

S. J. STUCKEY.

AUTOMATIC BLOCK SIGNAL FOR RAILWAYS.

No. 484,062.

Patented Oct. 11, 1892.

Fig. 1.

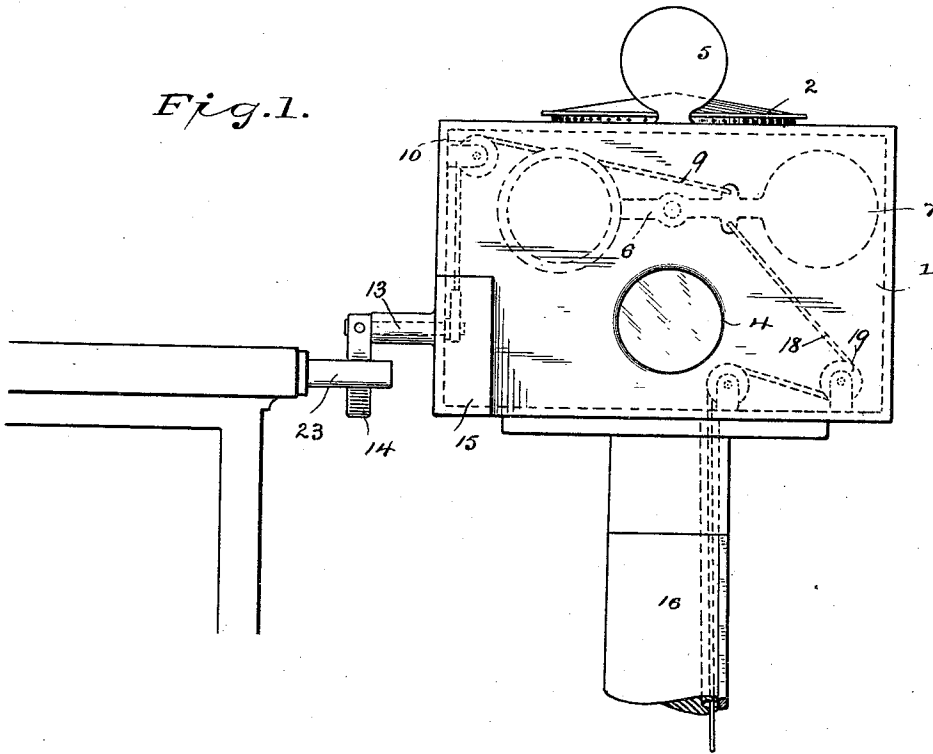
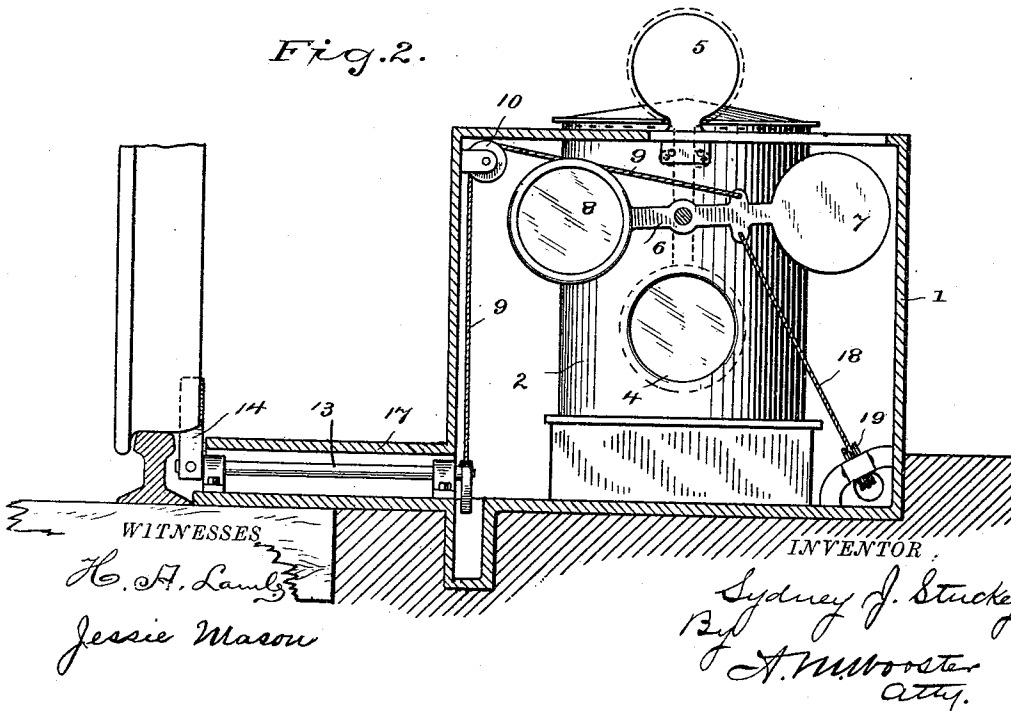


Fig. 2.



(No Model.)

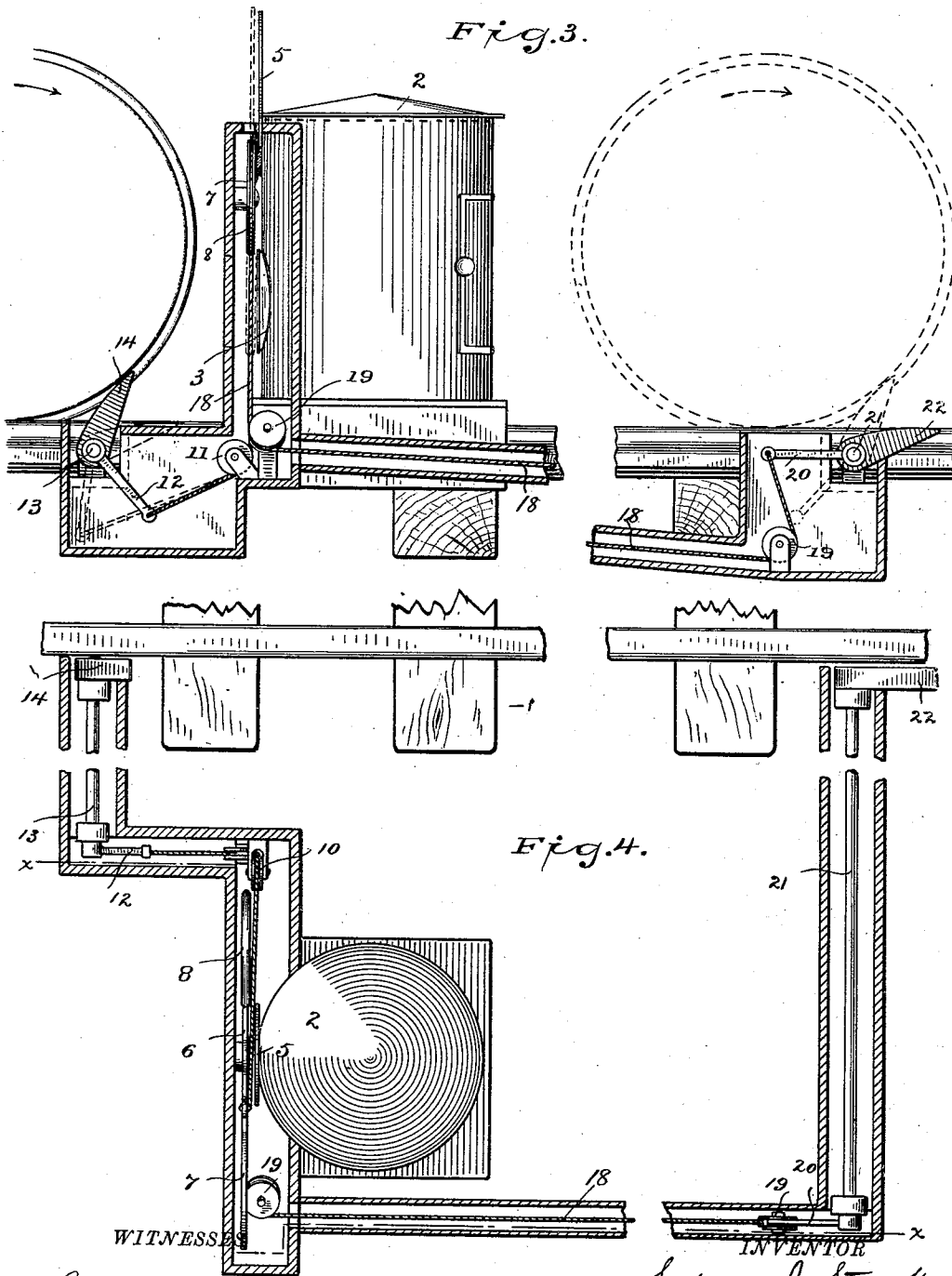
2 Sheets—Sheet 2.

S. J. STUCKEY.

AUTOMATIC BLOCK SIGNAL FOR RAILWAYS.

No. 484,062.

Patented Oct. 11, 1892.



H. A. Lamb
Jesse Mann

Sydney J. Stuckey
By
J. M. Wooster
Att'y.

UNITED STATES PATENT OFFICE.

SYDNEY J. STUCKEY, OF DANBURY, CONNECTICUT.

AUTOMATIC BLOCK-SIGNAL FOR RAILWAYS.

SPECIFICATION forming part of Letters Patent No. 484,062, dated October 11, 1892.

Application filed March 14, 1892. Serial No. 424,868. (No model.)

To all whom it may concern:

Be it known that I, SYDNEY J. STUCKEY, a citizen of the United States, residing at Danbury, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Automatic Block-Signals for Railways; 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 for its object to provide an automatic block and station signal for railways, which shall be so constructed that the passage of a train into a block or station will remove the safety-signal and set a danger-signal, it being essential in mechanism of this class that it be simple, strong, and durable and practically impossible to get out of repair.

With these ends in view I have devised the simple and novel automatic signal which I will now describe, referring by numbers to the accompanying drawings, forming part of this specification, in which—

Figure 1 is an elevation showing the signal-box and lantern as mounted on a pole and as operated from the top of a cab of a locomotive; Fig. 2, a transverse sectional view, the signal-box being placed on the ground and the signal being operated by means of the locomotive-wheels; Fig. 3, a longitudinal sectional view corresponding with Fig. 2; and Fig. 4 is a horizontal sectional view, the lantern being in plan.

1 denotes the signal-box, back of which is a lantern 2, provided with an opening 3, covered, preferably, with a white glass. The box is provided with an opening 4, also covered, preferably, with a white glass, the opening in the box registering with the opening in the lantern. Upon the top of the box is placed a disk 5, preferably painted white. Within the box is pivoted an arm 6, having at one end a red disk 7, adapted to register with disk 5, and at the other end a disk 8, of red glass, adapted to register with opening 4 in the front of the box. 9 denotes a cord extending from arm 6 and passing over a pulley 10 within the box and over one or more pulleys 11, the opposite end of said cord being attached to an arm 12, extending from a shaft 13, the opposite end of said shaft be-

ing provided with an operating-arm 14. In Fig. 1 I have shown the front of the signal-box as provided with an extension 15, which incloses shaft 13, the signal-box and lantern in this form being mounted on a pole 16. In the other form the parts not within the signal-box are inclosed in a suitable housing 17, the shape and arrangement of which are of course varied in each instance to suit the requirements of the location. 18 denotes a cord extending from arm 6 over one or more pulleys 19, the other end of said cord being connected with an arm 20, extending from a shaft 21, having at its other end an operating-arm 22. The operation of arms 14 and 22 will be clearly understood from Fig. 3, both of said arms being shown in full and in dotted position, one arm being raised when the other is pressed down. It is of course well understood that in handling trains a white signal, either a disk or a light, ordinarily means "safety," and a red signal, either a disk or a light, means "danger." When a train approaches a block or station, supposing that no other train is on the block and the track clear, the parts will be in the position shown in full lines in the drawings—that is to say, white disk 5 will be exposed, and likewise the white glass of the lantern, which is, of course, kept lighted after dark. When a train enters a block or station, some portion of the train—for instance, the tread of a locomotive-wheel, as in Figs. 2 and 3, or a projection 23, extending from the cab of the locomotive, as in Fig. 1—engages operating-arm 14 and turns it from the position shown in full lines in Fig. 3 to the position shown in dotted lines, the action of which is to swing arm 6 from the position shown in full lines in Fig. 2 to the position shown in dotted lines in said figure, so that white disk 5 is covered by the red disk 7 on arm 6 and the white glass of the lantern is covered by the red glass on the arm. This means "danger" and will warn the train-hands of an approaching train not to enter the block or station until the signals are changed again. In addition to operating arm 6 and changing the signals the entrance of the train into a block or station will also by means of cord 18 operate arm 22 and swing it from the position shown in full lines in Fig. 3 to the position shown in dotted lines in said figure. When the train leaves the block or

station, operating-arm 22 is engaged by the tread of the front locomotive-wheel or by projection 23, extending from the cab, as may be, and is pressed down from the position shown in dotted lines in Fig. 3 to the position shown in full lines in said figure, the action of which is to again oscillate arm 6, moving red disk 7 away from disk 5 and the red glass 8 away from the white glass of the lantern—*i. e.*, from the position shown in dotted lines in Fig. 2 to the position shown in full lines in said figure, thus leaving white signals exposed and also raising arm 14 from the position shown in dotted lines in Fig. 3 to the position shown in full lines in said figure, so that the signal will be operated again by the next train, the operation in changing the signal being wholly automatic each time a train enters or leaves the block or station. I have shown both operating-arms and illustrated their operation clearly in Fig. 3. In Fig. 1 one operating-arm only is shown. As the operation in this form is precisely the same as in the other form, it is not deemed necessary to illustrate both of the operating-arms.

It will of course be understood that the details of construction may be varied to an almost unlimited extent without departing from the principles of my invention, it being wholly

immaterial, for example, what colors of disks and glasses are used.

Other colors may be used in lieu of red and white, if preferred. I have described the disks and glasses as red and white for the reason that these are the colors ordinarily used to indicate "safety" and "danger" upon railroads.

Having thus described my invention, I claim—

An automatic block-signal comprising a signal-lamp showing a white light, a stationary white disk arranged vertically above said light, an arm pivoted between said light and disk and carrying at one end a red glass and at the other a red disk, said glass and disk being arranged to stand in front of the white light and disk when the arm is turned to a vertical position, a housing incasing the light and arm, but having a slotted top to permit the red disk to rise into danger position, and mechanism whereby the arm is automatically raised and lowered by a passing train, substantially as described.

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

SYDNEY J. STUCKEY.

Witnesses:

JOHN GRAY,

EUGENE C. DEMPSEY.