248. SUPPORTS.
67.5

DRAFTSMAN.

No. 876,059. PATENTED JAN. 7, 1908.

W. H. IRONS.

SPLIT KNOB.

APPLICATION FILED OCT. 11, 1906.

Fig. 1.

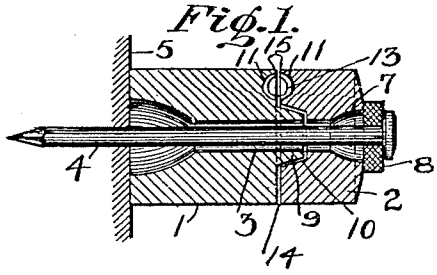


Fig. 3.

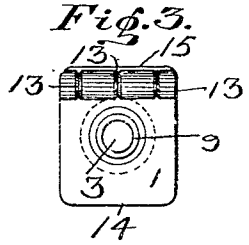


Fig. 2.

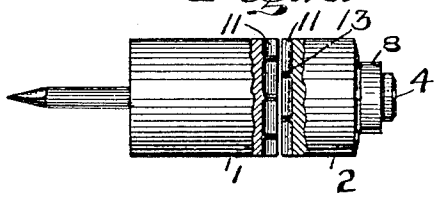


Fig. 4.

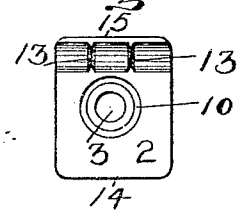
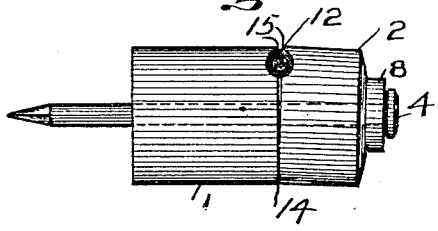


Fig. 5.



WITNESSES

Walter Samaries
M. Arthur Keller

INVENTOR

William H. Irons, by
Edward A. Lawrence,
his attorney.

UNITED STATES PATENT OFFICE.

WILLIAM H. IRONS, OF BEAVER, PENNSYLVANIA.

SPLIT KNOB.

No. 876,059. Specification of Letters Patent. Patented Jan. 7, 1908.

Application filed October 11, 1906. Serial No. 338,350.

To all whom it may concern:

Be it known that I, WILLIAM H. IRONS, a citizen of the United States, and residing in the borough of Beaver, in the county of Beaver and State of Pennsylvania, have invented or discovered new and useful Improvements in Split Knobs, of which the following is a specification.

My invention consists in certain new and useful improvements in split knobs for electric wiring.

In stringing wires for the transmission of electric currents or for other purposes "knobs" or members, preferably of glass, porcelain or other insulating material, attached to the building or support are used to which the wires or conductors are attached by any convenient means. Such knobs are frequently of the "split" type, viz., made in two parts between which the wire is secured by a clasping action. In my improved split knob I so form the component parts that a broad and stable bearing surface is provided for their abutting faces so that a firm and rigid clamping effect is produced without danger of crushing or spalling off portions of the material of the knob. I also avoid the tendency, present in the types of knob now in use, of the material to split or spall away from the wire grooves thus destroying the usefulness of the knob.

In the accompanying drawings, Figure 1 is a longitudinal section showing my split knob assembled and attached to a wall, studding or support; Fig. 2 is an elevation showing the material adjacent to the wire grooves partly broken away to show the construction; Fig. 3 is a plan view of the base portion; Fig. 4 is an inverted plan of the cap portion, and Fig. 5 is an elevation taken at right angles to Fig. 2 and showing the wire clamped in the knob.

The following is a detailed description of the drawings:—

The knob is composed of two parts, of which 1 is the base portion and 2 the cap. The material used is preferably glass, porcelain or other non-conductor. The cross sectional shape of the parts is substantially rectangular the corners and edges being preferably slightly rounded for convenience in manufacture.

3 is a hole passed longitudinally through the center of both base and cap and adapted to accommodate the nail 4 to secure the knob to the wall, studding or other support 5. The central portion of the base 1 adjacent to the studding 5 is preferably hollowed out to allow of a more reliable bearing against the studding and also for economy of material. The hole 3 in cap 2 is preferably countersunk as at 7 to permit the head of the screw, if such be used instead of nail 4, to sink flush with the surface of the cap. In case the nail 4 is used I prefer to provide a fibrous or other washer 8 to prevent fracture of the knob.

9 is a projection, substantially of a frustrated cone shape, integral with base 1 and adapted to engage recess 10 in cap 2 when the parts of the knob are assembled. The projection 9 is pierced through its axis by nail hole 3 as shown.

11—11 are grooves in the abutting faces of base 1 and cap 2, adjacent to and substantially parallel with the abutting edges of the said base and cap. These grooves, when parts are assembled, register and form a seat for the wire or conductor 12. 13—13 are small cross ribs in said grooves intended to sink into the insulation of the wire and more securely grip it.

In the use of my improved split knob, the base and cap are strung on the nail or screw 4 and the same is driven a short distance into the support 5, sufficient play being left between the base and cap to permit the introduction between the abutting faces thereof of the wire 12 which is seated in the abutting grooves 11—11. The nail or screw is now driven home bringing the cap into the close contact with the base shown in Fig. 5, thus firmly clamping the wire 12 in the grooves 11—11 to prevent its movement. To provide a sufficient clamping effect, the wire usually more than fills the abutting grooves so that the cap does not come into close contact with the base adjacent to the grooves 11—11 but the abutting surfaces of the cap and base are forced together with the greatest pressure adjacent to the edges 14—14. It is evident that unless there is a proper distribution of the strain and pressure at this point the material of the knob will be crushed or spalled off this destroying its usefulness. However, as the edges 14—14 are substantially straight and parallel with the wire grooves 11—11 the pressure is evenly distributed along said edges so that no undue crushing or spalling

effect appears. Inasmuch as the said edges are parallel with the wire 12 in the grooves 11—11 the pressure on said wire is obtained evenly along its inclosed length so that the clamping effect is even and regular throughout the entire length of the grooves and no wabbling or loosening motion can be set up. By rounding slightly the edges 14—14 I obtain a better bearing surface between said edges and avoid cracking off small sections of material. The edges 15—15, adjacent to the grooves 11—11, are straight and substantially parallel with the grooves 11—11 so that the spalling or splitting tendency which appears adjacent to the wire grooves in the old types of knobs is not present. If the said edges 15—15 were curved as in the case of a knob having a circular or oval cross section, the uneven thickness of material adjacent to the grooves would produce this tendency which is the cause of a large percentage of breakage in the types of knobs now in use.

It is evident from the above that my improved knob is capable of producing a rigid and reliable clamping effect on the wire and is not subject to the splitting, spalling and crushing tendencies which exist in the types of knobs now in general use. It is also evident that an additional set of grooves, 11—11, may be provided on the opposite side of the base and cap thus adapting the knob to the attachment of two wires or conductors, if desired.

What I desire to claim is:—

1. A split knob of substantially rectangular cross section composed of a base and a cap, a nail hole through the center of said base and cap, and a pair of registering wire grooves in the opposing faces of said cap and base having a bearing on the wire to be secured equal in length to the bearing of the two abutting edges of said cap and base and parallel thereto, substantially as and for the purpose set forth.

2. A split knob of substantially rectangular cross section composed of a cap and a base, a nail hole through the center of said cap and base, and a pair of registering wire grooves in the opposing faces of said cap and base on one side of said nail hole maintaining a bearing on the wire to be secured of equal length as the bearing between the abutting edges of said cap and base on the other side of said nail hole and parallel thereto, substantially as and for the purpose set forth.

Signed at Pittsburg, Pa., this 9th day of October, 1906.

WILLIAM H. IRONS.

Witnesses:

J. H. HARRISON,

EDWARD A. LAWRENCE.