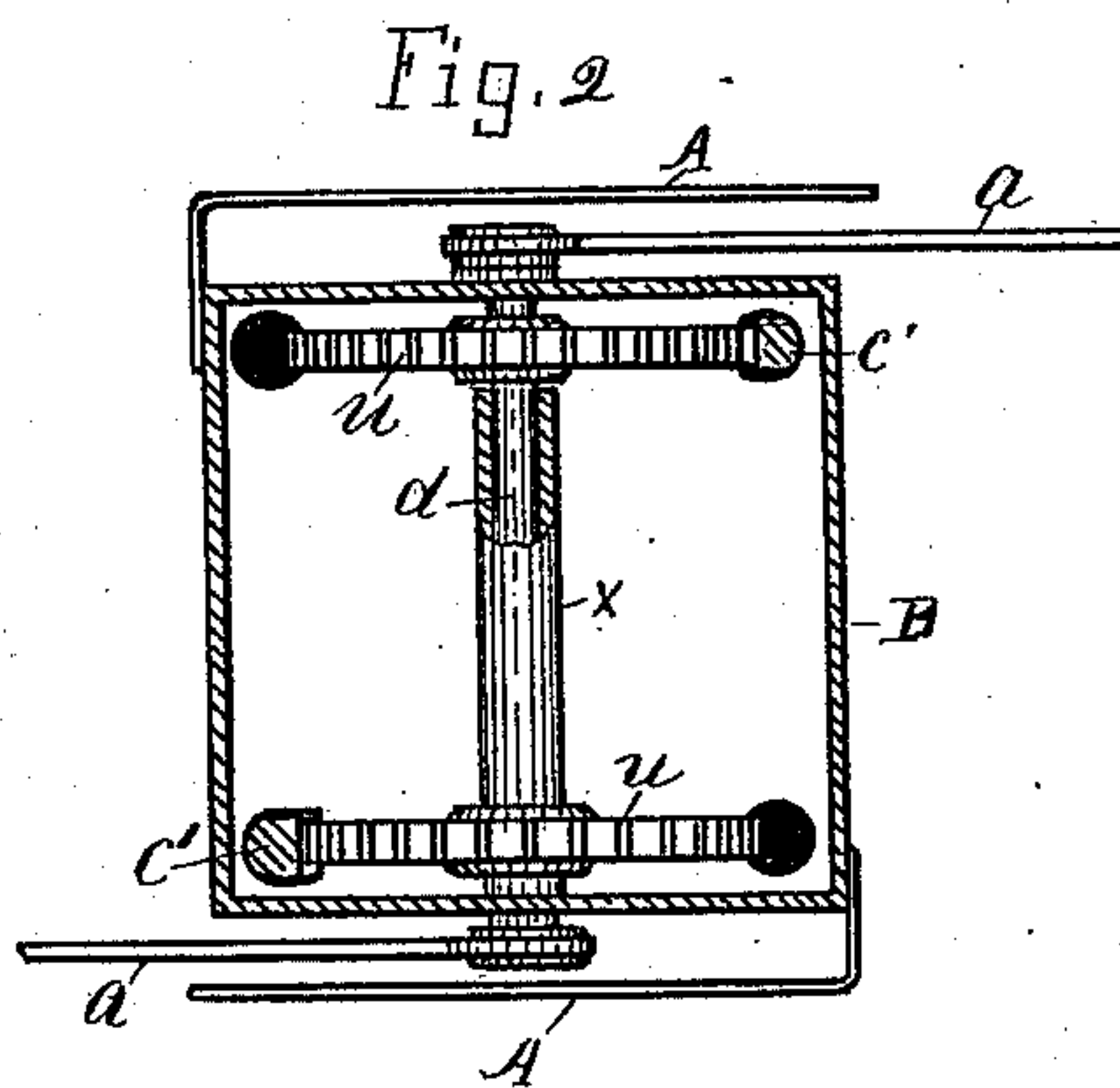
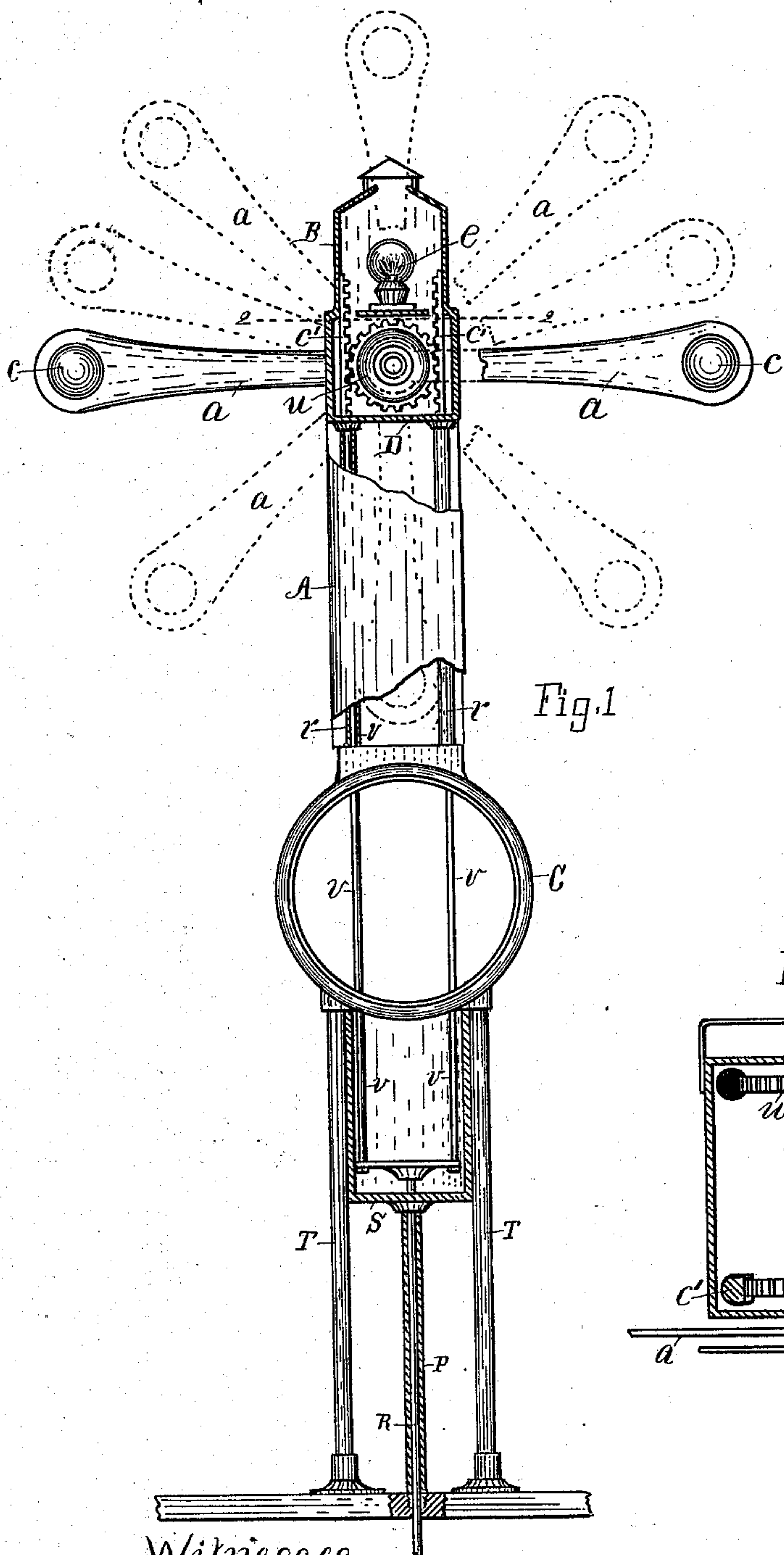


(No Model.)

B. F. FREELAND.
RAILWAY STATION SIGNAL.

No. 413,600.

Patented Oct. 22, 1889.



Witnesses.
John C Perkins
Eugene, Scott

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Atty-

UNITED STATES PATENT OFFICE.

BUCKNER F. FREELAND, OF VISTULA, INDIANA.

RAILWAY-STATION SIGNAL.

SPECIFICATION forming part of Letters Patent No. 413,600, dated October 22, 1889.

Application filed December 28, 1888. Serial No. 294,844. (No model.)

To all whom it may concern:

Be it known that I, BUCKNER F. FREELAND, a citizen of the United States, residing at Vistula, county of Elkhart, State of Indiana, have invented a new and useful Railway-Station Signal, of which the following is a specification.

The object of this invention is to construct a signal employing signal-arms which move toward and from each other, but independently of each other, whereby a greater variety of signals may be given than with arms attached to an axle common to both.

A further object consists in producing a signal having such arm, and providing the latter with lights to be employed in connection with a light-house light in a manner to enable the operator to give the same signals by night with the arms that he does in the day-time.

In the drawings forming a part of this specification, Figure 1 is an elevation, parts being broken away; and Fig. 2 is a cross-section on line 2 2 in Fig. 1, looking from a point above.

Referring to the lettered parts of the drawings, T *r* are hollow standards of the frame, four preferably being employed.

At C is a dial-case in the frame, four hollow standards T being below said case and four such standards *r* above. This case C shows that a time-register may be connected with the signal, all in one construction, the dials of the case not being here shown.

At P is a hollow pipe, in which a vertically-playing rod R is placed, which rod R is shown broken below the surface of the ground, or a platform, as the case may be. In use mechanism for operating this rod will be attached to it at the lower end, but not here shown. The upper end of the rod P opens into a chamber S, in which chamber other signal-lights may be placed, as heretofore, but serving as well to house the lower end of the branches *v v* of the rod R. These branches—two in number—pass up through the dial-case C, the standards *r*, and terminate (in the light-house B) in racks *c'*. The standards *r* support the light-house and open into it. Journaled in the light-house is a hollow shaft *x* and a shaft *d* within the shaft *x*. Each shaft has a gear-wheel *u* at one end within the light-house, and an arm *a*, rigidly

attached to the same end, outside of the two opposite walls of the light-house B.

It will be observed in Fig. 2 that the racks *c'* are at two diagonal corners of the light-house, and hence the branches *v v* of the rod R pass up two of the standards *r*, which are diagonally opposite to each other. The racks *c'* thus mesh with their gears *u* on opposite sides to each other. Thus when the rod R is moved up and down, the gears and their shafts *d x* revolve in opposite directions and swing the arms *a a* downward, or away from each other—that is, cause their free ends to approach or recede from each other during their action above and below a horizontal plane occupied by said arms in Fig. 1. These arms may be of a desired color—say red, to illustrate—and when in their various positions, some of which are illustrated in dotted positions in Fig. 1, they indicate to the train-men certain signals, instructions, &c., as preagreed upon or established by the railway officials. When the arms are raised, they describe a letter V, with a varying angle at the sides, according to the particular position at which they are fixed, until they assume an upright position, one behind the other. This upright position of the red arms indicates “danger,” if so agreed upon, and when the arms hang down they pass behind the white wings A and are hid from view, and this would indicate, for instance, the “track is clear.” The down position of the arms *a* themselves may indicate this or other signals, and the wings A be dispensed with entirely.

When the arms *a* are between their horizontal and down position, they describe an inverted letter V, thus A, and the various positions the arms take in this respect may be adopted to indicate other instructions. The positions “up,” “down,” “horizontal,” “upward oblique,” and “downward oblique” are the five leading positions, and possibly the only ones which would be adopted. I provide the outer end of each arm with a light *c*, and these lights, in connection with the light *e* in the light-house, indicate in the night-time the positions the arms occupy, and hence signify the same as day-signals. The three lights in a horizontal row would signal same as the horizontal arms. A single light would show “danger,” whether the arms were up or

down, for if up the light *e* would be hid, and if down the lights *c* would be hid.

Having thus described my invention, what I claim is—

5 1. The combination of a suitable support having a wing on each of the two opposite sides, and two signal-arms, each having an independent axle, said axles having bearing in said support on a like plane, and the arms,
10 axles, and wings being so arranged that both arms will be visible at the same time or invisible at the same time, substantially as set forth.

2. The combination of a suitable support,
15 independent shafts having bearings in said support, the outer end of each shaft having attached thereto a gear-wheel and a signal-arm, and a vertically-playing rod provided with racks to mesh with the gears, one on one
20 side of one gear and the other on the other side of the other gear, substantially as set forth.

3. The combination of a support having hollow upright standards, a chamber supported by said standards, two independent
25 shafts having bearings in said chamber, the gear and arm on the outer end of each shaft, a vertically-playing rod having the branches passed up through the two, diagonally opposite of said standards, and the racks terminat-

ing the end of said branches and meshing on a side of each gear opposite to each other, substantially as set forth.

4. The combination of the support or tower, consisting of the lower corner standards, the
35 hollow rod opening beneath the base-support or ground, the chamber above said rod and into which chamber it enters, the dial-case, the hollow standards above said case, a chamber supported by said latter-named rods, the
40 signal-arm shafts having the gears in said chamber, the vertically-playing rod within the lower hollow rod, the branch rods extending from the lower chamber up through the dial-case and the upper hollow rods, said branches
45 terminating within the upper chamber in the rack-gears, substantially as set forth.

5. The combination of a support, a lighthouse supported thereby, the two signal-arms having each an independent axis and adapted
50 to swing toward and from each other, as stated, and a light at the free end of each arm, substantially as set forth.

In testimony of the foregoing I have hereunto subscribed my name in presence of two
55 witnesses.

BUCKNER F. FREELAND.

Witnesses:

S. E. MARTIN,
M. H. HASS.