

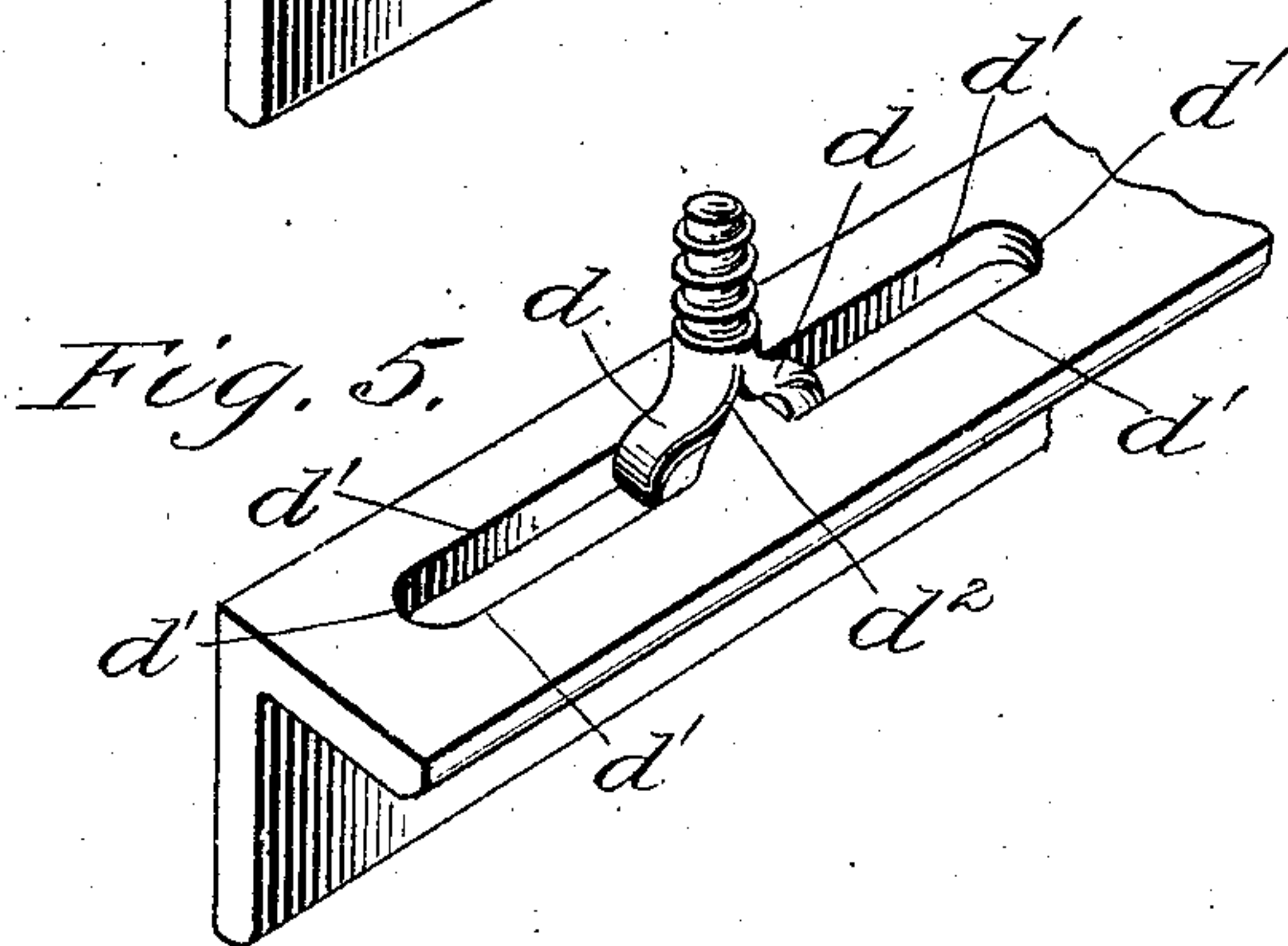
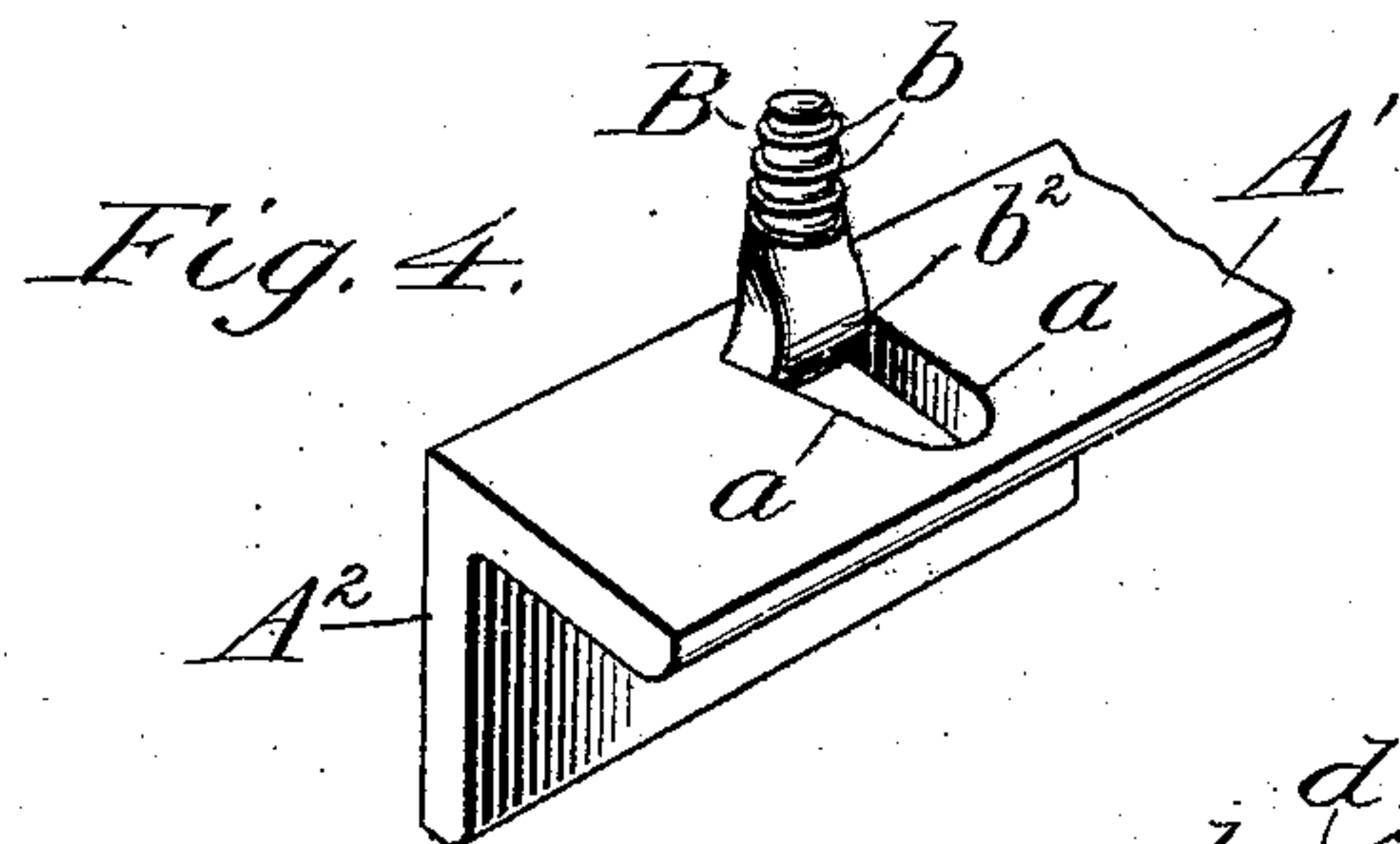
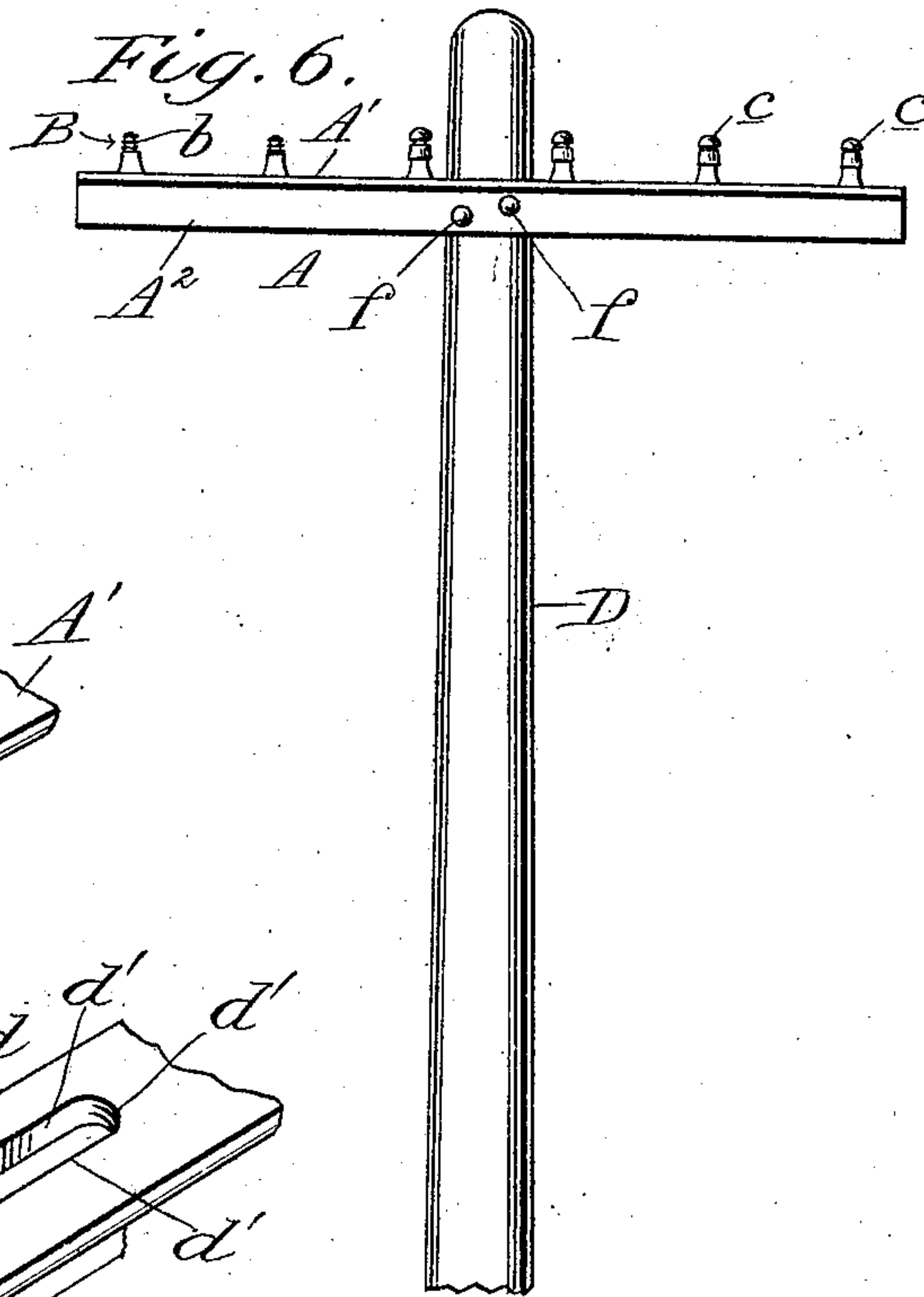
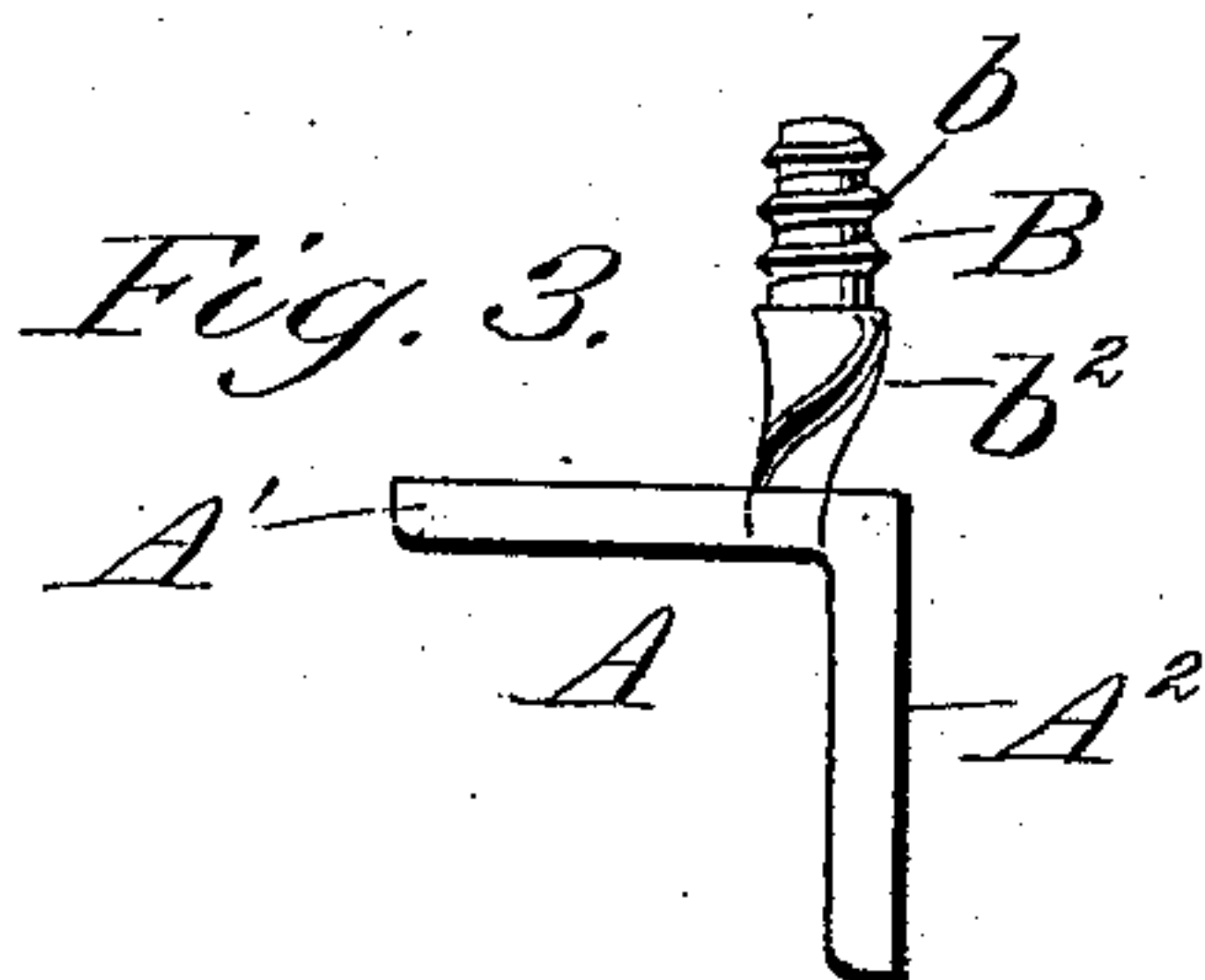
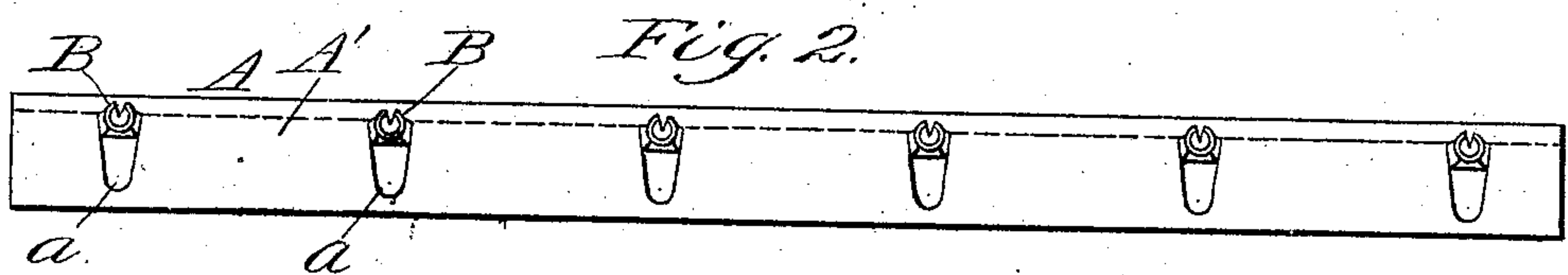
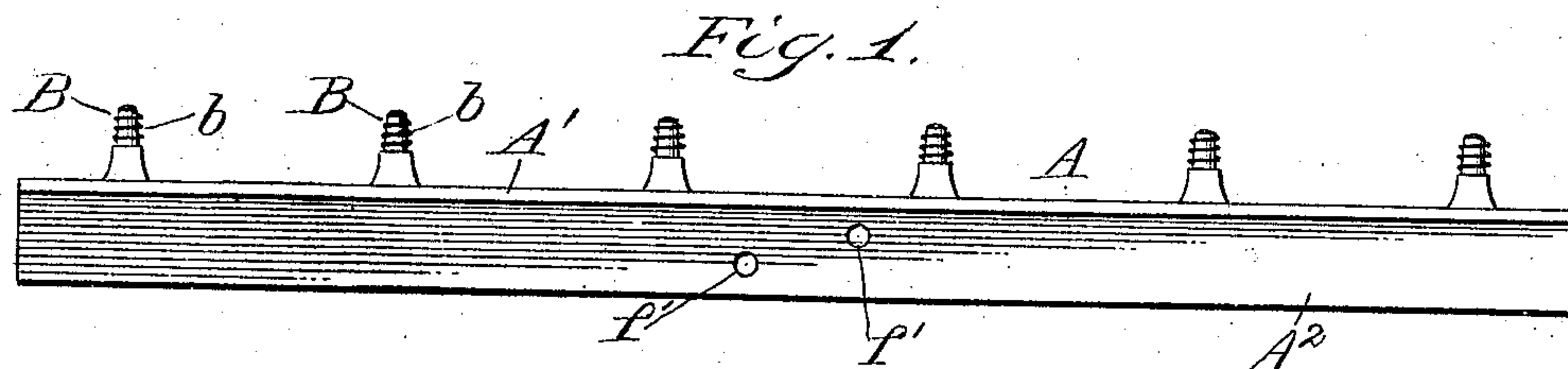
No. 848,269.

PATENTED MAR. 26, 1907.

H. W. SMITH.

CROSS TREE FOR SUPPORTING ELECTRIC CONDUCTORS.

APPLICATION FILED JULY 31, 1906.



Witnesses

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# UNITED STATES PATENT OFFICE.

HARRY W. SMITH, OF WORCESTER, MASSACHUSETTS.

## CROSSTREE FOR SUPPORTING ELECTRIC CONDUCTORS.

No. 848,269.

Specification of Letters Patent.

Patented March 26, 1907.

Application filed July 31, 1906. Serial No. 328,505.

*To all whom it may concern:*

Be it known that I, HARRY W. SMITH, a citizen of the United States, residing at Worcester, in the county of Worcester and State of Massachusetts, have invented certain new and useful Improvements in Cross-trees for Supporting Electric Conductors, of which the following is a specification.

The invention to be hereinafter described relates to crosstrees for supporting electric wires, and while applicable to the support of any character of suspended electric wire the embodiment of the invention herein selected for illustration and description has more particular reference to the support of telegraph or telephone and like electric conductors.

In the support of electric conductors of the type herein generally referred to a glass or other insulating support is connected to a crosstree by means of a pin or stud, and the conductor as it passes this station is secured thereto by appropriate means. These crosstrees and pins or studs as heretofore produced have been open to various objections incident either to the materials employed, the separate formation of the various parts, complication of structure, or the labor and expense of manufacture.

With these and other defects in view the object of the present invention is to provide a crosstree for the support of electric conductors wherein the parts shall be simple in construction, strong and durable in withstanding the various strains to which they are subjected, and economical both in construction and installation.

The invention consists of the parts and combinations to be hereinafter fully described and then definitely pointed out in the claims.

In the drawings, which serve to illustrate one or two different forms the invention may assume and without attempting to show them all, Figure 1 is a front elevation of a crosstree embodying the subject-matter of the present invention. Fig. 2 is a plan view thereof. Fig. 3 is an end view of the crosstree of Figs. 1 and 2. Fig. 4 is a perspective detail view, parts being broken away, to show more particularly the formation of the insulator-supports. Fig. 5 is a like perspective detail view of a slightly-modified form of the device, and Fig. 6 shows the crosstree and its insulator-supports secured to a telegraph or like pole for suspending conductors in an overhead system.

Referring to the drawings, Figs. 1 to 4, as illustrating one practical form of the invention, A represents the crosstree, formed of metal and strengthened to resist transverse bending forces by being made of angular form. In the present instance the cross-sectional form of the crosstree is that of the angle-iron, whereby the horizontal portion or flange A' may serve to effectually resist the pulling strains of the conductors in a horizontal direction, while the vertical portion or flange A<sup>2</sup> may serve to directly resist the downward pull of the conductors—as, for instance, where the crosstrees are on different levels.

Projecting upward from the crosstree are the insulator-supports, which as a whole may be identified by the letter B. These supports are disposed at suitable intervals apart and are integral with the crosstree itself, said supports being formed by bending upward a portion of the material of the crosstree.

In the form of the insulator-supports shown by Figs. 1 and 4 the horizontal flange A' has transverse portions thereof turned upward. These may be formed in any desired manner, as by punching or cutting the flange along the line *a*, leaving the base portion of the tongue thus produced integral with the flange and turning the free end up. The metal of the upward-projecting tongue is then provided with suitable devices—as, for instance, screw-thread *b*—for engaging and holding the insulators *c*, Fig. 6.

In Fig. 5 the insulator-support is illustrated as formed from two tongues *d d*, cut or punched along the lines *d' d' d'*, leaving the adjacent portions of each integral with the crosstree. The free ends of these tongues are then turned upward and brought together, as shown in Fig. 5, appropriate securing means, such as screw-threads, being provided thereon for engaging and holding the insulators.

It may be desirable in some cases to round off the side edges *b<sup>2</sup>*, Fig. 3, or *d<sup>2</sup>*, Fig. 5, of the insulator-supports by bending these edges about the body of the support.

In the illustrations of the two forms of the device selected for exploiting the invention it will be noted that the insulator-support is an integral part of the crosstree and that in the production of such supports the flange of the crosstree is not materially weakened, because the cut for producing the support does not extend through the free edge of the



flange. This is a desirable construction, but not an essential of the invention, for its use in some connections would not be seriously impaired if the tongues forming the supports  
 5 were cut through to the edge of the flange. It is likewise obvious also that the tongue might be cut from either flange and turned upward, as described.

To connect the crosstree to a support—as, for instance, a pole D, Fig. 6—appropriate and suitable means may be employed—as, for instance, bolts *ff* or other devices, which can be passed through suitable holes *f' f'* in the vertical flange, Fig. 1.

15 Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. A device for supporting electric conductors, comprising a metal crosstree and insulator-supports projecting from said tree  
 20 and formed integral therewith.

2. A crosstree for supporting electric conductors, said tree formed of metal flanges arranged at an angle to each other, and insu-

lator-supports formed integral with one of  
 said flanges and projecting therefrom. 25

3. A crosstree for supporting electric conductors, said tree formed of metal, and an insulator-support formed by a portion of said metal bent to project therefrom. 30

4. A crosstree for supporting electric conductors, said tree formed of metal and an insulator-support formed by a portion of said metal bent to project therefrom, said insulator-support being provided with means for  
 35 securing the insulator thereto.

5. A crosstree for supporting electric conductors, said tree formed of metal, and an insulator-support formed by a portion of said metal bent to project therefrom, said insula-  
 40 tor-support being provided with screw-threads for connecting the insulator thereto.

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

HARRY W. SMITH

Witnesses:

E. G. BOUTELLE,  
 M. T. CRIMMINS.