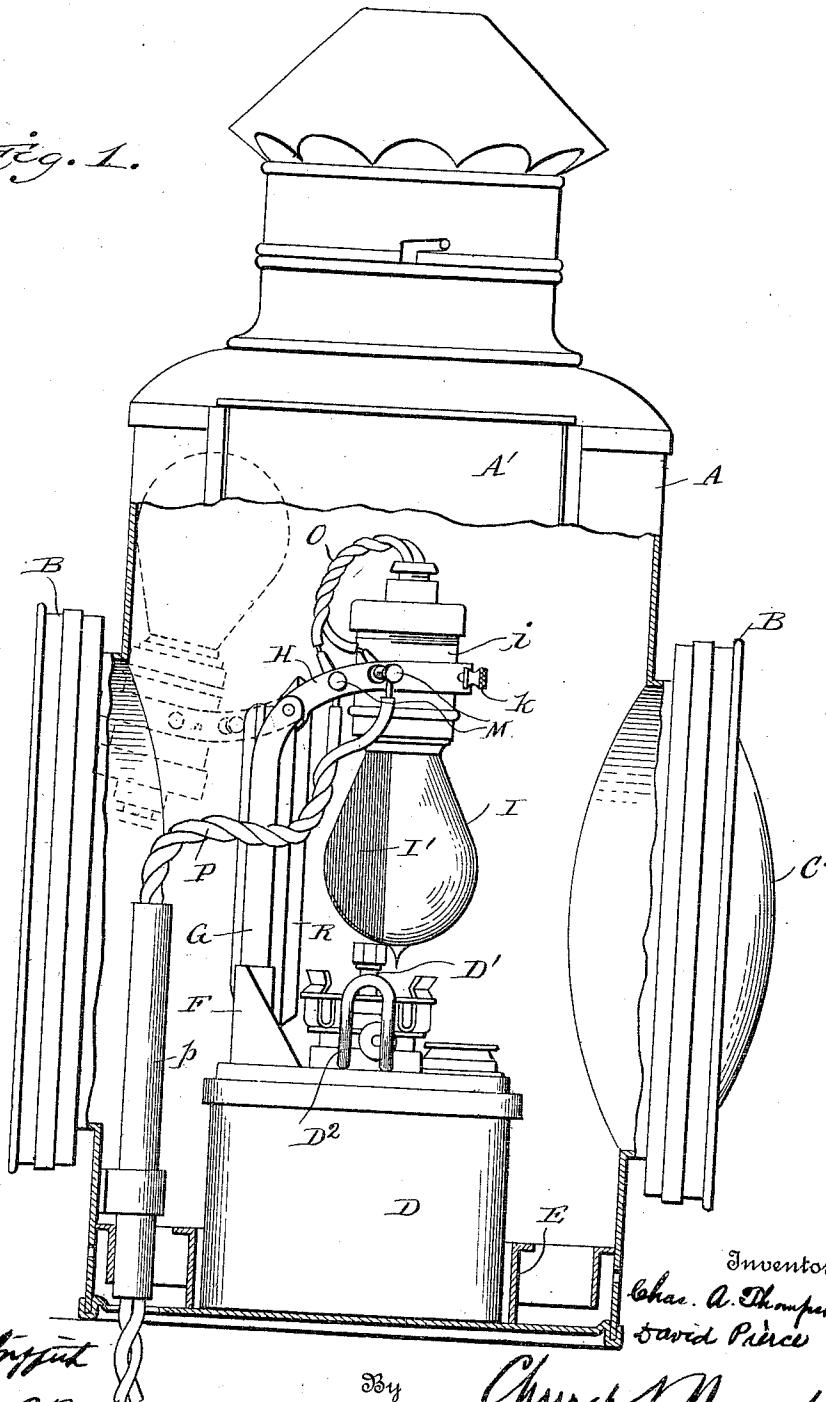


C. A. THOMPSON & D. PIERCE.
 SIGNAL LANTERN.
 APPLICATION FILED MAR. 15, 1911.

994,890.

Patented June 13, 1911.
 2 SHEETS—SHEET 1.

Fig. 1.



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Fig. 2.

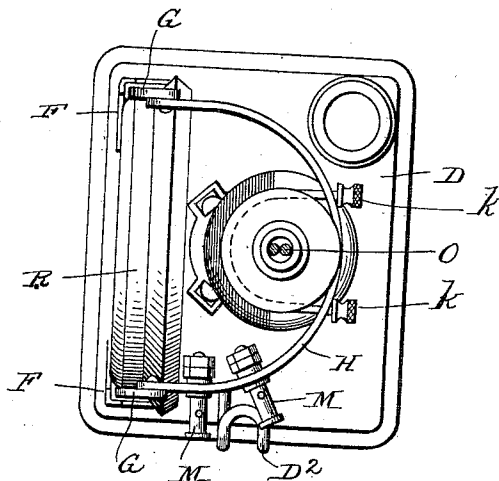
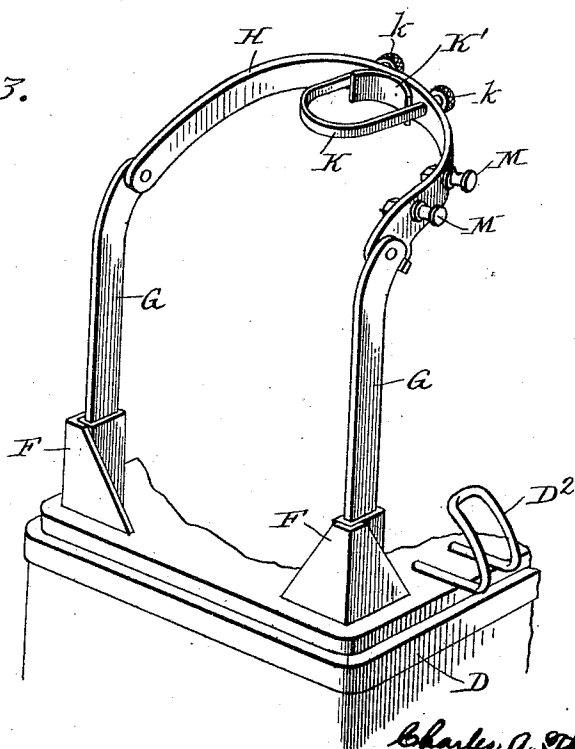


Fig. 3.



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UNITED STATES PATENT OFFICE.

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SIGNAL-LANTERN.

994,890.

Specification of Letters Patent. Patented June 13, 1911.

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To all whom it may concern:

Be it known that we, CHARLES A. THOMPSON and DAVID PIERCE, citizens of the United States, residing at Relay, Maryland, and Elkridge, Maryland, respectively, have invented certain new and useful Improvements in Signal-Lanterns; and we do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, and to the figures and letters of reference marked thereon.

This invention relates to signal lanterns and more especially to that type of signal lanterns employed in railway signal work and adapted for the use of either electric or oil flame lights.

The objects of the invention are to provide a signal lantern in which the mechanism or parts necessary for use in connection with either an electric light or an oil flame are both always maintained in proper position and ready for immediate use should occasion require.

Lanterns of this general type have heretofore been proposed and many efforts have been made to accomplish the desired ends, but up to the present time, such efforts have usually resulted in structures requiring or permitting of the removal of parts necessary for use in connection with either the oil flame or of the electric light, and as a consequence, when an emergency arises requiring the substitution of one light for the other, the necessary parts are found to have been displaced or lost, thus resulting in much loss of time and a corresponding decrease in efficiency of the signaling system. In many instances, the use of the electric light necessitates the removal of portions of the oil flame light mechanism or of portions of the lantern itself required when the oil flame is employed and the storing of such parts separate from the signal lantern. In other cases, where the parts relating to the oil flame mechanism are not removed, difficulty has been experienced in properly centering or locating the electric lights with respect to the reflector and lantern lens. To overcome all of these difficulties it is proposed in the present invention to mount the electric light supporting mechanism directly on the oil tank of the lantern, thus necessitating the presence of the oil tank

even when the electric light is used, and to provide a pivotal connection in said electric light supporting mechanism which will permit the electric light to be turned either down into operative position at substantially the focal point of the reflector and in proper line with the lens, without interfering with the burner for the oil flame; or to permit said electric light to be quickly and easily turned up and back out of the way of the flame and products of combustion from the oil burner, should an emergency arise requiring the use of the oil flame in lieu of the electric light.

The invention consists in certain novel details of construction and combinations and arrangements of parts all as will be hereinafter described and pointed out particularly in the appended claims.

Referring to the accompanying drawings,—Figure 1 is a sectional elevation of a signal lantern embodying the present improvements, the electric light being shown in full lines in its normal operative position, and in dotted lines turned up and back out of the way to permit of the use of the oil flame burner; Fig. 2 is a top plan view of the oil pot and electric light with its supporting mechanism removed from the body of the lantern; and Fig. 3 is a perspective view of a portion of the oil pot and of the supporting mechanism for the electric light, with the light itself and reflector removed.

Like letters of reference in the several figures indicate the same parts.

The body A of the lantern illustrated, is of a well known and extensively used type, the characteristics of which are well understood, and hence it will not be described further than to say that it is provided on front and rear with lens holding flanges or rings B, at least one of which is provided with a lens C, although both may be so provided, particularly where it is desired to have the light show in two directions. Where this is not desired one of the lens holding flanges or rings B is provided with a blank closure which is opaque and constitutes a part of the body of the lantern. At the bottom, the lantern is provided with a seat or retainer for the oil pot D, said seat being usually formed by flanges or partitions E secured permanently in the bottom of the lantern, and said oil pot is removable through a side opening adapted

to be closed by a slide, the top portion of which is shown at A' in Fig. 1.

The oil pot D, together with its centrally arranged burner D' and handle D², are all of usual construction and need no particular description.

In accordance with the present invention the electric lamp or light supporting mechanism is mounted on the oil pot itself, and to facilitate manufacture and ready application or removal of the electric lamp supporting mechanism, the oil pot is preferably provided with sockets F, best seen in Fig. 3. Upwardly extending standards G are removably mounted in said sockets, but are so designed as to fit the same accurately, whereby the standards will be held rigid with relation to the oil pot and with their upper ends projecting a considerable distance above the burner D'. At their upper ends the said standards G pivotally support a swinging frame or yoke H which may be turned from the position indicated in full lines in Fig. 1 to that indicated in dotted lines in the same figure, any interference with the internally projecting portions of the body of the lantern being easily overcome by slightly tipping the oil pot and supporting frame so as to permit the swinging frame or yoke to complete its backward movement to the dotted line position.

The electric light or lamp, indicated in Fig. 1 at I, is adjustably mounted in the swinging frame or yoke H so that it may be adjusted up or down to bring the filament into the proper focal position with relation to the lens and reflector, or to permit of the use of larger or smaller electric lamps as demanded by the service to which the lantern is put. Conveniently, the adjustable connection is formed by a clip K adapted to pass around the socket i of the lamp and having nuts k on its ends whereby the socket may be drawn tightly against a seat K' on the frame H.

The frame H is provided at one side with binding posts M insulated from the frame and adapted for the attachment of the lamp socket wires O as well as for the attachment of the leading in or line wires P. The leading in or line wires P preferably pass into the body A of the lantern through the bottom portion thereof and through an insulating tube p which will protect them against chafing, should the lantern be subjected to vibration or movement in use. By passing the leading in wires through the bottom of the lantern, all danger of water following along the wires into the lantern is avoided and consequently there is little or no danger of water reaching the oil burner or wick, even though the latter be out of use for long periods of time.

The standards G may conveniently form the supports for the reflector R, and the said

reflector will in turn constitute a brace between the standards, although it will be understood that the reflector may be omitted if so desired.

With all oil and electric lanterns it is found exceedingly difficult to accurately position both the filament of the electric light and the flame of the burner of the oil light in the proper focal position with respect to the lens, and in order to render the electric light more highly efficient it is now proposed to provide the bulb of the electric light with a reflector having a fixed relation to the filament. As illustrated in Fig. 1 the rear half of the bulb of the electric light is silvered or made into a reflector as indicated at I', it being found that this construction is very highly efficient and supplies the lens with an increased quantity of light as compared with the action of the ordinary reflector.

It will be noted that with the present invention all of the necessary parts of the lantern for using either the electric light or the oil burner are always intact and in position, and either may be used at will without destroying the effectiveness of the other, it being only necessary to swing the electric light up and back out of the way when the oil burner is to be used. The pivot of the swinging frame H is so located that the electric lamp is swung back away from vertical position over the oil burner, and consequently, when the latter is in use the electric lamp bulb and its supporting mechanism are not affected by the heat from the oil flame nor are they liable to become blackened by carbon deposit therefrom.

In explanation of the use of a lantern of this character, it may be stated that in a modern signaling system of approved type, electric lights are used under all normal conditions, but, owing to the liability of failure due to stress of weather or accident, provision must be made for the emergency use of an oil flame. Such emergency use may not be necessary save in long intervals, and it is owing to this fact that the storing of the oil pots or burners or parts of the lantern separate from the lantern itself has proven to be impractical because such parts are almost invariably lost, destroyed or deteriorate to such an extent that they are not available when the emergency arises. By keeping all of the parts intact and in position in the lantern, however, they are kept in order in the regular course of inspection and attendance, and are invariably ready for use when the emergency arises. The oil pot is of such character that it will hold its supply of oil for an indefinite period provided it is not burned, and thus it becomes practical to have the system fully equipped for effective operation under any emergency which may arise.

It may be noted that with the present invention the oil pot cannot be removed without also removing the electric light supporting mechanism, and thus the inclination of the attendants to remove parts not in active use is effectually met, nor is it possible for them to remove any of the parts for use in other lanterns without destroying the efficiency of the signals, no matter which of the lights is in use at the time. For instance, the removal of the oil pot carries with it the electric light supporting mechanism and the removal of the electric light supporting mechanism carries with it the reflector for the oil burner, and as these parts are essential for the operation of the lantern they insure the retention of the necessary parts for all emergencies as before explained.

Having thus described our invention, what we claim as new and desire to secure by Letters Patent of the United States, is:

1. In a signal lantern, the combination with the lantern body, oil pot removably mounted therein and upwardly extending standards carried by said oil pot, of a swinging frame pivotally mounted on the standards to project forwardly over the oil pot or to turn back in rear thereof, and an electric lamp carried by said pivoted frame and extending below the same in vertical position when the frame is swung to operative position.

2. In a signal lantern, the combination with the body of the lantern and oil pot removably mounted therein, of an electric lamp supporting mechanism embodying upwardly projecting standards carried by the oil pot, a swinging frame pivotally mounted on said standards, and adapted to project over the oil pot or to turn back away from

over the oil pot, and means for adjustably supporting an electric lamp on said swinging frame.

3. In a signal lantern, the combination with the body of the lantern and oil pot removably mounted therein, of an electric lamp supporting frame removably mounted on the oil pot and embodying a swinging frame with an electric lamp holder thereon, whereby the lamp may be swung into or out of position over the oil pot, and a reflector carried by said removable frame, substantially as described.

4. In a signal lantern, the combination with the lantern body and oil pot removably mounted therein, of an electric light supporting frame mounted on said oil pot and embodying a pivoted swinging frame, an electric lamp holder and a reflector for the electric lamp carried by said swinging frame, whereby the electric lamp and its reflector are both turned into or out of operative position.

5. In a signal lantern, the combination with the lantern body, oil pot removably mounted therein and upwardly extending standards carried by said oil pot, of a swinging frame pivotally mounted on the standards to project forwardly over the oil pot or to turn back in rear thereof, a clip carried by said swinging frame and an electric lamp adjustably mounted in said clip whereby the lamp may be adjusted toward and from the oil pot.

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