

H. W. SMITH.
TROLLEY WHEEL.

(Application filed Mar. 6, 1901.)

(No Model.)

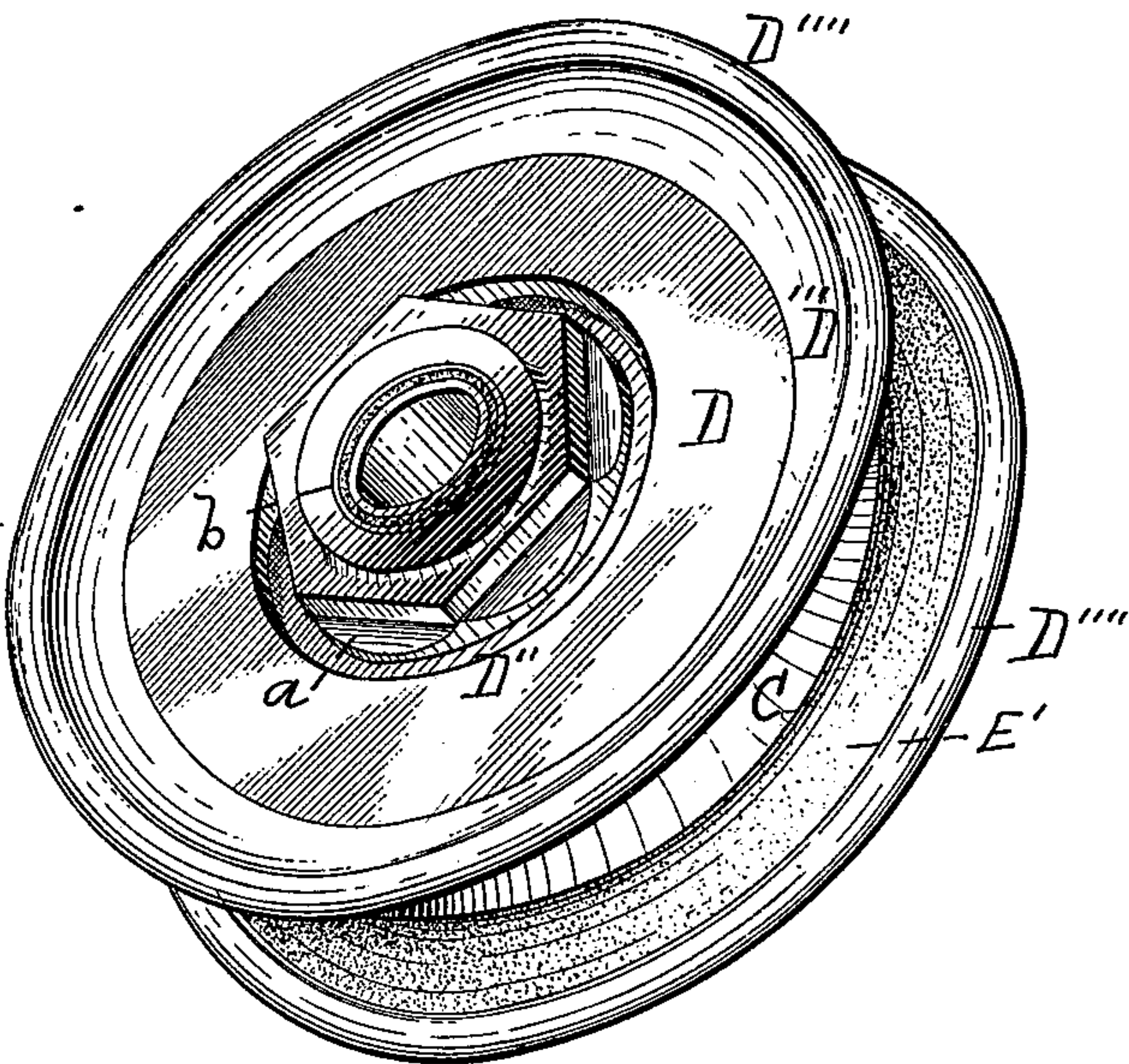


Fig. 1.

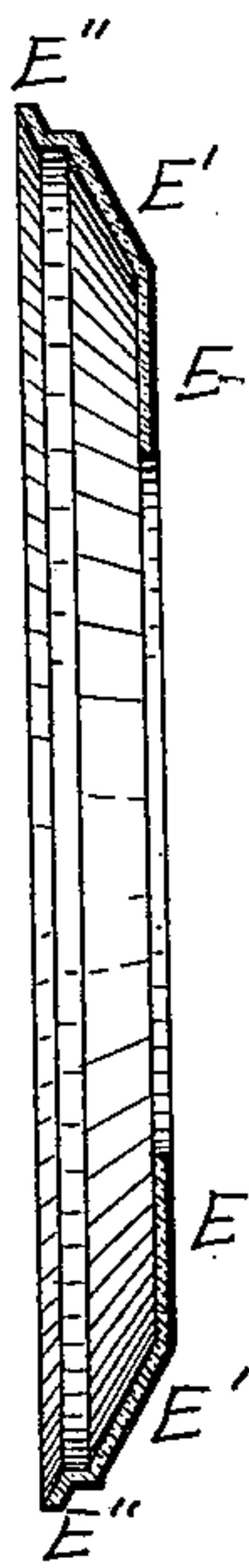


Fig. 3.

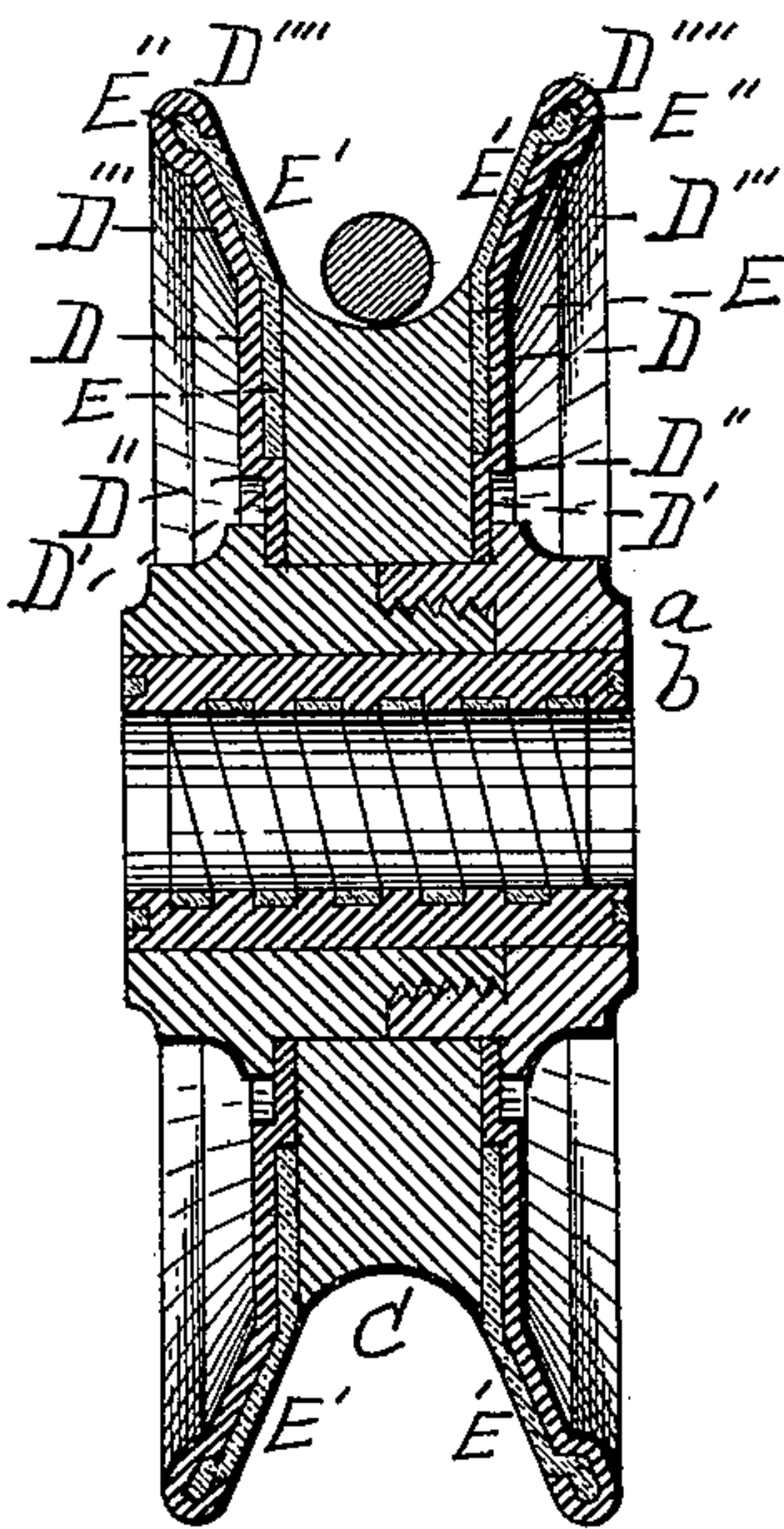


Fig. 2.

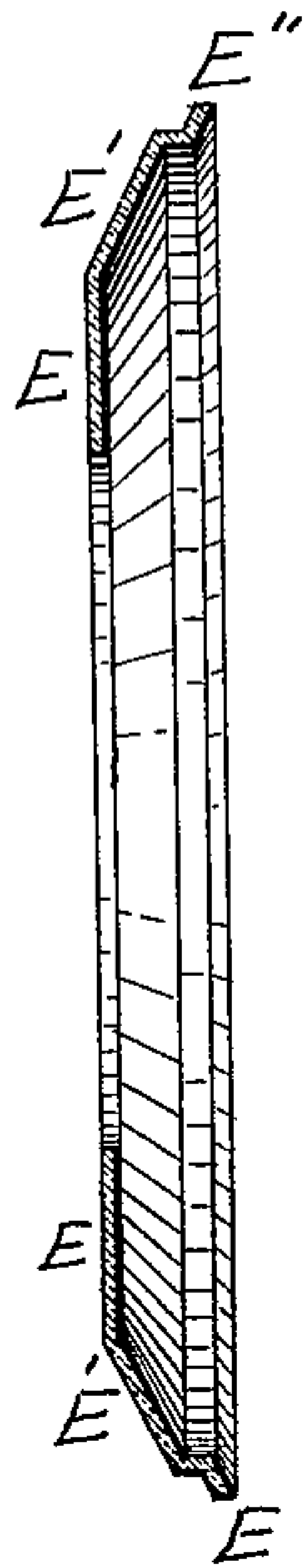


Fig. 4.

WITNESSES:

A. N. Bonney.
E. O. Small

INVENTOR:

Herbert W. Smith,
By his Atty.
Sperry Williams

UNITED STATES PATENT OFFICE.

HERBERT W. SMITH, OF MEDFORD, MASSACHUSETTS, ASSIGNOR OF ONE-HALF TO ARTHUR W. FIELD, OF BOSTON, MASSACHUSETTS.

TROLLEY-WHEEL.

SPECIFICATION forming part of Letters Patent No. 675,142, dated May 28, 1901.

Application filed March 6, 1901. Serial No. 50,020. (No model.)

To all whom it may concern:

Be it known that I, HERBERT W. SMITH, a citizen of the United States, residing in Medford, in the county of Middlesex and State of Massachusetts, have invented a new and useful Improvement in Trolley-Wheels, of which the following is a specification.

This invention relates to the construction of trolley-wheels for electrically-propelled cars and other vehicles; and it has for its principal object to prevent the formation of arcs when the wire slides or jumps from the flange to the body, or vice versa, such "arcing" injuring both the trolley-wheel and the wire by "pitting-in"—that is, producing small holes or recesses in the wheel or wire.

In this invention I provide the inner surfaces of the flanges with linings of cotton fiber or other non-conductive material, said linings extending from the main body or tread of the wheel to a line at a little distance from the extreme edge of the flange, whereby the rim of the flange is of exposed metal and allows the wheel when rolling under frogs or switches to secure contact at such localities.

The nature of the invention is fully described in detail below and illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view of a trolley-wheel embodying my invention. Fig. 2 is a central cross-section of the same, showing the wire in position. Figs. 3 and 4 are similar sections of the linings to the opposite flanges removed.

Similar letters of reference indicate corresponding parts.

a a' represent the two portions which when screwed together, as shown, constitute the hub of the wheel, and *b* is a journal-sleeve.

C is the main portion or body of the wheel, formed with the usual groove-shaped tread on its periphery and made of metal.

D D are metallic flanges on opposite sides of the main portion *C* and connected with the hub *a* and said main portion at their inner edges or parts *D'*. These metallic flanges are formed at *D''* with shoulders whereby their main portions are offset from the central portion *C* of the wheel and are flared, as shown at *D'''*, and formed inward at their outer edges into the annular hook-shaped portions *D''''*.

On each side of the main portion *C* of the wheel an annular lining of cotton fiber or other non-conductive material is placed against the inner surface of the flange *D*, such non-conductive lining consisting of the main portion *E*, which lies in the annular recess formed between the flange and the portion *C* of the wheel above the shoulder *D''*, and of the portion *E'*, which lines the exposed inner surface of the flange and is provided at its periphery with the outwardly-formed extension *E''*, which lies in the annular recess provided by the hook-shaped portion *D''''*. It will thus be seen that the inner surfaces of the metallic flanges beyond the main portion of the wheel are lined with and protected by a non-conductive material, which is securely locked in position by the shape of the flanges, but that said flanges at their outer edges are formed with bare inner surfaces. Hence when the wire leaves the tread or main portion of the wheel it comes in contact with the non-conductive lining, and no arcing is possible, and hence no injury to the wheel or wire by pitting-in; but when the wheel rolls under frogs or switches the wire can mount the flanges to their unprotected edges *D''''* and secure electrical contact.

Having thus fully described my invention, what I claim, and desire to secure by Letters Patent, is—

1. A trolley-wheel comprising a main or body portion; a hub; opposite flanges extending beyond said body portion, said hub, body portion and flanges being constructed of metal; and annular linings of non-conductive material on the inner surfaces of said flanges, substantially as described.

2. A trolley-wheel comprising a main or body portion; a hub; opposite flanges extending beyond said body portion, said hub, body portion and flanges being constructed of metal; and annular linings of non-conductive material on the inner surfaces of said flanges, each said lining extending from the body portion of the wheel to a line at a short distance from the outer edge of the flange against which it is laid, substantially as set forth.

3. A trolley-wheel comprising a metallic main or body portion; a metallic hub; metallic flanges extending from said hub and body

portion and set off from the opposite surfaces of the latter and formed inwardly at their outer edges or peripheries into hook-shaped portions; and annular linings of non-conductive material laid against the inner faces of the flanges and held in place at their outer edges by the shape of said flanges, substantially as described.

4. The herein-described improved trolley-wheel consisting of the hub; the main or body portion C; the metallic flanges D provided with the inner portions D', shoulders D'', flanged portions D''' and hook-shaped portions D'''; and the linings of non-conductive ma-

terial, comprising the portions E lying between the flanges and the body of the wheel, the portions E' against the inner faces of the flanges and the portions E'' extending into the recesses formed by the portions D''' of the flanges, substantially as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

HERBERT W. SMITH.

Witnesses:

HENRY W. WILLIAMS,
A. N. BONNEY.