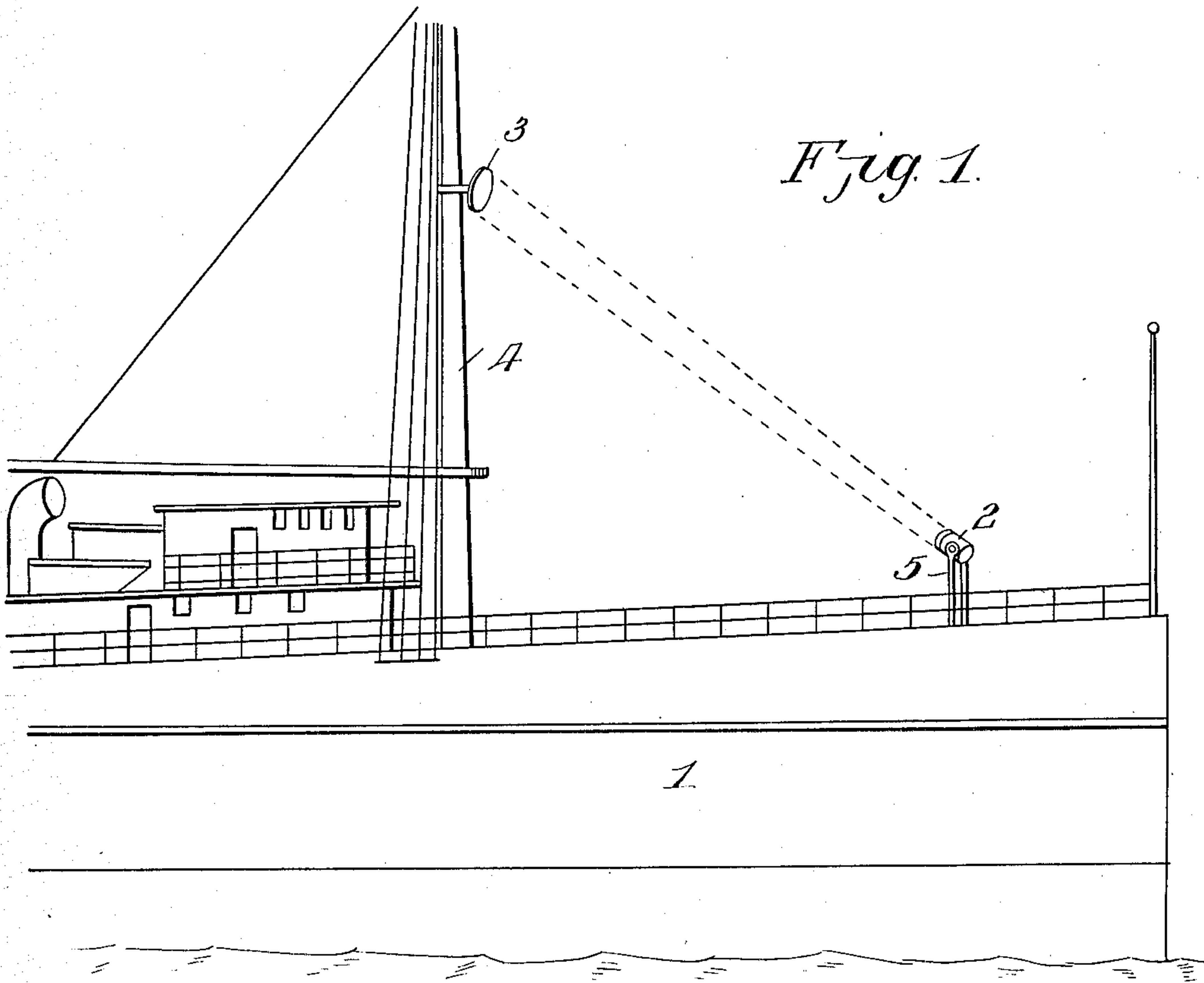


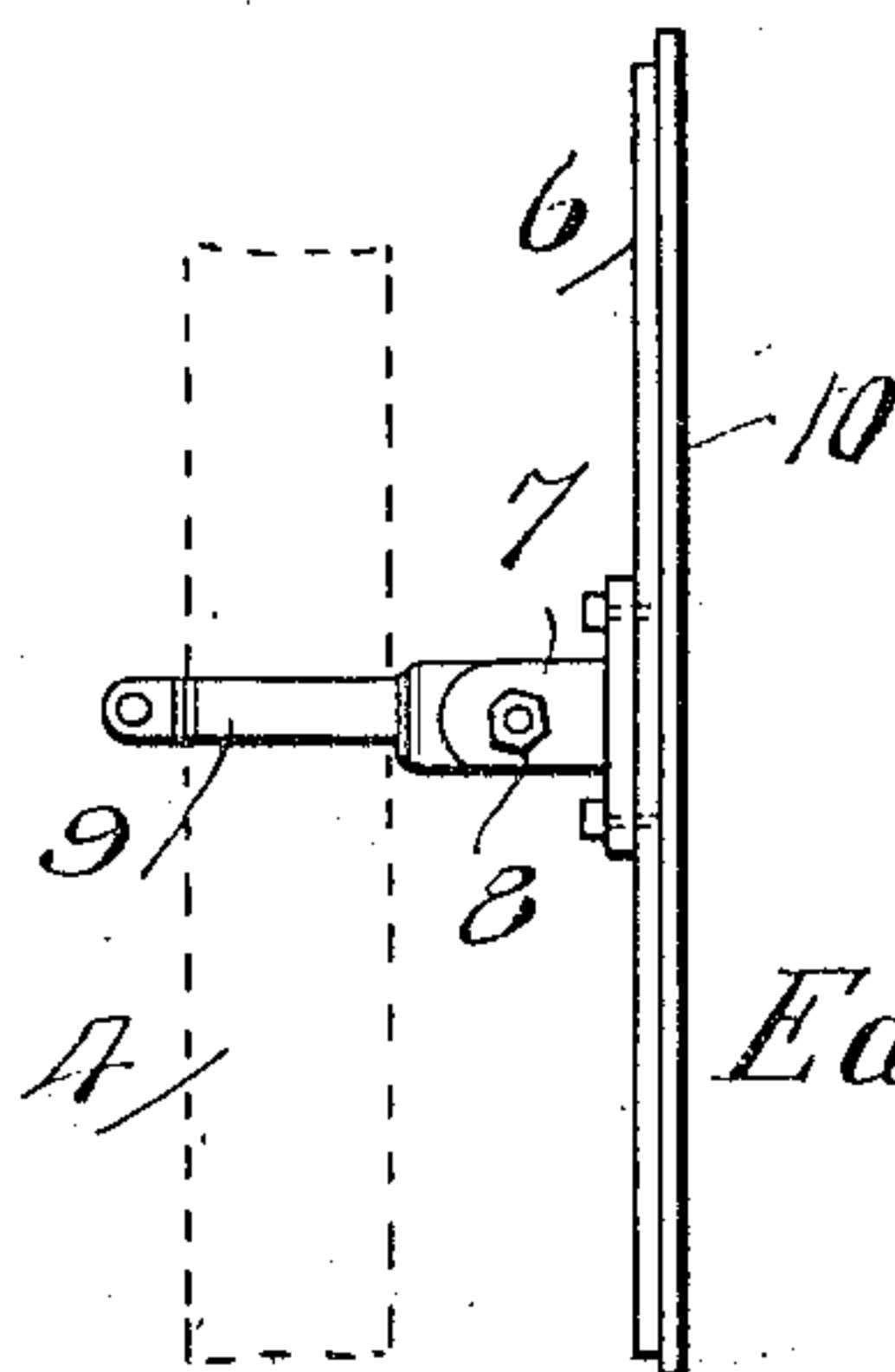
No. 860,451.

PATENTED JULY 16, 1907.

E. P. DONNELLY.  
FOG SIGNALING DEVICE.  
APPLICATION FILED DEC. 29, 1906.



*Fig. 2.*



Witnesses  
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# UNITED STATES PATENT OFFICE.

EDWARD P. DONNELLY, OF MANCHESTER, NEW HAMPSHIRE.

## FOG SIGNALING DEVICE.

No. 860,451.

Specification of Letters Patent.

Patented July 16, 1907.

Application filed December 29, 1906. Serial No. 350,089.

*To all whom it may concern:*

Be it known that I, EDWARD P. DONNELLY, a citizen of the United States, residing at Manchester, in the county of Hillsboro and State of New Hampshire, have invented new and useful Improvements in Fog Signaling Devices, of which the following is a specification.

It is a well known fact that the employment of lights as fog signals is impractical, and this for the reason that the most powerful lamps are inadequate for effectively projecting light rays through fog, which latter absorbs and dissipates the light rays, thereby destroying their penetrating effect. Therefore it is customary to rely upon horns or bells for use as fog signals, these audible signals being objectionable owing to the difficulty with which they are located and for other reasons.

This invention relates to fog signaling devices of the visual type and embodies essentially a lamp or other light producer and a reflector disposed within the path of the rays emanating from said producer and having a dull-finished golden surface onto which the light is directed and by which the rays are partially diffused and projected en masse in the form of an intensified body of light.

The invention has for its objects to provide a comparatively simple, inexpensive device of this character which may be readily installed for use, one whereby the light will be projected through and caused to effectually penetrate the densest fog, and one wherein the light projecting power of the reflector will be adequate to render the signal visible at a sufficiently long range to insure efficiency in action and for obviating collisions or like casualties.

With these and other objects in view, the invention comprises the novel features of construction and combination of parts more fully hereinafter described.

In the accompanying drawings: Figure 1 is a view of a portion of a marine vessel equipped with a signaling apparatus embodying the invention. Fig. 2 is a detail view in side elevation of the reflector.

Referring to the drawings, 1 designates a vessel on which is installed the improved signaling apparatus comprising a light producer 2 and a reflector 3, preferably sustained at an elevation on a mast or other support 4 and arranged in advance of and to catch the light rays emanating from the producer 2, which is by preference in the form of a searchlight pivotally mounted in a support 5 near the bow of the vessel and focused for directing a strong, intensified light directly onto the active face of the reflector.

The reflector, which may be of any appropriate form, embodies, in accordance with the invention, a base plate 6 having attached to its rear face a clip 7 pivoted by means of pintles or bolts 8 to an attaching member 9 in the form of a clamp bracket and designed to securely embrace the mast 4 for sustaining the reflector in position thereon, there being attached to the front face of the plate 6 an active surface plate 10 of disk-like form composed of pure or virgin gold having a dull-finished reflecting surface. It may be mentioned in this connection that while I have herein shown the active face of the reflector as being in the form of a plate attached to the base plate 6 it is to be understood that like results may be attained by heavily plating the front face of the base plate with gold to form the reflecting surface.

In practice, the intensified light radiated by the lamp or producer 2 is directed or focused onto the active dull-finished face of the disk 9 which catches and partially absorbs or diffuses the rays, thereby projecting the light en masse in a diffused condition from the active gold surface of the reflector. The dull-finished golden surface of the reflector will, under the action of the artificial light directed thereon, glow intensely and throw off or project a strong, lunar-like light having a powerful luminating property and a peculiar fog penetrating quality requisite for penetrating the densest fog, and this to an extent to render the luminous disk visible at a sufficiently long distance through the fog to render the signal effective. It may be mentioned in this connection that I have discovered through actual, practical tests that dull-finished golden metal is the only material adapted for use in the formation of the active reflecting surface of the signaling disk, this being due, as I believe, to a peculiar property of the metal in question when so finished, which causes the same in action to partially absorb and diffuse the light rays, as heretofore explained, and project this partially absorbed light in a diffused condition resulting in the projected light having a peculiar penetrating effect upon fog and causing the face of the disk to glow with a lunar-like radiance. Therefore, as it is essential to form the active surface of the reflector of a dull-finished golden metal, it is to be understood that the apparatus is restricted to this feature and that I do not seek to cover a reflecting disk the surface of which is made of a different metal or material, as it has been demonstrated that reflectors having polished surfaces or surfaces which are not of a golden nature act to throw off or reflect light in the form of rays, as distinguished from projecting the light in a partially diffused,



rayless condition, thus rendering the device ineffective  
as a fog signal, and this for the reason, as before stated,  
that the light when reflected in the form of rays is sub-  
ject to absorption by and consequently becomes inef-  
fective for penetrating murky or foggy atmosphere.

Having thus described my invention, what I claim  
is:

A fog signaling apparatus comprising a light producer  
adapted for radiating light rays and a reflector arranged

at a point remote from and in advance of the producer 10  
within the path of the rays emanating therefrom, said re-  
flector having a dull-finished golden active surface adapted  
to partially absorb and diffuse the light rays, thus to pro-  
ject through the fog an intensified body of light.

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

EDWARD P. DONNELLY.

Witnesses:

HELEN E. McDERBY,  
SHERMAN E. BURROUGHS.