

No. 672,876.

Patented Apr. 23, 1901.

A. D. CAMPBELL.  
HEATING DEVICE.

(Application filed Aug. 20, 1900.)

(No Model.)

2 Sheets—Sheet 1.

Fig. 1.

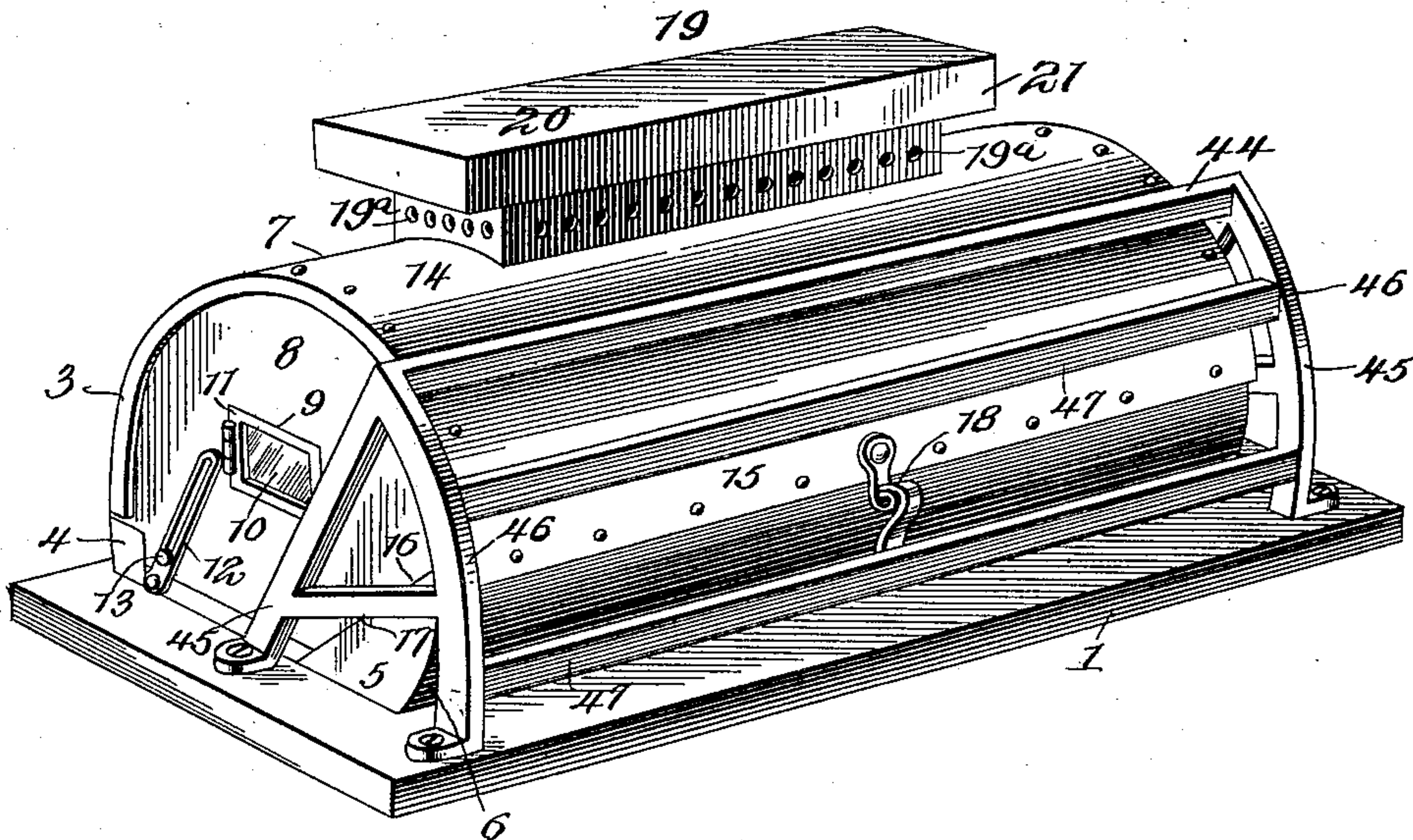
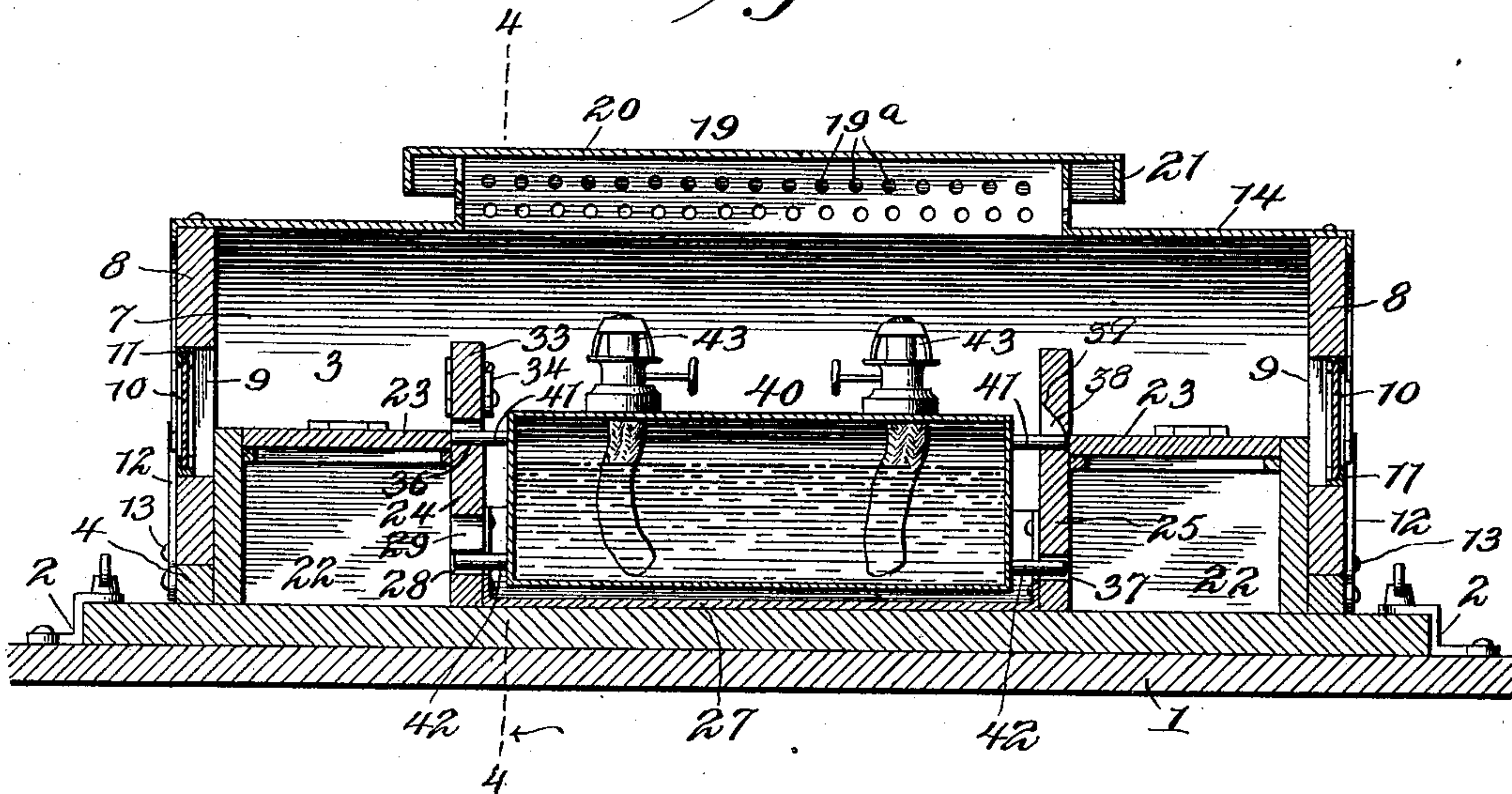


Fig. 3.



Witnesses  
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2 Sheets—Sheet 2.

Fig. 2.

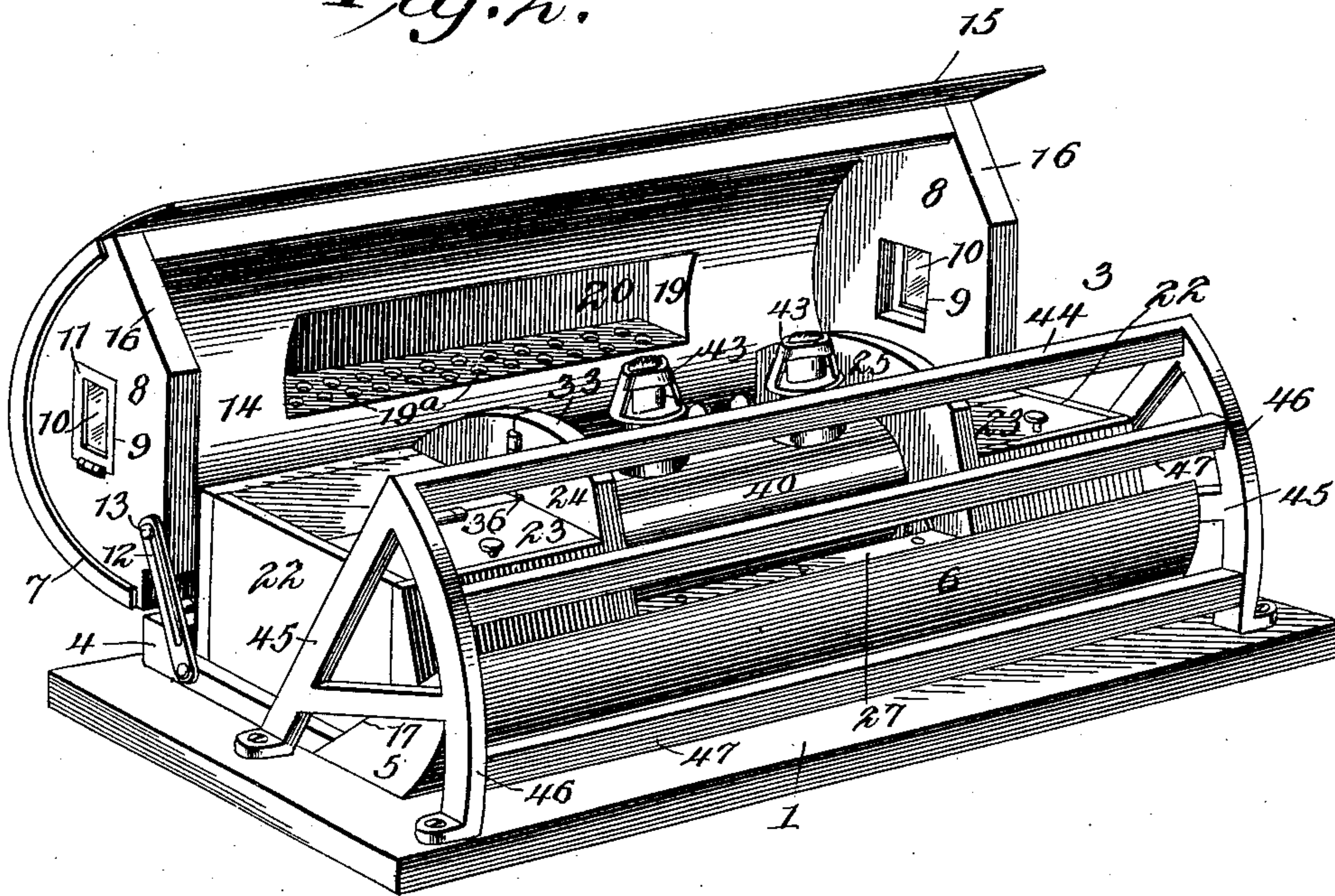
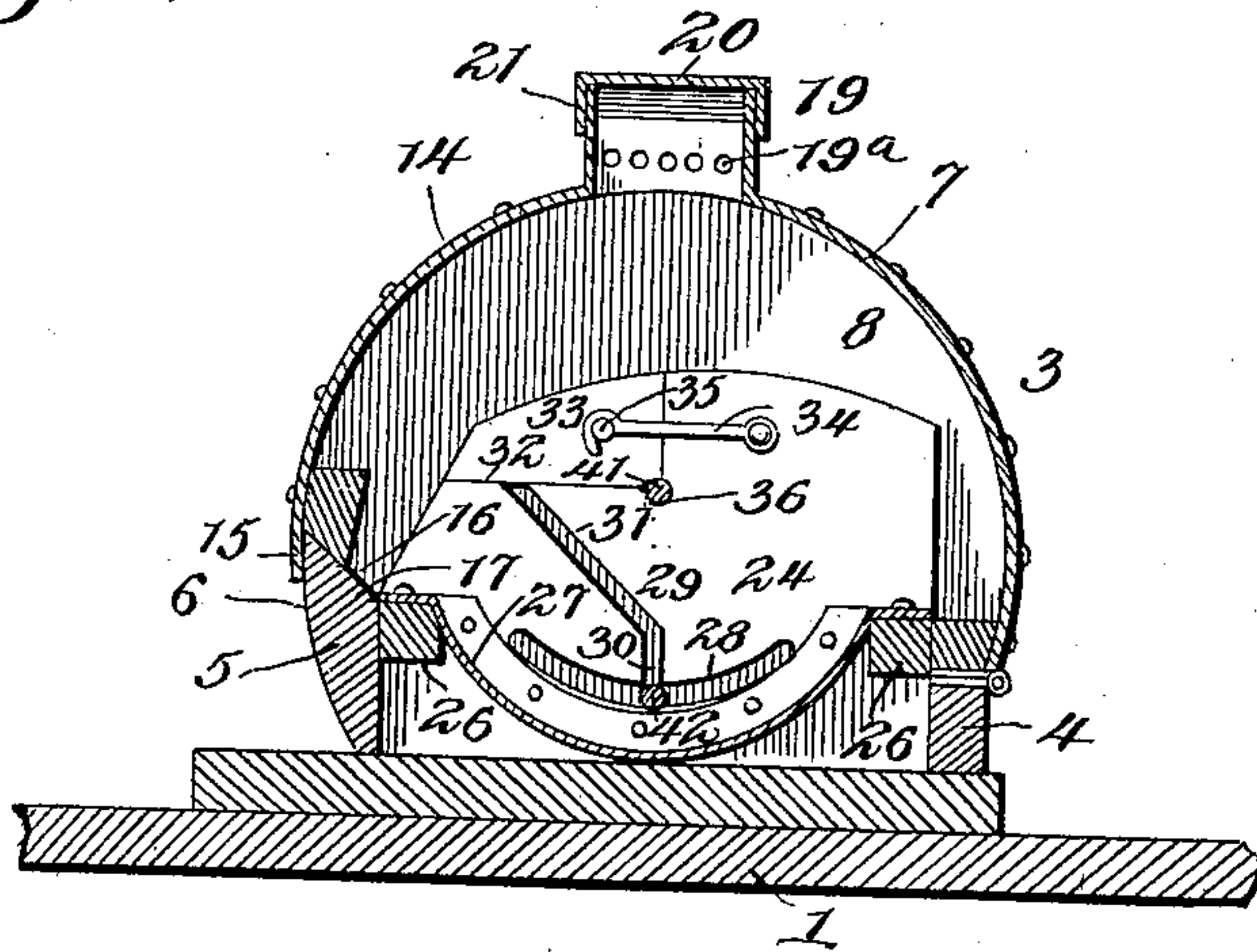


Fig. 4.



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# UNITED STATES PATENT OFFICE.

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## HEATING DEVICE.

SPECIFICATION forming part of Letters Patent No. 672,876, dated April 23, 1901.

Application filed August 20, 1900. Serial No. 27,471. (No model.)

*To all whom it may concern:*

Be it known that I, ARCHIBALD DAVID CAMPBELL, a citizen of the United States, residing at Stabler, in the county of Wilcox and State of Alabama, have invented a new and useful Heating Device, of which the following is a specification.

This invention relates to heating devices for general use, but particularly adapted for use as a foot-warmer for vehicles; and the object of the same is to provide simple, effective, and compact means for inclosing a heating medium which is automatically adjustable to compensate for variations in position of the vehicle, as in ascending or descending hills or inclines, and also to make the said heating medium conveniently accessible for adjustment or removal and to replenish the fuel or combustible material thereof, and, furthermore, to apply convenient exterior devices for serving as foot-resting means.

The invention consists in the construction and arrangement of the several parts, which will be more fully hereinafter described and claimed.

In the drawings, Figure 1 is a perspective view of the improved heating device shown in closed condition. Fig. 2 is a similar view of the improved device shown open. Fig. 3 is a longitudinal vertical section of the device in closed condition. Fig. 4 is a transverse vertical section of the device on the line 4 4, Fig. 3.

Similar numerals of reference are employed to indicate corresponding parts in the several views.

The numeral 1 designates a base, which in the preferred use of the device is secured to the bed of a vehicle close to the dashboard by end-securing clips or clamps 2, which may be of any desired or selected form adapted for the purpose. On the base an inclosure 3 is mounted and comprises a lower fixed section 4, including a front rail 5, with an outer convex surface 6 and a movable section 7 hinged to the rear of the said fixed section and provided with opposite heads 8, having sight-openings 9 therein covered by glass panels 10, carried in hinged frames 11, so that in the event of breakage of either of said panels they may be readily replaced by new

ones by opening the frames and applying them to the inside of the latter. The opening movement of the section 7 is limited by slotted links 12, one at each end, pivoted at their lower ends to the rear portions of the ends of the section 4 and having the slots thereof in engagement with the headed studs 13 on the heads 8. The upper edges of the heads 8 are formed in the arcs of circles, and connected thereto is a semicylindrical sheet-metal cover 14, having a front extension 15 to overlap the convex surface 6 of the front rail 5 of the lower section to form a tight joint and exclude drafts of air, which might interfere with the regular combustion operation of the heating medium within the device. The front portions of heads 8 are also cut off at an upward bevel, as at 16, to coincide with the upwardly-inclined ends of the front rail 5 to avoid the formation of a straight jointure of the front meeting edges of the two sections, and thereby obstruct the entrance of currents of air therethrough. When the two sections are in closed condition, the movable section is held locked against accidental opening by a suitable catch 18, and to facilitate combustion the center of the cover is provided with a rectangular upstanding ventilator 19, with openings 19<sup>a</sup> in the sides and ends thereof, and closed at the upper portion by a flat top 20, extended beyond the sides and ends of the said ventilator and having a surrounding depending flange 21 for obvious reasons or to cause the heat having egress through the ventilator from rising directly in a vertical manner, and thereby render the device more effective in its heating action.

At each end of the lower fixed section 4 a receptacle or small compartment 22 is provided and has a hinged lid or cover 23. These compartments are intended to receive articles pertaining to the heating medium, such as wicks and matches or any other devices that may be needed or found desirable to have within convenient reaching distance of the said medium, and the inner opposing walls of the said compartments are formed by vertically-extended supports 24 and 25, braced and connected by opposite longitudinal rails 26, to which and the said supports a semicir-



cular shield 27 is secured and depends toward the base 1. The support 24, as clearly shown by Figs. 2 and 4, is formed with a lower transversely-extending slot 28, with which communication is had by means of an outlet-slot 29, comprising a lower vertical leg 30, continuing into an upwardly and forwardly inclined longer leg 31, opening out through a horizontal seat edge 32, provided by the formation of a hinge-section 33, which is normally held closed by a hook 34, movably attached to the upper inner portion of the support 24 to engage a headed stud 35 on the said section. At the inner lower angle of the section and the adjacent angle of the recess provided in the support 24 for the reception of the said section a bearing-seat 36 is provided and forms the center for describing the lower curved slot 28, and it will be seen that when the section is closed the outlet end of the slot 29 and the said seat 36 are completely shut off from exterior communication and the parts which engage the same cannot be removed until the said section is opened. In the lower portion of the support 25 a slot 37 is formed similar to and in alinement with the slot 28 of the support 24, and above the said slot 37 the support is also provided with a seat 38 in alinement with the seat 36 and having an upper inclined wall 39 for convenience in disengaging the part that normally rests therein.

The supports 24 and 25, provided with seats and slots, as set forth, have an elongated cylindrical oil or fuel containing reservoir 40 mounted between them, the said reservoir being provided with trunnion-pins 41 and 42 at each end and upper wick-burners 43. The said trunnion-pins movably engage the seats and slots of the said supports, the upper pins 41 serving as pivots to permit the reservoir to swing to compensate for different angular positions of the entire device and maintain the burners 43 in upright position and the lower pins 42 limiting such movement of the reservoir within the length of the slots 28 and 37. The burners 43 are detachable, and though two only are shown it will be understood that the number may be increased proportionately to the capacity of the reservoir and the general dimensions of the improved device, and in decreasing the proportions a single burner will at times be used solely. It is proposed to use lamp-oil, lard-oil, or other suitable like material for fuel, and for convenience in filling the reservoir, trimming the wicks, and cleaning the burners the said reservoir is made removable. To remove the reservoir, the hinge-section 33 is first opened outwardly from the support 24 to thus clear the seat 36 and the outlet of the slot 29, and by drawing the lower pin 42 on the left end upwardly through the said slot 29 and correspondingly canting or tilting the reservoir the pins 41 and 42 at the right end can be withdrawn from their seat and slot and the reser-

voir entirely cleared. To reset the reservoir, a reverse operation is pursued, the pins 41 and 42 at the right end being first placed in their respective slot 37 and seat 38 and the left pins then disposed in their slot and seat and the section 33 closed and locked to render it impossible for the reservoir to become displaced or canted while in the warmer in an irregular manner.

By the movement of the reservoir the burners will always be preserved in proper position relatively to the ventilator with obvious advantages, and as an essential auxiliary to the successful operation and equipment of the improved device it is formed with a front fender 44, comprising end brackets 45, secured to the base and having front curved members 46, connected by a series of bars 47, which stand in advance of the inclosure sections and on which the feet may be rested in warming proximity to the heating medium. This fender will be preferably formed of steel, though other materials may be used, and in the general construction of the device such composition of metal and other materials or metal alone of different thicknesses will be used, as found best adapted to serve the purpose and to render the entire device durable, light, and not liable to fire at any portion.

The improved device, as before indicated, is specially adapted for use in all kinds of vehicles as a foot or other warming medium; but it is not limited to this particular employment, as it is also intended to use it in heating rooms—compartments such as pantries and cupboards, as well as closets—and also in places where articles of food may be stored and liable to be seriously affected by cold temperatures. The several adaptations may require a modification in the parts, and therefore it is obvious that changes in the form, size, proportions, and minor details may be resorted to without departing from the principle of the invention.

Having thus described the invention, what is claimed as new is—

1. In a device of the character set forth, the combination of an inclosure comprising a movable and a fixed section, a heating medium having burners pivotally and removably mounted in the said fixed section and automatically operating to maintain the burners uppermost, and supporting means having a section thereof removable from a remaining portion for permitting a removal of said medium from the inclosure, the movable section of the inclosure being closable over the said medium.

2. In a device of the character set forth, the combination of an inclosure comprising a stationary section and a movable section hinged to the latter a heating medium mounted and automatically movable in the stationary section to hold its ignited devices uppermost and having upper trunnion and lower movement-



limiting devices at opposite ends and supporting devices having curved slots for the movement-limiting devices and one of the same provided with movable means for clearing and securing the one trunnion.

5 3. In a device of the character set forth, the combination of a base, an inclosure on the base comprising a lower fixed section and a movable section hinged thereto, vertical supports in the fixed section and provided with  
10 seats and slots, and a heating device having end trunnions to removably engage the said seats and slots.

15 4. In a device of the character set forth, the combination of a base, an inclosure on the base comprising a lower fixed section and an upper movable section hinged thereto and provided with a top ventilator, uprights or supports in the fixed section each having an  
20 upper seat and a lower transversely-extending slot curved in the arc of a circle, and a reservoir having burners and a pair of trunnion-pins at each end, the said pins being

removably mounted in the seats and slots of the uprights or supports.

25 5. In a device of the character set forth, the combination of a base, an inclosure on the base comprising a lower fixed section and an upper movable section hinged thereto and provided with a top ventilator, vertical supports in the fixed section each having an upper seat and a lower transversely-extending slot, one of the latter slots having an outlet-slot, a hinged section on one support for giving clearance to the seat thereof and the  
30 transverse slot having the outlet-slot, and a reservoir having burners and a pair of trunnions at each end to removably engage the said seats and slots in the supports.

In testimony that I claim the foregoing as  
my own I have hereto affixed my signature in  
the presence of two witnesses.

ARCHIBALD DAVID CAMPBELL.

Witnesses:

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