

ACTUATING MECHANISM FOR STATION INDICATORS.

APPLICATION FILED AUG. 5, 1907.

Patented Nov. 10, 1908.



G. J. Mead  
Florence Stockert.

Henry L. Keeler  
By J.C. & W.M. Sturgeon  
Attys.



# UNITED STATES PATENT OFFICE.

HENRY L. KEELER, OF LUNDYS LANE, PENNSYLVANIA.

## ACTUATING MECHANISM FOR STATION INDICATORS.

No. 903,728.

Specification of Letters Patent.

Patented Nov. 10, 1908.

Application filed August 5, 1907. Serial No. 387,100.

*To all whom it may concern:*

Be it known that I, HENRY L. KEELER, a citizen of the United States, residing at Lundys Lane in the county of Erie and State of Pennsylvania, have invented certain new and useful Improvements in Actuating Mechanism for Station-Indicators; 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, reference being had to the accompanying drawings, and to the letters of reference marked thereon, forming part of this specification.

This invention relates to station indicator operating mechanism, and has for its object the construction and installment on cars of mechanism for automatically operating station indicator mechanism in such cars as they move along the roadway.

The features of my invention are hereinafter fully set forth and explained and diagrammatically illustrated in the accompanying drawings in which:

Figure 1 shows diagrammatically a mechanism embodying my invention installed on a car. Fig. 2 shows a detail of one of the stops in the roadway forming part of my apparatus.

In these drawings A is a portion of a rail road track; B B' portions of car-trucks; C a compressed air tank commonly used in connection with brake and other mechanism on cars, and D a station indicator in a car. On the car trucks B B' I mount arms E E' in which I pivot swinging levers  $e$   $e'$  each provided with a spring  $e^2$  to normally retain the levers  $e$   $e'$  in a perpendicular position just inside of one of the rails of the track, and in the road-bed adjacent to said rail I place a stop F preferably made to be depressed as the flanges of the truck wheels pass over it; a preferable type of which stop F and its location relatively to the rail is clearly shown in Fig. 2. The object of placing the stop in the path of the wheel flange and making it depressible is to present as little obstruction to vehicles on the street surface as possible. From the levers  $e$   $e'$  flexible connections  $e^3$  and  $e^4$  lead to studs on opposite sides of a wheel G supposedly mounted on a car-body supported by the trucks B B', so that as the car moves in the direction of the arrow  $a$  the lever  $e$  will engage the stop F and rotate the wheel

G, while the lever  $e'$  will pass over the stop without affecting it; and vice versa, when the car is moving in the direction of the arrow  $a'$  then the lever  $e'$  will so engage the stop F as to rotate the wheel G.

From the wheel G a belt  $g$ , preferably of sprocket-chain construction, extends to and around a suitable pulley H on the stem of an ordinary three-way valve (not specifically shown) mounted in a pipe  $c$  leading from the air-tank C, to a cylinder I, so that when the valve is opened air will pass through the pipe  $c$  from the tank C into the cylinder I and move the piston I' against the spiral spring I<sup>2</sup>, so as to communicate the motion of the piston I' through the rod  $i$  to one arm of a bell-crank lever J, the other arm of which connects by means of a rod  $k$  with one arm of a second bell-crank lever L, the other arm of which is connected by means of a rod M with a station indicator D, which is thereby actuated. For the purpose of allowing the spring I<sup>2</sup> to move the piston I' back to its normal position ready to again operate, I make exhaust openings  $i'$  and  $i^2$  in the cylinder I, the exhaust opening  $i'$  connecting with a small cylinder N in which there is a piston provided with a racked bar  $n$  which intermeshes with a segment of gear  $h$  on the shaft of the three-way valve in the pipe  $c$ , which when the head of the piston I' passes the opening  $i'$  in the cylinder I allows air to pass from the cylinder I into the smaller cylinder N, which operates to drive the piston N' back to the position shown in the drawings to close the valve in the pipe  $c$ , which cylinder N then exhausts through the openings  $i'$  and  $i^2$  in the cylinder I, and the balance of the air in the cylinder I and pipe  $c$  between the piston I' and the three-way valve, exhausts through the vent  $h'$  in the three-way valve, which is opened when the three-way valve is closed.

The operation of this mechanism is so clearly obvious that further description thereof is deemed unnecessary. Therefore having shown and described my invention so as to enable others to construct and operate the same,

What I claim as new and desire to secure by Letters-Patent is:

The combination of a station indicator actuating mechanism and a car, comprising substantially, a car, an actuating cylinder and piston, and a station indicator, means connecting said piston with the station indi-



cator, air connections for moving the piston in said cylinder in one direction, spring mechanism for moving the piston in the opposite direction, valve mechanism in the air  
5 connections to said cylinder, means on the car and road-bed for opening said valve mechanism, a supplementary cylinder connected with said valve and with the main actuating cylinder and operated by air there-

from for closing said valve, substantially as 10 set forth.

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

HENRY L. KEELER.

Witnesses:

E. F. DAVENPORT,  
C. C. BAILEY.