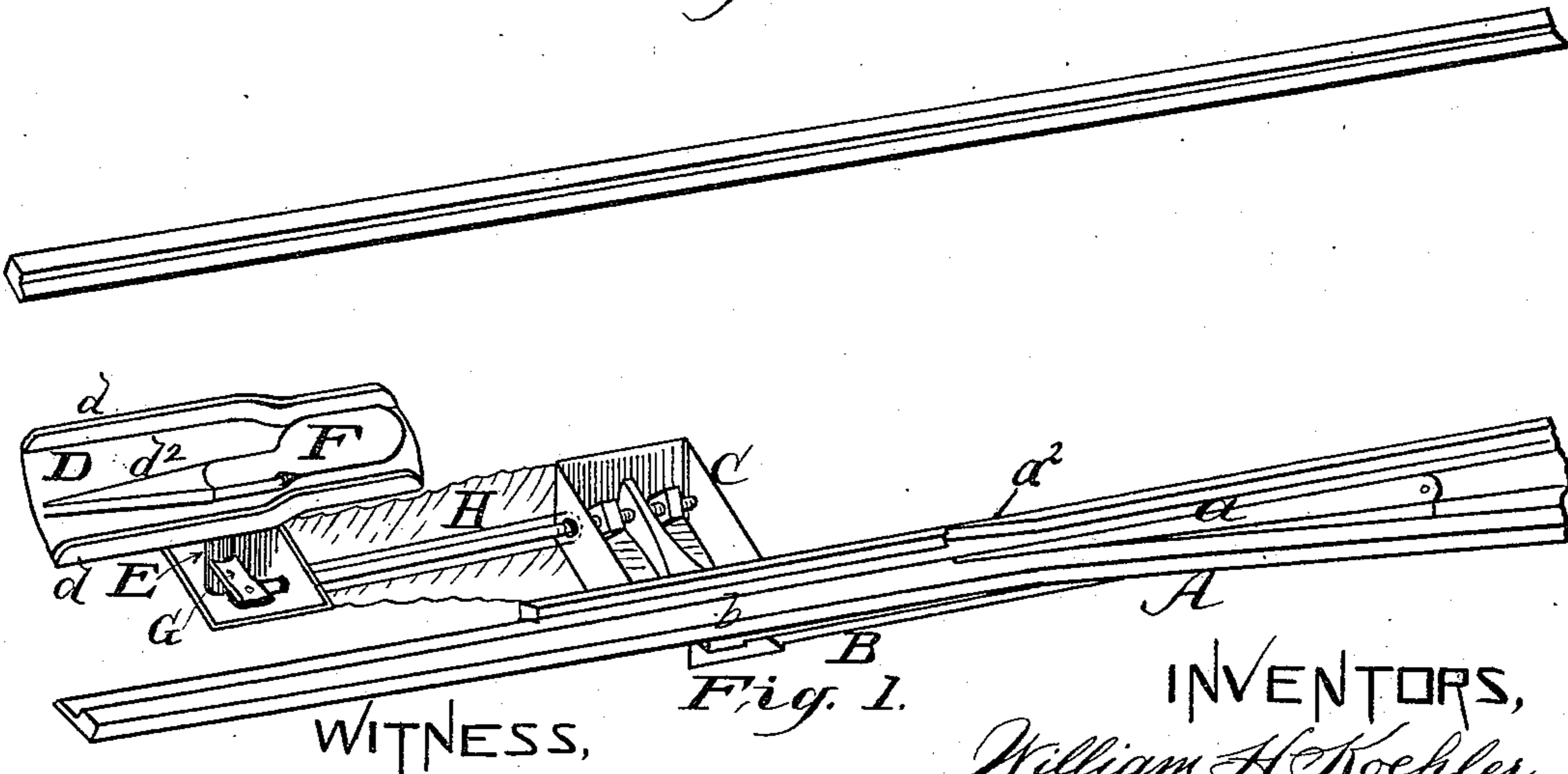
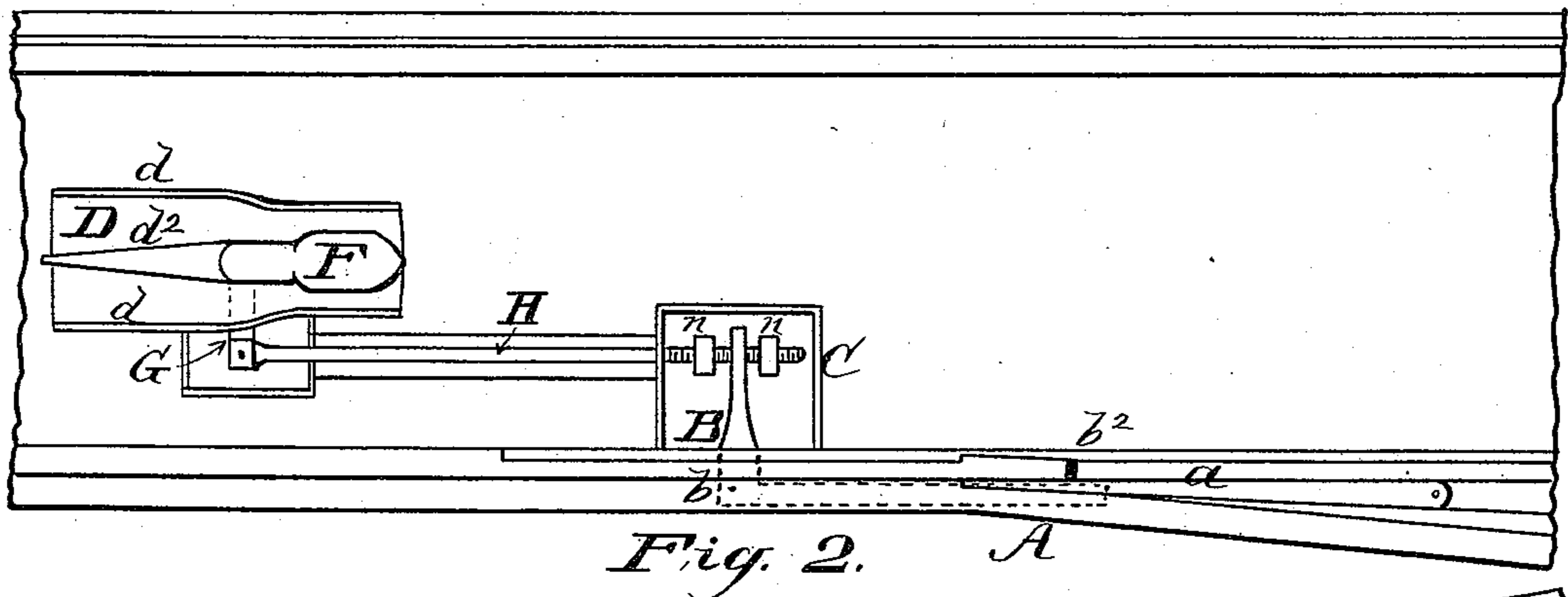
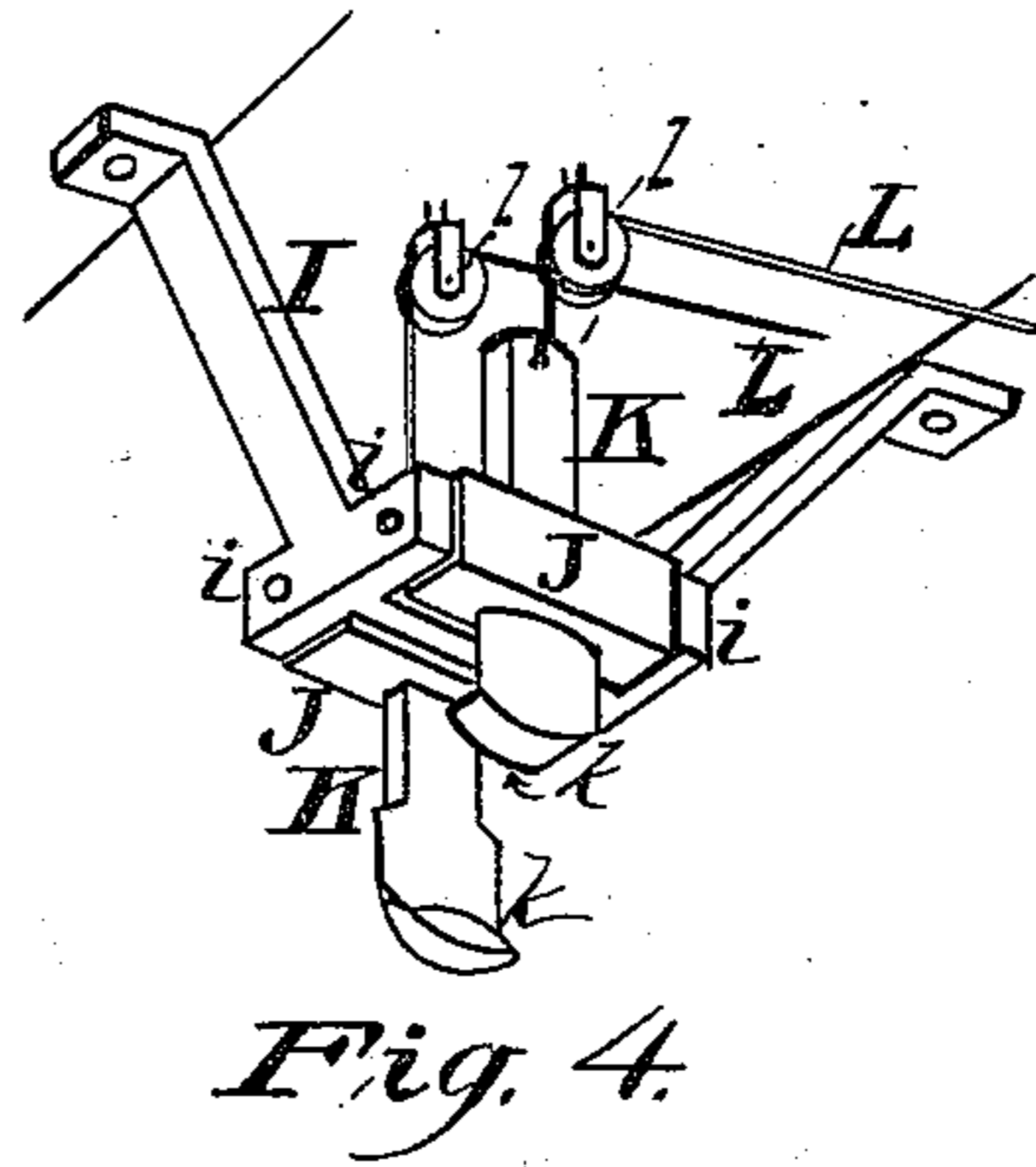
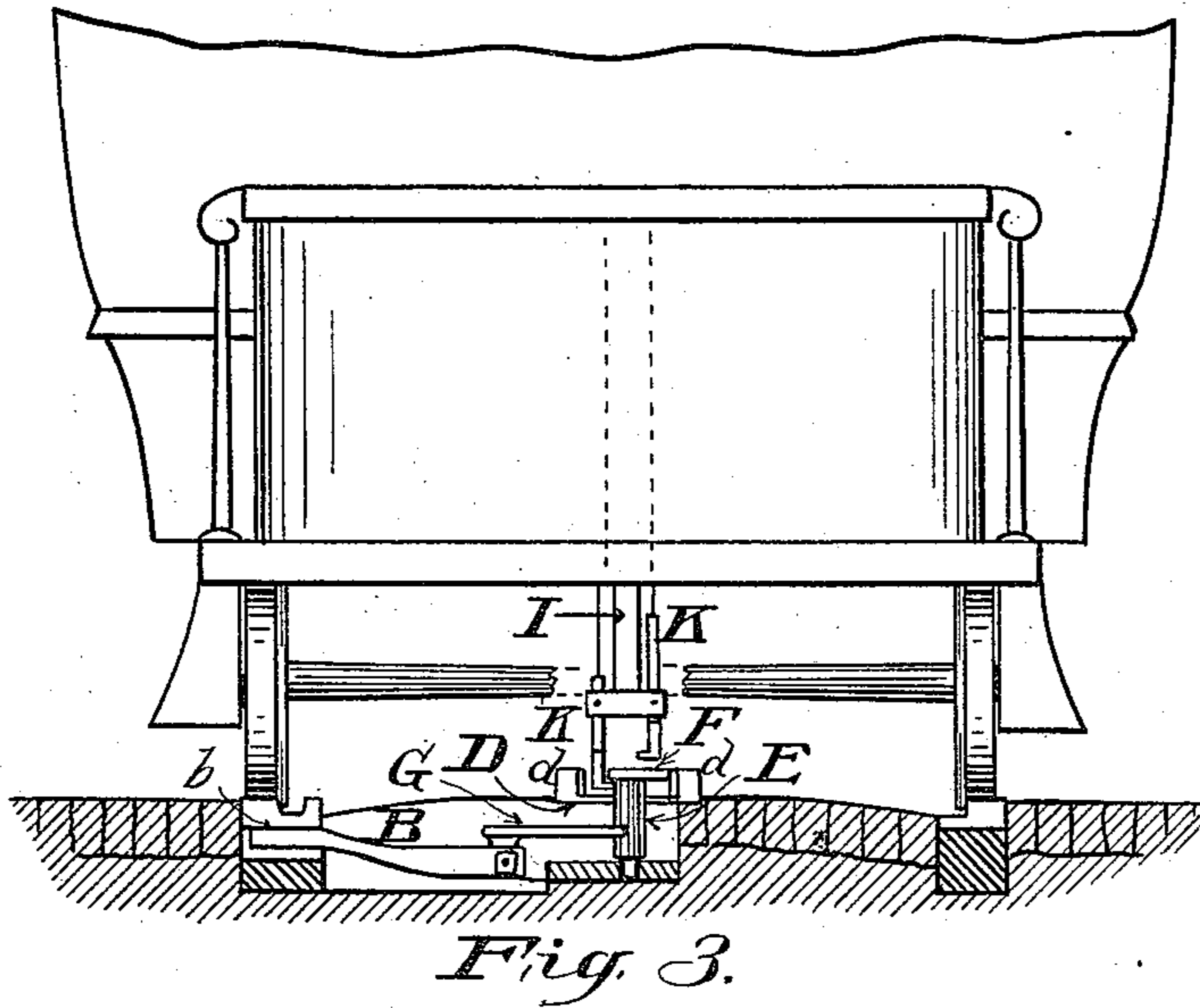


(No Model.)

W. H. KOEHLER & M. ROSKOPH.
STREET RAILWAY SWITCH.

No. 430,188.

Patented June 17, 1890.



WITNESS,
Geo. B. Tibbitts
E. A. Tibbitts

INVENTORS,
William H. Koehler,
Moses Roskoph.
By Attorney Geo. W. Tibbitts

UNITED STATES PATENT OFFICE.

WILLIAM H. KOEHLER AND MOSES ROSKOPH, OF CLEVELAND, OHIO.

STREET-RAILWAY SWITCH.

SPECIFICATION forming part of Letters Patent No. 430,188, dated June 17, 1890.

Application filed August 2, 1889. Serial No. 319,581. (No model.)

To all whom it may concern:

Be it known that we, WILLIAM H. KOEHLER and MOSES ROSKOPH, citizens of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Street-Railway Switches, of which the following is a specification.

This invention relates to switches for use on street-railways, and has for its object to automatically change the switch-point by means of a device suspended beneath the car or motor for actuating a switch-point changing mechanism arranged in the road-bed and in combination with the railway-rails, substantially as hereinafter described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a perspective view of our new switching mechanism as seen in place in the road-bed. Fig. 2 is a plan view of the same. Fig. 3 is an end view of a car standing upon the track in cross-section, showing the device as in operation. Fig. 4 is an under side perspective view of the device attached to under side of car.

A represents a switch-rail having the common switch-point a and guard-rail a^2 .

B is an angle-lever fulcrumed at the angle b to the under side of the rail A, there being made a suitable space under the rail for the movements of the lever. The long arm of said lever is attached by a pin moving in a slot b^2 in the rail with the switch-point a . The short arm of said lever B reaches into a suitable box C, placed in the road-bed by the side of the rail A, and which is provided with a cover for convenience of opening, for obvious reasons.

D is a plate set in the middle of the roadway at any suitable distance forward of the aforesaid box C. At each side of said plate are provided flanges d d , converging at the end nearest the box C, for a purpose hereinafter shown.

d^2 is a pointed bar fixed to middle of the plate D, midway between the flanges d d , and at about the middle part of the plate is provided a short swivel-post E, extending downward through a hole and into a box beneath the plate and having its step in the bottom of said box.

F is a lever attached to the top end of the swivel-post and closely connected with the aforesaid pointed bar d^2 . The moving end of lever F is formed with a slightly raised and widened portion, the side edges of which are beveled off and the ends rounded, as seen in Figs. 1 and 2. To the swivel-post E is attached an arm G at right angles to the said lever F and located in the box below, and to the end of said arm G is attached a connecting-rod H, connecting it with the short arm of lever B in the box C. This end of the connecting-rod passes through a hole in the end of said lever, and is provided with nuts n n for adjusting the rod to the lever.

The device attached to the car for operating this mechanism is described as follows: I is a hanger attached to the under side of a car-body, and may be located between the axles or under the forward platform. The hanger has side arms i i , between which are journaled bars J J, in order that they may have a little oscillating motion to provide for a lateral movement of the bars K K, which they support as said bars pass the point d^2 and flanges d d and prevent any strain upon them by swaying of the car sidewise, and through said bars is made a mortise in which are placed vertically-sliding bars K K, the lower ends of which are widened and the edges beveled off, and upon the ends are made oval lips k k . To the top ends of said bars K K are attached cords L L, passed over pulleys l l , attached to under side of car-body over the bars, and said cords are carried forward and up on the platform in convenient position for the driver to manage.

The working of this mechanism is as follows: As the car approaches the switch the driver lowers the right-hand bar K, if he desires to turn the switch, by loosening the right-hand cord. This puts the bar in position for moving the lever F, which it does by passing along over the plate D, being guided by the pointed bar d^2 and between it and the side flange d . When it reaches the broadened sides of said lever F, it pushes the lever toward the left, thereby turning the swivel-post, and through the medium of the arm G and connecting-rod H moves the lever B, thus throwing the switch-point a over to the right.

As will be seen, the switch-point may be

moved to the right or left, as may be desired, by simply dropping the bar K on the side in which the car is desired to go.

Having described our invention, we claim—

5 1. In combination with plate D, having guide-point d^2 , swivel-post E, having lever F and connections G H B with switch-point a , of the operating device attached to the car, consisting of the vertically-adjustable bars
10 K K, mounted in pivoted blocks J J in the hanger I, and means for operating same from car-platform, substantially as described.

2. The hanger I, having arms $i i$, mortised bars J J, journaled in said arms, and the vertically-playing bars K K, having lips $k k$ and 15 the operating cords and pulleys, in combination, as and for the purpose set forth.

WILLIAM H. KOEHLER.
MOSES ROSKOPH.

Witnesses:

GEO. W. TIBBITTS,
CHAS. G. CANFIELD.