

(No Model.)

C. H. THOMPSON.
TROLLEY WIRE CLEANER.

No. 507,247.

Patented Oct. 24, 1893.

Fig. 1.

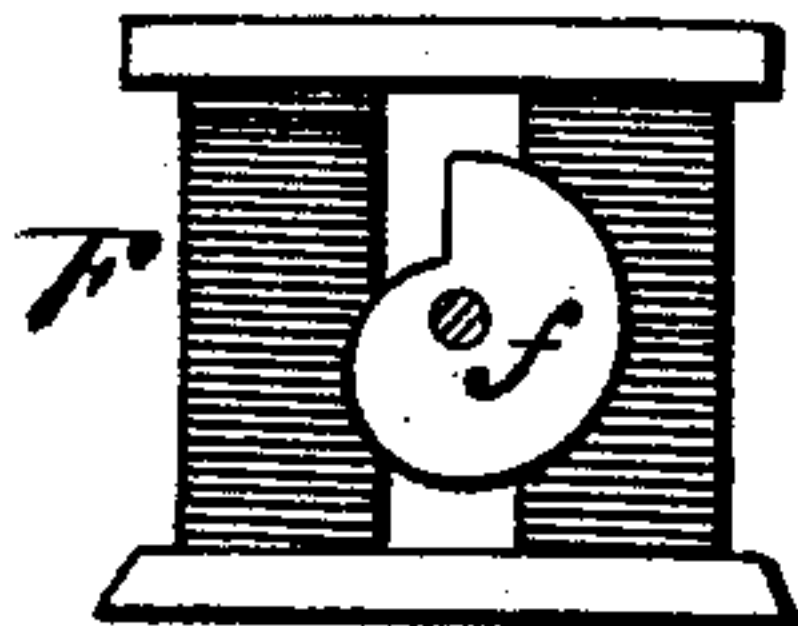
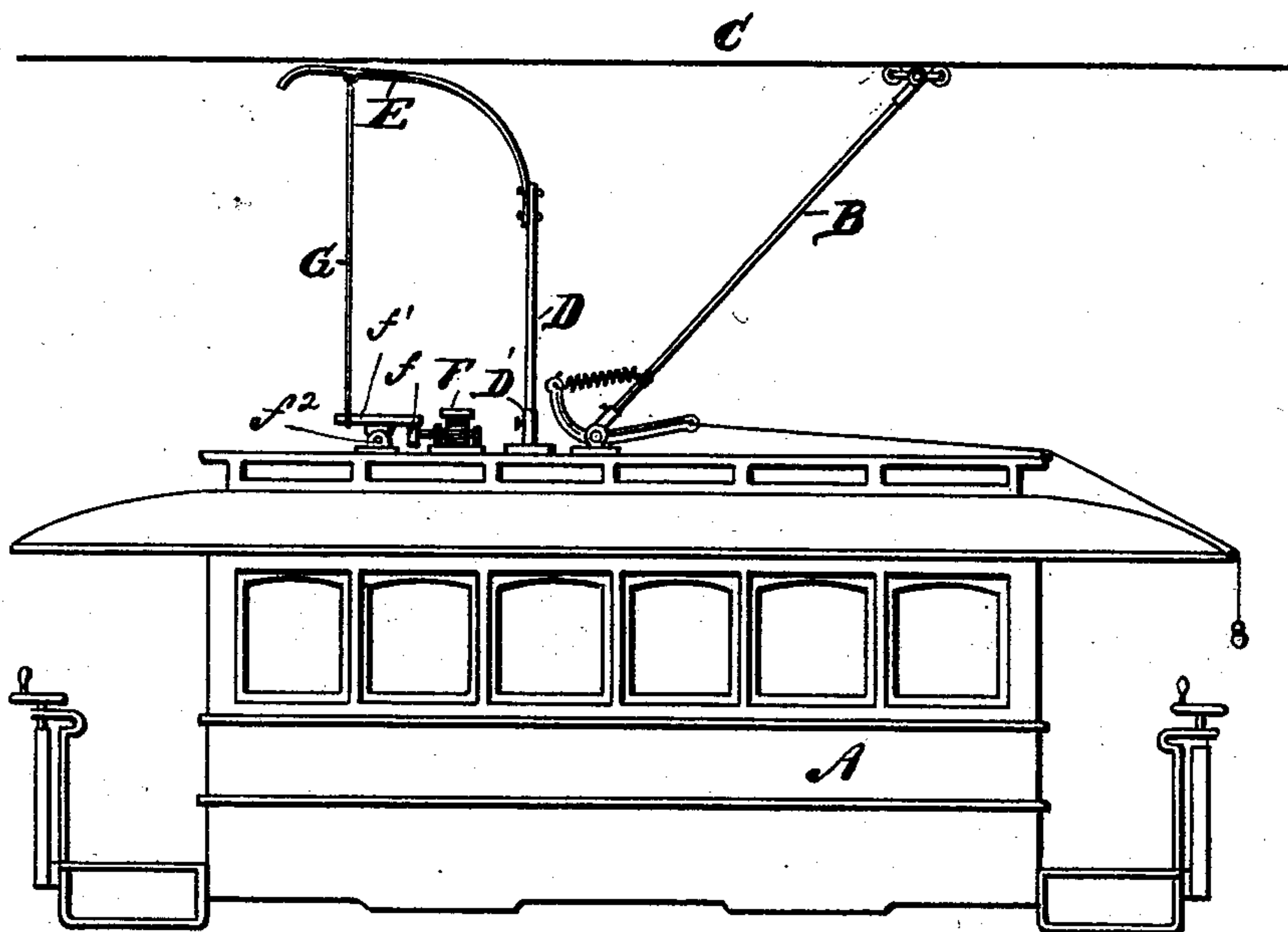
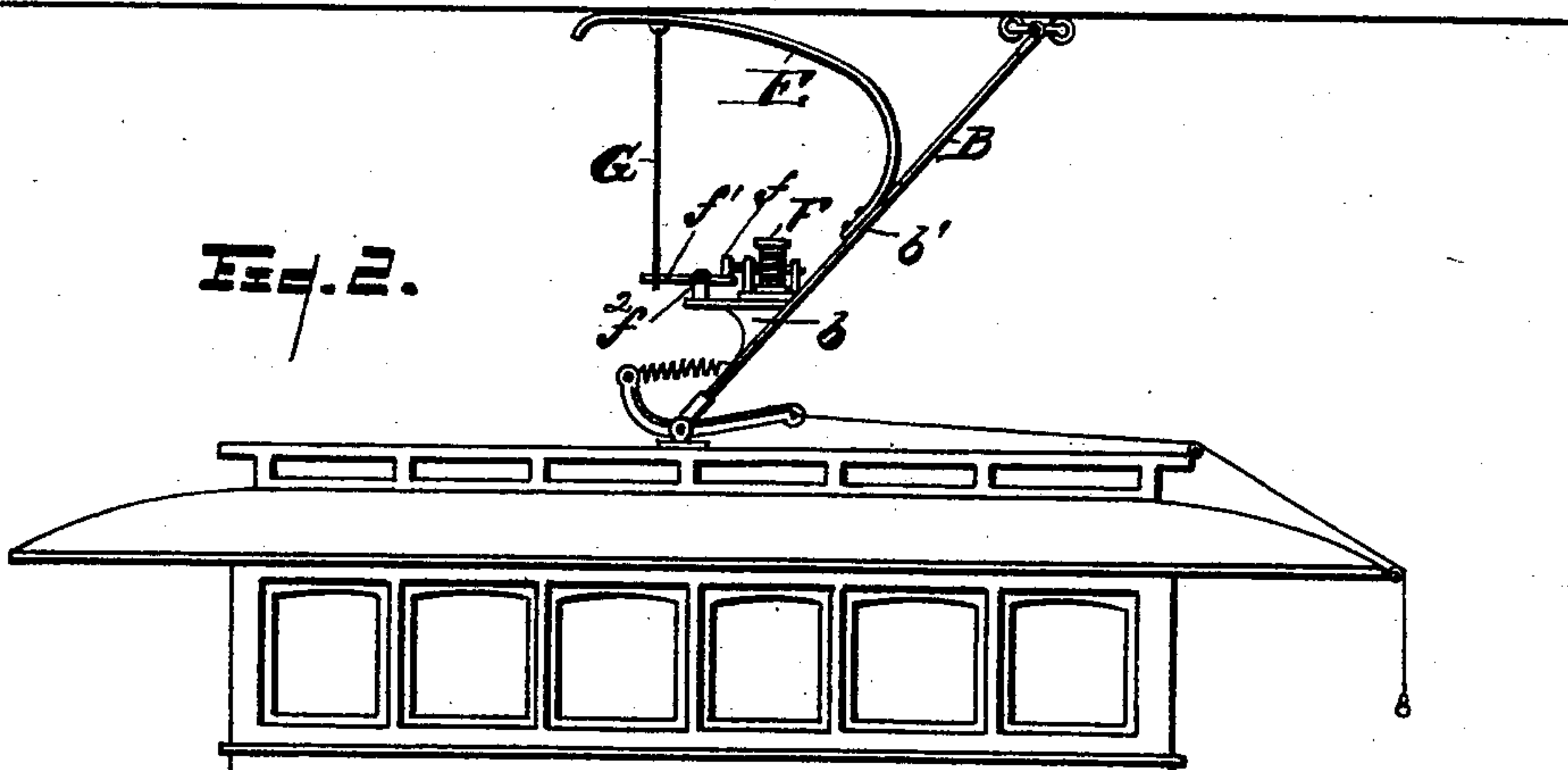


Fig. 3.

Fig. 2.



WITNESSES

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CHARLES H. THOMPSON, OF DETROIT, MICHIGAN, ASSIGNOR OF ONE-HALF
TO GEORGE A. SHELEY, OF SAME PLACE.

TROLLEY-WIRE CLEANER.

SPECIFICATION forming part of Letters Patent No. 507,247, dated October 21, 1893.

Application filed December 19, 1892. Serial No. 455,557. (No model.)

To all whom it may concern:

Be it known that I, CHARLES H. THOMPSON, a citizen of the United States, residing at Detroit, county of Wayne, State of Michigan, have invented a certain new and useful Improvement in Trolley-Wire Cleaners; and I declare the following to be a full, clear, and exact description of the invention, such as it pertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

My invention relates to trolley cars, or cars adapted to be driven by overhead wires by electricity, and consists in an attachment thereto to be driven by suitable means whereby a continuous vibration is imparted by rapid and constant strokes to the trolley wire for the purpose of detaching ice which may be formed thereon in freezing weather during the fall of rain or sleet. Heretofore, great trouble has been found in the operation of such cars, due to the fact that in the colder portions of the country ice would form upon the wires and seriously interrupt the current by destroying perfect contact of the trolley with the wire. This invention is intended to obviate that difficulty.

In the drawings, Figures 1 and 2 represent two forms, both, however, operating on the same principle.

In the drawings, A represents the body of the car operated by an overhead wire C, forming an electric conduit, and by means of the trolley arm and trolley B. The mechanism of the trolley itself and of the trolley arm it is not necessary to describe, as it constitutes no part of the invention, is of the usual form, and is merely illustrative.

In Fig. 1, upon the top of the car, I erect the standard D, carrying a spring arm E; the outer end of the spring arm is controlled by a connecting rod G. The arm E runs in close proximity to the wire C. An electric motor F is suitably mounted upon the top of the car, or under cover not shown. This motor is of the usual form, carrying a driving shaft, and needs no description of its details. Upon the driving shaft is mounted a cam f . This is enlarged and shown more particularly in

Fig. 3. Mounted upon a bearing f^2 is a rocking arm f' ; one end of this arm is in close contact with the cam at all times. To the opposite end is connected the connecting rod G. The spring arm E is put under tension by the adjustment of the parts in such manner that there is a continued strain upward through the rod G upon that end of the rocking arm f' , causing the opposite end to continually bear down or keep in contact with the cam f . It is obvious that by operating the motor F, and rotating the cam, motion will be communicated through the rocking arm f' to the spring arm E by means of its tension, the parts being so adjusted that the spring arm E at the extreme limit of its motion will come in contact with the wire C, when the repeated blows will break and detach any covering of sleet or ice that may be formed upon the wire C. As shown in Figs. 1 and 2, this arrangement is in advance of the trolley arm, so that the trolley following thereafter would be continually in contact with the bare wire.

In Fig. 2, which illustrates a modification of the construction, but not of the principle, the whole apparatus is mounted upon the trolley arm B itself, the spring arm E being attached thereto at b' . The motor F and rocking arm F' are attached thereto also by means of the bracket b . By means of being attached to the trolley arm, the apparatus operates with the motion of the trolley arm, is detached from the wire simultaneously with it on drawing it down, and also rises and falls with it at any point, due to the sagging of the wire.

I do not desire to limit myself to either form, as each involves a principle of my invention.

The mode of operation is obvious from the description.

What I claim is—

1. The combination of a trolley wire, a spring arm carried by an electrically driven car, an electric motor receiving its electricity from the trolley wire through a trolley arm, and means connecting said spring arm and motor, adapted to operate the spring arm to repeatedly strike the trolley wire, substantially as described.

2. The combination of a trolley wire, trolley pole and spring arm, an auxiliary electric motor taking electric current through the trolley, and a cam and lever operated by the motor
5 and connected to the spring arm for oscillating the spring arm in contact with the trolley wire, substantially as described.

3. The combination of an electrically driven car, a standard, a spring arm carried thereby,
10 an overhead trolley wire, means connecting the trolley wire with the car, an auxiliary electric motor taking electricity from the trolley wire, a cam driven thereby, means connected therewith adapted to operate and os-

cillate the spring arm against the trolley wire, 15 substantially as described.

4. The combination of the car A, the wire C, the trolley arm B, spring arm E, the motor F, and means whereby the motor is adapted to operate the spring arm E, substantially as 20 described.

In testimony whereof I sign this specification in the presence of two witnesses.

CHARLES H. THOMPSON.

Witnesses:

CHARLES F. BURTON,
MARION A. REEVE.