(No Model.)

H. A. MARKS.

GUIDE FOR TROLLEY WHEELS.

No. 427,589. Patented May 13, 1890.

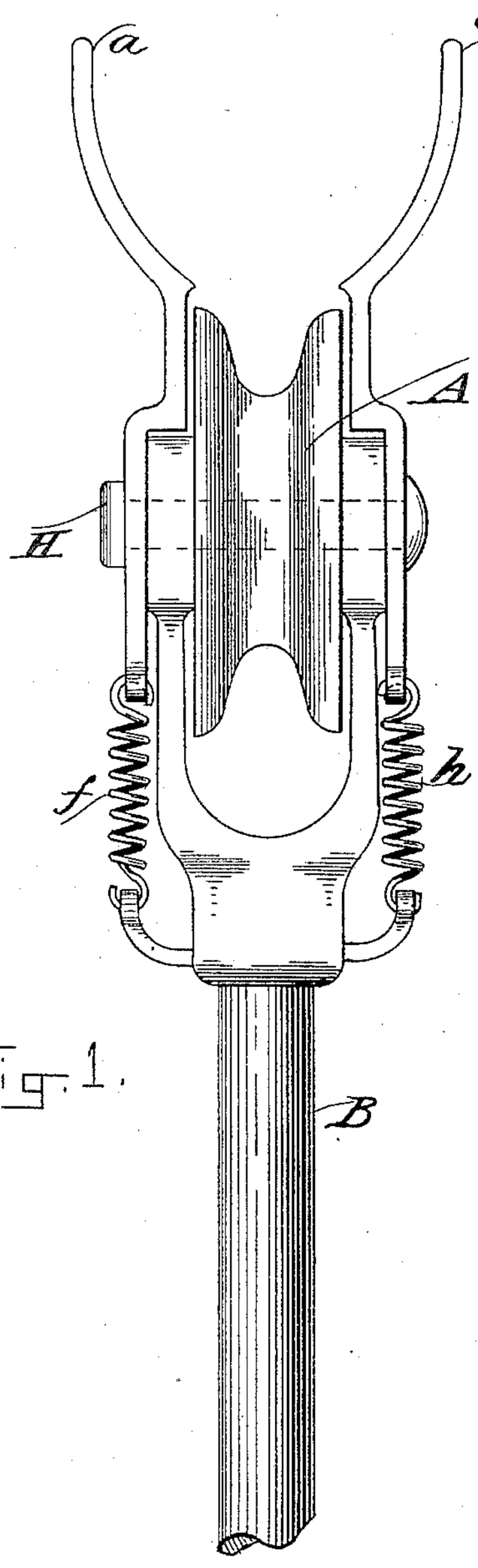

Fig. 1.

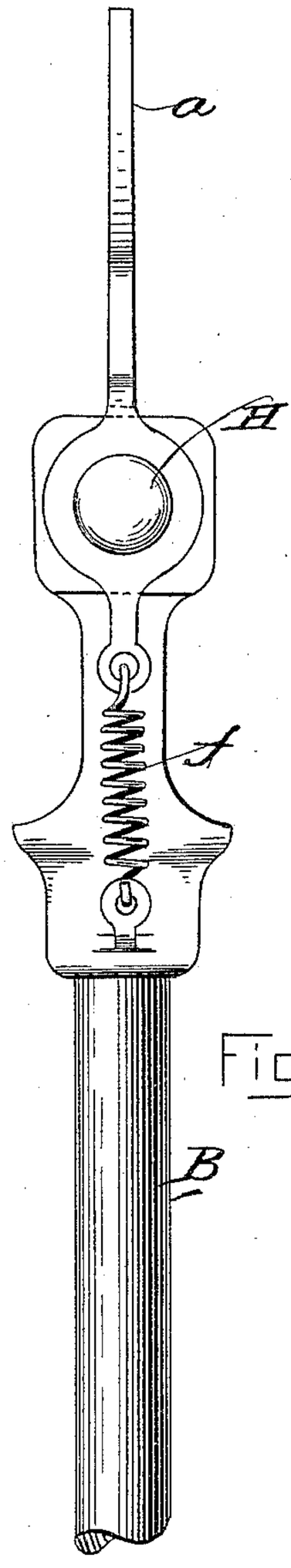

Fig. 2.

WITNESSES:

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UNITED STATES PATENT OFFICE.

HENRY A. MARKS, OF LYNN, MASSACHUSETTS.

GUIDE FOR TROLLEY-WHEELS.

SPECIFICATION forming part of Letters Patent No. 427,589, dated May 13, 1890.

Application filed February 24, 1890. Serial No. 341,466. (No model.)

To all whom it may concern:

Be it known that I, HENRY A. MARKS, of Lynn, in the county of Essex and Commonwealth of Massachusetts, have invented certain Improved Guides for Trolley-Wheels, of which the following, taken in connection with the accompanying drawings, is a specification.

In the existing "overhead system," so called, of electric street-railways the electric current is carried by wire suspended above the railroad-track, and contact is made with said wire for propelling the car. In making said contact a wheel supported in a movable arm is employed. The arm being mounted upon and carried by the car, bears upwardly the trolley-wheel, holding it with yielding pressure against the suspended circuit-wire. The trolley-wheel is grooved or flanged to receive the circuit-wire and retain its contact therewith.

In practice it is found that the trolley-wheel quite readily escapes from the circuit-wire, particularly where sharp curves exist, by reason of the fact that it is not practicable to employ very extended flanges on the trolley-wheel.

It is the purpose of this invention to provide means that will retain and guide the trolley-wheel to contact with the circuit-wire under all circumstances.

In the accompanying drawings, Figure 1 is a front elevation of a mechanism embodying my invention. Fig. 2 is a side elevation of the same.

In carrying out my invention I employ a trolley-wheel A of the usual construction, which is supported in and upheld by a supporting-arm B, also constructed and supported in the usual and customary manner. In combination with said wheel and its supporting mechanism I employ a guide, which, as represented in the present instance, is composed of two independently-movable members *a e*. Said members are duplicates of each other, and are mounted to turn freely on the journal H, which in the present instance is also the journal of the trolley-wheel A. Said members extend downwardly and connect with springs *f h*, arranged as shown, whereby the members are respectively maintained in position, substantially as represented in the accompanying drawings. The said members are further extended upwardly and outwardly from the flanges of the trolley-wheel A, and thus form on opposite sides of the trolley-wheel projections, which extend any desirable distance above the circuit-wire, and which operate to engage the circuit-wire whenever the trolley-wheel escapes therefrom, and by this engagement to guide the trolley-wheel back to contact with the circuit-wire. To this end the said members have their inner or contact faces formed substantially as shown in Fig. 1, continuing, practically speaking, the trolley-wheel flanges.

In operation the circuit-wire is allowed to travel in the groove between the flanges of the trolley-wheel in the usual and customary manner, the members *a e* of the trolley-guide being extended normally upward on opposite sides of the circuit-wire to any desired distance. If the trolley-wheel departs from the circuit-wire for any reason, the circuit-wire lifting bears upon the inner face of the guide, and as the upward pressure of the trolley-wheel mechanism next operates to lift the trolley-wheel it is guided to the circuit-wire by the inner face or faces of the guide members.

In case the guide members come in contact with obstructions—such as cross-wires suspended over the main circuit-wire or other obstructions—the springs *f h* yield and allow the members to turn on their respective journals and thus pass under any obstructions, after which passage the members are returned to their normal position by the springs *f h*. It will be observed that the said members are pivoted independently, so as to yield and pass under obstructions independently. Instead of the springs *f h* other mechanisms may be employed—such as springs coiled about the journal H—or other obvious arrangements of mechanism may be employed to yieldingly support the members *a e* without departing from the spirit of my invention.

I claim as new and desire to secure by Letters Patent—

1. In combination with a trolley and its support, a movable guide extending outwardly beyond the flanges of the trolley, and yield-

ing means for holding the guide in normal position, substantially as described.

2. In combination with a trolley and its support, oscillating guide-arms, and means for returning said arms to normal position, substantially as described.

3. In combination with a trolley and its support, oscillating guide-arms, and the springs for returning the same to normal position, substantially as described.

Signed at Lynn, Massachusetts, this 29th day of January, A. D. 1890.

HENRY A. MARKS.

Witnesses:

C. B. TUTTLE,

WALTER HAWKES.