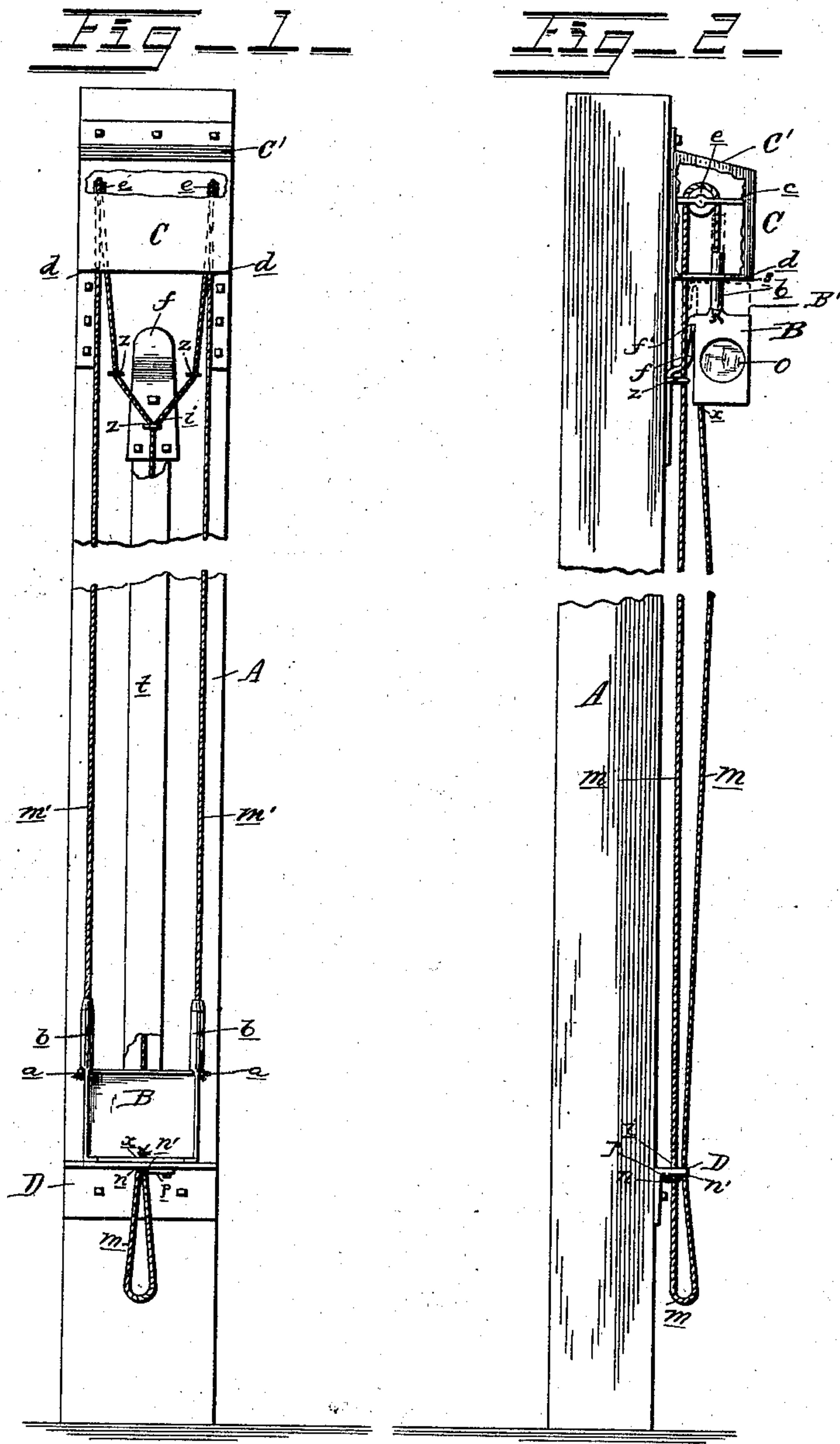


(No Model.)

W. J. BARNES.
SIGNAL APPLIANCE.

No. 406,558.

Patented July 9, 1889.



WITNESSES

Wm. J. Robertson
H. A. Roberts

INVENTOR

Wm. J. Barnes
by *Robt. St. Heur*
Attorney

UNITED STATES PATENT OFFICE.

WILLIAM J. BARNES, OF OSHKOSH, WISCONSIN.

SIGNAL APPLIANCE.

SPECIFICATION forming part of Letters Patent No. 406,558, dated July 9, 1889.

Application filed February 21, 1889. Serial No. 300,657. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM J. BARNES, a citizen of the United States, residing at the city of Oshkosh, in the county of Winnebago and State of Wisconsin, have invented certain new and useful Improvements in Railroad and Analogous Signal Appliances; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

My invention relates, principally, to improvements in the manner of lighting signal-lights and elevating them to the required height.

I am aware that appliances of this description have heretofore been constructed; but I am convinced, after practical application of my invention and of others, that some of the others are too complicated, and that my simple device will accomplish better results, cost less, and not be as liable to get out of repair and fail to properly work as former appliances of this class. Signal appliances have heretofore been constructed with a guiding slide, rod, or pole, to which the signal-light is connected by means of clamps or sockets embracing the guiding-rod so as to allow the light or light-frame to slide thereon when raised or lowered, and which supports the light or light-frame while being so raised or lowered. My experience in cold climates has demonstrated that these appliances are unreliable and sometimes practically useless, from the fact that sleet or snow often freezes upon such guiding rods and poles, so that the light-frame cannot slide thereon, and it is impossible to raise or lower the light.

Therefore the objects of my invention are, first, to facilitate the mode of lighting; second, to simplify and lessen the expense of the appliance, and, third, to more thoroughly adapt it to cold climates. I attain these objects by the construction and mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a front view of my appliance with the elevator down, showing top and bot-

tom portions of the supporting-post and with a portion of the front of the box C cut away to show the pulleys or sheaves *e e*. Fig. 2 is a side view of the same with a portion of the side of box C cut away and the box *t* removed.

Similar letters refer to similar parts throughout the several views.

A represents the supporting-post, and B the elevator-box which supports and carries the light. C is an inclosed box with an inclined top or roof C' to more readily shed water. This box is fastened to the top of the supporting-post A, and is provided with a horizontal partition *c* inside to support the pulleys *e e*, which are pivoted to the sides of openings in the partition.

D is a platform which supports the elevator B when down. I construct this platform at about the height of an ordinary man's shoulders from the ground or supporting-surface.

B, Fig. 1, shows the front slide or door of the box removed, so that the light may be placed within. This box, as well as the box C, is preferably constructed of some kind of metal. The stanchions *b b* extend upwardly from about the center of the upper edge on each side of the box B, and in the illustration are integral therewith and are of cylindrical construction, the ropes *m' m'* passing through and being fastened by enlargements or knots at the lower ends *a a*. From the stanchions *b b* the raising or carrying ropes or lanyards *m' m'* pass upwardly through openings in the bottom of the box C at *d d* and over the pulleys *e e*, thence downwardly through the guides *z z z* to *i*, where they are joined together into one rope, which continues downwardly behind the box *t* and through the opening *n* in the platform D, and upwardly again through the opening *n'* in the platform D, and is finally attached to the box B at *x*. The cover or box *t* protects all parts of the lanyards that pass over the pulleys *e e*—viz., that portion from *i* upwardly to the pulleys, Fig. 2, except the small portion above *i*, Fig. 1, which is sheltered by the box C, the light-frame being always raised to position B, Fig. 2, except when lowered to insert or remove the light.

In operating the appliance, the elevator-box B being down upon the platform D, Fig. 1, I first place the light in the box B and close

the front. Then, by pulling downward upon the lanyard *m*, I raise the box B to the dotted position B', Fig. 2, the standards *b b* passing loosely through corresponding holes in the bottom of the box C at *d d*. Then by lowering the box B slightly to the regular position B, Fig. 2, the hook *f'* drops over and engages the hook *f* to support the box. In this connection I claim a valuable improvement, although much simpler than former appliances of this class. In other appliances where a pawl or catch pivoted to the post is used to support the light at the top, the freezing of snow or ice upon the same is very liable to prevent its properly working upon the pivot, especially where a spring is used, and in any device of this kind where a pivoted pawl or catch is used at the top I have found, from constant experience in cold climates for several years, that ice and sleet forming upon the pivot prevent proper working of the same and render it unreliable, and as in signal-lights reliability is the main feature I claim for my device a great improvement in this respect.

In raising the box B from below, as it passes to the dotted position B', Fig. 2, the hook *f'* attached to the box, slides along the outside of the hook *f*, being thereby thrown slightly without the perpendicular until it passes above it, as shown by dotted position B', when it drops into the perpendicular, and when lowered to position B the hook *f'* drops over and engages the hook *f*. In the same manner, when wishing to lower the light, the person standing below, reaching above the platform D, Fig. 2, first pulls upon the rope *m* until he raises the box B to the position B'. Then by pulling outwardly and downwardly with his other hand upon the rope *m*, attached to the inside lower edge of the box B, the outside upper edge of the box B, engaging the box C at *s*, forms a lever with the fulcrum at *s*, whereby he can easily throw the box B without the perpendicular sufficiently to allow the hook *f'* to pass outside of the hook *f* and the box B to be lowered to the platform D.

o, Fig. 2, is an opening in each side of the box B to admit of any colored glass desired or to allow the light to shine or be closed by a slide from either side.

p is a drag attached to the under surface of the platform D, so as to be protected from snow and ice. This drag may be borne or forced against either rope at the openings *n n'*, to increase the tension, if necessary, to prevent the box B from swinging out of the perpendicular to any extent as it is being raised

or lowered—*i. e.*, when raising the box B the drag may be put upon the rope at the opening *n* in the same manner. When raised to the position B, the stanchions *b b* extend through the openings *d d* and into the box C sufficiently to support the box B and prevent it from turning in any direction upon the hook *f*.

My invention is adapted to ship and bridge signal-lights as well as railroad-signals.

Therefore what I claim as my invention, and desire to secure by Letters Patent, is—

1. The combination, with the supporting-post A, of a light frame or box joined to stanchions which pass, when raised, through corresponding openings in a pulley-supporting box above and are connected with a double raising-lanyard passing over pulleys from below, the lower end being attached to and carried by the light-frame from below to form a lowering-rope integral with the raising-rope, a drag attached to a lower supporting-platform and engaging both the raising and lowering ropes, and a supporting-hook at the top arranged so as to engage a corresponding hook or projection upon the light-frame when descending in a perpendicular, substantially as shown, for the purposes specified.

2. The combination, with a supporting-post A, of a light-frame having posts or stanchions extending upwardly, attached to a double lanyard passing upwardly over pulleys at the top and downward below the light-frame and attached thereto, eyes or sockets at the top to admit or inclose the stanchions when raised, and a supporting-hook at the top to engage a corresponding hook or projection upon the light-frame when at perpendicular, substantially as shown, for the purposes specified.

3. In a railroad or other signal, the combination, with a supporting-post, of a pulley secured to the upper part of the post, an elevating and lowering cord passing over the pulley, said cord extending in a loop near the bottom of the post, a light-frame having the two ends of the cord connected thereto, a hook or support for the light-frame to hold it firmly at the proper signaling-point, and a protective covering for the portion of the cord which passes over the pulley when the lamp is lowered for lighting or trimming.

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

WILLIAM J. BARNES.

Witnesses:

JAMES FREEMAN,
JOHN HARRINGTON.