No. 805,872. PATENTED NOV. 28, 1905.

C. M. McGEHEE.

RAILWAY SIGNAL.

APPLICATION FILED MAR. 20, 1905.

2 SHEETS—SHEET 1.

Fig. 1.

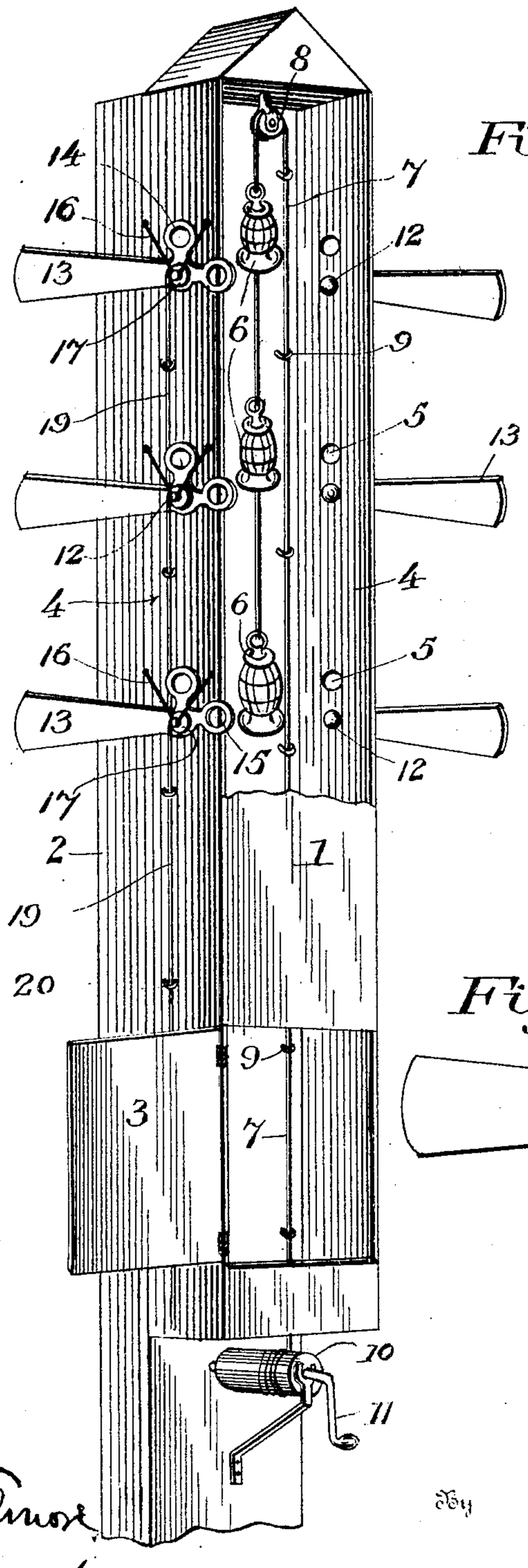


Fig. 2.

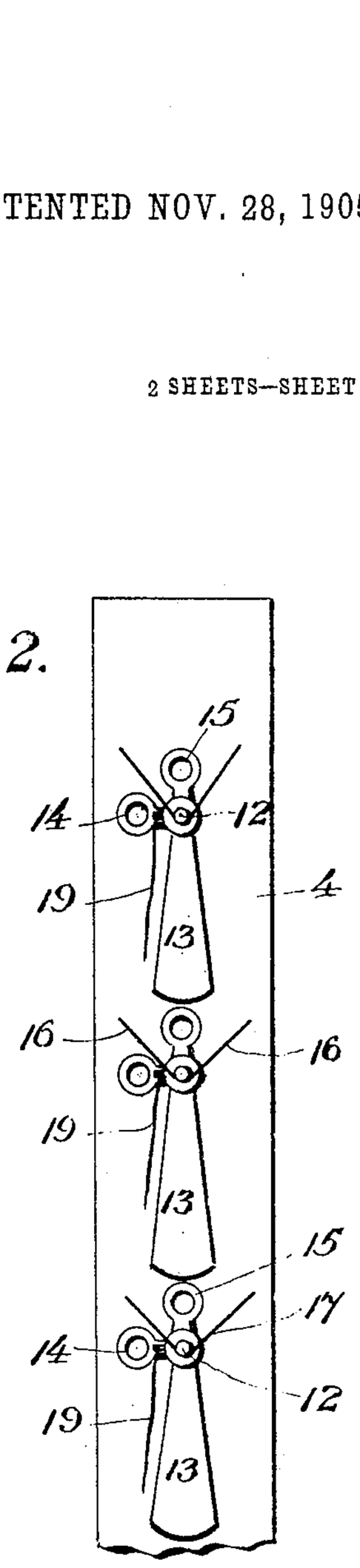
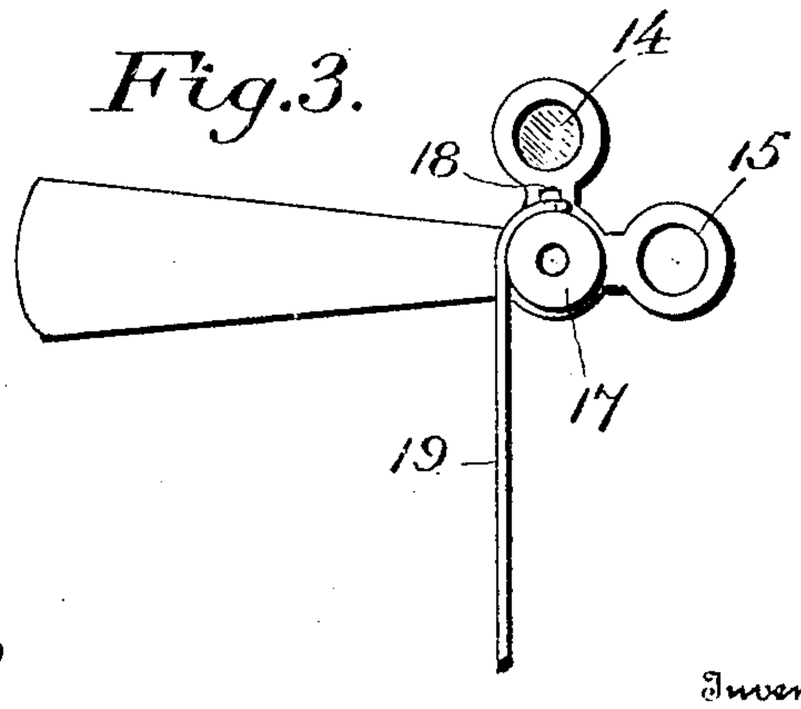


Fig. 3.



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2 SHEETS—SHEET 2.

Fig. 4.

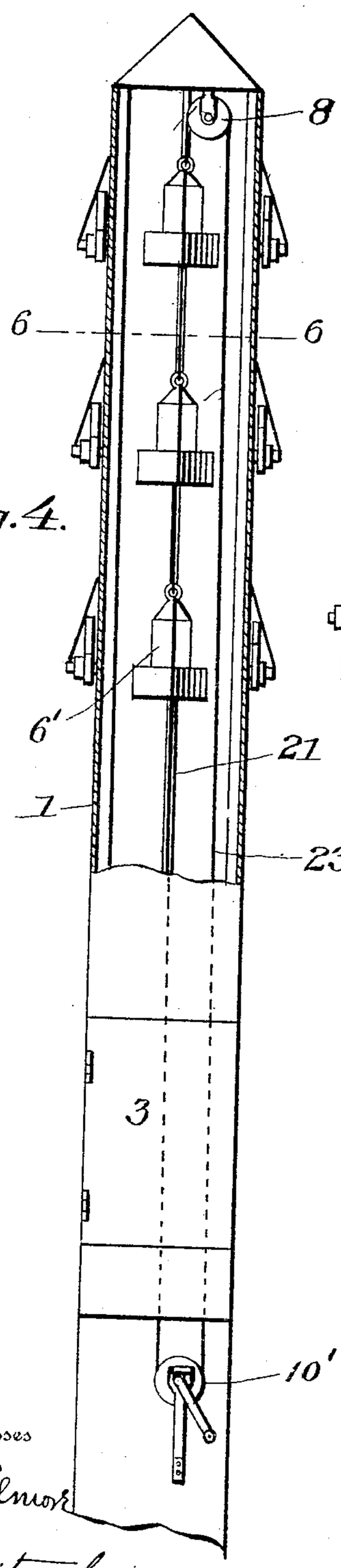


Fig. 6.

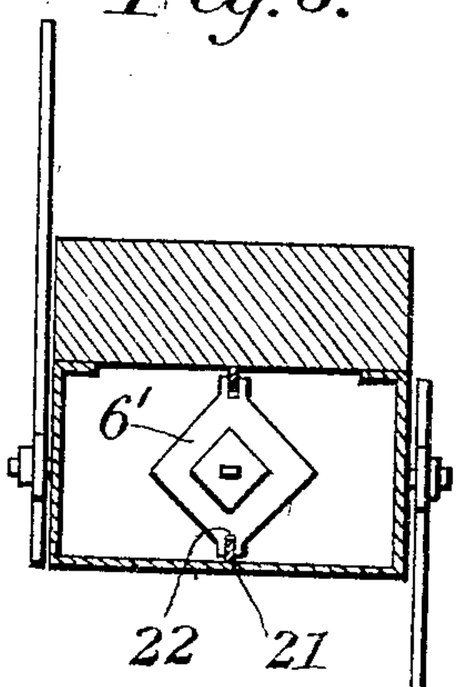
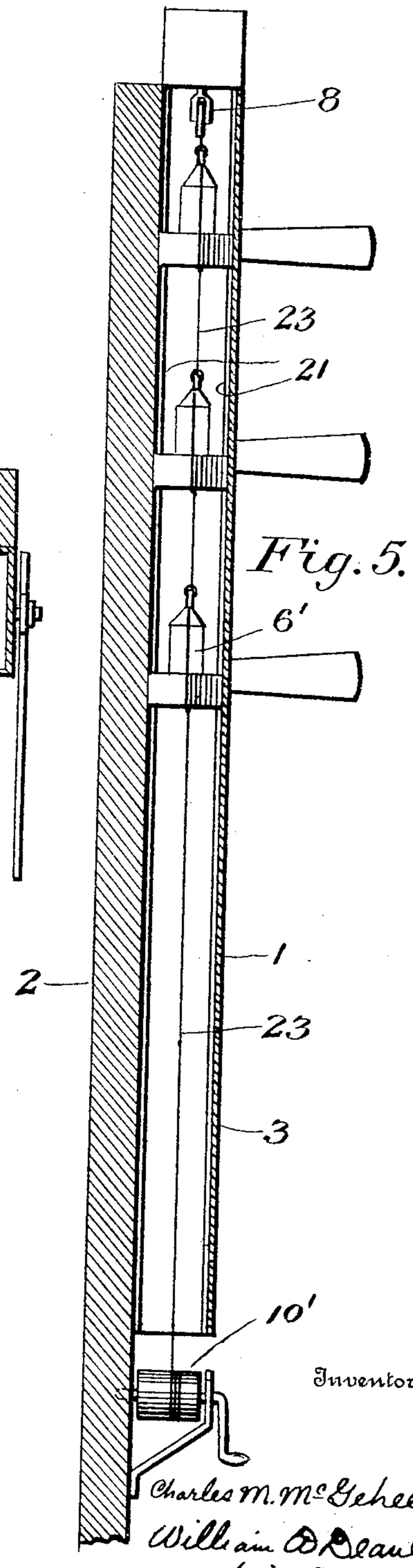


Fig. 5.



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UNITED STATES PATENT OFFICE.

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RAILWAY-SIGNAL.

No. 805,872. Specification of Letters Patent. Patented Nov. 28, 1905.

Application filed March 20, 1905, Serial No. 251,108.

To all whom it may concern:

Be it known that I, CHARLES M. McGEHEE, a citizen of the United States, residing at Beaverdam, in the county of Hanover and State of Virginia, have invented certain new and useful Improvements in Railway-Signals, of which the following is a specification.

This invention relates to railway-signals, and has for its objects to provide a comparatively simple device of this character which may be inexpensively produced and installed, one wherein the signal-lamps will be at all times thoroughly protected against inclement weather, one in which the semaphore-arms may be properly manipulated and the lamps readily lowered for cleaning, filling, or other necessary attention and readjusted to signaling position, and at the same time one whereby necessity for the operator leaving his office to operate or attend the signals is wholly obviated.

Further objects of the invention are to provide simple efficient means for operating the signaling devices, a signal apparatus which may be employed for block or train-order systems, and one which will overcome the necessity for stopping fast or through trains to receive what are known as "caution-cards."

To these ends the invention comprises the novel features of construction and combination of parts more fully hereinafter described.

In the accompanying drawings, Figure 1 is a perspective view of a signaling device embodying the invention, a part of the casing being broken away. Fig. 2 is a detail side elevation of a portion of the post, showing another position of the semaphores. Fig. 3 is a detail view of one of the semaphore-arms. Fig. 4 is a front elevation, partly in section, showing a slightly-different embodiment of the invention. Fig. 5 is a side sectional elevation of the same. Fig. 6 is a horizontal sectional plan on the line 6 6 of Fig. 4.

Referring to the drawings, 1 designates a hollow post composed of sheet metal and constituting a box or casing, preferably of rectangular form in cross-section and sustained by a rigid vertical standard or support 2, to which it is attached in any appropriate manner, said casing being equipped with a door 3 and having formed in its side walls 4, which face parallel with the road, a plurality of oppositely-disposed openings or bull's-eyes 5, by preference arranged three on each side and in vertically-spaced relation.

Housed within the casing 1 is a series of three lamps 6, spaced vertically to accord with the spacing of the bull's-eyes and suspended upon a cable or analogous flexible element 7, arranged for travel over a pulley 8, suitably sustained at the top of the casing, the cable being threaded through staple-guides 9 in the casing and normally wound at its lower end upon a drum or windlass 10, journaled in bearings at the lower end of the casing and provided with an operating-crank 11. It is well to mention at this point that the lower end of the casing and the windlass will in practice be situated within the signaling-house, and thus freely accessible to the operator, whereby he may without leaving his office lower the lamps for filling, trimming, or giving other necessary attention thereto and thereafter readjust them in signaling position.

Fulcrumed upon the side walls 4 of the casing, upon pintles or axles 12, is a plurality of semaphore-arms 13, corresponding in number to the number of bull's-eyes 5 and disposed, respectively, adjacent to and for coöperation with the latter. These arms are each provided with a pair of bull's-eyes contrastingly colored and termed, respectively, the "primary" bull's-eye 14 and the "auxiliary" bull's-eye 15, either of which may be brought into register with the adjacent opening or bull's-eye 5. The axles 12 are strengthened by braces 16 and the arms or paddles each provided with a hub 17, having a projection or pin 18, to which is fastened one end of an operating rope or element 19, designed for operation to swing the semaphore on its pivot. The operating-ropes 19, which correspond in number to the number of semaphores, are threaded through staple-guides 20 and are operable from within the signaling-house, as in the instance of the rope 7.

In practice the post 1 stands in position for the semaphores on one side to be employed in signaling trains approaching from one direction and those on the other side trains approaching in an opposite direction, while the pins 18 normally stand horizontally with the arms 13 vertically disposed, as seen in Fig. 2, under which conditions the bull's-eyes 5 will register with and be covered by the secondary bull's-eyes 15 of the semaphores, these latter bull's-eyes all being transparent. It is to be observed in this connection that the primary bull's-eyes of the upper and lower semaphores, which are designed for use, respectively, in block systems and train-order signaling, are colored red, while the corresponding bull's-

eye of the intermediate semaphore, which serves as a substitute for the usual caution-card, is green, the paddles of the semaphores being colored in part to agree with the color of their respective primary bull's-eyes. When it is desired to signal an approaching train, the operating-cord of the proper semaphore is released, whereupon the arm, which is suitably weighted for the purpose, will swing by gravity to horizontal position, with its bull's-eye 14 covering the adjacent opening 5. After the train has passed, the arm is returned to normal position through the medium of the operating-cord, which may then be secured.

Referring to Figs. 4, 5, and 6, in which certain features of the device are brought to a higher order of perfection, it will be seen that within the casing 1 there are provided a pair of oppositely-disposed vertical tracks or guides 21, on which the lamps 6′ are arranged for travel, the lamps being in this instance provided with seats or recesses 22 to receive the guides. Also in this form of the device the lamps are hung upon an endless cable engaged with and operable by the windlass 10′ for raising and lowering the lamps for the purposes hereinbefore set forth, it being understood that the lamps will in their travel and owing to their engagement with the guides 21 move steadily and evenly. Aside from these differences the construction and operation of the device are identical with that hereinbefore described, it being obvious that through these differences the construction as a whole is brought to a somewhat higher state of perfection.

From the foregoing it is apparent that I produce a simple efficient signal admirably adapted for the attainment of the ends in view, it being understood that minor changes in the details herein disclosed may be resorted to without departing from the spirit of the invention.

Having thus fully described the invention, what is claimed as new is—

1. In a railway-signal, the combination with a support, a light, an arm pivoted on the support and having a hub, operating means for the arm engaging the hub, projections carried by the hub, and braces connected to said projections and the support.

2. In a railway-signal, a casing provided with a bull's-eye, an arm pivoted on the outside of the casing, a hub carried by the arm, operative means connected to the hub, projections carried by the hub, and braces connected to said projections and the casing.

3. In a railway-signal, a casing provided with a bull's-eye, an arm pivoted on the outside of the casing, a hub carried by the arm, operative means for the arm connected to the hub, means arranged on the casing for guiding said operative means, projections carried by the hub, and braces connected to said projections and the casing.

4. In a railway-signal, a casing provided with openings, a plurality of semaphore-arms pivoted to the casing and provided with bull's-eyes designed to register with the openings, said casing also provided with guides, and lamps traveling on said guides.

5. In a railway-signal, a casing provided with openings, a plurality of semaphore-arms pivoted to the casing and provided with bull's-eyes designed to register with the openings, said casing also provided with guides, lamps traveling on said guides, and operative means for said lamps.

6. In a railway-signal, a casing provided with a plurality of vertically-spaced openings, a plurality of semaphore-arms pivoted to the casing each adjacent one of said openings and provided with bull's-eyes designed to register with said openings, guides arranged inside of said casing, and a plurality of lamps operatively related to said guides and adapted to be brought respectively into alinement with the openings.

7. In a railway-signal, a casing provided with a plurality of vertically-spaced openings, a plurality of semaphore-arms pivoted to the casing each adjacent one of said openings and provided with bull's-eyes designed to register with said openings, guides arranged inside of said casing, a plurality of lamps traveling upon said guides, an endless cable carrying the lamps, and a windlass for raising and lowering the lamps through the medium of said cable.

8. In a railway-signal, a casing provided with openings, guides arranged within the casing, a series of lamps having engagement with said guides, and operative means for the lamps.

9. In a railway-signal, a casing provided with a plurality of vertically-spaced openings, a plurality of lamps within the casing and adapted to be brought respectively into alinement with the openings, a plurality of semaphore-arms pivoted to the casing each adjacent one of the openings and provided with bull's-eyes designed to register with the latter.

10. In a railway-signal, a casing provided with a bull's-eye opening, a semaphore pivoted upon the casing and provided with a bull's-eye adapted to register with the opening, said casing also provided with a pair of oppositely-disposed vertical guides, and a series of lamps operatively related to said guides.

11. In a railway-signal, a casing provided with a bull's-eye opening, a semaphore pivoted upon the casing and provided with a bull's-eye adapted to register with the opening, said casing provided also with guides, and lamps traveling on said guides.

12. In a railway-signal, a casing provided with a bull's-eye opening, a semaphore pivoted upon the casing and provided with a bull's-eye adapted to register with the opening, said casing provided also with guides, and lamps

having recesses for sliding engagement with said guides.

13. In a railway-signal, a casing provided with a bull's-eye opening, a semaphore pivoted upon the casing and provided with a bull's-eye adapted to register with the opening, said casing also provided with guides, lamps traveling on said guides, and operative means for said lamps.

14. In a railway-signal, a casing provided with a bull's-eye opening, a semaphore pivoted upon the casing and provided with a bull's-eye adapted to register with the opening, said casing also provided with guides arranged on the interior thereof, lamps traveling upon said guides, an endless cable carrying said lamps, and a windlass for raising and lowering the lamps through the medium of said cable.

15. In a railway-signal, a casing provided with interior guides, a series of lamps having recesses for engagement with said guides, and operative means for the lamps.

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

CHAS. M. McGEHEE.

Witnesses:
H. CARTER REDD,
J. W. O'BRIEN.