

No. 871,455.

PATENTED NOV. 19. 1907.

G. R. STUART.

AUTOMATIC SWITCH THROWING DEVICE.

APPLICATION FILED MAR. 5, 1907.

2 SHEETS—SHEET 1

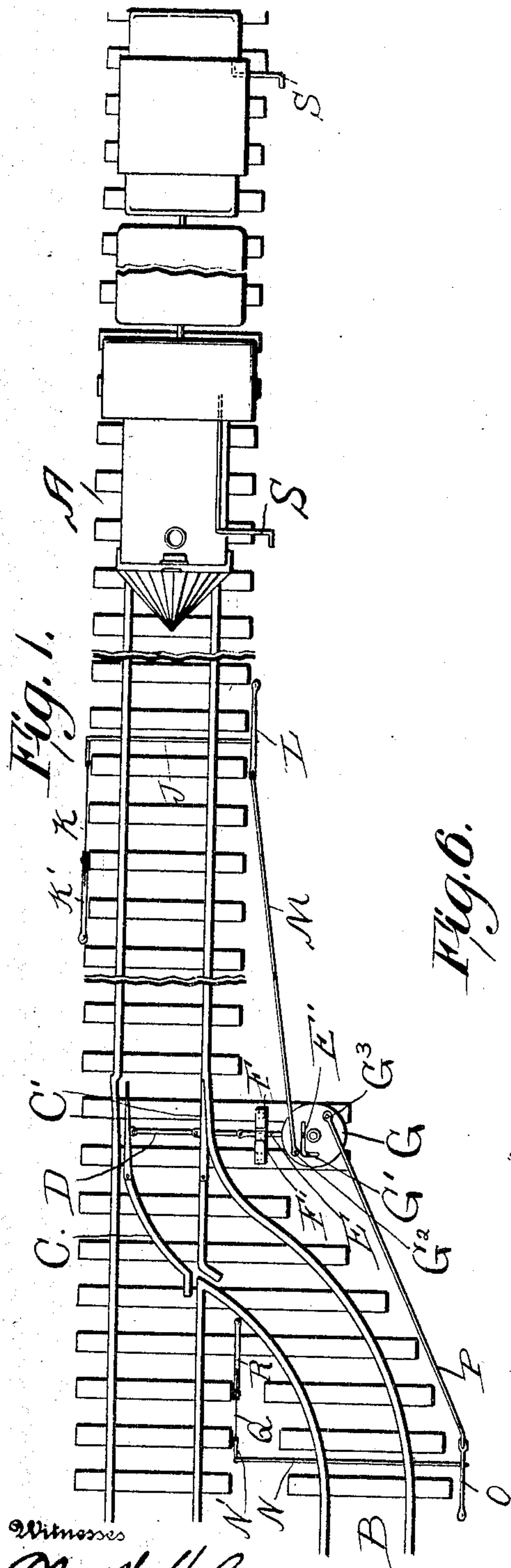


Fig. 1.

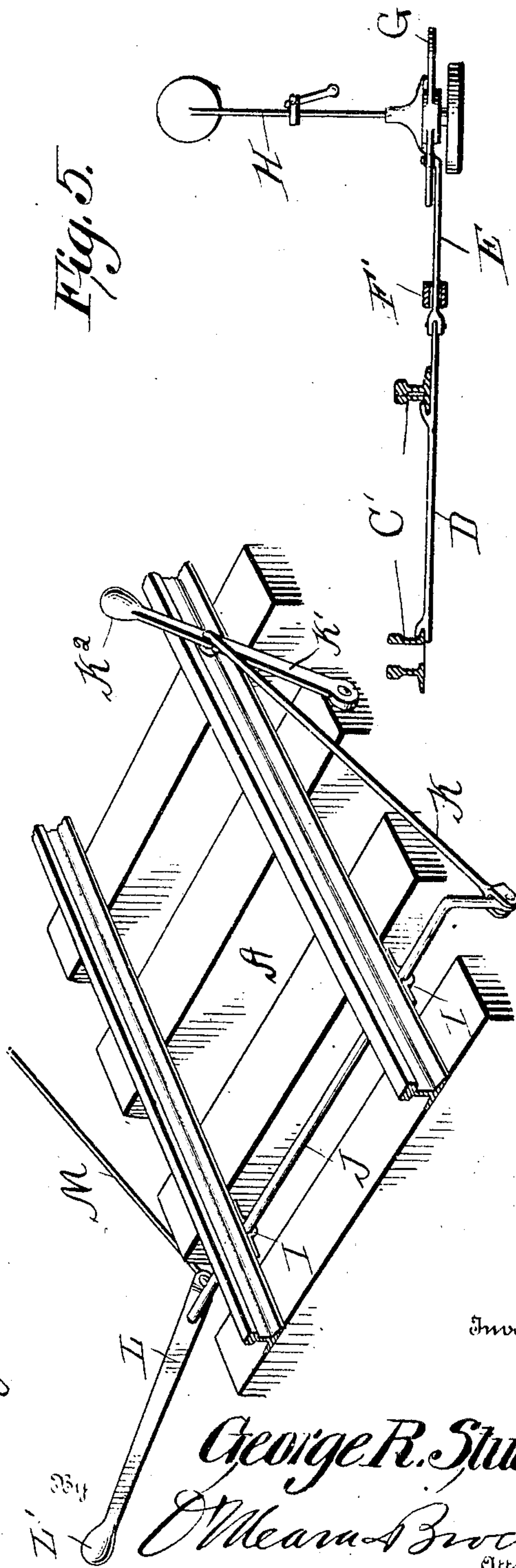


Fig. 5.

Fig. 6.

Witnesses
Oliver H. Holmes
Rea Albright.

Inventor

George R. Stuart,
O'Meara & Brock
Attorneys

No. 871,455.

PATENTED NOV. 19, 1907.

G. R. STUART.
AUTOMATIC SWITCH THROWING DEVICE.

APPLICATION FILED MAR. 5, 1907.

2 SHEETS—SHEET 2.

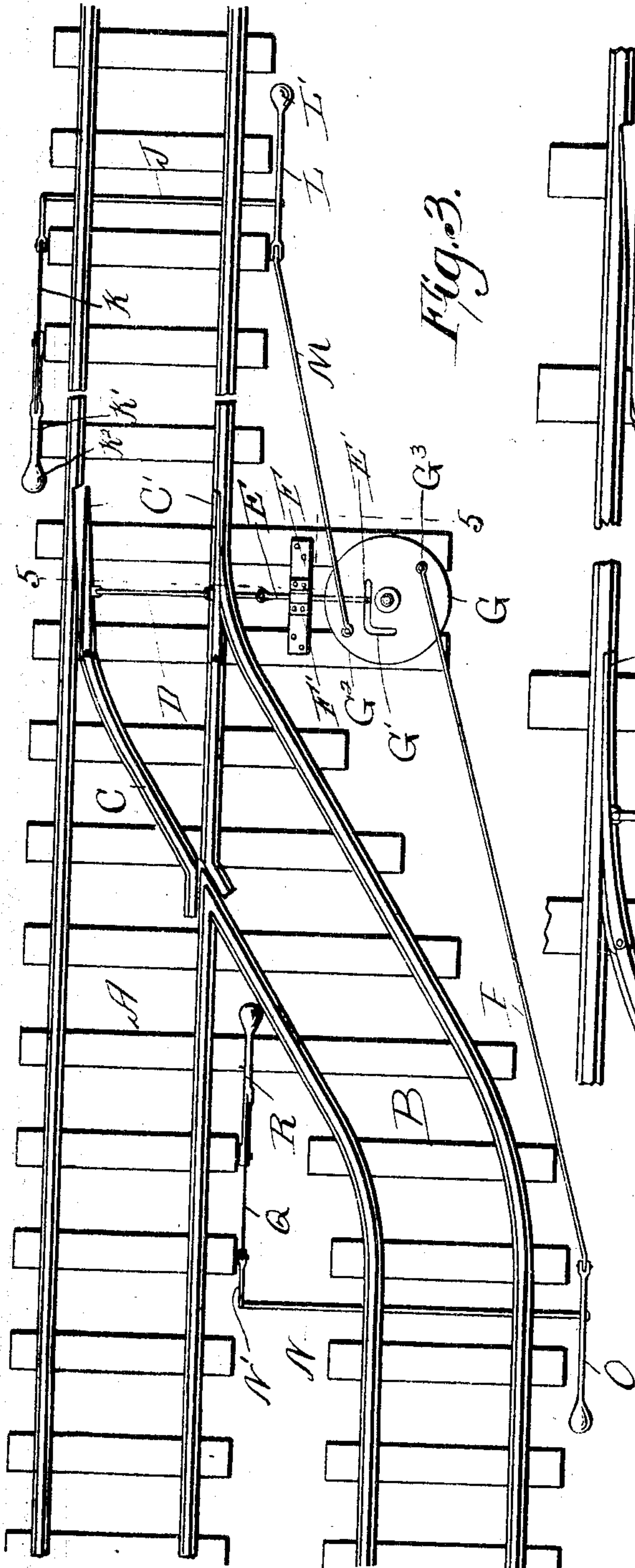


Fig. 3.

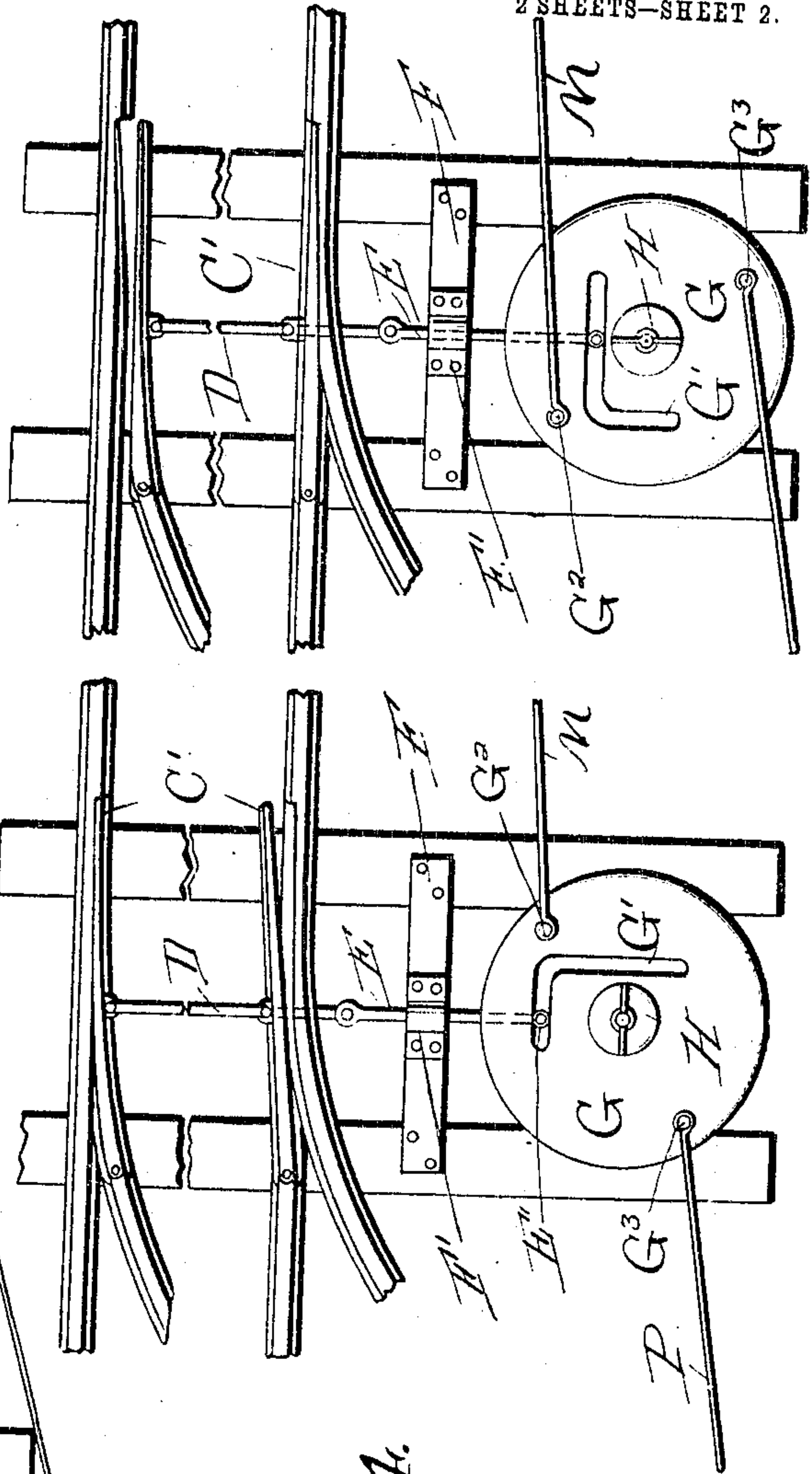


Fig. 4.

Witnesses
Oliver H. Holmes
Ans. D. Wright

Fig. 2

Inventor
George R. Stuart
By *O'Leary & Brock*
Attorneys

UNITED STATES PATENT OFFICE.

GEORGE R. STUART, OF OWENSBORO, KENTUCKY.

AUTOMATIC SWITCH-THROWING DEVICE.

No. 871,455.

Specification of Letters Patent.

Patented Nov. 19, 1907.

Application filed March 5, 1907. Serial No. 360,706.

To all whom it may concern:

Be it known that I, GEORGE R. STUART, a citizen of the United States, residing at Owensboro, in the county of Daviess and State of Kentucky, have invented a new and useful Improvement in an Automatic Switch-Throwing Device, of which the following is a specification.

This invention relates to switches and more particularly to automatic switch throwing devices, the object being to provide a switch operating device so constructed that it can be operated from a moving engine so as to open or close the switch from the main line or siding.

Another object of my invention is to provide a switch throwing device which is very simple and cheap in construction, and one which is very effective in use as by setting the tripping lever of the engine on the right side it will be impossible for the engine to run in on the siding by the switch being accidentally left open as the tripping lever will strike the operating lever of the switch throwing device and close the switch so as to give the train a clear track.

With these and other objects in view, the invention consists in the novel features of construction, combination and arrangement of parts hereinafter fully described and pointed out in the claims.

In the drawings forming a part of this specification:— Figure 1 is a top plan view of the portion of the main track and siding showing my improved switch throwing device arranged thereon with an engine having its tripping lever set so as to trip the switch operating lever so as to pass in on the siding. Fig. 2 is an enlarged top plan view of the same. Fig. 3 is a detailed enlarged top plan view of the switch operating mechanism, showing the switch in a closed position. Fig. 4 is a detail enlarged view of the switch operating mechanism showing the switch in an opened position. Fig. 5 is a sectional view taken on lines 5—5 of Fig. 2. Fig. 6 is a detailed perspective view of the operating levers attached to the rail and tie.

In the drawings A indicates the main track, B the side track and C the switch connecting the two. The switch is provided with pivoted points C' connected together by a bar D which extends out to one side and is pivotally connected to the end of a square bar E slidably mounted in a bearing F' secured on a cross-bar F, between the outwardly project-

ing ties of the main track. The bar E is provided with an angled end carrying an anti-friction roller E' which works in an L-shaped slot G' formed in a disk G secured on a vertical shaft of an ordinary target H, mounted on a base arranged between the ties. Journal-bearings I are secured to the under side of the main-track, a suitable distance away from the switch, in which is mounted a shaft J provided with a crank-arm having a bifurcated end in which is pivotally mounted one end of a link K which is pivotally connected to a lever K' mounted on the end of a tie, and is provided with a weighted upper end K² so that when thrown off the dead center it will be securely held in place thereby preventing the switch from jumping back after thrown in one position.

Secured on the other end of the shaft J is a lever L, provided with a bifurcated lower end in which is pivotally mounted the apertured end of a link M which is provided with an eye at its opposite end which is mounted on a pin G² projecting up from the top of the disk G. This lever is also provided with a weight L' for the purpose of holding the switch in position thrown.

A shaft N is pivotally mounted in bearings secured to the under side of the rails of the siding, having a lever O secured on one end in the bifurcated lower end of which is secured the end of a link P which has an eye at its other end mounted over a pin G³ secured in the face of the disk G. The other end of the shaft is provided with a crank-arm N' having a bifurcated lower end, to which is connected a link Q which is pivotally connected to a lever R mounted on the end of one of the ties of the main-track. These levers are also provided weighted upper ends so that when thrown into position for opening and closing the switch, they will be securely held in that position.

Tripping levers S are adapted to be secured on either side of the engine and caboose for tripping these levers, so that the switch can be readily operated from the train while in motion.

The operation of the device is as follows:— When the train is passing up to the switch on the main track and wishes to get on the siding, the levers on the left side of the engine and caboose are thrown out so that the lever on the engine will engage the lever L' and revolve the shaft J which will in turn rotate the disk G, causing the anti-friction

roller to travel in the slot so that the points of the switch will be swung so as to open the switch and allow the engine to pass on the siding, and as the lever of the caboose comes into engagement with the lever O, the shaft will be rotated which in turn will rotate the disk through the medium of the link, so as to close the switch.

It will be readily seen that when it is desired to pass off the siding, the tripping levers are thrown down on the opposite side which will engage the opposite operating levers, so as to open and close the switch, as the engine passes out of the siding.

It will also be readily seen that when a switch is provided with my improved operating mechanism, accidents will be prevented as the tripping levers of the engine will always be thrown out so that they would engage the operating levers for closing the switch before the engine reaches the same.

It is of course understood that this switch can be operated by the ordinary target when desired, and that as the switch is operated, the target will be operated also.

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

1. The combination with a switch, of a disk mounted to one side of said switch provided with an L-shaped slot, of a bar working in said slot connected to the switch points, levers mounted on the track, to each side of the switch, and links connecting said levers to said disk.

2. The combination with a switch provided with pivoted points connected by a bar, of a bar connected to said bar provided with an angled end, a target provided with a disk having an L-shaped slot formed therein arranged to one side of said switch, said bar carrying an anti-friction roller working in

said, slot and means arranged on the track for operating the said disk.

3. The combination with pivoted switch points connected together by a bar, of a target arranged to one side of said points, a disk secured on said target provided with an L-shaped slot, a bar journaled in the cross-bar connected to the bar connecting the switch-points at one end, and slidably mounted in the slot of the disk, shafts mounted on the track to each side of the switch carrying levers, and links connecting said levers to said disk, for the purpose described.

4. The combination with switch points, of a disk mounted on a shaft to one side of said points provided with an L-shaped slot, a bar working in said slot connected to said point, shafts mounted on said track to each side, levers carried by said shaft, links connecting said levers to said disk, levers pivoted to the sides of the tie carrying links connected to crank-arms formed on said shafts, and tripping means carried by the train for operating said levers.

5. The combination with pivoted switch points connected together by a bar, of a target carrying a disk provided with an L-shaped slot, a bar connected to said bar provided with an angled end carrying an anti-frictional roller, said roller working in said slot of the disk, pins projecting up from said disk, shafts provided with crank-arms mounted on the track, levers carried by said shaft, links connecting said levers and pins, and weighted levers mounted on the ties connected to the crank-arms by links, and tripping mechanism carried by the train for opening and closing said switch.

GEO. R. STUART.

Witnesses:

M. LOELE,
E. S. MEYER.