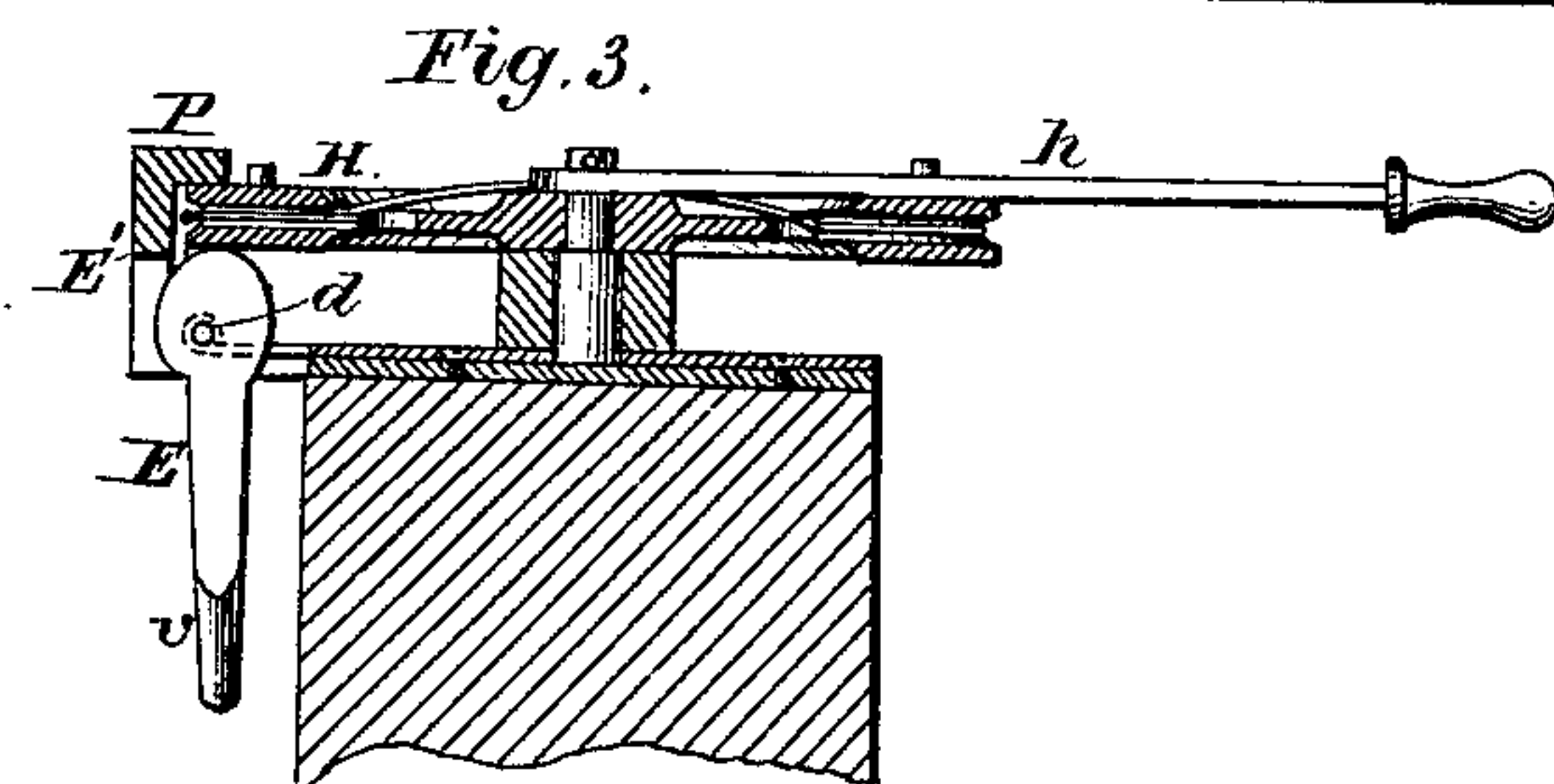
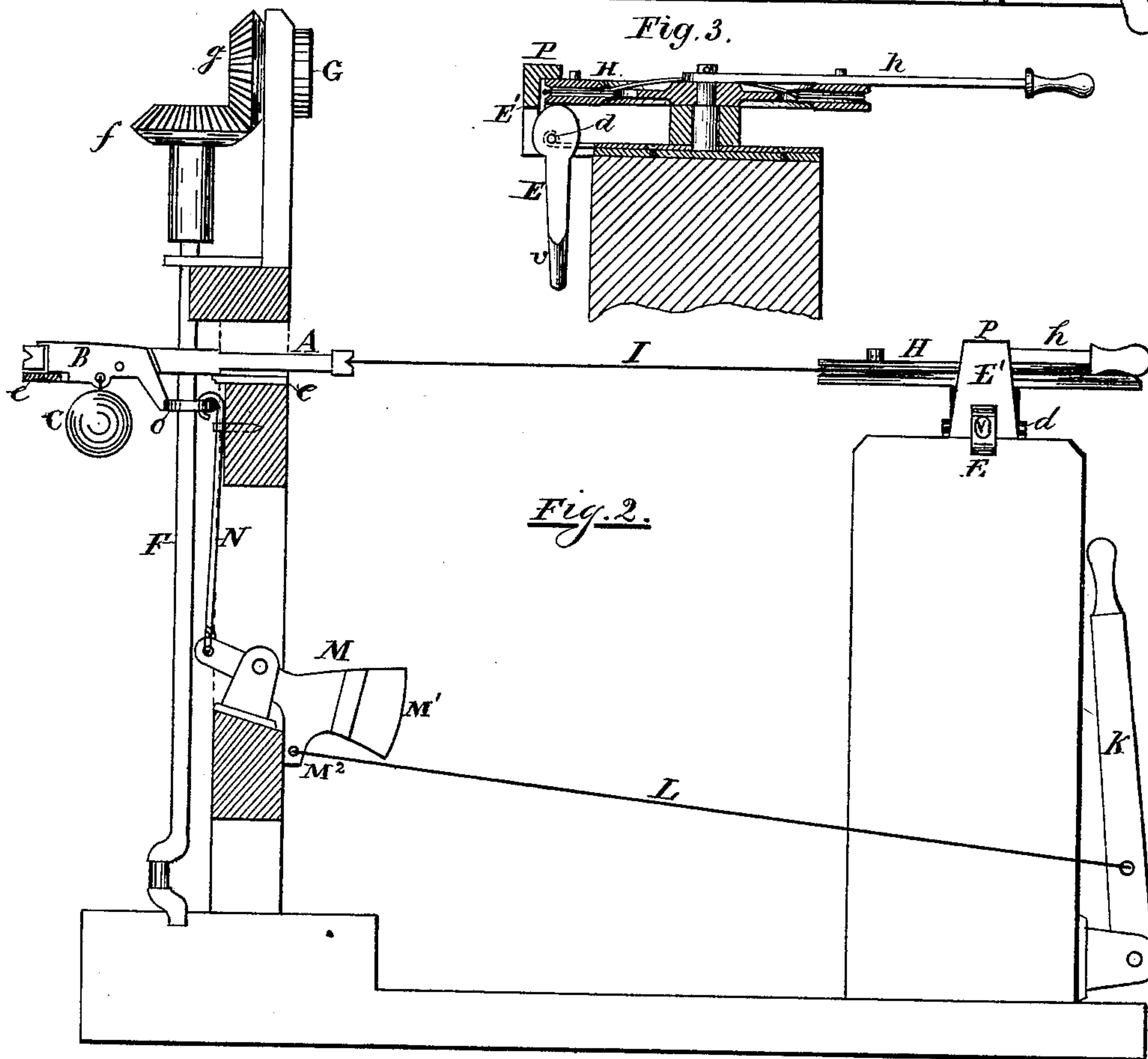
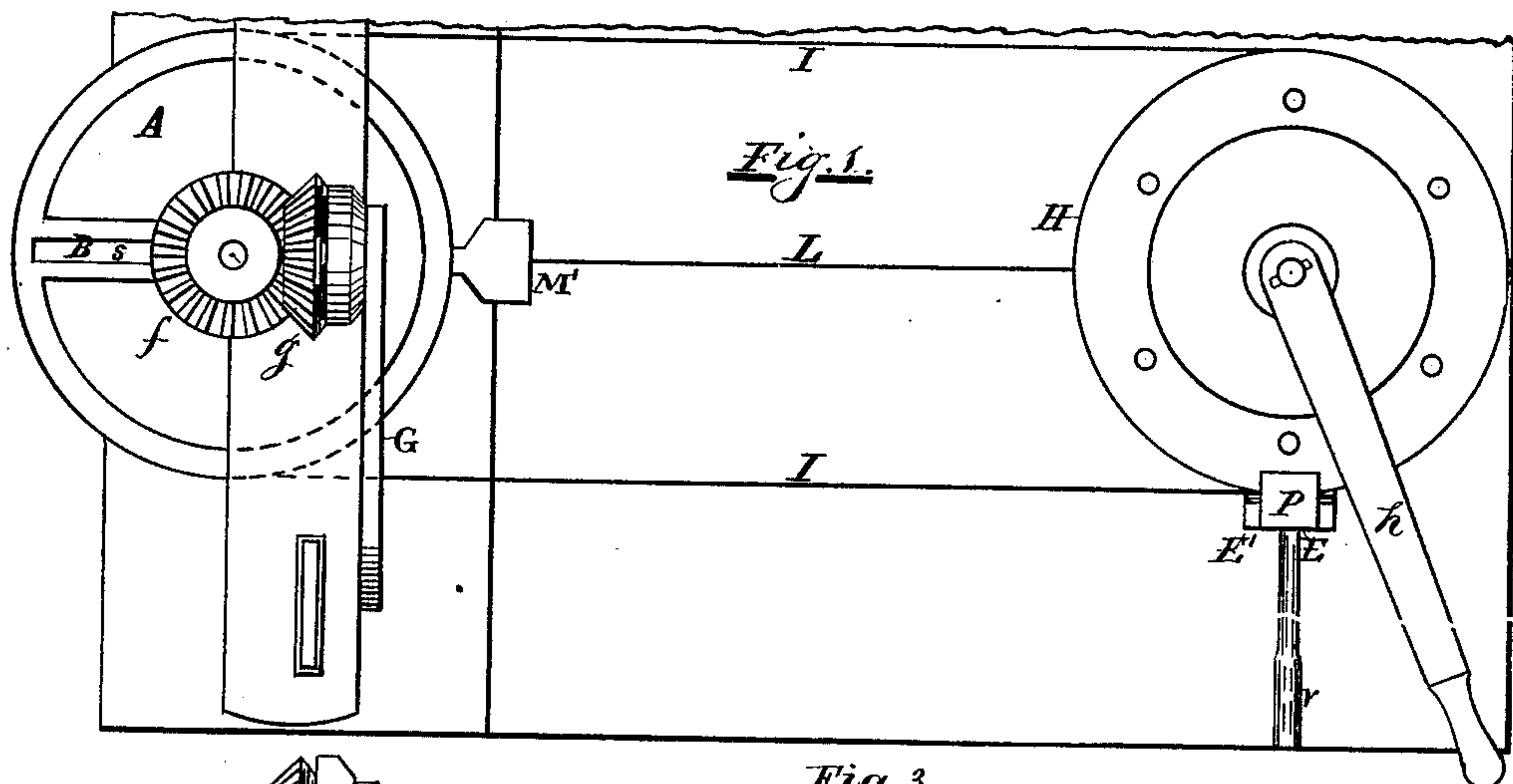


J. J. GOLDEN.  
Railway-Switch.

No. 198,197.

Patented Dec. 18, 1877.



Witnesses  
William Gill  
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# UNITED STATES PATENT OFFICE.

JUSTIN J. GOLDEN, OF TORONTO, ONTARIO, CANADA.

## IMPROVEMENT IN RAILWAY-SWITCHES.

Specification forming part of Letters Patent No. **198,197**, dated December 18, 1877; application filed August 24, 1877.

*To all whom it may concern:*

Be it known that I, JUSTIN JOSEPH GOLDEN, of the city of Toronto, in the county of York, in the Province of Ontario, gentleman, have invented certain new and useful Improvements in Machinery for the Operating of Railroad-Switches; and I do hereby declare that the following is a full, clear, and exact description of the same.

My invention relates to the operation of railroad-switches by certain mechanism hereinafter described, which will enable the switchman to operate the same, when placed at each end of a siding, from a central position about midway between the switches, which will save time, and thereby shorten the delay of trains at the station, rendering it unnecessary for the switchman to run from one switch at one end of the siding to the other switch at the other end of the siding when shunting trains.

My invention also relates to a patent of Canada, obtained by me, bearing date the 25th day of January, 1877, and No. 6,995, and also to a patent for the United States, bearing date the 24th day of April, 1877, and No. 189,855.

It consists of (for each switch) an endless-wire cable passing around and secured to a rim-grooved wheel placed about midway between the switches, which is provided with a lever for turning the same, and which wheel I call the "first motion wheel." The endless cable aforesaid also passes round another rim-grooved wheel, which is fastened on the upright cranked axle, forming a part of the ordinary switch-gear. This latter wheel is constructed with a radial groove, extending from the hub to the rim of the wheel, in which groove is placed a peculiarly-constructed lever, having a ring on its inner end, which encircles the upright cranked axle, and the other end is formed so as to fall into certain notches cut in a semicircular flat bar of iron placed immediately below the rim of the wheel, and fastened on the top of one of the cross-bars of the frame-work of the switch. This peculiarly-constructed lever aforesaid is hinged in the radial groove, and is provided with a counter-weight, to assist the lever in falling into the notches in the semicircular flat bar aforesaid.

It consists, further, in a lever with counter-

weight on the outer end, and a downward projection, to which is attached a single cable-wire, which connects the aforesaid lever with the main lever for the working of the locking-gear, which main lever is also placed midway between the switches, and near to the first-motion wheel aforesaid.

It also consists of an upright linked rod which connects the inner end of the lever, placed in the radial groove aforesaid, with the lever connecting with the main lever by the single cable-wire aforesaid.

It also consists of an eccentric pivoted in the turned-up end of a strong flat spring placed directly below the rim of the first-motion wheel, which eccentric, by means of a handle for operating the same and the flanged bracket to which it is attached, clamps and secures the first-motion wheel and prevents the switch from being tampered with.

In the accompanying drawings the same letters of reference indicate the same parts in both the figures.

Figure 1 is a plan, showing the first-motion wheel H, with lever *h* for turning the same, showing, also, the second-motion wheel A, with radial groove *s*, in which is placed the peculiarly-constructed lever hereinbefore referred to, and is marked B, showing, also, cable I, which connects the first and second motion wheels H and A; also, the upright cranked axle F, on the top of which is placed the bevel-wheel *f*, which, with the corresponding bevel-wheel *g*, turns the signal-board G. M is the lever, with counter-weight M<sup>1</sup>, and downward projection M<sup>2</sup>, to which the cable L is attached, and connects with the main lever K for operating the locking-gear. E is an eccentric, pivoted in a spring, *d*, fastened on a bracket, E', with flange P on top for clamping and securing the wheel H, to prevent, as aforesaid, the switch being tampered with.

Fig. 2 is a side view, showing the upright cranked axle F, bevel-wheels *f* and *g*, signal-board G, second-motion wheel A, lever B, with counter-weight C, and ring *o*, hinged in the radial groove *s*; showing, also, semicircular flat bar *e*, upright linked rod N, lever M, with counter-weight M<sup>1</sup> and downward projection M<sup>2</sup>, single cable L, the main lever K, first-motion



wheel H, with lever *h* and endless cable I, the eccentric E in bracket E', with spring *d* and flange P.

Fig. 3 is a sectional detail view of the eccentric locking mechanism for securing the wheel H against being tampered with.

It will be seen from the drawings that when the wheel H is turned by lever *h* it will, by means of the cable I, turn the wheel A with radial groove *s*, in which is placed the lever B with counter-weight C, and that the ring *o* will revolve with the wheel A, and that the outer end of lever B will be free to fall into any of the notches in bar *e* and lock the switch. It will also be seen that, by means of the lever K, cable L, lever M, and upright linked rod N, the lever B is raised out of any of the notches in bar *e*, and, by means of the counter-weights C and M', it is depressed into the same, in the ordinary operations of the switch. It will also be seen that when the switch is turned, the bevel-wheels *f* and *g* will turn the signal-board G, and that it will always point in the direction in which the switch is thrown. When set

for the main track it will point to the main track, and when set for the siding it will point to the siding. It will also be seen that on pressing down the handle *r* of the eccentric E the rim of the wheel A will be pressed close up to the flange P, and will thereby be secured and safe from any interference therewith.

Having thus described my invention, I claim—

1. The wheel A, in combination with lever B, hinged in radial groove *s*, with counter-weight C and ring *o* encircling the axle F, the outer end of lever operating in notches in semi-circular bar *e*, substantially as and for the purposes set forth.

2. The eccentric E, pivoted in spring *d*, in combination with the bracket E' and flange P, for securing the wheel H and preventing the switch being tampered with, as set forth.

JUSTIN JOSEPH GOLDEN.

Witnesses:

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