March 29, 1938. C. H. KLEIN 2,112,370

WIRE SPACING BRACKET

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FIG. 2

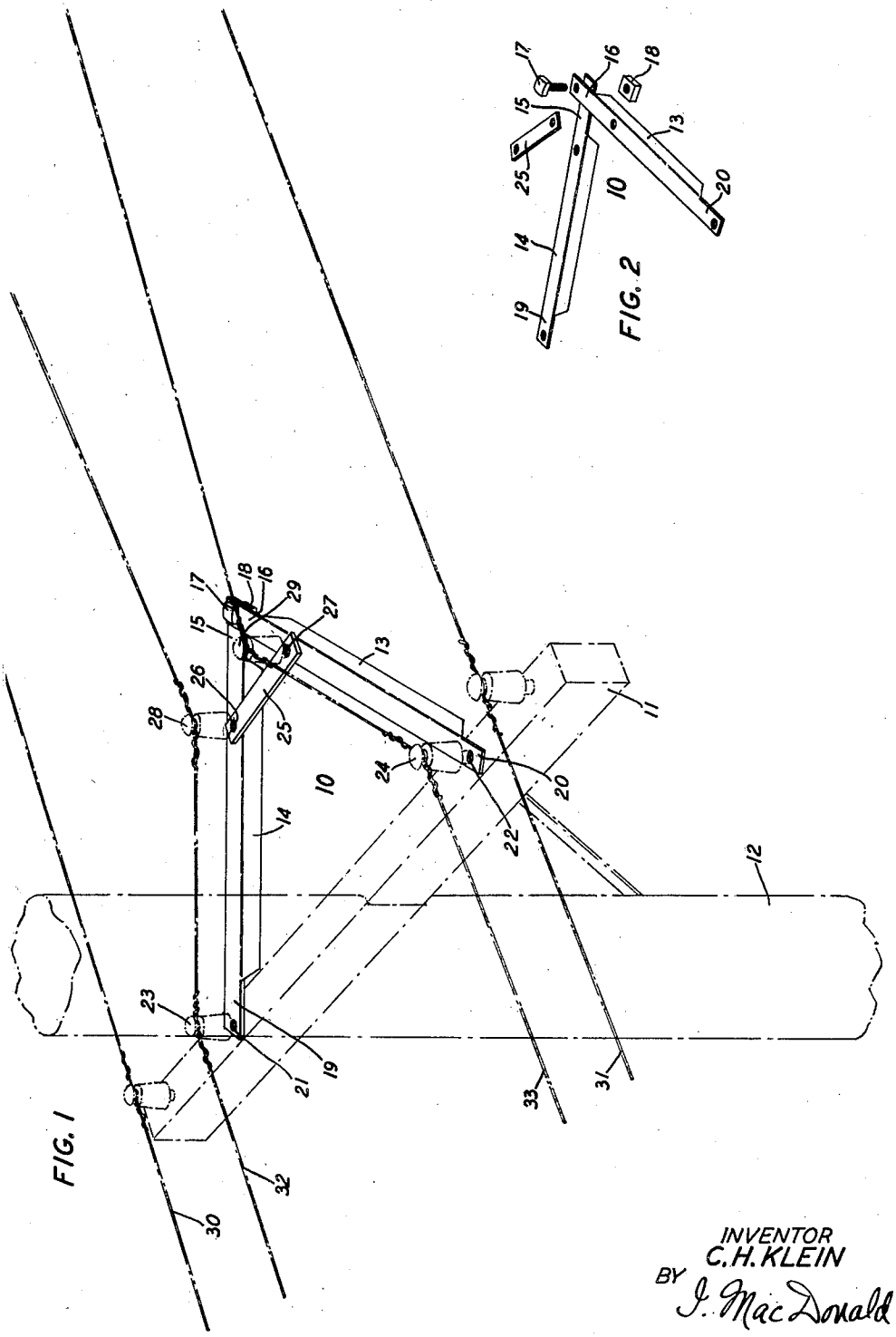

FIG. 1

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FIG. 3

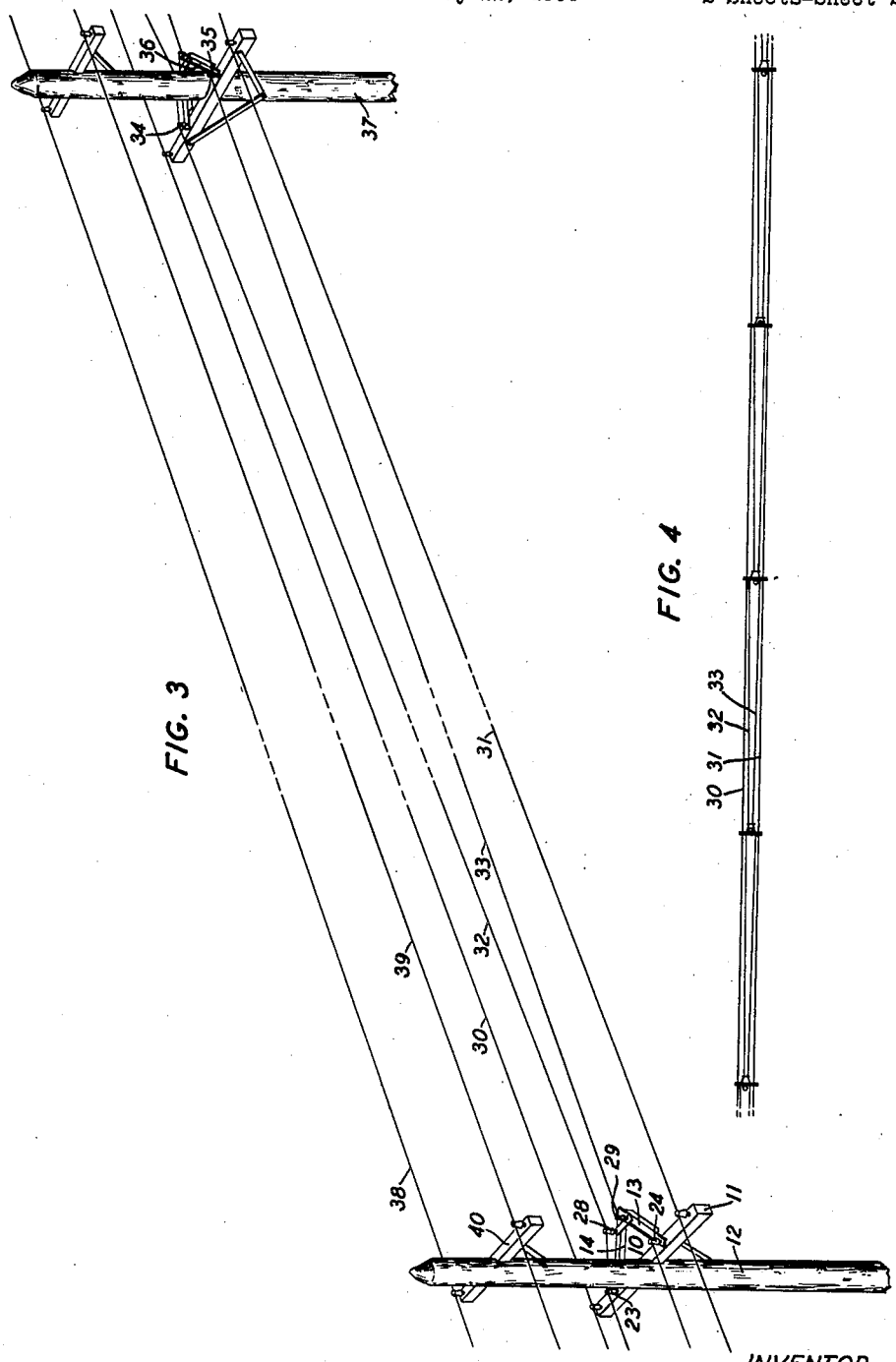

FIG. 4

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Patented Mar. 29, 1938 2,112,370

UNITED STATES PATENT OFFICE

2,112,370

WIRE SPACING BRACKET

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Application May 22, 1935, Serial No. 22,693

7 Claims. (Cl. 173—321)

This invention relates to a pole pair wire spacer and more particularly to a bracket for spacing wires at telephone poles.

The object of this invention is to provide a simple unitary structure for spacing a pair of wires at telephone poles and the like.

A further object of the invention is to provide a means which may be secured to existing cross-arms which will so space the pole pair wires that an adequate climbing space is provided.

A still further object of the invention is to provide a pole pair spacing device which will not change the electrical characteristic of the transmission line attached thereto.

A still further object of the invention is the provision of a device which will be cheap to manufacture and easy to install.

The preferred form of my invention comprises two arms of angle steel, bolted together at their ends. The free ends of these arms are spaced apart and are secured to the cross-arm by means of two steel insulator pins which also support the insulators for the transmission wires, thus forming, with a triangular shaped bracket, the base of which is formed by the existing cross-arm and the apex by the opposite ends of the arms which are secured together and project some distance out from the pole. Located a short distance from the apex of the bracket is a cross-brace which is secured to the arms by means of an additional pair of steel insulator pins, these pins also supporting insulators for the wires. After the free ends of the bracket have been secured to the cross-arm, by means of the steel insulator pins, insulators are mounted thereon. The transmission wires are then secured to the widely spaced insulators at the cross-arm, and brought over the closely spaced insulators located on the projecting end of the bracket. The wires from this point stretch out and are secured to the bracket on the next pole by means of the insulators mounted thereon, in the manner heretofore described. By installing a bracket of this type at each pole, there is provided a suitable space between the transmission wires to allow a workman to pass therebetween.

Referring now to the drawings:

Fig. 1 is a view in perspective of the device secured to a cross-arm of a telephone pole with the transmission wires secured to the insulators;

Fig. 2 is an exploded view in perspective illustrating the manner in which these parts are assembled;

Fig. 3 is a view in perspective illustrating the improved bracket secured to the cross-arms of adjacent telephone poles with the transmission wires secured to the insulators on the bracket; and

Fig. 4 is a schematic view illustrating how the wires are spaced apart by means of the bracket of this invention.

The preferred embodiment of this invention comprises a bracket which is particularly adapted for use with telephone and telegraph circuits, which require the utmost care in their installation in order to reduce the inductive effect between the conductors and maintain an average spacing therebetween.

In the joint use of telephone poles, that is poles which are used both by the telephone companies and the electric light companies, it is customary to place the electric light or power wires some distance above the telephone wires in order to prevent the telephone lines from becoming affected by the power wires. In these instances, of which there are a large number, some means must be provided by the telephone companies to spread their wires apart at the pole so that a lineman may reach the electric light wires above without becoming entangled or interfered with by the telephone wires.

In providing sufficient climbing space for a lineman between the wires, the spacing of the wire must be done in such a manner that the average distance between the wires of the transmission line remain substantially the same.

As shown in Fig. 1, the bracket of this invention provides means for spacing the transmission wires apart and yet maintain an average space therebetween which is substantially the same throughout the length of the wires between the poles.

The bracket **10** is arranged to be secured to the cross-arm **11** of the telephone pole **12** and comprises a pair of extending angle members or arms **13** and **14**, preferably constructed of angle steel, the ends **15** and **16** of which are secured together by means of the bolt and nut **17** and **18**. The free ends **19** and **20** of the arms **13** and **14** are spaced apart and are secured to the cross-arm **11** by means of the steel insulator pins **21** and **22**, upon which the insulators **23** and **24** are mounted.

Located a short distance from the apex of the arms **13** and **14** is a strip or brace **25**. This brace is secured to the upper portion of the arms **13** and **14** by means of the steel insulator pins **26** and **27** upon which are mounted the insulators **28** and **29**.

As shown in Fig. 2, the bracket comprises two

similar portions **13** and **14** which may be readily nested together for shipment, thereby providing a device which may be shipped in knockdown condition and readily assembled on the job, with a minimum amount of inconvenience and expense.

With the bracket installed as shown in Fig. 1, the wires **30** and **31** are not disturbed. However, the inner pair **32** and **33**, which would interfere with the lineman, are spread apart and secured to the widely spaced insulators **23** and **24**. The wires **32** and **33** are then brought together and secured to the closely spaced insulators **28** and **29** which are located on the projecting arms of the bracket adjacent the brace **25**. From the insulators **28** and **29**, the wires **32** and **33** stretch out and are secured to the widely spaced insulators **34** and **35** on the bracket **36** which is located on the next pole **37**, as shown in Fig. 3. From the bracket **36** on pole **37** the wires pass on to the next succeeding pole as heretofore described in detail with regard to the poles **12** and **37** as shown in Fig. 1.

As shown in Figs. 1 and 3, the bracket of this invention provides an adequate space between the wires **32** and **33**, thereby permitting a lineman to reach the wires **38** and **39** on the cross-arm **40** without interference. Due to the wide and narrow spacing of the insulators **23** and **24** on the arm **11** and the insulators **28** and **29** on the bracket **10**, the required average space between the line wires **30**, **31**, **32**, and **33** is maintained.

Applicant has provided a device for increasing the spacing of telephone line wires at poles which is not only inexpensive to manufacture, but comprises a minimum amount of parts and can be readily installed without the use of special tools.

While there is shown and described herein the preferred embodiment of the invention, it is understood that it is not limited or confined to the precise details of construction herein disclosed as modifications and variations may be made without departing from the spirit of the invention.

What is claimed is:

1. A bracket for spacing telephone wires comprising a pair of arms spaced apart at one end and secured to the cross-arm of a telephone pole, the opposite ends of said arms joined together and projecting some distance out from said cross-arm, and a plurality of insulators mounted on said arms.

2. A bracket for spacing telephone wires comprising a pair of arms spaced apart at one end and secured to the cross-arm of a telephone pole by insulator pins passing therethrough, the opposite ends of said arms secured together and extending some distance out from said cross-arm, and a plurality of insulators mounted on said insulator pins.

3. A bracket for spacing telephone wires comprising a pair of arms spaced apart at one end, means passing through the ends of said arms for securing them to the cross-arm of a telephone pole, the opposite ends of said arms joined together and extending some distance away from said cross-arm, and insulators mounted on said securing means and on the projecting portion of said bracket.

4. A bracket for spacing telephone wires comprising a pair of similar arms spaced apart at one end and secured to the cross-arm of a telephone pole, securing means comprising insulator pins passing through said arms into said support, the opposite ends of said arms joined together and projecting some distance out from said cross-arm, insulator pins mounted on the projecting portions of said arms and insulators mounted on said insulator pins.

5. A bracket for spacing telephone wires comprising a pair of arms, spaced apart at one end and secured to the cross-arm of a telephone pole, a pair of insulators mounted on each arm, the opposite ends of said arms joined together and extending out some distance from said cross-arm, and a brace extending across said arms adjacent said joined ends.

6. A bracket for spacing telephone wires comprising a pair of arms spaced apart at one end and secured to the cross-arm of a telephone pole, a pair of insulators and mountings therefor positioned on each arm, the opposite ends of said arms joined together and extending out some distance from said cross-arm, a brace extending across said arms adjacent said joined ends and secured thereto by said insulator mounting means.

7. A bracket for spacing telephone wires and the like comprising a pair of metal angle members spaced apart and secured at one end to a cross-arm, the opposite ends of said arms joined together and projecting some distance out from said cross-arm and a plurality of insulators mounted on said arms.

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