Sept. 8, 1925. 1,552,640

J. A. O'NEIL

ROPE CONVEYER BUTTON AND METHOD OF ATTACHING THE SAME

Filed March 19, 1925

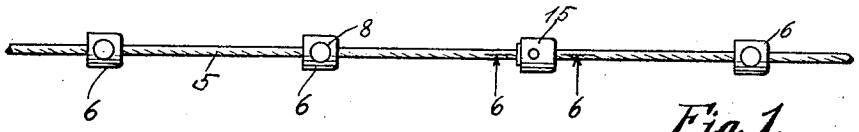


Fig. 1.

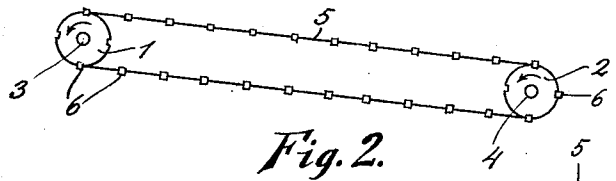


Fig. 2.

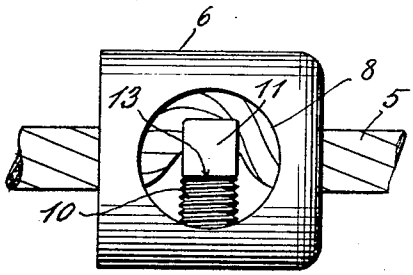


Fig. 3.

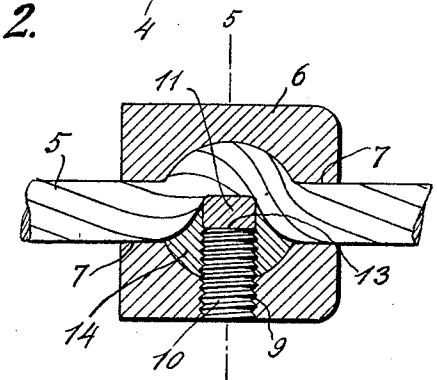


Fig. 4.

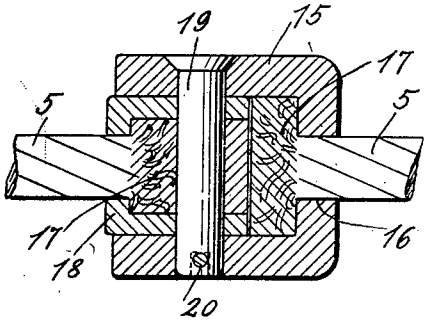


Fig. 6.

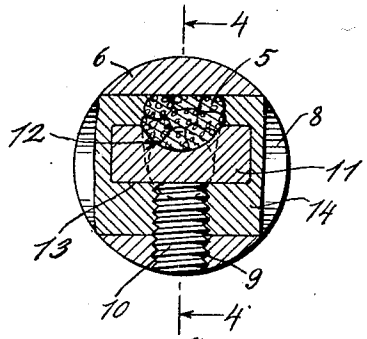


Fig. 5.

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UNITED STATES PATENT OFFICE.

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ROPE CONVEYER BUTTON AND METHOD OF ATTACHING THE SAME.

Application filed March 19, 1925. Serial No. 16,849.

To all whom it may concern:

Be it known that I, JAMES A. O'NEIL, a citizen of the United States, residing at Gebo, in the county of Hot Springs and State of Wyoming, have invented certain new and useful Improvements in Rope Conveyer Buttons and Methods of Attaching the Same; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the characters of reference marked thereon, which form a part of this application.

This invention relates to improvements in rope conveyers and has reference more particularly to the construction of the buttons and the method for attaching the same to the rope or cable.

In conveyers employed in pulling coal down hill or for loading coal on a pitching vein as well as for many other purposes, it is customary to employ an endless steel rope or cable which cooperates with two spaced sheaves one of which is rotated from a suitable source of power. The cable has a plurality of buttons spaced at equal distances along its length and secured thereto by means that prevent them from slipping when they are subjected to a strain. To these buttons various implements may be attached and these will be dragged along by the cable.

I have found that considerable difficulty is ordinarily experienced with installations of this kind due to the fact that the buttons will slip on the rope or cable. This invariably causes trouble as the buttons must be properly spaced in order to properly cooperate with the sheaves.

It is the object of this invention to produce a button that is so designed and constructed that it can be very easily attached to a steel cable and which, when properly secured, cannot slide on the latter.

My invention can be most clearly explained and will be most readily understood when reference is had to the accompanying drawing in which it has been shown in its preferred form and in which—

Fig. 1 shows a portion of the adjacent ends of a cable showing the button in place.

Fig. 2 is a diagrammatic view showing how the endless cable is associated with the sheaves.

Fig. 3 shows one of the buttons in place on the cable and shows the parts as they appear before the lead has been poured into the opening.

Fig. 4 is a section taken on line 4—4, Fig. 5.

Fig. 5 is a section taken on line 5—5, Fig. 4, and

Fig. 6 is a section of the button by means of which the ends of the cable are connected so as to form a loop; this section being taken on line 6—6, Fig. 1.

Numerals 1 and 2 represent two spaced sheaves which rotate respectively about the axes 3 and 4. One of these sheaves may be rotated by some suitable power. Enclosing these sheaves in the manner of a belt, is an endless cable 5 to which the conveyer buttons 6 are attached at spaced intervals. These buttons form means to which tools or implements may be anchored so that they will be pulled along by the cable. As these buttons are oftentimes called upon to exert a strong force they must be anchored or attached to the wire in such a way that they will not slip. To accomplish this I have formed each button with a longitudinal or axial opening 7 through which the cable 5 extends and a transverse opening 8 which is larger in diameter than the opening 7. The axes of these two openings are perpendicular to and intersect each other. Each button 6 is also provided with a third opening which I designated by the numeral 9. The axis of opening 9 crosses the other two axes at their point of intersection so that the three axes have a common point of intersection and are mutually perpendicular. The opening 9 is threaded for the reception of the threaded end 10 of a bolt. An iron block 11 is provided on one side with a recess 12 which receives and engages the side of the cable 5. The bolt 10 is then screwed into the opening and engages the other or flat side 13 of the block 11. The block is forced towards the opposite side of the opening 8 as far as possible. This will bend the cable 5 in the manner shown in Figs. 3 and 4. After the cable has been clamped in the manner described, the bolt 10 is sawed off close to the outside of the button. (See Figs. 3, 4 and 5.) Molten lead or other similar fusible material is now poured into the opening 8 in sufficient amount to fill the vacant spaces in the manner indicated by the cross hatched portion designated by numeral 14

in Figs. 4 and 5. The lead or tin serves to bind the parts together so as to form what is substantially an integral mass.

It is evident that a button constructed in the manner described and properly applied to the cable cannot be moved along the cable by any force. Tests have shown that the cable will break before the buttons will slide. A cable to which my buttons have been secured is absolutely dependable as the buttons cannot move on the same.

Since the conditions under which the cable is to be used requires it to be in the form of an endless belt, it becomes necessary to provide means for joining the ends of the cable, and I have therefore shown a diametrical section of a button designed for this purpose. To one end of the cable I secure a cup-shaped member 15 whose bottom is provided with an opening 16. The end of the cable is inserted through this opening and is frayed out in the manner indicated by numeral 17. Lead or tin or other suitable fusible material is then poured into the bottom of the cup. This becomes sweated to the frayed ends and to the sides of the cup thereby firmly attaching the same to the cable. A second cup 18 of a construction similar to the cup 15 is secured to the other end of the cable. The outside diameter of the cup 18 is the same as the inside diameter of the cup 15. Cup 18 is attached to the cable in the same manner as the cup 15. A diametrical hole is drilled through the two cups while they are in assembled relation and a pin 19 is inserted through this hole to hold the parts in assembled relation. The end of the pin 19 may have an opening for the reception of a cotter key 20. This forms a simple and substantial means for coupling the ends of the cable.

Having now described my invention what I claim as new is:

1. In combination, a cable, a button having an opening adapted to receive said cable, said button having also an opening of a larger diameter than the first named opening, said openings having axes intersecting each other at right angles and means comprising a screw clamping member for forcing a portion of the cable against the inner surface of the larger opening thereby binding the cable and locking the button against movement on the cable.

2. In combination, a cable, a button having an opening adapted to receive said cable, said button having also an opening of a larger diameter than the first named opening, said openings having axes intersecting each other at right angles and means comprising a screw clamping member for forcing a portion of the cable against the inner surface of the larger opening thereby binding the cable and locking the button against movement on the cable, and a normally solid readily fusible metal filling the vacant spaces in said opening.

In testimony whereof I affix my signature.

JAMES A. O'NEIL.