No. 822,606. PATENTED JUNE 5, 1906.

W. J. HOLLICK.

TRAMWAY LINE AND RAILWAY LINE AT LEVEL CROSSINGS.

APPLICATION FILED AUG. 2, 1905.

3 SHEETS—SHEET 1.

FIG. 1

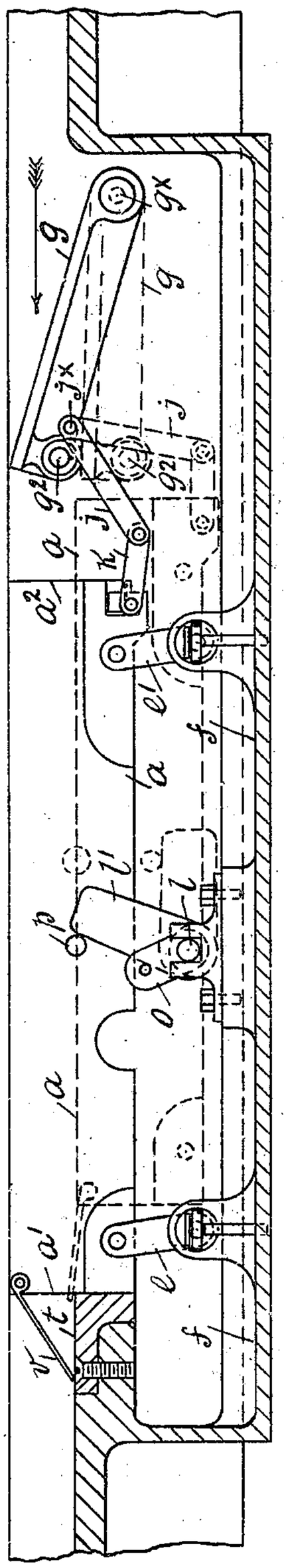
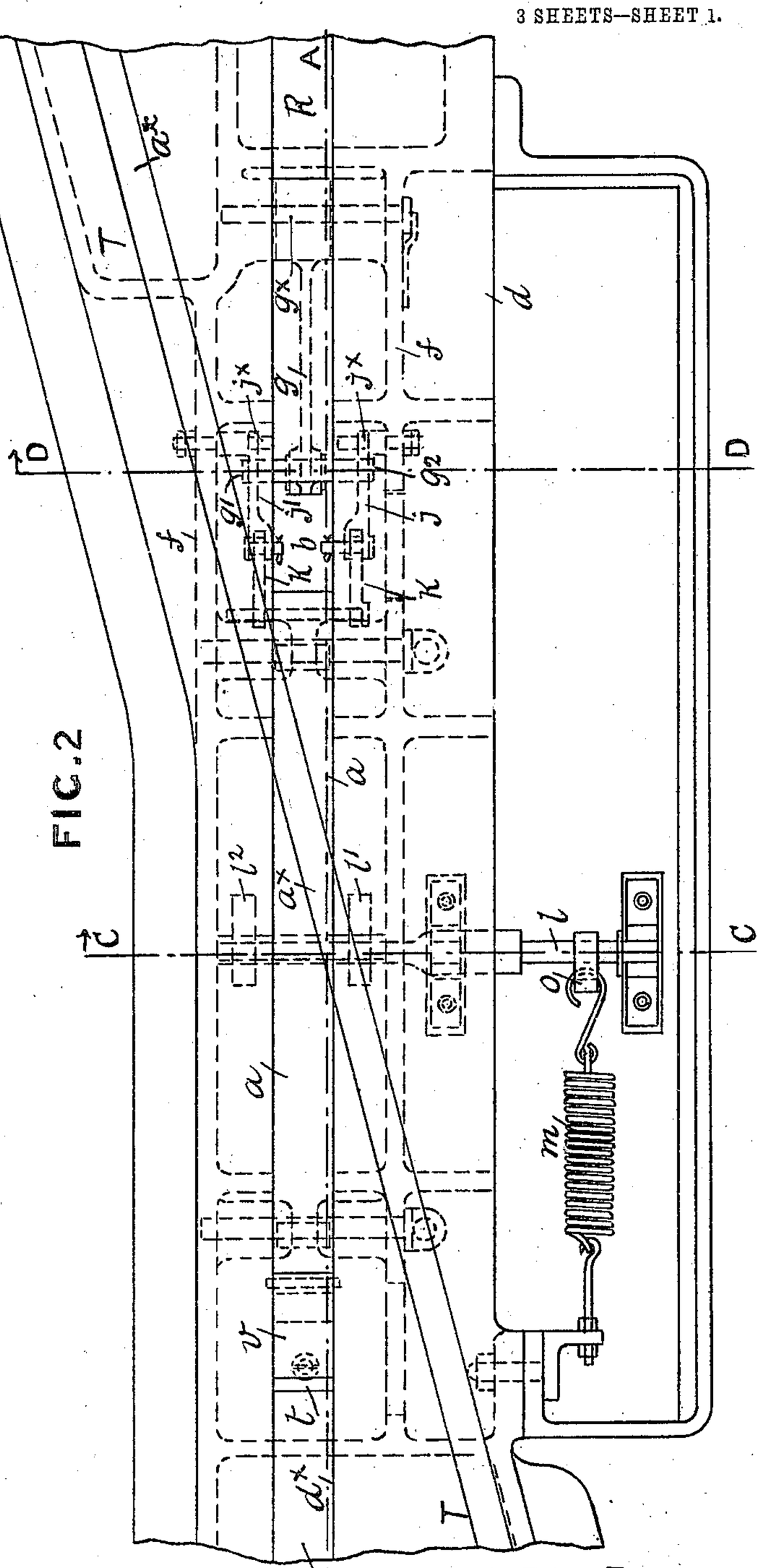


FIG. 2



WITNESSES

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3 SHEETS—SHEET 2.

FIG. 3

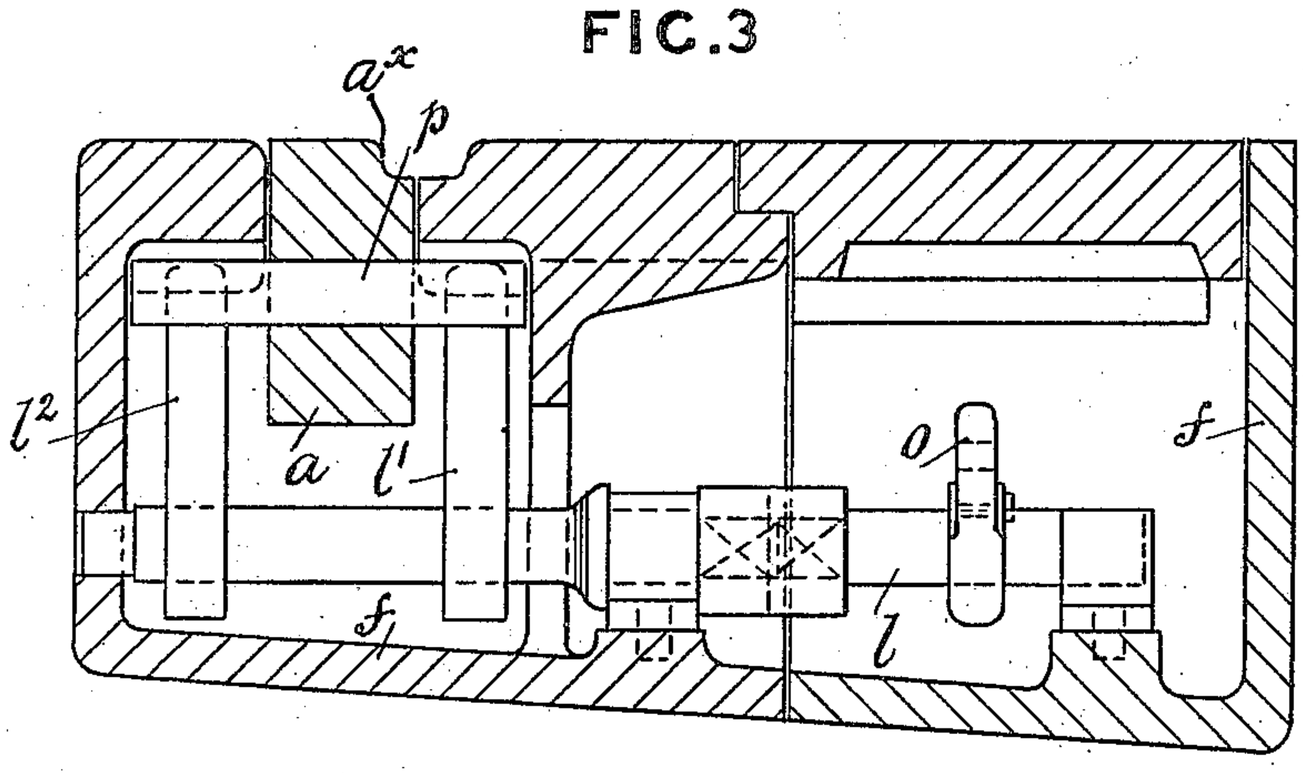
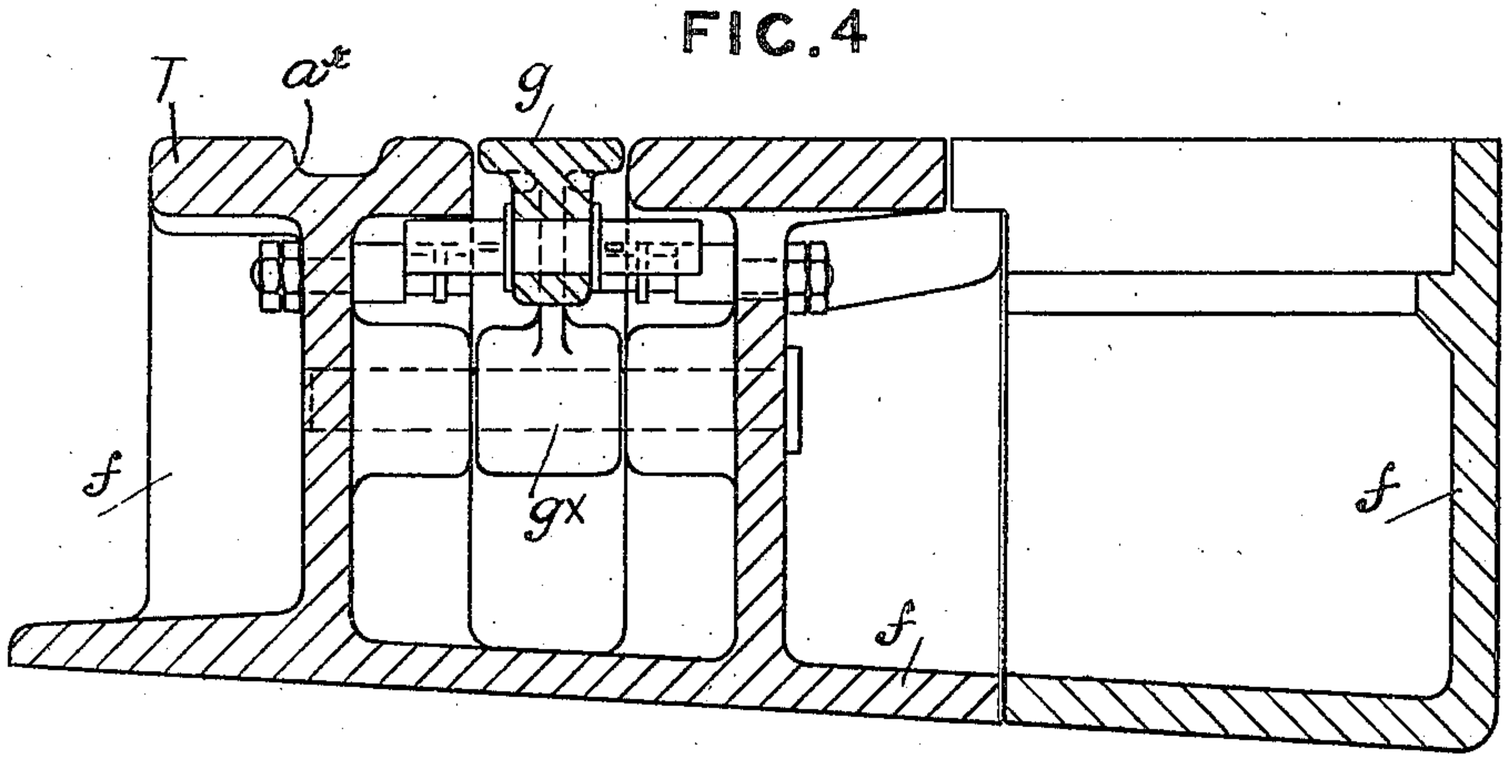


FIG. 4



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3 SHEETS—SHEET 3.

FIG. 5

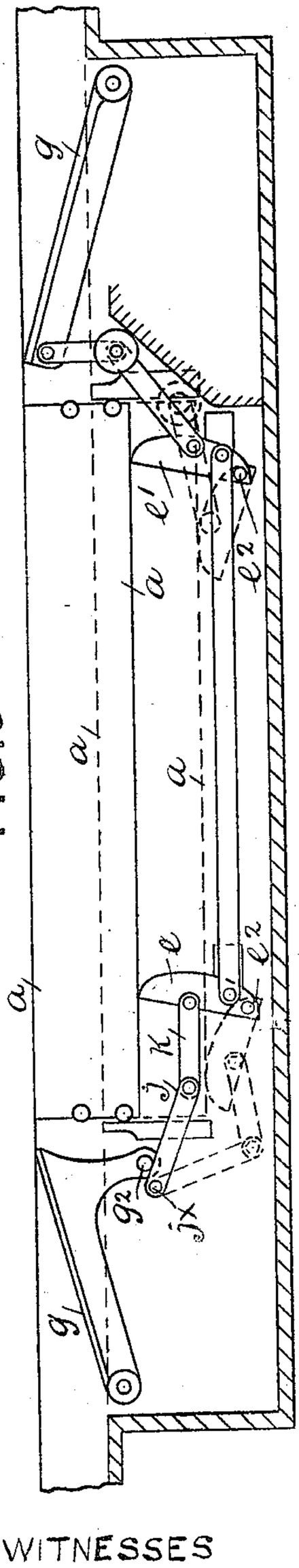


FIG. 6

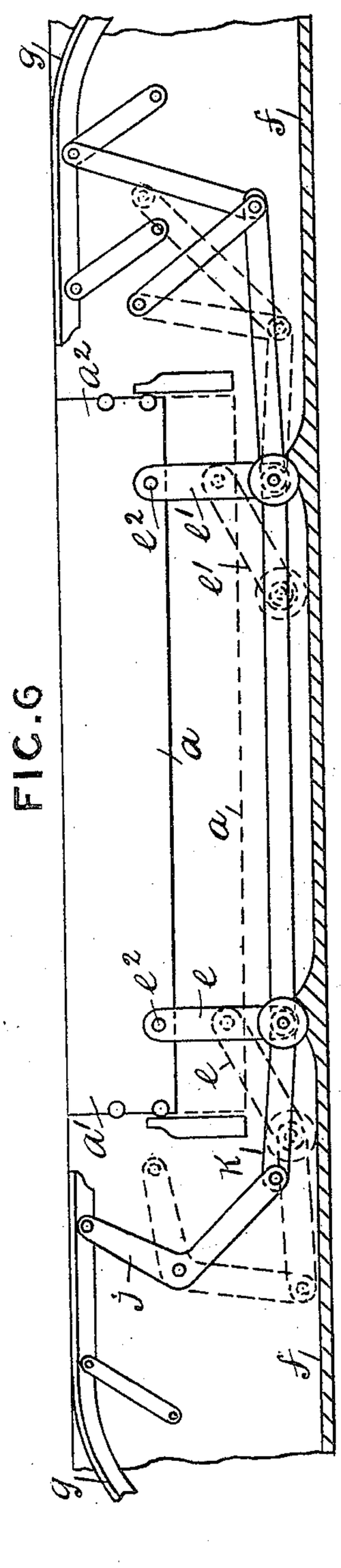
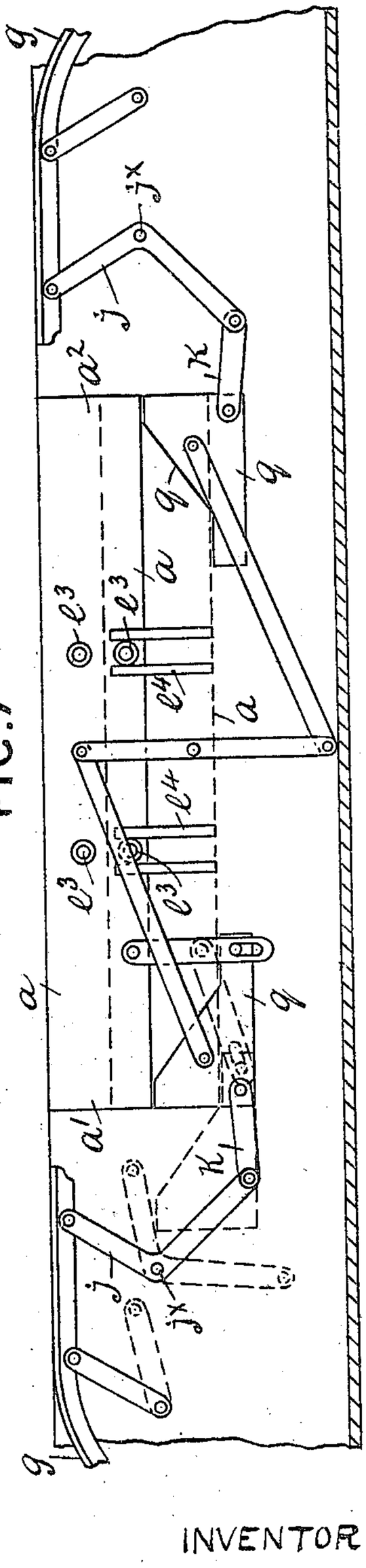


FIG. 7



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UNITED STATES PATENT OFFICE.

WALTER J. HOLLICK, OF MANCHESTER, ENGLAND.

TRAMWAY-LINE AND RAILWAY-LINE AT LEVEL-CROSSINGS.

No. 822,606. Specification of Letters Patent. Patented June 5, 1906.

Application filed August 2, 1905. Serial No. 272,345.

To all whom it may concern:

Be it known that I, WALTER JOHN HOLLICK, a subject of the King of Great Britain and Ireland, residing at 3 Humphrey street, Old Trafford, Manchester, in the county of Lancaster, England, have invented new and useful Improvements in or Applicable to Tramway-Lines and to Railway-Lines at Level-Crossings, of which the following is a specification.

This invention relates to improvements applicable primarily to tramway-lines where they pass over railway-lines at level-crossings, but may also be applied to railway-lines where they in like positions cross other railway or tramway lines, either on public or other roads, or on railways in places which are not level-crossings.

The object of my said invention is to avoid concussion when the wheels of the tramway-carriage are running over the spaces required to be left for the flanges of the wheels of a train to pass along the railway-line in a direction more or less at an angle to the tramway-line.

In the accompanying drawings, illustrating my said invention and to which I hereinafter refer, Figure 1 is a longitudinal section (except at the shaft 1) on line A A, Fig. 2, which is plan of the same, showing one rail only and a line for the tramway crossing said rail at an angle. The other rail, which in conjunction with the aforesaid rail would form the line upon which a train would run, and the corresponding tramway-line, are not shown, but would be duplicates of the same. Fig. 3 is a transverse section on line C C, and Fig. 4 a transverse section on line D D, of Fig. 2, drawn to an enlarged scale. Figs. 5, 6, and 7 are modifications of Fig. 1.

In these views the same letters refer to like parts.

Referring to Fig. 2, which represents a single railroad-rail R, intersecting a tramway-rail T, I provide at the point of intersection of the rail T a filling-block *a*, having a groove $a^{\times}$ across its upper surface for the flange of the wheel of the tram-car. This block *a* is placed parallel with and adjacent to the upper part of the rail R and between the adjacent ends of the intersected rail T, thereby normally filling the space necessary for the flange of a wheel passing over the rail R, and also giving a continuous bearing-surface for the wheels of the tram-car. The means by which this block is moved out of the way or depressed on passage of a train over the rail R will now be described. I connect the under side of the block *a* to levers, as *e* and *e'*, which are pivoted to a base, as *f*, by which parallel movement of said block can be obtained. One end of the block *a* is connected by intermediate levers *k* to the levers *j*, pivoted at $j^{\times}$ to the frame *f*. A lever or flanged plate *g*, that is pivoted at $g^{\times}$ to the frame *f*, has projecting studs *g'* and g^2 at its free end, which rest, respectively, on the levers *j* and *j'*. The surface of the block *a* is retained flush with the surface of the permanent rail by a spring, as *m*, connected to the lever *o* and actuating said block through the shaft *l* and the levers *l'* and l^2, which engage with a pin projecting from each side of the block *a*, causing the levers *e* and *e'* to assume a vertical position or nearly a vertical position, the upper ends of said levers being slightly inclined toward a fixed block *t*, against which the end *a'* of the block *a* rests. A plate *v* is hinged to this end *a'* of the block *a*, which will cover the space between said block and the block *t* when the block *a* is moved away from the fixed block *t*, and prevent dirt falling beneath the block *a*. An inclined plate (not shown on the drawings) is fixed to the lower portion of the end a^2 of the block *a*, so as to cover the space *b* when said block is in a raised position, but free of the lever *g*, said plate sloping down from one side to the other by which dirt is diverted to one side, so as not to interfere with the free working of the mechanism.

In the practical working of my invention the relative positions of the block *a*, the lever *g*, and the direction in which a train would travel, preferably, and as indicated by the arrow, are shown on the accompanying drawings. The flanges of the wheels of an engine or train traveling along the line in the direction indicated by the arrow would depress the free end of the lever *g*, causing the transversely-projecting studs *g'* and g^2 to press down the levers *j* and *j'*, thereby drawing the block *a* along and down to the position shown in dotted lines, and extending the spring *m*. When the pressure on the lever *g* is removed by the flanges of the wheels of the train passing beyond the free end of said lever, the spring *m* will tend to cause the block *a* to rise into normal position, so as to fill the flange-space; but it will be prevented by the flanges of the train-wheels which, until they have passed beyond the far end of the block, will not permit the block to re-

turn to its position. When the flange of the last wheel has passed beyond the block, it will return to its former position, and the tramway-rail will then be practically continuous and ready for a tramway-carriage to pass along. The same action will be effected if a train runs in the reverse direction, pressing down the block *a* before arriving at the lever *g*. The device or mechanism as herein described is fitted to both rails of a line forming the track, and may be arranged and constructed in a frame or box, as *f*. Similar blocks and mechanism may be applied to fill the spaces between the ends of rails in crossings, sidings, or other places, and with any gage of line.

I do not confine myself to the precise arrangement of the levers shown in Figs. 1 and 2 of the accompanying drawings for raising the block *a*, as these may be varied without departing from my said invention, as shown in Figs. 5, 6, and 7, Sheet 3 of the drawings, or other like modifications.

In Fig. 5 pressure on either of the levers *g* causes the free ends of the levers *e* and *e'*, which are pivoted to the frame at e^2, to lie over, as shown in dotted lines, and thereby lower the block *a* in a vertical direction, but with its upper surface parallel with the fixed rail. In Fig. 6 the like vertical and parallel movement is obtained by pressure on either of the levers *g*, causing the lower ends of the levers *e* and *e'*, that are pivoted at e^2 to the block *a*, to be drawn or pushed back, as shown in dotted lines. In Fig. 7 the like movement of the block *a* is effected by pressure on either of the levers *g*, the block *a* having bowls e^3, sliding in guides e^4, secured to the frame, the levers *k* and *j* pushing forward or withdrawing the angular blocks *q*.

I claim as my invention—

The herein-described improved mechanism for temporarily filling the space between the adjacent ends of intersected tramway or other rails at level-crossings and the like consisting of the intersecting rails and a filling-piece, in combination with the lever mechanism connected to the filling-piece and adapted to be operated in a longitudinal and vertical direction by a car-wheel of the train passing over the railroad-line, whereby the said piece is moved away when the car-wheel passes thereover.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WALTER J. HOLLICK.

Witnesses:

NED. PRESCOTT,

J. ERNEST HUGHES.