

No. 722,980.

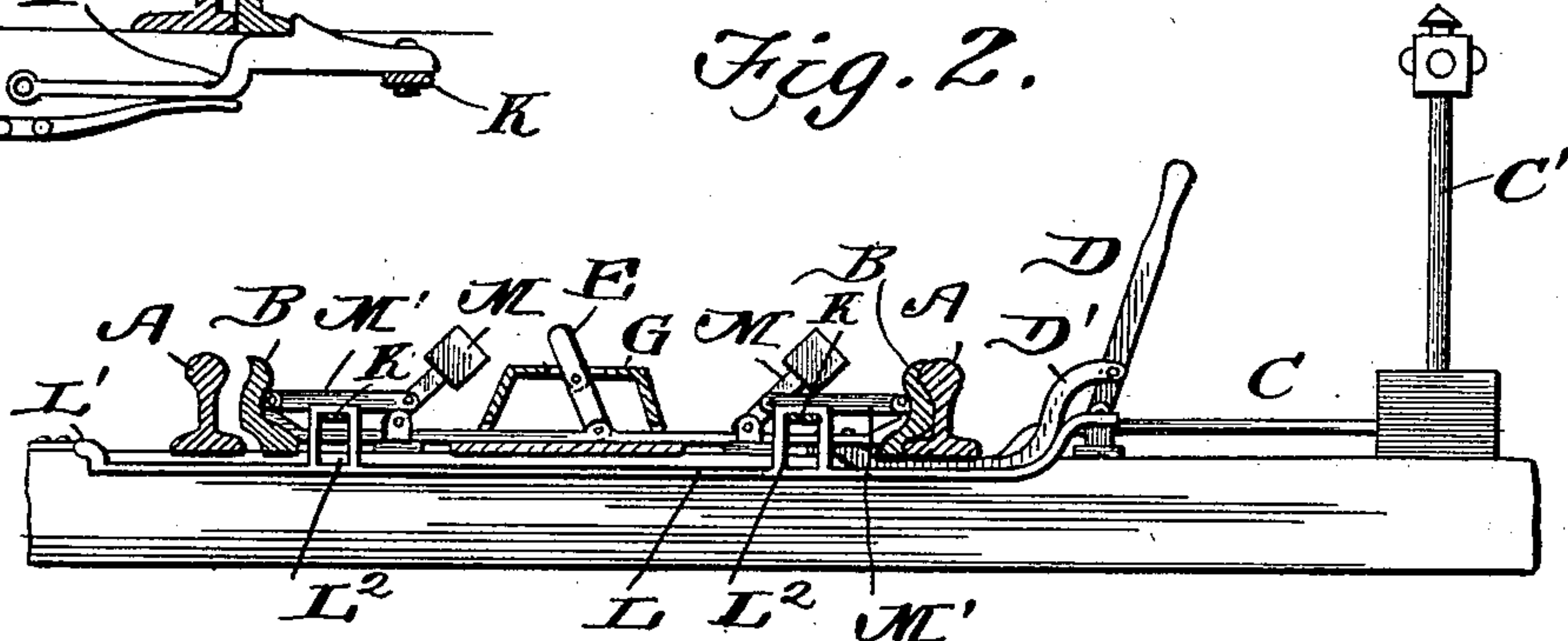
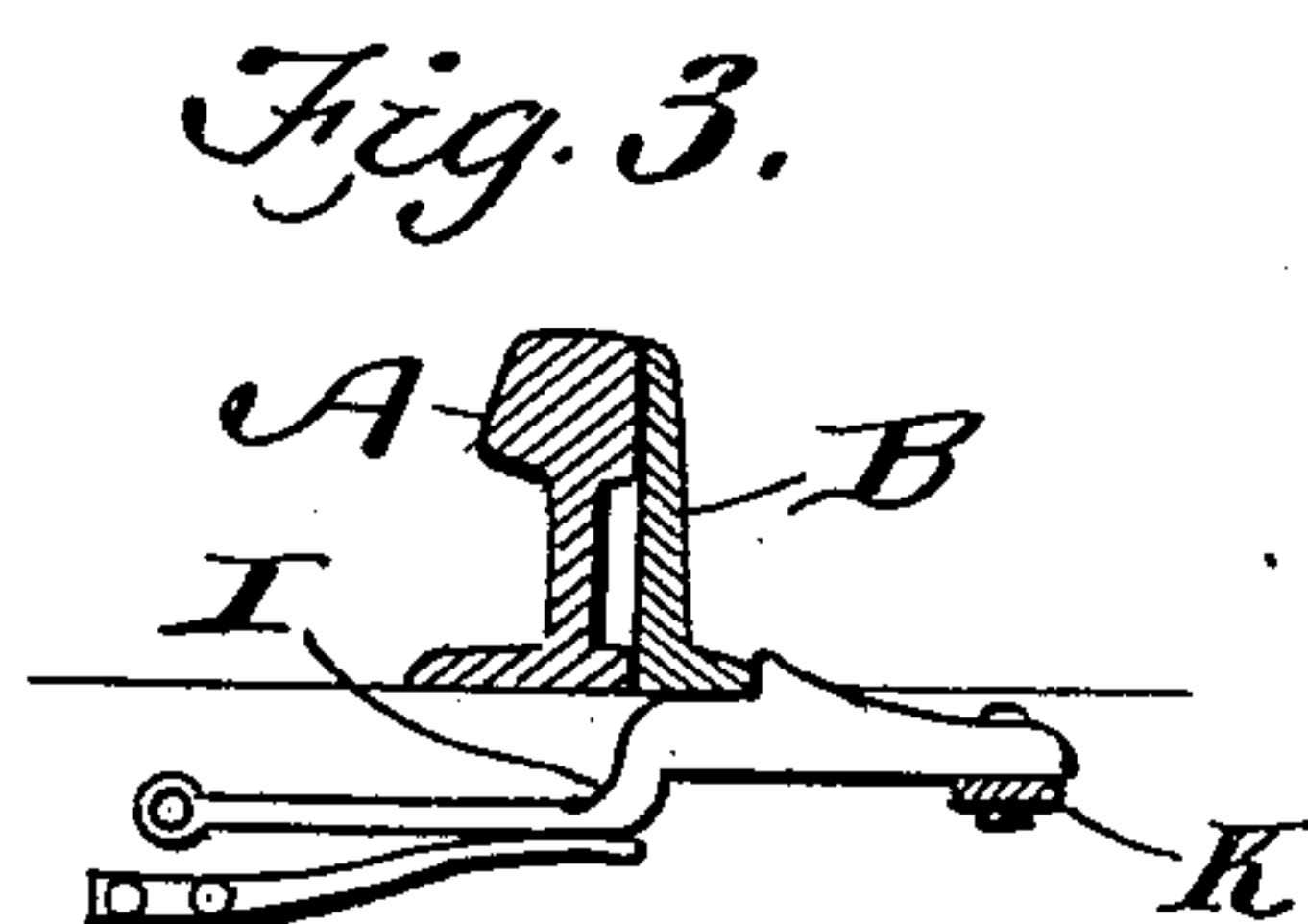
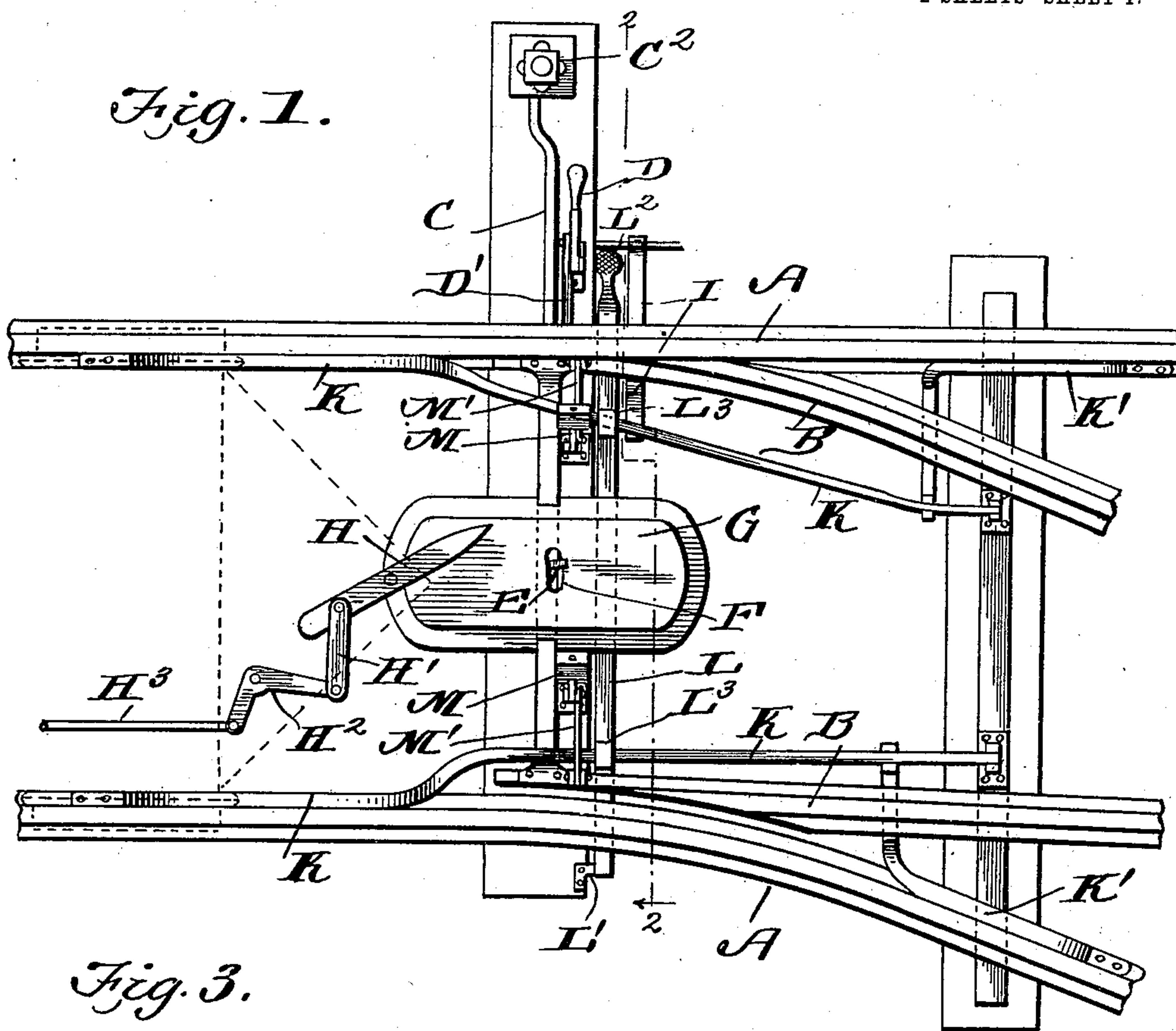
PATENTED MAR. 17, 1903.

A. HEPOLA.
SWITCH OPERATING DEVICE.

APPLICATION FILED AUG. 2, 1902.

NO MODEL.

2 SHEETS—SHEET 1.



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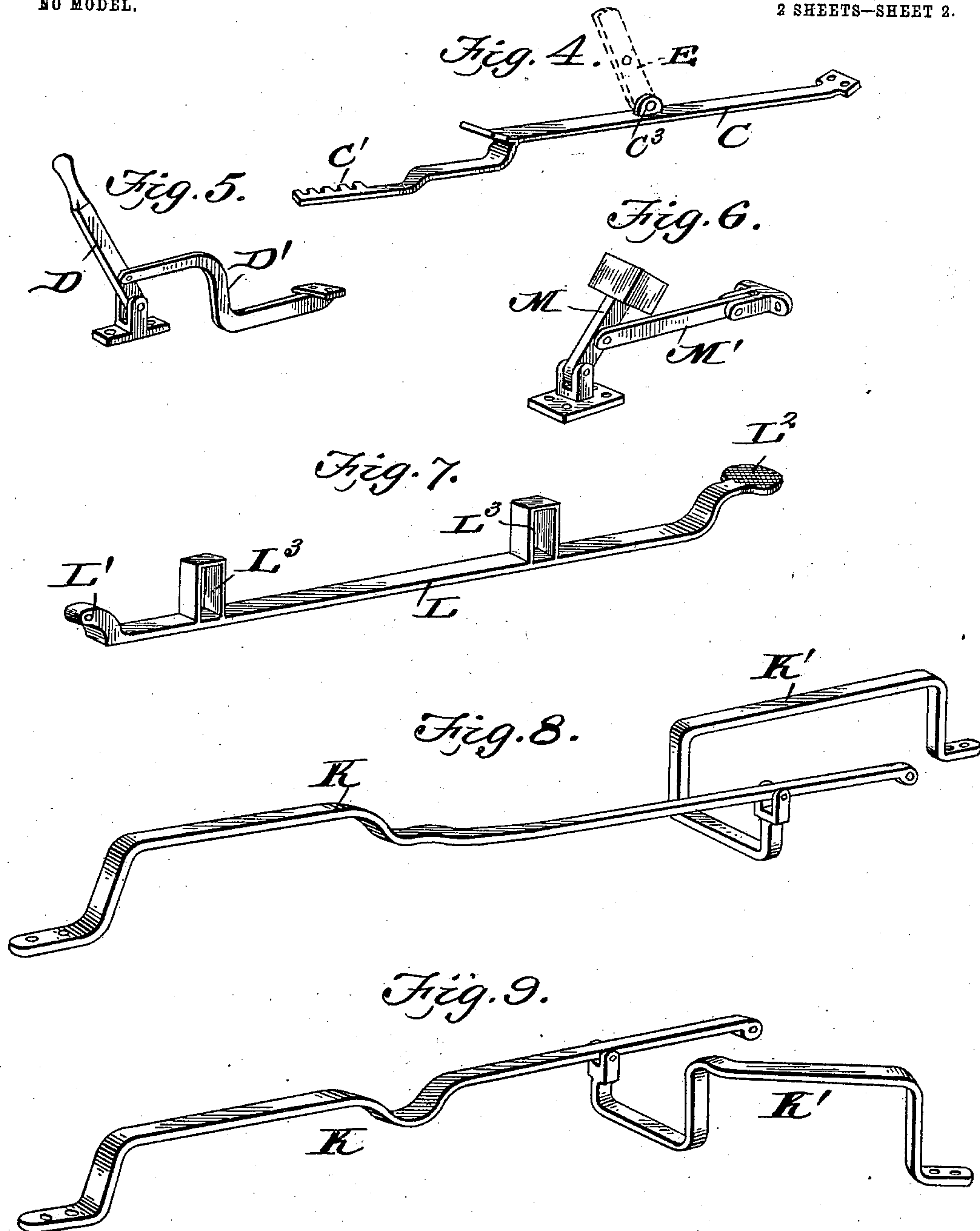
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UNITED STATES PATENT OFFICE.

ADOLPH HEPOLA, OF HIBBING, MINNESOTA.

SWITCH-OPERATING DEVICE.

SPECIFICATION forming part of Letters Patent No. 722,980, dated March 17, 1903.

Application filed August 2, 1902. Serial No. 118,189. (No model.)

To all whom it may concern:

Be it known that I, ADOLPH HEPOLA, a citizen of the United States, residing at Hibbing, in the county of St. Louis and State of Minnesota, have invented a new and useful Switch-Operating Device, of which the following is a specification.

This invention is an improved construction of switch-operating device by means of which a switch can be operated either from the locomotive or by manual power at the side of the track.

The object of the invention is to provide an exceedingly simple and efficient construction whereby the switch will be securely locked in its adjusted position; and another object is to provide means whereby locking mechanism can be released just prior to operating the switch, which operating means can be put into action either by the weight of the locomotive or by foot-power at the side of the track.

With these various objects in view the invention consists in the novel features of construction and arrangement, all of which will be fully described hereinafter and pointed out in the claims.

In the drawings forming part of this specification, Figure 1 is a top plan view of a railway-switch and operating mechanism constructed and arranged in accordance with my invention. Fig. 2 is a sectional view on the line 2 2 of Fig. 1. Fig. 3 is a detail sectional view illustrating the locking-catch in detail. Fig. 4 is a detail perspective view of the bar connecting the switch-rails. Fig. 5 is a detail perspective view of the hand-lever for operating the switch-points. Fig. 6 is a view showing one of the weights connected to the switch-rails and adapted to aid in throwing them and also to aid in holding them in their adjusted positions. Fig. 7 is a view showing the presser-bar to be operated by foot-power for the purpose of releasing the catches. Figs. 8 and 9 show the flange-bars adapted to be operated upon by the flange of the wheels for the purpose of unlocking the switch.

Referring to the drawings, A indicates the fixed rails, and B the movable or switch rails, the ends of said movable or switch rails being connected to the cross-bar C, the end C' of which projects a considerable distance to

one side and is provided with rack-teeth adapted to operate the signal-lantern C². A hand-lever D is also connected to the cross-bar C by means of an angle rod or bar D'. The cross-bar C has an upwardly-projecting lug C³, to which is pivotally secured the lever E, which projects through a slot F of a box or casing G, arranged centrally of the track, and this lever is adapted to be engaged by the lever H, pivoted upon the pilot of the engine and operated by the link H', elbow-lever H², and rod H³, it being understood that by throwing the lever H into contact with the lever E the lever will be shifted in the desired direction, and consequently operate the switch-rails. This is the manner in which the switch-rails are operated from the locomotive, and when it is desired to operate the switch by hand the lever D is brought into action. The switch-rails B are normally held locked by the spring-actuated catches I, which engage the base of the said switch-rails adjacent to their points, and in order to release said catches and unlock the rails prior to the operation of the switch-bar I provide flange-bars K, having supplemental flange-bars K' pivotally connected thereto, said flange-bars being arranged adjacent to the treads of the fixed rails both above and below the switch, so that when the train approaches the switch from either direction the flanges of the wheel will contact with the flange-bars and press them down, and inasmuch as these flange-bars bear upon the spring-actuated catches I the said catches will be forced down, releasing the switch-rails, which being thus unlocked can be shifted by means of the lever H. In order to provide for unlocking the catches by foot-power when it is desired to operate the switch by hand-power, I provide a rod or bar L, which is pivoted at L' and provided with a step L² at the opposite end and intermediate its ends has loops L³, which extend over the flange-bars, and by pressing down upon the rod or bar L the flange-bars will be depressed, releasing the catches I, and by operating the hand-lever D the switch can be moved as desired, and it will be noted that the step L² and hand-lever D are arranged in close proximity to facilitate the operation of the switch.

Weighted arms M are pivoted to the cross-tie upon which the switch-point rests, and these weighted arms are pivotally connected to the switch-rails adjacent to their point by means of the link-arms M', and these weights will be shifted back and forth as the switch is opened and closed, and the said weights will assist in opening and closing the switch and will also aid in keeping the same locked after the adjustment has once been completed.

It will thus be seen that I provide a simple and efficient means for opening and closing the switch, which means can be operated either from the locomotive or manually upon the side of the track or the caboose. Furthermore, it will be noted that the switch can be operated when the locomotive is approaching the switch from either direction.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination with the fixed and movable rails, of the switch-bar connecting the movable rails having a lever pivoted thereto between the rails, a hand-lever connected to the said switch-bar outside the rails, the catches for locking the movable rails, the flange-bars for releasing the catches, the presser rod or bar having the step adapted to operate the flange-bars, and means for engag-

ing the post carried by the switch-bar, for the purpose specified.

2. The combination with the fixed and movable rails, of the switch-bar connecting the movable rails having a pivoted upwardly-extending lever between the rails, and also having a hand-lever connected thereto, the pivoted weighted arms, links connecting said weighted arms and the movable rails, the locking-catches, flange-bars, means for operating the flange-bars and the lever carried by the locomotive, and means for operating the said lever, substantially as specified.

3. The combination with the fixed and movable rails, of the switch-bar connecting the movable rails having a vertical post and also having a hand-lever connected thereto, the weighted arms pivoted as described, the links connecting said weighted arms and movable rails, the presser-bar having a step at one end and loops intermediate its ends, the flange-bars, the locking-catches, box or case having a slot through which the vertical post works, and the lever arranged upon the pilot of the locomotive, and means for operating said lever, as and for the purpose described.

ADOLPH HEPOLA.

Witnesses:

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