

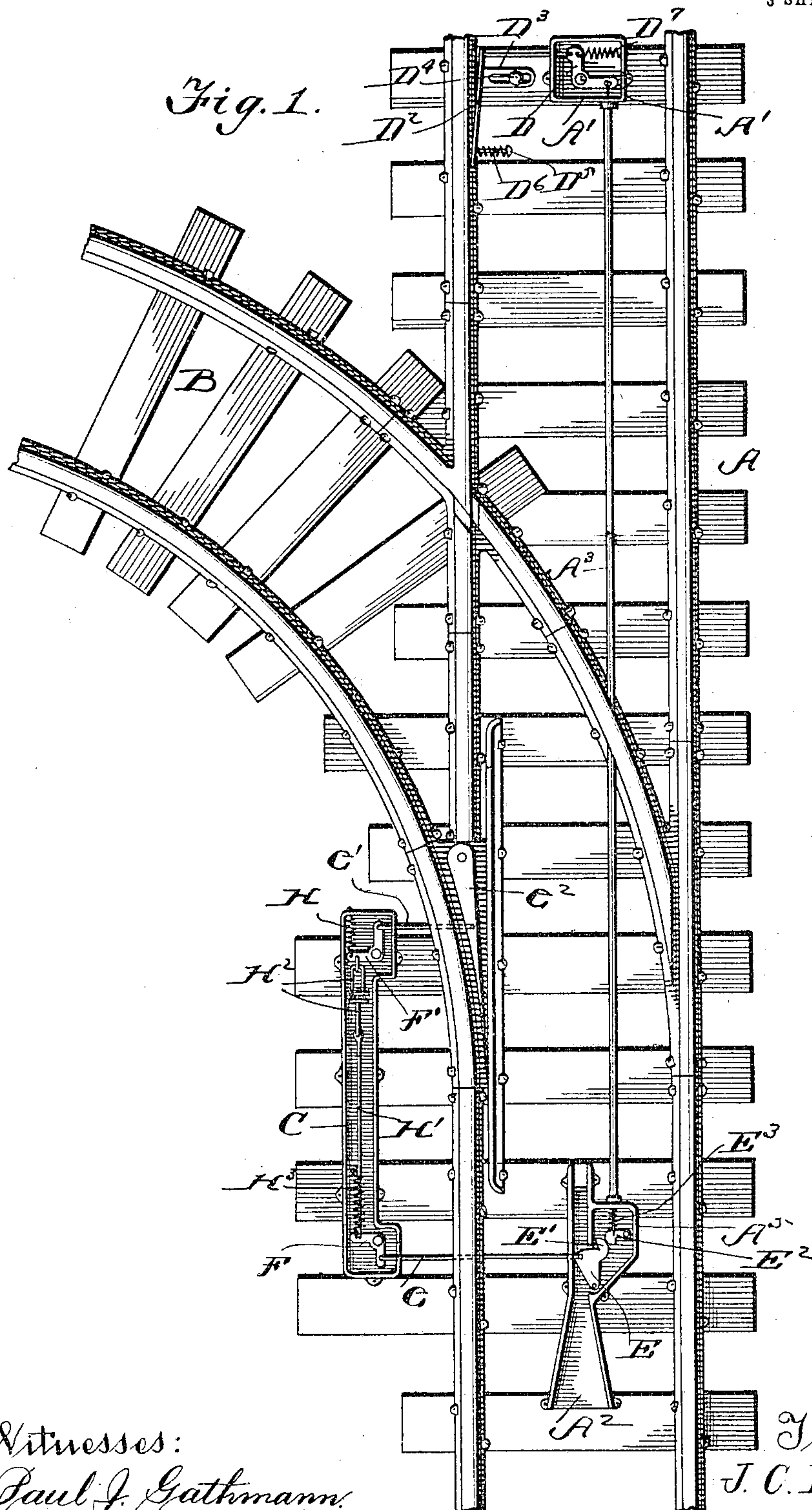
No. 807,820.

PATENTED DEC. 19, 1905.

J. C. HALLETT.
SWITCH OPERATING DEVICE.

APPLICATION FILED APR. 13, 1905.

3 SHEETS—SHEET 1.



Witnesses:
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E. B. McBath.

Inventor.
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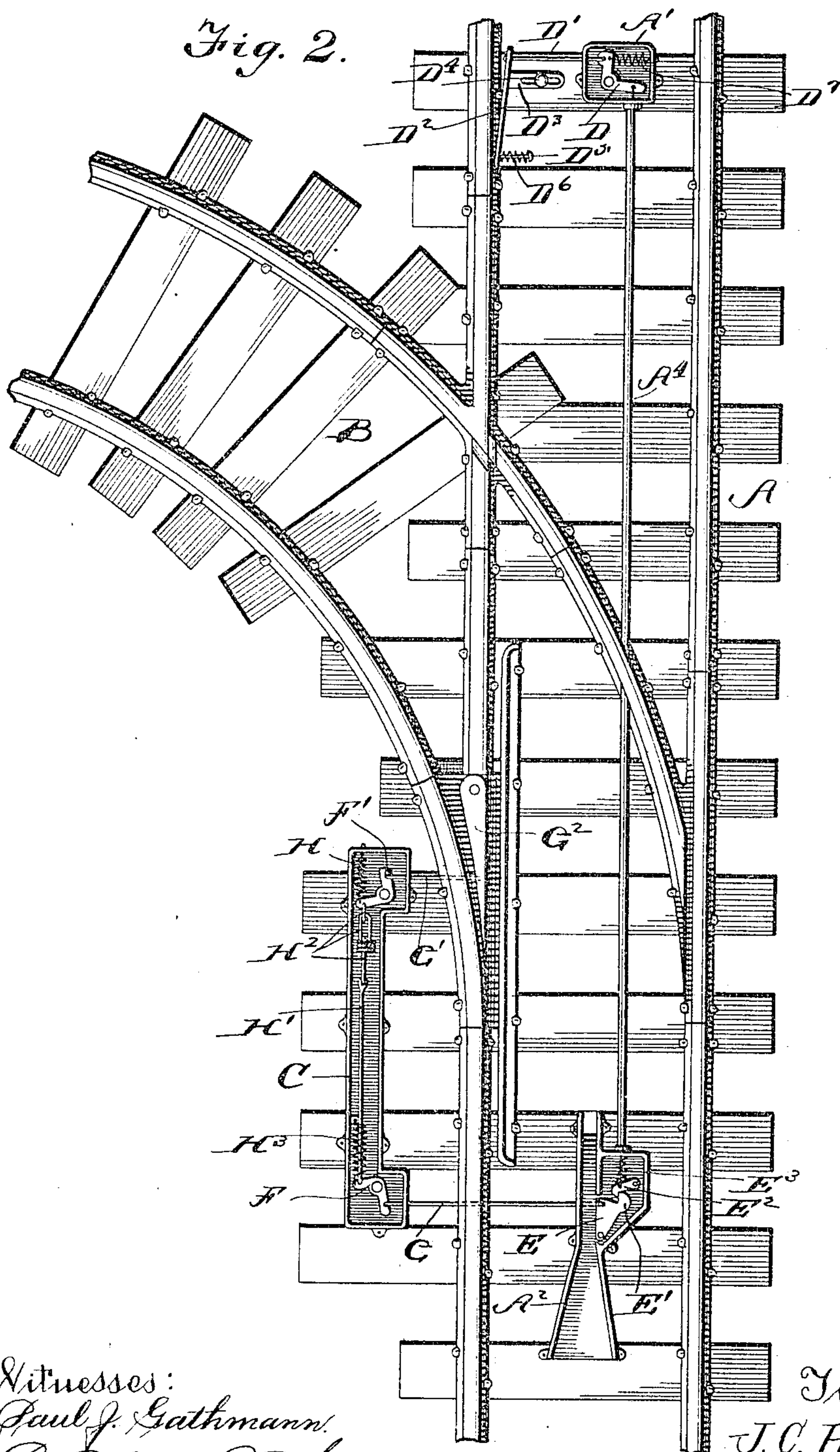
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3 SHEETS—SHEET 2.



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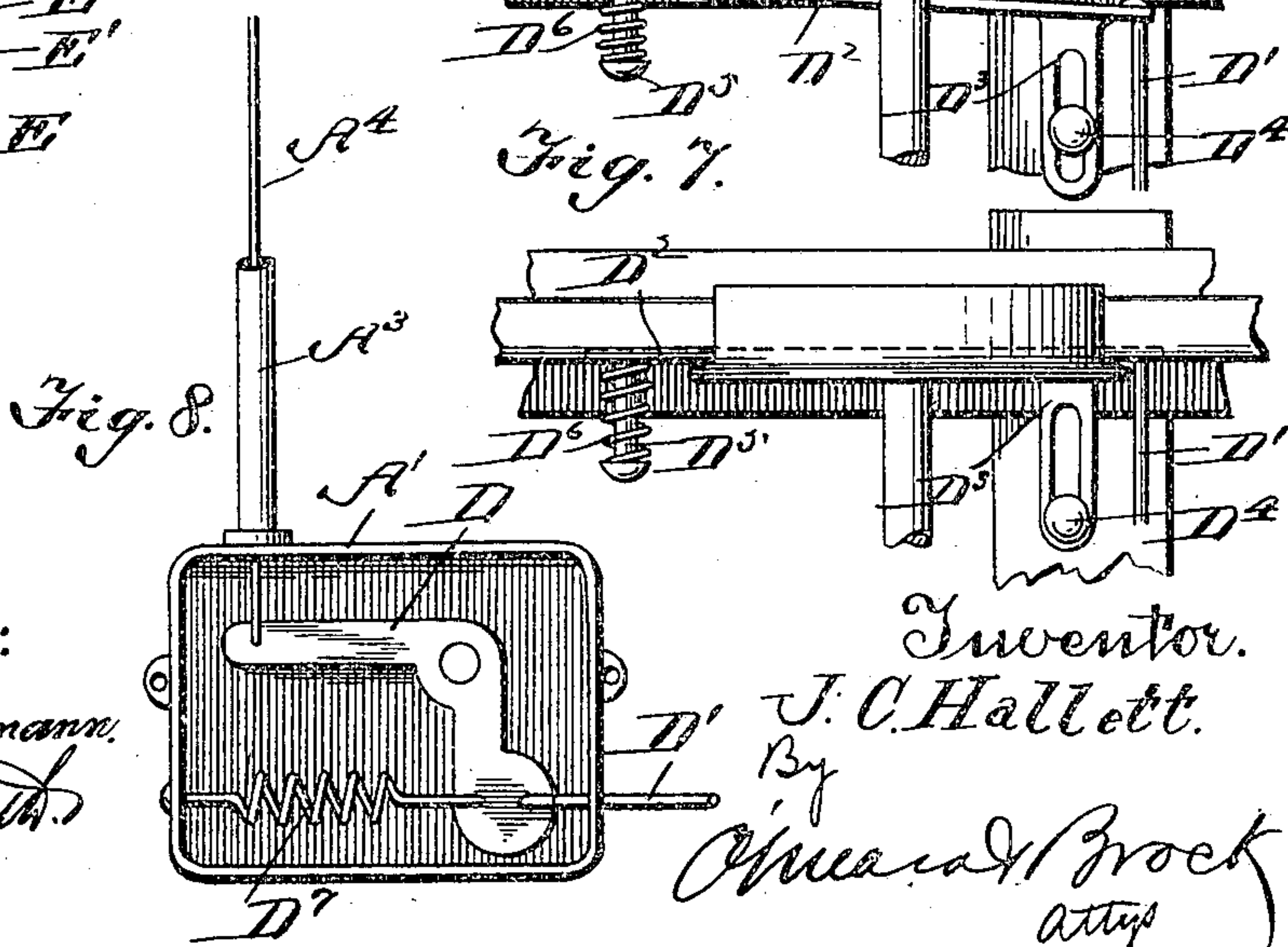
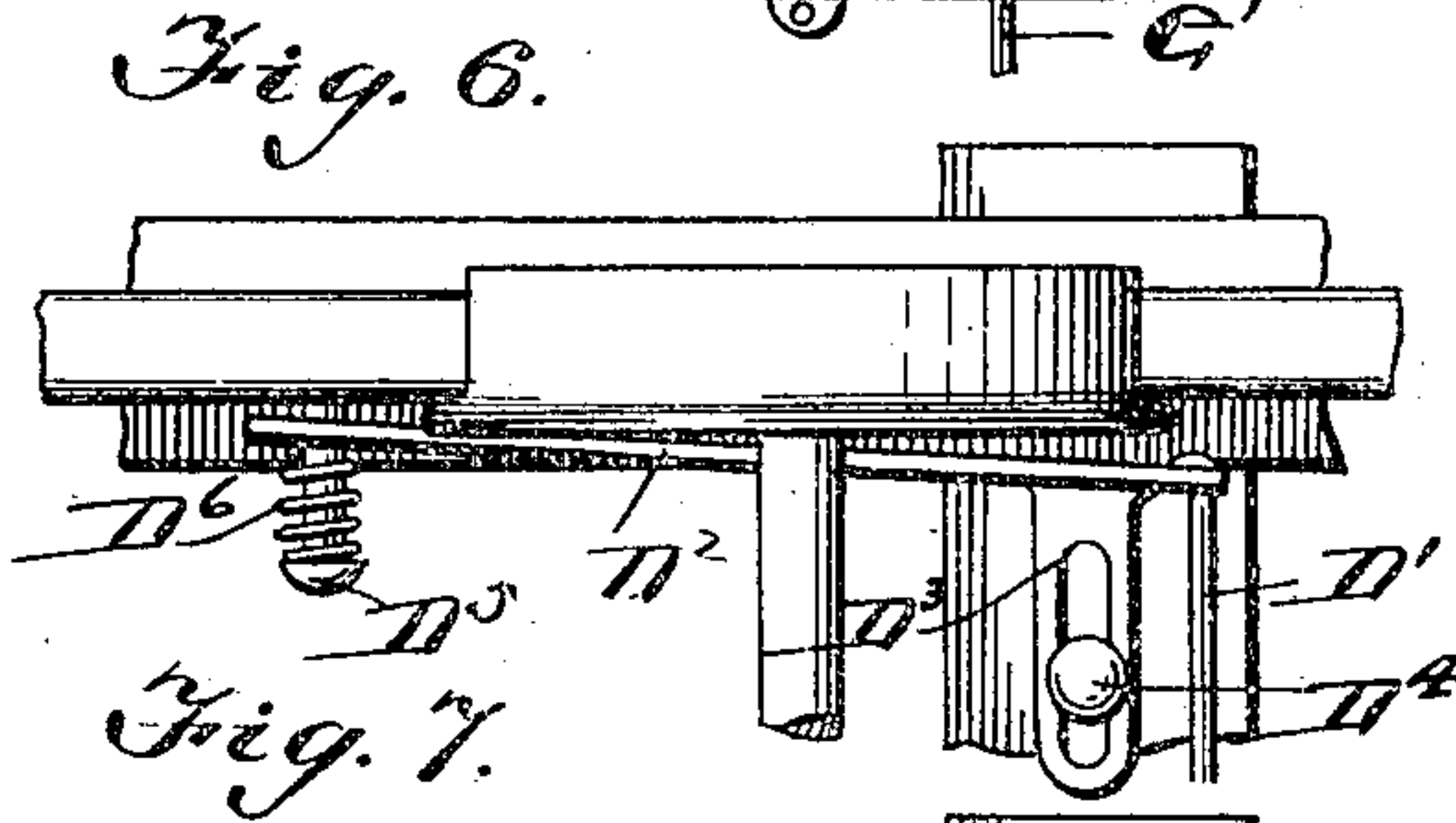
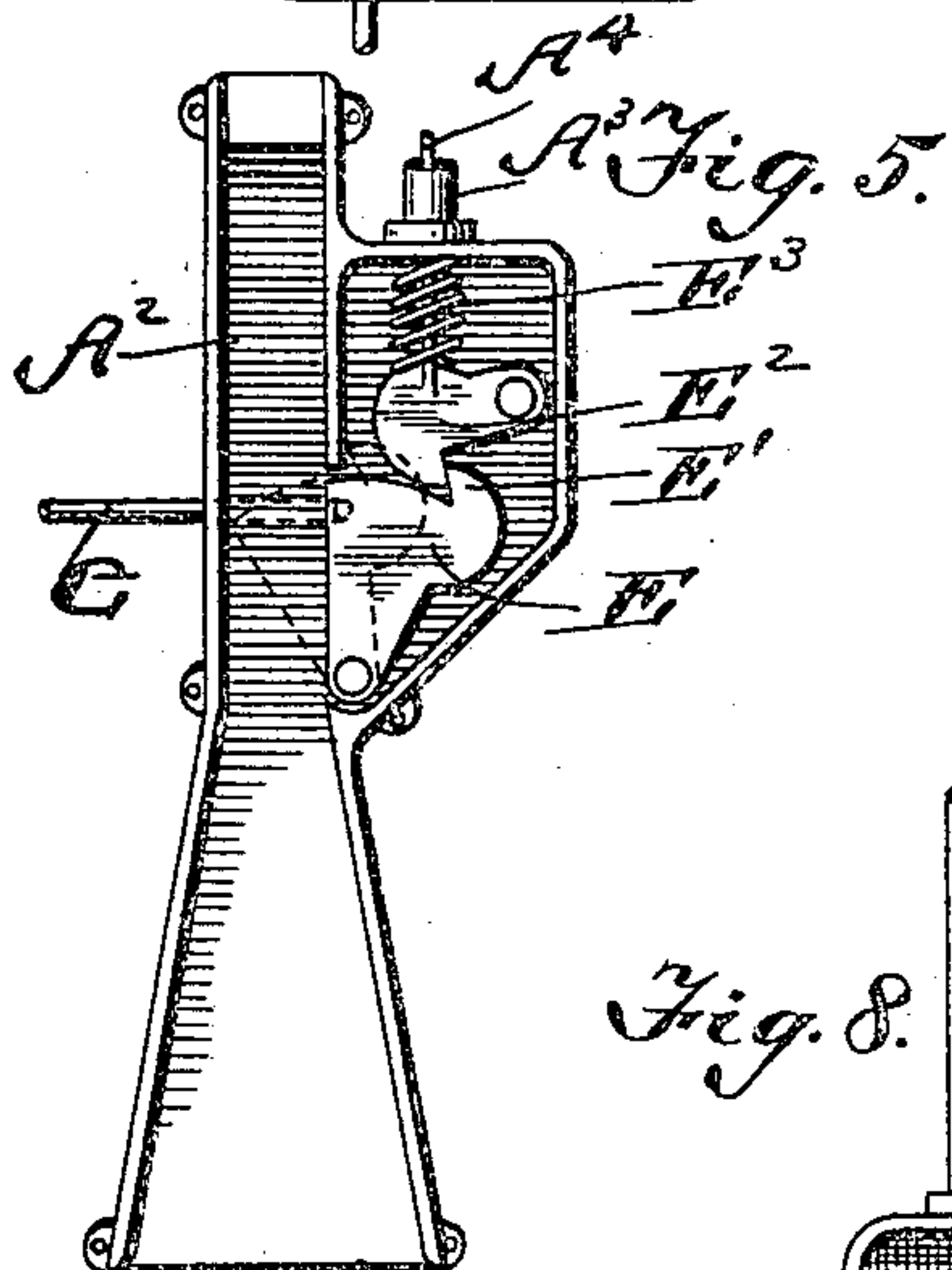
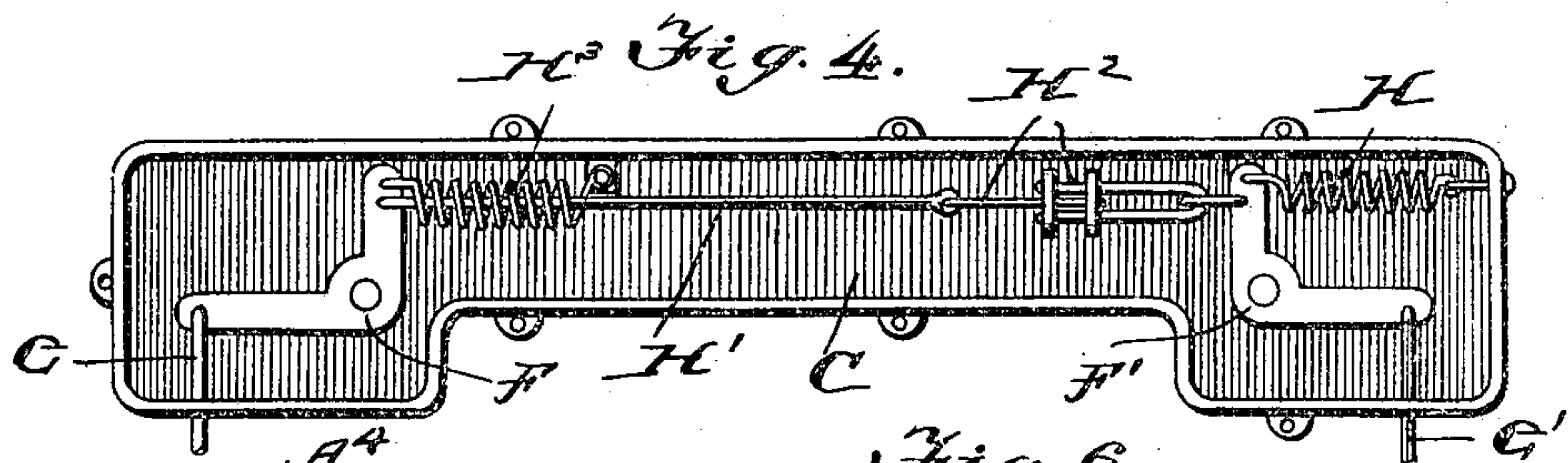
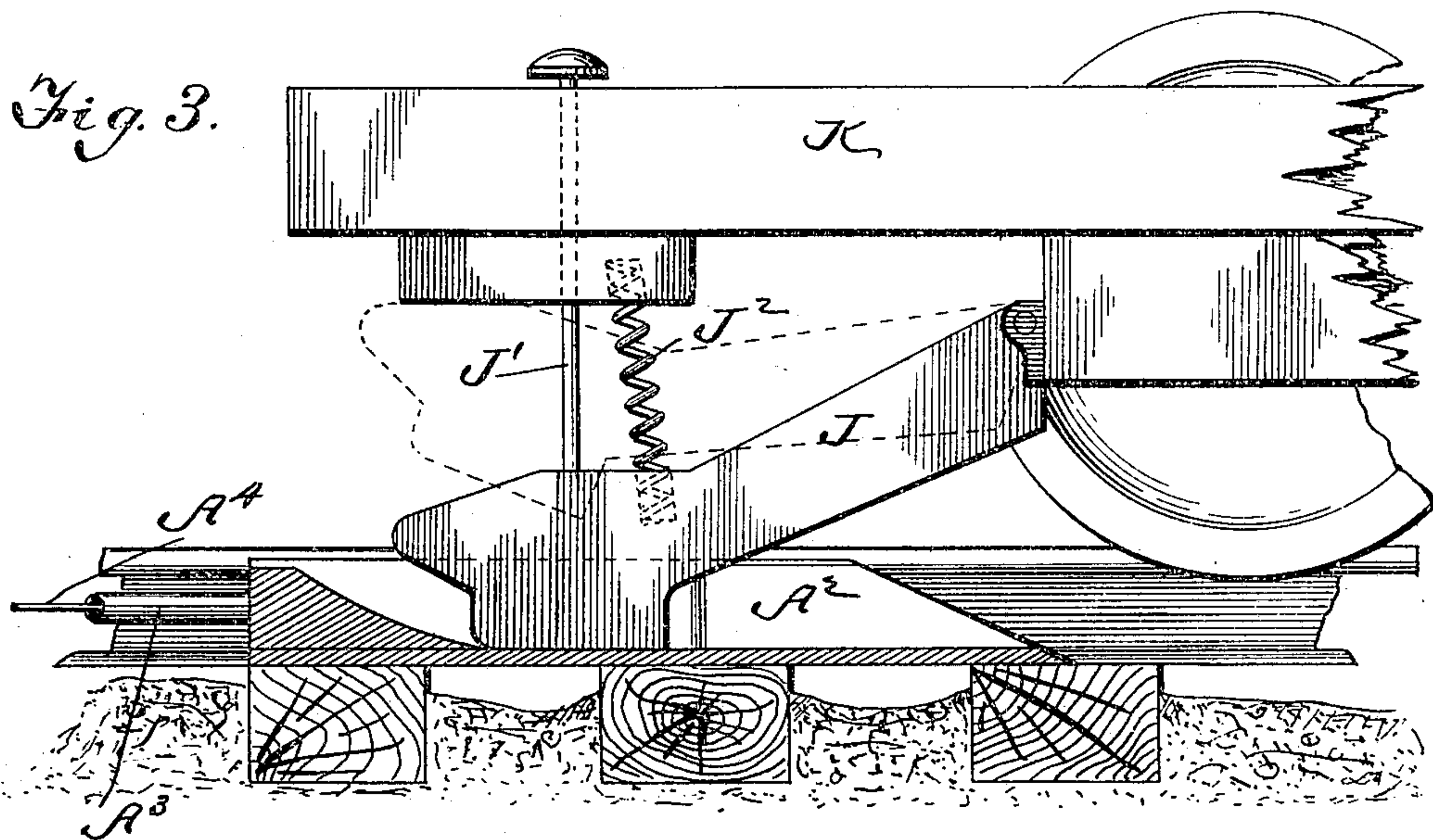
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3 SHEETS—SHEET 3.



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UNITED STATES PATENT OFFICE.

JAMES C. HALLETT, OF BLOOMINGTON, ILLINOIS.

SWITCH-OPERATING DEVICE.

No. 807,820.

Specification of Letters Patent.

Patented Dec. 19, 1905.

Application filed April 13, 1905. Serial No. 255,390.

To all whom it may concern:

Be it known that I, JAMES C. HALLETT, 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 Switch-Operating Devices, of which the following is a specification.

This invention relates to a switch adapted to be automatically held in a predetermined position, together with means carried by a car for shifting the switch when desired.

The invention consists of the novel features of construction and combination of parts hereinafter fully described, pointed out in the claims, and shown in the accompanying drawings, in which—

Figure 1 represents a plan view of a switch, showing the switch held in position to switch a car. Fig. 2 is a plan view of a switch, showing the same in closed position. Fig. 3 is a view, partly in elevation and partly in section, showing the operating-shoe carried by the car. Fig. 4 is a plan view of a casing arranged adjacent the switch, the top of the casing being removed. Fig. 5 is a plan view of the switch-operating device arranged upon the track and adapted to cooperate with the shoe carried by the car. Fig. 6 is a plan view showing certain parts engaged by a wheel-flange when the car is moving in one direction. Fig. 7 is a plan view of the same parts, showing the same in position when engaged by a wheel-flange moving in the opposite direction. Fig. 8 is a plan view of a casing with the top removed arranged upon the track on the opposite side of the switch from the casing shown in Fig. 5.

In the drawings, A represents what will be termed for convenience the "main" track and B a "spur" track. Upon the track A and on one side of the switch is arranged a casing A' upon the same track, and on the opposite side of the switch is arranged an upwardly-open trough or casing A², and a pipe or tube A³ extends from the casing A' to a side projection or extension A⁵ of the casing A², and a suitable wire A⁴ is carried through the pipe A³.

Upon one side of the track and adjacent the switch is placed an elongated casing C, and it will be understood that for convenience of illustration I have shown all of these casings uncovered, but that in actual use the casings A' and C and the extensions A⁵ of the casing

A² will be protected with suitable tops to prevent dirt from gaining access thereto.

Within the casing A' is pivoted a bell-crank D, to one arm of which is connected an end of the wire A⁴. To the other arm an end of the rod D' is connected, the opposite end of the rod being connected to the movable plate D², which is slidably arranged adjacent one rail of the track A. This plate has a horizontal lateral extension D³, longitudinally slotted, and a pin D⁴, driven into one of the cross-ties passes through the slot of the plate. The extension D³ is adjacent the rod D', and the opposite end of the plate is perforated and slides upon the horizontal pin D⁵, and a coil-spring D⁶, carried by the pin D⁵, normally presses this end of the plate D² toward the rail. A spring D⁷, connected at one end of the bell-crank D to which the rod D' is connected and at the opposite end to the side of the casing A', serves to hold the bell-crank in its normal position. A substantially triangular-shaped plate E is pivoted within the extension A⁵ of the casing A² and is adapted to swing obliquely across the trough formed by the casing A² or to be swung in the opposite direction, so as to rest entirely within the extension A⁵. The plate E opposite its pivotal point is provided with a suitable nose E', which is adapted to be engaged by a trigger E², also pivoted within the extension A⁵, and to this trigger is secured the remaining end of the wire A⁴.

A coil-spring E³, bearing upon one end of the extension A⁵, bears at its opposite end on the trigger E² and serves to hold it into engagement with the nose E' of the plate E. In the casing C and adjacent the opposite ends of the same are pivoted bell-cranks F and F', and a rod G connects the arm of the bell-crank F with the plate E. A rod G' is pivotally connected to the arm of the bell-crank F' and at its opposite end to the switch-frog G². A spring H is secured to a side of the casing C and also to the arm of the bell-crank F' opposite that to which the rod G' is pivoted, and this arm and the remaining arm of the bell-crank F are connected by means of the link-arm H' and links H². A spring H³ is secured to the casing at one end at a point between the two bell-cranks and at its opposite end to the same arm of the same bell-crank F to which the rod H is pivoted.

Upon a car K is pivoted a vertically-mov-

able shoe J, which is adapted to be depressed by a push-rod J', operated by the foot, against the upward pull of a coil-spring J². The shoe J when depressed is adapted to enter and travel in the trough of the casing A².

Assuming that the parts are in the position shown in Fig. 1 and that a car moving in the direction of the casing A' desires to continue upon the main track A, the rod J' is depressed, forcing the shoe J downwardly into the casing A², and it will be noted that the sides of the casing in advance of the plate E are divergent, forming a bell-shaped trough. A shoe coming into contact with the plate E will swing the same upon its pivot-point into the extension A⁵, and it will be locked into such a position by the trigger E². This movement of the plate E will be communicated to the frog G² through the medium of the rod G, the mechanism in the casing C and the rod G' throwing the switch into the position shown in Fig. 2 and permitting the car to pass on to the casing A'. When adjacent this casing, the flange of one of the front wheels will engage the outer side of the plate D², as shown in Fig. 7, forcing the end of the plate to which the rod D' is connected toward the rail. This will swing the bell-crank D, which will exert the pull upon the wire A⁴, which will in turn withdraw the trigger E² from engagement with the nose E' of the plate E, which will permit the springs H and H³ to restore the bell-cranks F and F' to their normal position, and thereby return the switch to the position shown in Fig. 1. When a car comes from the opposite direction along the track A, the wheel-flange passes between the plate D² and the rail, forcing the perforated end along the rod D⁵ away from the rail, and after passage of the wheel the plate is returned to its normal position by the spring D⁶, and it will be obvious that the switch will be held normally in the position shown in Fig. 1, and the cars coming from or going to the track B will not be required to use the shoe J, and that the shoe need only be used by cars moving along the track A toward the casing A', and that such cars in passing the plate D² will cause the switch to be automatically returned to its normal position. It will also be obvious that the switch can be moved by a bar, provided any car is not equipped with the shoe J, and, furthermore, that either track A or track B may be regarded as the main track, and that the distance between the casing A' and casing A² may be increased or shortened, as the length of the cars or trains may require.

Having thus fully described my invention,

what I claim as new, and desire to secure by Letters Patent, is—

1. A device of the kind described comprising a pivot-plate arranged upon one side of the switch, of a movable plate arranged adjacent the rail upon the opposite side of the switch, a depressible shoe carried by a car adapted to actuate the first-mentioned plate, a trigger adapted to lock said plate after movement by engagement with the shoe and means connecting said trigger with the movable plate and adapted to unlock the first-mentioned plate upon engagement by a wheel-flange with the movable plate.

2. A device of the kind described comprising a movable pivoted plate, means connecting said plate to a switch-frog, a depressible shoe carried by a car adapted to swing the said plate, a trigger pivoted adjacent the plate and adapted to engage the same when swung by the shoe, a spring-pressed plate movable to and from a rail and adapted to be engaged by a wheel-flange and means connecting said last-mentioned plate with the trigger and adapted to withdraw the same from engagement with the pivot-plate upon movement of the spring-pressed plate toward the track-rail.

3. A device of the kind described comprising an upwardly-open trough having an inclosed side extension, a triangular-shaped plate pivoted within said extension and adapted to swing obliquely across the trough, a trigger arranged in the extension and adapted to engage the plate when moving into the extension, a depressible shoe carried by a car, adapted to enter the trough and move the pivot-plate into engagement with the trigger, connecting means between the plate and the switch-frog adapted to actuate the frog upon movement of the plate, and means for automatically releasing the trigger from engagement with the plate.

4. In combination with a switch-actuating device, a plate arranged adjacent and normally at an angle to a track-rail, a spring adapted to move one end of said plate into engagement with the rail, the opposite end of the plate being adapted to be moved into engagement with the rail by the flange of a wheel traveling from the spring-pressed end toward the opposite end and means connected with said end adapted to restore the switch-actuating devices to their normal position.

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Witnesses:

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