March 14, 1933. J. H. WAGENHORST 1,901,384

CABINET FOR ARC LAMPS

Filed March 8, 1930 2 Sheets-Sheet 1

Fig. 1.

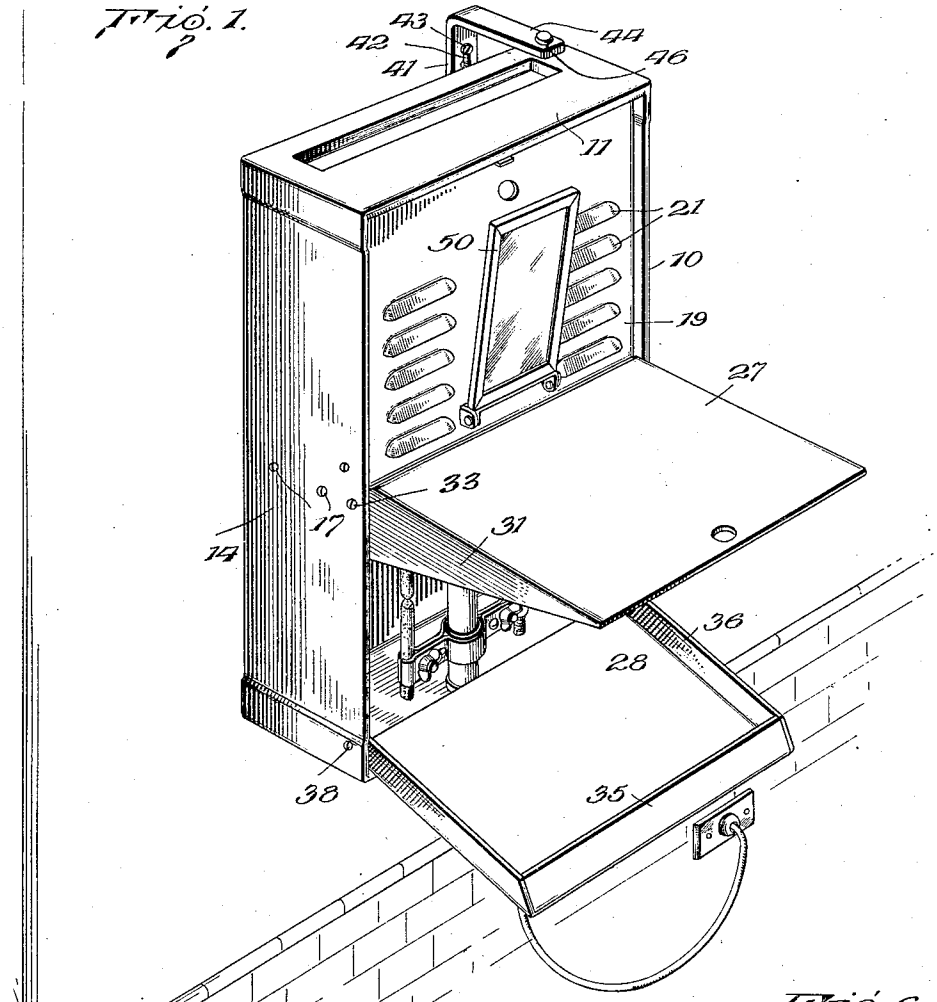
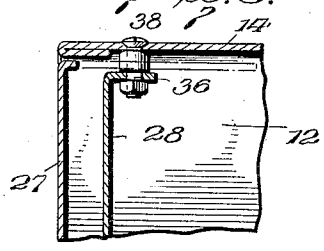


Fig. 6.



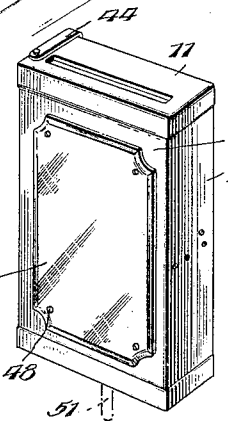


Fig. 2.

Inventor

James H. Wagenhorst,

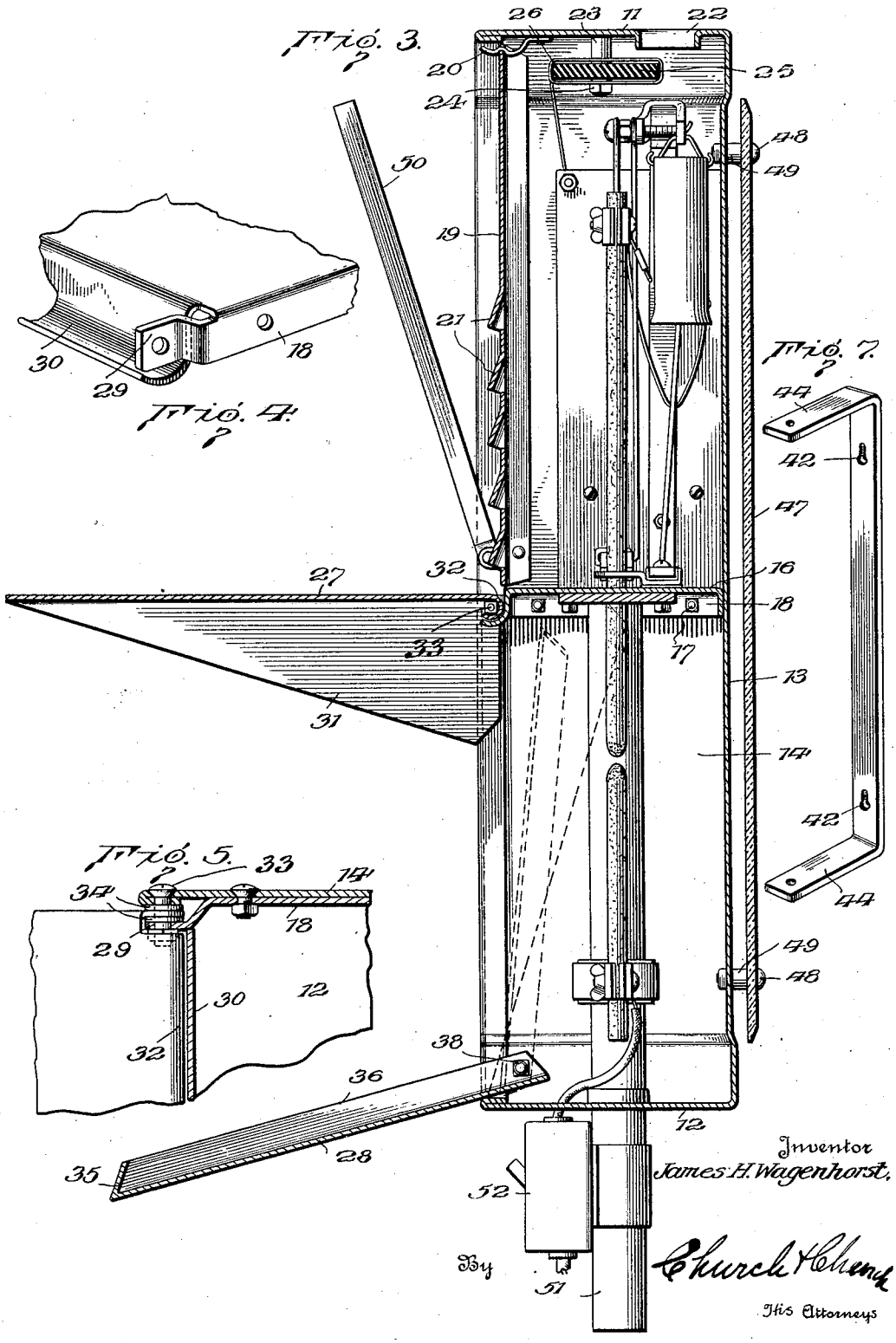
By Church & Church

Its Attorneys

March 14, 1933. J. H. WAGENHORST 1,901,384

CABINET FOR ARC LAMPS

Filed March 8, 1930 2 Sheets-Sheet 2



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UNITED STATES PATENT OFFICE

JAMES H. WAGENHORST, OF DETROIT, MICHIGAN

CABINET FOR ARC LAMPS

Application filed March 8, 1930. Serial No. 434,354.

My invention relates to improvements in cabinets for arc lamps and, particularly, to cabinets for that type of arc lamp designed for therapeutic use in hospitals, residences, and the like.

Primarily, the object of my invention is to provide a wall cabinet for such an arc lamp, so that when the apparatus is not in use, it may be temporarily stored, so to speak, in a cabinet on or in a wall of the room in which the apparatus is generally used.

It is, of course, desirable that the apparatus and its cabinet occupy as little room as possible, especially where the apparatus is to be installed in bathrooms of private residences. For this reason, it is a further object of my invention to provide a simple and compact, but rigid, structure for swingably and extensibly supporting the lamp and its cabinet from the wall, against which it rests when not in use.

It is a still further object of my invention to provide a casing for the lamp element which may be placed against the wall of a room and present the appearance of a conventional cabinet secured thereon.

It is another object of my invention to provide an arc lamp casing with a heat baffle plate serving an ornamental purpose in addition to its normal function.

With these and other objects in view, my invention consists in certain details of construction and combinations and arrangements of parts, as will be hereinafter more fully described and the novel features fully pointed out in the appended claims.

In the accompanying drawings:

Figure 1 is a perspective view of an arc lamp casing and bracket especially adapted for use in a bathroom, the lamp and its casing being extended into operating position;

Fig. 2 is a perspective view of the casing swung into idle position in which it presents the appearance of a conventional mirror equipped bathroom cabinet;

Fig. 3 is a central, vertical, sectional view through the cabinet, showing the relative arrangement of the parts when the lamp is in operation, the collapsed position of the lower reflector being shown in dotted lines;

Fig. 4 is a perspective view of one corner of the lamp casing partition showing the door supporting construction;

Fig. 5 is a fragmentary, horizontal, sectional view showing the hinge construction at an upper corner of the reflector door;

Fig. 6 is a fragmentary, horizontal, sectional view through one pintle of the lower reflector and showing the relation of cabinet side wall, reflector door, and lower reflector when swung into closed position; and

Fig. 7 is a perspective view of the U-shaped wall bracket.

Similar reference numerals indicate like parts throughout the several views.

As is best shown in Figs. 1 and 3 of the drawings, I provide a casing or cabinet 10 having a top 11, bottom 12, back 13 and sides 14. Secured to the back and sides by bolts 17, is a flanged partition 16 which serves as a support for the lamp operating mechanism, and divides the cabinet into an upper chamber for the electrode-operating mechanism and a lower compartment or chamber in which the arcs are drawn. Particular reference is not made to the specific parts of the lamp mechanism since they constitute the subject matter of my copending application Serial No. 439,725, filed March 28, 1930, and this cabinet is not limited to use therewith.

The open front of the upper compartment is preferably provided with a hinged door 19 held closed by a spring catch 20. Louvres 21 are formed in the door and a ventilating opening 22 is provided in the top of the housing to permit free air circulation in and about the electrode-operating means for the purpose of cooling. Across the top 11 of the housing and mounted thereon by means of washers 23 and bolts 25, I provide a strip 24 of insulating material upon which is wound the required amount of resistance wire 26. The arrangement is such that the entire exposed surface of the resistance is in the direct draft line of the air passing through the ventilating openings 21 and 22 and is thus cooled very effectively.

The open front of the arc chamber is provided with a pair of light directing or reflecting doors 27 and 28. The upper door 27 is hingedly secured to the side walls 14 and the partition wall 16 by the hinge construction shown in Figs. 3, 4 and 5. The top wall 16 of the arc chamber is flanged downwardly, at 18, and flanges 18 are formed with tongue-like extensions 29 at the front corners which are offset and extend forwardly and in spaced relation to the side walls 14 of the cabinet. The front portion of the partition wall 16, intermediate the flanges 18, is extended into a downwardly and outwardly curled flange 30. The reflector door 27, which is in use a hood, is provided with triangular downwardly-extending side wings or flanges 31 for controlling light projection, and has at its inner edge, intermediate the flange, a curled flange 32 of substantially cylindrical form which is adapted to nest in the outwardly curled flange 30 of the partition 16. The ends of the cylindrical member 32 are cut away to receive the tongues 29 therebetween and pintle bolts 33 extend through the cabinet side walls 14, reflector door flanges 31 and said tongues 29 to provide the hinge. Spacing washers 34 may also be provided on the bolts if desired.

The lower reflector 28 is provided with an upwardly and inwardly extending end flange 35 and the upwardly extending flanges 36 through the inner ends of which hinge pins 38 extend and are secured to the reflector walls 14. The pins are located well within the arc chamber so that the lower reflector 28 is supported by the front edge of the cabinet bottom 12 when in open position, and also that it may be swung completely within the confines of the arc chamber for the purpose of storage. By reason of its upwardly extending flanges 35 and 36, the lower reflector serves the additional function of a catch tray for any sparks or ash projected from the electrodes.

For the purpose of supporting my cabinet and lamp, I provide, as is best shown in Figs. 1, 2 and 7, a U-shaped wall bracket having an intermediate portion 41 which may be secured to a wall, or similar surface, by numerous methods, an expedient one being the provision of key hole slots 42 therein adapted to engage under heads of studs 43 on the wall. At the extremities of the intermediate portion, I provide outwardly extending legs 44 between which the cabinet 10 is swingably supported by pins 46 extending through apertures in the extremities of the legs and corners of the cabinet top 11 and bottom 12. As is shown, the length of the legs is so proportioned to the thickness of the cabinet and the pivot 46 is so located with regard to the legs and cabinet ends, that the cabinet may be swung into reversed position with its front in close contact with the intermediate portion 41 of the bracket, as shown in Fig. 2, and with the wall, if the bracket be assembled thereon. By swinging the cabinet outwardly from the wall on the pivots 46 carried by the bracket, the entire cabinet is extended into advantageous location for light treatment, and depending upon the extent to which the cabinet is swung, the light may be projected at any angle, from a direction parallel to the wall to one perpendicular to the wall. A further advantage is inherent to the device when placed in light projecting positions, in that the lamp and its cabinet are completely spaced from the wall, thus obviating wall disfiguration on account of heat, and removing any chance of fire from this source.

With a similar purpose in mind, I extend across the back wall 13 of my cabinet, a heat baffle 47 secured in spaced relation thereto by bolts 48 and washers 49 thereon. Other walls than the back wall are capable of similar heat insulation if desired. For purposes of ornamentation, the baffle may be decorated by embossment, painting or other means. It is to be noted that thus may be provided cabinet ornamentation otherwise impossible due to the heat of the cabinet walls. By reason of the spaced character of the casing wall and decorated plate, air is free to circulate therebetween, cooling both surfaces. In my preferred embodiment which presents features of especial value when installed in a bathroom, I employ a conventional mirror of silvered glass secured to the back wall of the cabinet. Thus, with the cabinet in fully extended position, as shown in Fig. 1, the mirror 47 will be in spaced relation with both cabinet and room wall which will be fully protected from any disfiguration due to excessive heat. When in idle position, the cabinet is disposed with its front flat against the adjacent portion of the wall, and presents the appearance of a conventional mirror-equipped wall cabinet.

As is shown in Figs. 1 and 3 of the drawings, a supplemental mirror 50 may be attached to the front of the cabinet, in this case to the door 19, and be capable of use while the lamp is in operation. In Fig. 3 is also shown an optional means of support for the cabinet which comprises a stud shaft 51 mountable upon numerous forms of standards. If desired, the lamp switch 52 may be conveniently mounted thereon.

It will be observed that I have provided a cabinet construction for arc lamps which is particularly well adapted for therapeutic use. By reason of my unique mounting, great versatility of position is made possible. The cabinet may be swung from its normal storage position with one hood side in substantial contact with its supporting wall,

into various extended positions for light projection. It will be noted that, whether the light be projected in a direction parallel to or out from the supporting wall, the cabinet and its lamp are extended into spaced relation therewith, thus obviating discoloration or other injury to the wall and greatly reducing fire hazard. Further protection in this regard is afforded by the provision of the spaced heat baffle. This may be ornamented with more or less delicate means inapplicable directly to the casing, and if used with a bracket of the type disclosed or its equivalent, the ornamentation will be exposed for view when the cabinet is in flat contact with the wall.

The advantage of safety in addition to that of long electrical life is provided by mounting the series resistance within the casing adjacent its top, and in spaced relation therewith. The casing is provided with ventilating openings near its top and its bottom, and the resistance element is arranged transversely to the draft line so that ample cooling is provided.

Excellent light control is provided by the reflector doors disclosed. The lower door is flanged upwardly and serves the additional function of a catch tray for sparks or ash coming from the electrodes. Moreover, by reason of the fact that its hinged end is secured to the casing wall within its front edge, no additional support is required to hold it extended, and it may be completely housed within the cabinet when not in use. The upper reflector with its broad flanges may be moved into various positions of light control, and, because of its novel hinge construction, such positions may be maintained in spite of considerable jarring of the cabinet. The hinge construction possesses the further qualities of simplicity, cleanness of line and cheapness of manufacture which are factors to be considered in apparatus of this type. Similarly, the heat baffle could be formed from numerous other materials, which might be substituted for the mirror provided for this purpose, though the mirror is of particular advantage when applied to a cabinet for bathroom use. As is evident, the cabinet may be constructed with light openings on two sides instead of one, and, further, by slight dimensional modifications, the bracket and cabinet could be designed for installation in a wall recess with its outer surface flush with the wall when stored.

I am aware that numerous other changes could be made in the device disclosed, without departing from the spirit of my invention. I, therefore, claim my invention broadly, as indicated by the appended claims.

What I claim is:

1. In an arc lamp, the combination of a casing for the lamp elements having a light opening in one side thereof, a lower reflector having an upwardly extending flange for retaining ash falling from the arcing elements and hinged to the casing adjacent its bottom and swingable to a position wholly within the casing when not in use, and an upper reflector hinged to the casing swingable downwardly to form a closure for said opening.

2. In an arc lamp, the combination of a cabinet for the lamp elements having one side provided with an opening for the passage of light, and a U-shaped wall bracket having legs extending across two opposite ends of said cabinet and hinged thereto eccentrically so that the cabinet may be selectively swung into a position in which its open side is substantially flat against the wall, or into a position in which the housing is completely spaced from the wall and has its open side exposed for use.

3. In an arc lamp, the combination of a cabinet for the lamp elements having one side provided with an opening for the passage of light, and having another side provided with an external shielding plate spaced therefrom to obstruct the transfer of heat from said cabinet side to said plate, and a wall bracket on which said cabinet is hinged so that the cabinet may be swung into a position in which its open side is substantially flat against the wall, or into a position in which the cabinet is completely spaced and shielded from the wall.

4. In an arc lamp, the combination of a cabinet for the lamp elements having one side provided with an opening for the passage of light and another side provided with an external mirror and heat baffle substantially coextensive therewith but spaced therefrom to obstruct the transfer of heat from said cabinet side to said mirror, and a wall bracket to which said cabinet is hinged so that the cabinet may be selectively swung into working position with its open side exposed and its other sides completely spaced from the wall, or idle position with its open side substantially flat against the wall and its mirror exposed for use.

5. In an arc lamp, the combination of a casing having top, bottom, back, and side walls and an open front, of a horizontal partition dividing said casing into upper and lower compartments, an electrode-operating mechanism housed within said upper compartment, electrodes mounted within said casing with their arcing portions located within the lower compartment, a lower reflector hinged to the side walls of said casing and adapted to be housed within said casing when not in use, and an upper reflector hinged to the side walls of said casing adjacent said partition and forming a clo-

sure for the open front of the lower chamber.

6. In an arc lamp, the combination of a casing having top, bottom, back, and side walls, a partition dividing said casing into upper and lower compartments, an electrode-operating mechanism mounted in said upper compartment, electrodes mounted in the casing with their arcing portions in the lower compartment, a hinged reflector forming a closure for said lower compartment, a hinged door forming a closure for the upper compartment and provided with ventilating louvres, the top wall of the casing being provided with a vent opening, and a resistance element connected in the lamp operating circuit and located in the direct line between said top wall vent and said louvres.

7. A wall supported arc lamp for therapeutic use comprising a light directing cabinet having one of its sides of a configuration conforming to the wall surface upon which it is to be supported, an arc light unit mounted within said cabinet for projection of light therefrom, and a hinged bracket for swingably supporting said cabinet upon the wall whereby said cabinet may be disposed in an operative position spaced from the wall, or may be swung to idle position in which said side is substantially flat against said wall surface.

8. A wall supported arc lamp for therapeutic use comprising a cabinet of rectangular form, an arc light unit mounted within said cabinet for projection of light therefrom, and a bracket for supporting the cabinet from a wall, said bracket being hinged to said cabinet at one corner thereof whereby said cabinet may be disposed in an operative position spaced from the wall, or may be swung to idle position with one side thereof substantially flat against the wall surface.

9. A wall supported arc lamp for therapeutic use comprising a cabinet having one side provided with an opening through which light is projected, an arc light unit mounted within said cabinet, and a hinged bracket for swingably supporting said cabinet upon the wall whereby said cabinet may be disposed with its open side substantially flat against said wall and concealed thereby, or may be swung into a position in which the cabinet is completely spaced from said wall and has its open side exposed for light projection.

10. In an arc lamp, the combination of a cabinet, an arc light unit mounted within said cabinet, means for supporting said cabinet, and a plate extending across substantially one entire side of the cabinet, said plate being slightly spaced from said side to obstruct the transfer of heat from said cabinet side to said plate.

11. In an arc lamp, the combination of a cabinet, an arc light unit mounted within said cabinet, means for supporting said cabinet, and an external mirror extending across a large portion of one side of the cabinet, said mirror being spaced from said cabinet side thereby serving the additional function of a heat baffle.

12. An arc lamp reflector casing within which electrodes of an arc lamp are disposed, comprising side walls, top and bottom walls and a rear wall, said top wall having a downwardly and forwardly curled flange constituting its front edge, and a reflector door hinged to said casing adjacent its top wall and having a substantially cylindrical top edge disposed forward of said flange and nested in the curl thereof.

13. An arc lamp reflector casing within which electrodes of an arc lamp are disposed, comprising side walls, a rear wall, a bottom wall and a top wall, said top wall having a downwardly and forwardly curled flange constituting its front edge and depending lateral flanges at its front corners which lateral flanges are slightly spaced from the casing side walls, a reflector door having a substantially cylindrical top edge disposed forward of said curled flange and nested in the curl thereof, and having side flanges extending between said casing side walls and the lateral flanges of said top wall and pivotally attached thereto by pintles coaxially disposed with respect to the cylindrical top edge of the door.

14. A wall supported arc lamp for therapeutic use comprising a cabinet having horizontal top and bottom walls, an arc lamp unit mounted within said cabinet for projection of light therefrom, and means for supporting said cabinet upon the wall of a room so that it may be disposed in operative position spaced from the wall or may be swung to idle position with one side thereof substantially flat against the wall surface, said supporting means comprising a U-shaped bracket having a horizontal arm underlying said cabinet adjacent a lower corner thereof, a second horizontal arm overlying said cabinet adjacent the corresponding upper corner thereof, pintle means pivotally mounting said cabinet in said arms, and means for securing the intermediate portion of said bracket to the room wall.

JAMES H. WAGENHORST.