Aug. 28, 1951 R. T. MAKIE 2,566,233

PULLEY BLOCK FOR STRINGING CABLES

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Fig. 1.

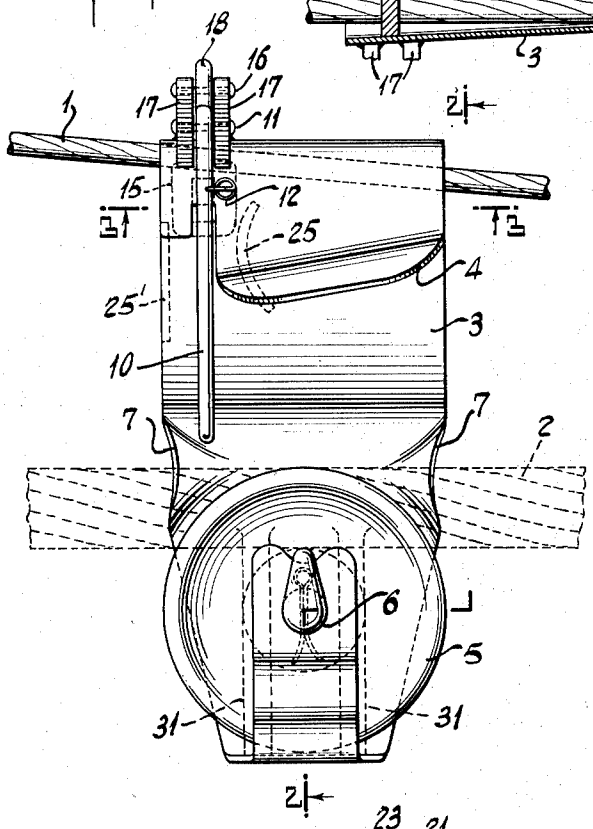


Fig. 3.

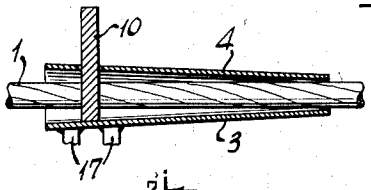


Fig. 2.

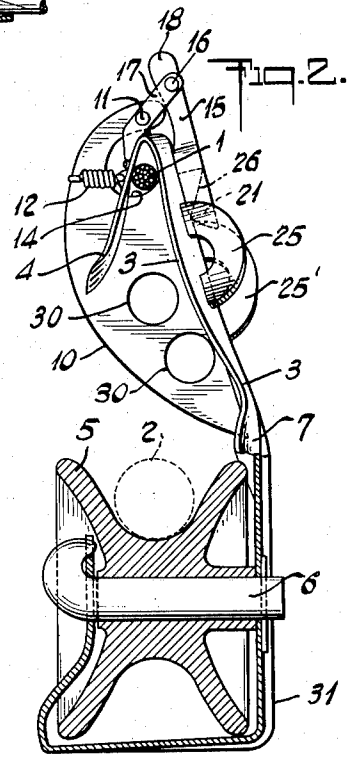


Fig. 4.

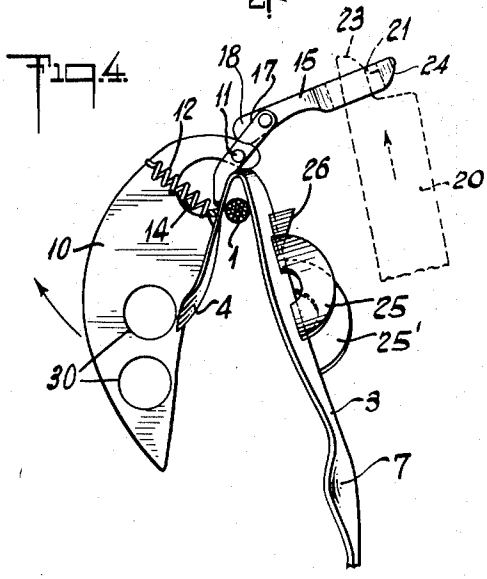
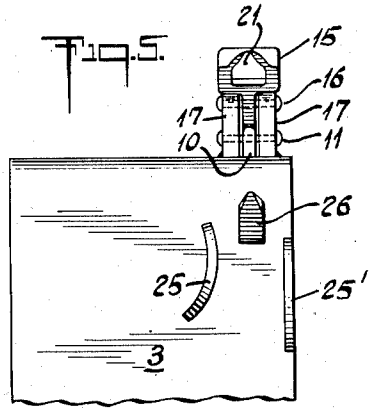


Fig. 5.



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PULLEY BLOCK FOR STRINGING CABLES

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5 Claims. (Cl. 175—376)

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In stringing heavy aerial cables across country, such as used for telephone lines for example, it is customary to first string a strong steel wire (called a "messenger wire"), between the poles or towers to act as a support, and then lash the heavy telephone cable to this messenger wire, which then supports it permanently. This process involves temporarily holding the heavy cable up close to the messenger wire until it can be permanently lashed or clamped thereto. The usual method for doing this is to attach pulley blocks at intervals on the messenger wire, then string a rope thru the blocks, and use it to pull the heavy cable thru the series of blocks, so that the cable is supported in a suitable position adjacent to the messenger wire. The cable can then be easily bound or clamped to the messenger wire and the blocks removed. By such methods cables are rapidly strung from pole to pole with a minimum of climbing between them.

The present invention relates to the special forms of pulley blocks used in such practices. In the past the pulley blocks have had a lip or hook which hung over the messenger wire, from which depended a hanger having a pulley; and there was usually some means for clamping the lip to the messenger wire so that it would stay in place. However, these clamping means have been rather unsatisfactory and diffcult to operate from the ground. They have also not been adapted to rapid stringing or placing of the pulley blocks from a carrier, so that putting the pulleys in place has been one of the slow parts of the process.

The principal object of the present invention is to provide a more rapid and reliable means for placing and holding the pulley blocks. To effectuate this the invention provides a block hanger which can slide readily in one direction on the messenger wire but automaticaly lock against sliding in the other direction, without requiring the men to clamp each individual unit. Another improvement is a supplementary locking device, easily operated from the ground, which will keep the block from jumping off accidentally. A further improvement is a form or configuration of hanger and pulley which insures that no rope or cable can jam between the pulley and the hanger. Various other objects will become apparent as the description proceeds. The device as a whole is adapted for rapid placement from a travelling carrier, and its locks can be easily operated by a pike pole from the ground.

Referring now to the drawings forming part of this specification,

Fig. 1 is a side view in elevation showing a

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pulley block carrying a heavy cable and supported by a hanger hooked over a messenger wire.

Fig. 2 is a cross-section taken on the line 2—2 of Fig. 1, with the safety lock closed.

Fig. 3 is a horizontal cross-section taken on the line 3—3 of Fig. 1, showing in detail the wedge shaped channel of the hanger lip.

Fig. 4 is a detail view of the upper portion of Fig. 2 showing the safety lock open when the device is being lifted by a pike pole.

Fig. 5 is a rear view of the upper part of the hanger illustrated in Fig. 1, showing the guides for the pike pole used in lifting the safety catch.

Similar reference numerals refer to similar parts thruout the various views.

Referring first to Fig. 1 and Fig. 2, there is shown the steel supporting cable or messenger wire 1 which is strung between the poles or towers of a line, and below it the heavy cable 2—usually lead covered—containing the telephone wires, which cable will ultimately be lashed or clamped to the messenger wire as its permanent support. The present invention is directed to the pulley block which is used to string the heavy cable 2 and to hold it near the messenger wire 1 until the permanent lashing or clamping can be completed.

This special pulley block consists of a hanger 3 having an overhanging lip 4 which hooks over the messenger wire 1, and carrying below a deeply grooved pulley 5 over which the telephone cable 2 may be drawn. The outer walls of the pulley 5 are recessed to accommodate the head of the pivot pin 6 which is turned and locked into an extension of the hanger bracket.

The walls of the overhanging lip 4 which hooks over the messenger wire are not simply parallel to the wire 1 as in prior devices, but are slanted to form a tapered groove longitudinally of the wire as shown in Fig. 3, so that the hanger may be easily drawn along the wire in one direction but will wedge or grip the wire when drawn in the other direction. This permits the device to be rapidly dropped off from a travelling carrier to hold in any desired location and yet resist displacement when the rope or cable 2 is dragged over the pulley 5.

When the pulley blocks have been distributed along the messenger wire 1 at selected intervals, a light rope or wire is usually strung thru them and attached to the end of the heavy telephone cable 2, which is coiled on a reel on the ground. The rope or wire then serves to pull the cable 2 over the pulleys 5 until it is all in place for lashing to the messenger wire, after which the pulley

blocks are removed and used on the next span.

Since the rope or wire used in pulling the cable 2 into place is relatively small, there is danger that it might jam between the edge of the pulley 5 and the adjacent wall of the hanger 3. To prevent this, the wall of the hanger 3 is bulged as shown at 7 in Fig. 1 and particularly in Fig. 2, so that any rope or wire, however small, will be guided definitely into the groove of the pulley 5.

To prevent the pulley block from jumping off the messenger wire accidentally, a safety catch or locking member 10 is provided. As shown best in Fig. 2 and Fig. 4, this locking member 10 is pivotally mounted at 11 on the hanger 3, and is normally pulled into the position shown in Fig. 2 by the tension of the spring 12, one end of which is attached to the locking member 10, the other end being attached to the lip 4. When the member 10 is thus drawn in, a lip 14 extends under the messenger wire 1 and locks the device securely, so that it is held in place and cannot jump off the wire.

In order to save climbing up and down, it is desirable to provide for installing or removing the device by means of a pike pole from the ground. To permit this, an operating lever 15 is pivotally attached at 16 to a bracket 17 on the hanger 3, the pivot 16 being a short distance from the pivot 11 of the locking member 10. A cam nose 18 is provided on the lever 15 and arranged so that when it presses on the member 10 near its pivot 11 it will force the locking member 10 open and release its hold on the messenger wire 1 as shown in Fig. 4. The cam 18 is operated by a pike pole 20 inserted into an opening 21 in the free end of the lever 15 and lifting it up.

It is easy enough to hook the device on a messenger wire by using a pike pole as shown in Fig. 4, or to place it from a carrier, but when the locking member is closed as shown in Fig. 2, holding the block on the wire, the lever 15 lies close to the hanger 3, and it is then not so easy to insert a pike pole tip into the opening 21. Accordingly means are provided to assist the man on the ground in guiding the pike pole tip 23 to the hole 21. These means consist in a beveled surface 24 on the end of the lever 15, which will guide the tip 23 under the lever 15 to lift it, together with side guides or flanges 25 and 25', and an inclined wedge-shaped boss 26 between them, by which the pike pole tip 23 is directed into the hole 21 and upward and outward. The boss 26 lies in the hole 21 when the catch is closed as shown in Fig. 2, so that it is in a position to guide the tip 23 when it slides under the lip 24.

The locking member 10 is provided with two large holes 30 which not only lighten it but also afford convenient places for a rope or a hook on a pole if it should be necessary to pull it or to yank it open, in case it should stick. The hanger is reenforced with ribs as shown at 31 and the whole device is sufficiently strong so that it can stand the rough usage to which such blocks are subjected.

It will thus be seen that I have developed a pulley block for stringing cables which can be more safely and conveniently applied than those used in the past, and which accordingly will facilitate the rapid stringing of telephone cables across the country. While I have in the foregoing described a certain specific form by way of example, it will be understood that it is merely for the purpose of illustration to make clear the principles of the invention, which is not limited

to the particular form shown but is susceptible to various modifications and adaptations in different installations as will be apparent to those skilled in the art without departing from the scope of the invention as stated in the following claims.

I claim:

1. In a pulley block for stringing cables along messenger wires, the combination of a hanger having an overhanging lip adapted to hook over a messenger wire, said lip being spaced from the hanger more at one end than the other to provide a tapered wedge-shaped groove for said wire so that the hanger may slide in one direction on said wire but wedge against sliding in the opposite direction, said hanger having a downward extension below the lip, a grooved pulley mounted on said downward extension with its axis of rotation transverse thereto, a safety catch attached to the hanger, said catch having a lip which extends under the messenger wire when the catch is closed to prevent the hanger from jumping off said wire, a lever carried by the hanger for operating said catch, said lever extending laterally from the hanger when the catch is open and having an opening adapted for the insertion of a pike pole to operate the same, whereby the installation and removal of the pulley block on the messenger wire may be effectuated from the ground.

2. In a pulley block for stringing cables along messenger wires, the combination of a hanger having an overhanging lip adapted to hook over a messenger wire and a wedging element locking the hanger against sliding one way on the messenger wire while permitting sliding in the opposite direction, said hanger having a downward extension below said lip, a grooved pulley mounted on the downward extension with its axis of rotation transverse thereto, projecting guide walls on the side of the hanger, said projecting walls extending over the rim of the pulley to guide a rope on to the pulley and prevent its jamming between the pulley and the hanger, a safety catch having a locking portion extending under the messenger wire when closed, and an operating lever for said safety catch, said lever extending laterally from the hanger when the catch is open and having an opening adapted for the insertion of a pike pole to operate the same, whereby the installation and removal of the pulley block on the messenger wire may be effectuated from the ground.

3. In a pulley block for stringing cables along messenger wires, the combination of a hanger having an overhanging lip adapted to hook over a messenger wire and a one-way lock for holding the hanger against sliding in one direction on the messenger wire while permitting sliding in the other direction, the hanger having a downward extension below said lip, a grooved pulley mounted on the downward extension with its axis of rotation transverse thereto, a safety catch having a lip which extends under the messenger wire when the catch is closed to prevent the hanger from jumping off the wire, a spring for holding said catch closed, a lever carried by the hanger for operating said catch, a cam on said lever for forcing the catch open against the spring, said lever having an opening adapted to the insertion of a pike pole to operate the same, whereby the installation and removal of the pulley block on the messenger wire may be effectuated from the ground.

4. In a pulley block for stringing cables along

messenger wires, the combination of a hanger having an overhanging lip adapted to hook over a messenger wire and a one-way lock for holding the hanger against sliding in one direction on the messenger wire while permitting sliding in the other direction, the hanger having a downward extension below said lip, a grooved pulley mounted on said downward extension with its axis of rotation transverse thereto, a safety catch having a locking portion extending under the messenger wire when closed, an operating lever for said safety catch, said lever extending laterally from the hanger when the catch is open and having an opening adapted for the insertion of a pike pole to operate the same, a beveled surface on the end of the lever to guide the pike pole under it toward the opening in the lever, and flanges on the hanger to guide the pike pole to the lever, whereby the installation and removal of the pulley block on the messenger wire may be effectuated from the ground.

5. In a pulley block for stringing cables along messenger wires, the combination of a hanger having an overhanging lip adapted to hook over a messenger wire and a one-way lock for holding the hanger against sliding in one direction on the messenger wire while permitting sliding in the other direction, the hanger having a downward extension below said lip, a grooved pulley mounted on said downward extension with its

axis of rotation transverse thereto, a safety catch having a locking portion extending under the messenger wire when closed, an operating lever for said safety catch, said lever having an opening adapted for the insertion of a pike pole to operate the same, a beveled surface on the end of the lever to guide the pike pole under it toward the opening in the lever, an inclined boss on the hanger and lying within the opening in the operating lever when the latter is in a closed position, said boss being inclined to direct the pike pole up into the opening in the lever as it opens, and flanges on the hanger to guide the pike pole to the lever, whereby the installation and removal of the pulley block on the messenger wire may be effectuated from the ground.

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