

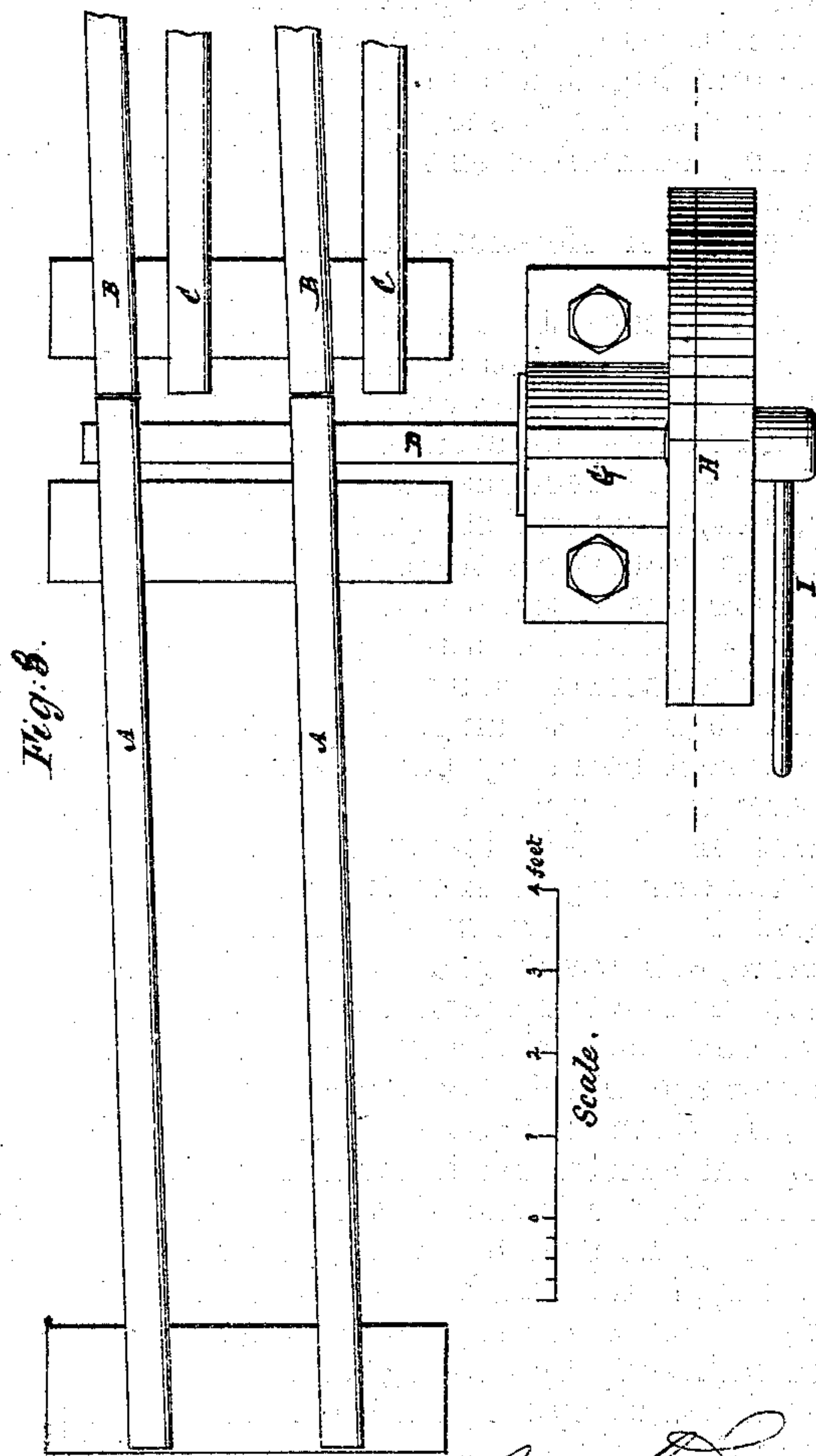
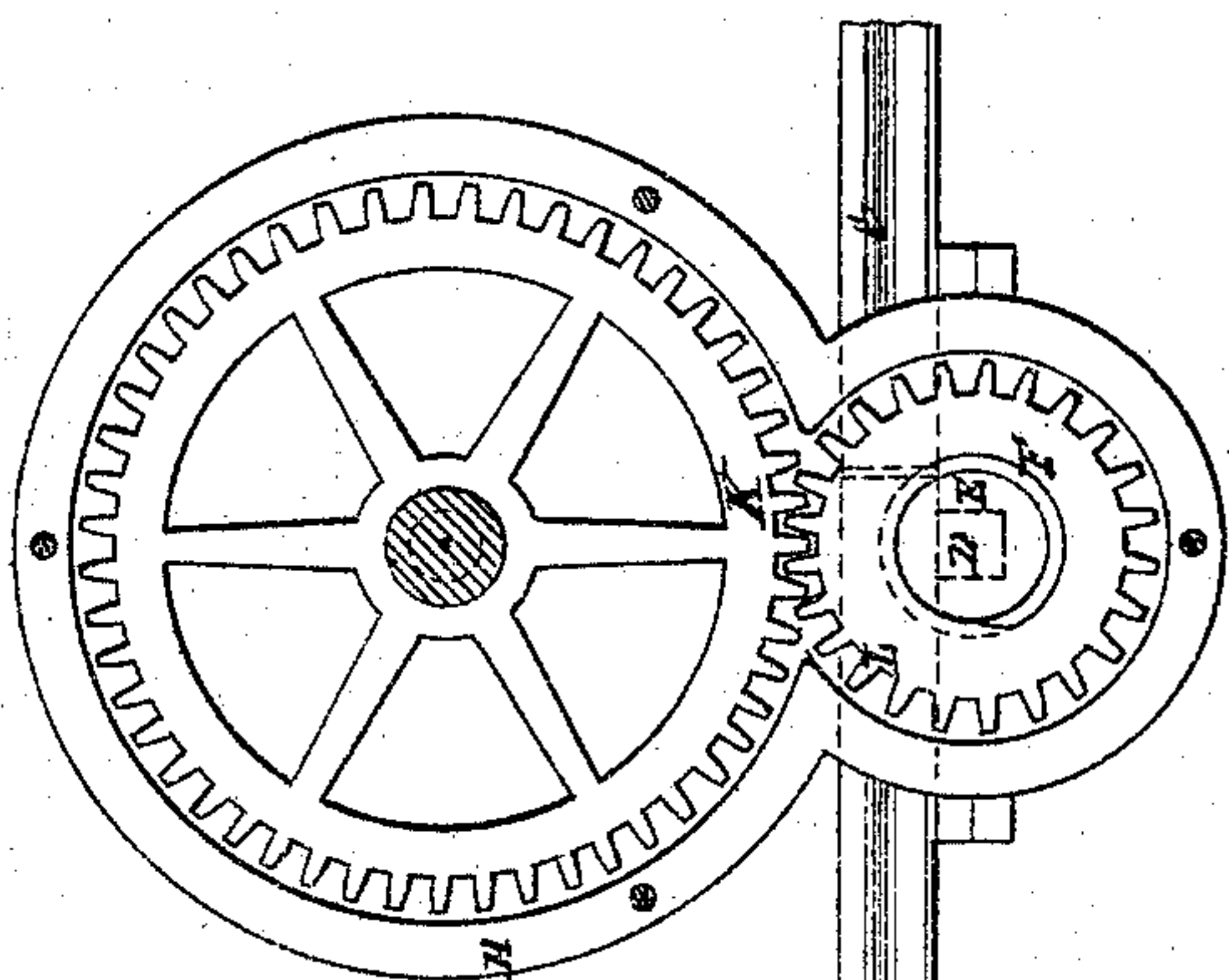
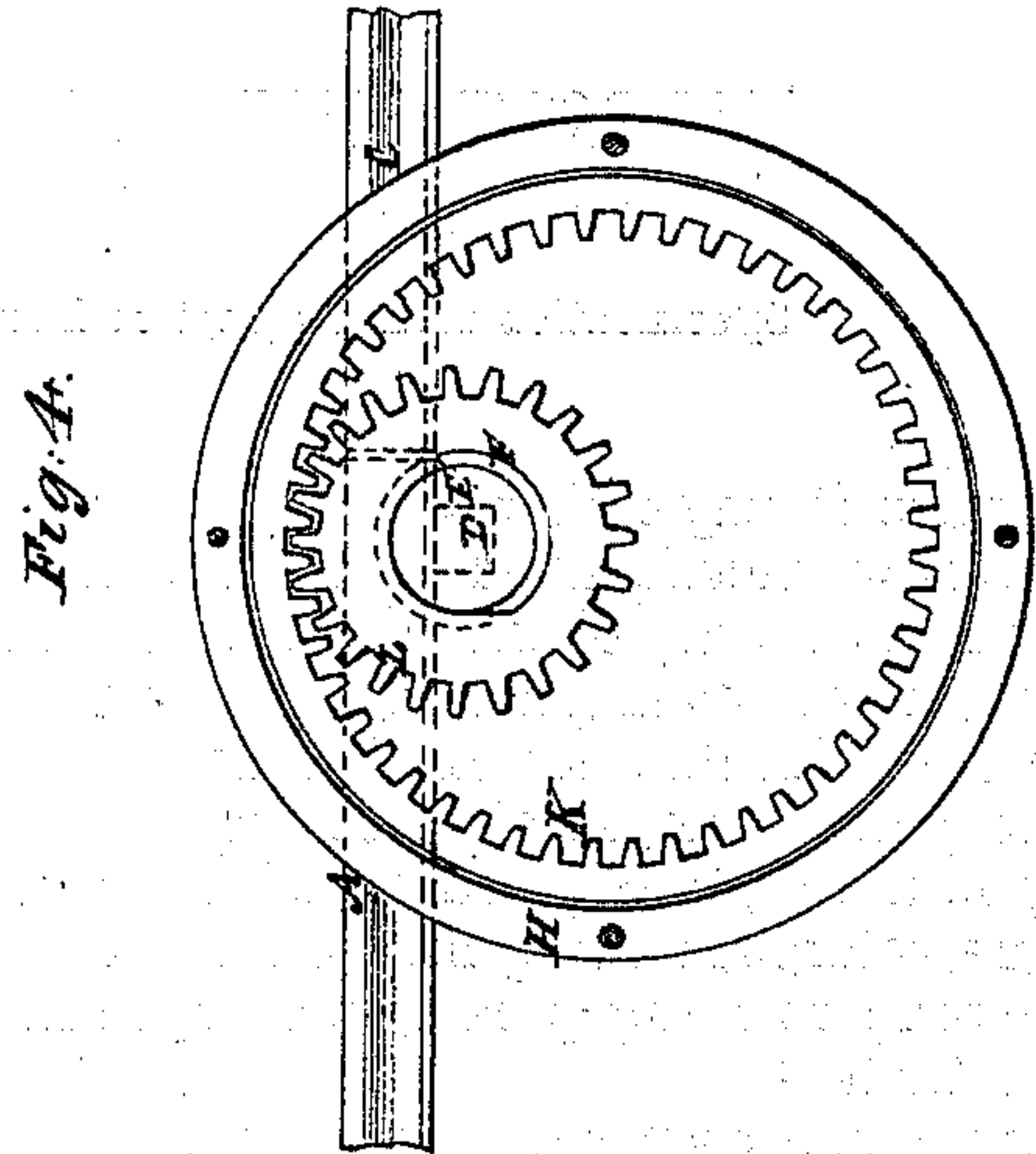
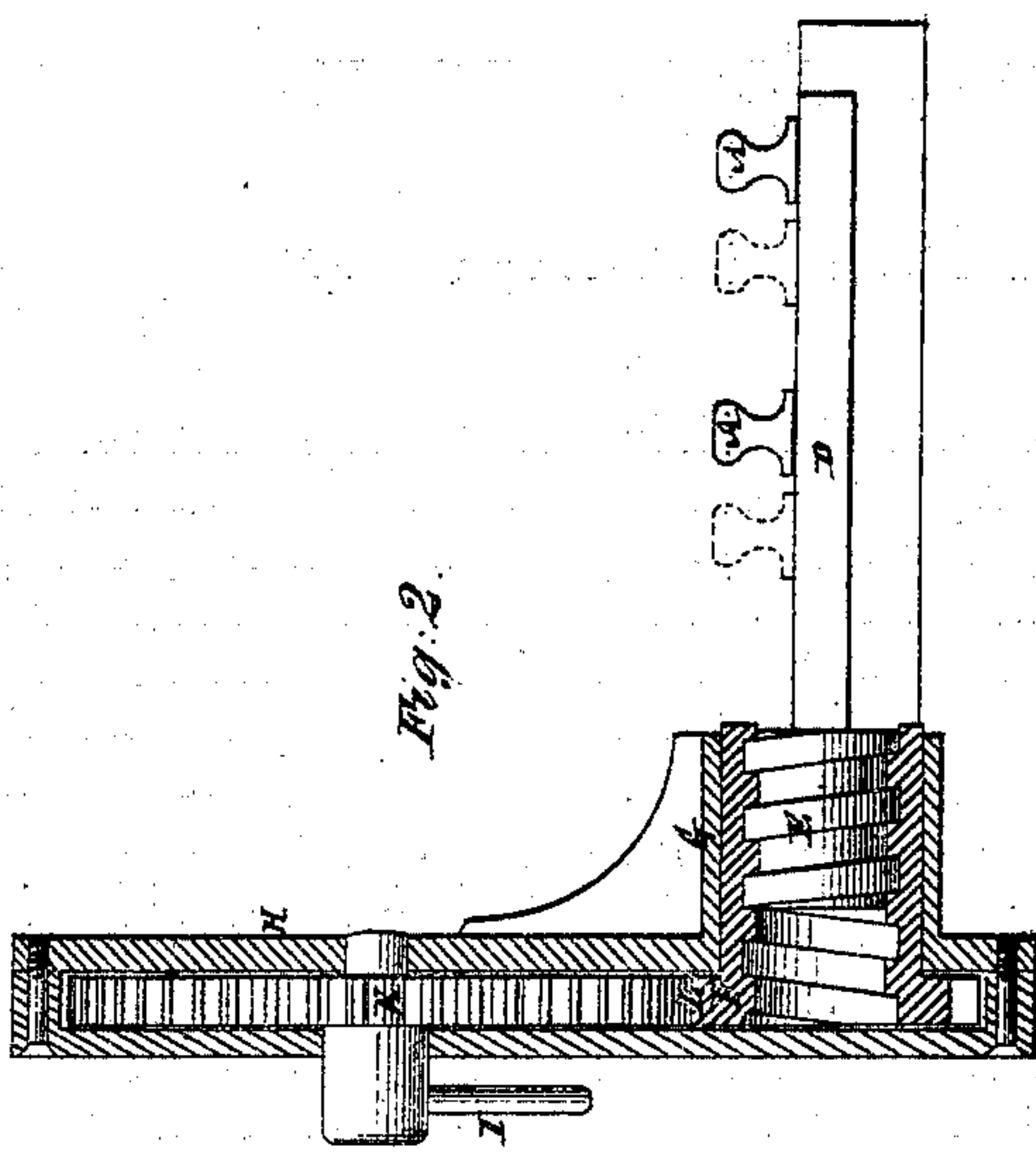
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A. C. DEVLAN.

Improvement in Operating Railway Switches.

No. 122,233.

Patented Dec. 26, 1871.



Witnesses:
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UNITED STATES PATENT OFFICE.

ARTHUR C. DEVLAN, OF ALTOONA, PENNSYLVANIA.

IMPROVEMENT IN OPERATING RAILWAY SWITCHES.

Specification forming part of Letters Patent No. 122,233, dated December 26, 1871.

To all whom it may concern:

Be it known that I, ARTHUR C. DEVLAN, of Altoona, in the county of Blair and State of Pennsylvania, have invented a new and useful Improvement in Mechanism for Operating Railroad Switches; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawing forming part of this specification, and in which—

Figure 1 represents a side view of a railroad switch with my improved operating mechanism applied thereto; Fig. 2, a transverse section of the same; and Fig. 3, a plan thereof. Fig. 4 is a similar view to Fig. 1, showing the gearing of the operating mechanism as somewhat differently arranged.

Similar letters of reference indicate corresponding parts.

My invention consists in a novel combination of mechanism for operating railroad switches, whereby I am enabled to arrange the switch-lever so that in being operated it occupies a position and moves in directions parallel to the track, or thereabout, as contradistinguished from a motion which is transverse thereto, and is, consequently, more out of the way and less liable to be accidentally shifted or struck; also, whereby the thrust of a passing train is relieved from the lever, that thus is restrained from chattering, and said thrust borne by parts which have a greater strength to resist it.

Referring, in the first instance, to Figs. 1, 2, and 3 of the drawing, A A represent a railroad switch, and B B C C two lines of rail; or there may be more, with which said switch is designed to connect. D is a transverse bar, by which the free or working ends of the switch are moved. On the outer end of this bar is a screw, E, that fits a nut, F, which is fitted so as to be capable of turning, but is restrained from moving endwise within a box, G, of a frame, H, said nut, in turning, operating the switch. I is the switch-lever, that may, if desired, be connected directly to the nut F, but which is preferably connected therewith indirectly by gearing, to give a long throw to the switch by only a limited movement of the lever that, in each case, however, has the

axial line of its fulcrum in transverse relation to the track, or thereabout, so as to be out of the way and less liable to be accidentally shifted or struck than when arranged to move in transverse relation with the track, as is ordinarily the case. In Figs. 1, 2, and 3 said lever I is connected with an upper spur-wheel, K, which gears with a pinion, L, on or arranged to form part of the nut F. By throwing the lever over to the right or to the left—that is, to point in opposite directions with the length of the track—it is made to adjust the switch to connect with either pair of rails B B or C C; or, when a third set of rails is used, by putting the lever in a vertical position the switch is or may be made to connect with them. Suitable stops or points should be applied to adjust or hold the lever to or at its proper set.

In Fig. 4 of the drawing the nut F, with its pinion L or pinion-nut, as the combined devices may be termed, is represented as being operated by an internal gear-wheel, to which the switch-lever should be attached. This arrangement is preferable, inasmuch as it admits of the apparatus, as a whole, being lowered, and reduces the cost, as well as contributes to steadiness.

In addition to the advantages derived from the specified arrangement of the switch-lever, said lever, by this invention, is kept from rattling and lateral thrust of a passing train on the switch taken off from it, and said thrust borne by the box G instead, where there is greater strength.

I do not restrict myself to the precise gearing shown and described, as this may be more or less varied.

What is here claimed, and desired to be secured by Letters Patent, is—

The combination of the screw E on the operating bar D of the switch, the nut F, the box G, and the lever I, the latter being arranged so that the axial line of its fulcrum is in transverse relation with the track, and serving, either directly or by the intervention of gearing, to rotate the nut, essentially as herein set forth.

ARTHUR C. DEVLAN.

Witnesses:

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