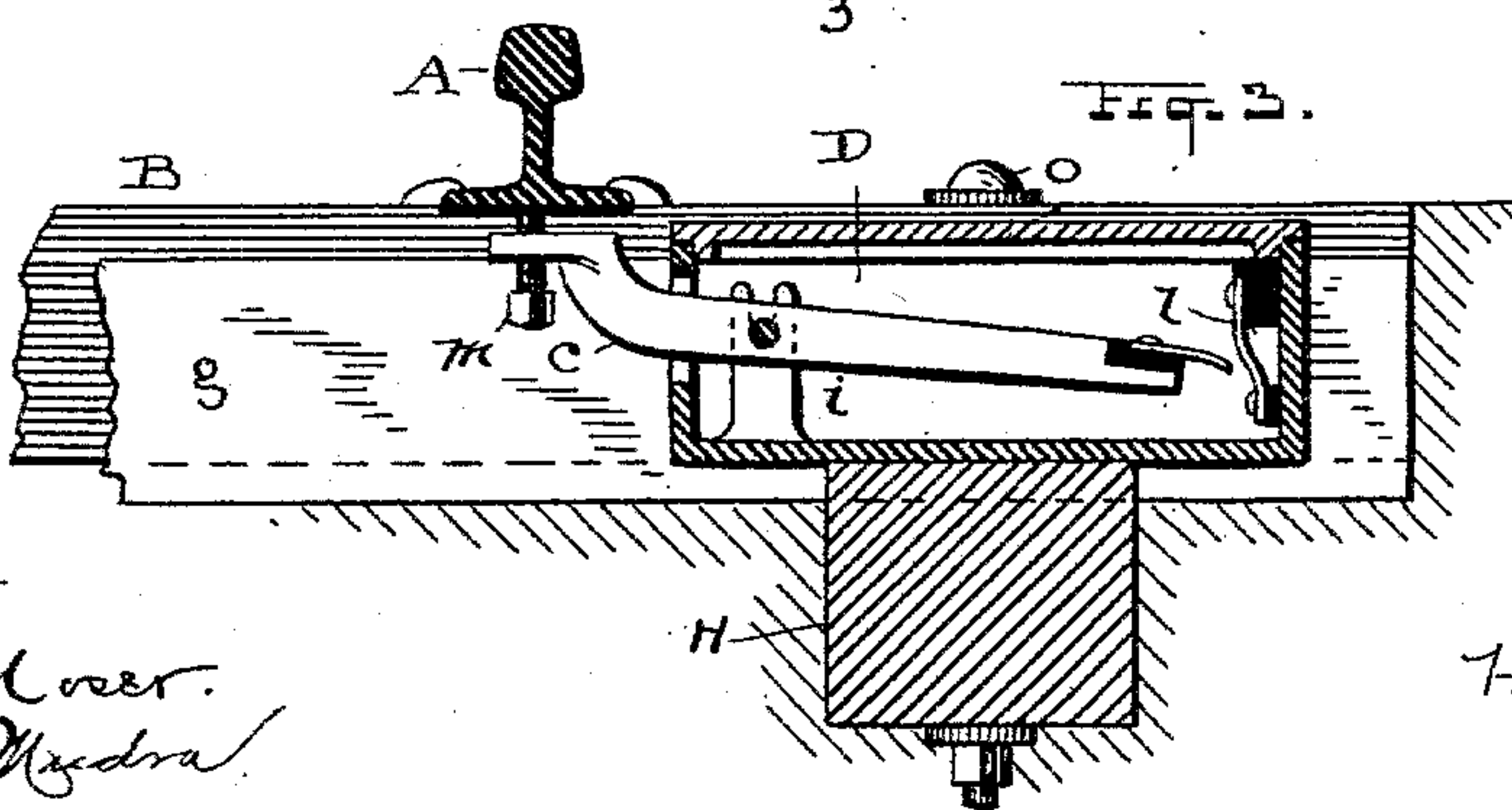
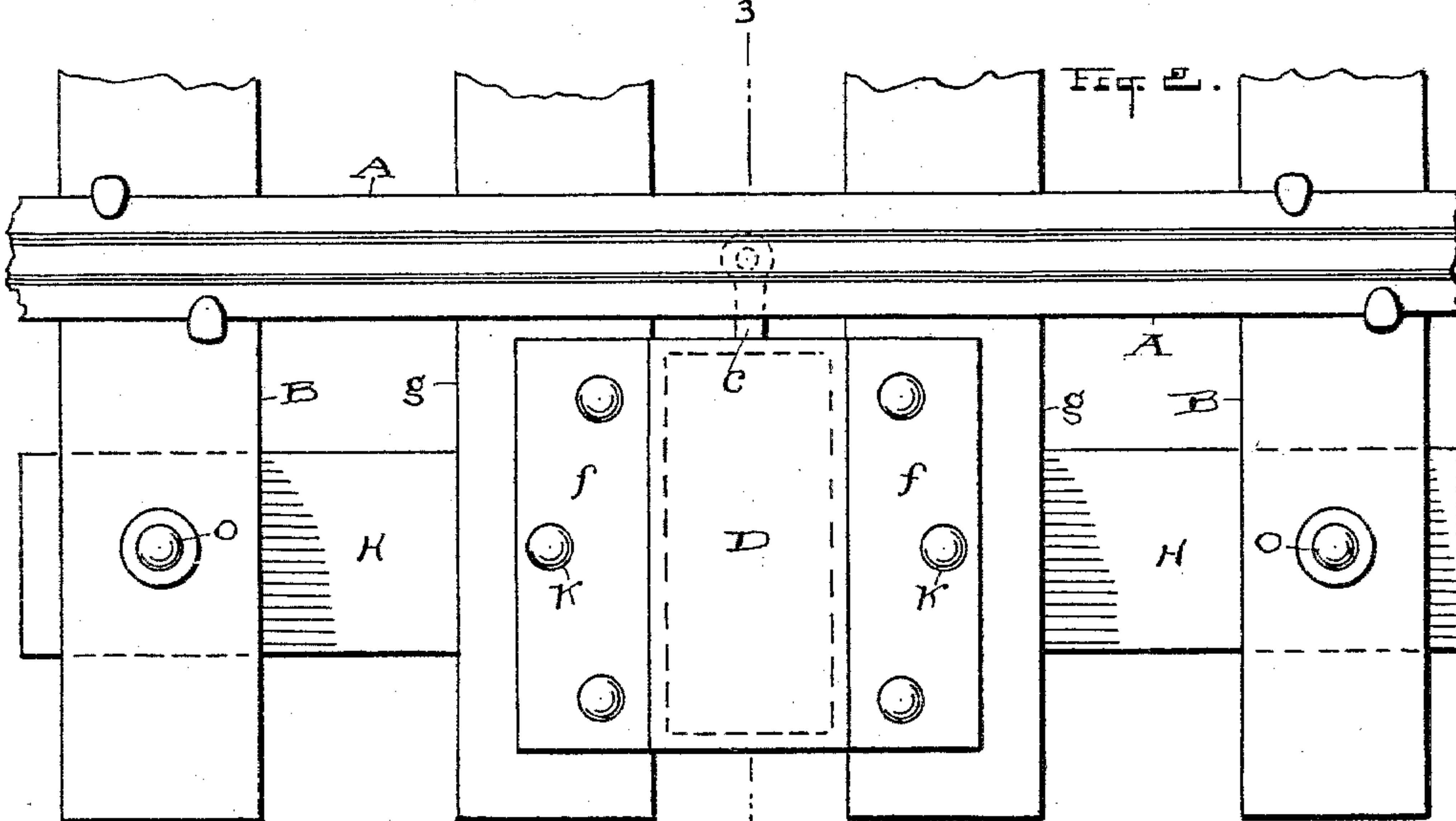
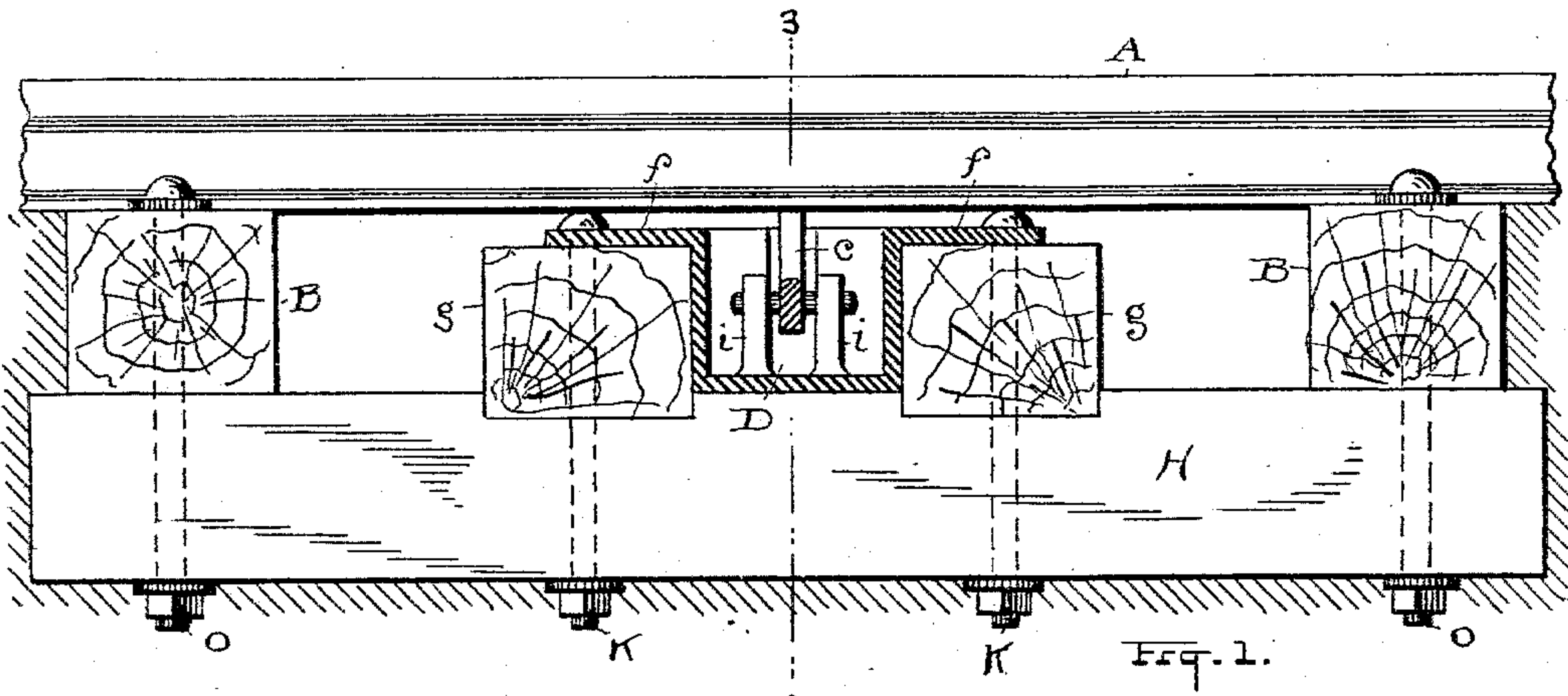


(No Model.)

H. V. MILLER.  
AUTOMATIC RAILWAY SIGNAL.

No. 562,639.

Patented June 23, 1896.



ATTEST

R. B. Moxer.  
H. E. Moxer.

INVENTOR

Henry V. Miller

By Frank Higley ATTORNEY



# UNITED STATES PATENT OFFICE.

HENRY V. MILLER, OF BLOOMINGTON, ILLINOIS, ASSIGNOR TO THE O'NEIL CROSSING ALARM COMPANY, OF ILLINOIS.

## AUTOMATIC RAILWAY-SIGNAL.

SPECIFICATION forming part of Letters Patent No. 562,639, dated June 23, 1896.

Application filed May 1, 1896. Serial No. 589,813. (No model.)

*To all whom it may concern:*

Be it known that I, HENRY V. MILLER, a citizen of the United States, residing at Bloomington, in the county of McLean and State of Illinois, have invented a new and useful Improvement in Automatic Railway-Signals, of which the following is a specification.

My invention relates to railway alarms or signals in which the depression of the rail when a train of cars passes is employed to operate or set in operation the alarm or signaling device, and the object of my invention is to provide a means by which an operating-lever may be adjusted to the rail, and always held firmly in the same relative position to the rail.

My invention is illustrated in the accompanying drawings, in which—

Figure 1 is an end view; Fig. 2, a plan view, and Fig. 3 a sectional view on line 3 3 of Figs. 1 and 2.

Like letters refer to like parts in the several views.

In the drawings, A represents the rail, which is supported firmly by cross pieces or ties B B.

The base of the rail A is engaged by one end of a lever C. The lever C is held in a box or frame D, which is provided with a standard *i*, which forms a fulcrum for the lever C.

The box D is provided with flanges *ff*, which act as a support for the box upon blocks *g g*, to which the box is securely fastened. The blocks *g g* rest upon a cross-bar H, which cross-bar is bolted to the ties B B by bolts *o o*. The blocks *g g* are bolted to the cross-bar H by bolts *k k*. When secured to the cross-bar H, the blocks *g g* are free from the base of the rail, as shown in Figs. 1 and 3, thus leaving the rail at this point free to be depressed by the weight of a train of cars when passing.

The lever C is provided with a regulating-screw *m*, by which the position of the lever may be regulated. The opposite end of the lever C may engage a spring *l*, as shown in Fig. 3, when this end of the lever is raised by the depression of the other end of the lever.

The operation of the device is apparent from the above description and the drawings. The

weight of train passing upon the rail at the point where the lever C engages the rail causes a depression of the rail at this point. The depression of the rail presses down the shorter arm of the lever, and when the longer arm of the lever is raised thereby, a contact with the spring *l* is made and an electric circuit is closed thereby, and an electrical alarm set in operation.

In Fig. 3 of the drawings the lever is shown as employed to close a circuit in an electrical alarm. I do not, however, limit my invention to its use with an electrical alarm, as it is manifest that the operation of the lever, actuated by the depression of the rail, may be used with many other automatic signals or alarms. Where the depression of the rail has heretofore been employed to operate an alarm or signal, it has been customary to rest the box or frame containing the lever upon the ties, which ties rested upon the ground. The result has been that the lever was unreliable. The ties were liable to be disturbed by unskilled track-hands, or by the frost or the weight of the train upon the road-bed, and any movement of the ties holding the track-box would interfere with the adjustment of the lever and render it useless.

By means of the device described the lever will always maintain the same relative position to the rail and will become a reliable means of operating a signal or alarm.

What I claim, and desire to secure by Letters Patent, is—

1. In a railway signal or alarm, in combination with the rail supported by ties B, B, a cross-bar attached to the ties B, B, blocks *g g*, attached to the cross-bar and being free from the base of the rail, and a lever actuated by the depression of the rail and held in a suitable frame or box resting upon the blocks *g g*, substantially as and for the purposes described.

2. In a railway signal or alarm, in combination with the rail supported by ties B B, a cross-bar attached to the ties B, B, blocks *g g*, attached to the cross-bar, a lever provided with adjusting-screw *m*, actuated by the de-

pression of the rail and held in a suitable frame or box resting upon the blocks *g, g*, substantially as shown and for the purposes described.

- 5 3. In a railway signal or alarm, in combination with the rail and ties or supports B B, the cross-bar H, blocks *g, g*, lever C and its

frame D provided with standard *i* and contact-spring *l*, substantially as shown and described.

HENRY V. MILLER.

Witnesses:

T. C. VAN HORNE,  
CHAS. ONGLEY.