J. B. LEEPER.

ROPE CLAMP.

APPLICATION FILED OCT. 29, 1920.

1,370,544.

Patented Mar. 8, 1921

2 SHEETS—SHEET 1.

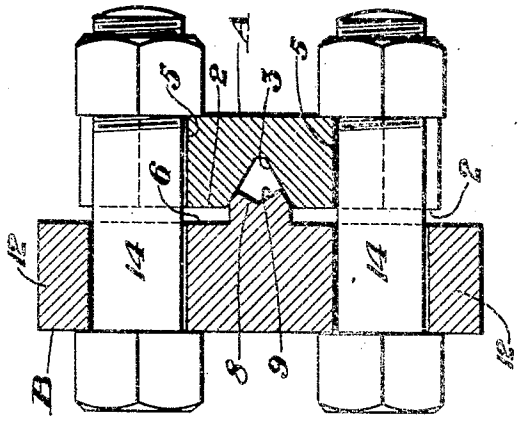


Fig. 2.

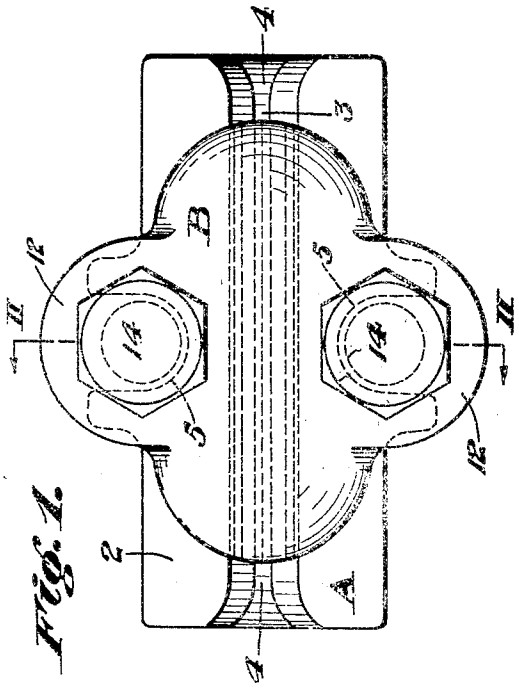


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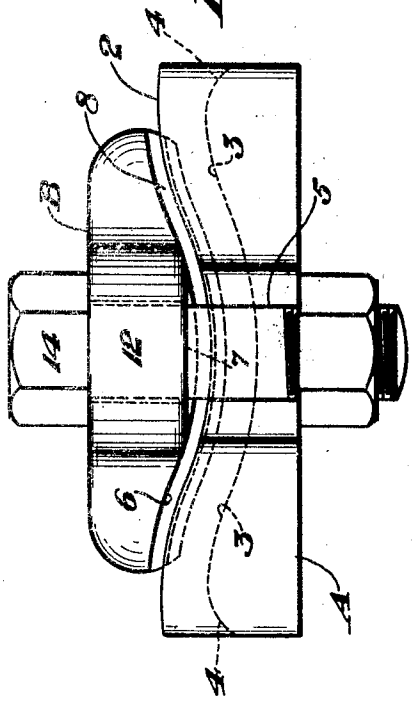


Fig. 3.

Witnesses:
Edwin Trust

Inventor:
John B. Leeper
by D. Anthony Usina
his Attorney

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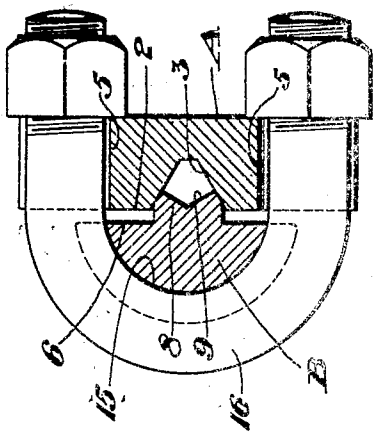


Fig. 6.

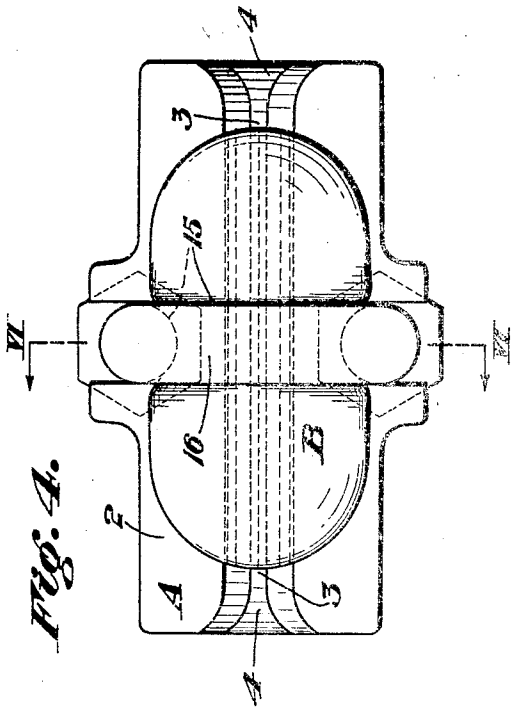


Fig. 4.

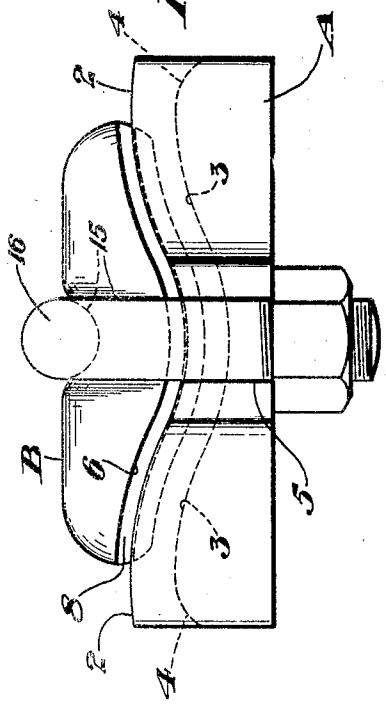


Fig. 5.

Witnesses:
Edwin Treat

Inventor:
John B. Leeper
by D. Anthony Usina
his Attorney

UNITED STATES PATENT OFFICE.

JOHN B. LEEPER, OF GLENFIELD, PENNSYLVANIA.

ROPE-CLAMP.

1,370,544. Specification of Letters Patent. Patented Mar. 8, 1921.

Application filed October 29, 1920. Serial No. 420,407.

To all whom it may concern:

Be it known that I, JOHN B. LEEPER, a citizen of the United States, and resident of Glenfield, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Rope-Clamps, of which the following is a specification.

My invention relates to clamps for wire ropes or cables, and more particularly to the ground wire clamps used on transmission towers, and has for its principal object the provision of a clamp that will firmly grip the wires of a rope or cable when clamped thereon.

Another object is to provide a rope clamp which is adjustable so as to grip different sizes of wire ropes or rope strands.

A still further object is to provide an improved clamp having the novel constructions, arrangement and combination of parts illustrated in the drawing, hereinafter described and defined in the appended claims.

Referring now to the drawings forming part of this specification, Figure 1 is a plan of a form of my improved clamp.

Fig. 2 is a sectional end elevation on the line II—II of Fig. 1.

Fig. 3 is a side elevation of the clamp of Figs. 1 and 2.

Fig. 4 is a plan of a somewhat modified form of clamp.

Fig. 5 is a side elevation of the clamp shown in Fig. 4.

Fig. 6 is a sectional end elevation of the clamp shown in Fig. 4, the section being taken on the line VI—VI of Fig. 4.

In the accompanying drawings, my improved clamp comprises two clamping members, the base or "frog" A, and the top or "cap" B.

The base or frog A, has a sinuous or undulatory upper surface 2, which undulates lengthwise or in the direction of the length of the rope strand, and which is provided with a transversely central V-shaped groove or slot 3. The sides of the groove are formed at an angle of substantially thirty degrees to the vertical axis of the groove. Both ends or terminals of the groove are flared outwardly as at 4 to provide clearance which will permit a free horizontal movement of the rope or cable when the parts of the clamp are bolted together. The other or lower surface of the frog A is flat so as to form an even contact with the tower to which it is attached, and the side surfaces of the frog are provided with recesses 5 for a purpose to be described.

The top or cap B of the clamp is appreciably shorter than the frog A, and has an undulating or curved bottom surface 6, which conforms with the curvature of the top or grooved surface of the frog. The slight amount of clearance 7 between the cap and base at the sides of the clamp insures the clamp having a firm grip on the rope at the ends of the clamp. By forcing the parts together, the cap will deflect slightly, thereby providing an even pressure on the rope being clamped.

Throughout the length of the bottom of the cap in the direction of the rope and in line with the groove 3, is a rib 8 adapted to fit within the groove 3, and provided along its center with a V-shaped groove 9 with its sides on a thirty degree angle with the longitudinal axis of the groove in a vertical plane. (See Figs. 2 and 6).

By varying the distance between the cap and the frog, the size of the opening between the rope receiving grooves 3 and 9 will vary although the groove will retain its shape, thereby making it possible to use the clamp on several different sizes of ropes or cables, with the same holding capacity for each size. The holding or clamping capacity of the clamp is due to the peculiar cross-section of the V-shaped grooves, in addition to the longitudinally sinuous surfaces between the cap and frog.

Lugs or ears 12 are formed on each side of the cap B, these lugs having openings or apertures therein in alinement with the recesses 5 in the base or frog A.

The frog and cap are fastened or clamped together by means of suitable screw threaded bolts 14 which pass through the recesses 5 and the apertures in the ears 12, and have nuts thereon which are tightened in place in fastening the clamp on a rope.

The modified form of clamp shown in Figs. 4 to 6 is similar in all respects to the preferred form, with the exception that the ears 12 are omitted and the top of the cap B is provided with a transverse groove 15 to form a seat for the U-bolt 16 which is used in fastening the cap to the base of the clamp and in attaching the clamp to a rope or cable.

I claim:—

1. A wire rope clamp comprising upper and lower parts adapted to fit against each other, said lower part having an undulating top surface in the direction of the wire and being provided with a groove in the direction of the wire to receive the wire, said upper part being provided with an undulating under face adapted to fit against the upper face of said lower part, a rib arranged along the longitudinal center of said last named undulating surface and having a V-shaped groove formed in its bottom face, said rib being on a line with, and adapted to fit within said V-shaped groove in said lower member, and a bolt for adjustably holding said parts firmly against each other.

2. A wire rope clamp comprising a lower member having an undulating top surface in the direction of the wire and being provided with a V-shaped groove in the same direction, said groove having its ends flared to allow free movement of the clamped wire, an upper member having an undulating bottom surface adapted to fit against said lower member, a rib arranged along the longitudinal center of said last named undulating surface, said rib being in line with and adapted to fit within said V-shaped groove in said lower member, and means for holding said members against each other.

3. A wire rope clamp comprising a lower member having an undulating top surface curved in the direction of the wire rope and being provided with a V-shaped groove in the same direction, said groove having its ends flared to allow free movement of the clamped wire, an upper member having an undulating bottom surface adapted to fit against said lower member, a rib arranged along the longitudinal center of said last named undulating surface and having a V-shaped groove formed in its bottom face, said rib being on a line with and adapted to fit within said V-shaped groove in said lower member, and a bolt at each side of said clamp for holding said members against each other.

4. A wire rope clamp comprising a lower frog member having an undulating top surface curved in the direction of the wire rope and being provided with a V-shaped groove extending in the same direction, said groove having its ends flared to allow free movement of the clamped wire, an upper cap member of appreciably shorter length than said frog member and having its ends flared to allow free movement of the frog member and having an undulating bottom surface adapted to fit against said lower member, a rib arranged along the longitudinal center of said last named undulating surface and having a V-shaped groove formed in its bottom face, said rib being on a line with and adapted to fit within said V-shaped slot in said lower frog member, and means for adjustably clamping said frog and cap members together.

In testimony whereof I have hereunto signed my name.

JOHN B. LEEPER.