

L. G. HOYT

GAIN FIXTURE FOR POLES

Filed July 1, 1942



UNITED STATES PATENT OFFICE

2,338,435

GAIN FIXTURE FOR POLES

Leon G. Hoyt, Summit, N. J., assignor to Bell Telephone Laboratories, Incorporated, New York, N. Y., a corporation of New York

Application July 1, 1942, Serial No. 449,367

3 Claims. (Cl. 189—33)

This invention relates to supporting devices and more particularly to a bracket or gain fixture for supporting, at an angle, crossarms on telephone poles which are erected on uneven terrain or grades.

The object of this invention is the provision of a crossarm bracket or gain fixture which enables the crossarm to be installed in a tilted position.

Another object of the invention is the provision of a crossarm supporting bracket or fixture which eliminates the cutting of the gain in the pole to accommodate the crossarm.

A further object of this invention is the provision of a crossarm bracket or gain fixture which will permit the crossarm to be secured to the pole and tilted at two different angles.

In the present method of securing crossarms to poles, which are erected on steep grades, it is the practice to secure the crossarm to the pole by cutting a deep angular gain in the pole or by using a cumbersome iron wedge-shape bracket to effect the tilting of the crossarm.

Both of these methods are unsatisfactory since they are expensive and time consuming. Furthermore, the pole is considerably weakened where the deep angular gain is cut into the pole. With the cast-iron grade gain, the initial cost is high and it does not cover a sufficiently wide range of grades.

In accordance with the preferred form of this invention, there is provided a gain fixture or bracket which comprises a flat metal strip, bent intermediate its ends to provide angular faces to either of which the crossarm may be bolted. The ends of the gain are substantially flat, in the same plane and are provided with apertures through which the bolts or screws, which are used to secure the gain to the pole, are passed.

Inasmuch as the two angular faces of the gain fixture are at different angles, by reversing the fixture; that is end for end, a different angle is provided. By this construction a single fixture will accommodate a wide range of grades and permit the line wire positioned on the insulators, which are mounted on the crossarm, to lie parallel with the groove in the insulator thereby avoiding injury to the wire.

The invention will be more clearly understood when read in connection with the following detailed description in which:

Fig. 1 is a fragmentary section of an open-wire line with the gain fixture of the invention supporting the crossarm;

Fig. 2 is a view in perspective of the gain fixture illustrating one of its applications with respect to

the pole and crossarm which are shown in dot and dash lines;

Fig. 3 is a view similar to Fig. 2 but with the gain fixture in the alternative position;

Fig. 4 is a side elevation showing the gain fixture secured to a fragment of a pole with the crossarm in position on the gain; and

Fig. 5 is a front elevational view of Fig. 4.

The improved gain fixture of my invention is shown at 9 on the accompanying drawing and with particular reference to Figs. 2 and 3 comprises a flat metallic strip, of substantial cross section, bent at its middle portion 10 to provide two angular faces 11 and 12, each of which is at a different angle with respect to the horizontal. They are provided with apertures 13 and 14, respectively, for accommodating the crossarm bolts 23 which secure the crossarm to the fixture. The ends of the fixture terminate in portions 15 and 16 which are in the same plane and are secured to the pole by means of suitable bolts and screws which pass through the apertures 17 and 18 located therein.

As shown in Fig. 2, the fixture is positioned in such a manner that the angular face 11, which is at an angle of approximately 17 degrees with respect to the vertical, is in position to have the crossarm secured thereto, while in Fig. 3, the fixture has been turned end for end so that the angular face 12, which is at an angle of approximately 34 degrees with respect to the vertical, is presented.

The angular face 11 is intended to be used when grades of 15 to 48 per cent are encountered and the face 12 is to be used on grades of from 48 to 92 per cent, thereby permitting a wide range of grades to be accommodated by a single gain fixture.

As shown in Figs. 4 and 5, the gain fixture is secured to the pole 19 by means of the through bolt 20 and the drive screw 21. The crossarm 22 is secured to the angular face 11 by means of the bolt 23 and nut 24. The usual crossarm braces 25, 25 are secured to the crossarm 22 by means of the bolts 26 and 27 and to the pole 19 by means of the drive screw 28.

It will be observed with reference to Fig. 4 that the crossarm 22 which is secured to the angular face 11 is tilted, which in turn tilts the insulators 29, thereby permitting the line wire 30 to run approximately parallel with the upper surface of the crossarm 22. This arrangement permits the line wire 30 to lie wholly within the groove of the insulator and no undue wear on the wire is encountered due to the fact that

the wire is not bent over the edge of the insulator, as in prior structures.

When it is desired to change the angle or tilt of the crossarm, the gain fixture is reversed end for end so that the other angular face is presented to receive the crossarm.

While there is shown and described herein the preferred form of my invention, it is to be understood that various changes and modifications may be made therein without departing from the spirit of the invention and I am only limited by the scope of the appended claims.

What is claimed is:

1. A gain fixture for crossarms comprising a substantially flat metal member bent intermediate its ends to provide two angular faces having an included angle substantially greater than 90 degrees and flat portions on the ends of said fixture adjacent said angular faces to provide bearing surfaces therefor, one of said angular faces having a portion thereof bent at an angle of approximately 90 degrees with respect to said flat portions.

2. A gain fixture for crossarms comprising a

substantially flat metal member bent intermediate its ends to provide two angular faces having an included angle substantially greater than 90 degrees, the angle of one face being greater than the other and flat portions on the ends of said fixture adjacent said angular faces to present bearing surfaces therefor, one of said angular faces having a portion thereof bent at an angle of approximately 90 degrees with respect to said flat portions.

3. A gain fixture for crossarms comprising a substantially flat metal member bent intermediate its ends to provide two angular faces having an included angle substantially greater than 90 degrees, the angle of one face being greater than the other, the ends of said brackets being bent to provide substantially flat bearing surfaces, said surfaces being in the same plane and at an angle with respect to the angular faces, one of said angular faces having a portion thereof bent at an angle of approximately 90 degrees with respect to said bearing surfaces.

LEON G. HOYT.