

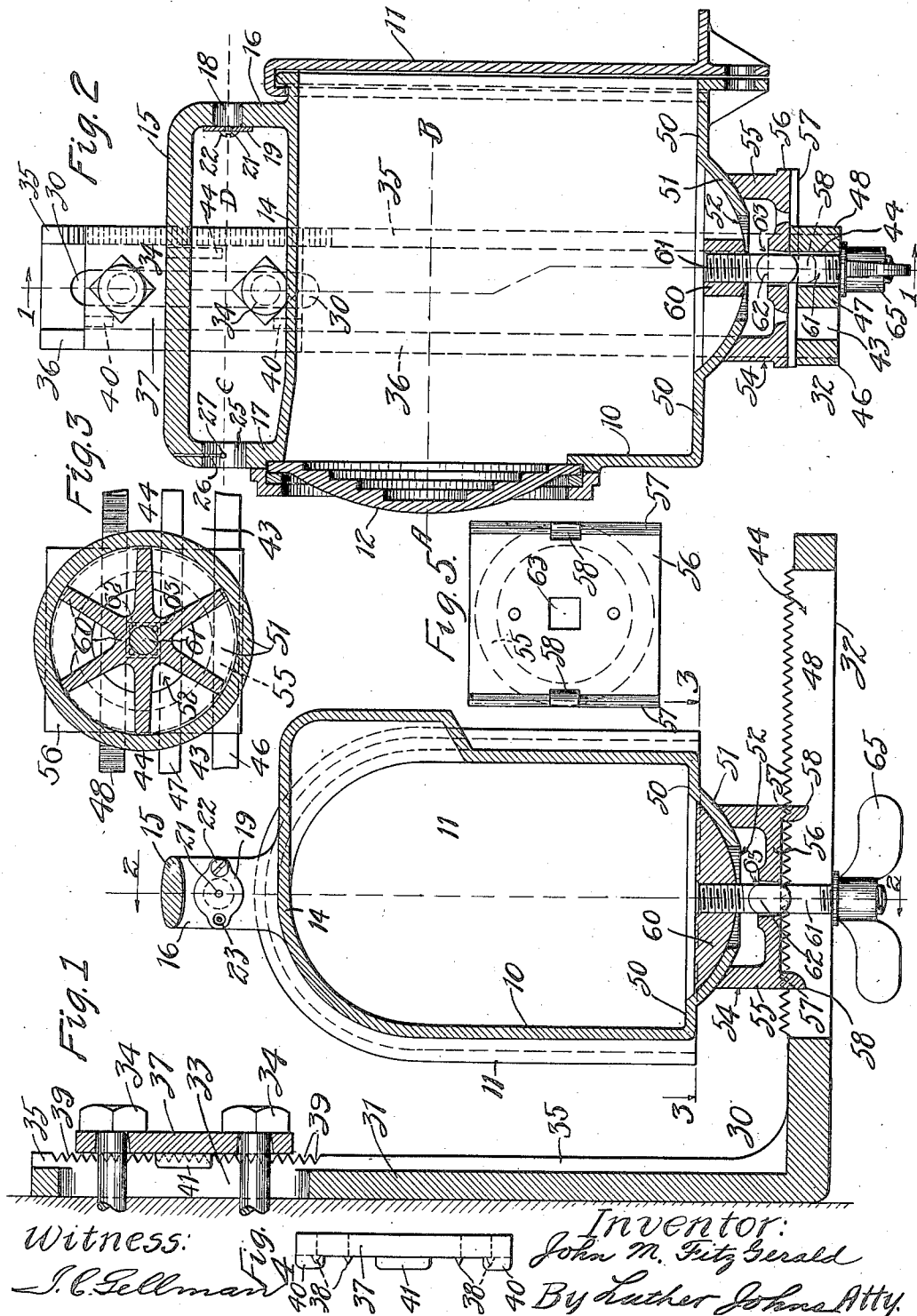
Mar. 20, 1923.

1,448,922

J. M. FITZ GERALD

LANTERN AND SUPPORT FOR SAME

Filed Mar. 28, 1921



Witness:

J. C. Sellman

Inventor:
John M. Fitz Gerald

By Luther Johns Atty.

UNITED STATES PATENT OFFICE.

JOHN M. FITZGERALD, OF RIVER FOREST, ILLINOIS.

LANTERN AND SUPPORT FOR SAME.

Application filed March 28, 1921. Serial No. 456,262.

To all whom it may concern:

Be it known that I, JOHN M. FITZGERALD, a citizen of the United States, and a resident of River Forest, Cook County, Illinois, have
5 invented certain new and useful Improvements in Lanterns and Supports for Same, of which the following is a specification.

My present invention relates to lanterns and supports for same. One of its chief objects
10 is to provide a lantern having simple and easily operable means for holding the lantern body with its optical axis extending in various directions without moving the lantern
15 body to an objectionable extent, thus avoiding interference with adjacent parts. Another object is to provide simple and well-protected means for conveniently sighting the lantern without the addition of special
20 members for supporting the sighting apparatus. Another object is to provide a simple form of lantern-holding bracket having easily operable means for securing the same in various positions of bodily adjustment, and having means cooperating with means
25 carried by the lantern for holding the lantern thereon adjustably in various directions. Other objects and advantages will appear hereinafter.

In the accompanying drawings, which
30 form a part of this specification, Figure 1 is a substantially medial transverse section through the lantern and bracket, as on the broken line 1—1 of Fig. 2; Fig. 2 is a vertical longitudinal medial section as on
35 the line 2—2 of Fig. 1; Fig. 3 is a fragmentary horizontal section on the line 3—3 of Fig. 1; Fig. 4 is a side view of the bracket-locking plate shown in Fig. 1; and Fig. 5 is a bottom view of the lantern
40 support or base.

The lantern body 10 illustrated is in my practice a unitary casting having top, side and front walls as shown and a rear vertically sliding door 11. Usual means are also
45 provided for holding the lens 12 through which the light is projected, this lens establishing an optical axis as A—B within the lantern body.

Upon the top wall 14 of the body I provide
50 the integral carrying handle 15 which is U-shaped and its legs 16 and 17 are spaced apart in the fore-and-aft directions of the body. The rear leg 16 is bored through at 18 and a plate 19 having the peep-hole 21
55 is secured in covering relation to the hole 18 by a pair of screws 22. The plate 19 has

enlarged holes 23 (one of which is seen in Fig. 1, the screw therefor being omitted for clearness of illustration), whereby the plate 19 may be adjustably moved by the maker
60 of the device and secured permanently, either by the screws 22 alone or by added solder, when properly positioned. A hole 25 is also bored in the handle leg 17, in line with the hole 18, and within the hole 25 I provide
65 the vertical rod 26 having the head or ball 27, and this ball 27, together with the peep-hole 21 defines a sighting line C—D. Since for various causes the optical axis A—B may not always be in exactly its theoretical position or direction, due for instance to variations in lenses, or in the positioning of any
70 of them in the lantern or in casting the lantern body, the sighting device is desirably provided with an adjustment feature, as the plate 19, whereby the line C—D may be
75 made to extend parallel to the optical axle A—B. By means of the sighting device the person adjusting the lantern is enabled to direct the optical axis as desired by adjustably
80 moving the lantern body when the device is in use. The present sighting device occupies no additional space, has its operative parts well protected, and is always in proper position for use by reason of its being secured
85 rigidly in association with integral parts of the device.

The lamp supporting bracket 30 is L-shaped and has a relatively long and narrow vertically-disposed part 31 and a relatively
90 long and narrow horizontally-disposed part 32 and in my practice it is a unitary casting. The leg 31 has a normally vertical slot 33 through which extend the bolts 34 projecting from a relatively fixed part, such as a
95 signal mast. The leg 31 has a pair of lateral vertical strengthening ribs 35 and 36, and at its upper portion the rib 35 is serrated or provided with alternate teeth and ridges. A holding plate 37 rests upon the ribs 35 and
100 36 and has holes to accommodate the bolts 34, and on its inner surface, adjacent to each of the bolts respectively, is a pair of teeth 38 along one edge of the plate adapted to engage the grooves 39 of the serrated part
105 mentioned. The plate 37 also has a pair of projections 40 near one edge and a projection 41 near the opposite edge adapted to engage the inner surface of the ribs 36 and 35
110 respectively, thus maintaining the plate against lateral sliding movements. The bracket is thus rendered adjustable in its

vertical directions, and by means which hold it positively when the bolts are tightened.

The horizontal leg 32 of the bracket has two slot-like adjusting openings 43 and 44 parallel to each other, these slots being defined by the metal parts 46, 47 and 48. The metal part 48 is serrated on its upper surface to provide alternate teeth and grooves similar to those already described.

The lantern body 10 has a bottom wall part 50, and integral with it is a concavo-convex downwardly extending part 51, the inner and outer surfaces of which are on substantially spherical lines. The opening 52 is provided at the bottom of the concavo-convex members to allow adjusting movements. I provide also a lantern base 54 which has a cylindrical part 55, the upper edge of which is formed concave so as to engage the lower surface of the concavo-convex member 51. The bottom 56 of the lantern base is shown as square, and is formed to rest upon the metal parts 46, 47 and 48 of the horizontal bracket member 32. At opposite sides of the plate 56, and extending in directions transverse of the support 32 there are two integral normally downwardly extending teeth 57 adapted to fit into the recesses of the serrations on the member 32. The plate 56 also has a pair of downwardly projecting guides 58, and these extend into the longitudinal recesses 43 or 44 according to the position of adjustment at a given time. The clamping member 60, shown as a "spider" having a central hub portion and projecting legs, is downwardly convex and substantially fits upon the inner surface of the concavo-convex member 51. The bolt 61 is threaded into the clamping member 60 and there riveted for permanent and secure attachment. It is formed square at 62 and fits into the square hole 63 of the plate 56, this construction providing that when the wing nut 65 is turned the bolt 61 will be held against rotative movement. This wing nut 65 binds the clamping member 60 upon the concavo-convex member and the last-mentioned member upon the lantern base 55, and the base 55, upon the horizontal support 32. A single bolt thus holds the lantern body in its desired position of adjustment.

It is here pointed out that in railroad practice the optical axis of the signal lantern must be variously directed according to the requirements at a particular location, and for this purpose the ball-and-socket joint described enables the lamp body to be rocked and turned as desired, and quite easily since it is only necessary to release a single member, namely the wing nut 25, to release the lamp for all of the desired movements. It is also pointed out that in many instances any considerable tilting movement of the lamp body while making the

necessary adjustments results in interference with adjacent devices, for instance a "spectacle," having "roundels" or colored glass discs positioned movably before the lens, as 12, of the lantern. I am aware that an adjustable ball-and-socket joint for signal lamps has heretofore been suggested, but in all instances, so far as I am aware, such joints have provided a relatively great movement of the lamp body when some of the necessary adjustments of it are made, causing the interference mentioned. According to the present construction the axis of movement of the lantern body is located materially within the lantern body itself, and accordingly a materially large tilting adjustment movement of the body can be had without a materially large bodily movement thereof out of its normally upright position.

The lantern may be moved bodily longitudinally of the bracket part 32 by loosening the wing nut 65 until the teeth 57 are capable of being freed from the serrations on the part 48. The lantern may also be moved transversely of the bracket part 32 by removing the wing nut, lifting the bolt 61 out of the recess 43 or 44 as the case may be and inserting the bolt 61 in the other slot. In the drawings the bolt 61 is shown in the slot 44. We will assume that in this case the spectacle in front of the lens 12, according to the particular construction found at that place, would be too close to the lens if the bolt 61 were in the slot 43. In some other installation the most effective results would be had if the bolt 61 were in the slot 43.

According to these improvements the lantern body is readily adjustable in all of the directions found desirable in service, and by means of a unitary holding mechanism and a single hand-operable clamping device, and when the desired adjustments are made the parts are securely held. The operation of installing and subsequently adjusting the lantern is thus rendered quite easy and with a considerable saving of time, and a notable degree of security and permanency of adjustment is also obtained.

I contemplate as being within the scope of the improvements herein set forth various modifications of what is specifically herein shown and described, as indicated by the appended claims.

I claim:

1. The combination of a lantern-holding bracket, a hollow lantern body having a forwardly-directed light-projecting member and having a part at the bottom of the body formed concavo-convex, a pair of cooperating clamp members, one of said clamp members being on the inner side and the other being on the outer side of said concavo-convex part, a substantially vertically disposed bolt holding the clamp members upon said

concavo-convex part, said concavo-convex
 part having a materially large hole for the
 accommodation of said bolt and to provide
 for tilting movements of the lantern body,
 5 the bolt also passing through said bracket,
 means for holding the outer clamp member
 on the bracket non-rotatably with respect
 to the axis of said bolt, means for holding
 the bolt non-rotatably with respect to the
 10 outer clamp member, and means coacting
 with the bolt to clamp the concavo-convex
 part rigidly between the clamp members in
 various positions of adjustment and to
 hold the lantern rigidly upon said bracket.
 15 2. The combination of a normally hori-
 zontal lantern-holding bracket having ma-
 terial length to provide for lantern body
 adjustment longitudinally thereon, a hollow
 lantern body having a forwardly-directed
 20 light-projecting member and having a part
 at the bottom of the body formed concavo-
 convex, a pair of cooperating clamp mem-
 bers, one of said clamp members being on
 the inner side and the other being on the
 25 outer side of said concavo-convex part, a
 substantially vertically disposed bolt hold-
 ing the clamp members upon said concavo-
 convex part, said bolt passing through said
 bracket, said concavo-convex part having a
 30 materially large hole for the accommodation
 of said bolt and to provide for tilting move-
 ments of the lantern body, means for hold-
 ing the bolt non-rotatably with respect to
 the outer clamp member, means including
 35 said bolt for holding the outer clamp mem-

ber longitudinally adjustable on said
 bracket, and means cooperating with said
 bolt for clamping the concavo-convex part
 rigidly between the clamp members with
 the lantern body in various positions of tilt- 40
 ing and longitudinal adjustment rigidly
 upon said bracket.

3. The combination of a normally hori-
 zontal lantern-holding bracket having ma-
 terial length to provide for lantern body 45
 adjustment longitudinally thereon, a hollow
 lantern body having a forwardly-directed
 light-projecting member and having a part
 at the bottom of the body formed concavo-
 convex, a pair of cooperating clamp mem- 50
 bers, one of said clamp members being on
 the inner side and the other being on the
 outer side of said concavo-convex part, a
 substantially vertically disposed bolt for
 holding the clamp members upon said con- 55
 cavo-convex part, the bolt passing through
 said bracket, said concavo-convex part hav-
 ing a materially large hole for the accom-
 modation of said bolt and to provide for
 tilting movements of the lantern body, 60
 means for holding the outer clamp member
 non-rotatably with respect to the axis of
 said bolt, means for holding the bolt non-
 rotatably with respect to said outer clamp
 member, and means cooperating with said 65
 bolt for clamping the concavo-convex part
 rigidly between the clamp members in va-
 rious positions of tilting and longitudinal
 adjustment rigidly upon said bracket.

JOHN M. FITZGERALD.