

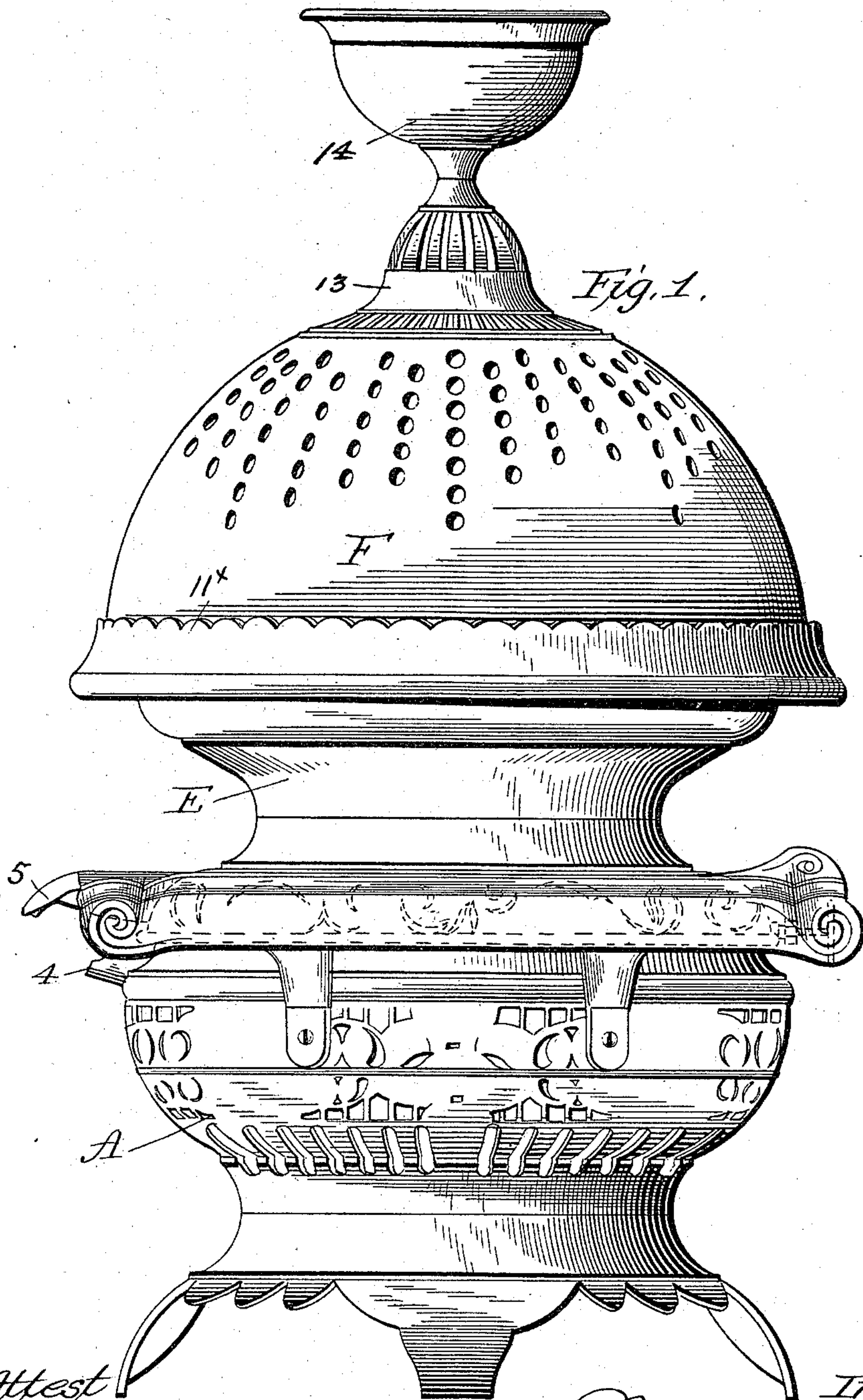
(No Model.)

3 Sheets—Sheet 1.

W. H. WILDER.  
LAMP STOVE.

No. 570,527.

Patented Nov. 3, 1896.



Attest  
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Inventor  
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ATTYS.

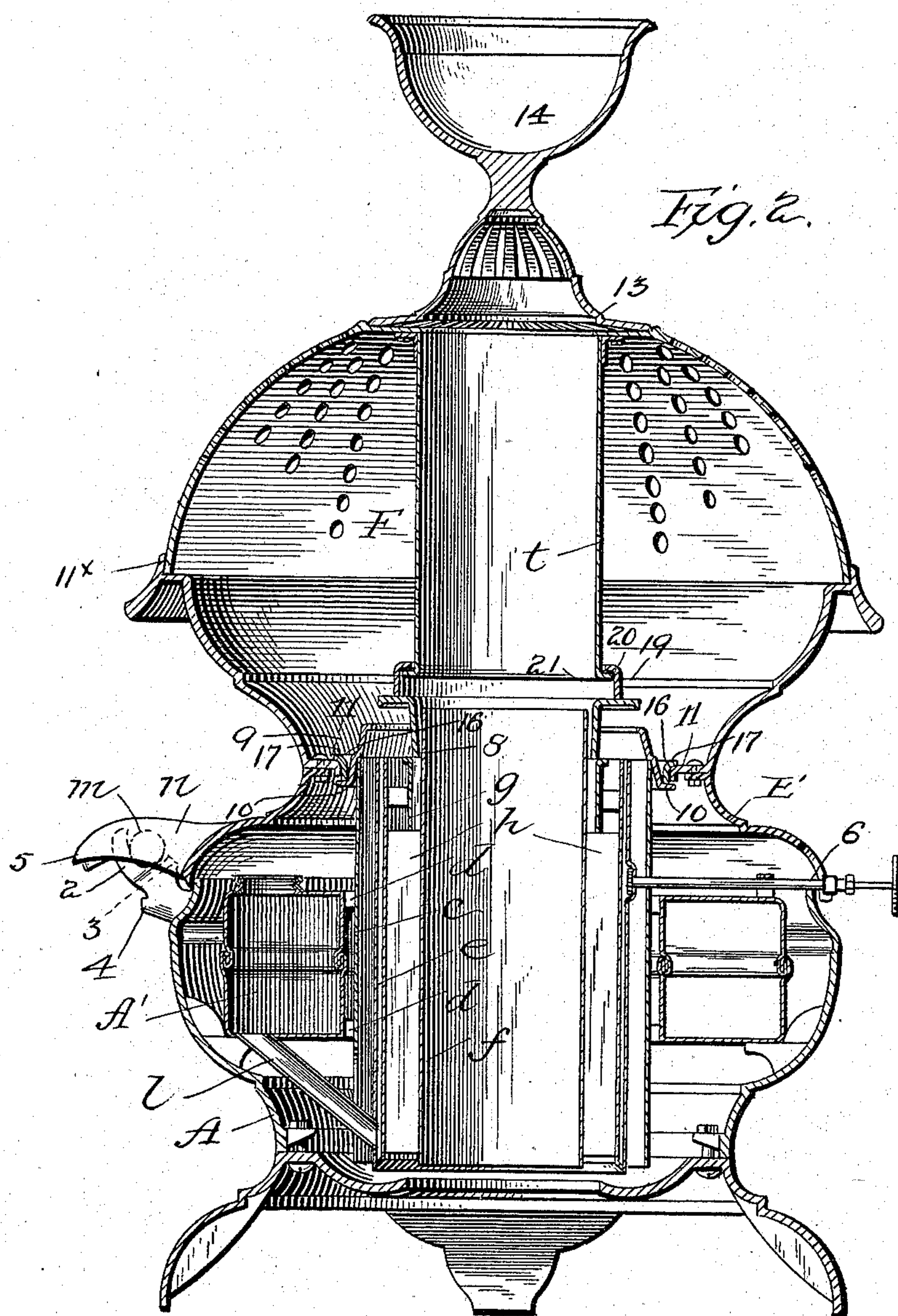
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3 Sheets—Sheet 2.

W. H. WILDER.  
LAMP STOVE.

No. 570,527.

Patented Nov. 3, 1896.



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William H. Wilder  
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Attys



(No Model.)

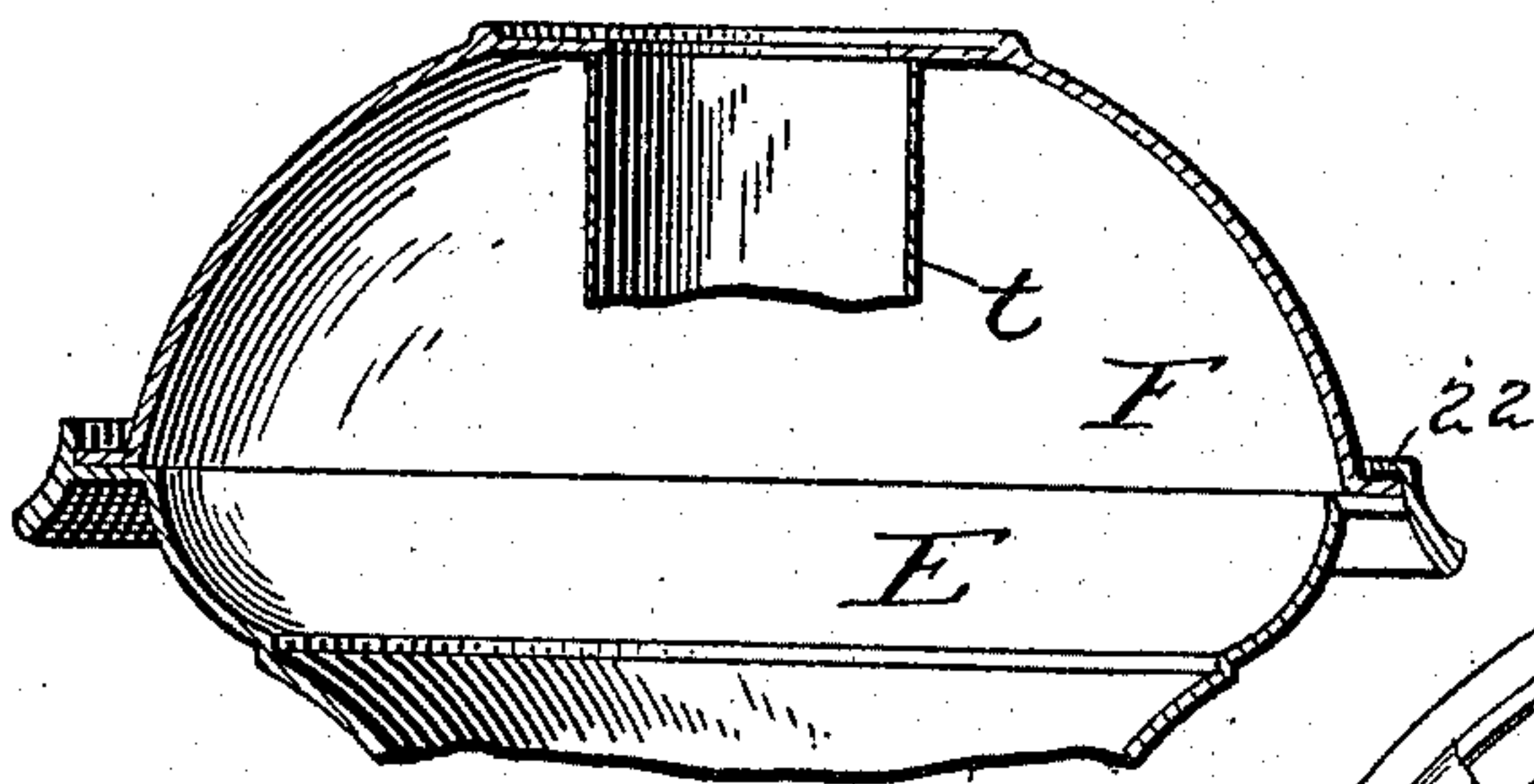
W. H. WILDER.  
LAMP STOVE.

3 Sheets—Sheet 3.

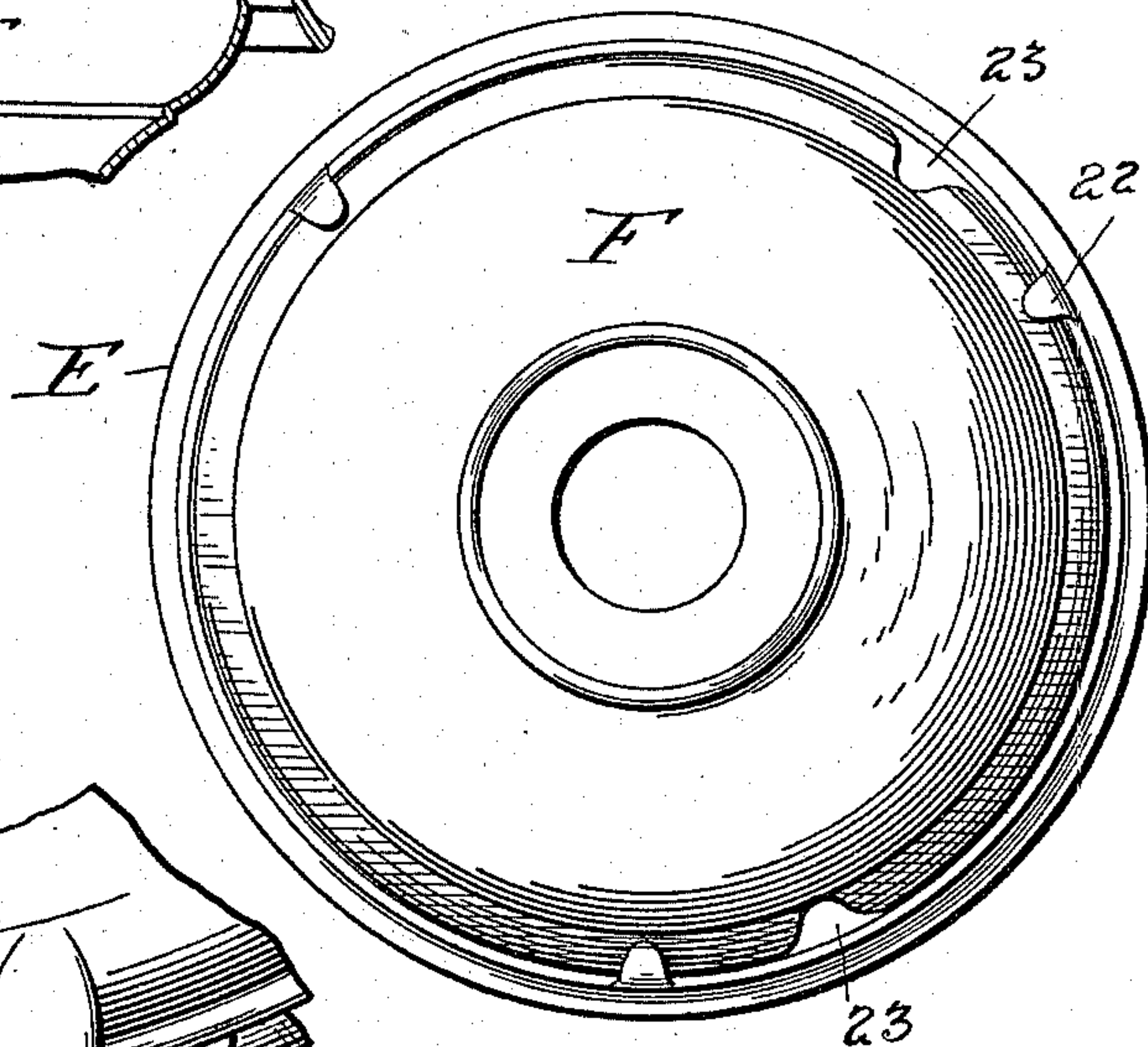
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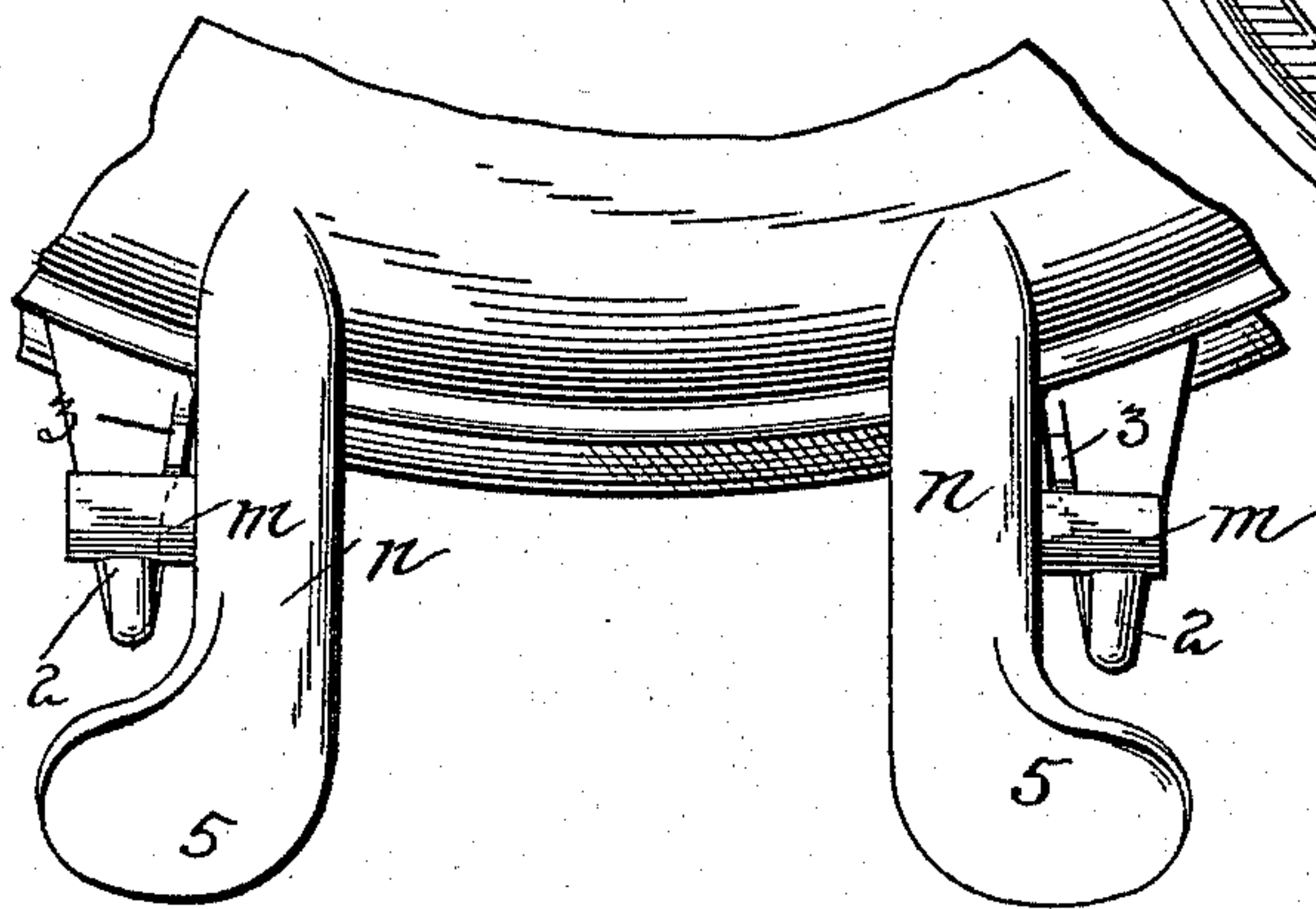
*Fig. 4.*



*Fig. 5.*



*Fig. 3.*



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# UNITED STATES PATENT OFFICE.

WILLIAM H. WILDER, OF FLORENCE, MASSACHUSETTS.

## LAMP-STOVE.

SPECIFICATION forming part of Letters Patent No. 570,527, dated November 3, 1896.

Application filed November 2, 1894. Serial No. 527,769. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM H. WILDER, a citizen of the United States, residing at Florence, in the county of Hampshire and State of Massachusetts, have invented certain new and useful Improvements in Lamp-Stoves, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to oil-stoves, and particularly to that class for heating rooms.

It consists of a special construction of the shell of the combustion-chamber, which is in the form of a dome and has a special arrangement of holes designed, in connection with the dome shape, for the passage of the heated air without interfering with the combustion and at the same time rendering the flame visible to the occupants of the room.

My invention also relates to a special construction including a slip-joint at the lower end of the ventiduct within the said dome.

In the accompanying drawings, Figure 1 is a side elevation of the complete stove. Fig. 2 is a central vertical section. Fig. 3 is a detail view showing the construction of the parts of the hinge between the upper and lower sections. Figs. 4 and 5 are detail views of the removable dome-section and its connection with the lower section of the stove.

The base of the stove is shown at A as made of open-work metal and provided with feet or other supports, and while this base is in the form of a basket adapted to receive the oil-receptacle it is obvious that the base may be made with the receptacle forming an integral part thereof. The receptacle containing the oil is shown at A' and is a circular vessel of annular form, in the center of which I provide the wick and air tubes, as shown. Through the central opening in the reservoir a tube *c* passes of less diameter than the opening and secured therein to the wall of the reservoir by a series of ribs *d*, placed at intervals. This provides an air-space between the tube and inner wall of the reservoir. A wick-tube *e* is placed within the tube *c*, being of less diameter, so as to leave a space between the outer wall of the wick-tube and the tube *c*. Within the wick-tube *e*, and of smaller diameter than the inner wall thereof, is a central air-tube *f*, between which

and the inner wall of the wick-tube is a considerable air-space, and in order to divide and distribute the air passing through this space I provide a short sectional tube *g*, which rests upon brackets *h* and divides the air-space about centrally of its width. This tube *g* has its upper end made in the shape of a flange and thus directs the air over toward the upper edge of the wick-tube. Oil is supplied to the wick through a pipe *l*, extending from the lower part of the reservoir to the wick-tube. In order to catch any possible drip, I provide the base with an inturned flange extending beneath the line of the wick-tube.

The base is provided at one side thereof with two brackets forming, with pintles *m*, carried by brackets *n* on the top section, a loose hinge which permits the top section being tilted and at the same time allows its ready removal whenever desired. These brackets on the base I make with upturned hooked ends 2, the brackets being tapered outwardly and extending upwardly, and a lug 3 projects from the inner side of the brackets to form the lower bearing for the pintle of the hinge, and in order to provide a construction which may be easily cast I arrange these hooks to one side of the line of the outer hooked ends of the brackets. Below these brackets are projections 4, which form stops to contact with extensions 5 of the brackets *n* of the top section, and the relation of the extensions and stops with the hinged joint and the weight of the top section is such as to allow the top section to swing back and remain in its open position without being held.

What I have termed the "top section" covering the reservoir is indicated at E and is made up of two rings bolted together, the lower one flaring downwardly and outwardly from the neck and the upper one flaring upwardly and outwardly from the neck, these two being bolted together at a point a little below the line of the wick-tubes. This forms a confined space about the wick-tube and limits the supply of air for combustion to the passages upon each side of the wick-tube.

In order to properly deflect the flame, I provide an inner and outer deflector, (indicated at 8 and 9.) The outer deflector has a flange 10 at its base, over which is located an inner



flange 11 on the section E, which, as I have before stated, closes the passage and prevents any injurious air-currents at this point, the air for combustion going through the passages around the wick-tube.

The combustion-chamber is formed by the upper part of section E and the dome F, which rests within the flange 11. This dome is low and forms a low combustion or flame chamber, the outer walls of which slope, as shown in the drawings. Heretofore in stoves of this class this chamber has been formed of cylindrical shells, or of shells having vertical walls, in which the openings for the passage of the heated air were made in the sides near the top. These, while they permitted the passage of the heated air, did not permit the passage of light of the flame below. Openings made in vertical walls at the lower part are less advantageous for the circulation of the hot air which rises directly upward, and at the same time, in an oil-stove, are liable to interfere with the draft. In order to remedy these defects and to provide means whereby the circulation of the hot air is perfectly secured, and at the same time the flame is rendered visible, I make in the curved upper part of the dome a series of holes. These extend from the central zone a considerable distance above the wick up to near the top of the dome, and they are so arranged that the rays of light from the flame pass through the holes at an angle of forty-five degrees, more or less, but so as to be visible throughout the room and to illuminate it very much like coals in a grate. At the same time the heated air, rising upward and being slightly deflected outward, passes freely through the same openings and the combustion is in no way interfered with.

The dome F has a ventiduct *t* through the center, taking air from the tube *f* and discharging it through an opening in the top of the dome and the cap 13 and around the urn 14.

I provide an obstructing annular ring 16, having a flange 17 resting upon the flange 11 of the section E, while its depending part rests on flange 10 and is loosely supported.

At the juncture of the lower end of the ventiduct with the inner flame-deflector I

have improved the construction heretofore known by providing a close joint consisting of a ring 19, having a flange 20, which has a slip connection with the end of the ventiduct, which is itself flanged at 21 to prevent the detachment of the ring. This secures the closing of the connection between the end of the ventiduct and the deflector.

The dome-section F, I prefer to make removable, but to so hold it as to permit freely of the tipping of the parts without displacement. To this end I provide the edge of the section E with lugs, Figs. 4 and 5, projecting inwardly at three points, as shown at 22, and the flange of the dome is cut out correspondingly, as at 23, so that to place the dome upon its support the cut-away portions are brought into alinement with two of the lugs, the unbroken flange being first placed under the third, and then a turn in one direction or the other carries the lugs and cut-away portions out of alinement and the tilting of the parts can occur without displacement.

It will be observed, further, that by the use of a perforated cover over the flame to form the combustion space or chamber the apartment in which the stove is used is lighted as well as heated, the rays issuing from the various openings and producing a very pleasing effect, which may be varied in many ways by varying the shape of the perforations.

What I claim is—

1. In combination with the base of an oil-stove, a dome-shaped shell forming the upper part of the combustion-chamber, the said dome having a series of perforations arranged in the upper part of the dome between the middle zone and the top and adapted to permit the passage of the heated air and light, substantially as described.

2. In combination with the dome having a central ventiduct and with the deflector, the slip-joint connecting the deflector and the ventiduct, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM H. WILDER.

Witnesses:

FRANK G. MESSENGER,  
CLIFFORD H. STOCKWELL.