

B. R. SHOVER.

GAIN.

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1,043,260.

Patented Nov. 5, 1912.

FIG. 1

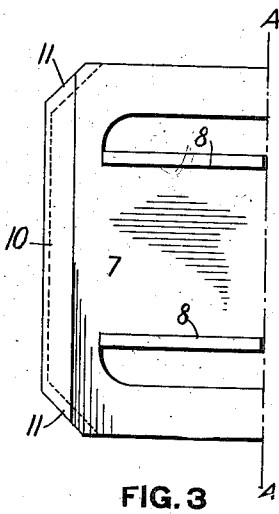
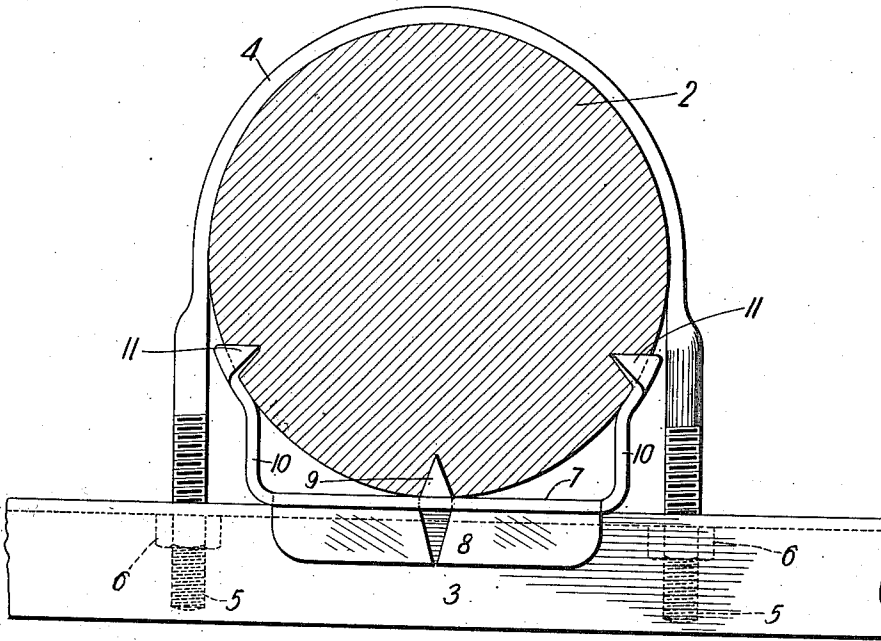


FIG. 3

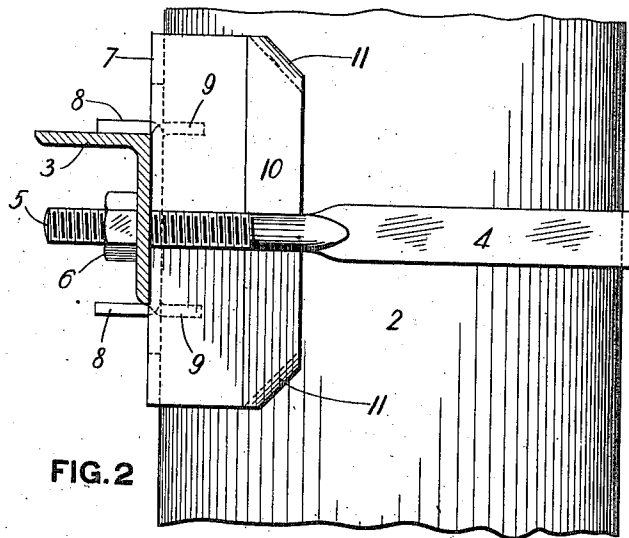


FIG. 2

WITNESSES

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UNITED STATES PATENT OFFICE.

BARTON R. SHOVER, OF YOUNGSTOWN, OHIO.

GAIN.

1,043,260.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, BARTON R. SHOVER, a citizen of the United States, residing at Youngstown, in the county of Mahoning and State of Ohio, have invented a new and useful Gain, of which the following is a full, clear, and exact description.

My invention relates to the overhead constructions used in carrying the feed wires of electric light and power lines, the wires of telegraph and telephone lines and similar devices.

One object of this invention is to provide an improved gain formed of sheet metal of novel construction and adapted for use in fastening the cross arms of such feed lines to the poles employed in supporting the cross arms.

A further object of the invention is to provide a gain having novel means whereby metal cross arms are secured to and are maintained in position on the wooden poles and further objects of my invention will appear hereinafter as the invention is more fully described.

Referring to the accompanying drawings forming part of this specification, Figure 1 is a sectional plan showing a wooden pole with a metal cross arm secured thereto by means of a metal gain constructed in accordance with my invention. Fig. 2 is a sectional side elevation of the apparatus illustrated in Fig. 1. Fig. 3 is a front elevation, on an enlarged scale, showing one half of a steel gain constructed in accordance with this invention, the gain being symmetrical about the vertical center line A-A.

In the drawings, 2 designates a wooden pole and 3 is a cross arm secured thereto, which is formed of a rolled steel angle. The cross arm is provided with the usual insulator pins and insulators (not shown) to which the feed wires are secured in any usual and known manner.

The cross arm 3 is secured to the pole by means of the U bolt strap 4 which has screw threaded ends 5 extending through openings in the vertical leg of the cross arm 3, the nuts 6 serving to tightly clamp the cross arm 3 in place on the pole.

Interposed between the pole 2 and the cross arm 3 is a metal gain 7. This gain is formed of sheet metal and the face of the gain is slitted so as to form lips 8 which are bent outwardly therefrom at right angles to the face of the gain and which are

spaced apart so as to form a recess into which the cross arm 3 extends. The lips 8 are slitted intermediate of their ends to form triangular or pointed tongues or clips 9 which are bent backwardly in the opposite direction to that of the lips 8, these tongues 9 projecting beyond the inner face of the gain so as to extend into the wooden pole 2 in the manner shown in Figs. 1 and 2 when the gain and cross arm are fastened in position on the pole. The outer ends 10 are bent inwardly at an angle to the body portion of the gain 7 and the corners of the bent end portions 10 are pointed, these pointed portions 11 being bent at an angle to the end portions 10 so as to provide spikes or clips, which are driven into the wooden pole 2 in securing the gain in place.

When the cross arm 3 is secured to the pole 2 the projections 9 and 11 extending into the pole 2 align and maintain the face portion 7 of the gain in the desired direction and prevent relative axial or lengthwise movement of the gain and the pole to which it is fixed. The lips 8 which extend outwardly from the face of the gain 7 embrace the side edges of the cross arm 3 and prevent relative vertical movement of the arm on the gain.

The U strap bolt 4 securely holds the gain and the cross arm in position on the pole when the nuts 8 are tightened and in this way the metal cross arms are securely fastened in the desired position on the wooden poles.

The advantages of my invention will be apparent to those skilled in the art. By means of my improved gain, cross arms formed of metal are readily secured in place and are rigidly held in the desired position on poles formed of wood and liability of axial or other movement of the metal cross arms relative to the wooden poles is prevented and overcome.

The use of lag screws or bolts in fastening the metal cross arms to the poles is avoided and the forming of holes in the wooden poles and consequent loss of strength in the poles are rendered unnecessary while the arms can be easily and quickly adjusted lengthwise on the poles as is desired.

Modifications in the construction of the gain, and changes in the type of the cross arms may be made without departing from my invention as defined in the appended claims.

I claim:—

1. In apparatus for fastening cross arms to poles, the combination with the cross arm and poles and a strap bolt to secure the cross arm to the pole, of a metal gain between the pole and arm to prevent relative movement thereof, said gain being formed of a rolled metal sheet or plate and having a body portion engaging with the cross arm and bent end portions engaging with the pole, the body portion of the gain having an integral lip or ear bent outwardly therefrom to support the cross arm on the gain, the corners of said end portions extending angularly with respect thereto to form spikes adapted to enter the poles when the gain is secured thereto.
2. In apparatus for fastening cross arms to poles, the combination with the cross arm and pole and a strap bolt to secure the cross arm to the pole, of a metal gain between the arm and pole to prevent relative movement thereof, said gain being formed of a rolled metal sheet or plate and having a body portion engaging with the cross arm and bent end portions engaging with the pole, the body portion of the gain having an integral lip or ear bent outwardly therefrom to support the cross arm on the gain, and a rearwardly bent lip forming a spike thereon adapted to enter the pole to which the gain is secured.
3. In apparatus for fastening cross arms to poles, the combination with the cross arm and pole and a strap bolt to secure the cross arm to the pole, of a metal gain between the

arm and pole to prevent relative movement thereof, said gain being formed of a rolled metal sheet or plate and having a body portion engaging with the cross arm and bent end portions engaging with the pole, the body portion of the gain having integral lips or ears bent outwardly therefrom and arranged to embrace the cross arm secured to said pole, and a rearwardly bent lip forming a spike thereon adapted to enter the pole to which the gain is secured.

4. In apparatus for fastening cross arms to poles, the combination with the cross arm and pole and a strap bolt to secure the cross arm to the pole, of a metal gain between the arm and pole to prevent relative movement thereof, said gain being formed of a rolled metal sheet or plate and having a body portion engaging with the cross arm and bent end portions engaging with the pole, the body portion of the gain having an integral lip or ear bent outwardly therefrom to support the cross arm on the gain, the corners of the end portions extending angularly with respect thereto to form spikes adapted to enter the poles when the gain is secured thereto, and a rearwardly bent lip forming a spike thereon adapted to enter the pole to which the gain is secured.

In testimony whereof, I have hereunto set my hand.

BARTON R. SHOVER.

Witnesses:

CHESTER LA VOGUE,
E. H. SCHRADER.