

(No Model.)

F. S. SCHEFFLER.

RAILWAY SWITCH.

No. 258,482.

Patented May 23, 1882.

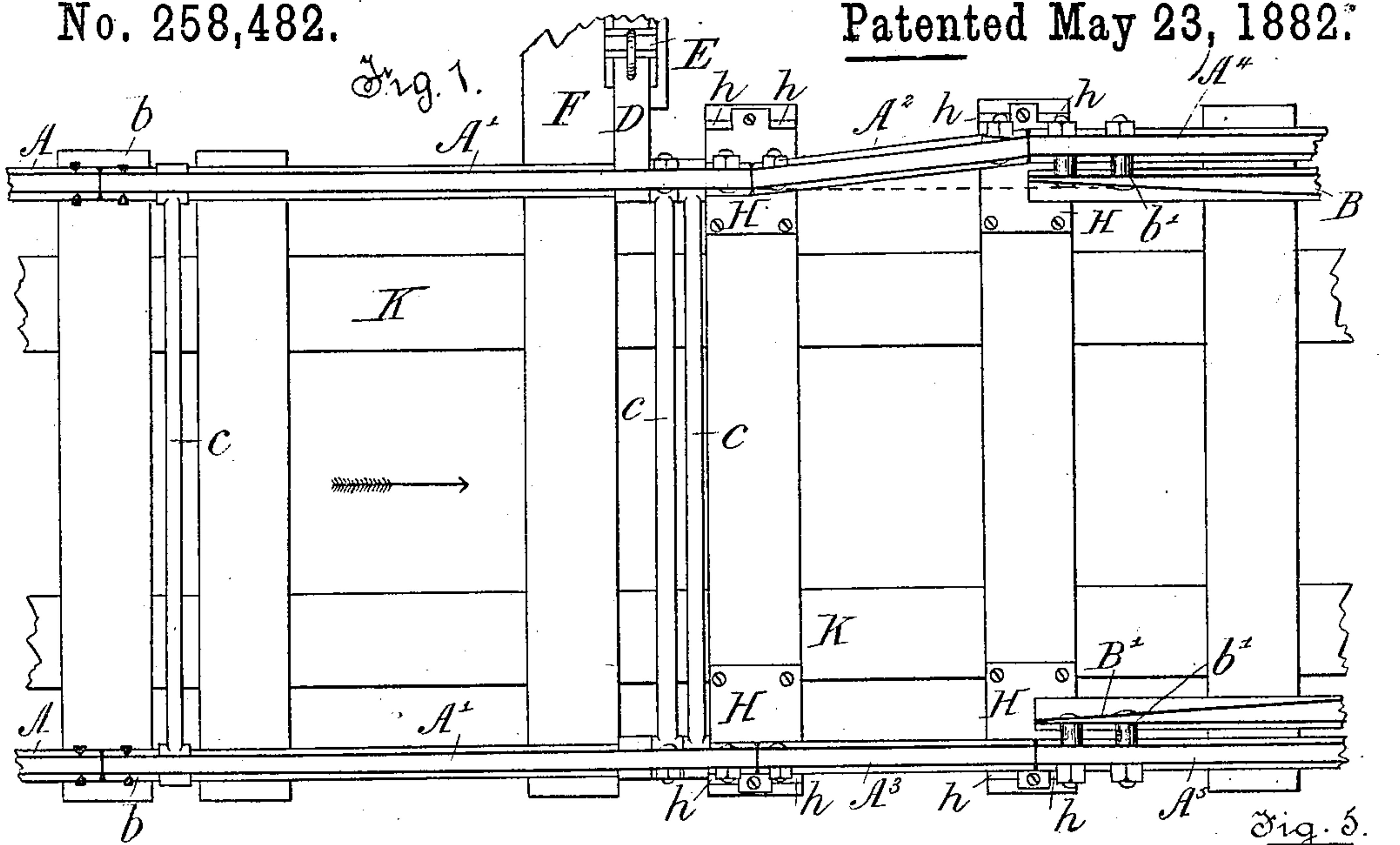


Fig. 4.

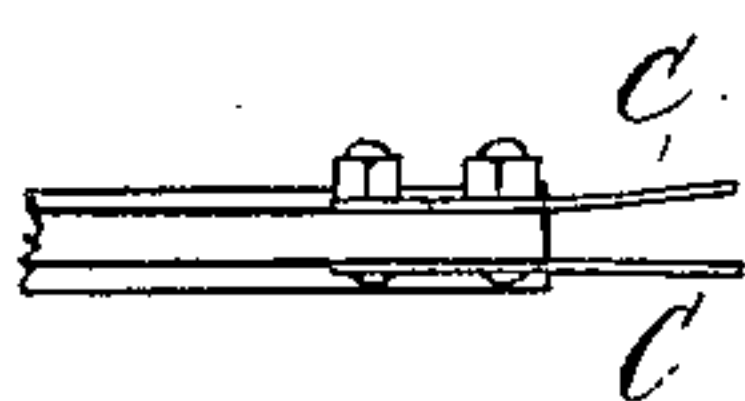


Fig. 3.

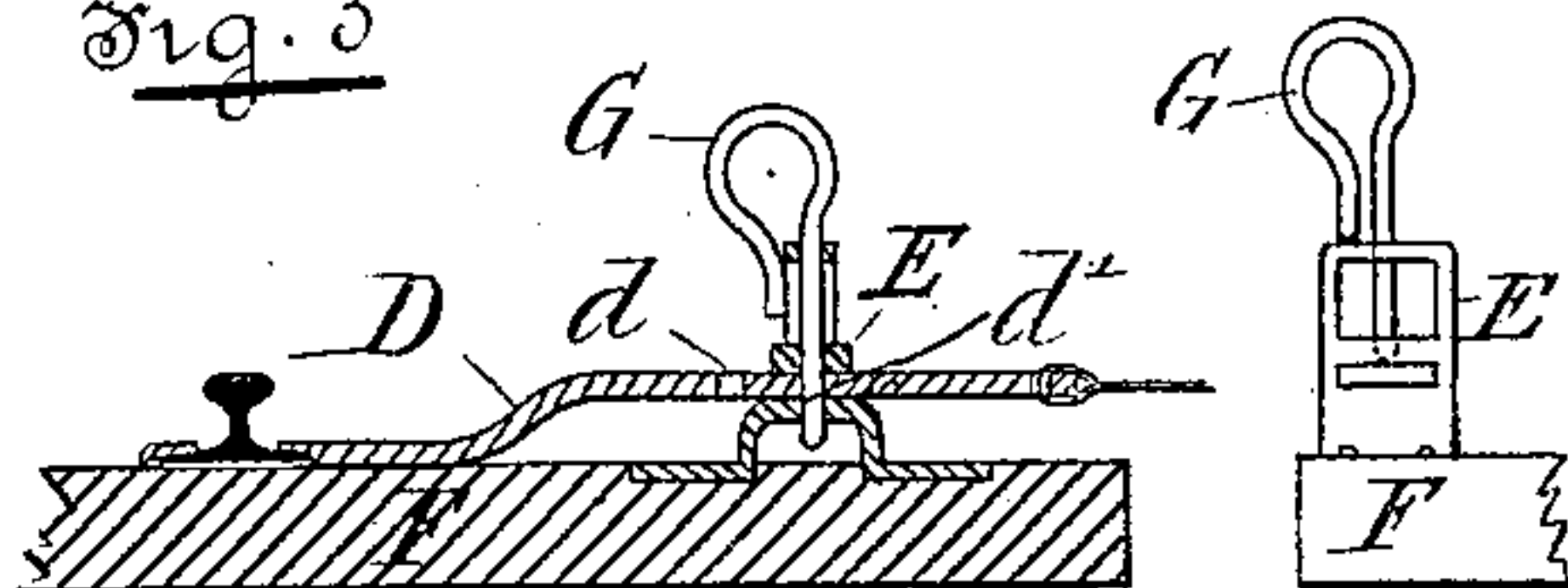
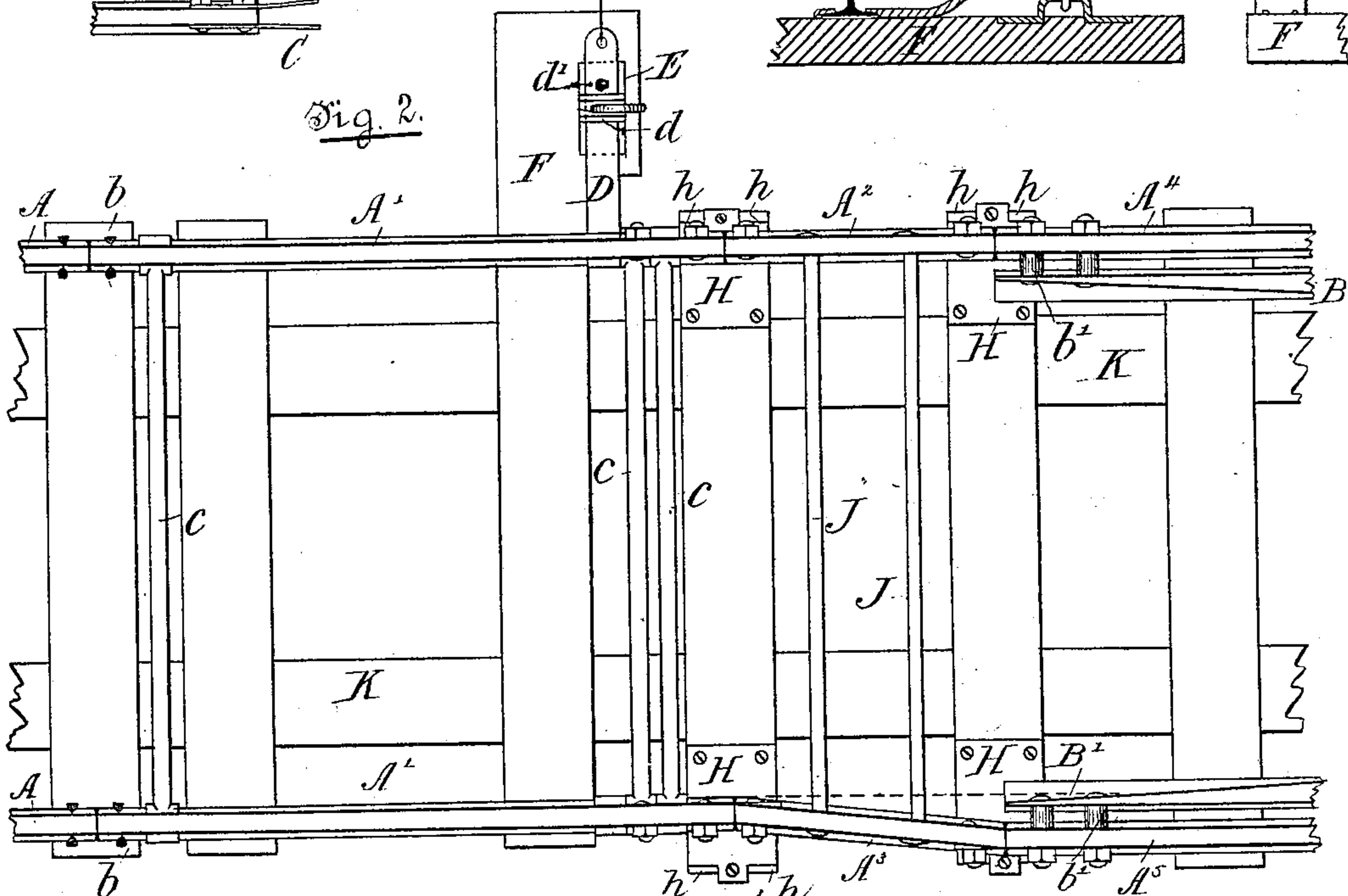


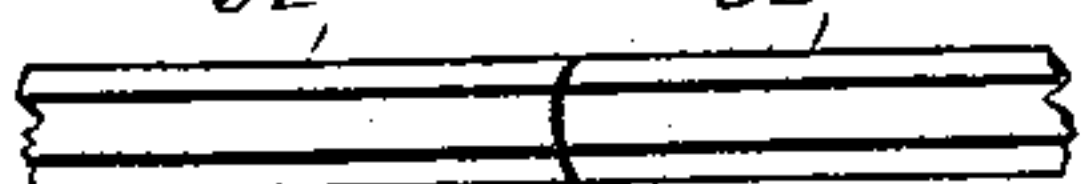
Fig. 2.



Witnessed:

N. K. Lewis
R. C. Moore

Fig. 6.



Inventor.
F. S. Scheffler
Per. *R. A. Kellogg*
Atty.

UNITED STATES PATENT OFFICE.

FRANZ S. SCHEFFLER, OF RICHMOND, QUEBEC, CANADA.

RAILWAY-SWITCH.

SPECIFICATION forming part of Letters Patent No. 258,482, dated May 23, 1882.

Application filed February 3, 1882. (No model.)

To all whom it may concern:

Be it known that I, FRANZ SAMOEHL SCHEFFLER, of Richmond, in the county of Richmond and Province of Quebec, in the Dominion Canada, have invented certain new and useful Improvements in Railway-Switches; and I do hereby declare that the following is a full, clear, and exact description of the same.

My invention relates to improvements in railway-switches for the purpose of doing away with the necessity of a break or division between both rails of the main line or siding at the divergent point, its object being also to lessen the danger of trains running off the track, and at the same time to insure certainty and safety in operation.

The improvements may be briefly described as consisting in arranging the rails next to or approaching the switch so that when spiked only at one end they will spring in a lateral direction at and near the other end, and in connecting to these spring-rails short movable or adjustable rails, one of which forms junction with a main-line rail and the other with one of the siding-rails, pointed rails being, however, provided (one for main line and one for siding) at the point of divergence to allow the wheels to cross. Certain locking and changing devices are also embodied in my improvements; but for full comprehension of the same reference must be had to the accompanying drawings, in which—

Figure 1 is a plan view of my switch in one position, and Fig. 2 a similar view with switch changed to opposite position. Fig. 3 is a sectional detail view of locking device; Fig. 4, a detail of fish-plate; Fig. 5, another view of locking device, and Fig. 6 a detail of rail-joint.

Similar letters of reference indicate like parts.

Let A A represent the rails of main line, and suppose the train to be going in the direction indicated by the arrow in Fig. 1.

A' A' are the spring-rails, spiked to the ties where shown, at b b, or at whatever points between their ends which will insure the necessary spring or lateral movement of these rails in conjunction with the short adjustable rails A² and A³ to change the direction of the train.

c c are the ordinary switch-rods.

A⁴ A⁵ are rails forming connection with the

short adjustable rails at their opposite ends, that marked A⁵ in Fig. 1 being a continuation of the main line with the short rail A³, and A⁴ one rail of the siding, the pointed rails B and B' being then respectively the continuation of main line with short rail A² and other rail of siding. The short rails A² A³ are securely but loosely connected to the long or main rails by fish-plates and bolts, play being allowed for the latter, and, as shown at C C in Fig. 4, these fish-plates are slightly bent at their ends where required to compensate for the lateral movement of the rails A' A² A³ in altering the switch. In order to strengthen the movable portion and maintain the proper gage, long bolts J J may be used, as shown in Fig. 2, to connect the short rails A² A³.

D represents the bar by which the switch is set. Its end is attached to one of the spring-rails A' A' in the usual or any suitable manner, (the switch-rods c c forming the connection between the two rails and keeping them at the proper gage,) and its other end has connected to it the crank or other device used for operating, perforations, as shown at d d', particularly in Fig. 3, being, however, made in it for the purpose about to be described. This switch-bar D passes through a guide-standard, E, firmly bolted to the head-block F, and is secured therein by a locking-pin, G, which passes down through a hole in said guide-standard E and through the perforation d or d', according to the position required to be taken by the switch.

In Fig. 2 I have shown the switch in the opposite position to that represented by Fig. 1, the rails A' A² being relieved from lateral pressure, and with rail A⁴ now forming a continuous straight line with the pointed rail B' as its mate. The rails are placed in this position by drawing on the switch-lever D, and locked therein by dropping the pin G through the perforation d, and is again returned to the position first described by removing the locking-pin and pushing forward the bar D, the perforation d' being then in position for the pin G to drop through, which will lock the switch.

Should it be thought desirable, the locking-pin G may be removed from the guide-standard E or so arranged therein that it will not

come into contact with the switch-lever D, and the action of the train-wheels be relied on for changing the position of the switch.

Under each of the joints between the shifting rails I place chairs or plates H H, the outer edges of which are turned up, as shown at *h h*, so as to form stops for the edges of the rails at the end of the play, and as the connections of the rails, switch-bar, &c., become loosened by continued use, these chairs H H may be adjusted by drawing the spikes and re-driving them in the ties, and thus compensate for wear. One or more longitudinal bracing-pieces, K K, are by preference placed under the ties, as shown, and tenoned thereto for the purpose of obviating the danger of the ties shifting lengthwise from strain caused by the passage of trains over the switch.

Should it be found more desirable, the rails A' A' may be pivoted at the points *b b* instead of being spiked, as shown, and it will be understood that the length of the short adjustable rails A² A³ will be determined according to the amount of lateral movement required. I have found, however, that two inches play will be sufficient to switch a train, and that adjustable rails two feet long will meet the requirements. I preferably so place the pointed rails that their points will be situated so as to obviate any danger of the flange of a car-wheel passing on the wrong side, and keep them in their proper position by placing collars *b' b'* on the bolts holding said pointed rails to rails A⁴ A⁵, and those skilled in track-laying will understand that the tread of a car or engine wheel will be wide enough to insure its safe passage over the adjustable rails when they are placed at an angle to the main rails.

To insure a close joint between the rails, and one which will prevent the corners of rails from being jammed, I form the end of one rail convex and its opposite concave, as shown in Fig. 6.

What I claim and desire to secure by Letters Patent, is as follows:

1. A railway-switch consisting of fixed main and siding rails, one of each being pointed and all having their ends on substantially the same line, in combination with switch-rails fixed at one end so as to connect with the main rails and free at the other, the free ends being connected to one of the siding and one of the main rails by interposed movable pieces.

2. In a railway-switch, the combination of the main-line rails A A, the siding-rail A⁴, and the main-line rail A⁵, (the said rails A being permanently connected to said rails A⁴ A⁵ by spring-rails A' A' and short movable rails A² A³), and the pointed main and siding rails B B', the parts being so constructed and arranged that the movement of the spring-rails A' A' and short rails A² A³ operates the switch without breaking the connecting-joints.

3. In a railway-switch, the combination of main-line rails A' A, arranged to move laterally, adjustable rails A² A³, forming continuous junctions therewith and with rigid rails A⁴ A⁵ and pointed rails B B', all substantially as described.

F. S. SCHEFFLER.

Witnesses:

C. P. CLEVELAND,
A. J. BREADON.