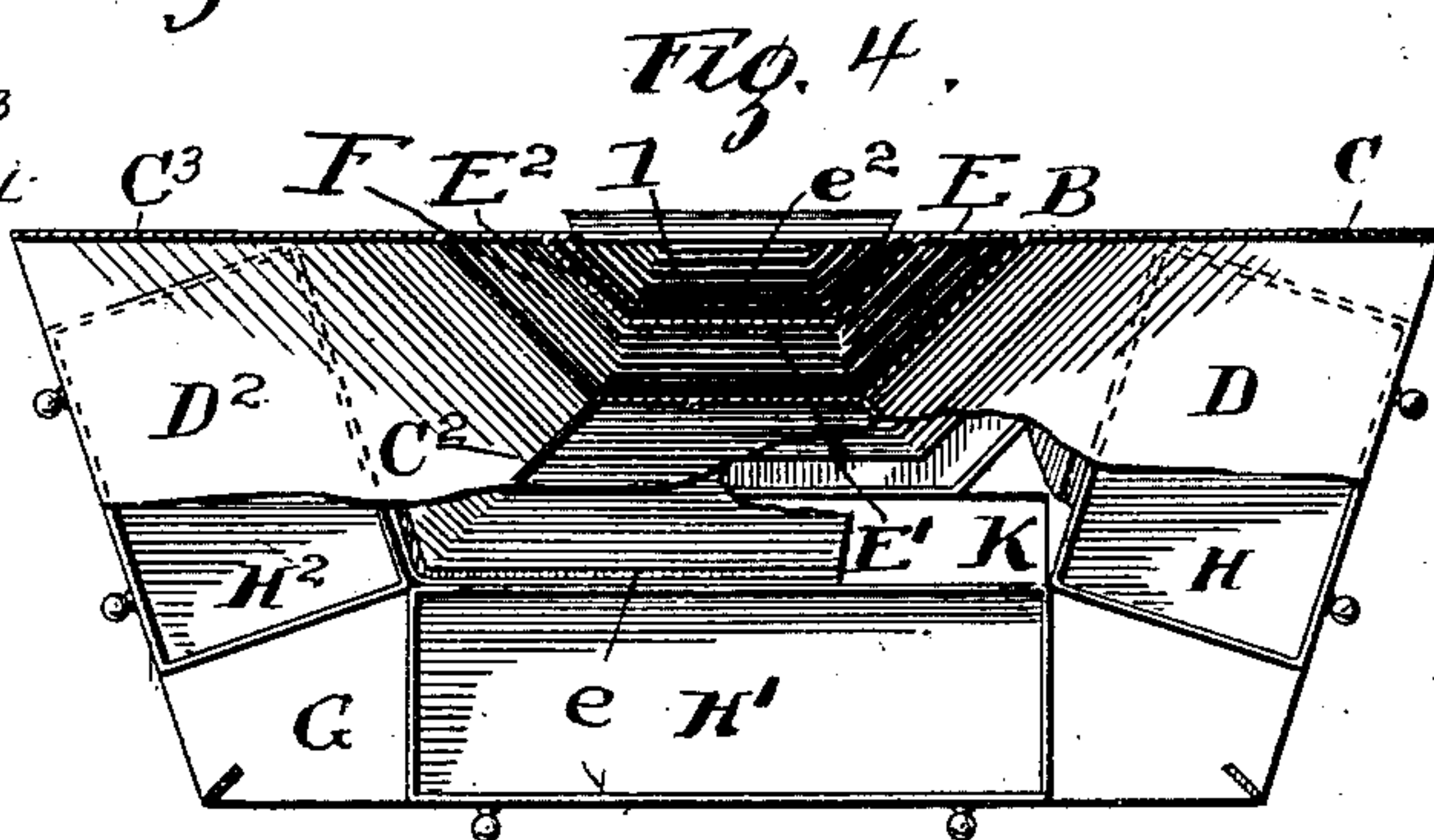
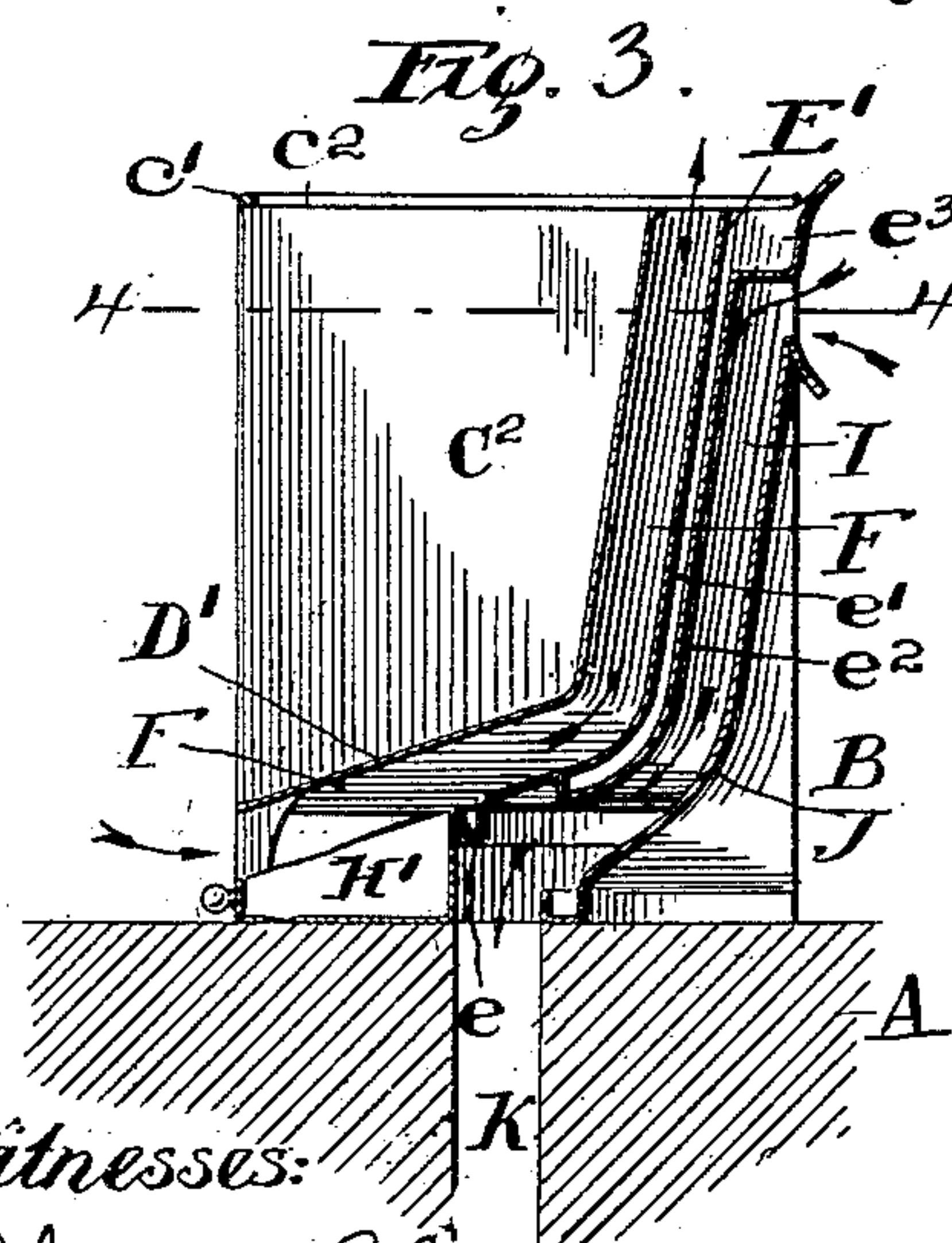
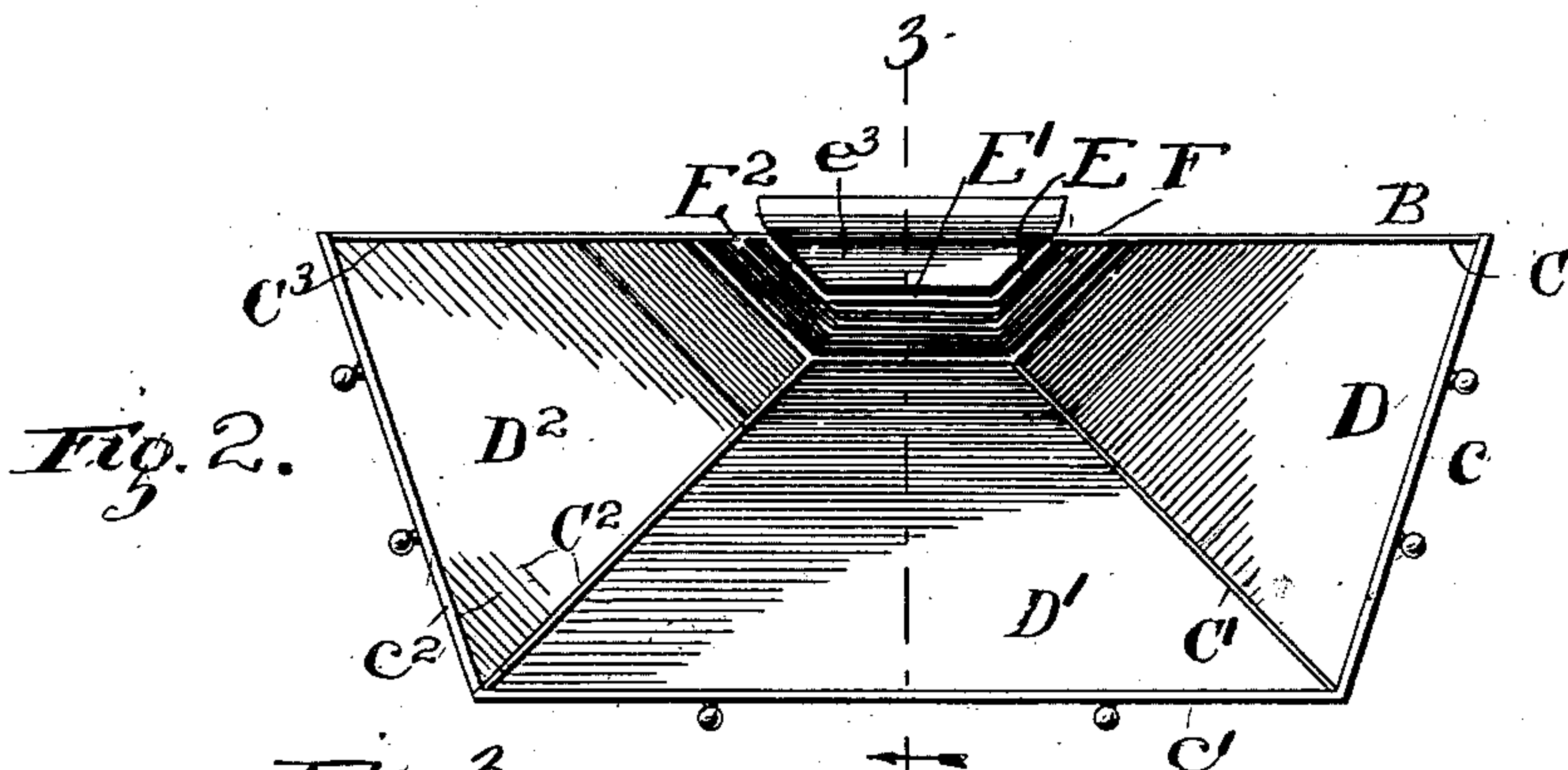
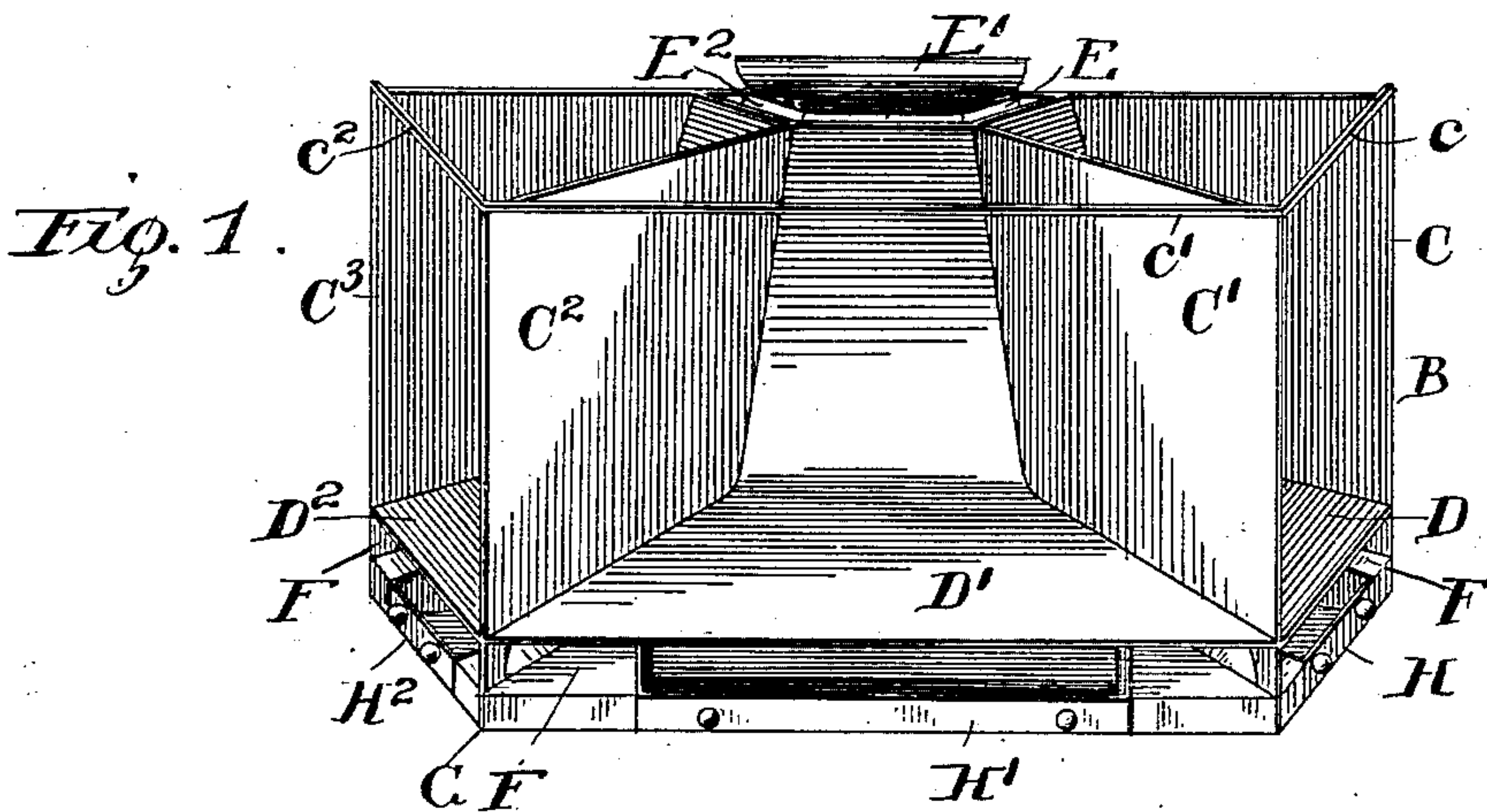
No. 677,344.

Patented July 2, 1901.

T. A. DUNGAN.
VENTILATOR.

(Application filed Dec. 10, 1900.)

(No Model.)



Witnesses:

Chas. O. Shervey.
S. Bliss.

Inventor:

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UNITED STATES PATENT OFFICE.

THOMAS A. DUNGAN, OF CHICAGO, ILLINOIS.

VENTILATOR.

SPECIFICATION forming part of Letters Patent No. 677,344, dated July 2, 1901.

Application filed December 10, 1900. Serial No. 39,346. (No model.)

To all whom it may concern:

Be it known that I, THOMAS A. DUNGAN, a citizen of the United States of America, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Ventilators, of which the following is a specification.

My invention relates to certain improvements in ventilators designed for the purpose of creating a current of cool air directed downward into a dwelling or other desirable inclosure by means of suitable devices located above the same and preferably utilizing the heat of the sun to increase the efficiency of the ventilator.

The preferred form of apparatus for working my invention is illustrated in the drawings by means of four figures, of which—

Figure 1 is a front perspective; Fig. 2, a plan; Fig. 3, a transverse vertical section in line 3 3 of Fig. 2; and Fig. 4, a horizontal section in line 4 4 of Fig. 3, with certain parts broken away to show other parts beneath the same.

Referring to the drawings, A represents the roof of a house or other exposed upper portion of a structure, and B a framework adapted to rest thereon and composed of a series of partitions providing air-passages and containing certain receptacles preferably used in the operation of my invention. A series of radially-disposed reflectors C C' C² C³ are secured together at the top by means of braces c c' c² and at the bottom and rear by means of heat-absorbing plates D D' D². Said plates are preferably concave upon their forward sides and arranged to face the sun as it passes from east to west, the plate D receiving the most direct rays in the earlier portion of the day and the plate D² in the latter portion.

In the rear of the heat-absorbing plates are corresponding evaporating-plates E E' E², inclosing a warm-air flue F, through which the outside air may pass in an upward direction through the influence of the heat upon the plates D D' D². The apparatus preferably has a suitable base G, and in this base is

ers H H' H², in which a suitable drier—as, for instance, lime—may be placed to dry the air as it enters the warm-air flues.

The evaporating-plates E E' E² are made of a suitable porous material and are provided at the bottom with a drip-trough e and in rear with a water-chamber e', backed by a suitable inclosing wall e². This chamber is enlarged at e³ at the top to provide for a sufficient supply of water to last the requisite length of time. In rear of the water-chamber is a cold-air flue I, backed by a partition J and opening downward into a cold-air passage K, leading to the desired apartment.

In the operation of the device the water-chamber is filled with water, and the evaporation of the same through the porous evaporating-plate cools the water and the adjoining wall of the cold-air flue I, so that a downward current of cool air is established through said flue. The evaporation of the water is greatly increased and an upward current of warm air through the flue F established by the radiation of heat from the heat-absorbing plates D D' D², upon which the sun's rays are concentrated by the reflectors C C' C² C³. The drying of the air by means of lime or other suitable material in the drawers H H' H² increases the capacity of said air to absorb water from the evaporating-plate and also adds to the efficiency of the device.

Certain features of my invention are wholly independent of any specific apparatus, and for that reason I do not limit myself to the exact details herein shown and described.

I claim as new and desire to secure by Letters Patent—

1. In a ventilator, the combination with suitable walls inclosing an upright cold-air flue and an adjoining warm-air flue, of an evaporating-partition between the two flues, means for supplying said partition with a suitable evaporating material, a heat-absorbing wall upon the opposite side of the warm-air flue and means for concentrating the sun's rays upon said heat-absorbing wall; substantially as described.

2. In a ventilator, the combination with suitable walls inclosing an upright cold-air

flue and an adjoining warm-air flue, of an
intermediate partition adapted for evapora-
tion of suitable material, means for supply-
ing such material to said partition and means
5 for drying the air in the warm-air flue; sub-
stantially as described.

In witness whereof I have hereunto set my

hand at Chicago, in the county of Cook and
State of Illinois, this 26th day of November,
A. D. 1900.

THOMAS A. DUNGAN.

Witnesses:

CHAS. O. SHERVEY,
S. BLISS.