

No. 689,747.

Patented Dec. 24, 1901.

A. J. PURSALL & H. D. JACKSON.
WAX BURNING LAMP.

(Application filed July 12, 1901.)

2 Sheets—Sheet 1.

(No Model.)

Fig. 1.

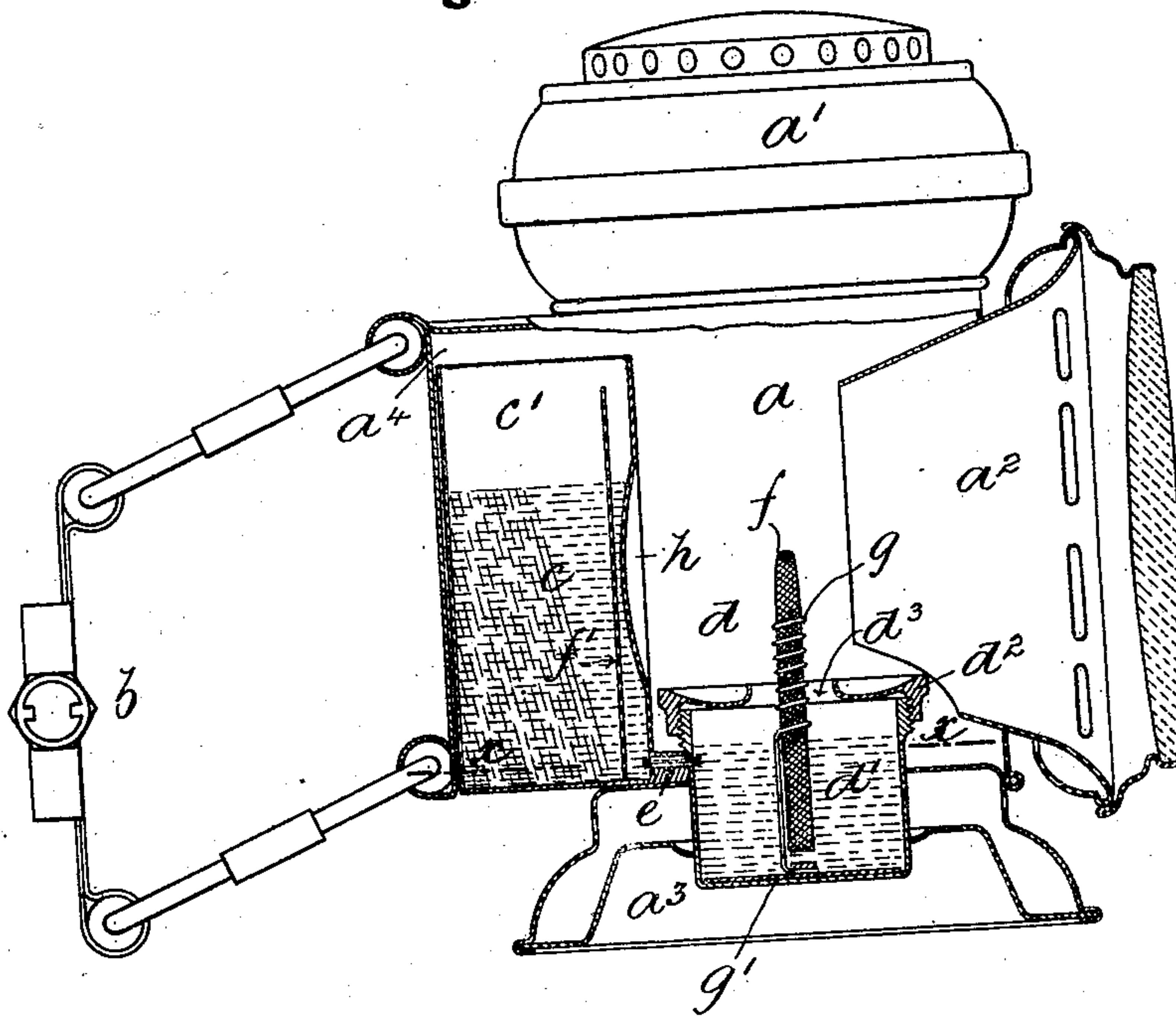
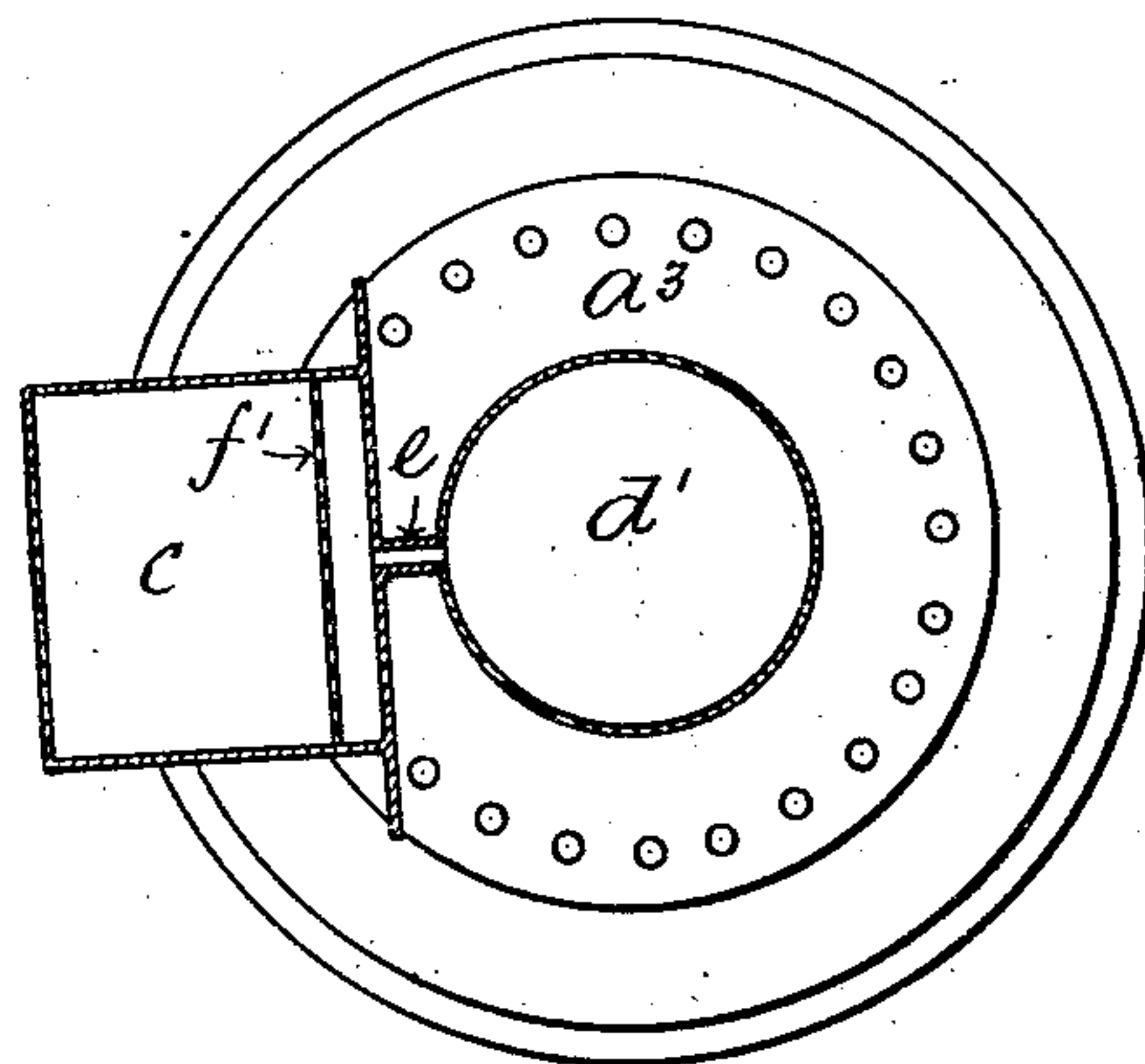
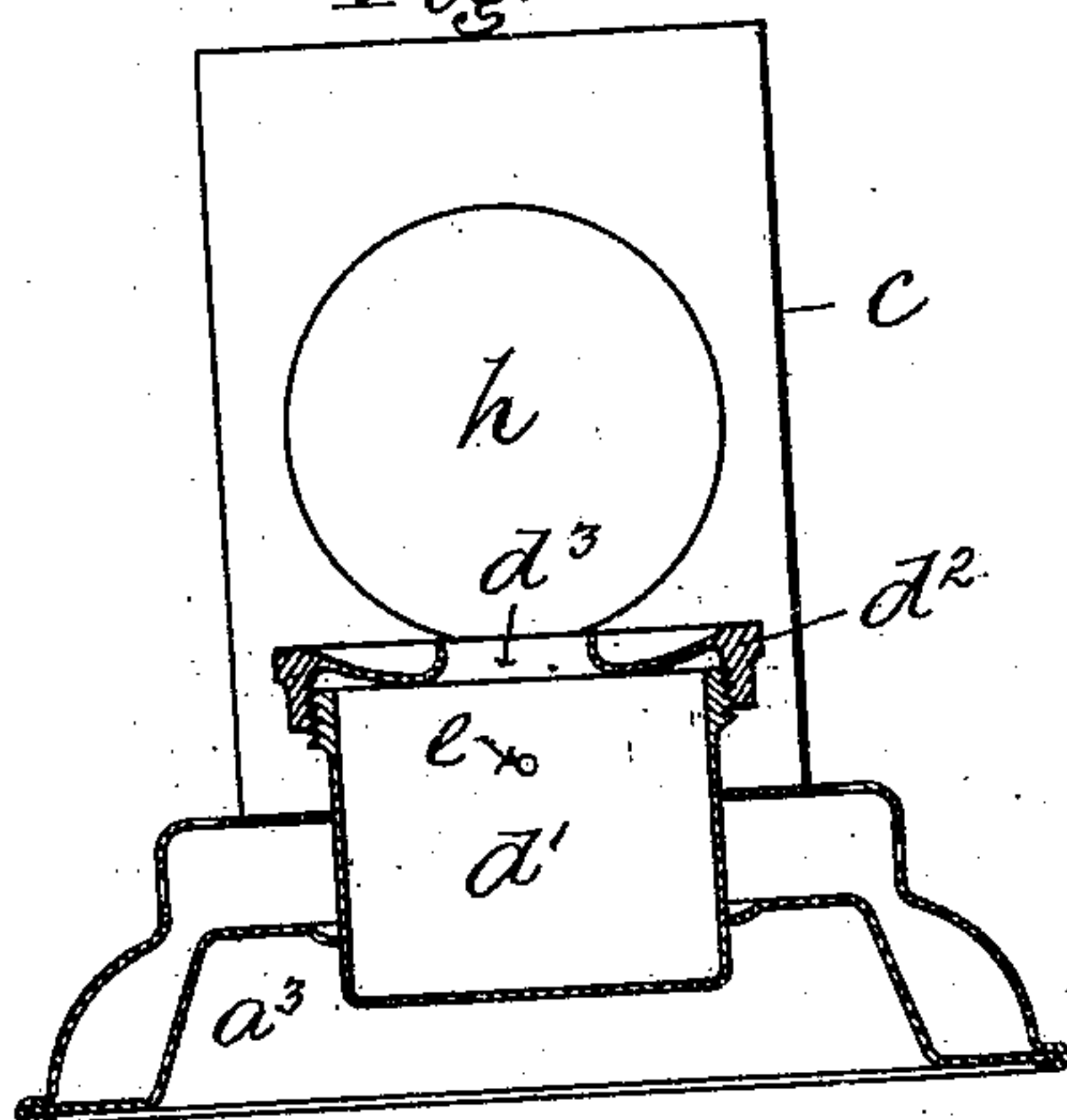


Fig. 2.

Fig. 3.



WITNESSES

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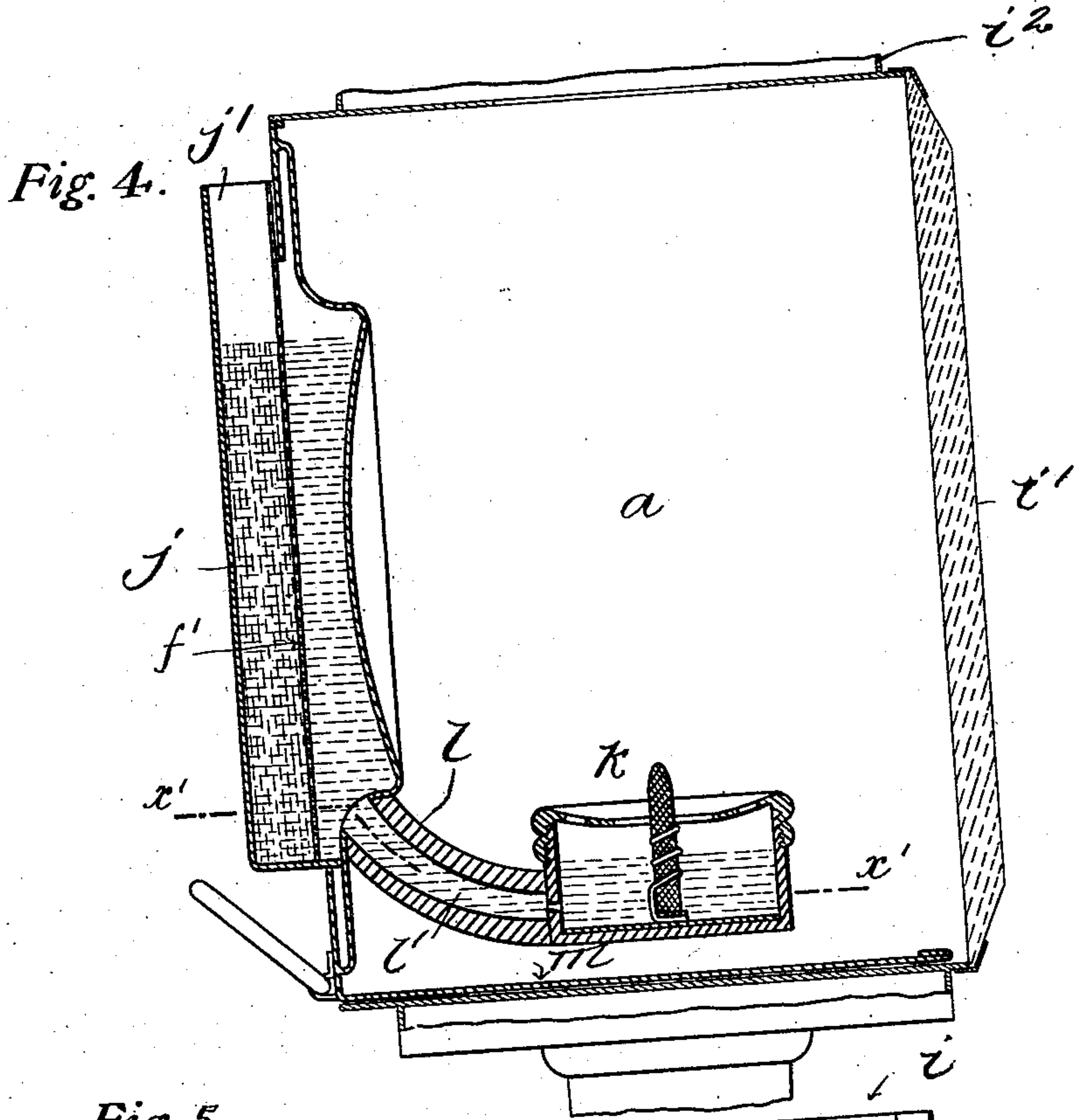
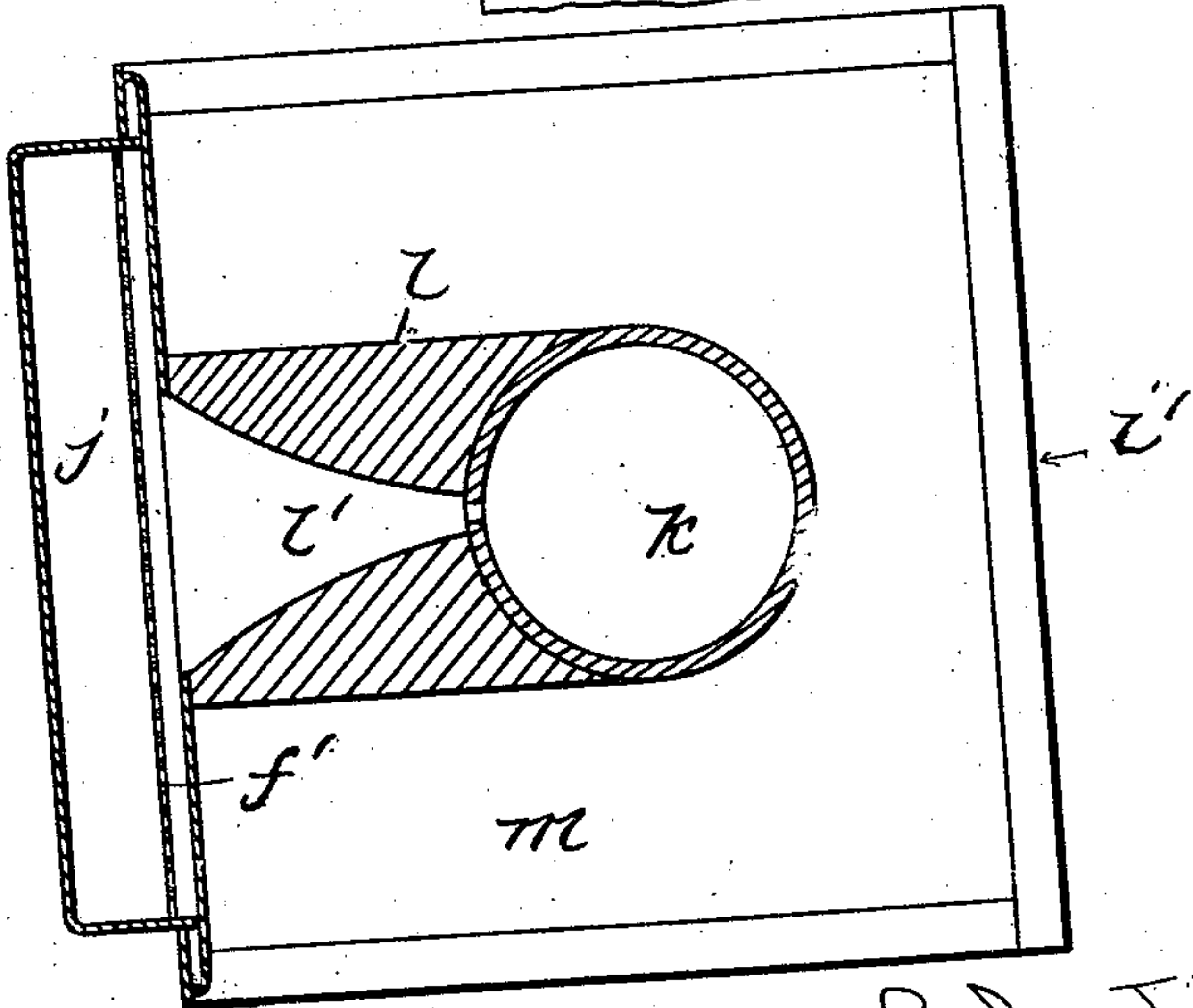


Fig. 5.



WITNESSES

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UNITED STATES PATENT OFFICE.

ARTHUR JAMES PURSALL AND HERBERT DAVID JACKSON, OF BIRMINGHAM, ENGLAND.

WAX-BURNING LAMP.

SPECIFICATION forming part of Letters Patent No. 689,747, dated December 24, 1901.

Application filed July 12, 1901. Serial No. 68,052. (No model.)

To all whom it may concern:

Be it known that we, ARTHUR JAMES PURSALL, wax-candle manufacturer, residing at 272 Victoria road, Aston, and HERBERT DAVID JACKSON, chartered accountant, residing at 48 Cherry street, Birmingham, England, subjects of the King of Great Britain, have invented certain new and useful Improvements in Wax-Burning Lamps, of which the following is a specification.

This invention has relation to cycle, carriage, and other lamps in which wax is used as the illuminant; and it consists, in the first part, in a new or improved construction of wax-burning lamp, and, in the second part, in a wax burner and supply attachment adapted for use in connection with any form of lamp.

Figure 1 of the accompanying drawings represents a full vertical section of a cycle-lamp designed for burning wax and constructed and arranged in accordance with one form of our invention. Fig. 2 is a horizontal section of Fig. 1 upon the dotted line x . Fig. 3 is a view showing the wax reservoir and burner parts of the lamp separated, the former being shown in front elevation and the latter in transverse vertical section. Fig. 4 is a vertical section of the wax reservoir and burner parts adapted and applied to a carriage-lamp and so constructed as to be bodily detachable or removable from the interior thereof, and Fig. 5 is a horizontal section of Fig. 4 upon the dotted line x' .

The same letters of reference indicate corresponding parts in the said figures.

The body a of the said lamp may be of any suitable construction, and in the form represented it is of a cylindrical form and is provided with a cap or cowl a' , a suitably-glazed bell or front a'' , and a detachable or removable bottom or base a^3 , carrying the burner, while provision is made for supplying the interior with air through suitable piercings or perforations.

The lamp as a whole may be supported by a spring-back b , of any approved construction; but we do not limit ourselves to any of these details, as the body of the lamp may be of any type.

Disposed at and attached to the back of the base a^3 is a wax-reservoir c , arranged to slide

into and out of a recess or chamber a^4 , provided for its reception in the back of the body part and secured in place in any suitable manner. The said reservoir is open at the top end c' , and may be provided with a hinged lid or removable part to enable it to be refilled or charged with wax when its contents are exhausted, and is preferably made in the form of a flat box of considerable area at the front; but the distance or depth between the front and back is only small. Forward of the bottom of this wax-reservoir we arrange the burner d , consisting of a small chamber d' , also containing wax and provided with a screwed-on cap or cover d^2 for retaining the wax in the burner-chamber, which is arranged close to the front of the reservoir c and is in communication therewith through a small-bore pipe or passage e . Within the burner and projecting through the central hole d^3 in the cover thereof is an indestructible wick f , made of asbestos or the like and supported by an encircling spiral spring g or equivalent skeleton carrier, secured to a small base-plate g' , resting on the bottom of the chamber, with both the lower part of the wick and its carrier-spring being embedded in the wax. By this construction when the wick is lighted the wax in the burner-chamber is first consumed, and the heat thus generated melts the wax in the adjacent reservoir, which passes through the pipe connection to the burner and keeps up the supply to the wick until the whole of the wax within the influence of the heat of the flame has been consumed, when the reservoir with burner may be readily removed from the lamp and recharged with a refill cake of wax, which said cakes may be specially prepared in a form and size suitable for the purpose. The front of the reservoir may be formed as a reflector h , while the burner part may be adapted to contain two, three, or other number of suitably-supported wicks.

Our invention may be applied to carriage and other lamps in a similar manner, with the wax-reservoir being so disposed relative to the burner (which may be provided with any number of wicks) that the whole of the contents are subjected to the influence of the heat radiated from the flame or flames of the burner, thus keeping up the supply of mol-

ten wax in the burner-chamber. Such an application of our invention is illustrated in Figs. 4 and 5 of the drawings.

a is the body of the lamp, which may be of any suitable form or design, with the usual front and side glazings, as *i i'*, and a cowl *i²* at the top, while the inner side is fitted with a door by which access is obtained to the interior. *j* is the wax-reservoir, (the front of which may be concaved and polished to form a reflector,) having an open top *j'* for recharging purposes, while *k* is the burner, connected with and supported immediately in front of the said wax-reservoir by an arm *l*, with a passage *l'*, through which molten wax flows from the reservoir to the burner-chamber when liquefied by the heat radiated from the flame of the burner-wick. The reservoir and burner may be mounted upon a tray or slide, such as *m*, fitting into the bottom of the lamp and adapted to be slid bodily into and out of position therein. We do not, however, confine ourselves to any particular method of mounting or arranging the wax-reservoir and burner, so long as they are in such proximity relative to one another when in position for use that the heat from the flame will keep the wax in the reservoir in a molten state, and efficient provision is made for the flow of such molten wax to the burner chamber in which the wick or wicks is or are supported.

We propose in every case to provide the interior of the wax-reservoir with a perforated thin metal diaphragm *f'*, which will prevent the choking of the passage from the reservoir to the burner-chamber by solid or unmelted wax, which being of higher specific gravity than the wax in a melted state tends to fall to the bottom of the reservoir and obstruct the outlet. The diaphragm is preferably placed in an upright position parallel to the front of the reservoir and extending from bottom to top thereof, so as to efficiently screen the outlet from the unmelted wax, while the molten material passes freely through the perforations of the diaphragm to the partitioned-off front of the reservoir and is kept in that condition by the heat from the flame, which

affects the said front more than any other part.

Wax-burning lamps constructed in accordance with our invention may be readily adapted for use as table, wall, or hand lamps, as well as to cycle and carriage lamps, as described.

According to the second part of our invention we construct a wax-burning attachment which may be readily applied to existing lamps and consisting of a wax-reservoir and a single or multiple wick chamber connected together by a pipe or passage and disposed in such relationship that the supply of wax to the burner is kept up by the heat generated by the burner-flame. This attachment is substantially the same in construction as the removable burner and reservoir of the lamps represented in the drawings described above and may be provided with hooks, clips, or other means for keeping it in place within or upon the lamp to which it is applied.

Having fully described our invention, what we desire to claim and secure by Letters Patent is—

A wax-lamp comprising a body, a base removable therefrom, a reservoir, a perforated vertically-disposed diaphragm in said reservoir forming two compartments, one of which is designed for the reception of a wax cake and the other of which has a passage leading therefrom, and a burner located below, and in proximity to said reservoir, and comprising a burner-receptacle into which said passage leads and a wick extending down to a point adjacent to the lower end of said receptacle, the said reservoir and burner being carried by said base and adapted to be removed from said body therewith.

In testimony whereof we have hereunto set our hands in presence of two subscribing witnesses.

ARTHUR JAMES PURSALL.
HERBERT DAVID JACKSON.

Witnesses:

ARTHUR T. SADLER,
GAVIN RALSTON.