April 12, 1932. T. J. ROGERS 1,853,321

SUNKEN LIGHT FOR AIRPLANE FIELDS

Filed July 5, 1929

Fig. 1

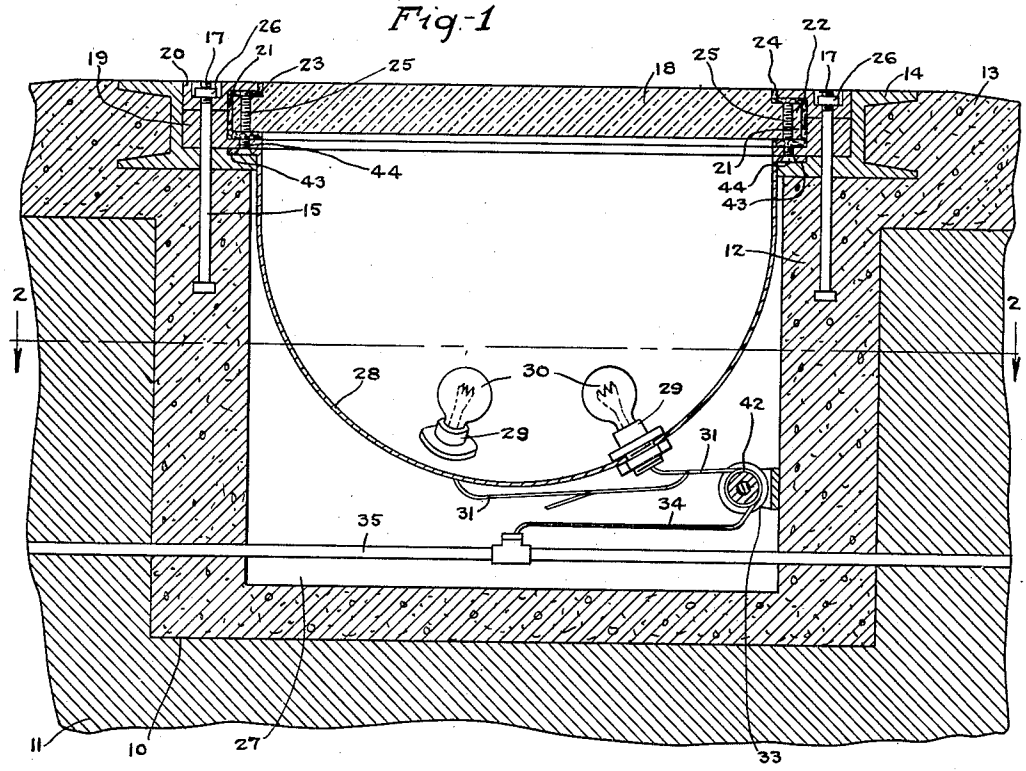
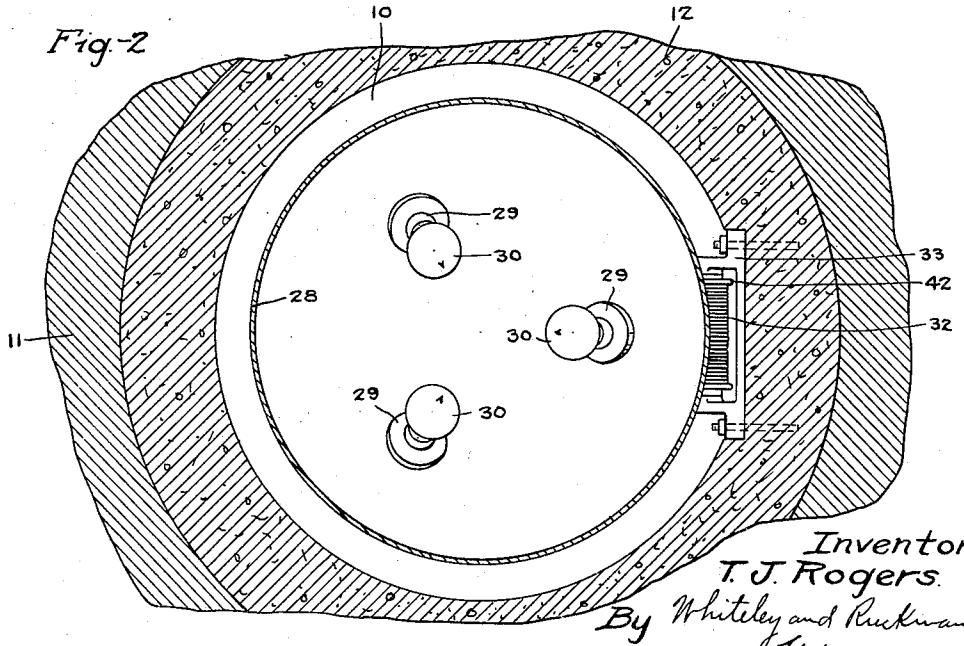



Fig. 2

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Patented Apr. 12, 1932 1,853,321

# UNITED STATES PATENT OFFICE

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## SUNKEN LIGHT FOR AIRPLANE FIELDS

Application filed July 5, 1929. Serial No. 376,025.

My invention relates to sunken lights for airplane fields, and has for its object to provide lights for air fields of such a character that they will be maintained below the level of the ground and will reflect their beams upwardly. Rows of such lights may satisfactorily be employed to produce the delimitation of air lanes of use in making landings in accordance with the wind direction. The method of constructing said air lanes and of lighting the air field so that only the lanes lighting in the wind will be shown, is the subject of a co-pending application.

It is the object of the present invention to provide a simple and efficient construction whereby the submerged or sunken lights are properly housed and protected and are positioned so as to give a maximum beam effect upwardly or visibility from an approaching airplane in the air, and which are perfectly protected from weather conditions, and also from the possibility of injury by reason of landing airplanes passing over said lights.

The full objects and advantages of my invention will appear in connection with the detailed description thereof, and the novel features thereof are more particularly pointed out in the claims.

In the drawings,—

Fig. 1 is a side sectional elevation of one of my sunken lights. Fig. 2 is a sectional plan of the part shown in Fig. 1 on line 2—2 of Fig. 1 viewed in the direction of the arrows.

A pit 10 is provided sunk into the ground 11, said pit being lined with a suitable casing 12 which may be made of concrete or any material providing the requisite strength, and which will prevent ingress of water. The casing 12 will preferably be provided with a top lip 13 extending a short distance beyond the edge of the pit 10. Or, if it is desired to place a number of said lights quite close together, the lips 13 of the pits may be united to provide a continuous strengthening effect. A steel flange member 14 is cast into the concrete or other material forming the casing 12. Also, a multiplicity of bolts 15 are cast in said concrete, as shown, with their threaded ends 17 projecting to near the surface thereof, said bolts passing through the bottom plate of the reinforcing frames 14. A lens 18 is carried by a lens frame formed of two encircling pieces 19, 20 which jointly form a recess 21 into which flanges 22 of the lens 18 project. A space 23 between said flanges in filled with water-proofing packing, as indicated at 24. Tapped holes 25 are formed in the glass member 18 for receiving threaded rods which may be employed to assist in handling the member 18. The top frame members are held against the bottom members and the whole frame assembled upon the plates 14 by means of nuts 26 on the threaded ends of bolts 15. The lens 18 will be of a tough, strong, unbreakable type of glass. It may be either refracting or non-refracting, and may be colored as desired.

Inside of the space 27, in the casing 12, is positioned a semispherical holder 28, which may be formed with an inner reflecting surface. The member 28 is provided with flange portions 43 secured to the frame members 19 by short screws 44. Upon the holder 28 are mounted a series of light sockets 29 which are adapted to receive and hold the electric light bulbs 30. The sockets 29 are connected by wiring 31 with a coil of said wire 32 mounted upon a spool 42 mounted upon a bracket member 33 carried by the casing 12, which, in turn, is connected by wiring 34 with a current supply cable housed in a pipe 35 running to a source of current supply.

Preferably the lights in the holder 28 will be positioned as indicated in Fig. 1 in such relation in reference to the reflector on the inside of the casing 28 that a solid beam will be transmitted through the glass lens or protector 18.

The advantages of my invention will be clear from the description thereof. By unscrewing the nuts 26 the frame carrying the holder 28 and lights may be withdrawn from the space 27 and the lights got at for renewing the bulbs. At the same time, when the frame is in position within said space the bulbs are held so as to give a broad, strong beam of light upwardly, and particularly so as to show a clearly-outlined bright spot on the surface of the ground. This bright spot readily marks out the landing spaces and at

the same time will be so protected as to form no impediment to the landing of airplanes which can run directly over the lights without injury either to lights or airplane.

I claim:—

1. A sunken light construction comprising a pit, a lining of concrete for said pit, a metal flange member set into said lining at the top of the pit, bolts set into said lining and projecting up through the bottom plate of said flange member, two encircling members superposed upon each other and resting upon said bottom plate, said members jointly forming an inwardly disposed encircling recess, a glass plate having its margin held in said recess, said bolts passing through said encircling members, nuts on the upper ends of said bolts, and a source of light in said pit.

2. A sunken light construction comprising a pit, a lining of concrete for said pit, bolts set into said lining and projecting upwardly at the upper portion thereof, two encircling members superposed upon each other and positioned near the upper portion of said lining, said members jointly forming an inwardly disposed encircling recess, a glass plate having its margin held in said recess, said bolts passing through said encircling members, nuts on the upper ends of said bolts, and a source of light in said pit.

3. A sunken light construction comprising a pit, a casing for said pit, two encircling members superposed upon each other and positioned near the upper portion of said casing, said members respectively having upper and lower flanges which extend inwardly to form a recess, a glass plate having its margin held in said recess, means for holding said encircling members in place on said casing, said glass plate having holes tapped therein near its margin for use in handling the plate, said holes being covered by said upper flange when the device is assembled, and a source of light in said pit.

In testimony whereof I hereunto affix my signature.

THOMAS J. ROGERS