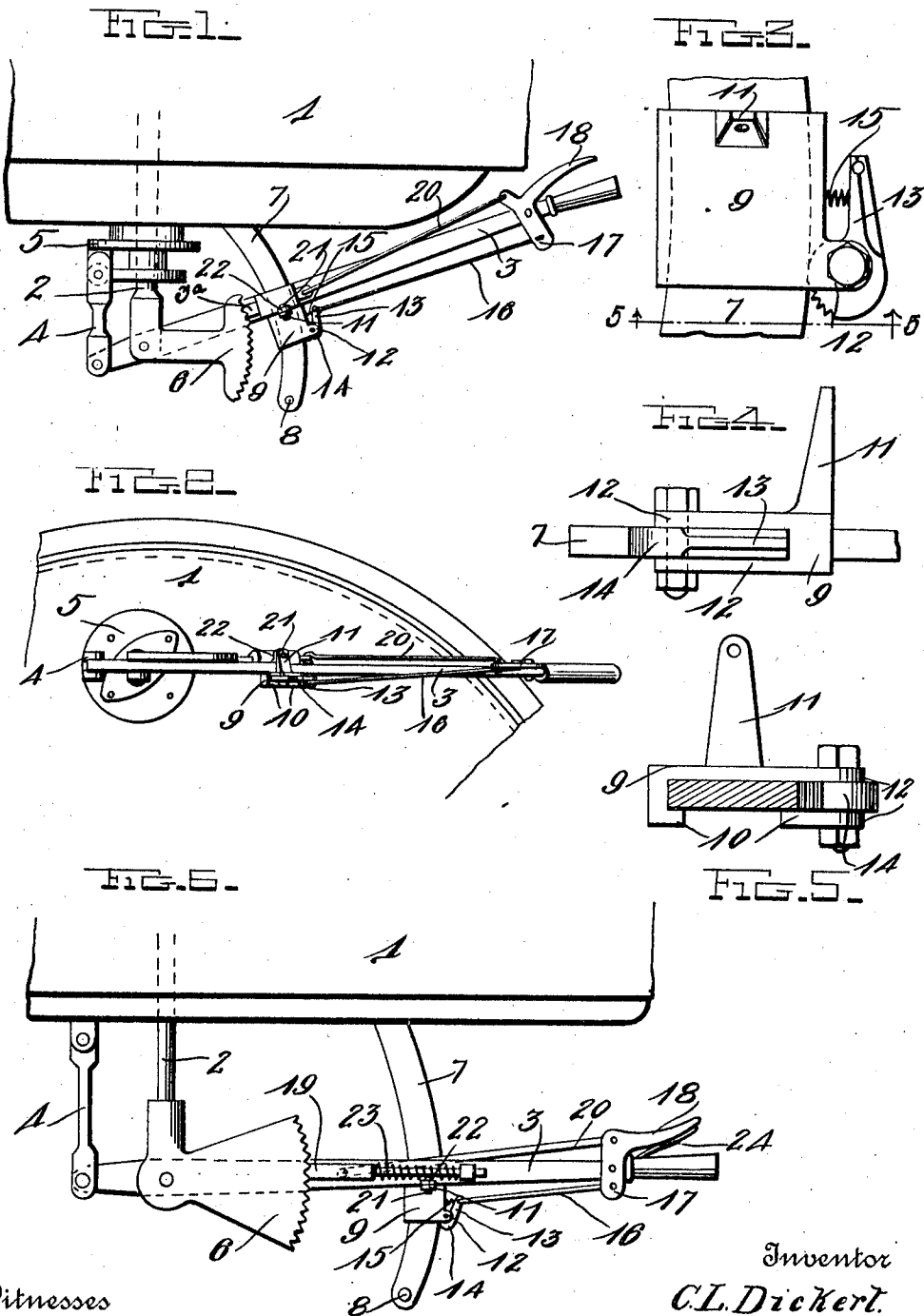


C. L. DICKERT.  
STOP FOR THROTTLE VALVE LEVERS.  
APPLICATION FILED MAR. 10, 1910.

1,004,388.

Patented Sept. 26, 1911.



Witnesses  
J. P. Pierce  
O. B. Hopkins

Inventor  
C. L. Dickert.

by *A. B. Wilson & Co.*  
Attorneys

# UNITED STATES PATENT OFFICE.

CURTIS LEE DICKERT, OF MACON, GEORGIA, ASSIGNOR OF ONE-HALF TO CHARLES W. RICE, OF MACON, GEORGIA.

## STOP FOR THROTTLE-VALVE LEVERS.

1,004,388.

Specification of Letters Patent. Patented Sept. 26, 1911.

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*To all whom it may concern:*

Be it known that I, CURTIS LEE DICKERT, a citizen of the United States, residing at Macon, in the county of Bibb and State of Georgia, have invented certain new and useful Improvements in Stops for Throttle-Valve Levers; 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.

This invention relates to improvements in stops for throttle valve levers.

One object of the invention is to provide means whereby the throttle valve lever of a locomotive may be securely locked in closed position and the engine thus prevented from being accidentally started and which is adapted to be automatically brought into operation when the lever is shifted to close the throttle valve.

With the foregoing and other objects in view, the invention consists of certain novel features of construction, combination and arrangement of parts as will be more fully described and particularly pointed out in the appended claims.

In the accompanying drawings, Figure 1 is a plan view of the rear end of a locomotive boiler and throttle valve lever showing the application of the invention; Fig. 2 is a rear view of the same; Fig. 3 is an enlarged plan view of a portion of the throttle lever rest showing the lock thereon, parts being broken away; Fig. 4 is a side view of the same; Fig. 5 is a cross sectional view on the line 5—5 of Fig. 3; Fig. 6 is a plan view showing a slightly modified form.

Referring more particularly to the drawings, 1 denotes the rear end of a locomotive boiler, 2 denotes the throttle valve operating rod, and 3 denotes the throttle valve lever which is loosely connected by a link 4 to a bracket on the stuffing box 5 of the valve operating rod. The throttle valve lever 3 is pivotally connected to the valve operating rod 2 to which is also connected a segmental rack 6, which is engaged by a pawl 3<sup>a</sup> carried by the valve lever 3 to hold the latter in its adjusted position. These parts may be of the usual or any suitable construction and do not form a part of the present invention.

The valve lever 3 is supported by and

slidably engages a rest bar 7 which is secured at its inner end to the rear end of the boiler in any suitable manner. The rest bar 7 is preferably formed on the arc of a circle concentric with the pivotal point of the lever 3 and in the outer end of the rest bar is arranged a stop pin 8.

Slidably mounted on the rest bar 7 is a stop plate 9, said plate being preferably provided on its side edges with bar engaging flanges 10, whereby the plate is held in sliding engagement with the bar 7. On the forward end of the plate 9 is formed an upwardly projecting stop finger 11 which is adapted to bear against the edge of the throttle lever when adjusted to an operative position. On the outer flange of the stop plate 9, adjacent to the rear end thereof, are formed parallel apertured bearing ears 12, between which is pivotally mounted a cam lever 13 on the outer end of which is formed a head 14 which is eccentrically pivoted between the ears 12 and has a cam engagement with the adjacent edge of the rest bar 7, whereby when the lever 13 is swung outwardly, said head will bind against the edge of the bar 7 and thus hold the stop plate 9 and finger 11 in their adjusted positions on said bar.

The engaging edge of the cam head 14 is preferably toothed or serrated to provide a positive engagement thereof with the edge of the bar 7. The lever is normally held in position to operatively engage the head 14 with the edge of the bar 7 by means of a coiled spring 15, the ends of which are engaged with suitable sockets formed in the inner side of the lever 13 and the adjacent flange of the plate 9. The lever 13 may be pressed inwardly against the tension of the spring 15 to disengage the head 12 from the bar 7 by automatic operating mechanism to be described shown in Fig. 6 of the drawings, thus permitting the stop plate 9 to be adjusted in position against the lever 3 to lock the same in the position to which it has been adjusted.

The automatic operating mechanism comprises a lever operating rod 16 which is connected at one end to the lever 13 and at its outer end to an extension 17 of the pawl operating handle 18 pivotally mounted on the outer end of the valve lever 3 and connected to the pawl 19 of said lever by the usual

operating rod 20, whereby when said handle is retracted or depressed to release the pawl 19, the extension 17 of the handle will by means of the rod 16 depress the lever 13 and thus disengage the head 14 from the rest bar 7, which will permit the stop plate 9 to be shifted on the bar 7 in the direction of and with the lever 3. In order that the plate 9 may be shifted by the lever, when released in the manner described, said plate is loosely connected with the rear edge of the lever by a bolt 21 or other suitable fastening device which is engaged with the finger 11 and with an apertured lug 22 formed on or secured to the lever 3, as shown.

In the form of the invention shown in Fig. 6, the lever operating spring 15 may be dispensed with and said lever operated by the pawl projecting spring 23, or the handle spring 24 of the pawl operating mechanism of the lever.

By means of a locking mechanism constructed as herein shown and described, the throttle lever will be securely locked against casual movement in a direction for opening the throttle valve, thus positively preventing the unintentional or accidental starting of the engine, and by connecting the stop mechanism with the valve lever, as shown in Fig. 6, said stop mechanism will be automatically shifted to operative positions upon the movement of the lever.

From the foregoing description taken in connection with the accompanying drawings, the construction and operation of the invention will be readily understood without requiring a more extended explanation.

Various changes in the form, proportion and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advan-

tages of this invention as defined in the appended claims.

Having thus described my invention, what I claim is:—

1. In combination with a throttle valve lever of an engine, locking means therefor, means for releasing said locking means, a stop mechanism for said lever comprising a rest bar, a stop having a sliding engagement with said bar, a cam locking lever carried by said stop, means to normally hold said lever in operative position to lock the stop to said bar and thereby hold said throttle valve lever against movement in one direction, and releasing means for said locking lever connected with and operable by said valve lever releasing means.

2. In a throttle valve lever stop mechanism, a rest bar, a flanged stop plate having a sliding engagement with said bar, a cam locking lever carried by said plate and adapted to lock the same in engagement with said bar, means to connect said plate with said throttle valve lever, a spring projected holding pawl carried by said lever, a handle operatively connected with said pawl and means to connect said handle with said locking lever whereby the latter is operated to lock said stop plate to the rest bar and to release the same therefrom to permit said plate to be moved with and by said valve lever and whereby said plate will be automatically locked to hold said lever in its adjusted positions.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

CURTIS LEE DICKERT.

Witnesses:

W. A. SMITH,

J. TOM RODGERS.