OR 2,358,014

Sept. 12, 1944. C. K. LAMB 2,358,014

OBSTRUCTION LIGHTING STRUCTURE

Filed Aug. 9, 1943 2 Sheets-Sheet 1

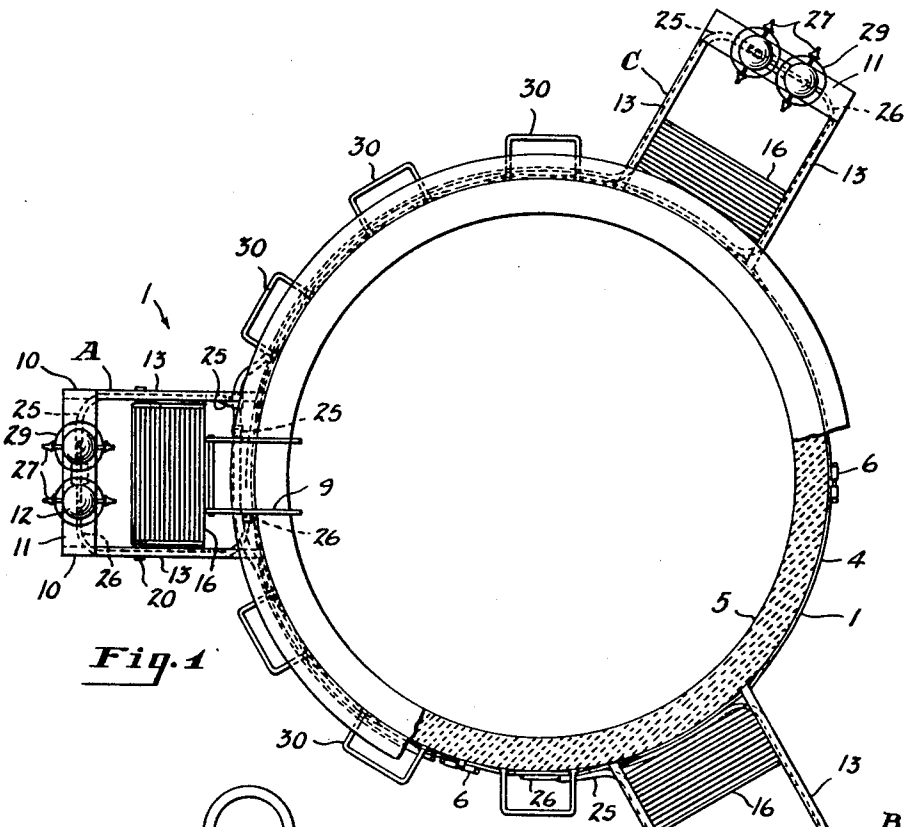


Fig. 1

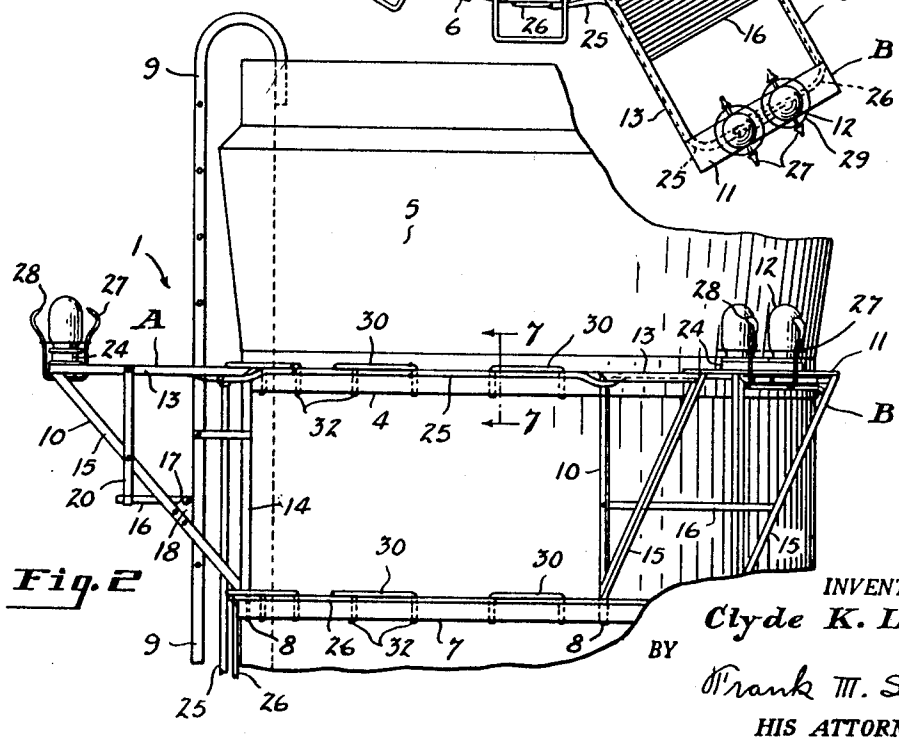


Fig. 2

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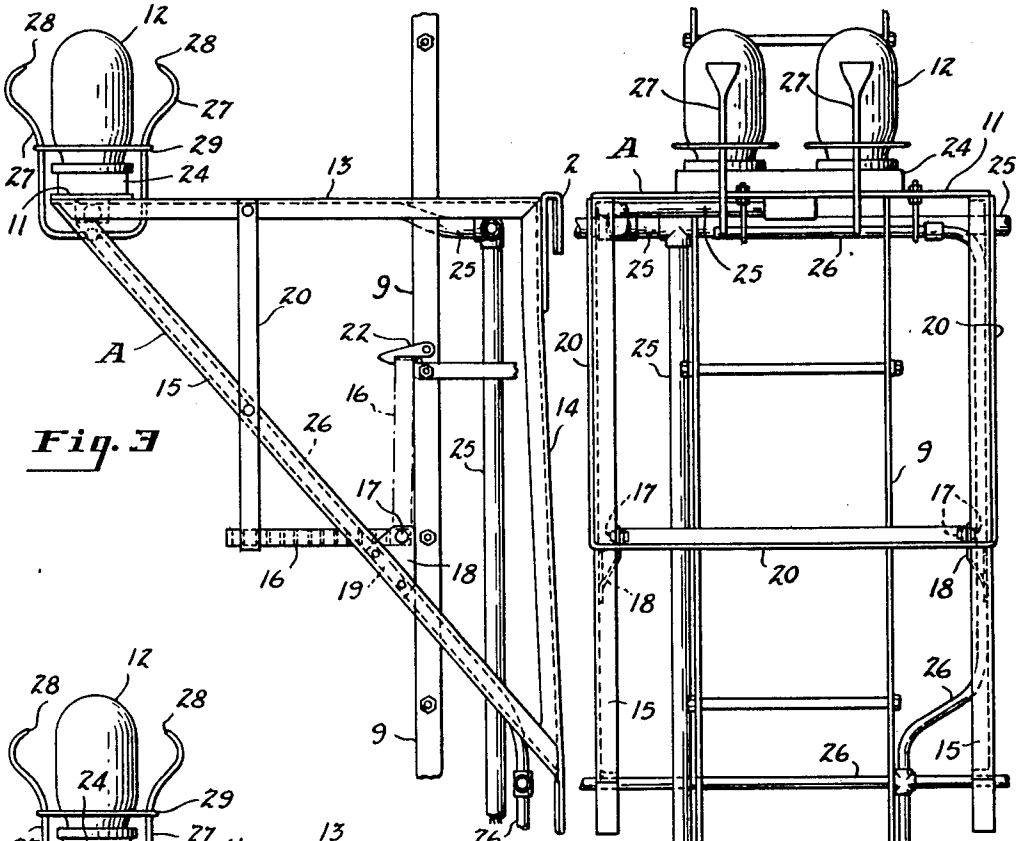


Fig. 3

Fig. 4

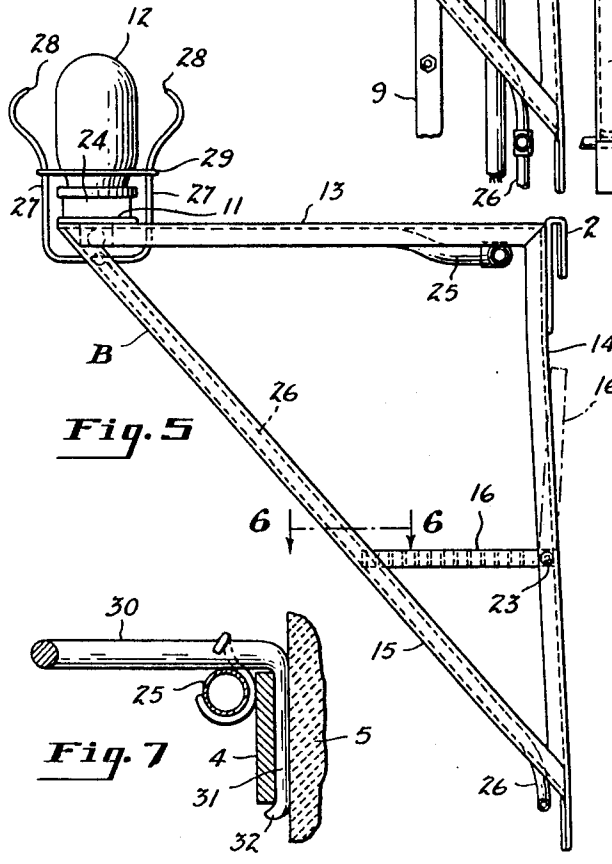


Fig. 5

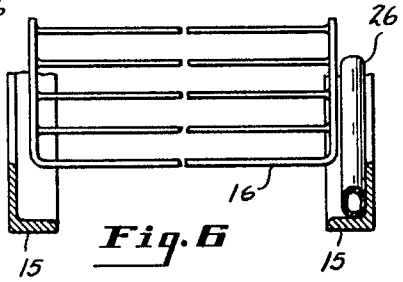


Fig. 6

Fig. 7

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UNITED STATES PATENT OFFICE

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OBSTRUCTION LIGHTING STRUCTURE

Clyde K. Lamb, Cleveland, Ohio

Application August 9, 1943, Serial No. 498,019

4 Claims. (Cl. 240—2)

My invention relates to obstruction lighting structures and relates more particularly to the provision of a permanent lighting structure adapted to circumscribe a chimney or stack and carrying lights which are visible both from the ground and from the air and which are particularly useful in warning approaching aircraft of the presence of such stack or chimney structures.

My invention relates further to the provision of obstruction lighting structures of the type described wherein the lights may be easily serviced and suitable protection for the workmen engaged in such servicing is provided.

Another object of my invention is to provide obstruction lighting structures of the type referred to whereby said lights may be easily cleaned by remote control preferably located at ground level.

Other objects of my invention and the invention itself will become increasingly apparent from reference to the following description of an embodiment of my invention and to the drawings thereof, in which drawings:

Fig. 1 is a top plan view, partially in section, certain portions being broken away so that other parts may be more fully illustrated, of the lighting structure of my invention as applied to a circular stack.

Fig. 2 is a side elevational view of the lighting structure of Fig. 1, said view having certain portions broken away;

Fig. 3 is an enlarged side elevational view of a bracket of Figs. 1 and 2;

Fig. 4 is a front elevational view of the bracket of Fig. 3;

Fig. 5 is a side elevational view of another bracket of the obstructure lighting structure of Figs. 1 and 2;

Fig. 6 is a plan view taken from the line 6—6 of Fig. 5; and

Fig. 7 is an enlarged view of the steps taken on the line 7—7 of Figs. 1 and 2.

Referring now to the drawings, in all of which like parts are designated by like reference numerals, at 1, I have indicated generally the obstruction lighting structure of my invention, this lighting structure consisting of three bracket assemblies A, B, and C, each provided with a pair of U-clamps 2 adapted to be hooked over a metallic band 4 telescoped about the entire circumference of the stack or chimney 5 at the height at which the structure is to be positioned.

The metallic band 4 is preferably, as shown in Figs. 1 and 2, composed of a plurality of similar metal bands secured together by couplings 6, which are bolted together, wherefore the bands are tightly secured to the chimney or stack structure and the said brackets are rigidly secured thereto.

A second band unit 7, similar in type to the band 4, is spaced a substantial distance from the first band and is also telescoped about the stack and over the brackets A, B, and C at the lower extremities thereof, as shown at 8—8.

It will be noted that a ladder 9 is secured to the stack and that the same projects through one of the bracket structures A, as shown in Fig. 1, said bracket A comprising, as best illustrated in Figs. 1 to 4 inclusive, a pair of triangular members 10—10 joined together by a cross member 11, said cross member bearing the light fixtures, generally indicated at 12.

The triangular members 10—10 each consist of a horizontally disposed member 13, an upright member 14 and a diagonally extending brace 15, said diagonally extending brace being secured to the upright a short distance inwardly from the free end thereof.

The bracket A further consists in a step 16 adapted to be pivotally secured, at 17, to a triangular member 18, secured to the diagonal member, as shown at 19—19. The forward portion of the step which is preferably grilled, is further adapted when in its operative "down" position to rest upon lower inwardly extending end portions of a pair of supports 20—20 and when in its inoperative "up" position adapted to be locked against the ladder structure 9 by means of a latch member 22 carried thereby and adapted to engage the step in the position shown in dotted lines in Fig. 3.

The members 20—20, it will be noted, are secured at their upper ends to the outside of the horizontally extending members 13 and at the medial region thereof to the diagonal member 15.

The other brackets are similarly formed with the possible exception that the step provided for the use of the workmen in connection with these brackets B and C is disposed, when in its operative position, between the diagonal member and the upright member and is pivoted to the upright member, as shown at 23.

The step, when in its inoperative or "up" position, is brought back against the chimney structure where it can be latched in position by means secured to the upright member, or unlatched, as may be desired.

The lighting fixtures carried by the cross member of the brackets preferably comprise a pair of

100-watt lamps, or lamps of whatever power may be desired, said lamps being mounted, in the form shown, upon a breaker box 24 and receiving current through a cable carried by the conduit 25.

An air conduit 26 further is disposed adjacent the ladder and is brought up the chimney and disposed adjacent one of the horizontally disposed portions of each of the brackets, travelling along the cross member 11 from whence the conduit branches off into a pair of narrow tubes, preferably of copper 27—27, a pair of each of these being placed about the lamps and spaced therefrom, said tubes being bowed at their upper ends and having each an open jet 28 through which the air is blown from remote control means mounted at ground level, with sufficient force directed at the convex head of the lamps to thoroughly clean the same. A ring member 29 is secured about the lower ends of the bowed tubes 27—27 to retain the same in place as by a clamp member.

The light and air conduits are disposed about the band 4 wherefor each of the lights mounted on each of the brackets are illuminated and cleaned as desired.

Since the air pressure is operated from remote control means mounted upon the ground or at a lower position on the stack, the lights may be cleaned thereby, eliminating the necessity of a workman climbing the stack and cleaning the same, but in the event that a lamp structure needs replacement or repair, it will be necessary for a workman to ascend the ladder 9 and to travel about the chimney at the stage of mounting, and to secure this desired movement, I have provided further a plurality of U-shaped step members 30, which, as best shown in Fig. 7, are provided with downwardly extending portions 31 which are adapted to be disposed between the bands 4 or 7 and the chimney structure, the hooked end portions 32 of each preventing the disengagement of the step therefrom.

Hence it can be seen that the workman may utilize the steps disposed about the lower band unit 7 as treads and the U-shaped steps disposed about the upper band unit 4 as hand holds, enabling him to travel about the circumference of the stack on the staging and at each bracket a step is provided which cooperates with the steps employed between brackets to afford him a sure footing about the same.

Having thus described my invention, I am aware that numerous and extensive departures may be made therefrom without however departing from the spirit of my invention and the scope of the appended claims.

I claim:

1. An obstruction lighting structure comprising a pair of bands disposed about an upright cylindrical work structure, said bands being disposed about spaced portions of said work structure and each being rigidly secured to said portions, the uppermost of said bands having a plurality of brackets secured thereto, said brackets having illuminating means mounted thereon, a plurality of U-shaped members secured to said band and interposed between said brackets, U-shaped members secured to the lowermost band and in aligned position with said first named U-shaped members, and tread portions secured to said brackets.

2. An obstruction lighting structure comprising a scaffold comprising a pair of metallic bands securely affixed to an upright cylindrical work structure, said bands being in spaced relation to each other, the uppermost of said bands having a plurality of brackets mounted thereon, said brackets having illuminating means mounted thereon, and a plurality of hand hold members mounted thereon and interposed between said bracket members, the lowermost of said bands being telescoped over end portions of said brackets and having a plurality of tread members mounted thereon and interposed between said bracket mounting, said tread members being disposed in alignment with said hand hold members.

3. An obstruction lighting structure comprising a scaffold comprising a pair of metallic bands secured to an upright cylindrical work structure, said bands being in spaced relation to each other, the uppermost of said bands having three generally triangular brackets mounted thereon, said brackets having illuminating means secured thereto at their outer end portions, a plurality of U-shaped members carried by each of the bands and interposed betwen said bracket members and in alignment with each other whereby the lower U-shaped members may be utilized as treads and the upper U-shaped members may be utilized as hand hold members, current supply means being carried by the scaffold supplying current to the illuminating means whereby the said illuminating means may be lighted and an air conduit carried by the scaffold having air outlets disposed adjacent the said illuminating means whereby the illuminating means may be cleaned.

4. An obstruction lighting structure comprising a scaffold comprising a pair of metallic bands secured to an upright cylindrical work structure, said bands being disposed in such spaced relation to each other that a plurality of U-shaped members mounted on each in alignment with each other may be utilized as hand hold members and tread members respectively, a plurality of brackets interposed between groups of said U-shaped members, said brackets bearing illuminating means and carrying an air conduit operated by remote control means mounted at a point remote thereto, said conduit terminating in a pair of outwardly bowed conduits each having a jet disposed at an angle to said illuminating means whereby the convex head of each illuminating means may be cleaned upon operation of the remote control means.

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