

(No Model.)

J. A. TILDEN.
RAILWAY SWITCH.

No. 371,994.

Patented Oct. 25, 1887.

Fig 1

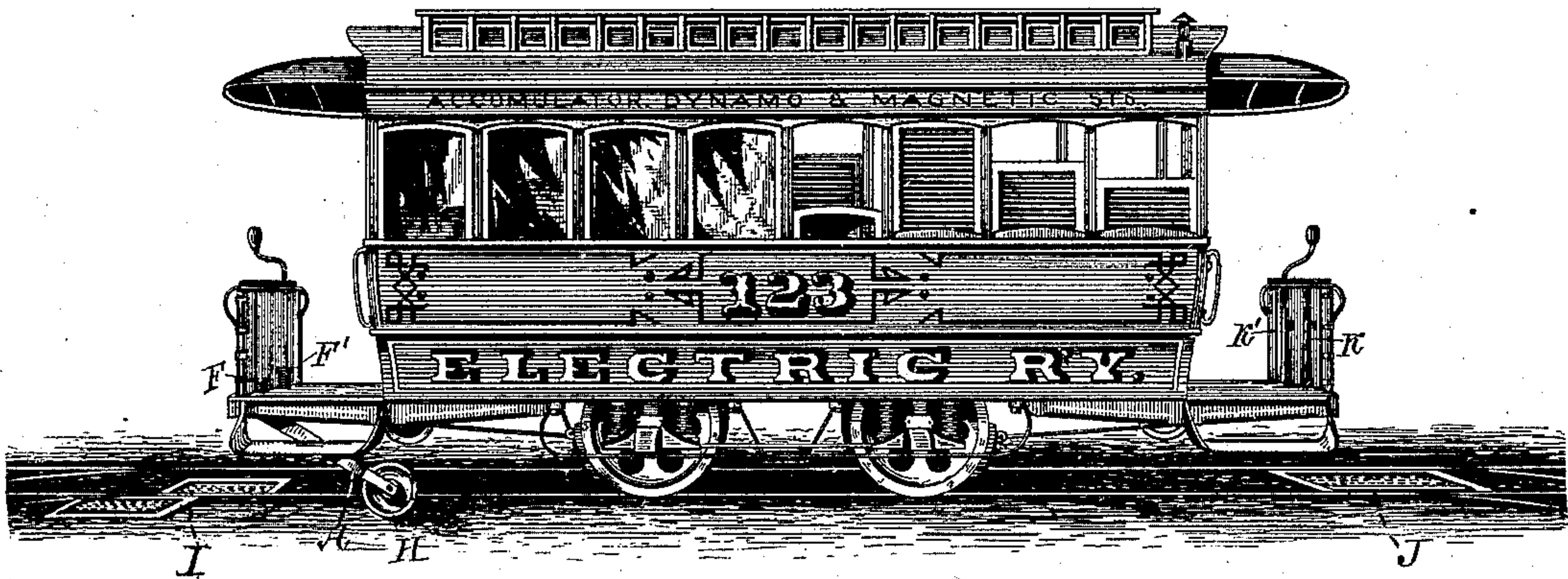


Fig 2

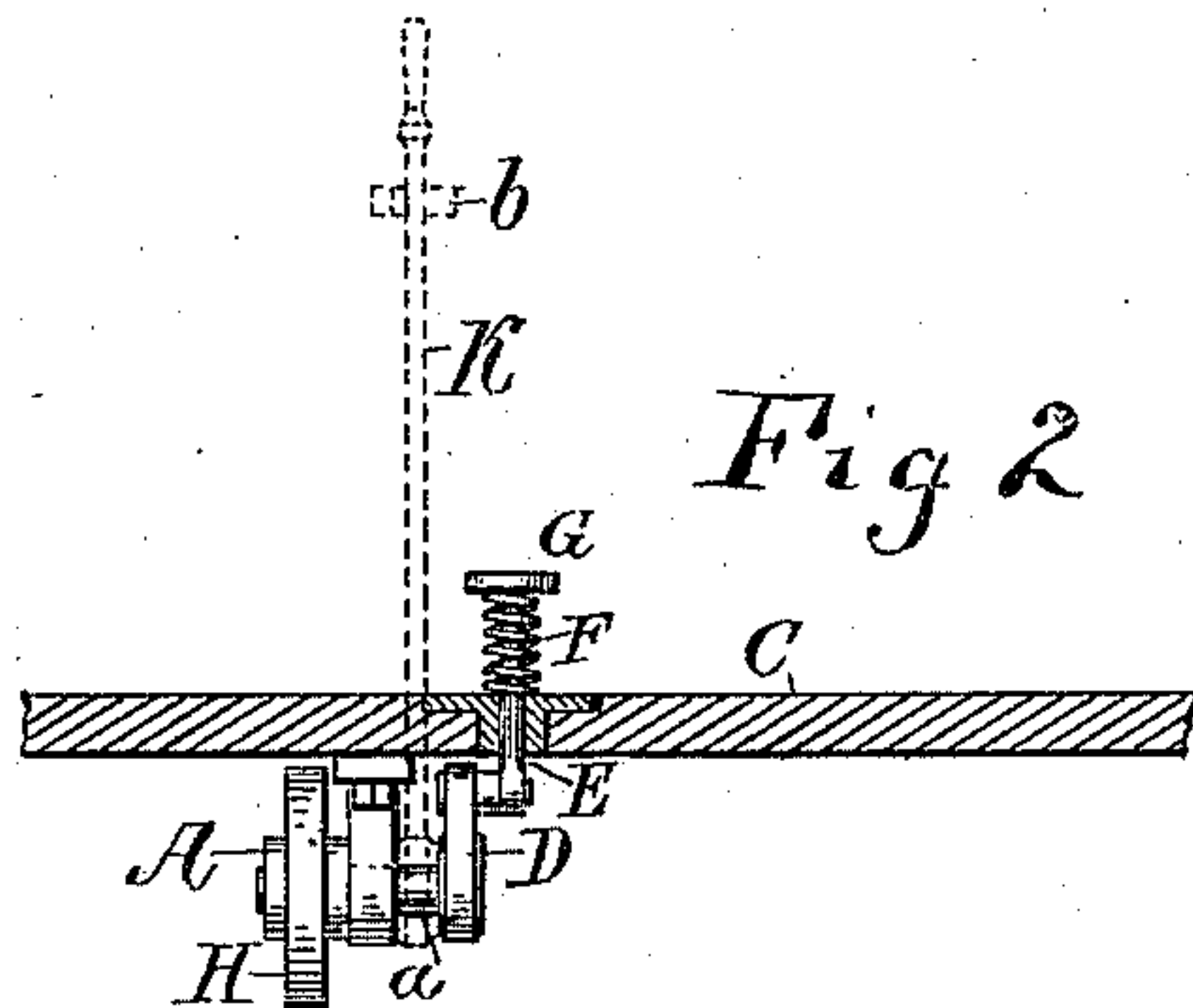
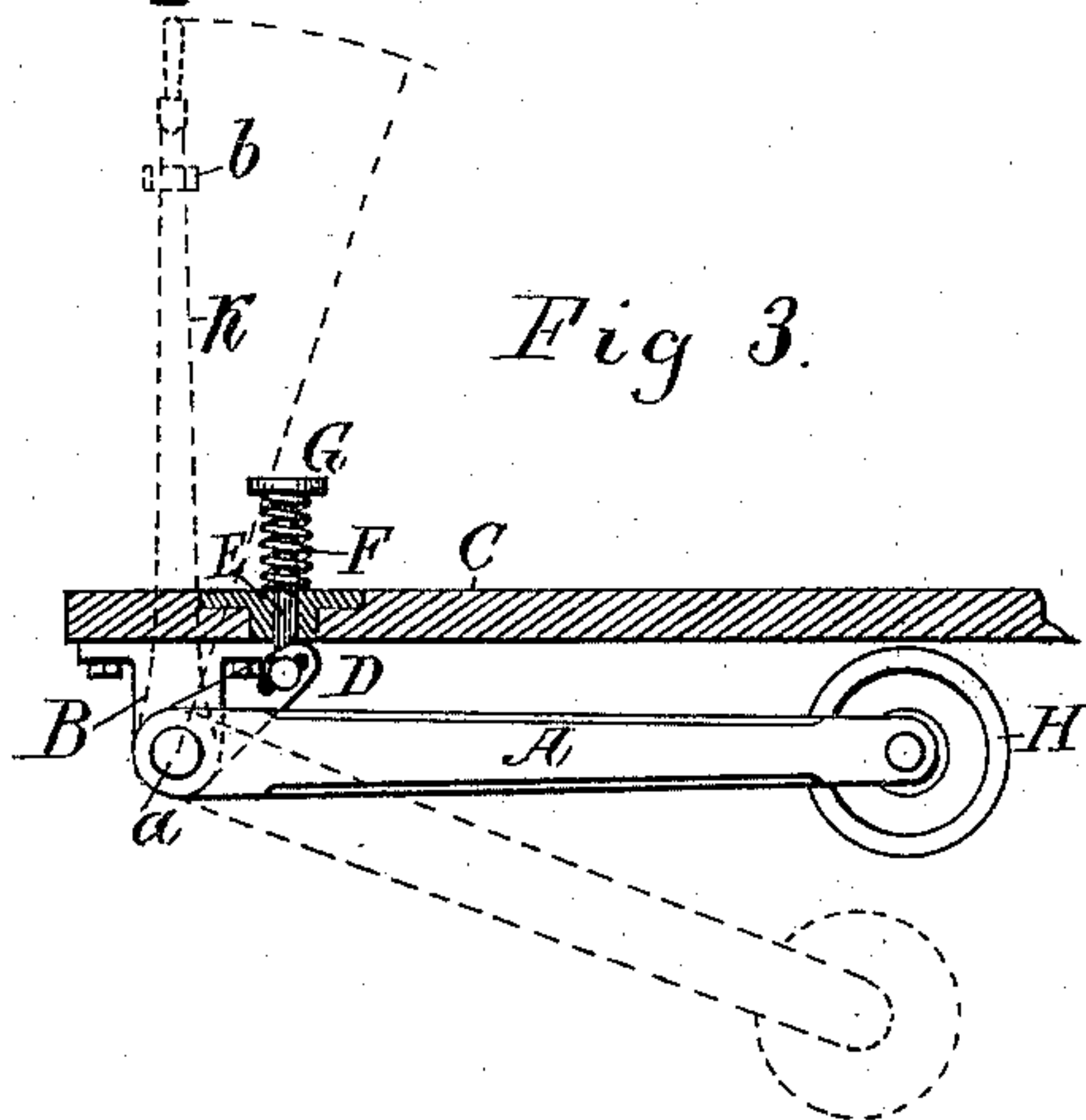


Fig 3.



Witnesses.
Henry B. Winton
Wm. Smith

Inventor.
James A. Tilden

UNITED STATES PATENT OFFICE.

JAMES A. TILDEN, OF HYDE PARK, ASSIGNOR TO HERSEY BROTHERS, OF
SOUTH BOSTON, MASSACHUSETTS.

RAILWAY-SWITCH.

SPECIFICATION forming part of Letters Patent No. 371,994, dated October 25, 1887.

Application filed March 26, 1887. Serial No. 232,621. (No model.)

To all whom it may concern:

Be it known that I, JAMES A. TILDEN, a citizen of the United States, residing at Hyde Park, in the county of Norfolk and State of Massachusetts, have invented a new and useful Improvement in Horse-Railway Switch Apparatus, the nature of which is fully set forth in the following specification and in the drawings accompanying it.

My invention relates to that class of switches for horse-railways known as "table-switches," the same being operated by the weight of a horse—that is, the switch-rail which governs the direction of the car is operated by a tilting table or tables. The weight of the horse treading upon one table, or one portion of a table, operates to move the switch-rail to guide the car upon the main line, while the treading upon the other table, or portion of table, acts to operate the switch-rail in a manner to guide the car upon a branch track.

My invention has for its object the operating of these tables by mechanical means directly from the cars, the purpose being to utilize such switches as may be upon a line of road where horse-power is substituted or being substituted by electrical or mechanical power. For instance, a car may be equipped with an electric accumulator and motor and driven thereby, and when provided with my device it can proceed over the road, making the necessary switches by operating the switch-tables directly from the platform of the car. It will be seen that in this manner such switches, known as "table-switches" or "horse-switches," may be operated by horse-power where such are used upon the cars, or by man-power where any other means of propulsion are used.

By reference to the drawings the nature of my invention will be fully understood.

Figure 1 represents a car containing my improvement. Fig. 2 represents a front view of my device as seen when a section is taken across the car-platform. Fig. 3 represents a side view of the same.

Referring to Fig. 3, A is a lever secured to a journal, *a*, running in a bearing, B, secured to the under side of the car-platform C. Upon the other end of said journal is a lever, D, securely attached thereto. Upon the end of le-

ver D is a shaft, E, projecting through the car-platform and having a spiral spring, F, around it. Upon the end of this shaft is a treadle, G, which acts to confine the spring in such a manner that the lever A is normally held close under the bottom of the car and parallel therewith. Upon the end of lever A is a wheel, H. It will be seen that when the treadle G is depressed the lever A is lowered, so that the wheel H will come in contact with the switch-table and depress it, thereby operating the switch.

These switches are in some cases operated by a single tilting table between the rails, as shown at J, Fig. 1, and also by a pair of tables, as shown at I, one of the tables being on the outside of one of the rails and the other on the inside of the rail, arranged so that the depression of the inside table operates the switch in one direction and depression of the outside table operates the switch in the opposite direction. In the case of the single table between the rails, depressing one side of the table operates the switch in one direction and depressing the other side of the table operates the switch in the opposite way. It will be seen that when this single table-switch is used two of my switch-operating levers—such as shown in Figs. 2 and 3—are placed under the car in such a manner that by the operation of one lever one side of the table is depressed, and operating the other lever depresses the opposite side of the table. Should the tables be arranged in pairs, as shown at I, two switch-operating levers are placed under the car in such relation to the tables that the operation of one lever depresses the outside table and the operation of the other depresses the inside table. Should both forms of tables or switches be used, four of these levers are placed under the car, the two central levers operating the tables inside of the rails and the two outside levers operating the tables outside of the rails.

It will thus be seen that I am enabled by means of my invention to operate these switches by foot-power directly from the platform of the car; but it will be seen that they may be operated by hand-power by the use of a lever, as shown at K, Figs. 1, 2, and 3. This lever is secured to the journal *a*, as seen at K, Figs.

2 and 3. The lever is held against the dash-board of the car by means of a hold, *b*. In this position the lever A is held up against the bottom of the car, as shown in Fig. 3. By drawing the lever K backward the table-operating lever A will be lowered underneath the car to make contact with the tables in the manner described.

I have represented in Fig. 1, upon one end of the car, the foot-power apparatus F, representing one of the pedals depressed, and the lever A in a position to operate the outside table, the other treadle, F', being in its normal condition, the lever A being lifted up under the car. Upon the other end of the car I have represented the hand-power apparatus, the levers being in their normal condition.

Having thus described my preferred method of construction, it will be seen that the same may be departed from in general details and still perform the functions herein described, and such are comprised in my invention.

I am aware that it is not new to operate switches by mechanical means from a moving car, and do not, therefore, claim such, broadly; but,

What I do claim, and desire to secure by Letters Patent, is—

1. The combination, with a horse-railway car, of a lever, A, carrying a wheel, H, said lever being secured to a shaft, *a*, having a bearing in a bracket, B, fastened to the under side of the car-platform C, said shaft having a lever, D, secured thereon and adapted to receive the end of a spindle, E, passing through the car-platform and having a spiral spring, F, around it and confined between the treadle G and platform C in such manner that the operation of said treadle G acts to trail the lever A to make contact with and depress the table or portion of table of a horse-switch, substantially as herein set forth and described.

2. The combination, with a horse-railway car, of a lever, A, carrying a wheel, H, said lever being secured to a shaft, *a*, having a bearing in a bracket, B, fastened to the under side of the car-platform C, said shaft having a lever, D, secured thereon and adapted to receive the end of a spindle, E, passing through said platform, and having a spiral spring around it and confined between the treadle G and platform C in a manner to retain the lever A against the bottom of the car, and arranged in such a manner that the operation of said

treadle G acts to trail the lever A to make contact with and depress the table or portion of table of a horse-switch, substantially as herein set forth and described.

3. The combination, with a horse-railway car, of a lever, A, carrying a wheel, H, said lever being secured to a shaft having a bearing in a bracket, B, fastened to the under side of the car-platform C, said shaft having a lever, K, secured thereto, projecting through the car-platform and held against the dash-board of said car by a hold, *b*, in a manner to retain the lever A against the bottom of the car and in such manner that the backward movement of said lever K acts to operate the lever A, to make contact and depress the table or portion of table of a horse-switch, substantially as herein set forth and described.

4. The combination, with a horse-railway car, of one or more levers, as A, carrying wheels, as H, said levers being secured upon shafts, as *a*, having bearings in brackets, as B, fastened to the platform of the car, said shafts having secured thereto levers, as D, adapted to receive the ends of spindles, as E, projecting through the car-platform and having spiral springs around them confined between the treadles, as G, and the platform C, in a manner to retain said levers, as A, against the bottom of the car, and adapted, when said treadles are operated, to be trailed to make contact with and operate their respective tables or portions of tables, substantially as herein set forth and described.

5. The combination, with a horse-railway car, of one or more levers, as A, having wheels, as H, said levers being secured upon shafts, as *a*, and having bearings in brackets, as B, fastened to the platform of the car, said shafts, as *a*, having secured thereon levers, as K, arranged to project through the platform of the car and held against the dash-board of the car by holds, as *b*, in a manner to retain the levers, as A, against the bottom of the car and in such manner that the backward movement of said levers, as K, acts to trail the levers, as A, to make contact with and operate their respective tables or portions of tables, substantially as herein set forth and described.

JAMES A. TILDEN.

Witnesses:

HENRY O. WINTON,
WM. J. SMITH.