

A. L. CASTLE.
STOVE LID.

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947,370.

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Fig. 1.

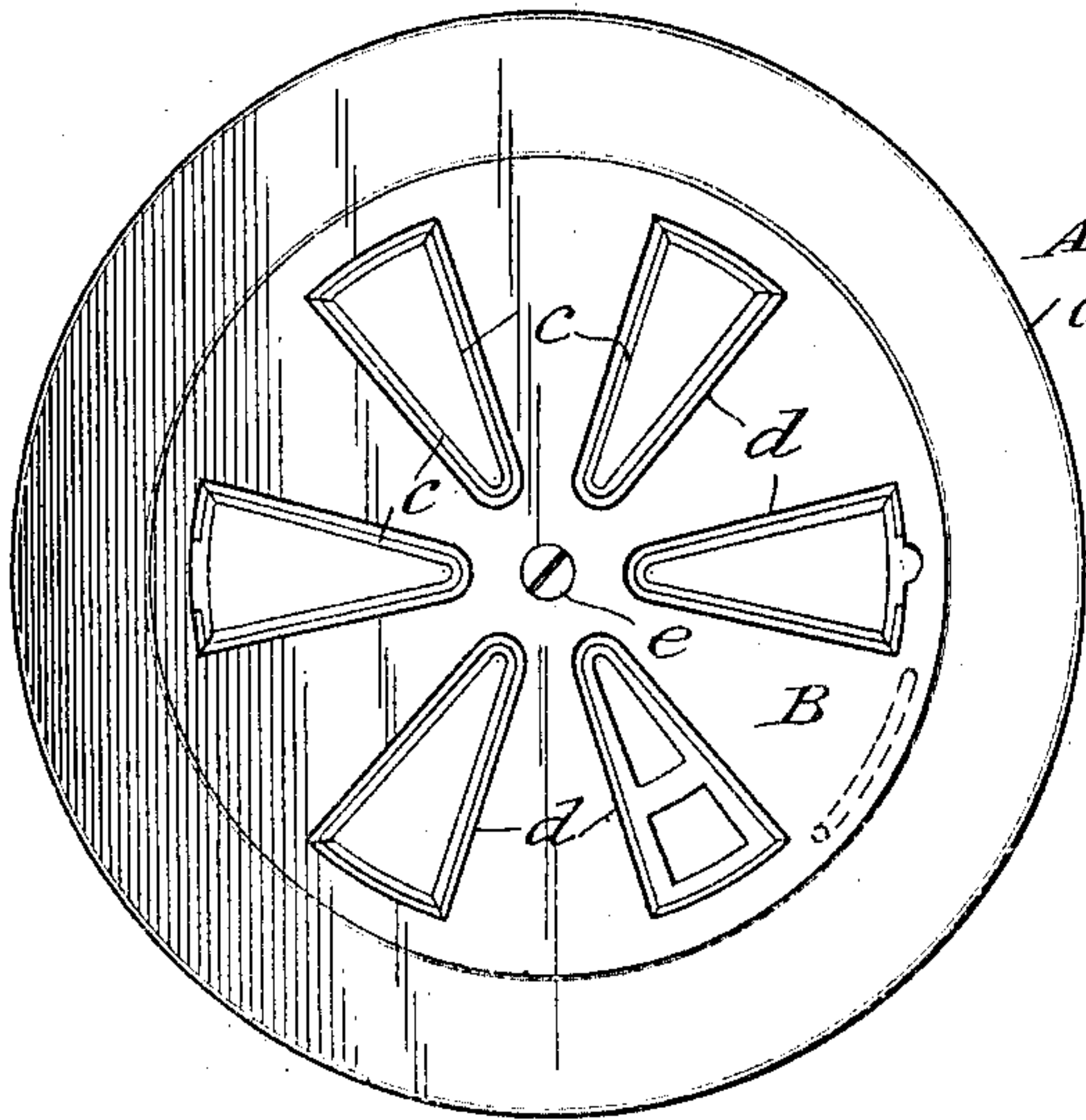
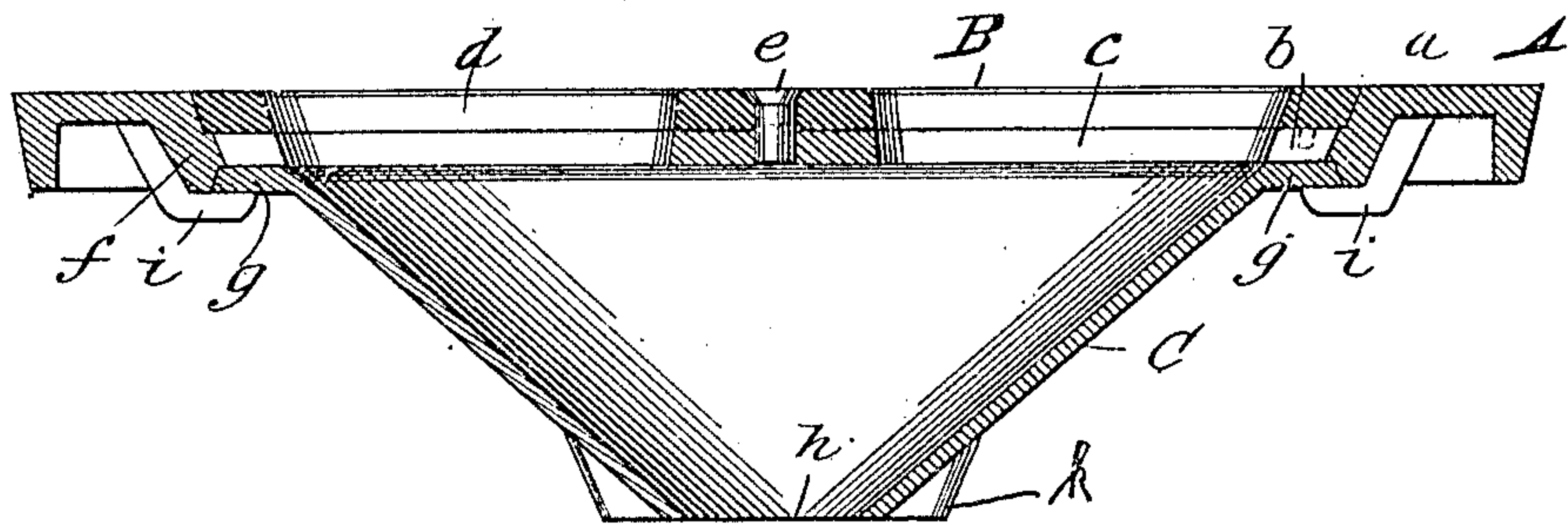


Fig. 2.

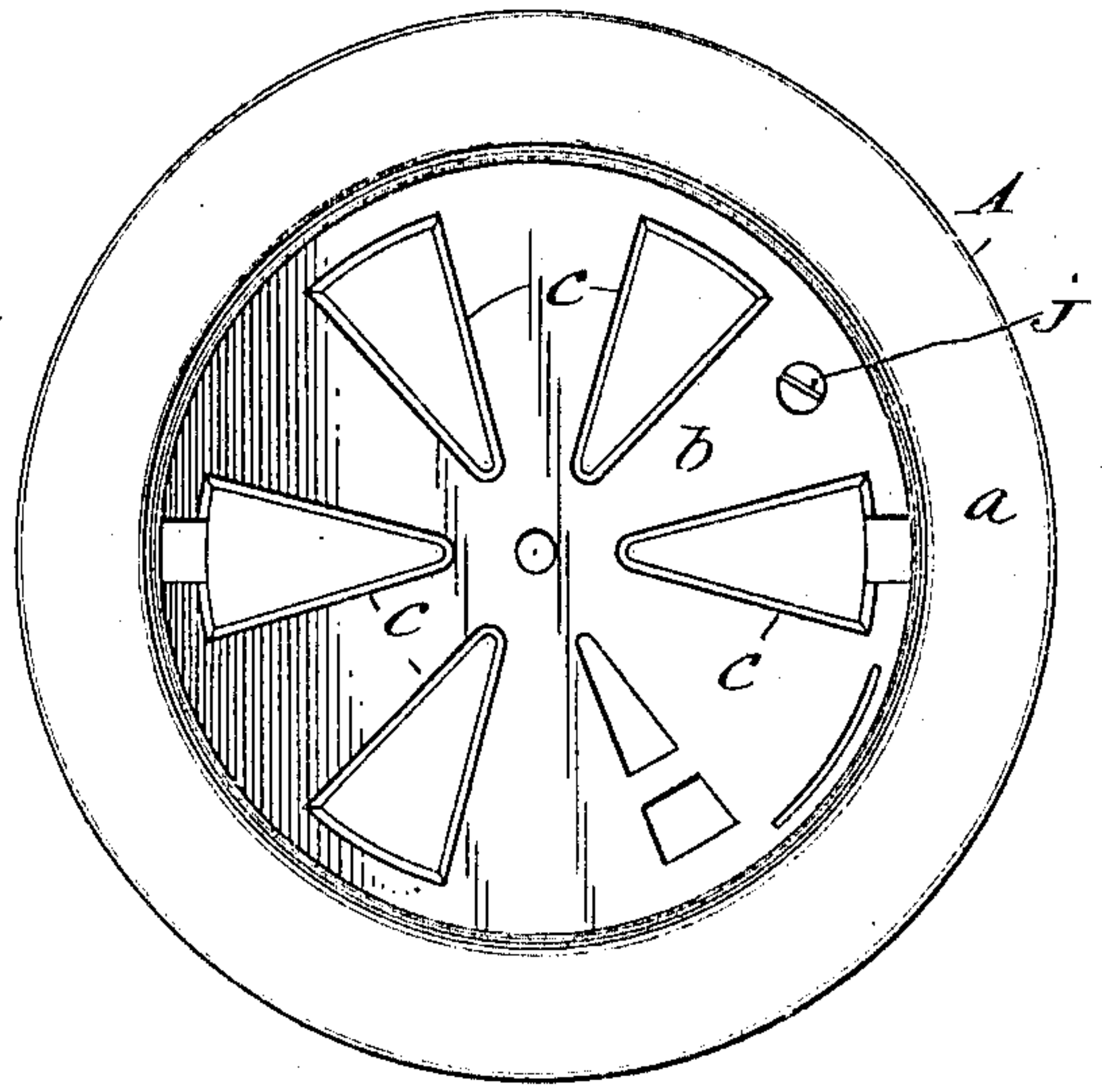
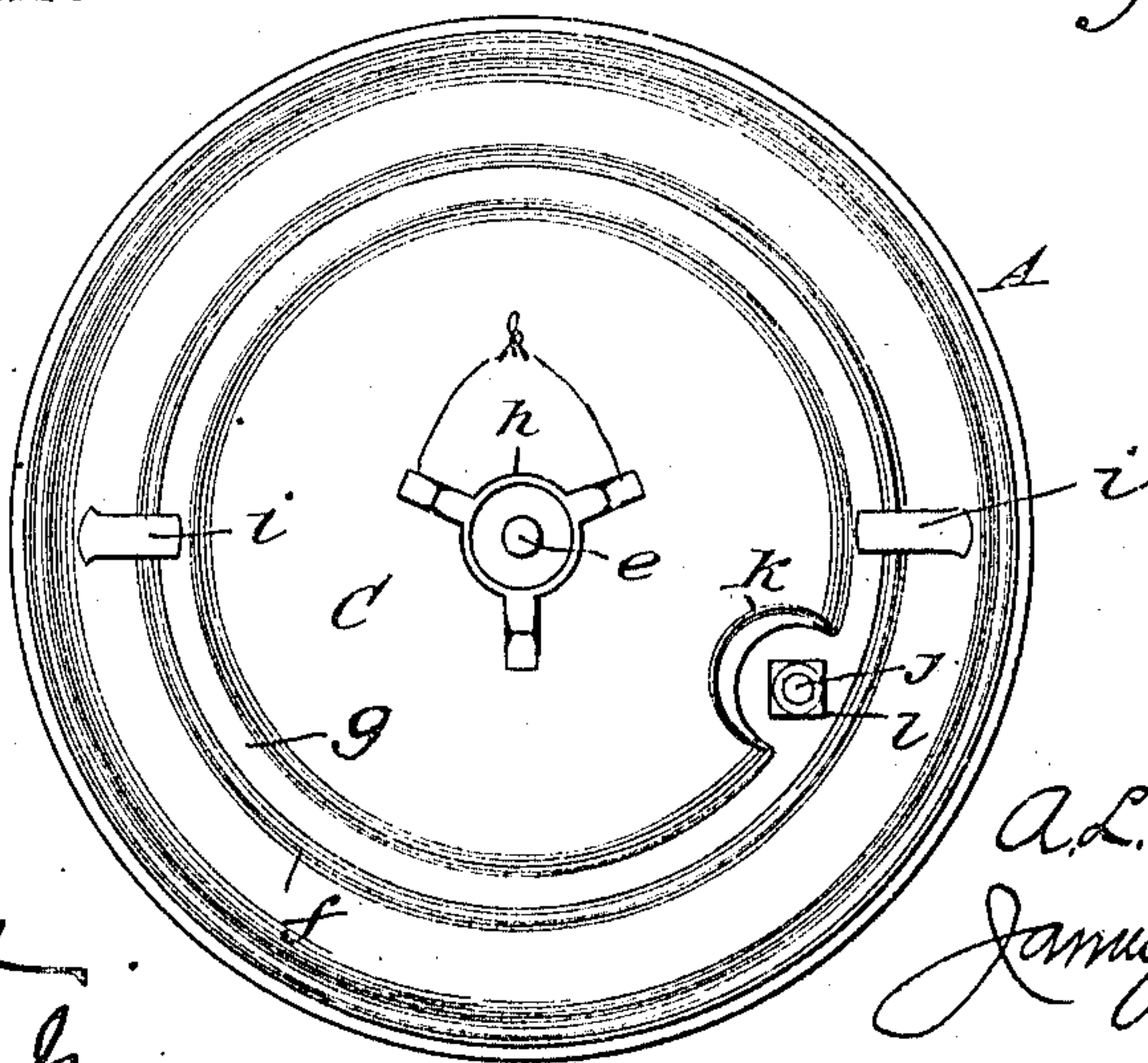


Fig. 3.

Fig. 4.



Witnesses

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STOVE-LID.

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To all whom it may concern:

Be it known that I, ALFRED L. CASTLE, citizen of the United States, residing at Quincy, in the county of Adams and State of Illinois, have invented new and useful Improvements in Stove-Lids, of which the following is a specification.

My invention relates to stove lids; and it has for its object to provide a readily regulated lid through the medium of which a greater or less volume of air may be conducted downwardly and highly heated *en route* and discharged in the form of a hot blast into the fire-box of a cook stove or range, this with a view of promoting the combustion and consumption of the carbon and gases given off by bituminous coal, and of assisting in the combustion of anthracite coal.

With the foregoing in mind the invention will be fully understood from the following description and claims when the same are read in connection with the drawings, accompanying and forming part of this specification, in which:

Figure 1 is a vertical diametrical section of the lid constituting the best practical embodiment of my invention that I have as yet devised. Fig. 2 is a plan view of the lid. Fig. 3 is a plan view of the lid as it appears when the rotary damper is removed. Fig. 4 is an inverted plan view of the lid.

Similar letters of reference designate corresponding parts in all of the views of the drawings.

In the present and preferred embodiment of my invention the lid is made up of a body A of a size and shape to occupy an opening in a stove top, a rotary damper B, and an air retainer or retarder C. The body A may be and preferably is cast in one piece and is provided at about the distance illustrated below its upper surface *a* with a diaphragm *b*, having apertures *c* grouped about its center as best shown in Fig. 3. The disposition of the diaphragm *b* below the upper surface of the body A, as stated, serves to enable the damper B to rest flush with the upper surface of the body, as is always desirable. The said damper B is provided with apertures *d* and is connected through the medium of a pintle *e* with the diaphragm *b*. Thus by turning the damper B the size of the openings through the diaphragm *b* of the body A may be increased or diminished as occasion demands, or said openings may be entirely closed.

Disposed below the diaphragm *b* of the body A and within a depending flange *f* on said body is the before-mentioned air retainer or retarder C. This latter is generally in the form of an inverted truncated cone, and is provided with a marginal flange *g* and a central discharge aperture *h*. The marginal flange *g* of the retarder C is arranged over inwardly directed lugs *i* on the depending flange *f* of body A, and is connected with the body by the said lugs in combination with a bolt *j* extending downwardly through the diaphragm *b* and through a notch *k* in the retarder C and equipped with a nut *l*. By virtue of this it will be seen that when the parts are relatively arranged as shown in the inverted view, Fig. 4, the retarder C is strongly connected with the body A, and there is no liability of casual disconnection. When, however, it is desirable for any reason to disconnect the retarder C from the body A, the same may be accomplished after the nut *l* and bolt *j* are removed, by turning the retarder until the notch *k* is coincident with one of the lugs *i* when the retarder C may be canted and readily separated from the body A.

As shown in Figs. 1 and 4, the air retainer or retarder C is provided on its underside, about its central opening *h*, with a group of projections *k* which are preferably, though not necessarily employed, in order to lessen the liability of the lower portion of the air retainer being broken in the event of an object striking against the same.

I prefer to connect the retarder C with the body A in the manner shown and described, because of the facility with which the retarder may be detached, and also because the parts may be readily assembled and connected together in such manner that there is no liability of the retarder accidentally changing its position relative to the body A. I do not desire, however, to be understood as confining myself to any specific manner of fixing the retarder C with respect to the body A.

In the practical use of my novel lid it will be manifest that when the damper B is wholly or partly opened the retarder C will be filled with air from above, and such air will be retained in the retarder until it is superheated, whereupon it will be delivered through the contracted discharge *h* into the fire-box, where it will mix with and mate-

rially promote the combustion and thorough consumption of the carbon and gases given off by bituminous coal. It will also be understood that when my novel lid is used on
5 a stove in which anthracite coal is burned, the hot blast of air delivered by the retarder C which is always in a highly heated state because of its proximity to the fire, will assist materially in the proper consumption of
10 the coal and the products given off by the same.

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

15 1. The combination in a stove lid, of a body having an opening and also having opposite, inwardly directed lugs disposed below said opening, and an air retarder, of inverted truncated-cone shape, having a portion
20 resting on said lugs and also having a notch adapted, when the retarder is turned, to permit of the same being detached from the body.

25 2. The combination in a stove lid, of a body having a depressed, apertured diaphragm, and a depending flange surrounding said diaphragm, and also having supporting means on said flange, an adjustable damper arranged on said diaphragm, and an air re-
30 tarder having laterally projecting means dis-

posed below the said diaphragm and on the said supporting means; the said air retarder being capable of being turned on the supporting means of the body to release its said
35 laterally projecting means from the supporting means and permit of its detachment from the body.

3. The combination in a stove lid, of a body having a depressed, apertured diaphragm, and a depending flange surrounding
40 said diaphragm and also having opposite, inwardly-directed lugs on said depending flange; a rotary, apertured damper arranged on and connected with the diaphragm of the body, an air-retarder, of inverted truncated-
45 cone shape, having a marginal flange resting within the depending flange of the body and on the inwardly-directed lugs on said flange and also having a notch in said marginal flange, and a bolt carried by the body
50 and removably arranged in said notch of the retarder flange.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

ALFRED L. CASTLE.

Witnesses:

H. C. STOLL,

J. R. WOODRUFF.