

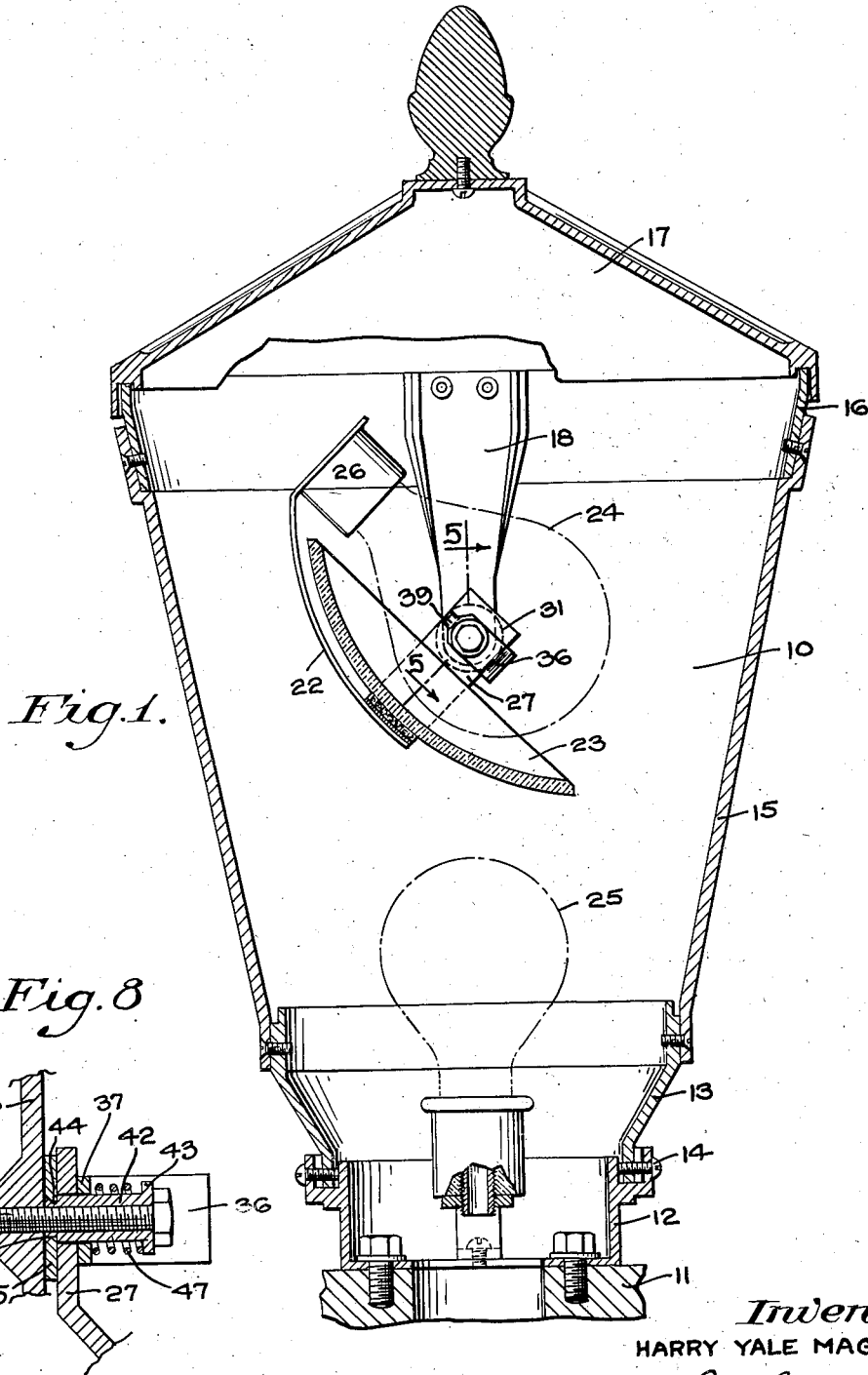
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H. Y. MAGEOCH
REFLECTOR MOUNTING

1,975,282

Filed Sept. 17, 1931

2 Sheets-Sheet 1



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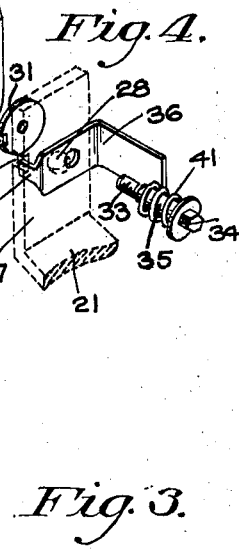
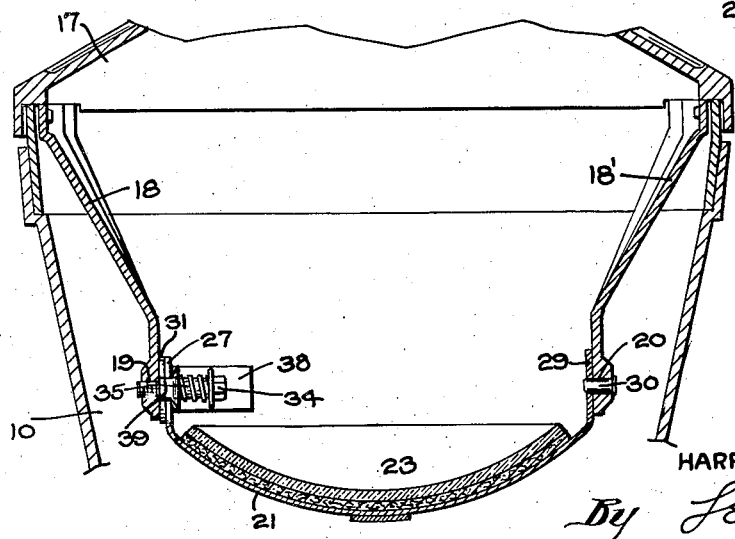
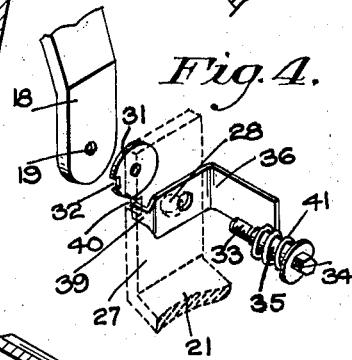
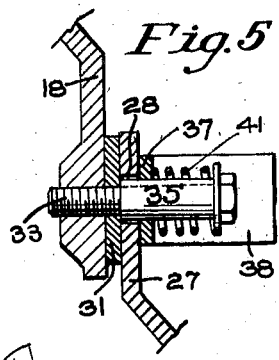
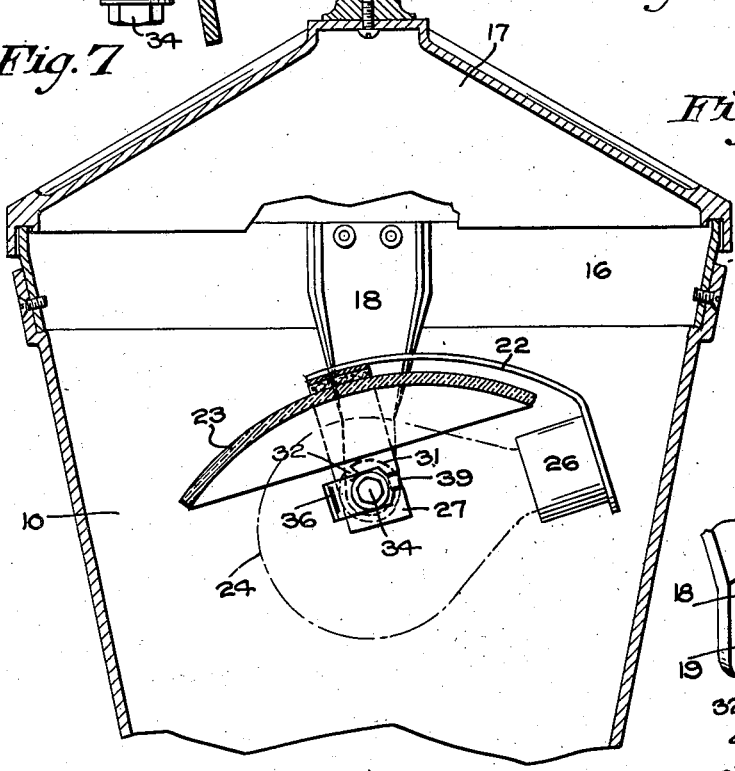
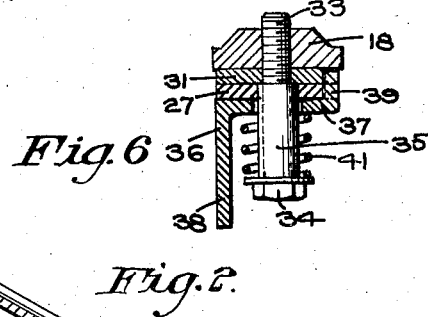
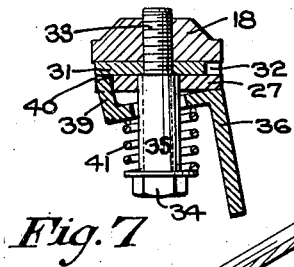
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H. Y. MAGEOCH
REFLECTOR MOUNTING

1,975,282

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2 Sheets-Sheet 2



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UNITED STATES PATENT OFFICE

1,975,282

REFLECTOR MOUNTING

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Application September 17, 1931, Serial No. 563,373

7 Claims. (Cl. 240—25)

This invention relates to light distributing units and more particularly to lighting units especially adapted for the purpose of highway and flood-lighting purposes.

5 Flood-lighting units of the character now generally employed are commonly characterized by the fact that in each case the reflector and lamp assembly, as a unit, is positionally adjusted with relation to the support therefor in order to most
10 effectively project the light rays in a predetermined direction. Once this initial adjustment between the flood-lighting assembly and its support is obtained it is seldom disturbed unless altered circumstances necessitate a change in the
15 direction of the light projection. However, even though a change in the positional adjustment as initially effected may never be required, it is always necessary, during the period of use of the lighting unit, to occasionally inspect, repair and
20 clean the reflector and its associated lamp, replace parts and so on. To perform this maintenance work without disturbing the correct adjustment for a particular installation is not always easy, this because of the fact that the ad-
25 justment is often such that the particular part of the reflector assembly which it is desired to reach is rendered inaccessible unless the same be swung into a position other than its correctly set position. Once the lamp body is swung out of
30 its adjusted position for purposes of inspection, repair or the like, it requires great care to reset it to its proper position, particularly when this readjustment is attempted during day-light, and even then there is no assurance that the proper
35 adjustment has been made.

It is accordingly among the objects of the present invention to avoid the aforementioned difficulties by providing means which is operative to lock a flood-lighting assembly in a predeter-
40 minedly set position, said means being operable to permit the assembly to be freely swung out of said position for purposes of inspection, repairs, replacements and other maintenance operations.

As has already been stated, it is particularly
45 difficult to effect a proper readjustment of the flood-lighting assembly during daylight hours because during this period one cannot readily observe whether the light rays are effectively projected in the required direction. It is therefore
50 a further object of this invention to provide means whereby the flood-lighting assembly may be reset to its predeterminedly adjusted position by daylight, thereby obviating the necessity of night work.

55 Other objects of the invention and advantages

resulting therefrom will appear more fully hereinafter.

The invention consists substantially in the combination, construction, location and relative arrangement of parts, all as will appear more fully
60 hereinafter, as shown in the accompanying drawings and as finally pointed out in the appended claims. In the said accompanying drawings, which for purposes of illustration show the in-
65 vention as embodied in a flood-lighting unit of the character more particularly described in my prior Patent No. 1,787,279, issued December 30, 1930:—

Figure 1 is a vertical sectional view of a complete highway and flood-lighting unit in which the present invention has been incorporated;
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Figure 2 is a partial vertical sectional view showing the flood-lighting assembly in a position other than its predeterminedly adjusted position of Figure 1;
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Figure 3 is a partial vertical sectional view taken at right angles to that of Figure 1 and Figure 2 and wherein the flood-lighting assembly is shown locked in such predeterminedly adjusted position as to present the reflector with its axis extending perpendicularly to the hori-
80 zontal;

Figure 4 is a perspective view showing the locking detent and its associated parts in separated relation;

Figure 5 is a sectional view taken on the line 5—5 of Figure 1;
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Figure 6 is a sectional view showing the spring-pressed locking detent operatively engaged with its associated fixed element to maintain the assembly in its initially set position;
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Figure 7 is a sectional view showing the detent disengaged from its associated fixed element to permit free adjustment of the reflector assembly; and

Figure 8 is a sectional view corresponding to Figure 5 but showing a modified arrangement thereof.
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Referring now more particularly to the drawings, it will be seen that the invention has been embodied in a highway lighting unit, designated generally by the reference numeral 10. This unit 10, which is mounted upon a suitable standard 11, comprises a pair of lower annular members 12 and 13 secured together by the securing elements 14. Suitably secured to and extending upwardly from the annular member 13 are a plurality of arm or strap members 15 spaced equidistantly about the periphery of the member 13. Secured to the upper and free end of the members 15 is an annular member 16, the
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upper edge of which constitutes a seat for the top or cover 17 of the unit.

It will be understood of course that the external appearance and shape of the unit as well as the constructional details thereof are immaterial in so far as the present invention is concerned. In the present instance, however, the unit is of octagonal form and is provided in the sides thereof with a plurality of transparent or translucent glasses secured in position in any suitable manner. The cover 17, which is preferably hinged to the body of the unit, may likewise be provided with similar glasses therein.

Secured to and extending downwardly from the annular member 13 are a pair of substantially diametrically opposed supporting brackets or arms 18—18', the lower ends of which are respectively provided with apertures 19 and 20. It will be observed that while the aperture 19 is interiorly threaded, the aperture 20 is formed with a smooth bore. It is between the lower ends of the supporting arms 18—18' that the flood-lighting assembly is adapted to be pivotally mounted. This assembly, which is more particularly described in my aforesaid Patent No. 1,787,279, generally comprises a substantially U-shaped strap 21 to which is secured, preferably by welding, a second strap 22, these straps being arranged substantially at right angles to one another. These straps jointly constitute a supporting saddle for a glass reflector 23, this reflector having operatively associated in fixed focal relation therewith a flood-lighting lamp 24. This flood-lighting lamp 24, which is auxiliary to the usual street lamp 25 disposed in the base of the unit, is received within a socket 26 suitably secured to a lateral extension of the cross strap 22.

It will be understood that when the flood-lighting assembly, which includes the reflector, its supporting saddle, and its associated lamp, is properly mounted in position, it may be angularly adjusted about the relatively fixed axis common to the apertures 19 and 20 for the purpose of directing the rays of light at practically any angle with respect to the horizontal. This angular relation between the flood-lighting assembly and the horizontal is ordinarily predetermined for a given installation. Having determined this angular adjustment of the assembly about its axis of rotation, it becomes important that this adjustment be not readily disturbed.

In order that this end may be accomplished, there is provided means in the form of a locking detent which is not only operative to lock the flood-lighting assembly in a predeterminedly adjusted position but which is also readily operable to permit the assembly to be rotated into another position to facilitate that inspection and repair thereof which is incidental to the general maintenance of the unit. As appears most clearly in Figures 3 to 6 inclusive, the arm 27 of the U-shaped strap 21 is provided with an aperture 28 therein, while the arm 29 of this strap is provided with an aperture for detachably receiving a laterally extending pin 30 having a force fit into the smooth bore aperture 20 formed in the bracket or supporting arm 18'. Adapted to be secured flatwise against the inner surface of the opposed supporting arm 18 is a centrally apertured disk 31. This disk 31 is provided in its peripheral edge with a notch 32 and is secured in angularly adjusted position by means of a pivot stud 33. This stud 33, which is provided with a tool-engaging head 34, is formed with a

threaded shank adapted for threaded engagement with the interiorly threaded aperture 19, the portion of this shank adjacent the head 34 being provided with a surrounding loose-fitting sleeve 35. Referring more particularly to Figures 5, 6 and 7, it will be observed that when the pivot stud 33 is secured in position the notched disk 31 is clamped firmly between the outer end of sleeve 35 and the inner surface of the supporting arm 18.

It will be understood that prior to threadedly securing the pivot stud 33 to the bracket arm 18, the stud 33 and the sleeve 35 are projected through the aperture 28 formed in the arm 27 of the strap 21. The pin 30 and the pivot stud 33 thus provide means for permitting the flood-lighting assembly to be rotated about a relatively fixed axis. Operatively associated with the pivot stud 33 is a locking detent 36 having an apertured branch 37 through which the pivot stud 33 projects and a manipulating branch 38. The free end of the apertured portion 37 of the detent is provided with a laterally extending lug 39. At this point attention is directed to the fact that the arm 27 of the strap 21 is provided in one edge thereof with a notch 40 of substantially the same shape and size as that formed in the disk 31. Embracing the sleeve 35 and interposed between the tool-engaging head 34 thereof and the apertured branch 37 of the locking detent is a coil spring 41 which tends constantly to urge the detent into the position shown in Figure 6.

The locking detent 36 and the notched arm 27 of the strap 21 are relatively so arranged that the lug 39 of the detent is normally received within the notch 40 of said arm (see Figure 7). It will now be apparent that when the reflector assembly is rotatably adjusted about its axis of rotation so as to present the notch 40 in the arm 27 in alignment with the notch 32 in the disk 31, the lug 39 of the detent will be spring pressed into the notch 32 in such manner as to prevent further rotation of the flood-lighting assembly. In other words, the detent 36 thus serves to effectually retain the flood-lighting assembly in its predeterminedly adjusted position.

Obviously, with the detent 36 engaging both the arm 27 of the reflector supporting strap and the disk 31, it is possible to angularly shift the flood-lighting assembly into any predeterminedly desired position by loosening the pivot stud 33 to permit rotation of the disk 31. Having thus determined the desired position in which the flood-lighting assembly is to be maintained, the pivot stud 33 is again tightened so as to clamp the disk 31 against further rotative movement. Thereafter, in order to shift the flood-lighting assembly out of its initially adjusted position, it becomes merely necessary to so manipulate the branch 38 of the locking detent as to disengage the lug 39 thereof from the notch 32 of the relatively fixed disk 31. The assembly may then be rotated into any desired position and when the inspection or other maintenance work in connection therewith is completed it is angularly adjusted about its axis of rotation until the lug 39 again engages the notch 32 of the stationary disk. The assembly is thus definitely re-established in its initially and predeterminedly adjusted position.

Figure 8 illustrates a modification of the arrangement shown more particularly in Figure 5. In the latter arrangement, it will be observed that upon removing the stud 33 the organization between the parts 31, 27, 36 and 41 is disrupted.

This disorganization of the parts may well be avoided by providing a unitary assembly such as is shown in Figure 8 wherein the sleeve 42 is formed at one end with a shoulder or flange 43 and at the opposite end with a reduced portion 44. The disk 45 (the equivalent of disk 31 in Figure 5) is secured, as at 46, to the reduced end 44 of the sleeve 42 in such manner as to prevent axial displacement therebetween. The sleeve 42 is initially projected through the arm 27 of the U-shaped strap and through the arm 37 of the locking detent 36. A coil spring 47 embraces the sleeve 42 and is interposed between the shoulder 43 thereof and the arm 37 of the locking detent. The stud 48 is projected freely through the bore of the sleeve 42 for threaded engagement with the supporting arm 18, the arrangement being such that when the stud 48 is withdrawn the disk 45, the sleeve 42, the locking detent 36 and the spring 47 remain in the assembled relation shown and are not separable from the arm 27 of the reflector supporting strap 21.

It will be understood, of course, that the present invention is susceptible of various changes and modifications without departing from the real spirit or general principles thereof and it is accordingly intended to claim the same broadly, as well as specifically, as indicated by the appended claims.

What is claimed as new and useful is:—

1. In a lighting unit, in combination, a reflector and lamp assembly, a relatively fixed support having a stud fixedly secured thereto and about which said assembly is angularly adjustable, and spring-pressed means rotatably mounted upon said stud and adapted to lock said assembly against relative movement with respect to said support, said means being shiftable out of locking position to permit free angular movement of said assembly.

2. In a lighting unit, in combination, a reflector assembly adapted for rotation about a relatively fixed axis, a support for said assembly, a spring-pressed detent operatively associated with said assembly, and means associated with said support and engageable by said detent to lock said assembly in predeterminedly fixed position, said means being angularly adjustable about said axis to vary said predeterminedly fixed position, said detent being rotatable with said assembly and arranged to assume its locking position automatically upon the return of the assembly into said predeterminedly fixed position.

3. In a lighting unit, in combination, a relatively fixed support, a pivot stud carried by said support, a reflector assembly journaled upon said

stud, a spring-pressed detent shiftable with said assembly, and means retained in fixed position by said stud and engageable by said detent whereby said assembly is locked in an initially adjusted position.

4. In a lighting unit, in combination, a relatively fixed support, a pivot stud carried by said support, a reflector assembly journaled upon said stud, a spring-pressed detent shiftable with said assembly, and means retained in fixed position by said stud and engageable by said detent whereby said assembly is locked in an initially adjusted position, said means being angularly adjustable together with said assembly upon loosening said stud whereby to obtain a different initially adjusted position for said assembly.

5. In a lighting unit, in combination, a relatively fixed support, a pivot stud carried by said support, a reflector assembly journaled upon said stud, a spring-pressed detent shiftable with said assembly, and means retained in fixed position by said stud and engageable by said detent whereby said assembly is locked in an initially adjusted position, said detent being disengageable from said fixed means whereby to permit said assembly to be rotated out of said initially adjusted position.

6. In a lighting unit, in combination, a relatively fixed support, a pivot stud carried by said support, a reflector assembly journaled upon said stud, a spring-pressed detent shiftable with said assembly, and means retained in fixed position by said stud and engageable by said detent whereby said assembly is locked in an initially adjusted position, said detent being operative to automatically re-engage said fixed means whenever the reflector assembly is rotated into said initially adjusted position.

7. In a lamp of the class described, a base, a globe frame mounted on the base and having a movable top, a lamp support mounted on the base and extending into the globe frame, a lamp and reflector carriage pivoted on a horizontal axis to the lamp support and adjustable about said axis into different inclinations, adjusting means thereincluding a member carried by the lamp support and having a single notch therein, said member being adjustable about said horizontal axis to vary the radial angle of the notch, a latch carried by the lamp carriage and coacting with said member and entering said notch whereby the carriage can be tilted relatively to the support and said member disengaged from the notch and upon the return of the carriage, the latch will re-enter the notch and relocate the lamp.

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