

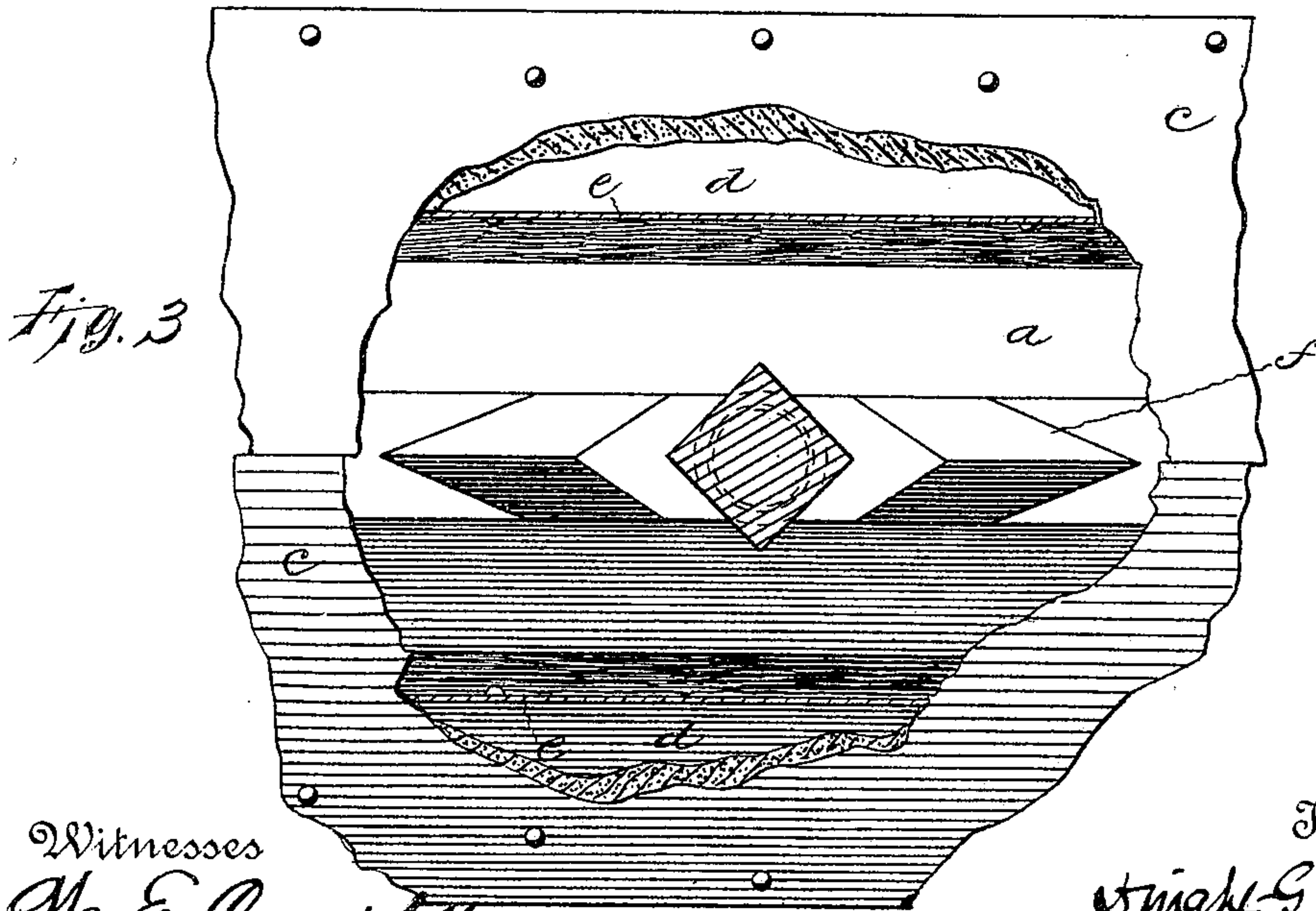
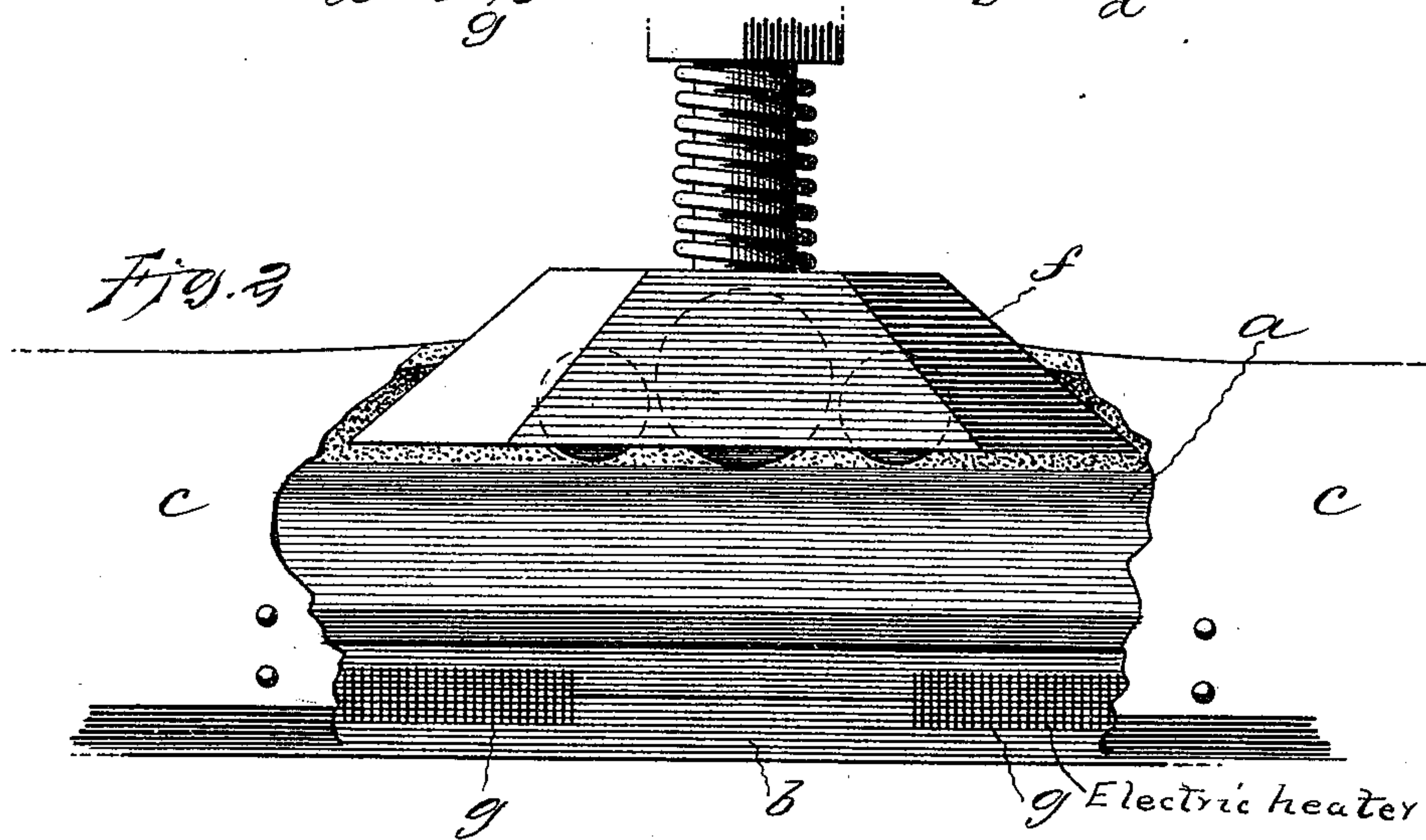
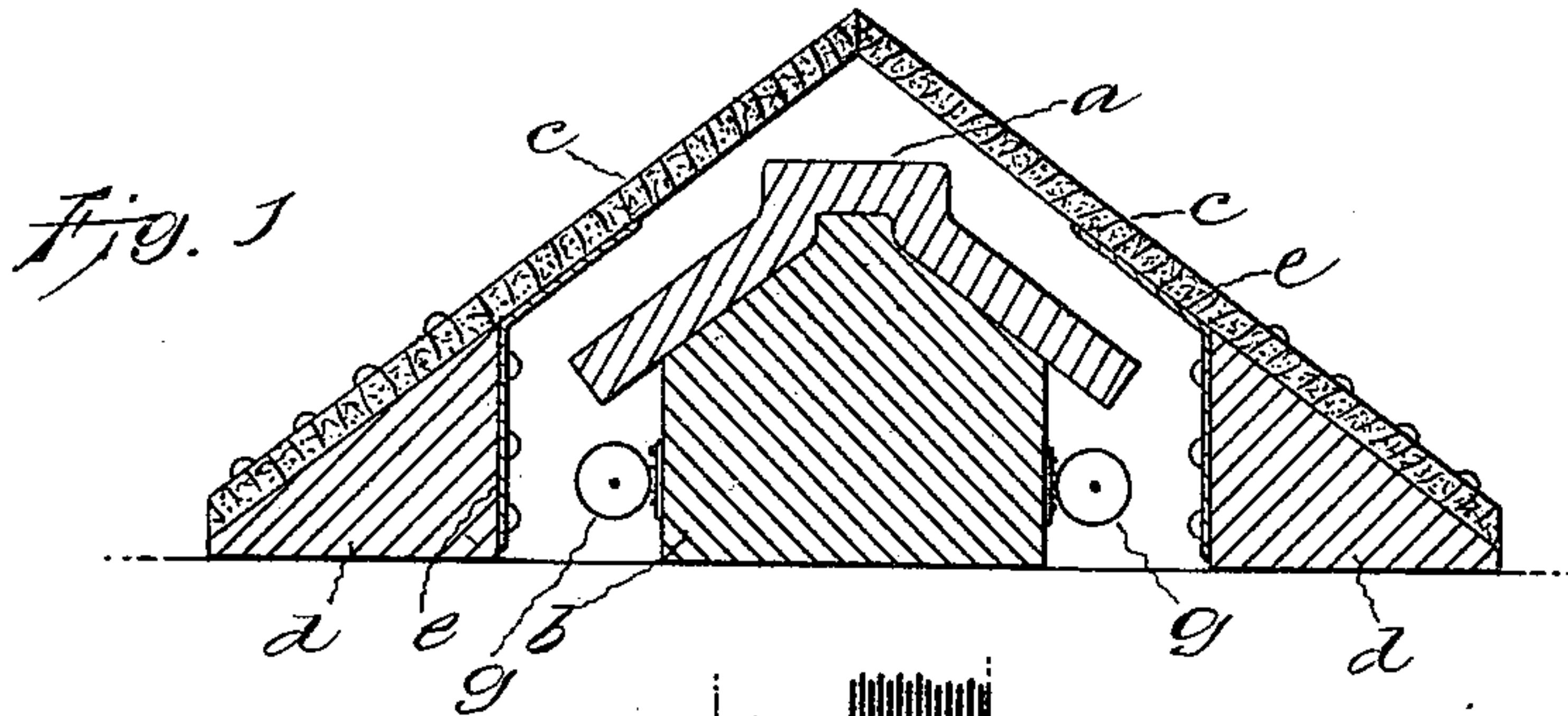
No. 624,125.

Patented May 2, 1899.

D. G. STOUGHTON.
ELECTRIC LINE CONDUCTOR.

(Application filed July 20, 1897.)

(No Model.)



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ELECTRIC LINE CONDUCTOR.

SPECIFICATION forming part of Letters Patent No. 624,125, dated May 2, 1899.

Application filed July 20, 1897. Serial No. 645,202. (No model.)

To all whom it may concern:

Be it known that I, DWIGHT G. STOUGHTON, a citizen of the United States of America, residing at Hartford, in the county of Hartford and State of Connecticut, have invented a certain new and useful Improvement in Line Conductors for Electrically-Propelled Conveyances, of which the following is a description, reference being had to the accompanying drawings, wherein—

Figure 1 is a view in vertical cross-section of the electric line conductor, the automatically-closing covering-leaves, and the electrical heaters. Fig. 2 is a side view of the electric line conductor, the automatically-closing covering-leaves, the traveling contact-piece, and the electrical heaters with certain parts represented as broken away to show the parts behind them. Fig. 3 is a plan view of the electrical line conductor with the covering-leaves partly broken away to show the traveling contact-piece in position on the conductor-bar.

The improvement pertains to an electric line conductor situated underneath an electrically-propelled car.

In the accompanying drawings the letter *a* denotes the electric line conductor—that is, the main conductor of the electric energy. It is practically made in lengthwise sections with sloping sides, the sections being duly connected to each other and supported upon a suitable insulating-base *b*.

The letters *c* denote non-conductive flexible leaves covering the electric line-conductor, made of a material the nature of which it is to tend to return to the normal position when forced out of that position (as by the passage between them of the contact piece or shoe) and entirely cover the conductor. India-rubber or rubber composition well fulfils these requirements. These covering-leaves are duly supported by the supports *d* and the angle-irons *e*. They converge—that is, slope toward each other—so that they may shed rain and the like, and it is preferred that they meet and touch at a line centrally over the middle of the rail *a*, but above the same, so as to keep the latter continually covered except when in actual use.

The letter *f* denotes the traveling contact-piece carried by the car, which travels upon

two rails after the ordinary fashion, the electric line conductor *a* being a so-called “third rail,” situated, preferably, midway between the two ordinary rails. It is the function of this contact-piece to take electric energy from the third rail and transmit it to the motor carried upon the car. Ordinarily and preferably the traveling contact-piece *f* is supported from one of the trucks of the car.

The covering-leaves are in lengthwise sections placed end to end. The ends of the traveling contact-piece are beveled or sharpened to a degree that they may force the meeting edges of the covering-leaves apart as the contact-piece moves along the third rail, it being designed that these covering-leaves shall close together by their own inherent quality as soon as the traveling contact-piece passes and permits that to be done—that is, they are automatically-operating covering-leaves. It is one special purpose and function of these covering-leaves to so seclude and cover the electric line conductor as to prevent injury to man and beast by accidental contact with the electric line conductor, which necessarily carries an electric current dangerous to life. It is another purpose and function of these covering-leaves to constitute the top of a closed conduit for the electric line conductor, so as to confine in contact with the latter, and especially with the active face thereof, practically all the heat generated within the conduit for the purpose of melting snow and ice which might gather upon the parts and interfere with their practical working, and these purposes are attained to a more or less complete and perfect degree whether the entire device rests upon the ground or is located within the chamber of a slot-rail, as now generally employed in connection with the underground-trolley systems.

The letter *g* denotes electrically-operating heaters within the conduit and distributed along the length of the electric line conductor, a number in a single circuit. Practically it is preferred that they be supported upon the insulating-base *b*, upon either or both sides thereof. These electric heaters are to be energized by a suitable source of electric energy, (not shown,) and it is evident that the warmth therefrom will gently heat the base *b* and conductor *a* with a tendency to melt the

snow or ice within the conduit, and the rising heat will be caught by the covering-leaves *c* and retained within the conduit for the same purpose, escaping only to a trifling degree at the moment of passage of the contact piece or shoe. By reason of the peculiar shape of parts the melted snow and ice on the exterior runs down the leaves and is shed aside of and away from the conduit, while that within the conduit upon the conductor runs off the latter, drops past the heaters *g*, falls into the channels or gutters usually provided, and is conveyed away to the nearest sink leading to the sewer. Thus the presence of occasional heaters within a normally-closed conduit is sufficient to keep the entire length of the same free from snow and ice, which might seriously interfere with traffic.

I claim as my improvement—

1. The combination with an electric conductor having a laterally-sloping active face, an insulating-base on which said conductor is supported, electric heaters attached to the sides of such base, and means for generating heat therein; of a conduit surrounding the conductor, base, and heaters and having its covering-leaves standing in contact above the active face of the conductor and inclined upwardly from the sides to such point of contact, thereby normally closing the conduit for confining the heat therein, as and for the purpose set forth.

2. The combination with an electric conductor, an insulated supporting-base therefor, and electric heaters carried by the base; of supports at the sides of the base, and flexible covering-leaves secured along their outer edges on said supports, inclining thence inwardly and upwardly, and having their free inner edges in contact on a line above the center of said conductor, for normally closing the conduit and confining the heat therein, as and for the purpose set forth.

3. The combination with an insulated base, electric heaters carried thereby, and a laterally-sloping electric conductor mounted on said base; of supports at the sides of and remote from said base, flexible covering-leaves secured along their outer edges to the upper faces of such supports, inclining thence inwardly and upwardly, and having their free inner edges in contact above the conductor, for normally closing the conduit and confining the heat therein, and angle-irons whose lower arms are attached to the inner faces of said supports and whose upper arms are secured beneath said leaves but terminate short of the inner edges of the latter, all as and for the purpose set forth.

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Witnesses:

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