

W. WHARTON, Jr.
RAILWAY SWITCH.

No. 505,075.

Patented Sept. 12, 1893.

FIG. 1.

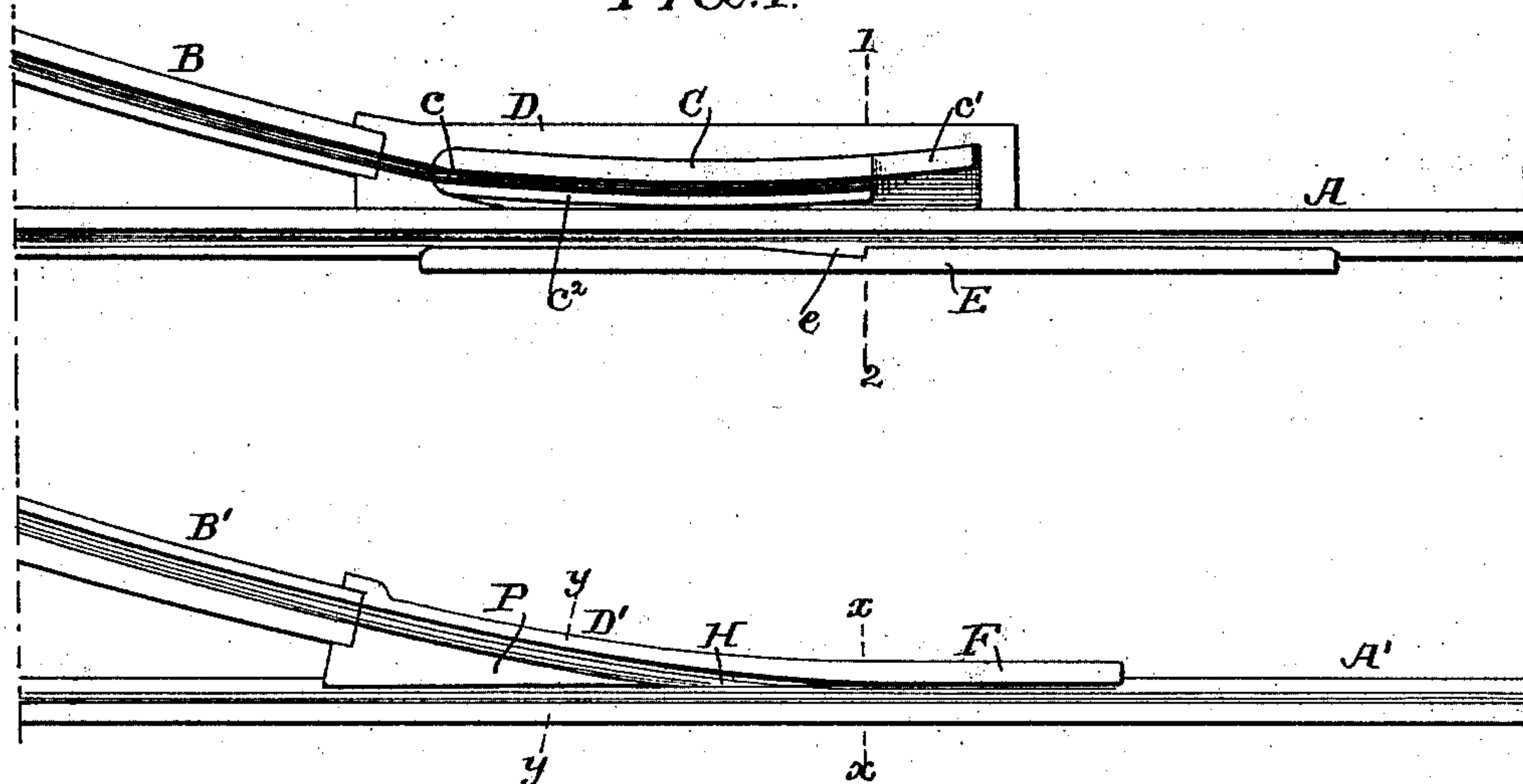


FIG. 2.

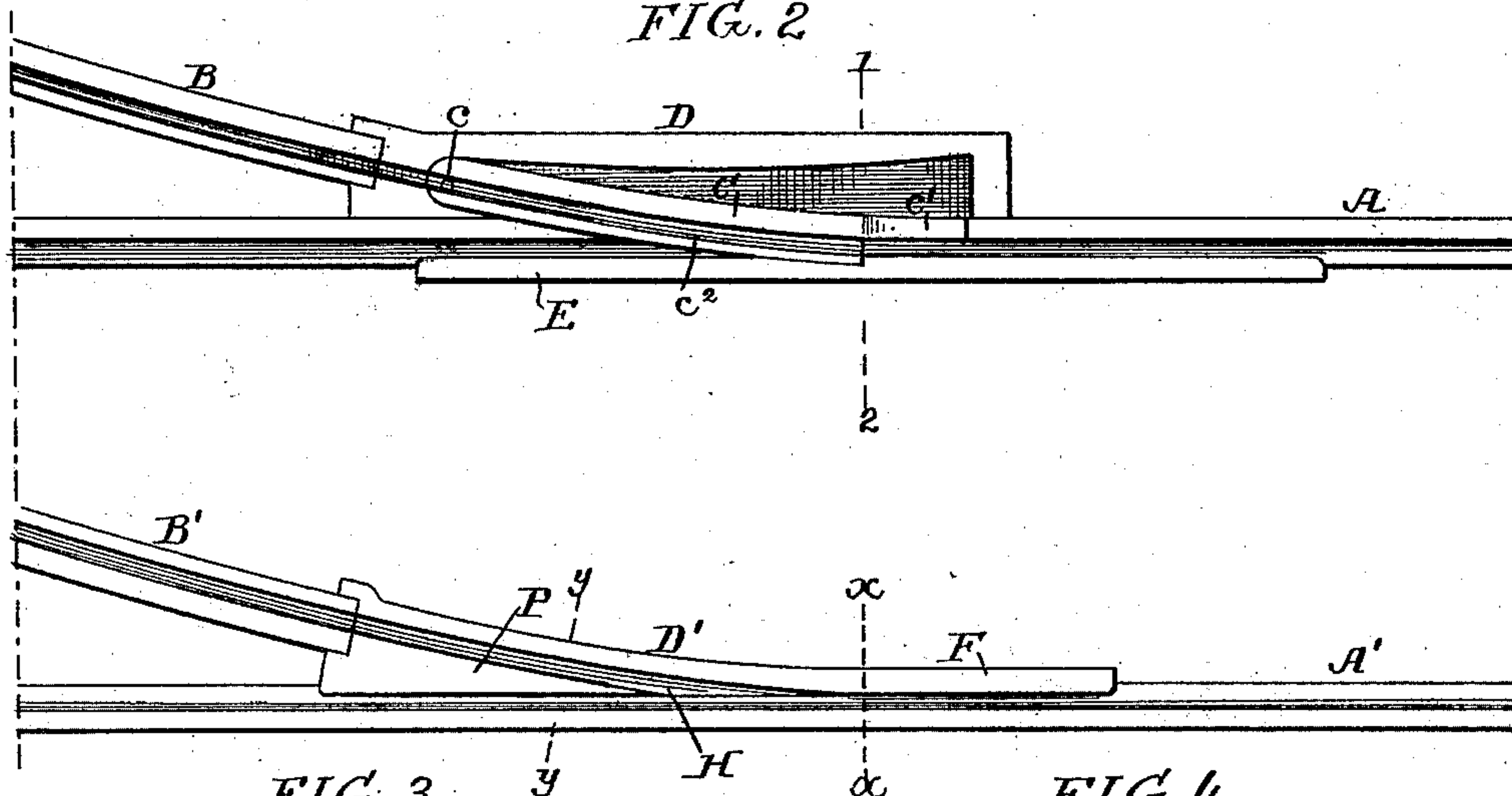


FIG. 3.

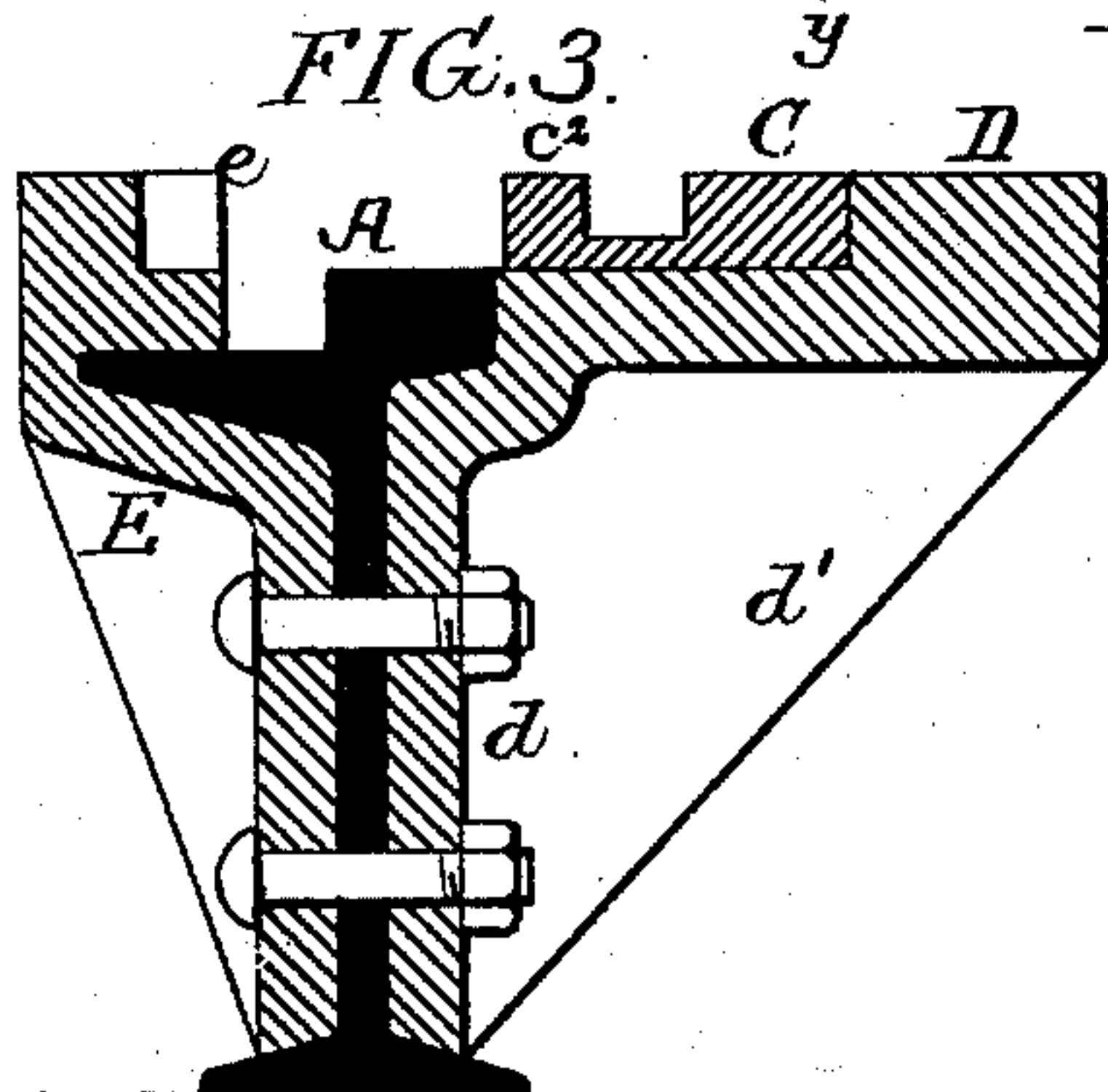
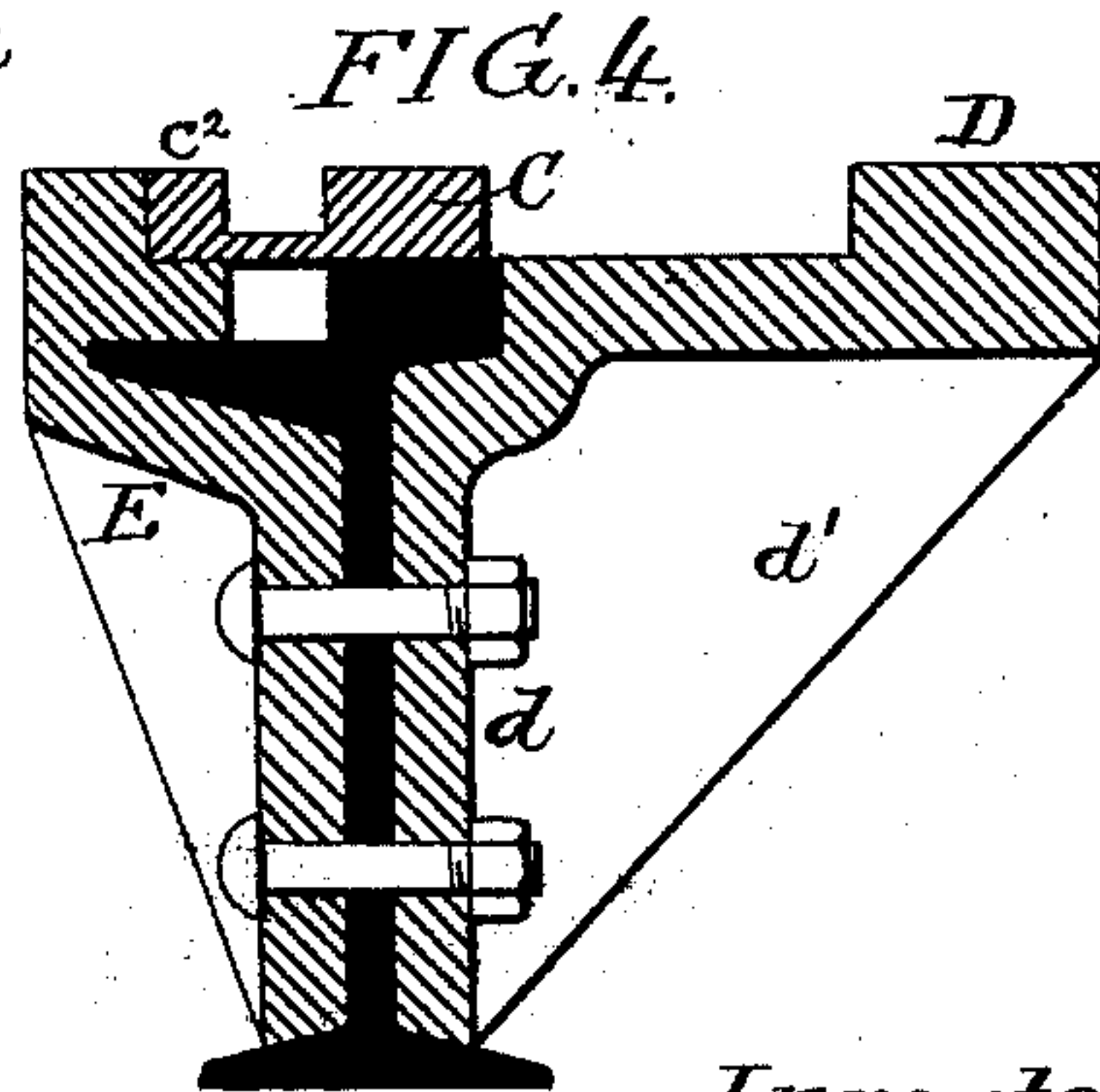


FIG. 4.



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Alex. Darkoff

Inventor:

William Wharton, Jr.
by his Attorneys
Howell & Howell

(No Model.)

2 Sheets—Sheet 2.

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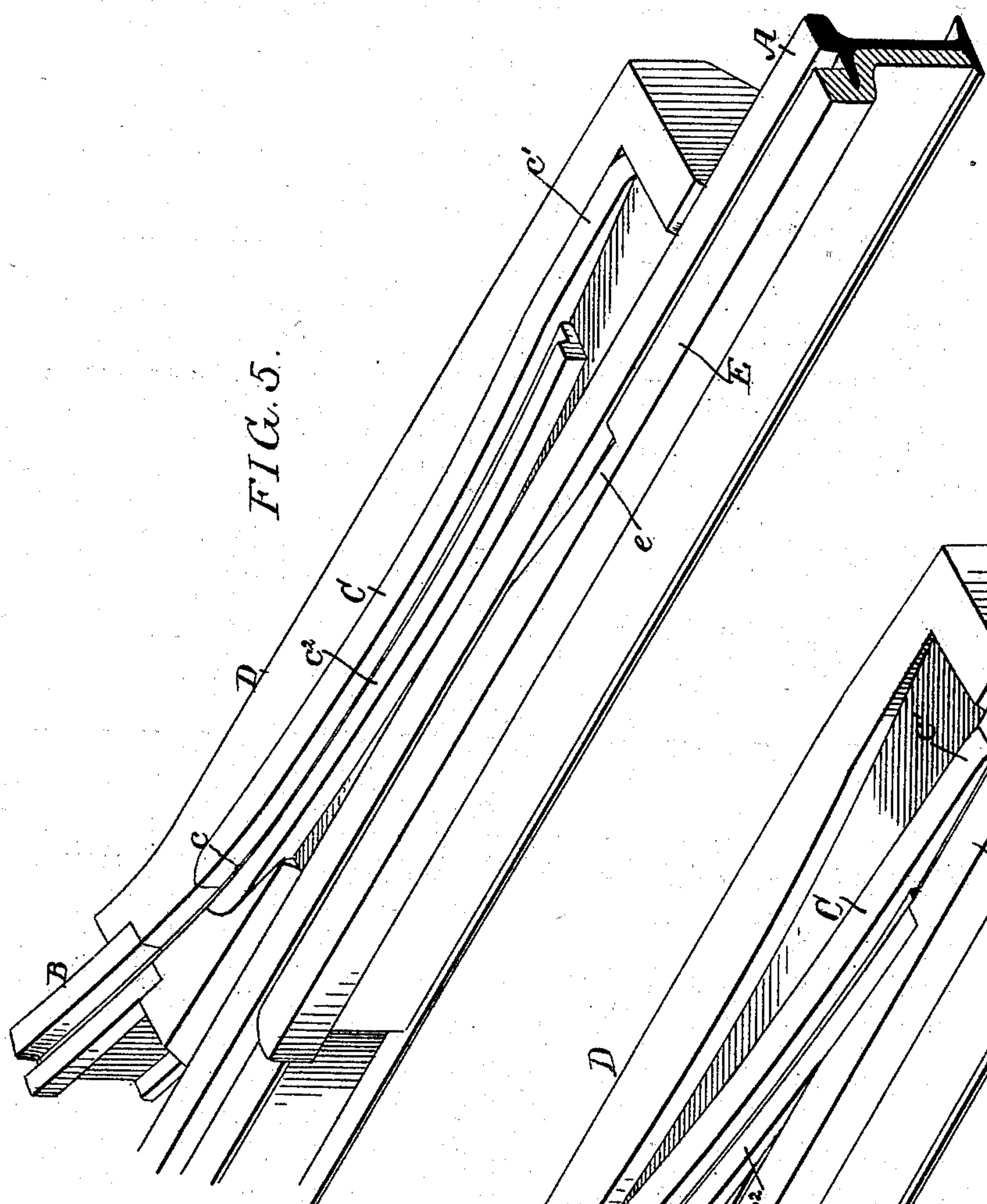


FIG. 5.

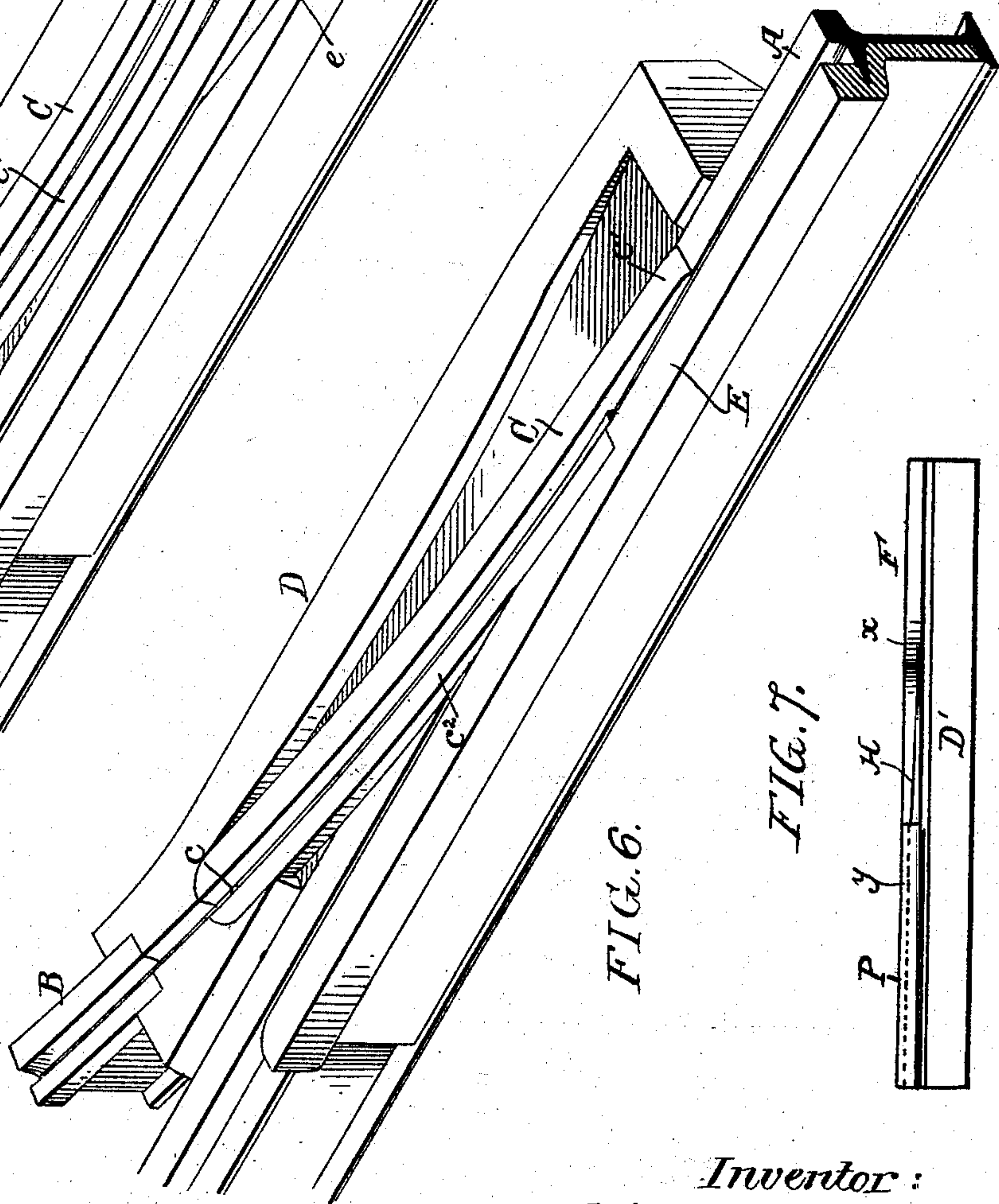


FIG. 6.

FIG. 7.

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UNITED STATES PATENT OFFICE.

WILLIAM WHARTON, JR., OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO
THE WILLIAM WHARTON, JR., & COMPANY, INCORPORATED, OF SAME
PLACE.

RAILWAY-SWITCH.

SPECIFICATION forming part of Letters Patent No. 505,075, dated September 12, 1893.

Application filed November 19, 1892. Serial No. 452,545. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM WHARTON, Jr., a citizen of the United States, and a resident of Philadelphia, Pennsylvania, have invented certain Improvements in Railway-Switches, of which the following is a specification.

My invention relates to railway switches in which the main track is unbroken or continuous.

The object of my invention is to so construct the switch that it will not interfere with the continuity of the main track, and to so mount the movable switch rail at the side of the track that it can be moved over and rest upon one of the main rails. This object I attain in the following manner, reference being had to the accompanying drawings, in which—

Figure 1, is a plan view of a track structure showing the main track clear. Fig. 2, is a plan view showing the switch set for the side track. Fig. 3, is a section on the line 1—2, Fig. 1. Fig. 4, is a section on the line 1—2, Fig. 2. Figs. 5 and 6, are perspective views showing the movable switch rail in the two positions; and Fig. 7 is a side view of the switch mate.

A, A' are the two rails of the main track, which are continuous, thus giving an unbroken support for the wheels traversing the main track, and B, B' are the two rails of the siding.

The track structure D' has a guard rail F, and a pointed rail P, and it is the mate of the switch structure described hereinafter. This switch mate is secured to the inner side of the rail A' by bolts or other fastenings, or it may be supported by means independent of the rail.

Mounted upon the switch structure D is a grooved switch rail C pivoted at c so as to swing over and rest upon the main rail A as described hereinafter. The surface of the switch structure upon which the switch rail C slides, is on the same level as the head of the main rail A, so that the switch rail can be readily moved over upon the main rail.

The switch rail C, as will be seen on re-

ferring to Figs. 3 and 4, is a flat grooved rail of a sufficient depth to give clearance for the wheel flanges, and the outer end c' of the head portion is vertically inclined, so that when the switch is turned to the position shown in Fig. 2, the car wheels will ride up the incline, and will thus become free from the control of the main rail A, and may then readily be guided upon the siding by the guard portion c² of the switch rail. The free end of this guard portion is adapted to a recess e in the guard rail E, so that when the switch rail is moved over upon the main rail, the guiding edge of the guard portion c² will be on a line with the guiding edge of the guard rail E, and moreover, it will be vertically supported to a certain extent by the guard rail E as clearly shown in Fig. 4. The guard rail E acts also as a stop for the switch rail, and resists the lateral thrust of the wheels against the guard portion of said switch rail. The head portion of the switch rail C does not guide the wheels onto the siding, but it is a support for the wheels to run on, while the guard portion c² is the guide which directs the wheels on to the siding. When the switch is not set for the siding, the switch rail is moved entirely clear of the main track, and in no way acts upon car wheels traversing the main track.

The guard F of the switch mate assists in guiding the flanges of the car wheels when going into or out of the branch track, while the guard rail E on the opposite side of the track is not only a lateral and vertical support for the guard part c² of the movable switch rail C, but it is of assistance in insuring that the car wheels shall properly take their place on the main track when leaving the siding.

The switch mate D' is preferably so made that car wheels on that side of the track when entering the branch track shall, at once, upon their diverging from the line of the main track, run up a slight vertical incline, in order to equalize or partially equalize the raising of the wheels on the other side of the car when they run up the inclined end c' of the

switch rail C. This is accomplished by gradually raising up the flange bearing portion H of the switch mate, from at or near the line $x-x$ to about the line $y-y$, Figs. 1 and 2, the pointed rail P being of the usual height above the flange bearing portion H. The flange bearing portion H however, is not thus raised up alongside of or immediately adjacent to the main rail A', and therefore the flanges of car wheels traversing the main track are not lifted up, and the wheels preserve their continuous bearing upon the head of the main rail A'. I prefer that the inclined end c' of the switch rail C shall project beyond the guard part c^2 of the rail, as shown in the drawings, but this is not essential to my invention.

While I prefer to pivot the switch rail as shown, it may be so arranged as to be moved over upon the main rail in some other manner, without departing from my invention.

The supporting structure for the switch rail C, in the present instance, as will be noticed on referring to Figs. 3 and 4, has an upwardly projecting flange on its outer edge forming a recess for the switch rail and the structure is upheld by the main rail, and is in the form of a bracket with a back plate d adapted to the web of the main rail and resting upon its base, and with suitable braces d' at intervals throughout its length. The guard rail E is also shown in the form of a bracket upheld by and secured to the opposite side of the main rail. In the present instance the switch structure D and the guard rail E are secured to each other and to the main rail A by bolts, but other fastenings may be employed without departing from my invention. The rail in this instance is of the form known as a "deep girder" rail, it being of sufficient depth and strength to support the switch structure. If desired, the structure may be supported independently of the main rail, especially when a shallow main rail is used.

I claim as my invention—

1. The combination of a main rail, with a movable switch rail having an inclined end forming a continuation of the tread surface of said switch rail, and adapted to pass over and lie upon the main rail, said switch rail having a guard, substantially as described.

2. The combination of an unbroken main rail, a movable grooved switch rail having an inclined end, and adapted to pass over and lie upon the main rail, and a guard rail having a recess to receive a portion of the said grooved switch rail, substantially as described.

3. The combination of an unbroken main rail, with a pivoted switch rail having an inclined end forming a continuation of the tread surface of said switch rail and adapted to pass over and lie upon the main rail, said switch rail having a guard, substantially as described.

4. A movable switch rail having an inclined

end and a guard, said inclined end forming a continuation of the tread surface of the switch rail and projecting beyond the guard, substantially as described.

5. The combination of a continuous main rail and siding rail, with a pivoted switch rail having an inclined end and having a guard, said switch rail being pivoted at the outside of the main rail and adapted to be shifted onto the main rail so that the guard will then direct the wheels of a car from the main track onto the siding, substantially as specified.

6. The combination of a continuous main rail and recessed guard rail, with a movable switch rail having an inclined end and having a guard part on its inner side, the outer end of said guard part resting within and supported by the recessed guard rail when the switch rail is moved over upon the main rail, substantially as specified.

7. The combination of an unbroken main rail and siding rail, with a movable grooved switch rail, said rail having an inclined end extending beyond the grooved portion, the incline being of such a height as to raise the flanges of the car wheels clear of the bottom of the groove of the switch rail when being transferred from the main track to the siding, substantially as specified.

8. The combination of an unbroken main rail, a grooved switch rail having an inclined end, and a recessed support for the said switch rail to slide upon, the bottom of said recess being level with the top of the main rail, substantially as described.

9. The combination of the unbroken rails of a main track, a movable switch rail having an inclined end and having a guard stopping short of said end, with a switch mate, substantially as described.

10. The combination of the unbroken rails of a main track, the rails of a siding, a switch rail having a guard and pivoted at the outside of one of the main rails and adapted to move over upon said main rail, and a switch mate at the inside of the opposite main rail, substantially as described.

11. The combination of the unbroken rails of a main track, a movable switch rail having a guard and having an inclined end, and a switch mate having a vertical incline in its flange bearing portion, substantially as described.

12. The combination of the unbroken rails of a main track, a movable switch rail having a guard and having an inclined end, and a switch mate having a vertical incline in its flange bearing portion and having a guard, substantially as described.

13. The combination of an unbroken rail of a main track, with a switch structure at the outside of and a guard rail on the inside of the main rail secured thereto, and supported thereby, substantially as described.

14. A continuous main rail, and a movable

5 grooved switch rail, adapted to pass over and lie upon the main rail, in combination with a guard rail against which the grooved switch rail bears, said guard rail acting also as a stop to resist the lateral thrust of the car wheels against the guard portion of the grooved switch rail, substantially as described.

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

WILLIAM WHARTON, JR.

Witnesses:

HENRY HOWSON,
JOSEPH H. KLEIN.