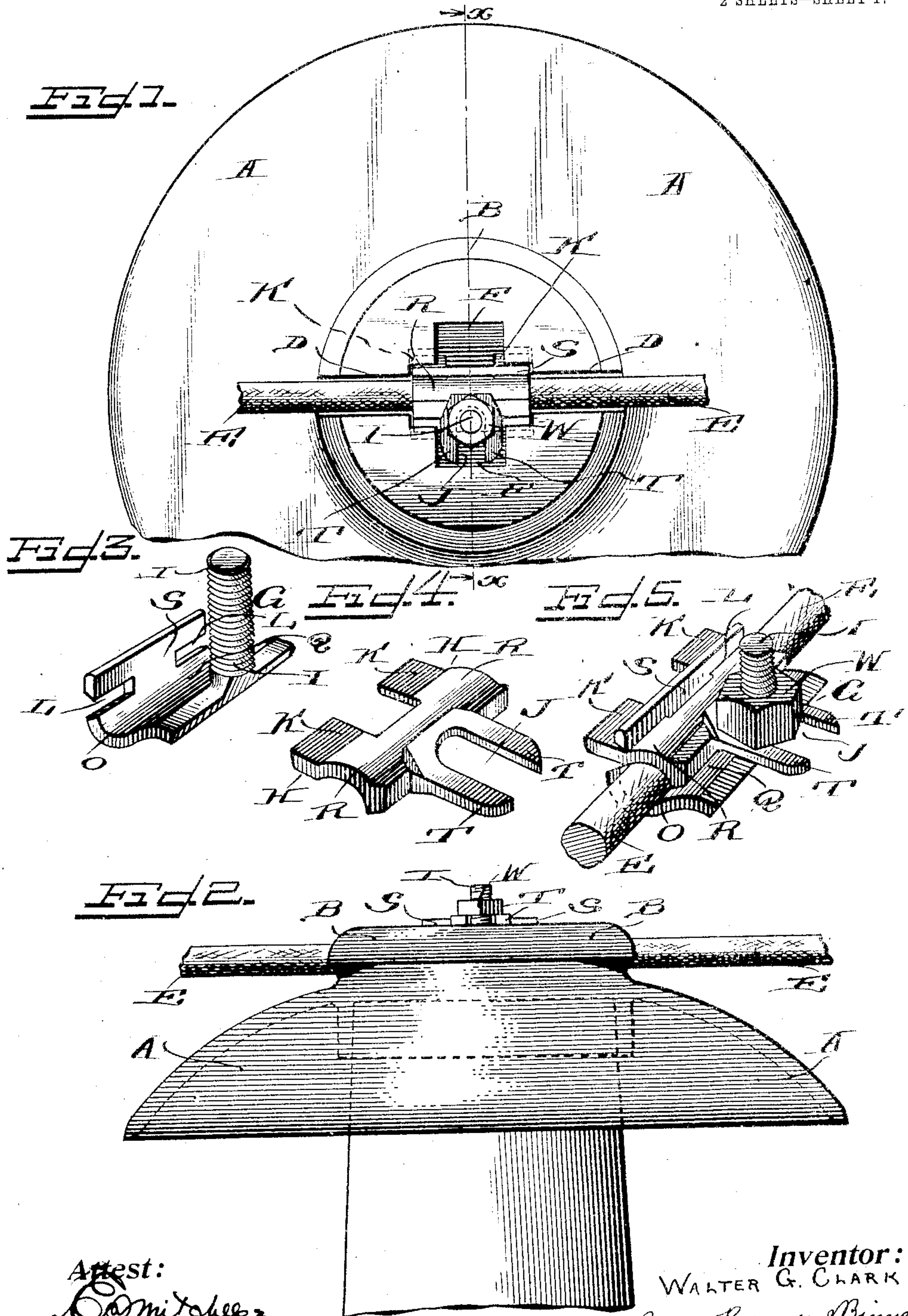


No. 843,258.

PATENTED FEB. 5, 1907.

W. G. CLARK.  
INSULATOR CLAMP.  
APPLICATION FILED JUNE 12, 1905.

2 SHEETS—SHEET 1.



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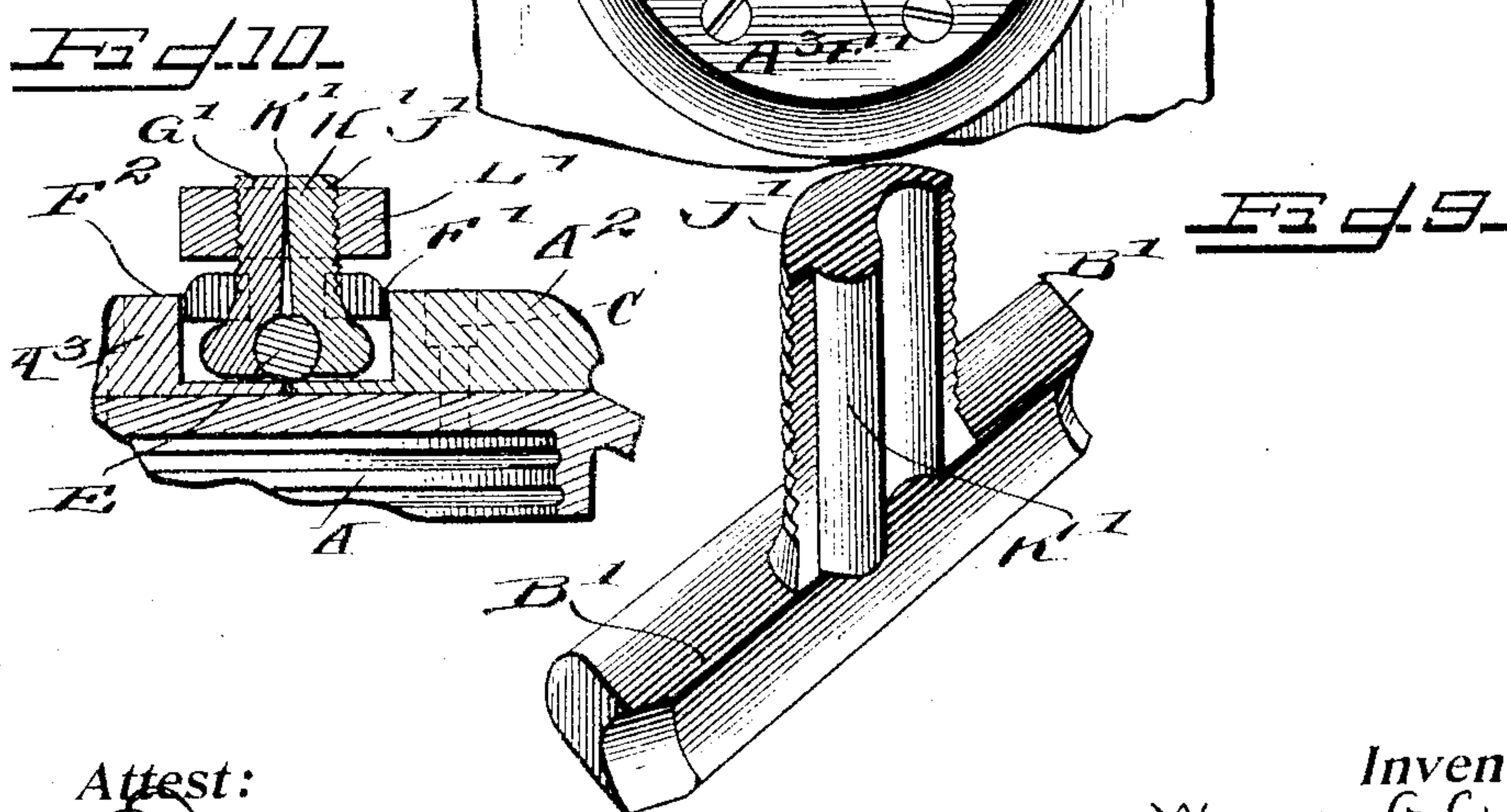
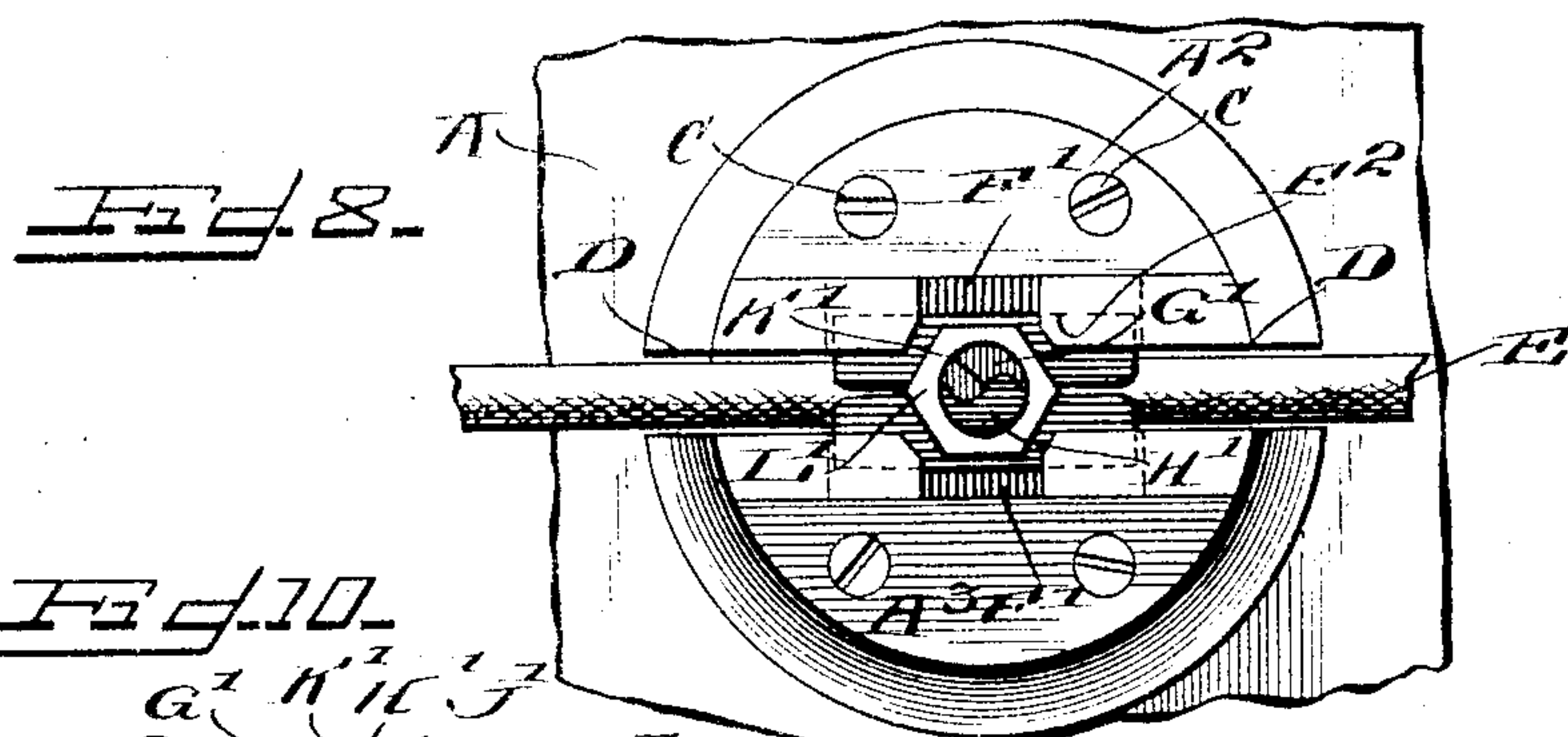
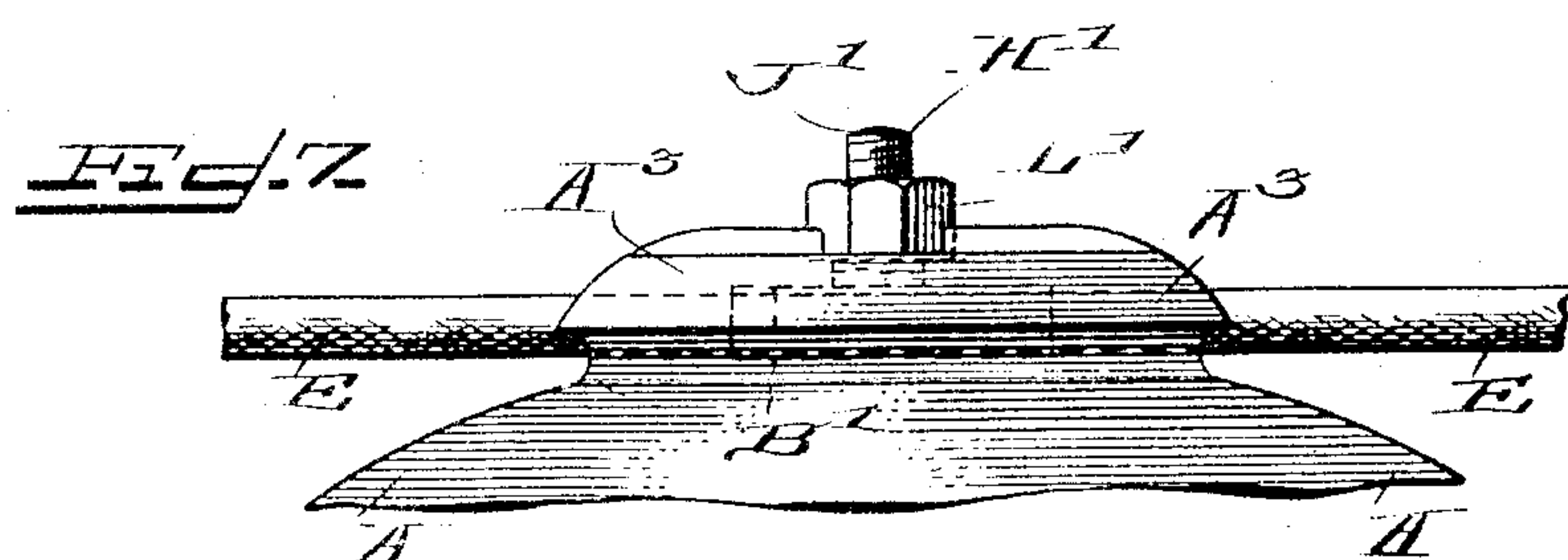
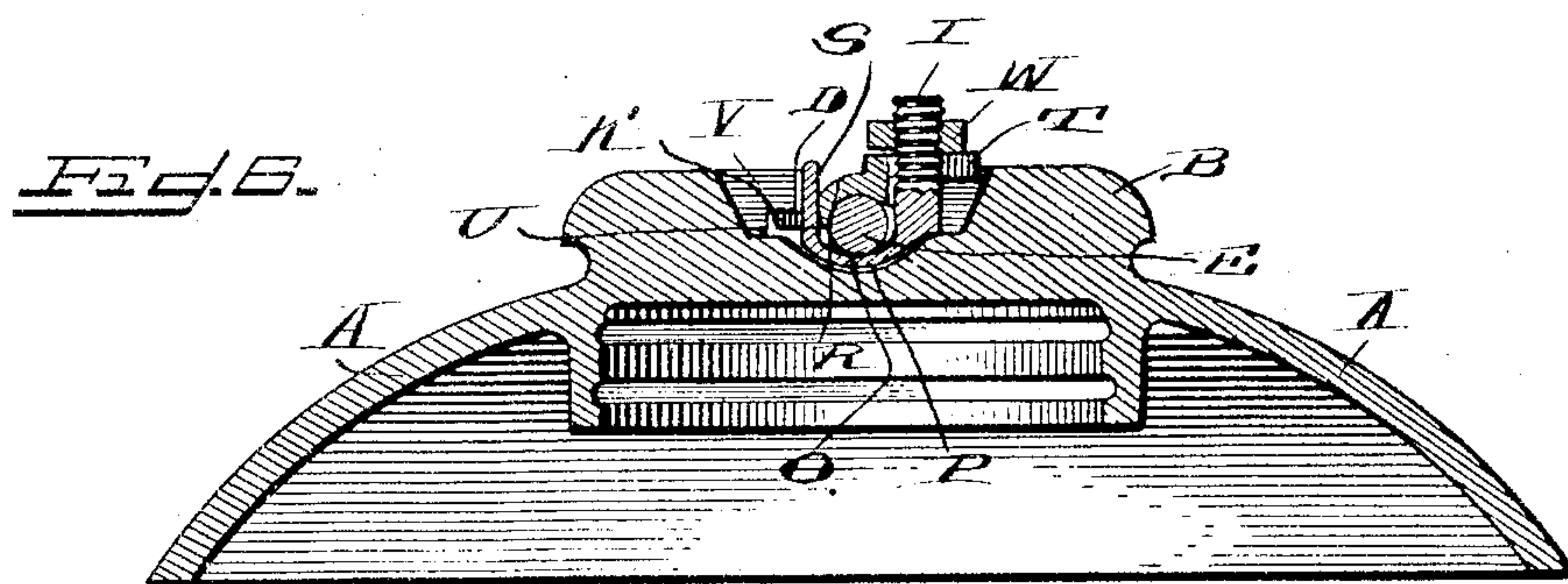
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2 SHEETS—SHEET 2.



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# UNITED STATES PATENT OFFICE.

WALTER G. CLARK, OF SEATTLE, WASHINGTON, ASSIGNOR TO THE CLARK ELECTRIC AND MANUFACTURING COMPANY, A CORPORATION OF NEW YORK.

## INSULATOR-CLAMP.

No. 843,258.

Specification of Letters Patent.

Patented Feb. 5, 1907.

Application filed June 12, 1905. Serial No. 264,816.

*To all whom it may concern:*

Be it known that I, WALTER G. CLARK, a citizen of the United States, and a resident of Seattle, county of King, State of Washington, have invented certain new and useful Improvements in Insulator-Clamps, of which the following is a specification accompanied by drawings.

This invention relates to insulator-clamps for clamping electric wires, more particularly high-tension cables to insulators; and the objects of the invention are to improve upon the construction and efficiency of such devices and prevent the strain on the wire from being thrown entirely upon the clamp.

Further objects of the invention will hereinafter appear; and to these ends the invention consists of a device for carrying out the above objects, embodying the features of construction, combinations of elements, and arrangement of parts having the general mode of operation substantially as herein-after fully described and claimed in this specification and shown in the accompanying drawings, in which—

Figure 1 is a top plan view of an insulator and clamp embodying the invention. Fig. 2 is a side elevation of the same. Fig. 3 is a perspective view of one portion of the clamp. Fig. 4 is a perspective view of the cooperating portion thereof. Fig. 5 is a perspective view of the two portions of the clamp arranged to clamp the wire, illustrating in what manner the two portions cooperate and interlock. Fig. 6 is a transverse sectional elevation of the insulator and clamp on the line *xx* of Fig. 1, showing the clamp in position in the insulator. Fig. 7 is a side elevation of a modified form of insulator-clamp. Fig. 8 is a top plan view of the same. Fig. 9 is a perspective view of one of the duplicate cooperating portions of the clamp, and Fig. 10 is a detail view of the clamp-holding wire in position in the insulator.

Referring to the drawings, A represents a suitable insulator provided with a cap B, which may be in one or more portions, in this instance the two parts, the body and cap, being made all in one solid piece. The cap is provided with a groove D to receive the wire E. Means are provided for clamping the wire tightly and for preventing it from mov-

ing either vertically or horizontally in the insulator-cap.

According to this invention the insulator-cap is constructed to receive and hold a clamp which may be tightened up as desired and after being tightened cannot be removed from the insulator until untightened to release the wire. According to the preferred form of the invention shown in Figs. 1 to 6, inclusive, both portions of the clamp can be applied to the insulator-cap from the outside because the groove D is widened at each side at F, which enables the two parts G and H of the clamp to be applied to the wire directly.

The two portions G and H of the clamp are adapted to interlock, and thus cooperate to clasp the wire. One portion, as the portion G, is provided with a screw-threaded tongue or projection I, with which an aperture or slot J on the other portion H cooperates. One member, as the member H, is provided with one or more tongues or lugs K, which enter and interlock with the slots or apertures L in the member G. Preferably the member G has a curved base or bottom O, which substantially fits the curved bottom of the insulator-aperture, which is recessed deeply enough to receive the member G and bring the inner surface Q of said member substantially flush with the bottom of the groove D, so that the wire E will lie in the groove and in the curved bottom portion Q of the clamping member G.

The clamping member H is provided with a curved body R, which is concaved to receive the wire E and cooperate with the member G. In this instance the member G is provided with an upwardly-extending portion S, opposite the screw-threaded projection I, to provide the slots L for the lugs K on the member H.

In Fig. 5 a perspective view is shown illustrating in what manner the clamping members G and H interlock, from which it will be seen that the lugs K are of sufficient length to project beyond the slots L, thus affording means for locking the entire clamp in the insulator. The projections T of the member H also extend beyond the upright I and afford means for securing the clamp in position in the insulator.

In order to clamp the wire in position, the



member G is first placed in the widened portion F in the cap of the insulator. The wire is then inserted in the groove and placed upon the curved portion Q of the member G, and the clamping member H is then placed over the wire and on the member G, as indicated in Fig. 6, in which case the lugs K extend into the recess U beneath the projecting portions V of the insulator-cap, and thus prevent the clamp and wire from being withdrawn upwardly. A nut W is screwed down upon the screw-threaded projection I to secure the two clamping members together, and it will be seen that the projections T are seated below the top of the cap, and thus aid in securely holding the wire in position. The widened portion of the slot or groove in the insulator-cap is constructed the same on both sides, so that the clamp may be inserted in either position—that is to say, it may be inserted in the position shown in Fig. 6, or else the screw-threaded upright and nut may be on the left-hand side as Fig. 6 is viewed instead of on the right-hand side. The clamp and cooperating grooved portion of the cap are preferably so constructed that the projections K bear against the projections V on the cap when the clamp is tightened, thereby holding the wire firmly in position.

In the modified form of clamp shown in Figs. 7, 8, 9, and 10 the insulator and cap are illustrated in the same general relation as before, and in this instance the cap is divided into two portions A<sup>2</sup> and A<sup>3</sup>, suitably secured by the screws C to the body of the insulator. The groove D is widened at F' each side at the center of the cap and is undercut at F<sup>2</sup> at the sides and ends to receive the body portions B' of the clamping members G', which are substantial duplicates of each other and adapted to cooperate one with the other, as indicated in plan view of Fig. 8. In this instance the clamping members are so constructed that the clamp containing the wire is first placed in position in the widened portion of the groove in one half A<sup>2</sup> of the cap and then the other half of the cap A<sup>3</sup> is placed in position on the insulator-body, thereby preventing the clamp and wire from being removed until one portion of the cap is first removed. In this instance the clamps G' and H' comprise the hollowed or grooved body portions having the projections B' and provided with the screw-threaded necks J', which are provided with interlocking faces K', in this instance the faces being shown formed with compound curves. The nut I' suitably locks the two cooperating members G' and H' together. According to the construction of this invention the strain on the wire is taken by both the clamp and the insulator itself, and the clamps are constructed in such a substantial manner that they firmly hold the wire in place without liability of

breaking. The members of the clamps not only interlock with each other, but it will be seen that they also interlock with the insulator-cap to prevent either the clamp or wire from being removed from the insulator without first either removing a portion of the insulator or unlocking the clamping members.

Obviously some features of this invention may be used without others and the invention may be embodied in widely-varying forms.

Therefore, without limiting the invention to the devices shown and described and without enumerating equivalents, I claim, and desire to obtain by Letters Patent, the following:

1. The combination with an insulator provided with a transverse groove and conducting-wire therein, of a clamp adapted to be secured in said groove and comprising cooperating members interlocking one with the other and adapted to hold the wire in the groove in the insulator.
2. The combination with an insulator of a conducting-wire and a clamp for said wire, comprising cooperating interlocking members interlocked with the insulator in the groove.
3. The combination with a transversely-grooved insulator, of a clamp for locking the wire in said groove, said clamp comprising cooperating members having curved portions adapted to clasp the wire, and means for locking the members to each other and to the insulator.
4. The combination with an insulator provided with a recess, of an insulator-clamp comprising a plurality of members adapted to interlock one with the other, said members being provided with projections which engage said recess so that when one member is interlocked with the other the clamp cannot be removed from the insulator.
5. The combination with a grooved insulator provided with a recess, of an insulator-clamp for clamping the wire comprising interlocking members, said members being provided with projections which engage said recess so that when said members are placed in the groove of the insulator and interlocked one with the other, the projections in said recess prevent the clamp from being removed without unlocking the members.
6. The combination of an insulator having a groove provided with a widened portion and interlocking members adapted to engage said widened portion and clamp a conductor in the groove.
7. The combination of an insulator having a groove provided with a widened portion, interlocking members adapted to engage said widened portion, and means for securing said interlocking members in said groove.
8. The combination with a grooved insu-

lator and conducting-wire, of a clamp adapted to be secured in said groove and comprising cooperating members interlocking one with the other and with the insulator and  
5 adapted to hold the wire in the groove in the insulator.

In testimony whereof I have signed this

specification in the presence of two subscribing witnesses.

WALTER G. CLARK.

Witnesses:

JAMES J. McCAFFERTY,  
LEONORA SEATON.