(No Model.)

H. H. CUTLER.

ELECTRIC WIRE INSULATOR.

No. 386,111. Patented July 17, 1888.

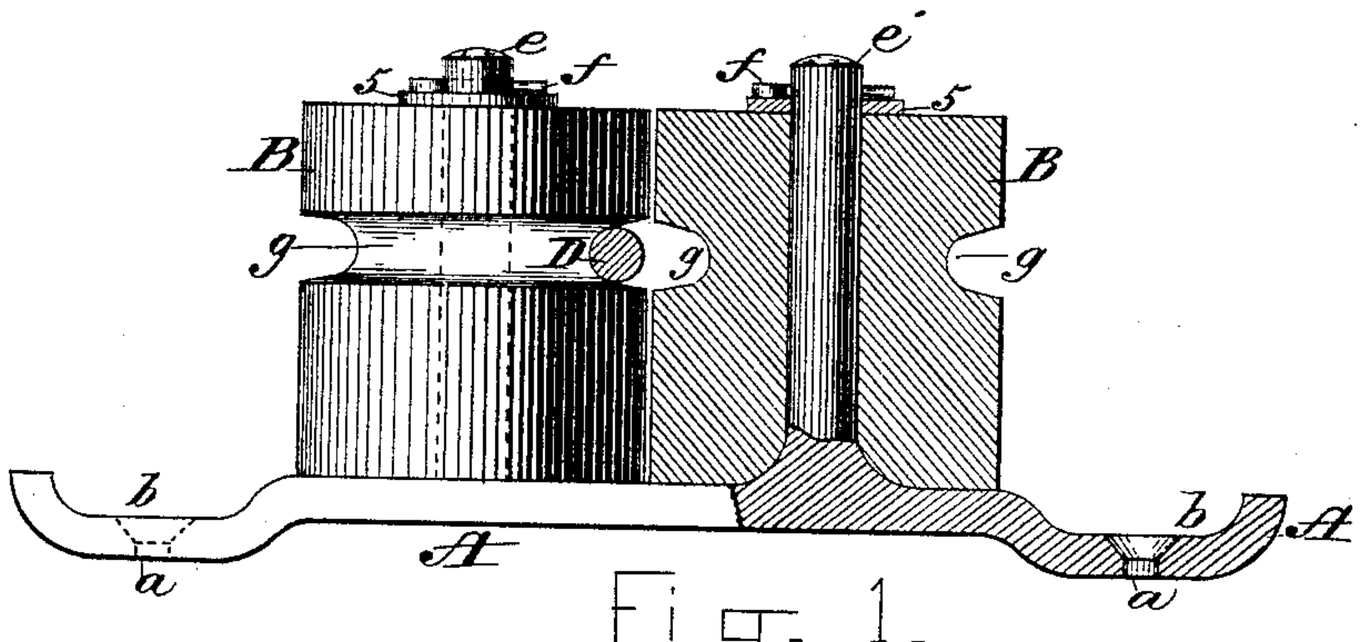

Fig. 1.

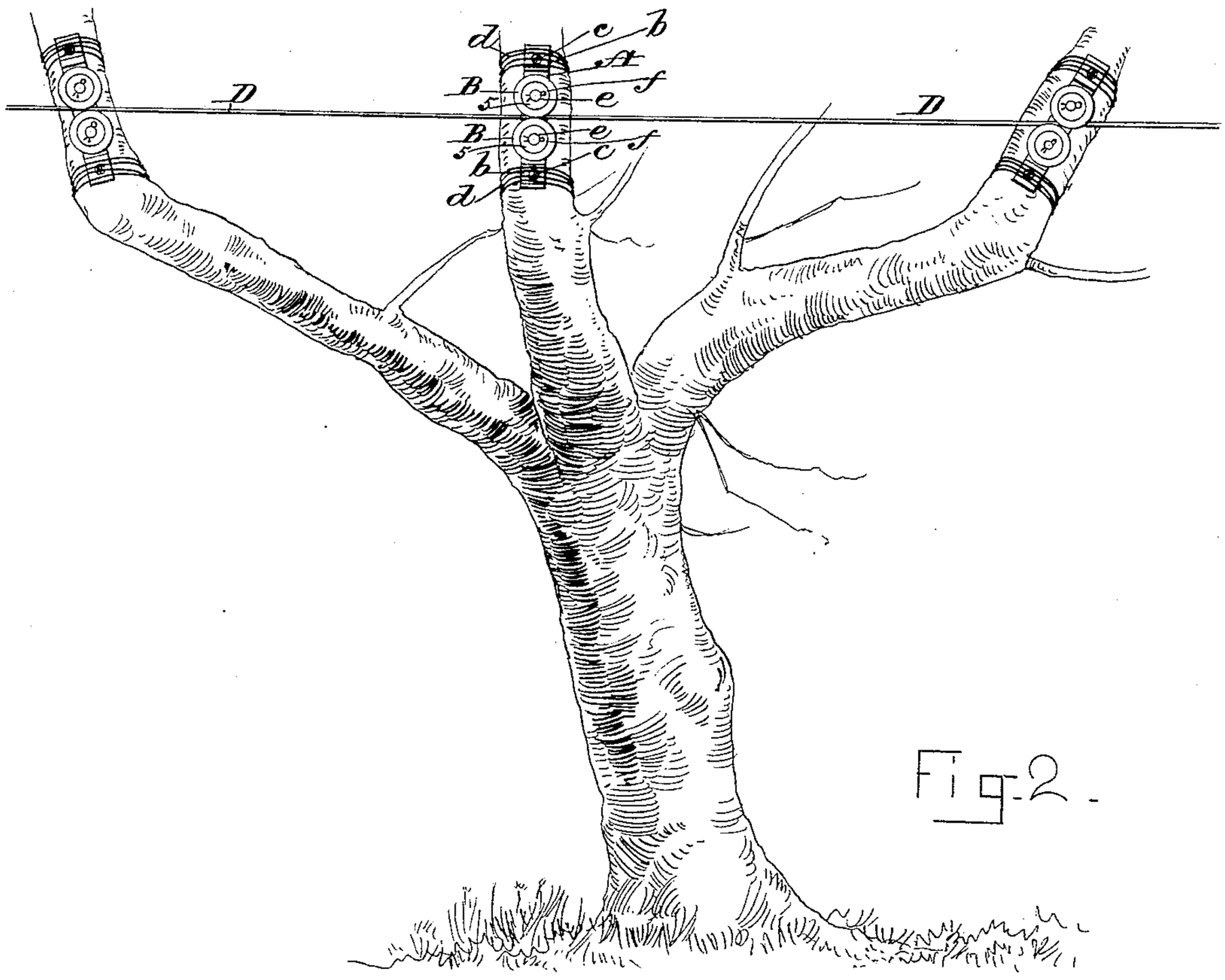

Fig. 2.

WITNESSES:
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HENRY H. CUTLER, OF NEWTON, MASSACHUSETTS.

ELECTRIC-WIRE INSULATOR.

SPECIFICATION forming part of Letters Patent No. 386,111, dated July 17, 1888.

Application filed October 21, 1887. Serial No. 253,038. (No model.)

To all whom it may concern:

Be it known that I, HENRY H. CUTLER, a citizen of the United States, residing at Newton, in the county of Middlesex and State of Massachusetts, have invented an Improvement in Tree-Insulators for Supporting Electric Wires, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a sectional elevation of a tree-insulator constructed in accordance with my invention. Fig. 2 is a view representing an electric wire supported by a series of my improved insulators attached to the branches of a tree.

My invention relates to an improved supporting-insulator for electric wires strung through trees, and has for its object to provide a support which will not only insulate the wire from the limb or branch of the tree, but will allow said limb to sway freely back and forth without stretching or straining the wire, which it is desirable to avoid, and will also prevent the chafing of the wire against the limbs of the tree, and the consequent wearing away of the insulating material with which the wire is covered.

To this end my invention consists in a tree-insulator for supporting electric wires, consisting of an insulated support of novel construction, movable independently of the wire in such manner as to allow the wire to slide freely through the insulator as the limb of the tree to which it is attached is moved or swayed back and forth, as hereinafter more particularly described.

In the said drawings, A represents a base or frame, preferably composed of malleable iron, having screw-holes *a* and grooves *b* at its opposite ends, for fastening the said frame to the limb or branch of a tree or other support by means of screws or nails *c*, passing through the holes *a*, and wire tape or other flexible material, *d*, wrapped around the limb of the tree or other support and passing through the grooves *b*, as seen in Fig. 2.

The base A is provided with two pins or studs, *e e*, preferably cast integral therewith, and on these studs are mounted a pair of cylindrical blocks or rollers, B B, composed of glass, porcelain, or other suitable non-conducting material. These blocks or rollers B B are free to rotate on the pins or studs *e e*, and are held securely in place thereon by washers 5 and cotters *f*, passing through holes at the ends of the pins; or they may be held in place by screw-nuts or other suitable device, if preferred.

The rollers B B are each provided with a circumferential groove, *g*, whereby when the two rollers are mounted on their pins an aperture will be formed between them, as seen in Fig. 1, for the reception and passage of the line-wire D, which is thus confined securely in place and prevented from becoming detached from the insulator, while in the event of the limb or branch of the tree to which the insulator is attached being swayed or moved back and forth by the wind the rollers will be free to move or roll over the wire, thus avoiding the liability of its being stretched or strained, as would otherwise occur, unless the wire was left slack between the insulators—an alternative which it is desirable to avoid. Furthermore, the rotation of the rollers upon the wire diminishes the friction and wear thereon, and as the wire is not movable in the direction of its length the wearing away of the insulating material with which the wire is covered by chafing against the limbs of the tree is avoided. It is obvious that as the rollers are made removable from their pins or studs, it is merely necessary to remove one of said rollers to allow of the introduction of the line-wire D within the groove *g* of the opposite roller, after which the first roller can be replaced, when the wire will be securely confined within the aperture formed by the two grooves *g g*, as seen in Fig. 1, and the wire can thus be easily removed and replaced, whenever required, with very little labor.

What I claim as my invention, and desire to secure by Letters Patent, is—

In a supporting-insulator for electric wires, the combination, with the base A, provided with pins or studs *e e*, of a pair of blocks or rollers, B B, composed of glass, porcelain, or other suitable non-conducting material, and having circumferential grooves *g*, said rollers being made removable from the pins or studs, and being arranged close together, with the

circumferential groove of one roller opposite to that of the other, whereby an aperture is formed between the peripheries of said rollers, through which the line-wire is free to slide, and by which it is retained in place between the rollers, substantially in the manner and for the purpose set forth.

Witness my hand this 18th day of October, A. D. 1887.

HENRY H. CUTLER.

In presence of—
P. E. TESCHEMACHER,
EDWIN F. EDGETT.