J. T. HALSEY.

Railway-Switch.

No. 214,650. Patented April 22, 1879.

Fig. 1.

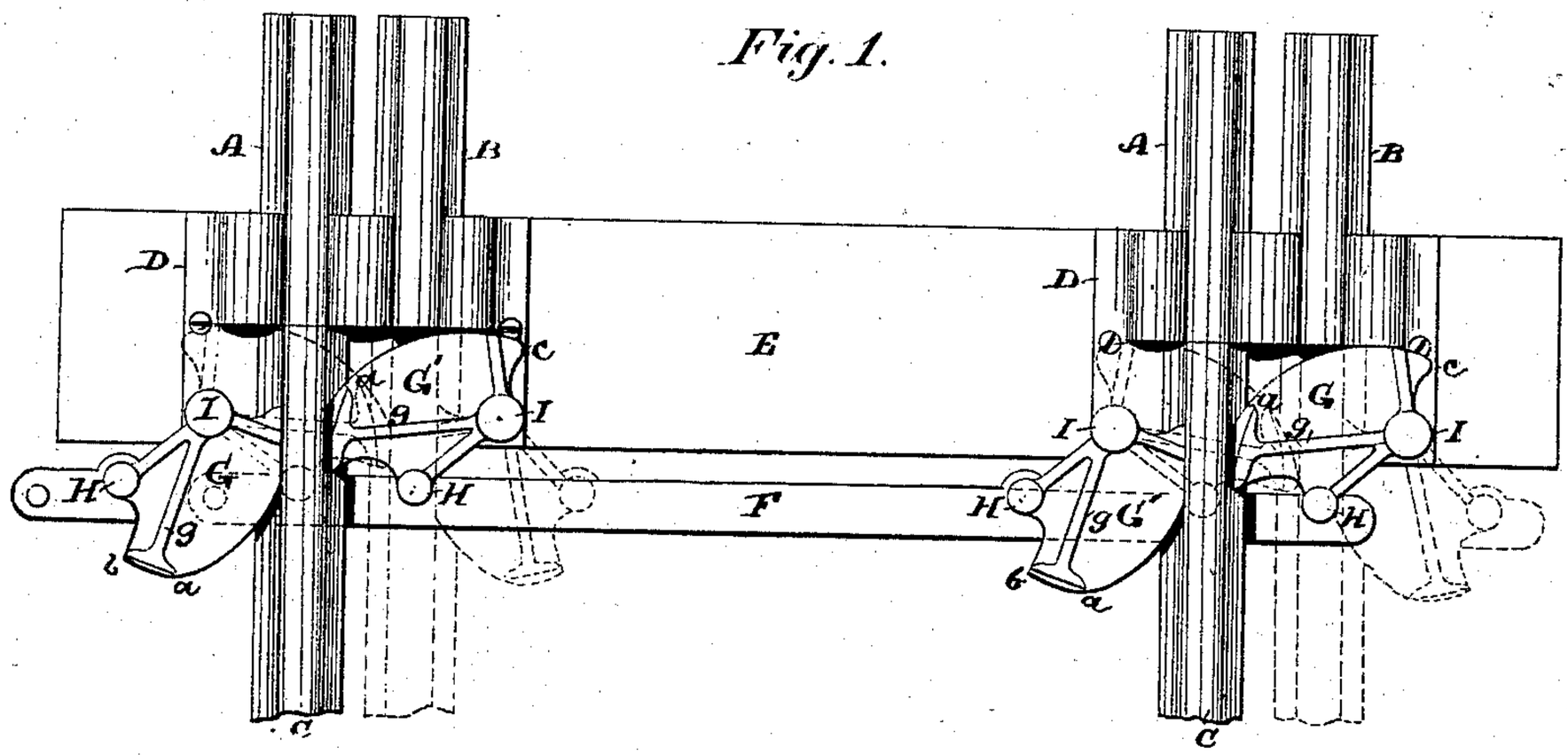


Fig. 2.

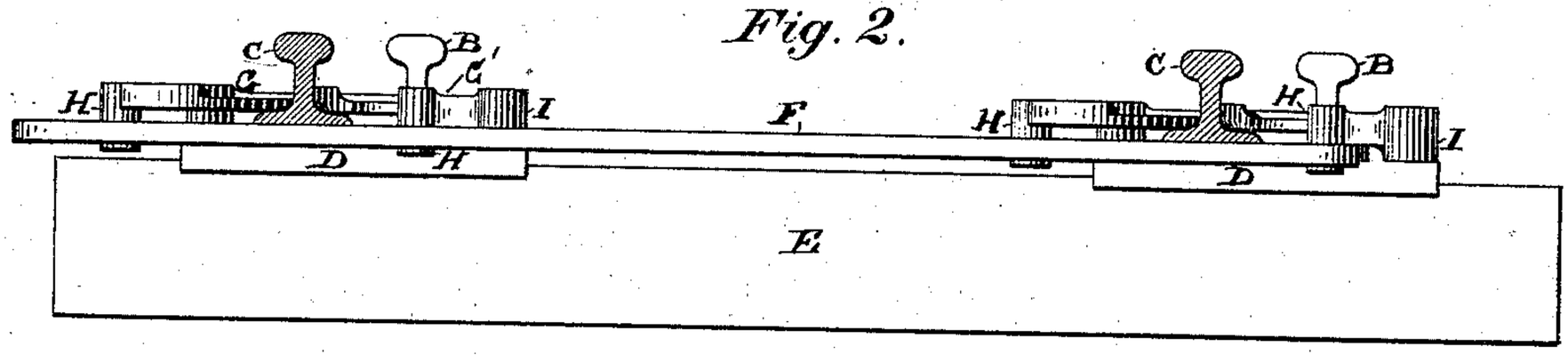
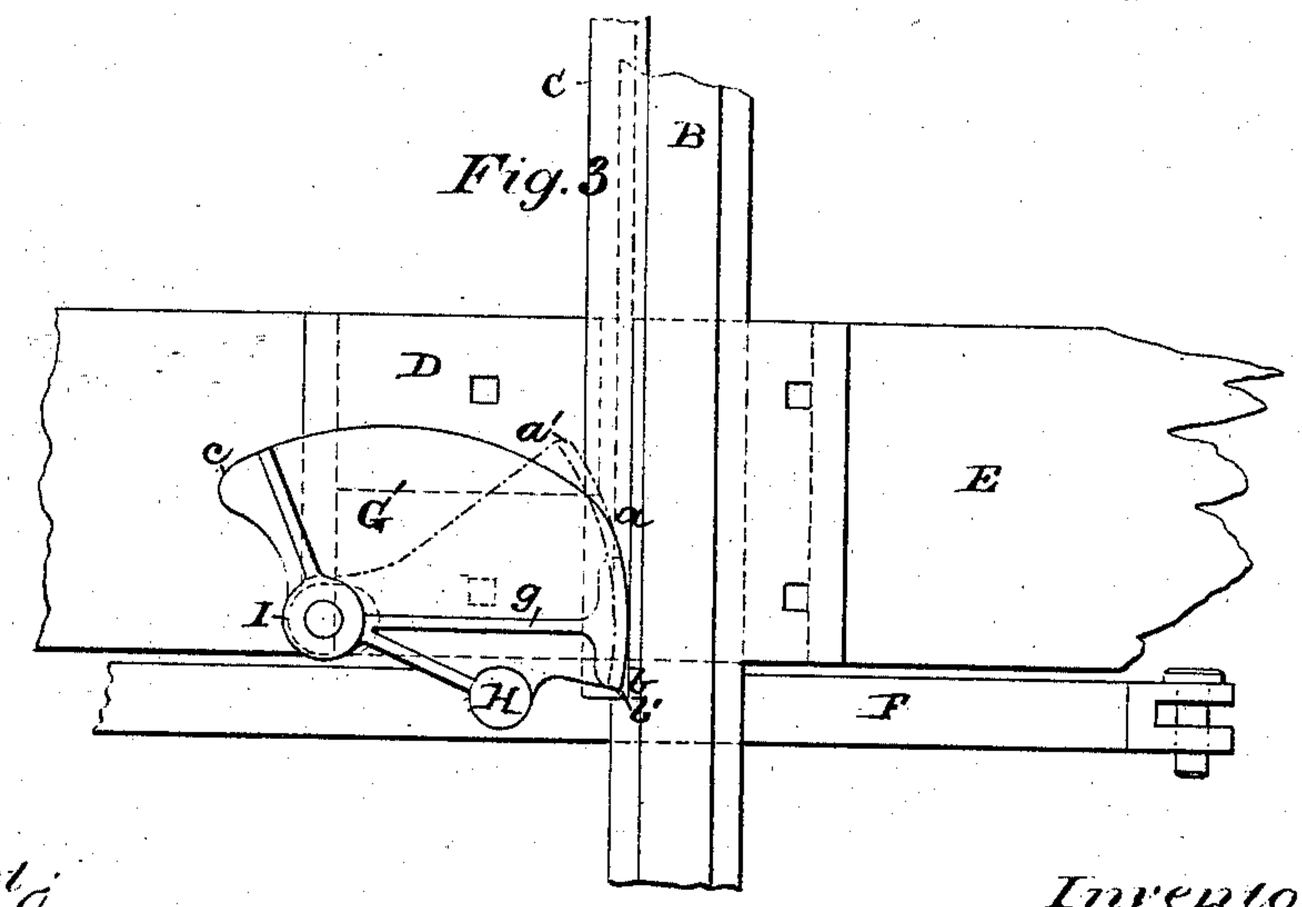


Fig. 3.



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JAMES T. HALSEY, OF ALTOONA, PENNSYLVANIA.

IMPROVEMENT IN RAILWAY-SWITCHES.

Specification forming part of Letters Patent No. **214,650,** dated April 22, 1879; application filed November 22, 1877.

To all whom it may concern:

Be it known that I, JAMES T. HALSEY, of Altoona, in the county of Blair and State of Pennsylvania, have invented certain new and useful Improvements in Railroad-Switches; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

My invention relates to railroad-switches; and consists in certain new and improved devices and combinations of devices through the operation of which the movable switch-rails are effectually locked in the desired position, and by means of which they are also moved as well as locked by the operation of a single lever, the locking of the rails being effected by means of the same devices employed to move them, and said devices always clasping or holding the rails, so that they cannot be moved unless operated by the switch-lever, all as hereinafter more fully set forth.

In the accompanying drawings, Figure 1 is a plan view, showing my invention as applied to a stub-rail switch. Fig. 2 is an elevation of same with the movable switch-rails shown in section. Fig. 3 is a plan view of a portion of a split-rail switch, showing the locking device applied to the point of the switch-rail, and also illustrating a locking device of modified form.

Referring to the parts by letters, A A may represent the rails of the main track, and B B the permanent rails of a turnout or siding, or vice versa.

C C are the movable switch-rails. The ends of the rails A and B are securely held in position by chairs D, bolted or otherwise secured to the sleeper E—an arrangement which I prefer; but they may be secured in any desirable or proper manner.

F is a bar or rod which passes transversely across the track and beneath the movable rails C C. As shown in the drawings, this bar is rectangular; but it may be made of any suitable or desired form.

One end of the bar F connects with the switch-lever, so that when said lever is operated the bar F moves or reciprocates back and forth, and with a sliding motion.

G G′ represent my improved devices for moving and locking the switch-rails C C. When used in connection with a stub-rail switch they are arranged in pairs, one pair to each rail and one on each side of each rail, as clearly shown by Fig. 1 of the drawings; but when used for locking the points of a split-rail switch, only one is required for each point, as shown by Fig. 3 of the drawings. These devices G G′ are, respectively, pivoted to the bar F by studs or pivot-pins H, and also to the chairs D or other suitable fixed bearing-plates by pivot-pins or studs I. They are formed with curved or cam edges, which bear against the web of the rail, the portion of the curve between *a* and *b* being the arc of a circle with the pivot I as a center. This portion constitutes the lock, and, to strengthen it, it may be made thicker, and strengthened with a rib, *g*. Being arc-shaped, it is always tangent to the rail, and thereby secures the same in its proper position, no matter what the lost motion of the joint may be.

The other portion of the cam, from *a* to *c*, is such that the movement of the rails from one position to the other is thereby effected, this portion of the curve operating as a cam, which forces or pushes the rail over from one position to the other. The arrangement of each pair of these devices G G′ is such that the rails C are always clasped and securely held between their curved edges, so that they cannot be moved except through the movement of the bar F when operated by the switch-lever.

It will also be seen that when the rails are moved the operation of unlocking and moving occurs simultaneously, and when moved to the desired position the relocking of the rails in such position is completed, both results being accomplished by the same device at one operation of the switch-lever.

When two levers are used, one to move the rails and the other to lock them after being moved into the desired position, it is unnecessary to construct my improved locking device with the cam portion or curved edge extending between the points *a* and *c*. In such case the locking devices may be of form shown by dotted lines in Fig. 3 of the drawings—that is,

with its binding edge, from *a'* to *b'*, made in the form of an arc with the pivot I as a center; and when the two levers are employed my locking device so constructed will be found to be thoroughly efficient for locking the rails in position, as before described, other devices being employed to move the rails.

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

1. The rail moving and locking devices G G', having curved edges *a b c*, and so arranged as to bind immediately against both the rails, in combination with a single rod, whereby both of them are operated simultaneously, substantially as set forth.

2. The combination of a rail moving and locking device, G G', and bar F with the switch-rail C, substantially as set forth.

3. The combination of two rail moving and locking devices, G G', operated by a single rod or bar, F, with the switch-rails C C, substantially as described.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

JAMES T. HALSEY.

Witnesses:
D. G. STUART,
A. MCCALLUM.