

No. 768,187.

PATENTED AUG. 23, 1904.

F. L. MAURER.  
RAILWAY SWITCH.

APPLICATION FILED JAN. 29, 1904.

NO MODEL.

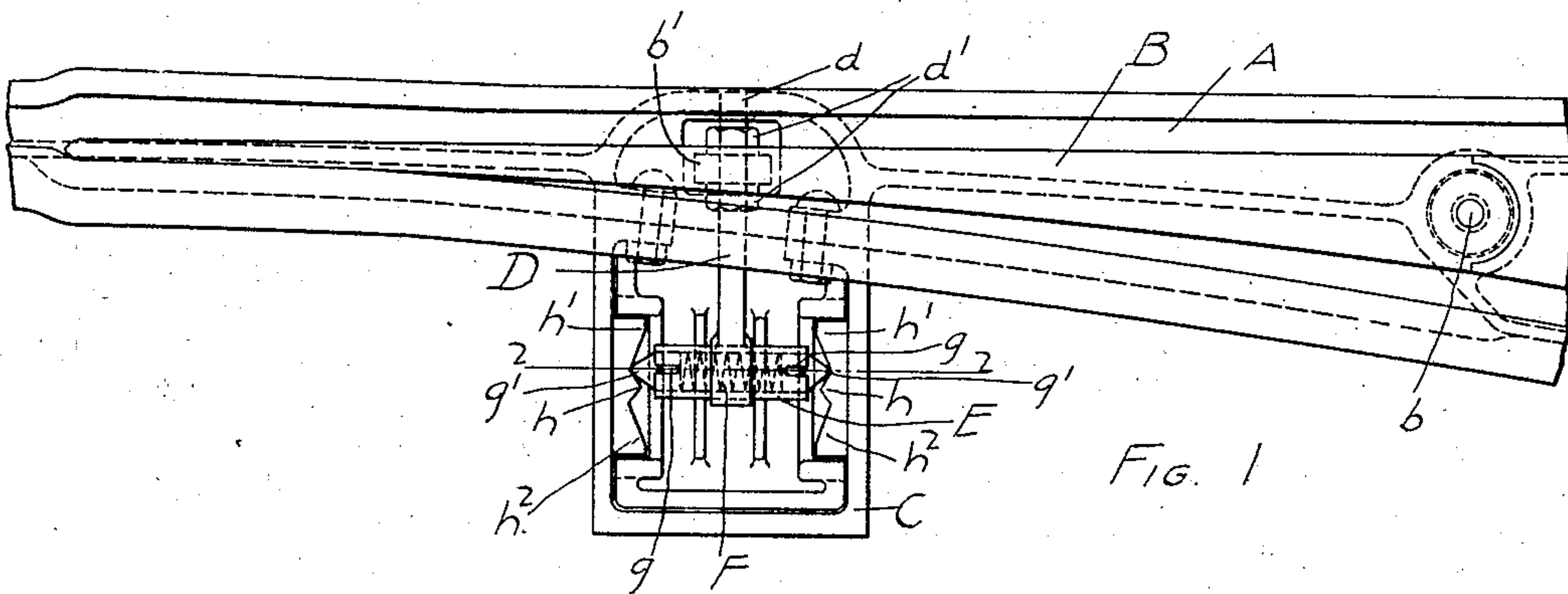


FIG. 1

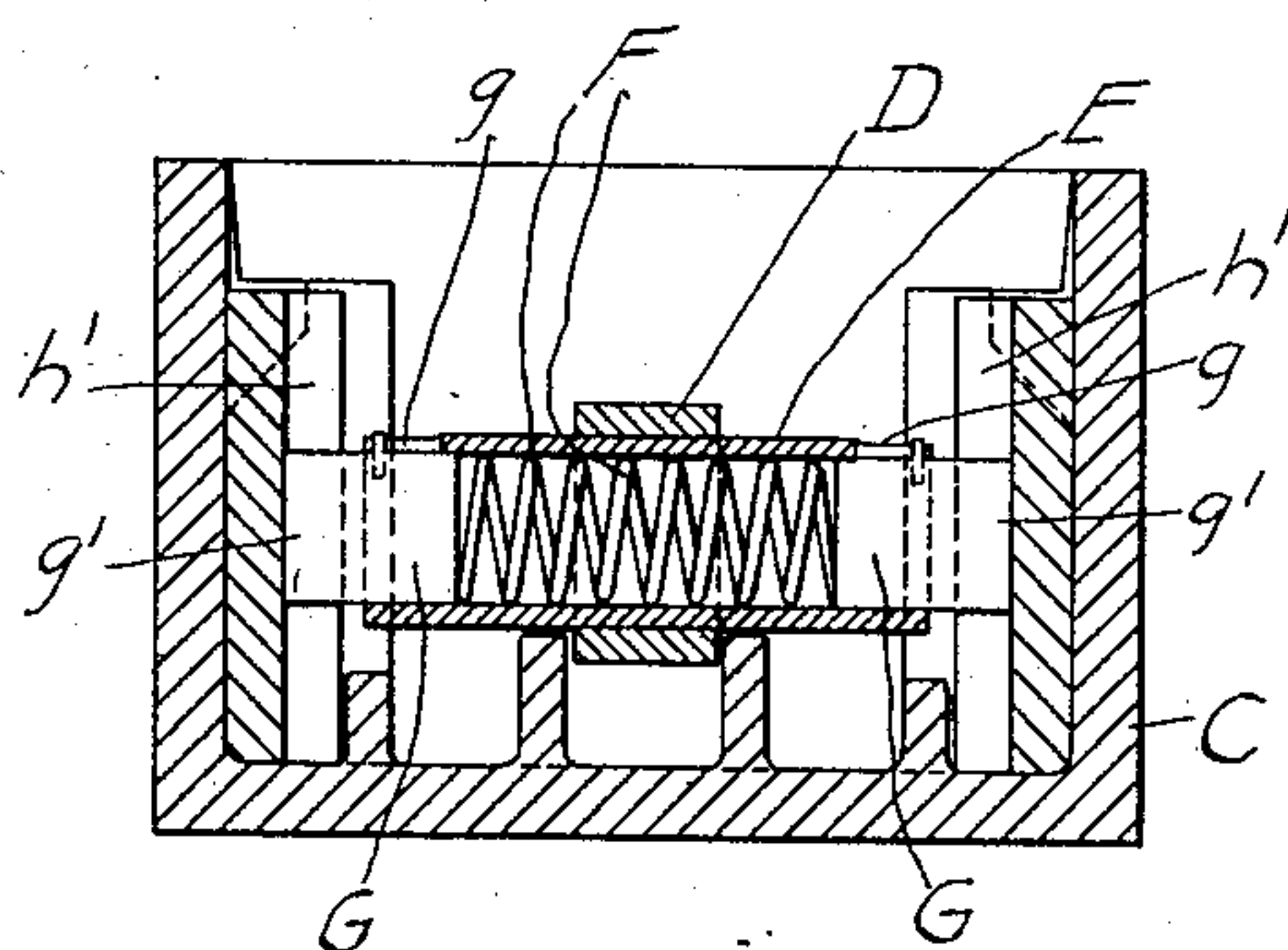


FIG. 2

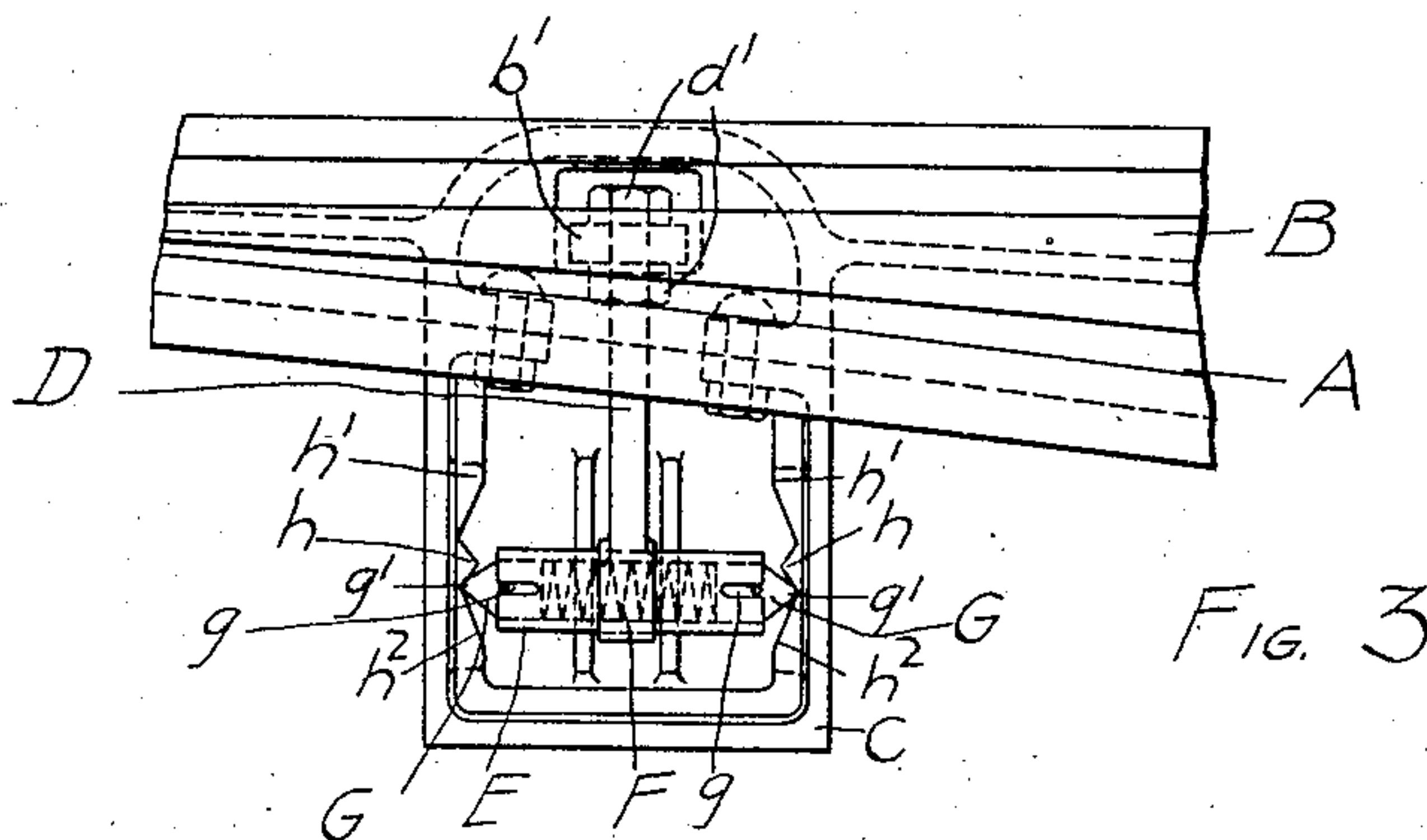
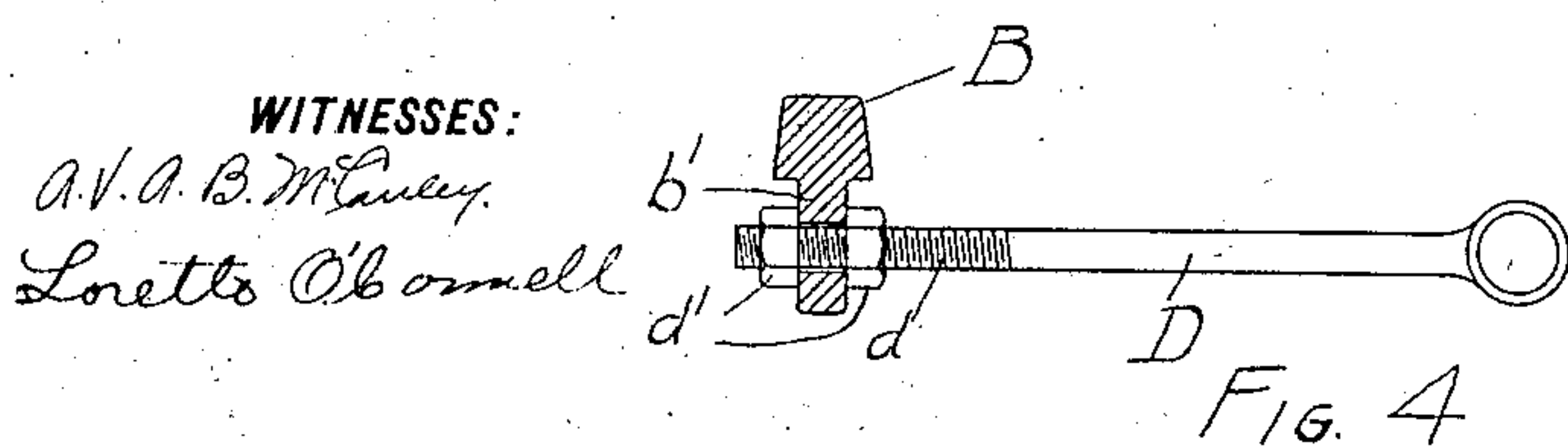


FIG. 3



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# UNITED STATES PATENT OFFICE.

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## RAILWAY-SWITCH.

SPECIFICATION forming part of Letters Patent No. 768,187, dated August 23, 1904.

Application filed January 29, 1904. Serial No. 191,197. (No model.)

*To all whom it may concern:*

Be it known that I, FRANK L. MAURER, of Johnstown, in the county of Cambria and State of Pennsylvania, have invented a new and useful Improvement in Railway-Switches, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, which form a part of this specification.

My invention has relation to railway-switches, and is designed to provide an attachment for switches whereby the latter may be used as a spring-switch with either right or left hand throw or whereby the switch tongue or point may be locked in either one of its thrown positions against accidental displacement.

With this object in view my invention consists in the novel construction, arrangement, and combination of parts, all as hereinafter described, and pointed out in the appended claims, reference being had to the accompanying drawings, in which—

Figure 1 is a plan view of a portion of a tongue-switch, showing my invention applied thereto; Fig. 2, a section on the line 2 2 of Fig. 1; Fig. 3, a plan view of a portion of the structure shown in Fig. 1 with the attachment adjusted to form a lock, and Fig. 4 a detail view showing how the attachment is adjustably connected to the switch-tongue.

The letter A designates the body portion of the switch structure, and B the movable point or tongue, pivoted at *b*.

C is a box secured to one side of the switch structure and containing the attachment now to be described. This attachment consists of a laterally-projecting rod or arm D, whose threaded end portion *d* is adjustably secured in the depending lug *b'* of the tongue B by means of the nuts *d'*. Secured to the outer end of this arm D is a transverse hollow spring guide or tube E, in which is seated a coiled spring F, whose ends work against dogs or pawls G, which are loosely seated in the end portions of said tubes and are held from turning therein by a pin-and-slot connection *g* or other suitable means. The outer ends of the dogs or pawls are formed into a beveled tooth

*g'*. Secured to the sides of the box C, as shown in Fig. 1, or cast integrally with the box, as shown in Fig. 3, are toothed portions consisting each of a middle tooth *h*, and a half-tooth *h'*, respectively, at opposite sides of said middle tooth, and with somewhat longer face than those of the middle tooth.

In Fig. 1 the arm or rod D is shown so adjusted that when the tongue B is set for the straight track the teeth of the dogs or pawls are resting at the bottoms of the half-teeth *h'*. If now the tongue B be thrown, as by a car trailing through it, its movement will cause the said pawls to move up the faces of the half-teeth *h'*, thereby causing the spring F to be compressed. As soon as the tongue is released the force of the spring will immediately return to its original position.

By adjusting the arm D to bring the dogs or pawls at the base of the half-teeth *h'* when the tongue is set for the branch track said tongue will have a similar spring action in the reverse direction. By another adjustment of the arm D, such as shown in Fig. 3, the attachment forms a lock to hold the tongue against accidental displacement, although it may be readily forced over to its other position by means of the usual switch-bar. As it is thrown to its other position the dogs or pawls ride over the apices of the teeth *h*, after which the spring assists the throw. The tongue is now held in its thrown position against displacement in the same manner as when at its other position. It is of course seldom required to use all these adjustments in any one switch; but my invention provides simple means whereby the parts may be made of standard character and by a proper adjustment be used to fulfil the requirements of any particular switch. The adjustment feature, however, is not a necessary part of my invention, since the advantages of the invention may be largely obtained by fitting each particular switch with the attachment properly assembled for the requirements of that particular case and rigidly connected to the tongue, and in other respects I do not wish to be limited to the precise details of construction and arrangement which I have herein shown and described,



as these may be changed without departing from the spirit and scope of my invention.

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

1. The combination with a movable switch tongue or point, of a laterally-extending arm connected thereto, a spring-guide carried by said arm, a spring, a dog or pawl pressed by said spring, and a fixed tooth arranged to co-operate with said dog or pawl.

2. The combination with a movable switch tongue or point, of a laterally-extending arm connected thereto, a hollow transverse spring-guide carried by the said arm, a spring seated in said guide, a pawl or dog also seated in said guide and bearing against the said spring, and a fixed beveled surface engaged by said pawl or dog.

3. The combination with a movable switch tongue or point, of a hollow spring-guide carried thereby, a spring seated in said guide, pawls seated against the ends of said spring, and fixed toothed members engaged by the free ends of the said pawls.

4. The combination with a movable switch tongue or point, of an arm adjustably connected thereto, a hollow, transverse, spring-

guide carried by the said arm, a spring in said guide, a pawl actuated by the said spring, and a fixed portion engaged by said pawl and formed with a central tooth and with one or more half-teeth.

5. The combination with the spring, and the pawls pressed thereby, of the fixed portions engaged by said pawls and having each a middle tooth, and a half-tooth at each side of the middle tooth, the half-teeth having longer faces than the middle tooth substantially as described.

6. The combination with a movable switch tongue or point, of an arm adjustably connected thereto, a hollow, transverse, spring-guide carried by the said arm, a spring therein, laterally-movable pawls seated in said guide and against the ends of the said spring, and fixed portions engaged by the said pawls and having each a middle tooth and a half-tooth at each side of the middle tooth.

In testimony whereof I have affixed my signature in presence of two witnesses.

FRANK L. MAURER.

Witnesses:

LORETTO O'CONNELL,  
H. W. SMITH.