

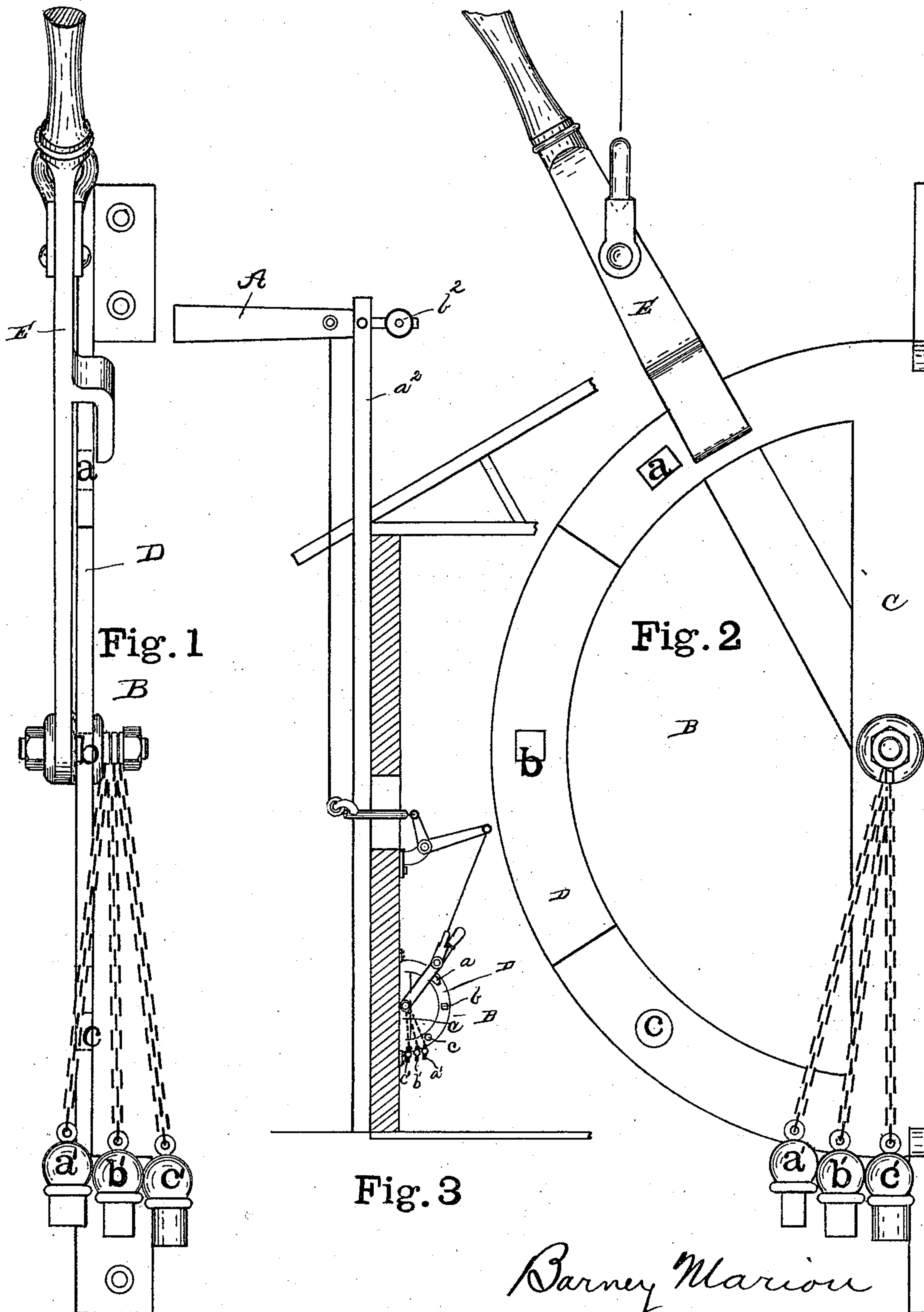
(No Model.)

B. MARION.

# DEVICE FOR SETTING SEMAPHORE SIGNALS.

No. 488,825.

Patented Dec. 27, 1892.



Witnesses.

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# UNITED STATES PATENT OFFICE.

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## DEVICE FOR SETTING SEMAPHORE-SIGNALS.

SPECIFICATION forming part of Letters Patent No. 488,825, dated December 27, 1892.

Application filed May 2, 1892. Serial No. 431,535. (No model.)

*To all whom it may concern:*

Be it known that I, BARNEY MARION, a citizen of the United States, residing at Vicksburg, in the county of Warren and State of Mississippi, have invented certain new and useful Improvements in Devices for Setting Semaphore-Signals; and I do hereby 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.

My invention has relation to improvements in devices for setting the arm of a semaphore signal in its several positions and it has for its general object to avoid accidents incidental to errors in signaling moving trains.

A further object of the invention is to facilitate the work of the operator by enabling him to readily and accurately determine when the semaphore arm is in the position desired.

To the attainment of the foregoing and other objects, the invention consists in the peculiar construction, certain novel combinations and the adaptation of parts hereinafter described and particularly pointed out in the claims appended.

In the accompanying drawings: Figure 1 is an end elevation of my improved device; Fig. 2 is a side elevation of the same, and: Fig. 3 is a side elevation of the device, upon a reduced scale in conjunction with a semaphore arm and the intermediate mechanism.

Referring by letter to the said drawings: A, indicates a semaphore signal arm of the ordinary construction, which is pivotally connected to an upright as  $a^2$ , and is preferably provided with a counter-balance weight  $b^2$ , as shown.

Placed within a train dispatcher's office, or other place, at a proper point with respect to the semaphore arm A, is a quadrant frame B, which preferably comprises the bar C, and the curvilinear bar D, which is preferably formed integral with the said bar C, as shown.

Pivotally connected to the bar C, about midway the length thereof is a lever E, through the medium of which and the intermediate mechanism illustrated, the semaphore arm is adjusted.

As before stated, the object of my invention is to enable the operator to readily and

accurately determine the positions of the semaphore arm and thereby obviate the liability of accident; and to this end, I provide in the curved bar D, of the quadrant, three transverse apertures  $a$ ,  $b$ , and  $c$ , designed to receive the pins  $a'$ ,  $b'$ , and  $c'$ , respectively, which are preferably connected to the pivot bolt of the operating lever or to the quadrant frame at any suitable point by strings or chains, as illustrated.

As better illustrated in Fig. 2 of the drawings, the aperture  $a$ , and the shank of the pin  $a'$ , are of an elongated rectangular form; the aperture  $b$ , and the shank of the pin  $b'$ , are of a true rectangular or square form; and the aperture  $c$ , and the shank of its pin  $c'$ , are of a circular form, whereby it will be perceived that care and attention on the part of the operator will be required to select a pin to fit the aperture situated at the point to which the operating lever is to be moved, whereby it will be seen that the liability of the operator placing a pin in the wrong aperture and moving the operating lever until it is stopped by said pin, is obviated.

In addition to having the apertures  $a$ ,  $b$ ,  $c$ , and their corresponding pins  $a'$ ,  $b'$ ,  $c'$ , of different shapes, I prefer in practice to have the space about the said apertures and their corresponding pins of different colors, so as to enable the operator to more readily select the pin desired and the aperture in which it is to be placed.

The arm A, of the semaphore, by reason of the weight  $b^2$ , normally rests in a horizontal position, as illustrated, which is the signal to stop. To give the caution signal the arm of the semaphore is lowered until it rests at an angle of forty-five degrees, and to give the "clear track" signal, the said semaphore arm is lowered to a vertical or approximately vertical position.

By the arrangement of the operating lever with respect to the quadrant frame B, and the semaphore arm A, it will be perceived that when the lever is immediately above the aperture  $a$ , the arm A, will rest in its normal horizontal position; that when the lever is moved to a point immediately below the aperture  $b$ , the arm A, will rest at an angle of forty-five degrees; and that when the lever is



moved to a point immediately below the aperture *c*, the arm *A*, will rest in a vertical or approximately vertical position.

In practice, when it is desired to set the signal arm *A*, in a horizontal position, the operator places the pin *a'*, in the aperture *a*, to prevent the lever from being moved so as to change the signal. When it is desired to give the caution signal, the pin *b'*, is placed in the aperture *b*, after which the pin *a'*, is removed from its aperture, and the lever is moved to the pin *b'*, and when it is desired to give the "clear track" signal, the pin *c'*, is placed in its aperture *c*, after which the pin *b'*, is removed and the lever moved to and held against the said pin *b'*. By reason of the weight *b*<sup>2</sup>, upon the semaphore arm *A*, the lever *E*, will normally be held in an approximately vertical position. As soon as the operator receives the train order, before the arrival of the train, he places the pin corresponding to the order received in the aperture designed to receive it. Thus it will be seen that when the train blows for the signal the operator can only pull the lever to the pin. He can then take out the pin, pull the lever down below the aperture, and replace the pin, after which he can go out and deliver the order, as the pin will hold the lever in its adjusted position.

From the foregoing description, it will be readily perceived that I have provided a signal setting device of an exceedingly cheap, simple and compact construction, through the medium of which the correct setting of a signal is facilitated and the liability of an incorrect setting or adjustment reduced to a minimum.

Having thus described my invention, what I claim and desire to secure by Letters Patent, is:—

1. In a signal setting device, the combination with a quadrant having apertures of different shapes at suitable intervals, of a lever

pivotaly connected to the quadrant, a counterbalanced semaphore arm connected with said lever, and a series of pins of a shape corresponding to the apertures in the quadrant and adapted to be placed therein to limit the movement of the lever, substantially as specified.

2. In a signal setting device, substantially as described, the combination with a quadrant frame having apertures of different shapes at intervals in the length of its curvilinear bar; of a lever pivotaly connected to the said frame, and connected with and adapted to set a signal, and a series of pins of different shapes corresponding to the shapes of the apertures in the quadrant frame adapted to be placed in their respective apertures to limit the movement of the signal setting lever; substantially as and for the purpose set forth.

3. In a signal setting device, substantially as described, the combination with a quadrant frame having apertures of different shapes at intervals in the length of its curvilinear bar, and having the bar immediately around said apertures differently colored; of a lever pivotaly connected to the said frame and connected with and adapted to set a signal, and a series of pins of different shapes and colors corresponding to the shapes of the apertures in the curvilinear bar of the quadrant frame, and the colors around or about said apertures, adapted to be placed in their respective apertures to limit the movement of the signal setting lever; substantially as specified.

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

BARNEY MARION.

Witnesses:

M. L. MCCLURE,

I. B. BAGGETT.