

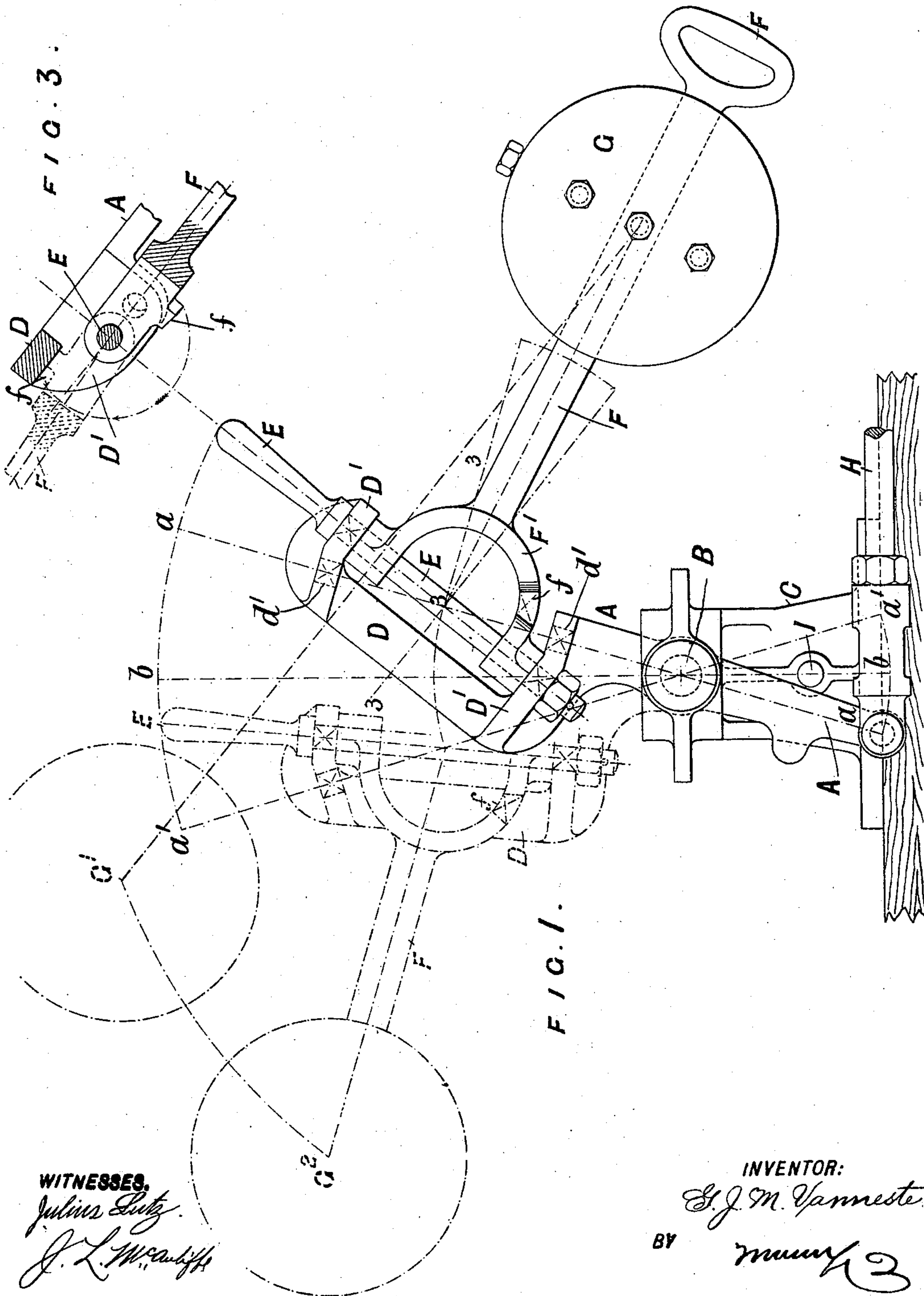
(No Model.)

3 Sheets—Sheet 1.

G. J. M. VANNESTE.
RAILWAY SWITCH LEVER.

No. 585,065.

Patented June 22, 1897.



WITNESSES.

Julius Lutz.
J. L. M. Van Neste.

INVENTOR:

G. J. M. Van Neste.

BY

Mumford

ATTORNEYS.

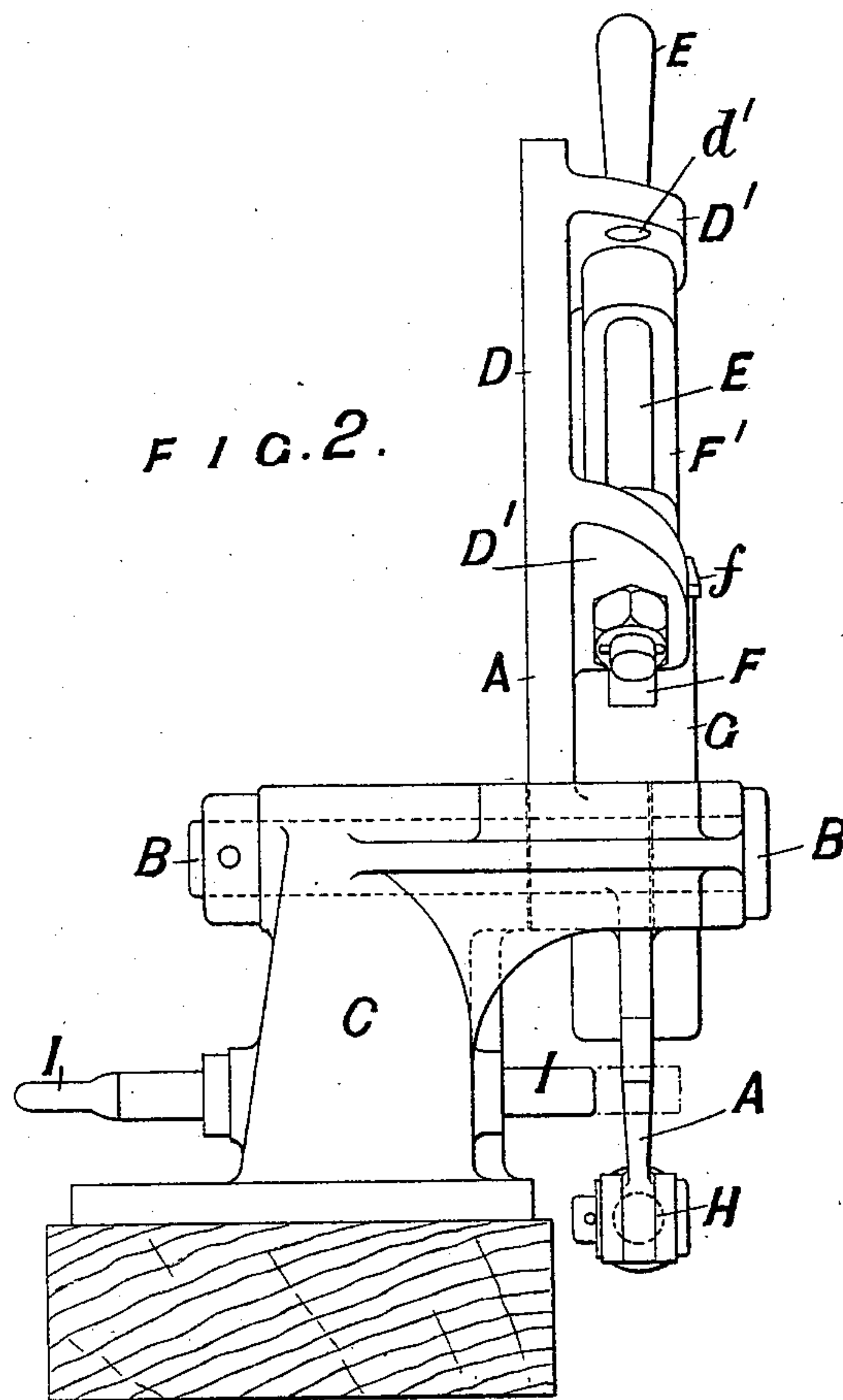
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Julius Lutz.
J. L. McNeill.

INVENTOR:

G. J. M. Vanneste

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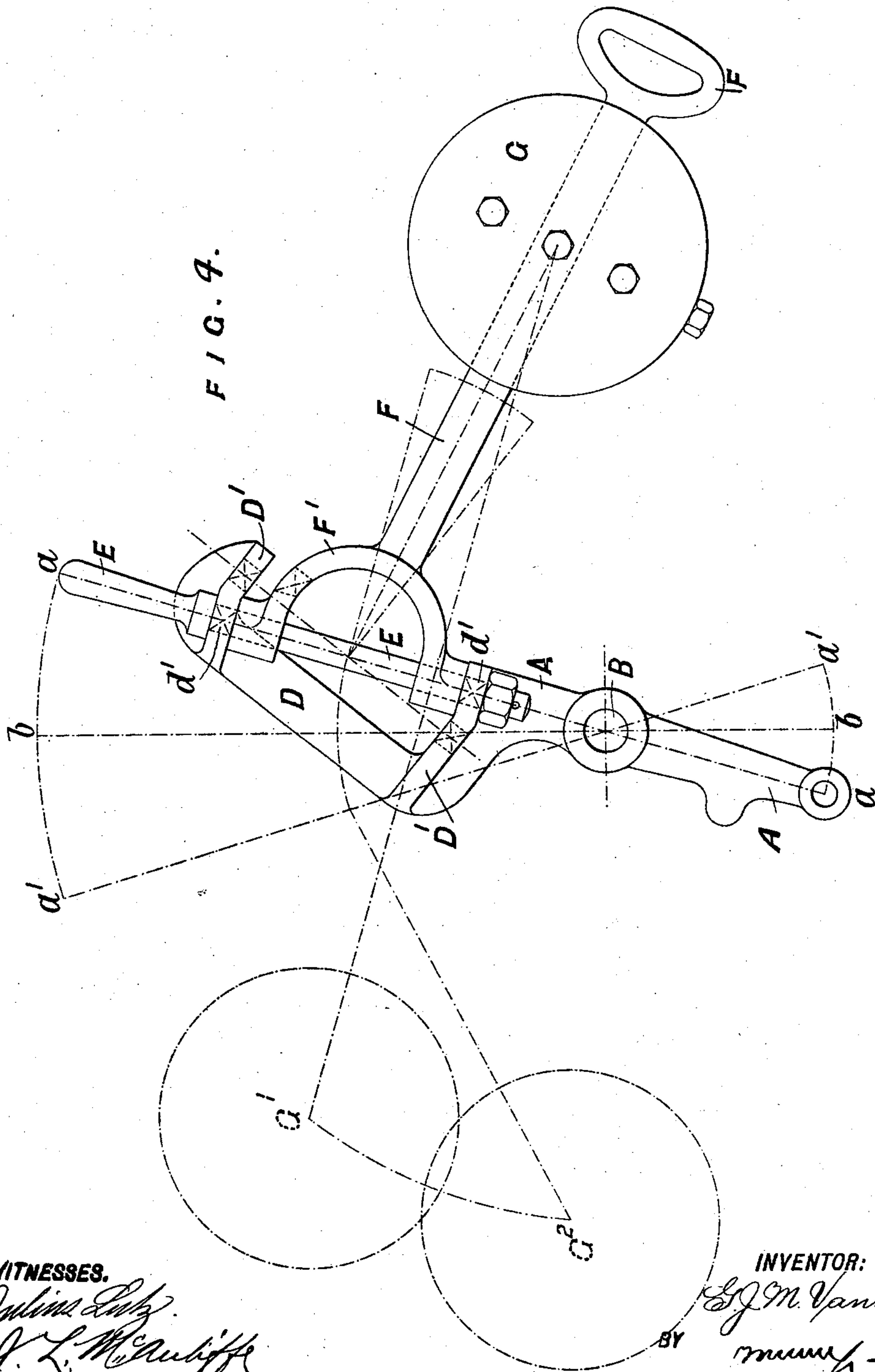
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INVENTOR:

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UNITED STATES PATENT OFFICE.

GUSTAVE JEAN MARIE VANNESTE, OF BRUSSELS, BELGIUM.

RAILWAY-SWITCH LEVER.

SPECIFICATION forming part of Letters Patent No. 585,065, dated June 22, 1897.

Application filed September 9, 1896. Serial No. 605,282. (No model.) Patented in Belgium April 14, 1896, No. 120,875.

To all whom it may concern:

Be it known that I, GUSTAVE JEAN MARIE VANNESTE, engineer, of 59 Rue Verboeckhaven, Brussels, in the Kingdom of Belgium, have invented new and useful Improvements in Railway-Switch Levers, (for which I have obtained Letters Patent in Belgium, dated April 14, 1896, No. 120,875,) of which the following is a full, clear, and exact description.

This invention relates to railway-switch levers such as used in goods-yards, sidings, and other places where the lever is in local proximity to the switch. The lever-handle usually acts so as to hold the switch-tongue either in a normal position or in one or other of the two positions in which it may be set. In the one case the pointsman, after having raised the weighted lever to set the switch for the branch line or siding, must keep it raised all the time that the train is passing the switch, the continued effort necessary being tedious, especially in the case of a long and slowly-moving goods-train, while any relaxation of the effort will allow the switch to alter its position and by splitting the train cause derailment. In the other case the switch is liable to be left by forgetfulness in the position in which it was last set, so that the next following train will enter the same branch or siding.

The principal object of this invention is to insure that the switch shall be returned automatically to its normal position when released and yet enable it to be more easily retained, while the train is passing, in the position in which it has been set.

The invention also has for its object to provide a form of apparatus which is readily convertible at will, so as either to effect the automatic return of the switch to normal position or cause it to remain in whichever position it may be placed.

The invention will be described with reference to the accompanying drawings, which illustrate these two arrangements of the same apparatus.

Figures 1 and 2 are front and side elevations of the switch-lever and its weighted arm; and Fig. 3 is a detail section on line 3 3, Fig. 1. Fig. 4 is an elevation of the non-automatic arrangement of the same apparatus.

In all the figures the same letters indicate the same parts.

A is the switch-lever, pivoted on a horizontal axis B in a standard C and connected by rod H to the switch, the upper member of the lever A being in the form of a cranked bracket D, provided with two lugs or offsets D' D', in which is mounted the rod E, on which the arm F, carrying the weight G, is pivoted by a fork F', having ears loose on the pin E.

To effect the automatic return of the switch to normal position, the rod E is mounted, as shown in Fig. 1, in the plane of oscillation of the lever A at such an oblique angle to the longitudinal center line *a a* of the lever that when the lever A is in the position shown in that figure the rod E makes an angle with the vertical plane *b b* so much greater than that made by the center line *a a* that when the lever A is thrown over to its extreme position *a' a'* at the other side of the vertical the rod E does not attain a vertical position, but still makes an angle with the vertical in the same direction as before, although smaller.

The operation of throwing over the switch-lever A to the other position for the purpose of setting the switch is performed by swinging the weighted arm F nearly through a semicircle about its axis E, so that the weight G may diagrammatically be represented as occupying the position G' with regard to the lever A, on which it now exerts a moment opposed to that which it previously exerted and whereby it oscillates the lever A to the position indicated by the line *a' a'*, the weight falling to the position G². In practice, however, these movements of the weighted arm and of the switch-lever do not take place separately and the weight is not raised to the position G' because the swinging of the weighted lever F about its axis E and the oscillation of the switch-lever A about its axis B are simultaneous, the weight consequently passing directly from the position G to the position G². The weight when at the position G² is still at a higher level than it was when in the original position G, and consequently the weighted arm will tend to swing back by gravity around the axis E, so as to again exert on lever A a moment of oscillation in the original direction, whereby it returns said lever A directly to its original position. To insure this return movement, it is necessary that the arm F be not swung in

the first instance quite through a semicircle, so as to be on a dead-point when at G^2 . To prevent this, the forked part F' of the arm F has a stop f , which, by abutting against the bracket portion D of the lever A , limits the swinging motion of the arm F , stopping it just before it quite reaches the dead-point. In this position the weighted arm F can with very little effort be prevented from swinging back so long as the switch-lever is required to be held in the position $a' a'$, but will swing back immediately that it is let go, thus automatically returning the switch-lever and switch to the normal position.

15 I is a bolt for locking the lever A in the normal position only.

The lugs or offsets $D' D'$ may each be provided with a second set of holes $d' d'$, in which the pin E may be placed so as to occupy a position in alinement with the lever A if it is not desired that the switch shall be automatically returned to its normal position.

When the axis E is in line with the lever A , as in Fig. 4, the weight G on reaching the position G^2 will still be at the same level and will not tend to return to its original position, and the switch will consequently be retained at the position in which it was last set, so that to return the switch-lever and switch to the normal position the weighted arm F must be swung back by hand.

To adapt the arm F to suit either of the forms of apparatus described, the forked part F' is not quite symmetrical with regard to the arm F , which occupies a mean between perpendiculars to the inclined axis E and to the axis $a a$, so that by reversing the fork upon

the axis E the height of the weight from the ground when in its normal position is about the same whether the axis E be inclined to the lever A , as in Fig. 1, or in line with it, the stop f being brought into operative position in the one case and not in the other, in which it is not required.

I claim—

1. The combination, with a switch-lever pivoted upon a horizontal axis, of a weighted arm pivoted about an axis carried by the lever so as to swing through a nearly-complete semicircle, the axis of the weighted arm being mounted at such an angle that throughout the oscillation of the lever it remains inclined with regard to the vertical, so that the weighted arm after having oscillated the lever from its normal position will always tend to swing back again and to return the lever and switch to the normal position substantially as specified.

2. In a switch-lever combined with a weighted arm pivoted to swing about an axis carried by the lever, for the purpose of oscillating said lever, the bracket portion of the switch-lever constructed so as to admit of the axis being mounted either at an angle to the lever or in line therewith, in combination with a movable axis, and ears on the weighted arm so placed with regard to the arm as to enable the arm to be adapted to either position of the axis by merely reversing the arm, as specified.

GUSTAVE JEAN MARIE VANNESTE.

In presence of—

PIERRE GROS, Fils,
GREGORY PHELAN.