

R. WANKMÜLLER.
 MEANS FOR SIGNALING FROM AIRSHIPS AND THE LIKE.
 APPLICATION FILED MAY 11, 1910.

1,013,342.

Patented Jan. 2, 1912.

Fig. 1

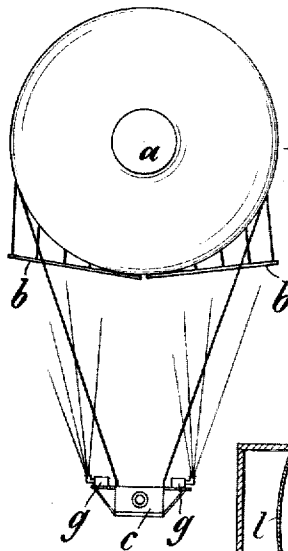
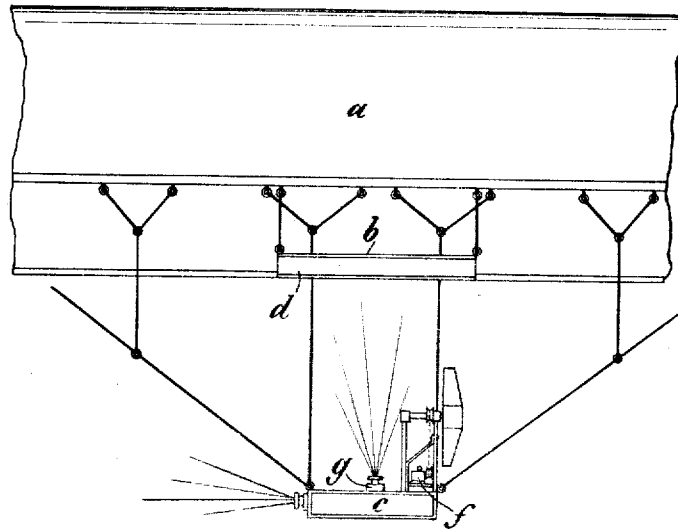


Fig. 2

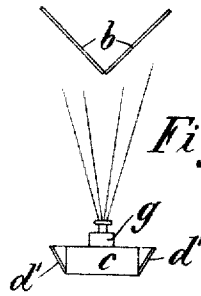


Fig. 3

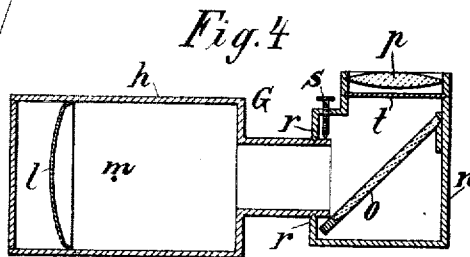


Fig. 4

Witnesses:

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UNITED STATES PATENT OFFICE.

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MEANS FOR SIGNALING FROM AIRSHIPS AND THE LIKE.

1,013,342.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, ROMEO WANKMÜLLER, a citizen of the German Empire, and residing at Berlin, German Empire, have invented new and useful Improved Means for Signaling from Airships and the Like, of which the following is a description.

This invention relates to a combined means for signaling from dirigible balloons and preventing the dirigible balloons from seeling in order to render the signals and advertisements better legible.

According to my invention I provide a light projector or light projectors, that is projecting apparatuses, in the car of the dirigible balloon and on the balloon, *i. e.* immediately underneath the gas bag, one or more screens, preferably in an inclined position. These screens not only serve the purpose of receiving the signals or advertisements displayed by the projecting apparatuses, but also prevent the balloon from seeling in that they act as damping faces or stabilisators.

A further object of my invention is to project the rays of light not only to the screen or screens, but also to light the air space above, sidewise and below the balloon. This is attained by employing a specially constructed projecting apparatus, which shall hereafter be more fully described.

To enable my invention to be fully understood, I will describe the same by reference to the accompanying drawing, in which:—

Figure 1 is a side view of an airship having my apparatus applied thereto, Fig. 2 is a front view of the same. Fig. 3 is a front view of a modified form of my apparatus and Fig. 4 is the projecting apparatus.

a is the balloon which is at its underside provided with one or more frames *b*, and an ordinary car *c* adapted to carry the passengers. The frames *b*, which are preferably rectangular, serve to securely keep the screens *d* in position, and, as shown in the drawing are mounted at an angle to each other. A motor *f* drives the propeller as well as the dynamo supplying current to the projection apparatus *g*. Any communications thrown upon the screens by the projection apparatus *g* (Figs. 1 and 2) can therefore be read from the earth below, on both sides.

The modified form of apparatus shown

in Fig. 3, is adapted to be arranged in the center of the car, and has the two frames *b* fitted at an acute angle to each other, so that they may both be illuminated from one apparatus, and thus enable the same messages to be read in both directions simultaneously.

To enable the beam of light and the communications to be thrown in all directions, the projection apparatus is constructed as shown in Fig. 4. It consists of a chamber *h* having the parabolic mirror *l*, a source of light *m* situated in front of the mirror, and a head portion *n* revolvably mounted on the said chamber and provided with a mirror *o*, lens *p*, and the film or transparent slide *t* containing the message. The head with the mirror, film and lens being revolvable around the axis of the rays of the light, the signals can be projected in every direction by revolving the head for 360°. The easy revolution of the head *n* with respect to the fixed chamber *h* is attained by the engagement of an annular groove and projection *r*, the two parts being set in any position by a set-screw *s*.

I claim as my invention:—

1. In combination with a dirigible balloon having a gas bag and a car suspended below the same, means on the car for projecting signals and advertisements, and a screen arranged in an inclined plane on the gas bag below, the same, the said screen to receive the signals and advertisements and serving as a stabilisator, substantially as described.

2. In combination with a dirigible balloon having a gas bag and a car suspended below the same, means on the car for projecting signals and advertisements, and a plurality of screens arranged symmetrically in an inclined plane on and immediately below the gas bag, the said screens to receive the signals and advertisements and serving as stabilisators, substantially as described.

3. In combination with a dirigible balloon, having a gas bag and a car, suspended below the same, a casing on the car, a light source therein, a projecting lens outside of the said casing, a mirror, obliquely arranged externally of the said casing and revolvable around the axis of the light rays emanating from the said light source to reflect the light rays upon

the said projecting lens and screens below the gas bag, substantially as described.

4. In combination with a dirigible balloon having a gas bag and a car suspended
5 below the same, a stationary casing, a light source and a condenser, both arranged in the said stationary casing, another casing revolubly attached to the said stationary casing and rotatable around the axis of the
10 light rays emanating from the said light

source, a mirror arranged in the said movable casing, a projecting lens in the said movable casing and screens below the gas bag, substantially as described.

In testimony whereof I affix my signature 15
in the presence of two witnesses.

ROMEO WANKMÜLLER.

Witnesses:

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WOLDEMAR HAUPT.