

No. 679,308.

Patented July 30, 1901.

H. GEISENHÖNER.
INSULATOR.

(Application filed May 1, 1901.)

(No Model.)

Fig. 1.

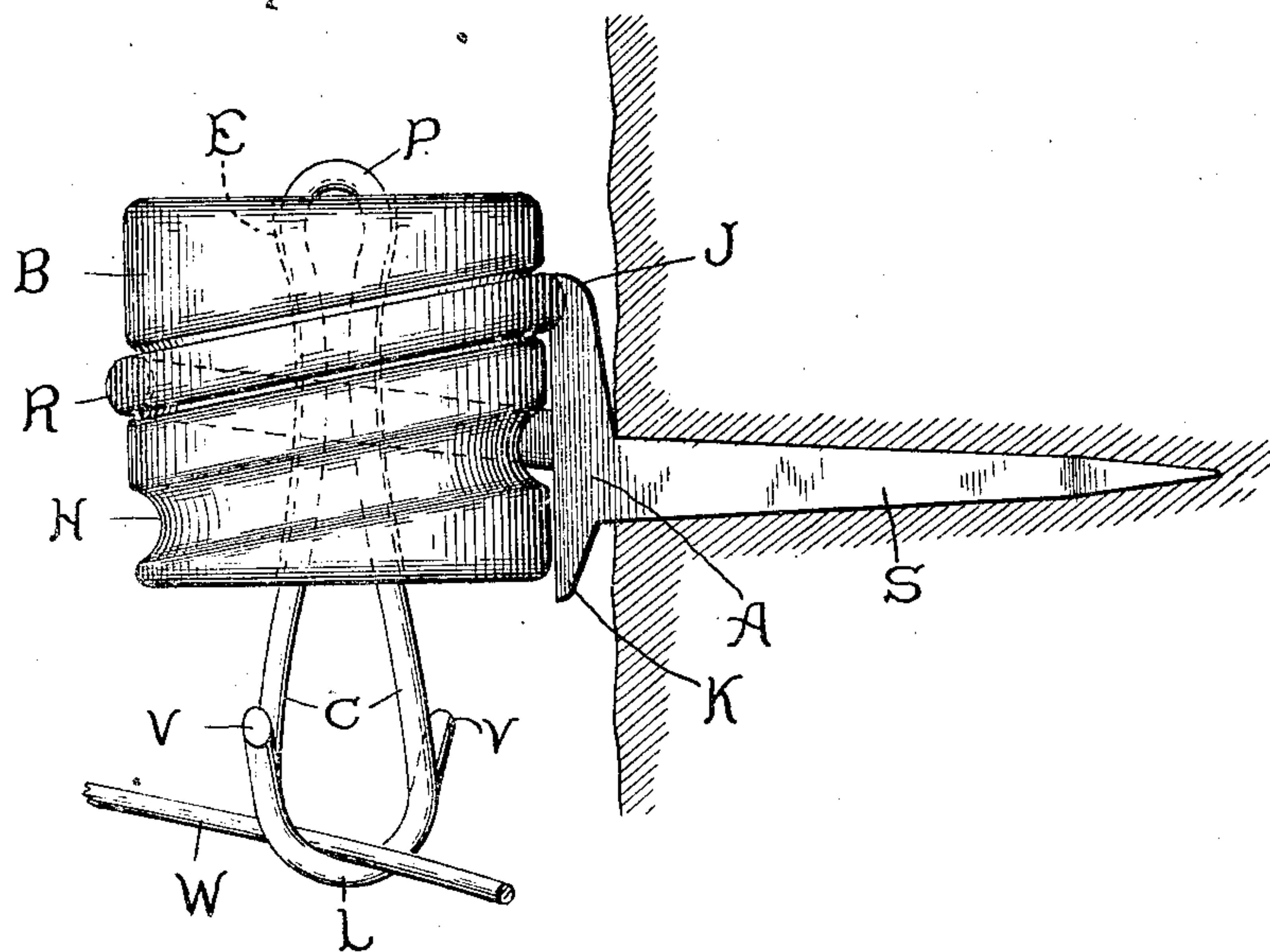


Fig. 2.

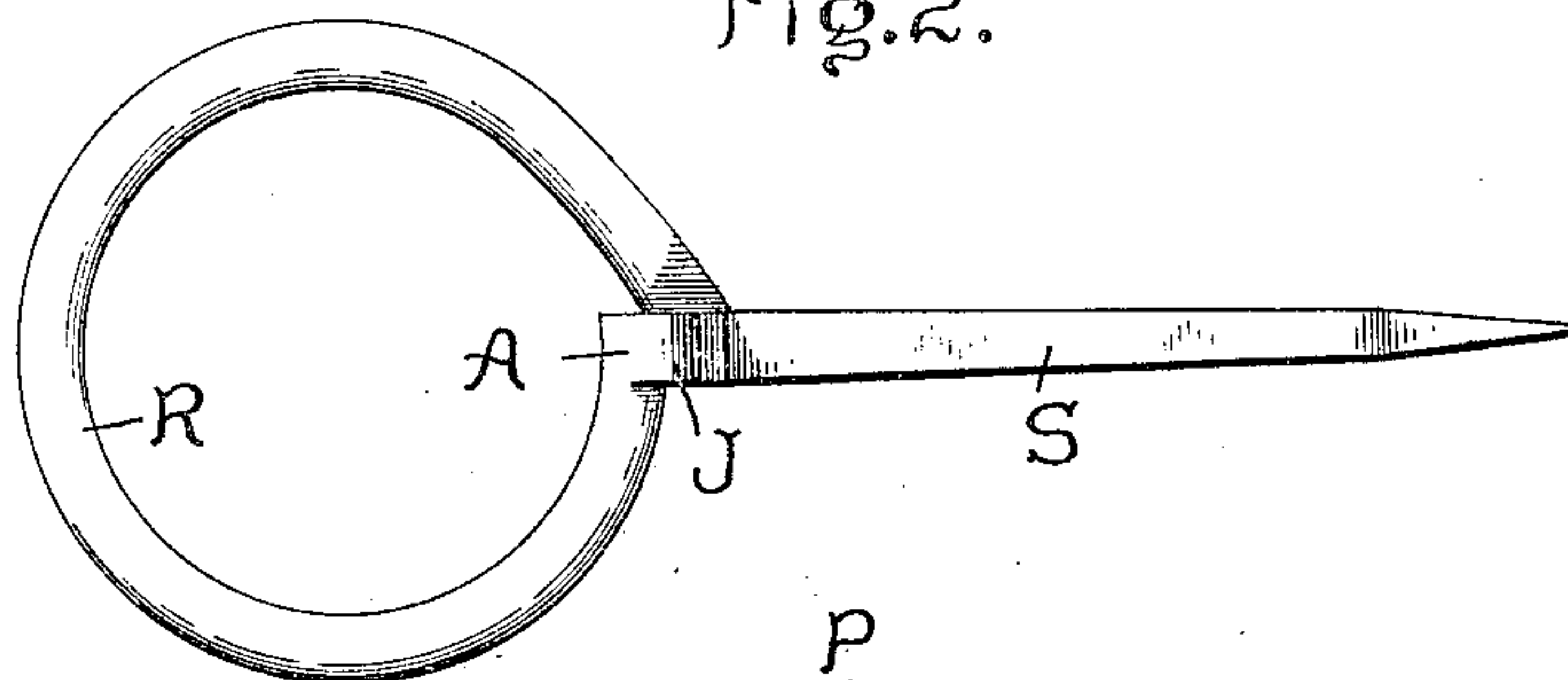
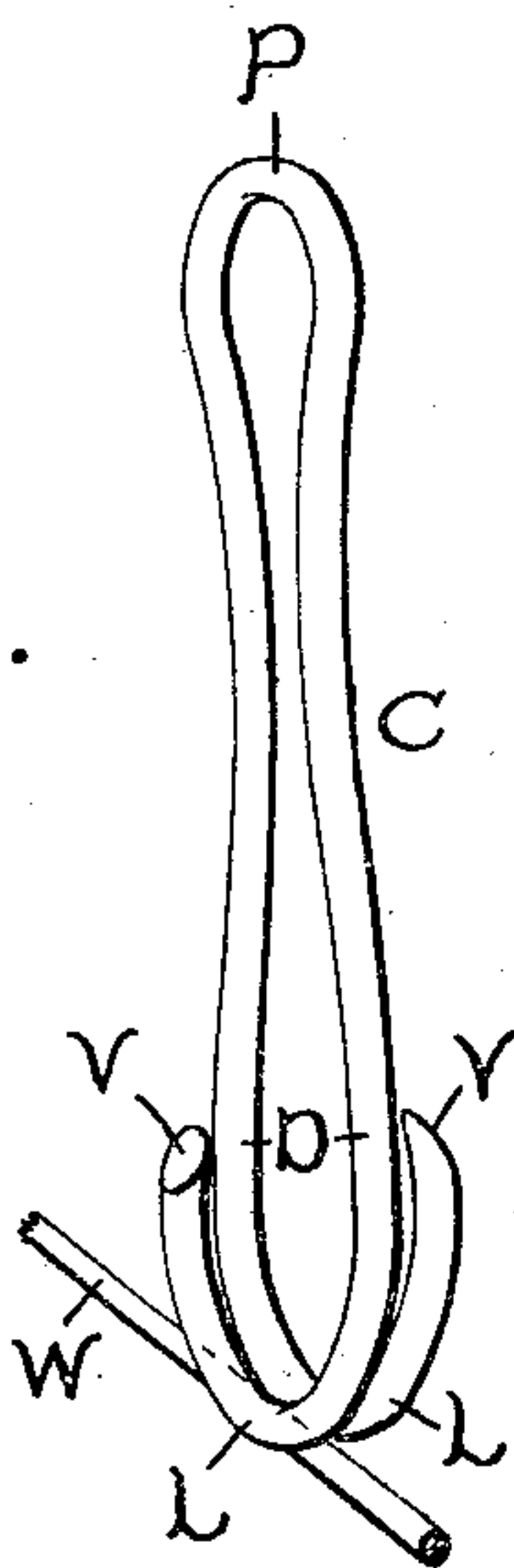


Fig. 3.



Witnesses:

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UNITED STATES PATENT OFFICE.

HENRY GEISENHÖNER, OF SCHENECTADY, NEW YORK, ASSIGNOR TO
GENERAL ELECTRIC COMPANY, OF NEW YORK.

INSULATOR.

SPECIFICATION forming part of Letters Patent No. 679,308, dated July 30, 1901.

Application filed May 1, 1901. Serial No. 58,241. (No model.)

To all whom it may concern:

Be it known that I, HENRY GEISENHÖNER, a citizen of the United States, residing at Schenectady, county of Schenectady, State of New York, have invented certain new and useful Improvements in Insulators, (Case No. 2,111,) of which the following is a specification.

This invention relates to improvements in insulators of the type known familiarly in the art as "tree-insulators," such devices being commonly secured to the limb of a tree or other suitable object to support and insulate line wires or cables at points where ordinary supports cannot be used. Thus the support on which the devices are mounted is liable to sway and move back and forth, and hence the device must be so constructed as to make allowance for this movement of the support, or otherwise the insulator itself would be damaged or the cable strained so that it would work loose from or break the insulators on other supports.

The invention consists in an insulating-hanger or tree-insulator which is simple in construction, efficient and reliable in operation, and of low cost to manufacture.

Of the drawings, Figure 1 is an elevation of the device in its operative position. Fig. 2 is a plan of the primary support, which is secured in the tree; and Fig. 3 is a perspective view of the device which carries the wire.

In brief, the device comprises the primary support A, which is adapted to be secured in the tree or other support, the secondary support B, of any suitable insulating material, which is screwed into the primary support in such manner that it can rotate freely therein, and the member C, which is constructed with a spring-closed loop of relatively large size with respect to the wire or cable, which is held within the loop. The member C preferably consists of a stiff resilient wire composed of a suitable metal, such as brass, which in the process of manufacture is bent upon itself at the top in the shape shown, the free ends, which are then straight, being forced down through the perforation E in the insulating-support B. This perforation is substantially of the same shape as the bent wire, as shown by the dotted lines in Fig. 1, and as it is of larger diameter at the top than at

the points below the member C is held in place by its upper loop P, even although a great weight of cable be carried by it. The free ends of the wire having been forced through the perforation E on the support B are next pulled or spread apart, so that the device will not jump up out of the perforation. The ends are then turned or bent upwardly toward each other to form partial loops or hooks, each free end lying alongside an upper portion D of the other end, as shown in Fig. 3. Either before the ends are thus bent or before the device is inserted in the perforation E the tips of the wire are beveled reversely or in opposite directions, as shown at V. The support B is formed with threads H of large pitch, and the two parts B and C, secured together, as described, are adapted to be handled as a single piece by a lineman. It is obvious that other forms of a spring-closed loop may be designed; but I believe I am the first inventor of such a device, and therefore do not wish to be limited to the exact construction shown. The primary support or spike A is the only other member which the lineman is required to carry, and hence the device in effect comprises only two members. This support A consists of a stem portion S, which may be a spike, as shown, or another well-known equivalent for the purpose of securing it to a tree or other support, and also a ring R, which is constructed to have a pitch adapted to loosely engage the threads of the insulating-support B. The end of the ring R extends from the end of the stem S and a projection J, and there is a lower projection K, depending from the end of the stem S, adapted to receive the impact of the hammer whereby the shank of the hook is driven into a tree.

The entire device A can be cast as a single piece, or the ring can be made separately and soldered to the shank S.

After the primary support A is secured in the tree, as described, the insulating-support B, carrying the device C, is screwed down inside the ring R, which fits loosely in the threads of the insulating-support. These threads extend to the bottom of the support; but it is not necessary that they extend entirely to the top. The support B is turned or partially rotated, so that the line wire or

cable lies along the line separating the two half-loops or hooks L of the member C, as shown in Fig. 3. The cable W can now be inserted into the open loop without threading it therethrough by simply forcing it up between the two hooks, which are held tightly against each other by their inherent resiliency. The cable W may have already been strung on supports on opposite sides of the hanger, or only on one side, the remainder being wound on a reel on the ground; but, nevertheless, it can readily be inserted in the loop, as described. Furthermore, the insulators may be located at points where extra support is needed at any time after the wire has been completely strung. As soon as the wire W has been lifted up beyond the tops of the hooks the resilient ends close up to imprison the cable in the loop. Since the threads H and ring R engage each other loosely, the support H will be rotated by the weight of the cable, which engages the sides of the loop, so that the member C will occupy the position shown in Fig. 1. Since the opening of the loop is so large with respect to the wire W, the wire or the entire insulating device can move freely vertically and horizontally without disturbing each other, and if the limb of the tree twists with respect to the line-wire the latter will push against the sides of the loop to freely rotate the insulator B in the threads of the ring R. The wire locks the insulator, however, so that it cannot be unscrewed from the ring.

When it is desired to remove the wire from the loop, the support B is rotated to bring it again into the position shown in Fig. 3, and the wire is lifted until it rests on the beveled edges V against the portions D of the device C, when the wire is moved sidewise to press the loops L apart, so that it can be forced down and out.

What I claim as new, and desire to secure by Letters Patent of the United States, is—

1. In an insulator, the combination with an insulating-support, of a loop carried thereby which has an opening of relatively large size with respect to the line wire or cable, whereby the latter can have free play, said loop being constructed to be resiliently self-closed.

2. In an insulator, the combination with an insulating-support, of a spring-wire loop being a self-closing portion, said loop being carried by said support and having an opening of relatively large size with respect to the line-wire, whereby the latter can have free play.

3. In an insulator, the combination with an insulating-support, of two partial loops carried thereby so as to be held resiliently against each other and having their upturned free ends oppositely disposed, whereby a line-wire can be forced upward between the lower parts of the loops into the inside thereof.

4. In an insulator, the combination with an insulating-support, of two partial loops car-

ried thereby so as to be held resiliently against each other, and having their upturned free ends oppositely disposed and beveled in opposite directions, whereby a line-wire within the loop can be removed therefrom.

5. In an insulator, the combination with an insulating-support, of two oppositely-disposed hooks of spring metal carried thereby and oppositely disposed adjacent each other.

6. In an insulator, the combination with an insulating-support, of a spring-wire carried thereby, its depending free ends extending upwardly in the form of hooks oppositely disposed adjacent to each other.

7. In an insulator, the combination with an insulating-support provided with a perforation larger at one end, of a spring-wire having its free ends extending through the perforation and having an intermediate loop held in the larger part of the perforation, the free ends of the wire extending upwardly in the form of hooks oppositely disposed adjacent to each other.

8. In an insulator, the combination with a rotatably-mounted insulating-support, of a spring-closed loop carried thereby, which has an opening of relatively large size with respect to the line wire or cable.

9. The combination with a threaded primary support constructed to be mounted on the limb of a tree or other suitable anchorage, of a threaded secondary support composed of insulating material, and a device carried by the secondary support and constructed to receive a line wire or cable, the threads on the primary and secondary support being constructed to engage each other loosely to permit free relative rotation of said supports caused by movements of the line-wire or anchorage.

10. As an article of manufacture, a primary support for an insulator, which consists of a stem portion, and a ring on one end thereof, said ring being formed with a suitable pitch for engaging the threads of a secondary support.

11. The combination with a primary support, consisting of a stem and a ring formed with a pitch, of an insulating-support which is threaded to engage in said ring, and a device carried by the insulating-support for receiving a line wire or cable.

12. In an insulator, the combination with a primary support, consisting of a stem and a ring formed with a pitch, of an insulating-support which is threaded to engage in said ring, and a spring-closed loop carried by the insulating-support, which loop has an opening of relatively large size with respect to the line wire or cable which is received in the loop.

13. As an article of manufacture, a primary support for an insulator, which consists of a stem portion, a projection on the end thereof, and a ring on the projecting portion, said ring being formed with a pitch to engage the threads of a secondary support.

14. As an article of manufacture, a primary support for an insulator, which consists of a spike portion, a ring on one end thereof, which is formed with a pitch to engage the
5 threads of a secondary support, and a projection on the same end of the spike by which the latter can be driven into a support.

In witness whereof I have hereunto set my hand this 29th day of April, 1901.

HENRY GEISENHÖNER.

Witnesses:

BENJAMIN B. HULL,
CHARLES STEINER.