No. 795,342. PATENTED JULY 25, 1905.

L. R. CLAUSEN.

DERAILING SWITCH.

APPLICATION FILED APR. 5, 1905.

2 SHEETS—SHEET 1.

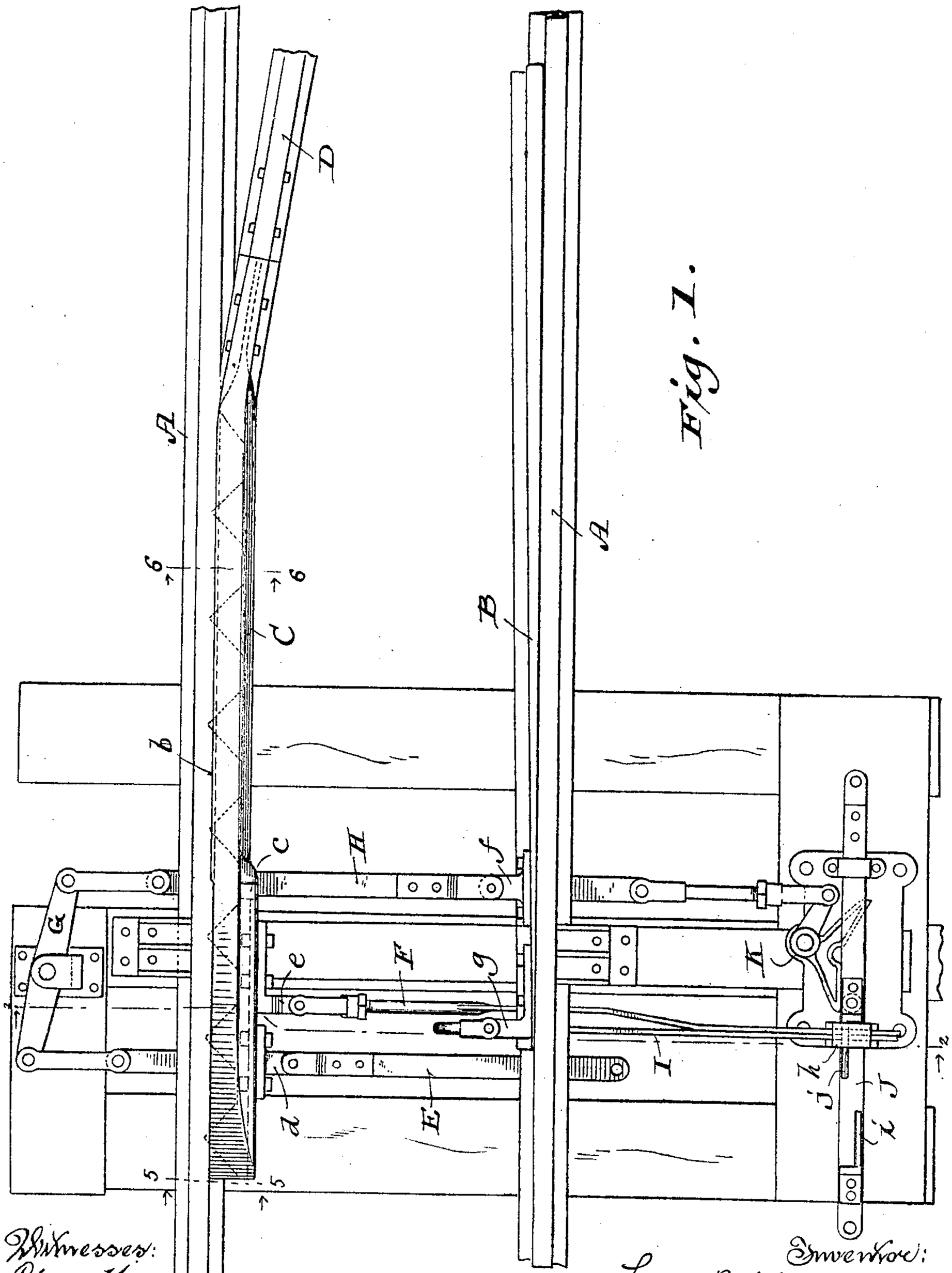

Fig. 1.

Witnesses:
Geo. W. Young.
N. E. Oliphant

Inventor:
Leon R. Clausen
By H. G. Underwood.
Attorney

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2 SHEETS—SHEET 2.

Fig. 2.

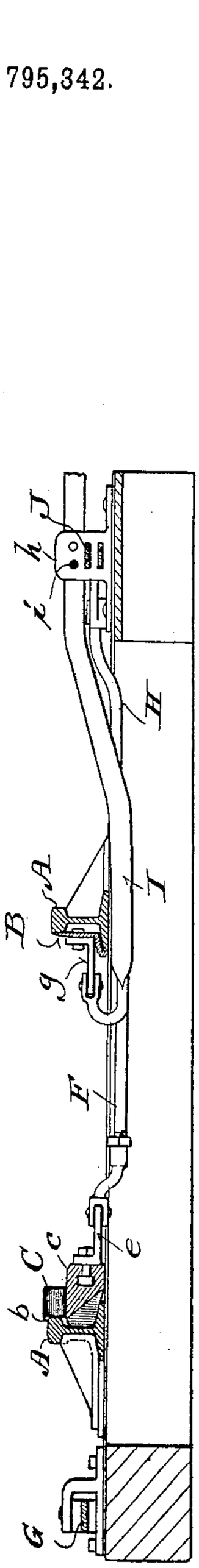


Fig. 3.

Fig. 4.

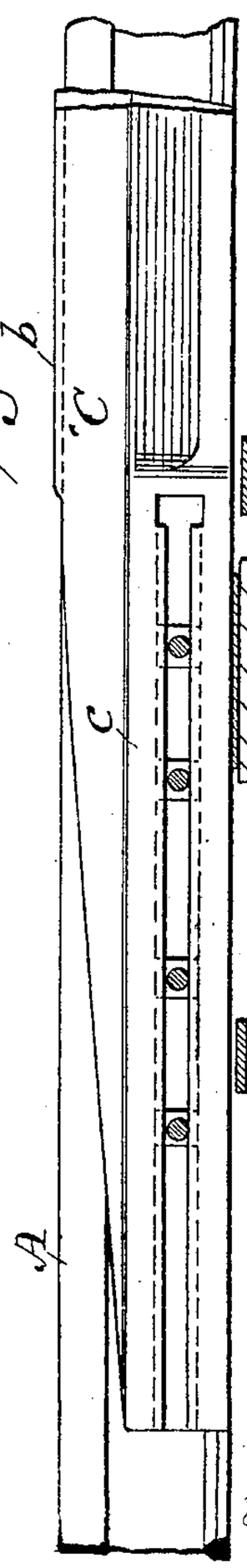


Fig. 5.

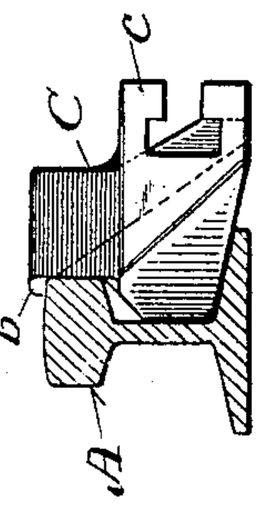
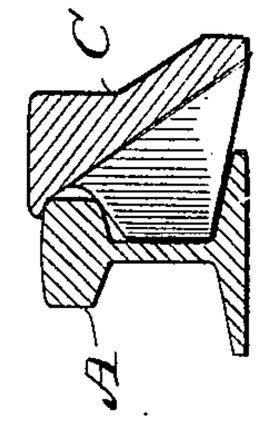


Fig. 6.



Witnesses
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N. E. Oliphant.

Inventor
Leon R. Clausen
By H. G. Underwood
Attorney

UNITED STATES PATENT OFFICE.

LEON R. CLAUSEN, OF MILWAUKEE, WISCONSIN.

DERAILING-SWITCH.

No. 795,342. Specification of Letters Patent. Patented July 25, 1905.

Application filed April 5, 1905. Serial No. 253,924.

To all whom it may concern:

Be it known that I, LEON R. CLAUSEN, a citizen of the United States, and a resident of Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented certain new and useful Improvements in Derailing-Switches; and I do hereby declare that the following is a full, clear, and exact description thereof.

My invention has for its object to provide simple, economical, and efficient railway derailing-switches; and it consists in certain peculiarities of construction and combination of parts hereinafter particularly set forth with reference to the accompanying drawings and subsequently claimed.

Figure 1 of the drawings represents a plan view of a portion of a fragment of a railway and illustrates a derailing-switch in accordance with my invention; Fig. 2, a sectional view of the same indicated by lines 2 2 in Fig. 1; Fig. 3, a plan view of the lift-rail of the switch inverted; Fig. 4, an elevation, partly in section, illustrating a fragment of the lift-rail and adjacent main-track rail; Fig. 5, a front end elevation of the lift-rail, the adjacent main-track rail being in transverse section on line 5 5 in Fig. 1; and Fig. 6, a transverse sectional view indicated by line 6 6 in Fig. 1.

Referring by letter to the drawings, A indicates each of the rails of the main track of a railway; B, an ordinary switch-point rail opposing the inner side of one of the main-track rails, and C a lift-rail opposing the inner side of the other track-rail, the rear end of the lift-rail being offset and coupled to a stay-rail D, that is arranged obliquely of the road-bed.

The front end of the lift-rail is inclined, and an upper outer lip *b* of said rail laps the adjacent main-track rail when the switch is closed, as herein shown. A hollow inner side swell *c* of the inclined front end of the lift-rail is provided with a longitudinal slot, and bolted to this portion of said lift-rail are brackets *d e*, the bolts being engaged with the slot and hollow of the swell. A throw-rod E is connected to the bracket *d*, and a lock-rod F is connected to the bracket *e*, the throw-rod being also in link connection with a suitably-arranged rocker G in like connection with another throw-rod H, connected to a bracket *f*, bolted to the inner side of the switch-point rail, and another bracket *g*, also bolted to the same side of said switch-point rail, is connected to a lock-rod I, both lock-rods being parallel in a guide *h*. A slide-bar J is designed for connection with lever mechanism distant from the switch, said bar being provided with bolts *i j*, one or the other of which engages said guide and lock rods to secure the switch in open or closed position. The throw-rod H is shown coupled to a switch-crank K, that is automatically actuated by adjustment of the slide-bar from one position to another, and this rod or the one, E, may be connected to the lever mechanism of a switch-stand; but in either case the means connecting the switch-rails and their actuating mechanism are under tension when the switch is closed. The switch throwing and locking mechanism herein shown and described is common in the art to which my invention relates, and any other suitable mechanism for the same purpose may be substituted, the important feature of my invention being the switch-point rail and the peculiar lifting-rail of the switch, arranged as herein set forth and connected with a throw mechanism to be moved in or out of contact with the adjacent main-track rails, the employment of a locking mechanism being optional. The switch being closed, the inclined end of the lift-rail is in the path of the flanges of approaching locomotive or car wheels turning on the main-track rails, and the flanges of the opposite wheels come inside the switch-point rail, the result being a derailment of said wheels from main track.

The outer side of the lift-rail is herein shown as being alternately taper-toothed and recessed, the teeth being inclined on the bottom to match the bevel of the flange of the adjacent main-track rail, on which they rest when the switch is closed. The recesses between the teeth of the lift-rail are of gradually-increasing depth and width in a downward direction and open at the bottom beyond the adjacent main-track-rail flange when the switch is closed. Hence provision is had for the crowding down and back of dirt or snow that would otherwise interfere with the closing of said switch.

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

1. A railway derailing switch comprising a switch-point rail arranged to oppose the inside of a track-rail, a lift-rail inclined at its front end and arranged to oppose the inside of the track-rail opposite the one aforesaid,

and throw mechanism in connection with the switch-rails.

2. A railway derailing-switch comprising a switch-point rail arranged to oppose the inside of a track-rail, a lift-rail inclined at its front end and arranged to oppose the inside of the track-rail opposite the one aforesaid, and throw and lock mechanism in connection with the switch-rails.

3. A railway derailing-switch comprising a switch-point rail arranged to oppose the inside of a track-rail, a lift-rail inclined at its front end and provided with a longitudinal upper outer lip that overlaps the track-rail opposite the one aforesaid from inside the same when the switch is closed, and throw mechanism in connection with the switch-rails.

4. A railway derailing-switch comprising a switch-point rail arranged to oppose the inside of a track-rail, a lift-rail opposing the inner side of the track-rail opposite the one aforesaid and having an inclined front end as well as an inner side hollow swell provided with a longitudinal slot, brackets connected by bolts to the swell of the lift-rail, other brackets connected to the switch-point, and throw and lock rods in connection with the brackets.

5. A railway derailing-switch comprising a switch-point arranged to oppose the inside of a track-rail, a lift-rail likewise arranged with respect to the track-rail opposite the one aforesaid and having its outer side alternately taper-toothed and recessed, the recesses being of gradually-increasing depth and width in a downward direction and the teeth inclined on the bottom to match the bevel of the adjacent rail-flange on which they rest when the switch is closed; and throw mechanism in connection with the switch-rails.

6. A railway derailing-switch comprising a switch-point rail arranged to oppose the inside of a track-rail, a lift-rail opposing the inside of the track-rail opposite the one aforesaid and having an inclined front end, and means for connecting the switch-rails with an actuating mechanism and which are under tension when the switch is closed.

In testimony that I claim the foregoing I have hereunto set my hand, at Milwaukee, in the county of Milwaukee and State of Wisconsin, in the presence of two witnesses.

LEON R. CLAUSEN.

Witnesses:
H. E. OLIPHANT,
ALEX BROWN.