

T. L. WILLSON.  
SIGNAL LIGHT.  
APPLICATION FILED MAR. 19, 1908.

923,474.

Patented June 1, 1909.  
2 SHEETS—SHEET 1.

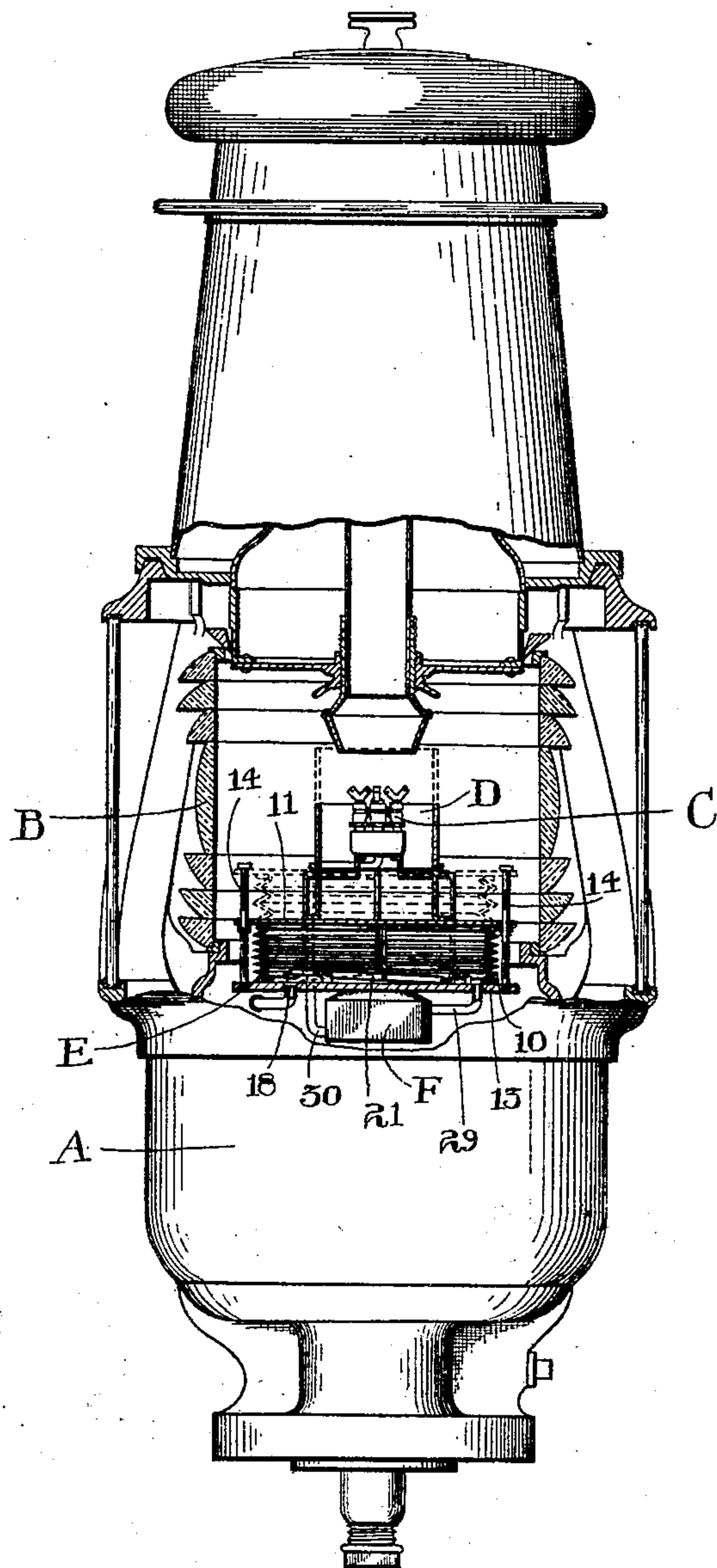


Fig. 1.

WITNESSES.

*J. H. Gley*  
*Russell B. Smart*

INVENTOR,  
T. L. WILLSON.

BY *Frank S. [Signature]*  
ATT'Y.





# UNITED STATES PATENT OFFICE.

THOMAS LEOPOLD WILLSON, OF OTTAWA, ONTARIO, CANADA.

## SIGNAL-LIGHT.

No. 923,474.

Specification of Letters Patent.

Patented June 1, 1909.

Application filed March 19, 1908. Serial No. 422,055.

*To all whom it may concern:*

Be it known that I, THOMAS LEOPOLD WILLSON, of the city of Ottawa, in the county of Carleton, Province of Ontario, Canada, have invented certain new and useful Improvements in Signal-Lights, of which the following is a specification.

My invention relates to improvements in signal lights, and the objects of my invention are to provide simple and effective means for intermittently varying the external appearance thereof and such means as will operate without attention for an extended period of time.

Signal lights when used for the guidance of mariners, whether located on shore or on floating buoys, may be conveniently distinguished from each other by causing them to burn intermittently with a measured periodicity or else by externally varying the color or appearance thereof as through the medium of a screen intermittently advanced before the light.

The present invention contemplates the use of a continuous translucent color screen intermittently raised and lowered between the light and its surrounding lens.

The invention is more directly applicable to gas consuming lights and is designed to actuate the screen or other means for varying the external appearance of the light by the flow of gas on its way to the light, as shown hereinafter in detail, in the accompanying specification and drawings.

In the drawings, Figure 1 is an elevation, partially in section of a signal light embodying my invention. Fig. 2 is an enlarged sectional detail of the screen and means for actuating the same. Fig. 3 is a top view of the same. Fig. 4 is a sectional view along the line 2—2, Fig. 2.

In the drawings, like characters of reference indicate corresponding parts in each figure.

Referring to the drawings, A represents the signal light of any suitable or desirable form having a lens B with burner C within the same.

D represents a screen extending between the light and the lens, by means of which the variations in the external appearance of the light are effected, and it may here be noted that the word "screen," as used throughout this description and the following claims, is intended to mean any body which will wholly or partially obscure or vary the light.

In the particular embodiment illustrated in Figs. 1 to 4, the screen is annular in form and constructed of colored translucent material, such as glass, whereby when brought into position between the light and lens it will change the color of the light. The screen is reciprocated by means actuated by the flow of gas to the light and these means, in the embodiment illustrated in Figs. 1 to 4, include a distensible gas chamber E, having the sides 10 formed with a plurality of folds, as shown, to permit the free distention and collapse of the chamber.

The top 11 of the chamber is movable and guided by means of rods 12 extending upwardly from the base 13, through tubular extensions 14 provided on the top and the screen D is supported from the top 11 by a bracket 15 formed with a plurality of separated legs 16 between which the bars 17 to support the burner C may extend.

The base 13 has an inlet port 18 and outlet port 19 provided therein and the inlet port is controlled by a valve piece 20 supported on a lever 21 fulcrumed near the end on which the valve is supported, to a projection 22 on the base, the opposite end of the lever having a spring 23 connected thereto, secured at the opposite end to a projection 24 on the base and adapted, according as the lever is in one position or the other, to hold the valve 20 closed or open.

25 represents an arm pivoted to the lever 22 and upwardly extending therefrom and provided on its upper extremity with an enlarged head or stop 26. The arm 25 has connection with the movable top 11 through the medium of a fixed arm 27 downwardly projecting from the top and provided with a horizontally turned end 28 which engages the arm 25.

The operation of the apparatus is as follows: The gas, which is preferably acetylene, is fed direct from the generator, flows in through the port 18 and raises the top 11 carrying with it the screen D, which is finally raised to the position shown in dotted lines in Fig. 1, where it partially obscures the flame of the burner C giving color thereto, according to the color of the screen.

When the plate 11 has reached its uppermost position, the end 28 on the arm 27 will engage the stop 26 and tilt the lever 21 causing the valve piece 20 to close the port 18. The weight of the plate 11 and the screen D will now cause the same to descend, while



the gas flows out through the port 19, the valve piece 20 being retained in closed position by the expansion of the spring 23.

When the lowest position is reached, the end 28 will engage the upper side of the lever 21 and tilt the same again, carrying the valve piece 20 to open position and causing the operation to be again repeated.

The gas, in passing out the port 19, is preferably led by a conducting pipe 29 to a pressure regulator F and from thence by a conducting pipe 30 to the burner C.

A signal light such as I have described, will be found of great use on gas buoys or light houses in isolated positions, where the light is required to operate continuously for an extended period of time, and the operation of the means for varying the appearance of the light by the flow of gas, avoids all necessity of using clock-work or other power supplying mechanism, which is very troublesome to keep in order and will not operate for any extended period.

As many changes can be made in the above construction and many apparently widely different embodiments of my invention can be made without departing from the spirit thereof, I intend that all matter contained in the above description or shown in the accompanying drawings, should be interpreted as illustrative and not in a limiting sense. It is therefore, to be understood that the language used in the following claims is intended to cover all the generic and specific features of the invention, herein described and all statement of the scope of the invention which, as

a matter of language, might be said to fall therebetween.

What I claim as my invention is:—

1. The combination with a gas operated signal light, of a gas chamber having a movable top, a screen carried by the top and adapted when raised to vary the appearance of the light, and means for intermittently feeding the gas to the chamber, and means for conducting the gas from the chamber to the light.

2. The combination with a signal light of a gas chamber having extendible walls, a screen secured to the top of said chamber, means for feeding gas to said chamber, means for taking gas from said chamber to the burner, and means controlled by the movement of the top of the chamber for intermittently cutting off the supply of gas to said chamber.

3. The combination with a signal light of a burner, a screen extending about the same, a gas chamber having extensible walls and a movable top, said screen being carried by the top of said chamber, guiding means for said top, means for feeding gas to said chamber, means for taking gas therefrom and leading it to the burner, and means secured to the top of the chamber for intermittently cutting off the supply of gas to said chamber.

In witness whereof I have hereunto set my hand in the presence of two witnesses.

THOMAS LEOPOLD WILLSON.

Witnesses:

RUSSEL S. SMART,  
WM. A. WYMAN.