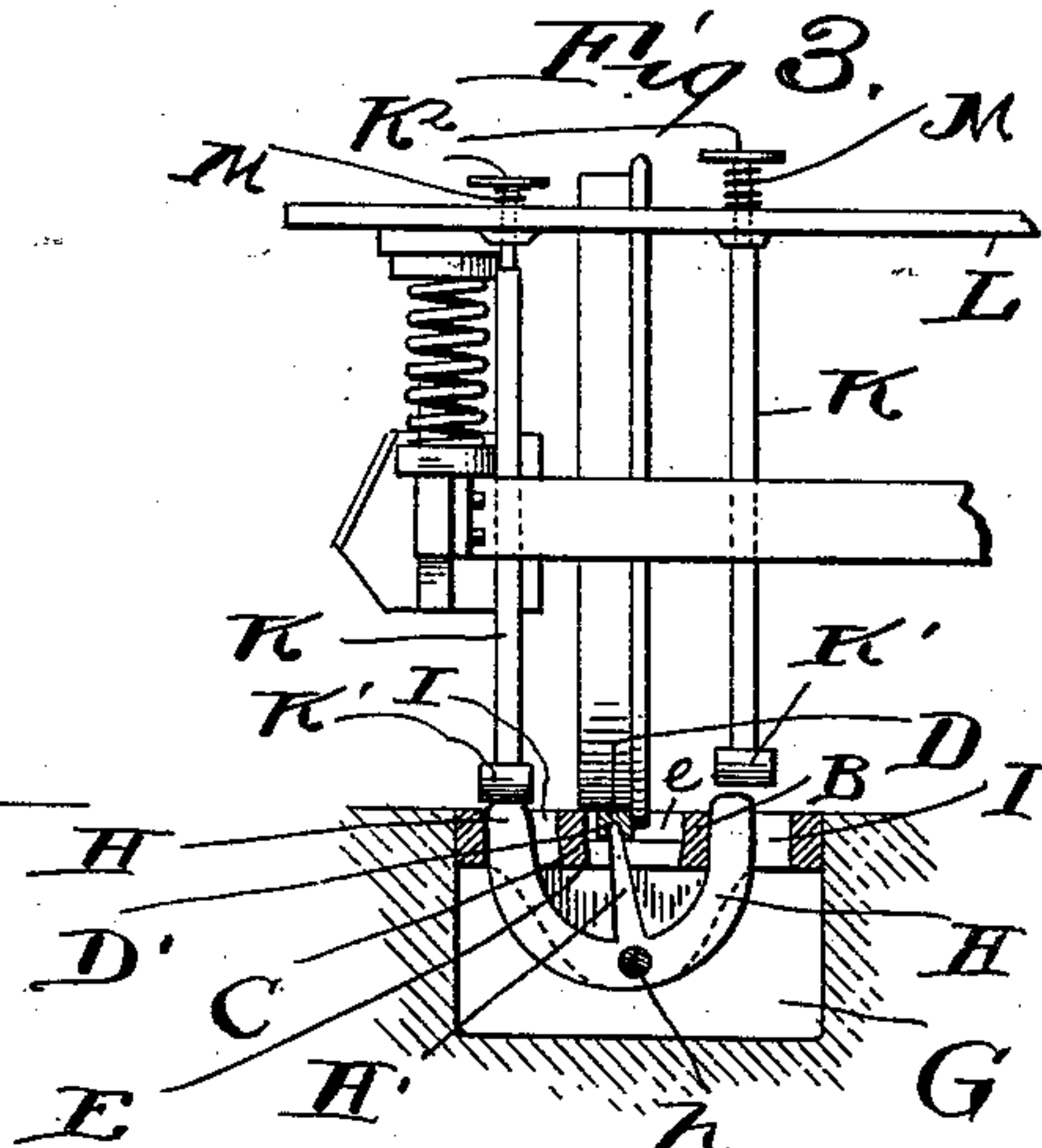
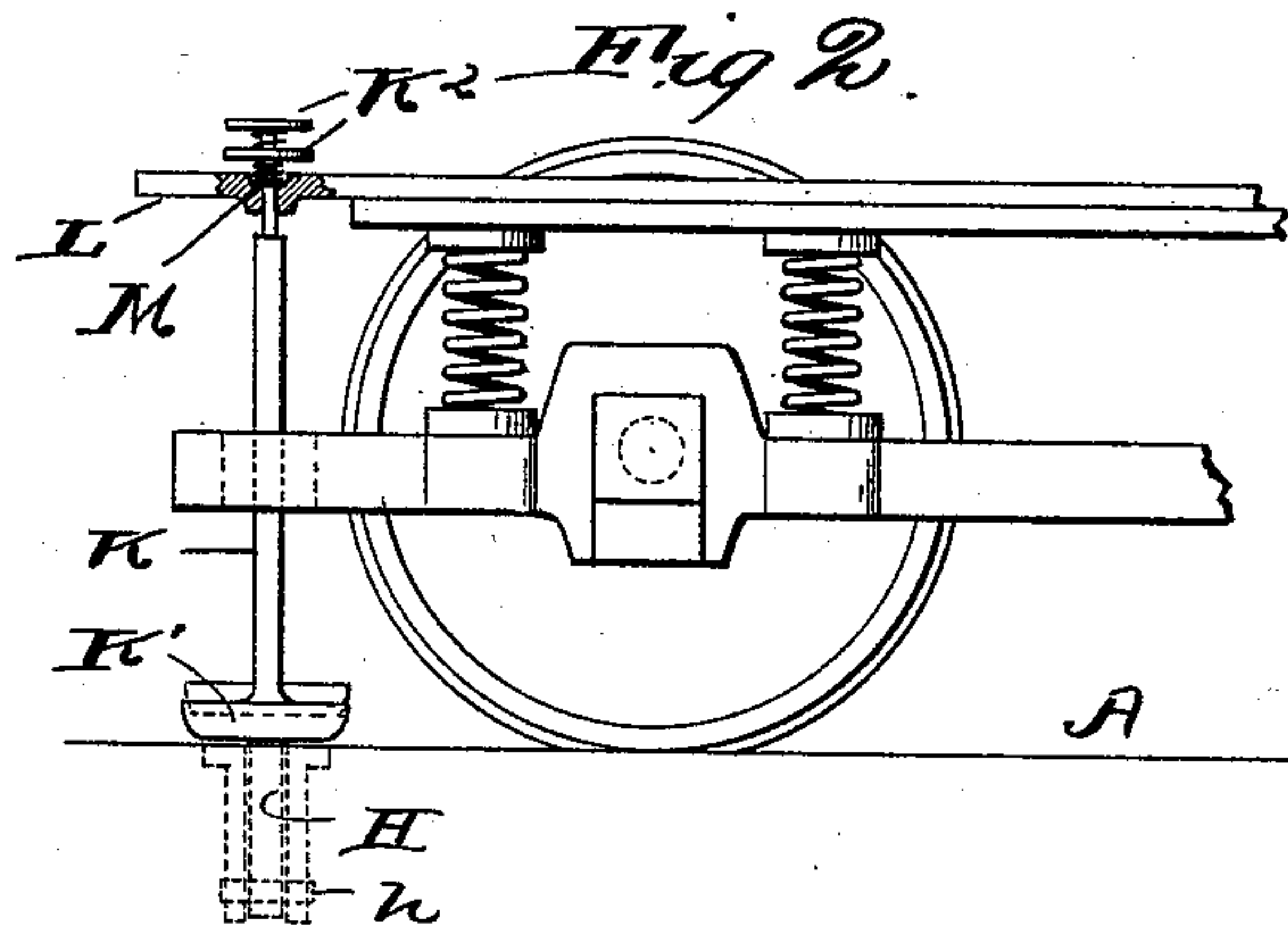
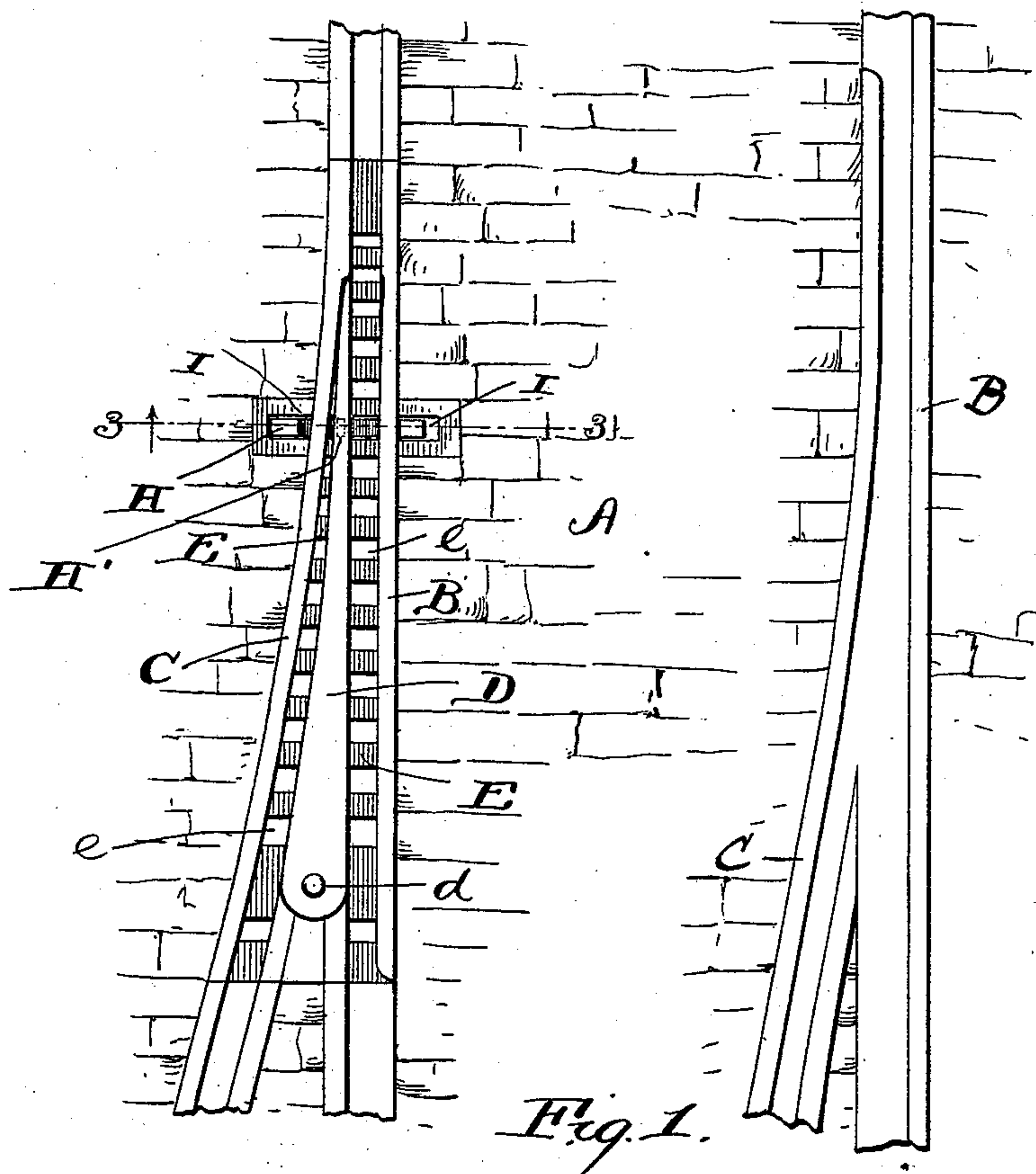


(No Model.)

R. S. TAPPENDEN.
SWITCH FOR STREET RAILWAYS.

No. 540,466.

Patented June 4, 1895.



Witnesses.
E. B. Gilchrist
Crawford

Inventor.
Richard S. Tappenden
By M. D. Seggett
his Attorney

UNITED STATES PATENT OFFICE.

RICHARD S. TAPPENDEN, OF CLEVELAND, OHIO, ASSIGNOR OF ONE-HALF
TO THOMAS TAPPENDEN, OF SAME PLACE.

SWITCH FOR STREET-RAILWAYS.

SPECIFICATION forming part of Letters Patent No. 540,466, dated June 4, 1895.

Application filed August 3, 1894. Serial No. 519,384. (No model.)

To all whom it may concern:

Be it known that I, RICHARD S. TAPPENDEN, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Switches for Street-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 pertains to make and use the same.

My invention relates to improvements in switch-tongue or rail-operating mechanism and in the bed for said rail.

Before proceeding with a description of my invention I would remark that I am well aware that mechanisms whereby switch tongues are automatically operated have heretofore been devised, and I would further remark that my invention consists, merely, in certain features of construction and in combinations of parts hereinafter described and pointed out in the claims, the object being to obtain greater simplicity and durability than has heretofore been attained.

In the accompanying drawings, Figure 1 is a plan showing the switch tongue or rail, the two lines of track, and the lever that engages and throws the switch tongue or rail in the one direction or the other and that is adapted to be operated by a suitable device carried by the motor-car, the drawing also illustrating the perforated bed upon which the switch tongue or rail operates. Fig. 2 is a side elevation of a portion of a motor-car, showing the means carried by said car for operating the switch-tongue-actuating lever. Fig. 3 is an elevation, partly in section, on line 3 3, Fig. 1, showing, also, a portion of a motor-car and the mechanism carried by the car for operating the switch-tongue-actuating lever.

Referring to the drawings, A designates the pavement of a street, B and C the two lines of track, and D the switch-tongue or rail that operates between adjacent rails of said tracks in the usual manner, the same being pivoted at one end as at *d*.

E designates the bed upon which the switch-tongue operates, which bed is perforated in the direction transversely of the switch-tongue or rail at suitable intervals, as at *e*, said per-

forations communicating with a chamber G formed in the street or roadway below bed E.

Within chamber G, near the free end of the switch-tongue, is pivotally supported a U-shaped lever H, said lever being fulcrumed at the central portion, as at *h*, and adjacent to the fulcrum being provided with an upright arm H' that engages a recess or groove D' (see Fig. 3) in the lower side of the switch-tongue or rail. Each end of lever H is adapted to protrude above the surface of the street. That at the top of the chamber G, is provided with holes I, to accommodate the operation of said lever. The arrangement of parts is such that the one or the other end of lever H is caused to appear above the surface of the street according as the lever is tilted or actuated in the one direction or the other.

Lever H is actuated by any suitable means borne by the motor-car, and the means employed is preferably as follows, (see Figs. 2 and 3:) The car is provided with two vertically arranged rods or bars K extending downwardly through the floor or platform L of the car to within a suitable distance of the surface of the street. Said bars or rods, at their lower ends, terminate in shoes K' adapted to engage the extremities of lever H, the shoe on one rod or bar K being adapted to engage one end of said lever and the shoe on the other bar or rod being adapted to engage the other end of the lever. Members K, at their upper end, and within convenient reach of the foot of the motorman, are each provided with a head K² between which and floor or platform L is interposed a spring M that acts in the direction to retain the respective shoe-bearing rod or bar in its elevated or normal position.

By the mechanism just described, the motorman can conveniently throw the switch-tongue or rail in the one direction or the other as desired, the mechanism for actuating the switch-tongue actuating-lever of course being located the required distance forward of the forward wheels of the motor-car.

By means of perforations E provided in the bed of the switch-tongue or rail, as heretofore described, there is no liability of dirt, dust, ice, &c., to accumulate about the

switch-tongue or rail to such an extent as to obstruct the operation of the same.

What I claim is—

1. The combination with the pivoted switch-tongue or rail, of a U-shaped lever H pivoted at its central portion, as at *h* and provided with an upwardly-extending arm H' directly operatively engaging the switch-rail or tongue at a point centrally between the extremities of the lever, substantially as shown, for the purpose specified.

2. The combination with the pivoted switch-tongue or rail D recessed upon its under side, as at D', of the U-shaped lever H pivotally

supported at its central portion a suitable distance below the aforesaid tongue or rail, and provided at its central portion with an upwardly-extending arm H' engaging, at its free end, the aforesaid recess, substantially as shown, for the purpose specified.

In testimony whereof I sign this specification, in the presence of two witnesses, this 8th day of May, 1894.

RICHARD S. TAPPENDEN.

Witnesses:

C. H. DORER,
WARD HOOVER.