

D. H. FRIEND.
INSULATOR.
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986,702.

Patented Mar. 14, 1911.

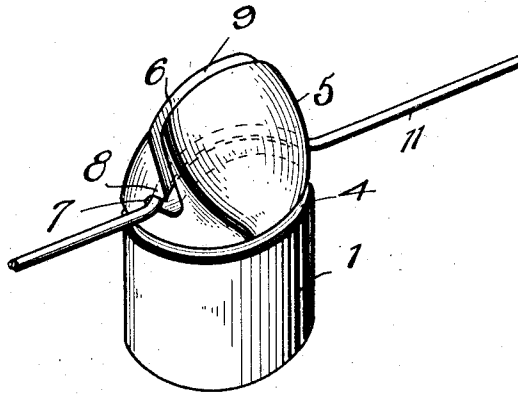


Fig. 1.

Fig. 2.

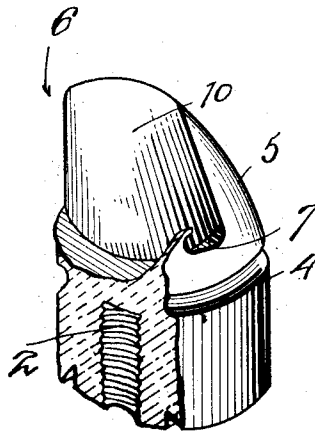
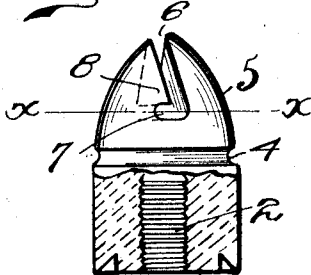


Fig. 5.

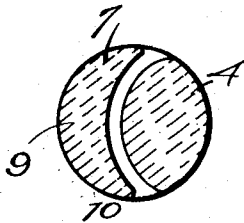


Fig. 3.

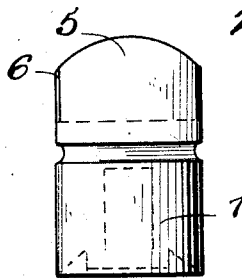


Fig. 4.

Inventor

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UNITED STATES PATENT OFFICE.

DAVID H. FRIEND, OF CANTON, OHIO.

INSULATOR.

986,702.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, DAVID H. FRIEND, a citizen of the United States of America, residing at Canton, in the county of Stark and State of Ohio, have invented certain new and useful Improvements in Insulators, of which the following is a specification, reference being had therein to the accompanying drawing.

10 This invention relates to means for supporting electric wires and has especial reference to telegraph and telephone wires, and to means for securing said wires to posts or other supports.

15 The invention has for its object to provide means for securing said telegraph and telephone wires to posts or other supports known as insulators.

20 This invention further has for its object to provide an improved insulator by means of which the wire may be fastened thereto without any extra fastening means.

25 This invention further has for its object to provide an insulator by means of which the wire will be securely held from sagging.

30 The invention further has for its object to provide an insulator by means of which wire can be readily and quickly secured in place and detached from the insulator.

35 Referring to the accompanying drawings,—Figure 1 is a view in perspective of an insulator constructed in accordance with this invention. Fig. 2 is a side view on a similar scale of the insulator with a portion of the base portion broken away, and in vertical section. Fig. 3 is a plan view on the line $x-x$, of Fig. 2, in horizontal section. Fig. 4 is a side view of the insulator looking from the right in Fig. 2. Fig. 5 is an enlarged view in perspective of the insulator with a portion thereof broken away to show the internal construction of the upper portion thereof.

45 In carrying out the invention, I provide an insulator made of glass, porcelain or other suitable insulating material, and formed with a cylindrical base portion 1 having a central threaded socket 2 projecting up through the base from its bottom. 50 The insulator is provided upon its under surface with an annular groove 3, for increasing the path over which the current must pass on the insulator's surface in case

the same should become covered with a thin sheet of moisture as very often happens. 55 The insulator is formed also with the usual annular groove 4 located at the top of the base portion 1 above which extends the conical upper part 5 of the insulator. In order to secure a wire to the insulator, it is 60 formed with a transverse slot 6 open at the top of the conical portion 5 and extending from side to side thereof and down to a point just above the base portion 1. Adjacent to the bottom of the transverse slot 6 on one 65 side thereof is a curved groove 7 having its open ends in the sides of the conical top portion 5 and forming an overlapping shoulder 8 at each end of the groove. One face of the transverse slot 6 on the side in which 70 the curved groove 7 is located is preferably formed with a concave face 9 terminating at its lower end at the groove 7, and the opposite face of the transverse slot 6 is formed with an inclined face 10 which is convex in 75 cross section and terminates at its lower end opposite to the side of the groove 7. It will be seen that by means of this construction a wire 11 being passed down through the slot 6 will be bent by the convex and concave 80 surfaces of the sides of the slot 6 and when it has reached the bottom of the slot 6 when moved laterally will fit into the curved groove 7 and held therein against vertical movement by means of the shouldered ends 8 of the groove and also will be 85 tightly held therein by the convex surface 10 of one side of the groove 6. The wire so bent and wedged into the curved groove will be held against transverse strain and prevented it from moving lengthwise. By this 90 means, the wires so fastened to posts or other supports at intervals will be prevented from sagging between said posts. It will be seen further that by means of this invention 95 all extra fasteners are dispensed with and that it will not be necessary to use extra means for securing and detaching the wire from connection with the insulator and that it may be readily placed into and pulled 100 out of said insulator.

What I claim as my invention is:—

An insulator comprising a base portion with a central threaded socket therein, and provided with an annular groove on its under 105 surface, said base having on its upper

portion a cone-shaped head which is divided
by a transverse slot extending down into
the same and terminating in a right angular
groove which extends into one portion of
5 the cone, said groove being curved continu-
ously and uninterrupted, and of the same
width throughout its entire length.

In testimony whereof I hereunto affix my
signature in presence of two witnesses.

DAVID H. FRIEND.

Witnesses:

RALPH W. FRIEND,
M. W. RICHARDS, Jr.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents,
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