

Feb. 23, 1954

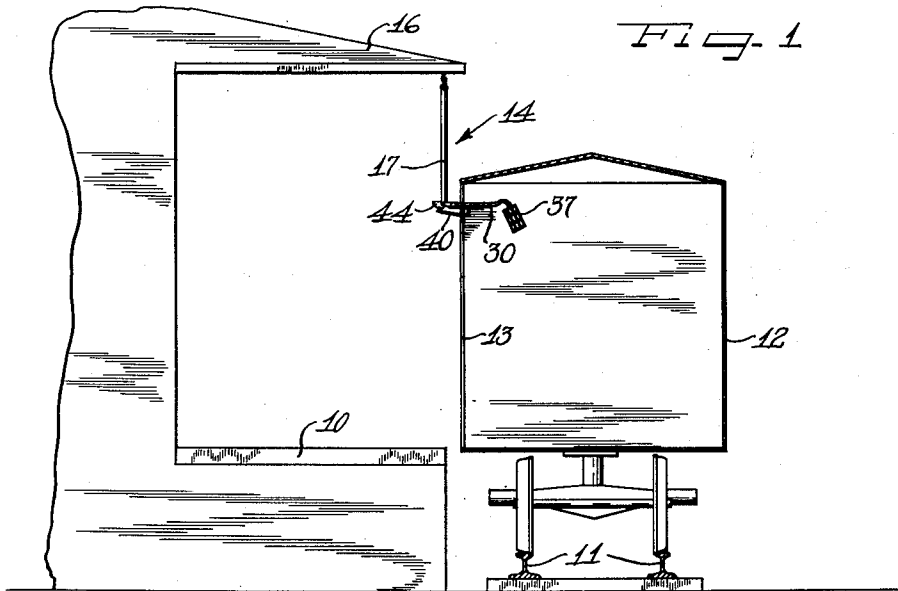
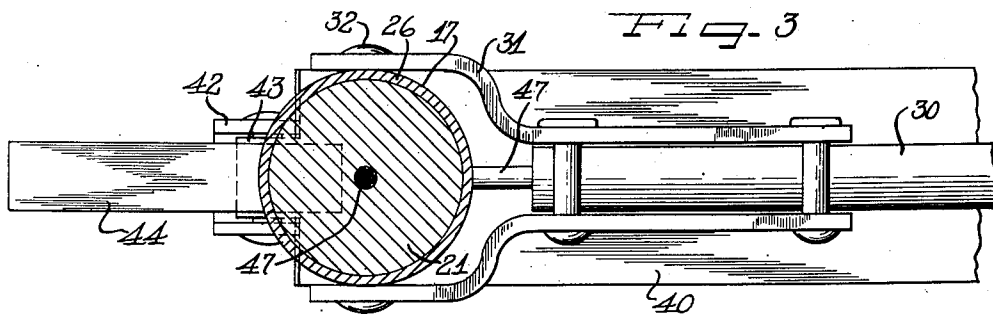
E. H. OLSON

2,670,428

LOADING LIGHT

Filed May 10, 1951

2 Sheets-Sheet 1



Inventor
Ernest H. Olson

By *Will, Sherman, Meroni, Hois & Simpson*

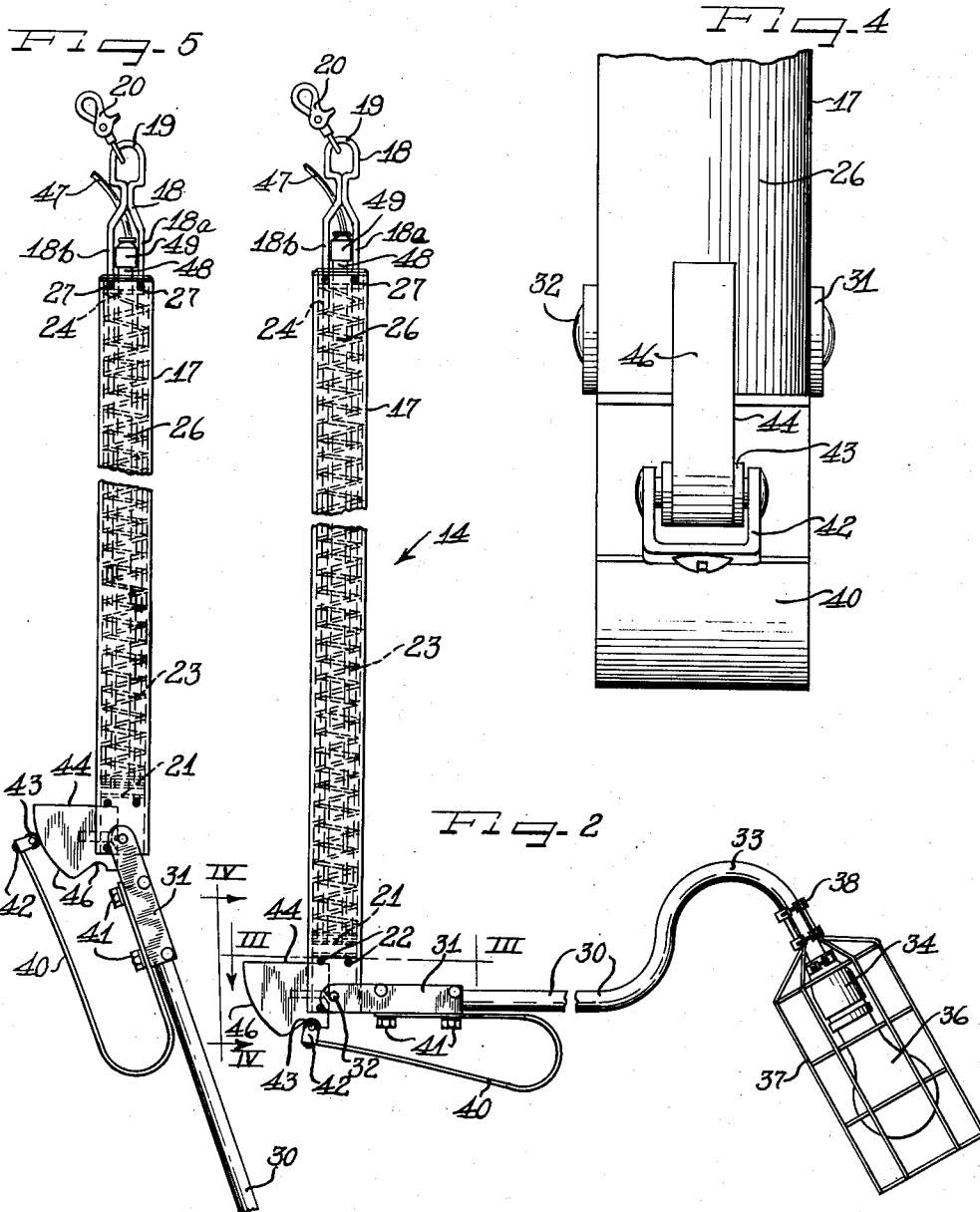
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2 Sheets-Sheet 2



Inventor
Ernest H. Olson

Attorneys
W. H. Sherman, Morris, Chad & Simpson

UNITED STATES PATENT OFFICE

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LOADING LIGHT

Ernest H. Olson, Chicago, Ill., assignor to The Pyle-National Company, Chicago, Ill., incorporation of New Jersey

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5 Claims. (Cl. 240-67)

1

This invention relates generally to illumination apparatus and more particularly to an extensible loader's light fixture which finds a particularly useful application when employed in connection with the loading platforms at freight terminals and the like.

According to the general principles of the present invention, a loader's light fixture is provided in which a support structure having extensible elements movable on a predetermined longitudinal axis supports a lamp-supporting arm for relative pivotal movement. A biasing means is provided to continuously urge the lamp-supporting arm into a predetermined angular alignment relative to the longitudinal axis, the biasing means being automatically yieldable in response to a predetermined force imparted to the arm in the general direction of the longitudinal axis.

The lamp-supporting arm is preferably provided with a gooseneck configuration adjacent the end thereof and a light source is affixed to the end of the gooseneck portion of the arm so that the loader's light fixture may be conveniently hooked in an opening such as the doorway of a railway freight car, for example. By the provision of the yieldable continuous biasing means, an added safety feature is afforded since inadvertent movement of the vehicle with which the loader's light fixture may be employed will operate only to move the lamp-supporting arm toward an extended position in coaxial alignment with the support structure.

It is an object of the present invention, therefore, to provide an improved loader's light fixture, wherein a lamp-supporting arm associated with a longitudinally extensible support structure is continuously biased into predetermined alignment.

Another object of the present invention is to provide a loader's light structure having a lamp-support arm arranged in predetermined angular alignment relative to a support structure and in which such predetermined alignment may be maintained without requiring repeated manual resetting operations.

A further object of the present invention is to provide an improved loader's light fixture which is efficient in operation, durable in use, and in which safety factors are maximized.

Many other features, advantages and additional objects of the present invention will become manifest to those versed in the art upon making reference to the detailed description that follows and the accompanying sheets of drawings in which a preferred structural embodiment

2

ment incorporating the principles of the present invention is shown by way of illustrative example.

On the drawings:

Figure 1 is a diagrammatic view showing a loader's light fixture provided in accordance with the principles of the present invention employed in connection with a loading facility adjacent a railway siding;

Figure 2 is an enlarged broken elevational view of the loader's light fixture provided in accordance with the principles of the present invention;

Figure 3 is an enlarged cross-sectional fragmentary view taken substantially on line III—III of Figure 2;

Figure 4 is an enlarged fragmentary cross-sectional view taken substantially on line IV—IV of Figure 2; and

Figure 5 is a fragmentary broken elevational view showing the lamp support arm of the loader's light fixture provided in accordance with the principles of the present invention relatively angularly displaced in the general direction of movement toward coaxial alignment with the support structure.

As shown on the drawings:

Although the principles of the present invention are of general utility, the loader's light fixture herein described finds a particularly useful application when used in connection with loading facilities, for example, the illustrated use shown in Figure 1 contemplating the provision of a loading platform 10 adjacent a railway siding 11 upon which is positioned a railway car 12 having an opening 13 in which is supported a loader's light fixture indicated generally by the reference numeral 14 constructed in accordance with the principles of the present invention and attached to the canopy 16 extending superjacent the loading platform 10.

The loader's light fixture 14 includes a support structure 17 having longitudinally extensible members movable on a predetermined longitudinal axis. More particularly, the support structure 17 comprises a rod 18 bent back upon itself to form a pair of parallel aligned legs 18a and 18b and forming an eye 19 by means of which the fixture 14 may be pivotally connected to the canopy 16. A snap lock 20 is shown connected to the eye 19 to effect a convenient connection between the canopy 16 and the eye 19.

The legs 18a and 18b of the rod 18 are assembled to washers which are held on the rods by roll pins. These washers hold the spring in compression between the top stop 24 and the bottom of the rods. A bottom stop structure 21

bottoms the rods 18a and 18b of rod 18. When the light is pulled down, the body slides down the rods 18a and 18b and compresses the spring 23.

The bottom stop structure 21 is held in firm assembly with the housing 26 by a plurality of screws 22. The other end of the coil spring 23 is engaged by a top stop member 24 secured in firm assembly to a tubular housing 26 by a plurality of screws 27.

The housing 26 completely encloses the spring 23 and receives the rod 18 in telescopic assembly so that the length of the support structure 17 may be selectively adjusted along a longitudinal axis by effecting relative telescopic movement between the rod 18 and the housing 26.

A lamp support arm 30 is connected to a bracket 31 which, in turn, is pivotally supported by the housing 26 by a pivot pin 32. Adjacent the end thereof, the lamp support arm 30 is provided with a gooseneck configuration indicated at 33, a light source being provided at the end of the gooseneck and taking the form in this embodiment of a socket 34 receiving an incandescent bulb 36. A globe guard 37 is connected to the end of the lamp support arm 30 by means of a strap clamp 38.

The lamp support arm 30 is preferably arranged in a predetermined angular alignment relative to the longitudinal axis of the support structure 17 so that the lamp support arm 30 may be inserted through an opening such as the opening 13 of the railway car 12 shown in Figure 1 with the gooseneck portion 33 securely hooking the lamp support arm 30 in the interior of the space being unloaded.

To effect such predetermined alignment, the present invention contemplates the provision of biasing means to continuously urge the lamp support arm 30 toward a generally transverse plane normal to the longitudinal axis of the support structure 17.

In this particular embodiment, the biasing means includes a leaf spring 40 bent back upon itself to form a loop and having one leg firmly connected to the bracket 31 by a plurality of fasteners 41, the other leg of the spring 40 extending generally parallel to the axis of the lamp support arm 30 and having a roller assembly 42 including a cam wheel 43 securely fastened on the free end thereof.

A cam 44 is firmly assembled to the housing 26 of the support structure 17 and includes a cam surface 46 to engage the cam wheel 43.

The cam 44, together with the spring 40 operate to normally impart a continuous biasing force to the lamp support arm 30, thereby to retain the lamp support arm 30 in predetermined angular alignment relative to the longitudinal axis of the support structure 17.

If a displacing force greater than the biasing force exerted by the spring 40 is imparted to the lamp support arm 30 in the general direction of the longitudinal axis of the support structure 17, the cam wheel 43 will ride on the cam surface 46 and the lamp support arm 30 will be displaced toward a position wherein the lamp support arm 30 will lie in general coaxial alignment relative to the support structure 17. This action is illustrated in Figure 5 of the drawings. As soon as the displacing force is removed from the lamp support arm 30, the coaction of the cam 44 and the spring 40 will again urge the lamp support arm 30 automatically to its normally angularly aligned position. It will be evident, therefore, that the structure thus provided makes it un-

necessary to manually reset the lamp support arm 30 in predetermined angular alignment after the lamp support arm 30 has been displaced.

To provide for the energization of the incandescent bulb 36, electrical conductors 47 may be provided and are led through a tubing 48 inserted in the housing 26, the conductors 47 being led through the lamp support arm 30 which preferably takes the form of a hollow tube. A suitable grommet 49 may be provided at the top of the tube 48.

In operation, the normal relative angular alignment of the lamp support arm 30 and the support structure 17 will secure the lamp in hooked relationship within a railway car 12. Moreover, an added safety feature is afforded since inadvertent movement of the railway car 12 will merely result in the impartation of a displacing force to the lamp support arm 30 in the general direction of the longitudinal axis of the support structure 17 against the continuous biasing force exerted by the coaction of the spring 40 and the cam 44. When the lamp support arm 30 is extended toward a coaxially aligned position relative to the support structure 17, the lamp support arm will be readily withdrawn through the opening 13 and will be automatically restored to predetermined aligned position without requiring a manual reset operation.

Although various minor structural modifications might be suggested by those versed in the art, it should be understood that I wish to embody within the scope of this application all such modifications as reasonably and properly come within the scope of my contribution to the art.

I claim as my invention:

1. A loader's light comprising a pair of telescoping members, a spring normally urging said telescoping members to fully telescoped position, a lamp arm pivotally connected to one of said members, a locking member pivotally connected to the other of said member to support the light, a spring carried by said lamp arm having a cam wheel on the end thereof, a cam carried by said one of said members and having a cam surface engageable with said cam wheel, said spring and said cam operable to normally bias said lamp arm into predetermined angular alignment relative to said telescoping members and being automatically yieldable in response to a predetermined force imparted to said arm in the general direction of telescoping movement of said members.

2. A loader's light comprising a longitudinally extending support structure, a lamp arm pivotally connected to said structure, a locking member pivotally connected to said structure to support said structure, a spring carried by said lamp arm and having a cam wheel on the end thereof, a cam carried by said support structure having a cam surface engageable with said cam wheel, said spring and said cam operable to normally bias said lamp arm into predetermined angular alignment relative to said support structure and being automatically yieldable in response to a predetermined force imparted to said arm in the general direction of said longitudinally extending support structure.

3. In a loader's light fixture, a rod form member bent back upon itself to provide a pair of parallel aligned legs having a mounting eye at one end thereof, a tubular housing telescopically receiving said legs with said eye projecting out of one end of said housing for pivotal attachment to a support, a coil spring completely enclosed in said housing having one end connected

5

to said legs and the other end connected adjacent to said one end of said housing, a lamp supporting arm pivotally secured to the other end of said housing, a detent means for holding said arm perpendicular to the direction of telescoping movement of said legs and said housing, said detent means including means yieldable to release the arm upon application to the arm of a predetermined force in the general direction of said telescoping movement in excess of the force required to compress the coil spring, a leaf spring connected to said arm and having a roller thereon, and a bracket on said other end of said housing providing a cam surface cooperatively engaging said roller to automatically return bias said arm towards perpendicular position.

4. In a loader's light fixture, a rod form member bent back upon itself to provide a pair of parallel aligned legs having a mounting eye at one end thereof, a tubular housing telescopically receiving said legs with said eye projecting out of one end of said housing for pivotal attachment to a support, a coil spring completely enclosed in said housing having one end connected to said legs and the other end connected adjacent said one end of said housing, a bifurcated bracket pivotally connected to the other end of said housing, a lamp supporting arm carried by said bracket and pivotally movable relative to said housing, a leaf spring connected to said arm and having a roller thereon, and a stationary camming member connected to said other end of said housing and providing a cam surface cooperatively engaging said roller for holding said arm perpendicular to the direction of telescoping movement of said legs in said housing, said cam and said roller being yieldable to release the arm upon application to the arm of a force in the general direction of said telescoping move-

6

ment in excess of the force required to compress said coil spring.

5. A loader's light fixture comprising, a rod form member bent back upon itself to provide a pair of parallel aligned legs with a mounting eye on one end thereof, a tubular housing telescopically receiving said legs through one end thereof, a coil spring in said housing connected at one end to said other end of said legs and connected at its other end near said one end of said tubular housing, a lamp support arm having a bifurcated bracket at one end thereof pivotally connected to said other end of said tubular housing, the other end of said arm having a goose-neck portion with a light source connected thereto, a leaf spring connected to said bracket and having a portion extending generally parallel to the axis of said arm and including a roller on the free end thereof, and a stationary cam member connected in form assembly with said tubular housing at the other end thereof and providing a cam surface for cooperatively engaging said roller to hold said arm generally normal to the direction of telescoping movement of said legs and said housing, said roller and said cam surface being yieldable to release the arm upon application thereto of a force in excess of the force required to compress said spring.

ERNEST H. OLSON.

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