A. F. FEST.

WIRE SUPPORT.

APPLICATION FILED SEPT. 5, 1914.

1,155,716.

Patented Oct. 5, 1915.

2 SHEETS—SHEET 1.

Fig. 1.

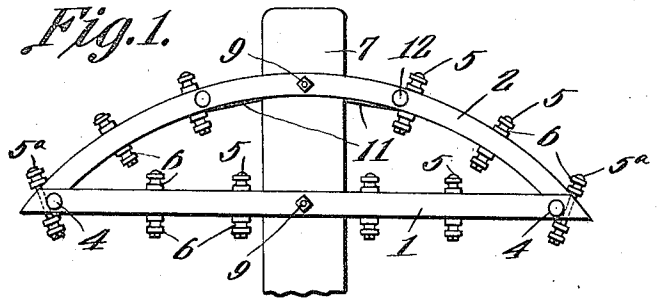


Fig. 4.

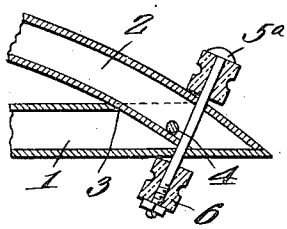


Fig. 2.

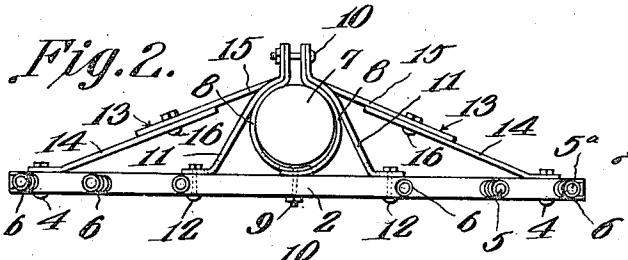


Fig. 5.

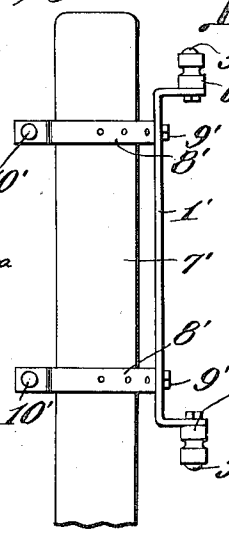


Fig. 7.

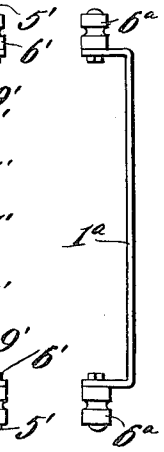


Fig. 3.

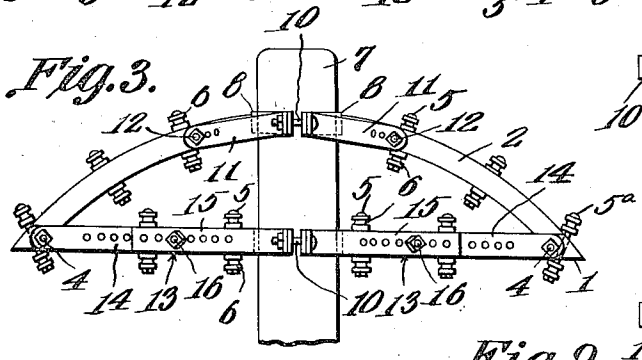


Fig. 9.

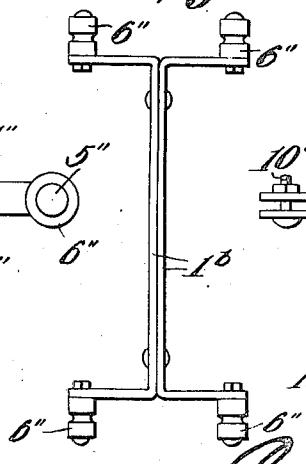


Fig. 8.

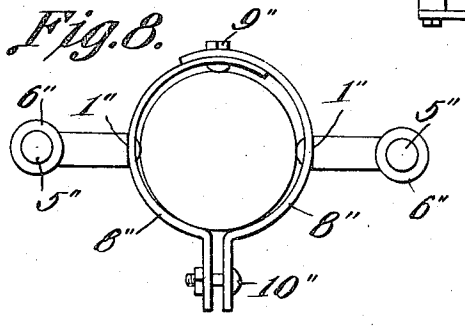
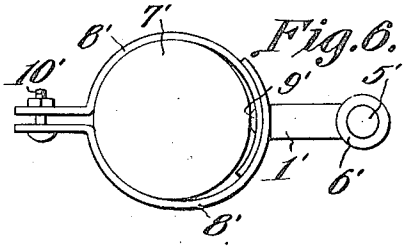


Fig. 6.



Witnesses

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2 SHEETS—SHEET 2.

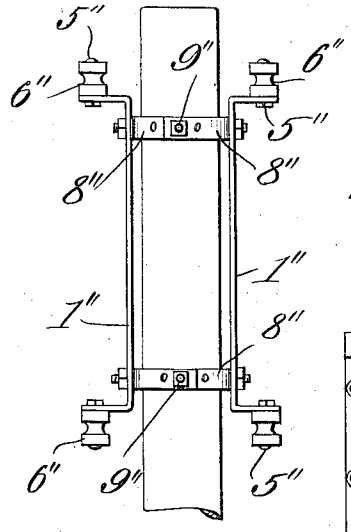


Fig. 10.

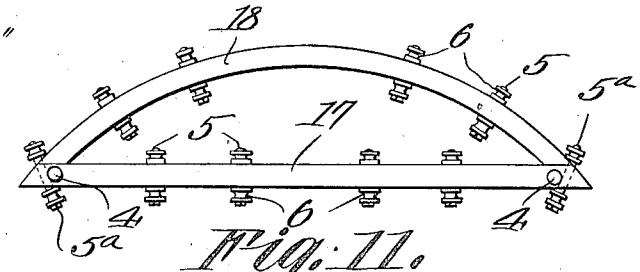


Fig. 11.

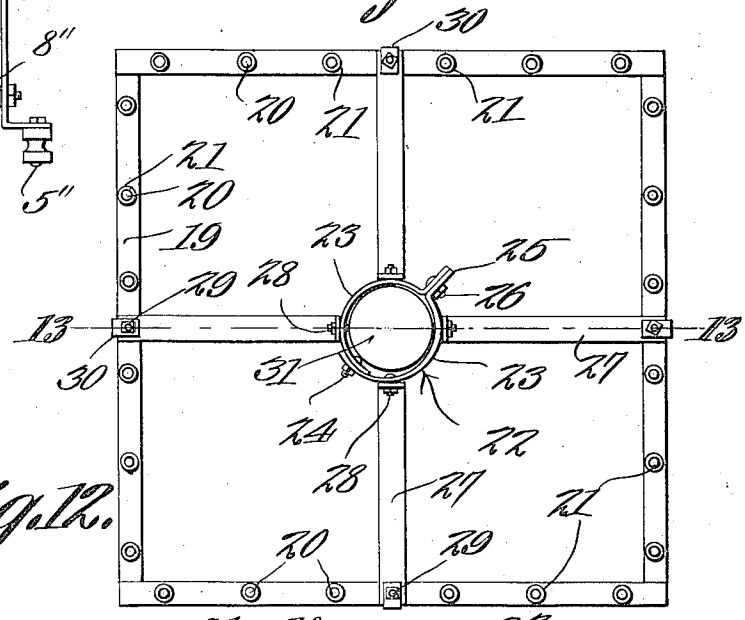


Fig. 12.

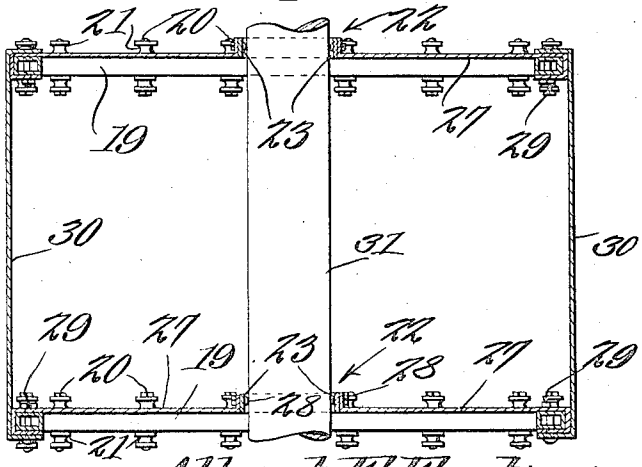


Fig. 13.

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WIRE-SUPPORT.

1,155,716. Specification of Letters Patent. Patented Oct. 5, 1915.

Application filed September 5, 1914. Serial No. 860,399.

To all whom it may concern:

Be it known that I, ALBERT F. FEST, a citizen of the United States, residing at Audubon, in the county of Audubon and State of Iowa, have invented a new and useful Wire-Support, of which the following is a specification.

The present invention appertains to wire holders or supports, and aims to provide a novel and improved device for supporting telephone and telegraph wires and the like.

It is the object of the present invention to provide a wire holder or support of peculiar construction adapted to hold a plurality of insulators for the support of the telephone or telegraph wires, in combination with unique means for attaching the holder or support to various poles.

With the foregoing and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of the invention herein disclosed can be made within the scope of what is claimed without departing from the spirit of the invention.

The invention has been illustrated in the accompanying drawing, wherein:—

Figure 1 is a front view of an improved cross arm constructed in accordance with the present invention. Fig. 2 is a plan view of the cross arm. Fig. 3 is a rear view thereof. Fig. 4 is an enlarged sectional detail taken through one end of the cross arm. Fig. 5 is a side elevation of another form of wire holder. Fig. 6 is an enlarged plan view of the holder illustrated in Fig. 5. Fig. 7 is a side elevation of a non-tangler or wire spacer adapted to be employed in connection with the holder or support illustrated in Fig. 5. Fig. 8 is a plan view of another form of the invention, and Fig. 9 is a side elevation of a non-tangler or spacer adapted to be employed with the holder or support illustrated in Fig. 8. Fig. 10 is a reduced side elevation of the modified form illustrated in Fig. 8. Fig. 11 is a side elevation of a non-tangler or wire spacer adapted to be employed with the cross arm illustrated in Figs. 1, 2 and 3. Fig. 12 is a plan view of a wire holder or support adapted to be employed upon a corner post. Fig. 13 is a sectional view taken on the line 13—13 of Fig. 12.

Referring specifically to Figs. 1 to 4, inclusive wherein the improved cross arm is illustrated, the said cross arm embodies a lower horizontal hollow member or section 1, and an upper curved or arched hollow member or section 2 which are terminally secured together, to jointly provide the cross arm proper. In order to terminally secure the members 1 and 2 together, the ends of the lower member 1 are provided with upwardly opening recesses or cut away portions 3, which receive the ends of the member 2, and bolts or other securing members 4 are engaged through the sides of the terminal portions of the members 1 and 2, to secure the ends of the upper member 2 within the ends of the lower member 1.

The cross arm 1—2 is adapted to hold a comparatively large number of wires, and to this end a series of bolts 5 is engaged through the top and bottom of each member of the cross arm, and insulators 6 are engaged upon the upper and lower protruding end portions of the bolts 5. At the ends of the cross arm, inclined bolts 5^a are engaged through the top of the member 2 and through the bottom of the member 1, and have upper and lower insulators 6 engaged thereto. The number of bolts 5 may be increased or decreased, to vary the number of insulators, under the various circumstances, it being evident that the telephone or telegraph wires may be applied to the insulators 6 in the usual manner for supporting the wires.

In order to apply the cross arm to a pole 7, the lower and upper members 1 and 2, respectively, are each provided with a rear adjustable clamp, for embracing the pole 7. Each of the clamps embodies a pair of arcuate strips or sections 8 which have one pair of ends overlapped and apertured, a bolt or securing member 9 being engaged through registering apertures of the strips 8 and engaged through the corresponding member of the cross arm. Thus, the strips or sections 8 of the upper and lower clamps are adjustably connected and are engaged to the intermediate portions of the upper and lower members 2 and 1, respectively, of the cross arm, and the rear or free ends of the sections of the clamps are connected by clamping bolts 10. When the bolts 9 are removed, the sections of each clamp may be adjusted, in order that when the bolts 9 are again inserted through the registering

apertures of the clamp sections, and the bolts 9 are again applied to the members of the cross arm, the clamps will be able to accommodate the pole for which the clamps have been set. In this manner, the clamps may be adjusted to various diameters for attaching the cross arm to various sizes of poles, and without the necessity of securing the cross arm to the pole by means of lag screws, or the like. The upper and lower clamps in embracing the pole 7, will hold the cross arm against swinging in a vertical plane, and the members 1 and 2 being carried by the clamps and being terminally secured together, as described, will brace each other.

In order to brace the cross arm against swinging in a horizontal plane, a pair of diagonal or diverging straps 11 have their forward or remote ends secured to the upper member 2 of the cross arm by means of bolts 12 engaged through the sides of the said member 2, and the free portions of the straps 11 rest against the free portions of the sections 8 of the upper clamp to be engaged by the corresponding bolt 10. It is to be noted that the free ends of the clamp sections 8 are bent angularly so as to project outwardly for the engagement of the bolts 10 thereto, and as indicated in Fig. 2, the straps 11 are curved to conform to the sections 8 of the upper clamp and the free ends of the straps 11 are bent to rest snugly against the free end portions of the upper clamp to be engaged by the upper bolt 10, whereby the bolt 10 being tightened, will not only cause the upper clamp to embrace the pole, but will also tighten the straps or stays 11 for bracing the upper member 2. The lower member 1 is similarly braced against horizontal movement, and to this end a pair of extensible or adjustable stays or braces 13 are provided, the same being arranged diagonally or at an obtuse angle with respect to one another. Each of the stays or braces 13 embodies a strip 14 and a strip 15 which are overlapped and apertured for the engagement of a bolt or securing member 16 to enable the stays or braces 13 to be adjusted to various lengths. The remote ends of the stays or braces 13 are engaged to the bolts 4, while the rear or free ends of the braces or stays 13 are engaged to the ends of the lower bolt 10. Thus, the lower bolt 10 being tightened, not only tightens the sections 8 of the lower clamp, but will also tighten the stays or braces 13 for bracing the lower member 1, as well as the upper member 2 of the cross arm.

In view of the foregoing, it will be obvious that the clamps and braces may be adjusted in order that the cross arm may be attached to poles of various diameters, and without impairing the utility of the clamps.

The wire holder or support delineated in Figs. 5 and 6 is adapted for two wires only, and embodies an upright bar 1′, having its ends bent angularly and carrying bolts 5′ to which are applied the insulators 6′. Upper and lower clamps are provided for the bar 1′ and each of the clamps embodies a pair of arcuate strips or sections 8′ having one pair of ends apertured and overlapped for the engagement of a bolt or securing member 9′, which is engaged through the bar 1′. The other or free ends of the strips or sections 8′ are bent angularly and have bolts or clamping members 10′ engaged therethrough. It will be observed that the clamps are adjustable to accommodate various sizes of poles 7′ similar to the clamps of the cross arm above described.

In Fig. 7 there is illustrated a non-tangler or spacer for the pair of wires held by the holder or support illustrated in Figs. 5 and 6. This non-tangler or spacer embodies an upright bar 1^a carrying the insulators 6^a at its end for the engagement of the wires to hold them spaced or out of engagement. The non-tangler or spacer is adapted to be employed intermediate the poles.

The holder illustrated in Fig. 8 embodies a pair of upright bars 1″ each of which is similar to the bar 1′ illustrated in Fig. 5, and which have the bolts 5″ carrying the insulators 6″. The upper and lower clamps of the holder illustrated in Fig. 8, each embody a pair of arcuate strips or sections 8″ which have certain ends overlapped and engaged by bolts 9″ while the other ends of the sections 8″ are bent angularly and engaged by a clamping bolt 10″ in order that the clamp may be adjusted for various sized poles.

In Fig. 9, there is illustrated a non-tangler or spacer for use with the holder illustrated in Fig. 8, the non-tangler or spacer embodying a pair of upright strips 1^b which are riveted or otherwise secured together, and which have their ends bent angularly away from each other to carry the insulators 6″ for holding the wires spaced or out of engagement with each other.

The non-tangler or wire spacer illustrated in Fig. 11 embodies a lower straight section 17, and the upper arched or curved section 18 which are terminally secured together by means of the bolts 4, the same as the cross arm illustrated in Figs. 1, 2 and 3, and bolts 5^a and 5 are engaged through the sections 17 and 18 for attaching the insulators 6 thereto. The non-tangler is adapted to be employed between the poles for holding the wires spaced and out of contact.

The wire support or holder illustrated in Figs. 12 and 13 is adapted to be employed upon corner posts, whereby the wires may be crossed, or extended angularly from one direction to another. This modified form of

support or holder embodies the upper and lower rectangular frames 19, each of which has the bolts 20 engaged therethrough and carrying the upper and lower insulators 21 for the wires or conductors. A pole-embracing clamp 22 is disposed centrally within each of the frames 19, and embodies a pair of arcuate sections 23 having certain ends apertured and overlapped for the angagement therethrough of a bolt of securing element 24, while the other ends of the sections 23 are bent angularly to form ears 25, through which a clamping bolt 26 is engaged to cause the sections 23 to embrace the pole. By adjusting the bolts 24, the sides of the clamps may be adjusted for various diameters of poles.

The frames 19 are secured to the clamps 22, by means of radial bars 27 which have their inner ends bent angularly and bolted as at 28 to the sections 23 of the respective clamps, while the outer ends of the bars 7 are bolted as at 29, to the side members of the frames. Upright strips or stays 30 extend between the outer ends of the bars 27, and are terminally engaged to the bolts 29 for holding the upper and lower frames rigid. The clamps 22 may be readily applied to the pole 31, whereby the wires or conductors may be properly extended to the insulators 21 and then lead off in the direction desired.

Having thus described the invention, what is claimed as new is:—

1. In a device of the character described, a cross arm, a securing element engaged therethrough, a clamp embodying a pair of sections having overlapped apertured ends adjustably engageable with said securing member, a clamping bolt connecting the other ends of the clamp sections, and adjustable braces connecting the clamping bolt and cross arm.

2. In a device of the character described, a cross arm embodying upper and lower members having their ends secured together, a securing element engaged through each of said members, a clamp for each of said members embodying a pair of sections having overlapped apertured ends adjustably engaging the respective securing element, a clamping bolt connecting the other ends of the sections of each clamp, and adjustable braces connecting each clamping bolt and the respective member of the cross arm.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

ALBERT F. FEST.

Witnesses:
H. J. HOOGENAKKER,
L. C. BAGLEY.