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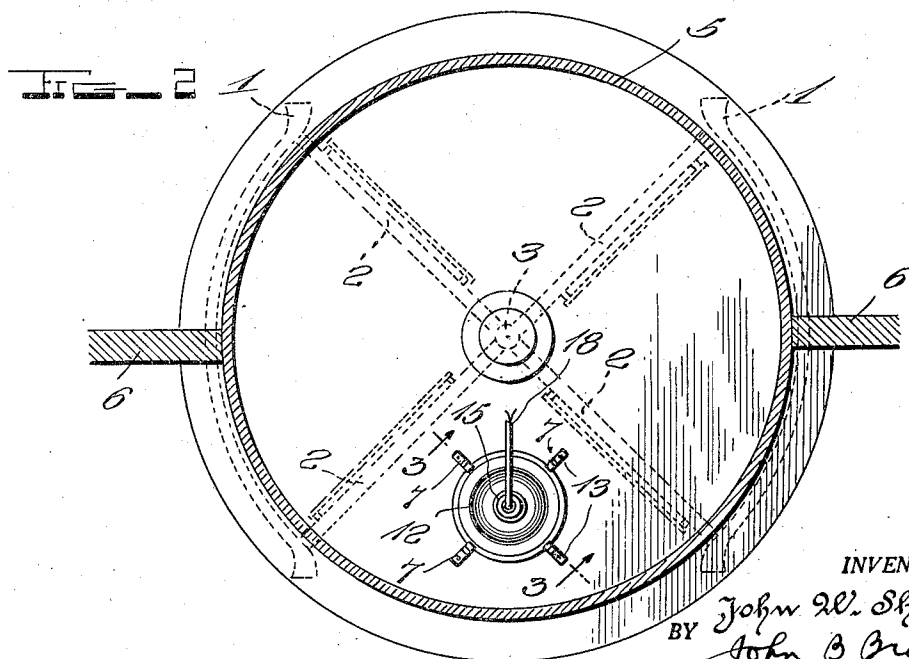
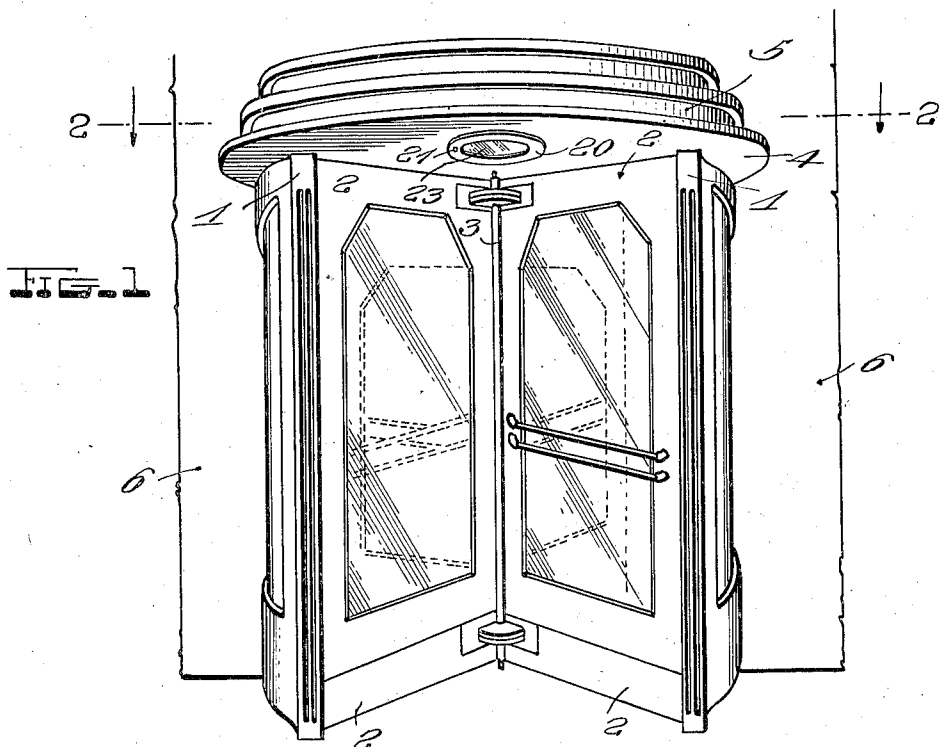
J. W. SHIELDS

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ILLUMINATION MEANS FOR REVOLVING DOORS

Filed April 28, 1938

3 Sheets-Sheet 1



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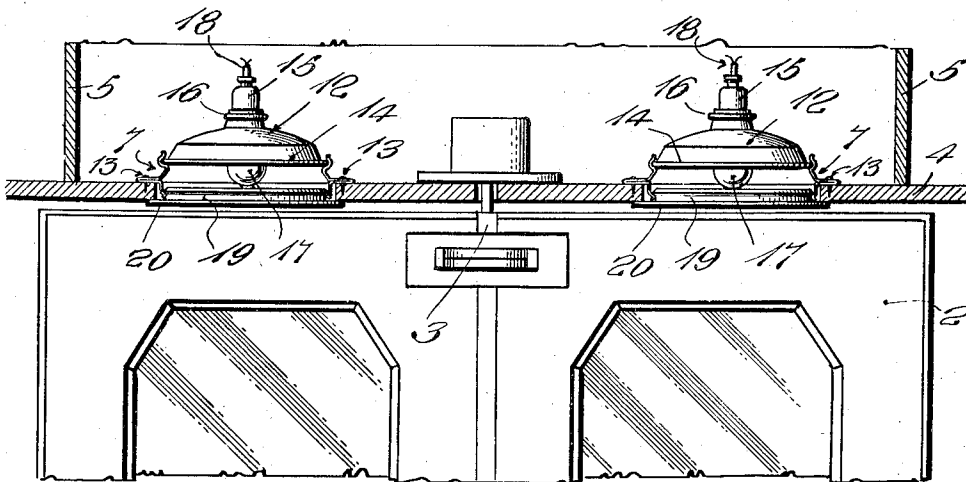
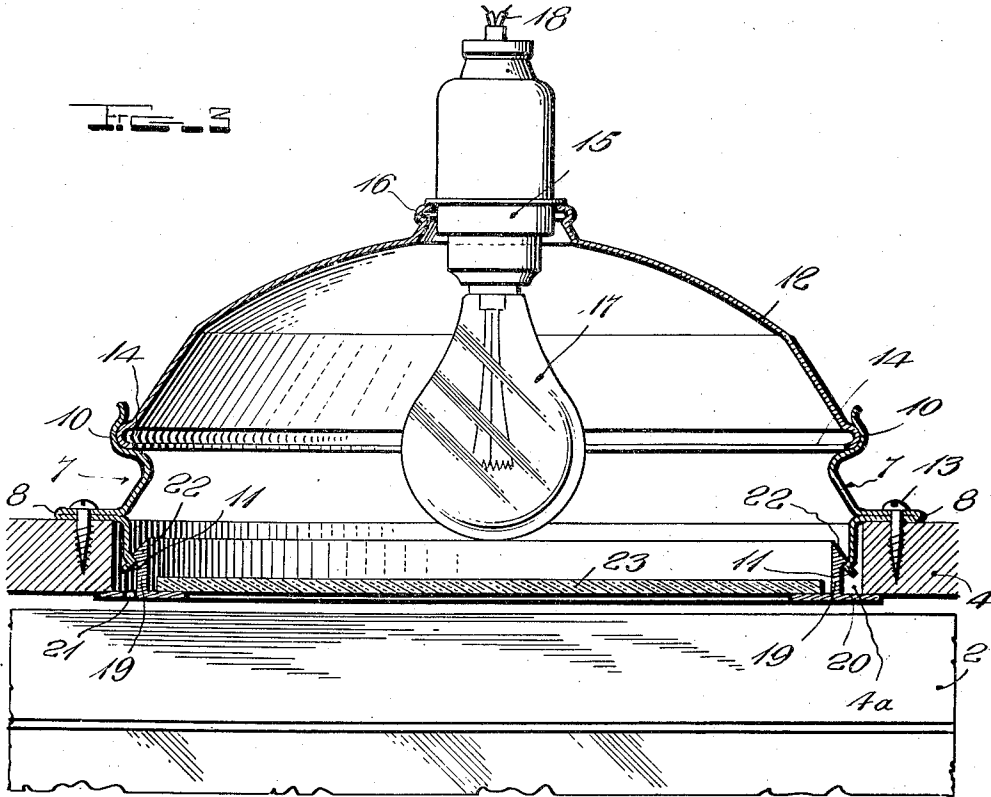
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ILLUMINATION MEANS FOR REVOLVING DOORS

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3 Sheets-Sheet 2



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Nov. 8, 1938.

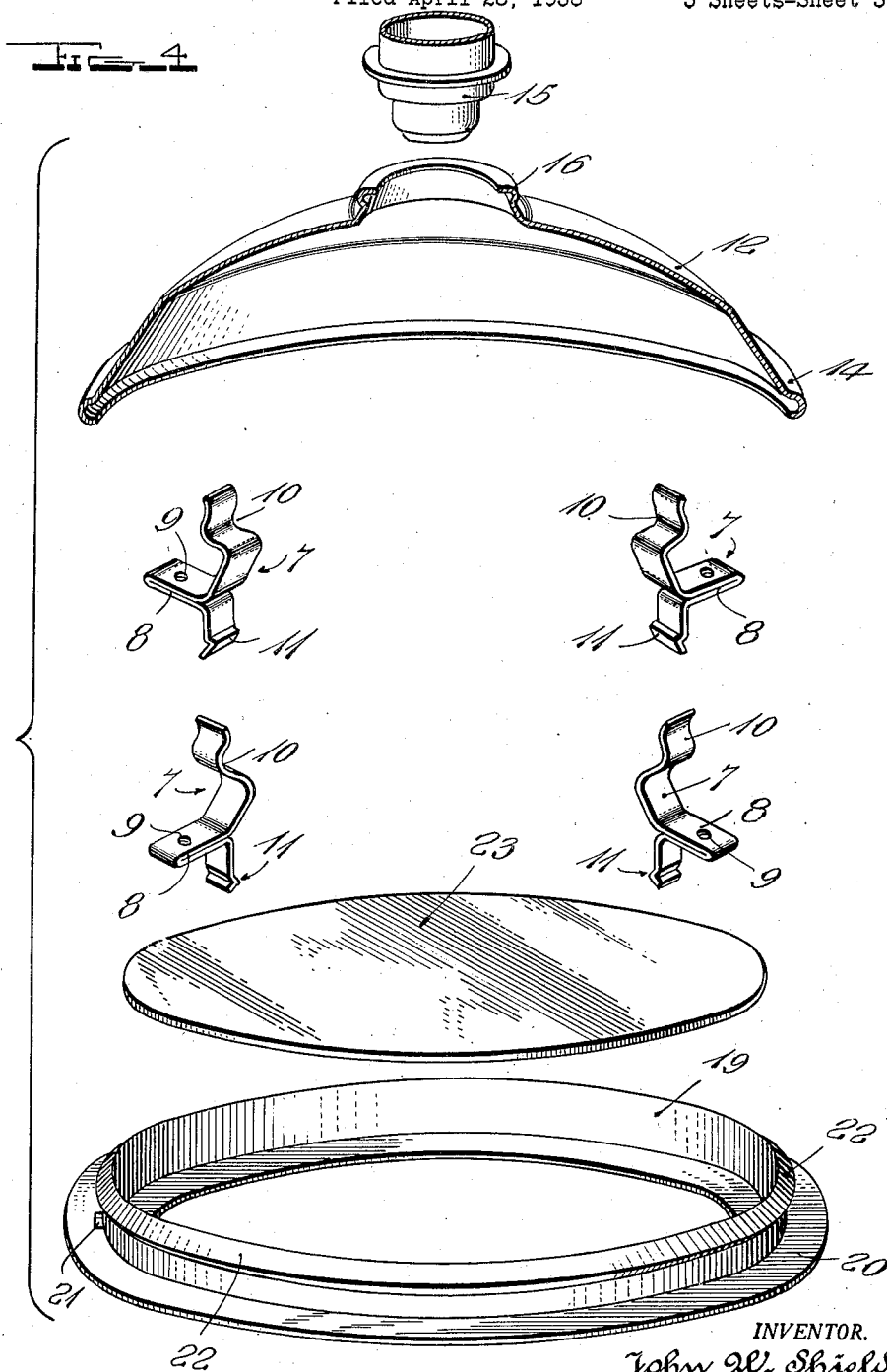
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ILLUMINATION MEANS FOR REVOLVING DOORS

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3 Sheets-Sheet 3



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UNITED STATES PATENT OFFICE

2,136,323

ILLUMINATION MEANS FOR REVOLVING DOORS

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Application April 28, 1938, Serial No. 204,846

12 Claims. (Cl. 240—2)

My invention relates broadly to revolving doors and more particularly to an illuminating system for revolving doors.

One of the objects of my invention is to provide an improved construction of illumination system for revolving doors which is simple in its arrangement and inexpensive in assembly.

Another object of my invention is to provide a construction of ceiling light for revolving doors by which the incandescent lamp may be readily removed from time to time.

A further object of my invention is to provide a construction of ceiling light for revolving doors in which a light modifier may be positioned flush with the ceiling of the revolving door and removably secured in position to permit ready access to the incandescent lamp above the light modifier.

Another object of my invention is to provide a construction of dual mounting means for a light modifier and a light reflector for the ceiling of a revolving door structure by which the modifier and reflector may be readily mounted as detachable units with respect to the ceiling of the revolving door drum.

Still another object of my invention is to provide a construction of clip member supportable with respect to the ceiling structure of the revolving door drum and having portions projecting in opposite directions with one portion serving as a support for the light modifier in the ceiling of the revolving door drum and the other portion serving as a support for the light reflector behind the light modifier and above the ceiling structure of the revolving door drum.

Other and further objects of my invention reside in the improved construction of light modifier and reflector and supporting means therefor in connection with the ceiling structure of the revolving door drum as set forth more fully in the specification hereinafter following by reference to the accompanying drawings, in which:

Figure 1 is a perspective view of a revolving door provided with the improved lighting system of my invention; Fig. 2 is a horizontal sectional view taken on line 2—2 of Fig. 1; Fig. 3 is a transverse vertical section on an enlarged scale showing more particularly the association of the outer light modifier ring and the light modifier plate, the four brackets shown in perspective view having the dual function of locking the shade and the rim of the face-ring; Fig. 4 is a perspective view of the various units constituting the improvements, disassembled and in juxtaposition; and Fig 5 is a sectional view

showing a modified form of the improved lighting system for revolving door entrances.

My invention is directed to an improved illuminating system for revolving doors capable of installation either as single or dual units. That is, the structure of my invention may be readily mounted in the ceiling structure of the revolving door drum forward of the center of the ceiling or rearwardly of the center of the ceiling or in both positions on opposite sides of the central axis of the revolving door structure. The installation of the illuminating system is very simple in that apertures provided in the ceiling structure are closed by a light modifier on one side and substantially closed by a light reflector on the other side. A light reflector is spaced from the upper side of the ceiling structure to allow some lateral dissemination of light for illuminating revolving door mechanism above the ceiling structure for facilitating ordinary repairs and adjustment without shut-down of the door. The illuminating system is composed of a relatively small number of parts; that is, a ceiling ring adapted to support a light modifier, clip members extending both downwardly and upwardly and engageable respectively with the ceiling ring and with the rim of a light reflector. The ceiling ring provides a support for a light modifier, directly in front of the light source which is positioned beneath the light reflector. The light reflector is connected with a lamp socket which carries the incandescent lamp. The light reflector is detachable from the upper portions of the resilient clips and the ceiling ring is detachable from the lower portions of the resilient clips. It is unnecessary to drill the ceiling structure from the lower surface of the ceiling structure so that a highly polished and finished surface need not be marred and yet the ceiling ring is maintained in position substantially within the plane of the ceiling structure. The ease with which the ceiling ring and the light reflector may be detached greatly facilitates installation, repair and replacement of parts.

Referring to the drawings in more detail, reference character 1 designates the drum of the revolving door within which the wings 2 of the revolving door rotate on rotatable shaft 3. The ceiling structure of the revolving door is indicated at 4 extending transversely of the revolving door drum 1. A housing 5 is arranged over the ceiling structure. A wall structure 6 connects with opposite sides of the drum of the revolving door structure. I provide a set of

tempered steel spring clips 7 which are secured adjacent the peripheral edge of the aperture through the ceiling structure 4 designated at 4a. The tempered steel spring clip 7 has the material thereof folded parallel and upon itself as indicated at 8 with an aperture 9 extending there-through for the passage of the securing screws 13. The tempered steel spring clip 7 has an upwardly extending portion and a downwardly extending portion as illustrated. The upwardly extending portion projects above the ceiling structure while the downwardly extending portion projects into the apertured portion 4a of the ceiling structure 4. The upwardly extending portion includes a notch 10 engageable with the rim 14 of the reflector 12 as will be hereinafter described. The downwardly extending portion of the tempered steel spring clip 7 is provided with lug 11 engageable with the rim of the ceiling ring 19.

The reflector or shade shown at 12 is shaped to direct light rays from incandescent lamp 17 downwardly. A peripheral rim 14 formed on the reflector 12 is engageable by notch 10 in the upwardly extending portion of the tempered steel spring clip 7. A lamp socket 15 connects with the shade or reflector 12 through suitable connecting means indicated generally at 16. Connecting wires 18 supply energy to lamp 17. The ceiling ring 19 has an annular upstanding portion connected with a flat annular portion 20 which extends both outside and inside of ceiling ring 19. It is unnecessary to employ securing screws for retaining flange 20 in position with respect to ceiling structure 4 or to employ other means which may tend to mar the finished surface of the ceiling 4 of the revolving door structure. The ceiling ring 19 is provided with an annular rim 22 which is engageable by the lugs 11 of the tempered steel spring clip 7 for maintaining the ceiling ring in position. A light modifying plate 23 is carried by the inwardly extending portion of annular flange 20 and serves to modify light rays emanating from light source 17. The plate 23 is suitably translucent or may be frosted or colored to meet any desired conditions.

It will be observed that reflector 12 has the peripheral rim 14 thereof spaced from the upper portion of ceiling 4 so that sufficient light is provided above the ceiling structure to provide working light in making emergency repairs above the ceiling structure. The ceiling ring 19 is movable by disengagement of lugs 11 with respect to rim 22. The reflector 12 is removable by disengagement of rim 14 from notches 10 of tempered steel spring clip 7. The ceiling ring and the reflector are readily replaceable by moving the ceiling ring or reflector in position in which the parts effect resilient engagement with lugs 11 on notches 10 respectively. To facilitate removal of the ceiling ring, I provide a slot 21 in the flange to permit a tool, such as the end of a screw driver, to be inserted through the flange for sufficiently tipping the flange to allow detachment thereof and removal from the ceiling without marring the ornamental finish of the ceiling. That is to say, it is unnecessary to pry the flange loose by a tool bearing against the ceiling.

The ceiling light may be located in a position forwardly or rearwardly of the center of the revolving door drum as illustrated in Figs. 1 and 2, or a ceiling light, according to my invention, may be arranged in positions both forwardly and

rearwardly of the central axis of the revolving door structure as illustrated in Fig. 5.

I have found the illuminating arrangement of my invention highly effective for revolving door structures and while I have explained my invention in one of its preferred embodiments, I desire that it be understood that modifications may be made and that no limitations upon my invention are intended other than may be imposed by the scope of the appended claims.

What I claim as new and desire to secure by Letters Patent of the United States is as follows:

1. In combination with the ceiling structure of a revolving door, a ceiling apertured for the inclusion of an illuminating device therein, a set of resilient clip devices each having upwardly extending portions and downwardly extending portions, a ceiling ring detachably engageable in the downwardly extending portions of said resilient clip devices, a light reflector engageable by the upwardly extending portions of said resilient clip devices, a lamp supported centrally of said reflector, and a light modifier supported by said ceiling ring in the path of light rays from said lamp.

2. In combination with the ceiling structure of a revolving door, a ceiling apertured for the inclusion of an illuminating device therein, a set of resilient clip devices each having upwardly extending portions and downwardly extending portions, a ceiling ring detachably engageable in the downwardly extending portions of said resilient clip devices, a light reflector engageable by the upwardly extending portions of said resilient clip devices, a lamp supported centrally of said reflector, and a glass plate supported by said ceiling ring and coextensive with the plane of said ceiling structure in a path aligned with said lamp.

3. An illuminating system for revolving doors comprising in combination with an apertured ceiling structure, a set of resilient clip devices each having downwardly extending portions projecting into the apertured ceiling structure and upwardly extending portions projecting above the apertured ceiling structure, a detachable ceiling ring engageable by the downwardly extending portions of said resilient clip devices, a light reflector engageable by the upwardly extending portions of said resilient clip devices, a lamp mounted centrally of said light reflector, and a light modifier supported by said ceiling ring in the path of light rays from said lamp.

4. An illuminating system for revolving doors comprising in combination with an apertured ceiling structure, a set of resilient clip devices each having downwardly extending portions projecting into the apertured ceiling structure and upwardly extending portions projecting above the apertured ceiling structure, a detachable ceiling ring engageable by the downwardly extending portions of said resilient clip devices, a light reflector, means on the upwardly extending portions of said resilient clip devices for detachably engaging said light reflector, a lamp mounted centrally with respect to said light reflector, and a light modifier carried by said ceiling ring in the path of light rays from said lamp.

5. An illuminating system for revolving doors comprising in combination with an apertured ceiling structure, a set of resilient clip devices each having downwardly extending portions projecting into the apertured ceiling structure and upwardly extending portions projecting above the

apertured ceiling structure, a detachable ceiling ring engageable by the downwardly extending portions of said resilient clip devices, a light reflector, an annular bead on said light reflector, means on the upwardly extending portions of said resilient clip devices for detachably engaging the annular bead on said light reflector, a lamp mounted with respect to said light reflector, and a light modifier carried by said ceiling ring in the path of light rays from said lamp.

6. An illuminating system for revolving doors comprising in combination with an apertured ceiling structure, a set of resilient clip devices each having downwardly extending portions projecting into the apertured ceiling structure and upwardly extending portions projecting above the apertured ceiling structure, a detachable ceiling ring engageable by the downwardly extending portions of said resilient clip devices, a light reflector, a peripheral bead on said light reflector, means on the upwardly extending portions of said resilient clip devices and spaced from the upper surface of said ceiling structure for detachably engaging the peripheral bead on said light reflector whereby the peripheral edge of said light reflector is positively spaced above the upper surface of said ceiling structure, a lamp mounted with respect to said light reflector, and a light modifier supported by said ceiling ring in the path of light rays emanating from said lamp.

7. An illuminating system for revolving doors comprising in combination with the apertured ceiling structure of a revolving door, a set of resilient clip devices mounted adjacent the apertured ceiling structure, said resilient clip devices having portions extending downwardly through the apertured ceiling structure and terminating in inwardly projecting lugs, said resilient clip devices having upwardly extending portions having notches disposed therein, a light reflector having a beaded edge removably connected in the notches in the upwardly extending portions of said resilient clip devices, a lamp mounted with respect to said reflector, a ceiling ring having a flat annular flange engageable with the lower surface of said ceiling structure and an upwardly extending cylindrical portion projecting through the apertured ceiling structure and detachably engageable by the lugs on the downwardly extending portions of said resilient clip devices, and a light modifier disposed in the path of said lamp and supported by the flat annular flange of said ceiling ring.

8. In an illuminating system for revolving doors in combination with an apertured ceiling structure, a light reflector, a lamp mounted with respect to said light reflector, a ceiling ring, a light modifier supported by said ceiling ring, and means for detachably coupling said ceiling ring with respect to said light reflector comprising resilient clip devices having coextensive portions detachably engageable at one end with said ceiling ring and detachably engageable at the opposite end with said light reflector.

9. In an illuminating system for revolving doors in combination with an apertured ceiling structure, a light reflector, a lamp mounted with respect to said light reflector, a ceiling ring, a

light modifier supported by said ceiling ring, means for detachably coupling said ceiling ring with respect to said light reflector comprising resilient clip devices having coextensive portions, a lug on one of said coextensive portions, a notch on the other of said coextensive portions, the notches on said last mentioned coextensive portions being detachably engageable with the reflector for mounting said reflector centrally with respect to said light modifier, and an annular rim on said ceiling ring detachably engageable by the lugs on said resilient clip devices.

10. An illuminating system for revolving doors comprising in combination with an apertured ceiling structure, a set of resilient clip devices each folded upon themselves and supported with respect to the apertured ceiling structure, said resilient clip devices having portions depending into the apertured ceiling structure and portions projecting above the apertured ceiling structure, a ceiling ring having an annular rim detachably engageable with the portions of said resilient clip devices which depend into the apertured ceiling structure, a light reflector detachably engageable by the upwardly projecting portions of said resilient clip devices, a lamp mounted centrally of said reflector, and a light modifier supported by said ceiling ring in the path of light rays from said lamp.

11. An illuminating system for revolving doors comprising in combination with an apertured ceiling structure, a set of resilient clip devices each having downwardly extending portions projecting into the apertured ceiling structure and upwardly extending portions projecting above the apertured ceiling structure, a detachable ceiling ring engageable by the downwardly extending portions of said resilient clip devices, a light reflector, an annular bead on said light reflector, means on the upwardly extending portions of said resilient clip devices for detachably engaging the annular bead on said light reflector, a lamp mounted with respect to said light reflector, and a light modifier carried by said ceiling ring in the path of light rays from said lamp, said ceiling ring being apertured in one portion thereof to enable a tool to be inserted therethrough for facilitating the detachment of the ceiling ring from said resilient clip devices.

12. In combination with the ceiling structure of a revolving door, a ceiling apertured for the inclusion of an illuminating device therein, a set of resilient clip devices each having upwardly extending portions and downwardly extending portions, a ceiling ring detachably engageable in the downwardly extending portions of said resilient clip devices, a light reflector engageable by the upwardly extending portions of said resilient clip devices, a lamp supported centrally of said reflector, and a light modifier supported by said ceiling ring in the path of light rays from said lamp, said ceiling ring being apertured in one portion thereof to permit the insertion of a tool therethrough for effecting detachment of said ceiling ring from said resilient clip devices from a position beneath said ceiling structure.

JOHN W. SHIELDS.