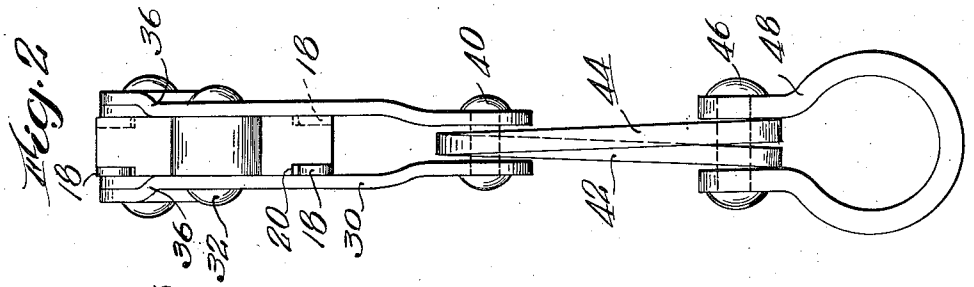
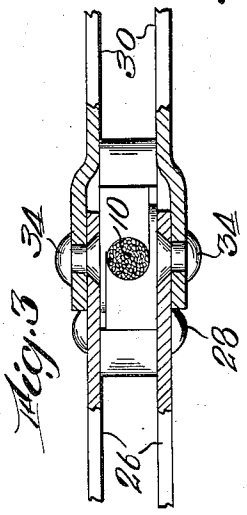
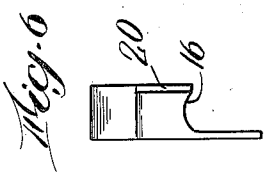
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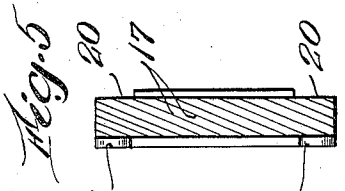
CABLE GRIP

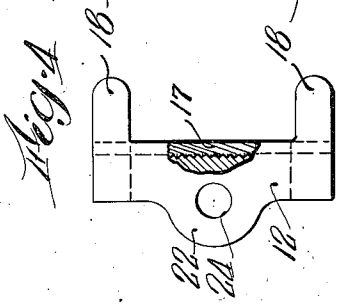
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CABLE GRIP

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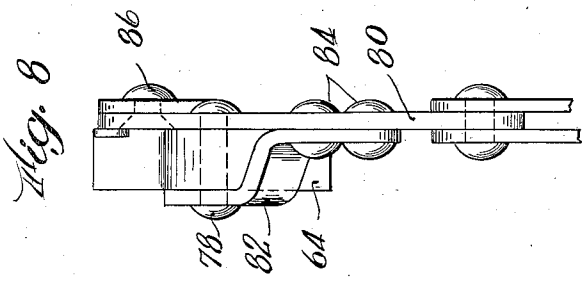


Fig. 8

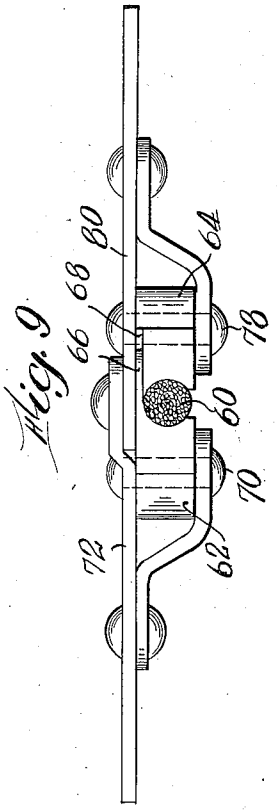


Fig. 9

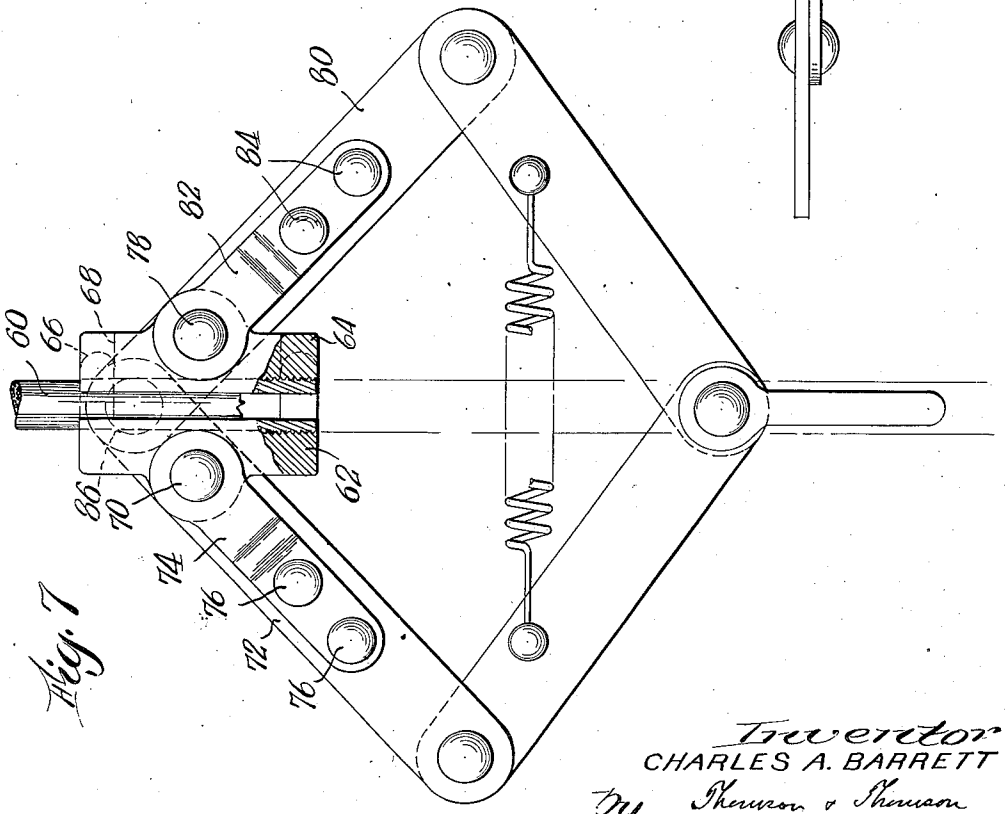


Fig. 7

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UNITED STATES PATENT OFFICE

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CABLE GRIP

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Application June 11, 1935, Serial No. 26,087

5 Claims. (Cl. 24—132)

This invention relates to improvements in a cable grip device which may be used for supporting a load upon a vertically hung cable or may be used as a gripping device for pulling a cable.

It is an object of my invention to provide a cable grip device of relatively simple design and construction which will however provide sufficient mechanical strength to withstand the loads that may be imposed without failure and will provide leverage sufficient to obtain a strong grip upon the cable to withstand slipping.

It is further an object of my invention to provide a novel design of the gripping jaws which in one form of my invention are identical in shape and may be assembled in interfitting relation to be guided for parallel movement, thus preventing twisting or misalignment of the jaws and insuring a smooth, uniform grip upon the cable.

A further feature of my invention resides in the construction whereby the cable must be introduced endwise when the cable grip device is designed as a suspension device, thereby preventing any possibility of lateral separation from the cable when in use. However, my invention may also be embodied in a cable grip device used as a pulling device in which it is desirable to permit lateral assembly of the grip device and the cable.

Further objects and advantages of my invention will be more readily apparent from the following description taken in connection with the drawings, illustrating preferred embodiments of the invention, in which:—

Fig. 1 is a front elevation of the cable grip device.

Fig. 2 is a side elevation of the cable grip device.

Fig. 3 is a fragmentary plan view partially shown in section.

Fig. 4 is a detail front elevation of one of the gripping jaws partially shown in section.

Fig. 5 is a detail side view of the gripping jaw.

Fig. 6 is a detail top view of the gripping jaw.

Fig. 7 is a front elevation partially shown in section similar to Fig. 1 but illustrating a modified construction.

Fig. 8 is a fragmentary side elevation of the gripping device shown in Fig. 7, and

Fig. 9 is a top plan view of the gripping device shown in Fig. 7.

The cable grip device shown in Figs. 1 to 6 inclusive is of the type indicated to be used for the suspension of a support upon a vertically hung cable. The vertical cable is indicated 10 and is adapted to be grasped between the gripping jaws 12 and 14. The jaw members 12 and 14 are of identical shape, as disclosed in the detail Figures 4 to 6. Each jaw has an arcuate cable grip surface 16 preferably provided with serrations 17, which may be angularly disposed to correspond to the winding of the strands of the cable and to insure a tight grip between the jaws and the cable. Each jaw is formed with a pair of tongues 18 at the upper and lower ends of the jaw and at one side thereof. The opposite side of the jaw is cut away at the upper and lower ends as indicated at 20 to receive the tongues 18 of the other jaw when a pair of the jaws are brought into interfitting relation, as is apparent in the assembled view. The jaws when assembled are guided by each other to move in substantially parallel relationship so that each jaw will contact the cable 18 substantially throughout the vertical height of the jaw. Each jaw is formed with a boss 22 provided with an opening 24 adapted to receive a pivot pin.

The jaw 12 is carried between a pair of levers 26, which are pivotally connected to the jaw by the provision of the pivot pin 28. The jaw 14 is similarly mounted between the levers 30 which are connected to the jaw by the pivot pin 32. The levers 26 and 30 are pivotally connected together by the pivot pins 34 disposed on opposite sides of the assembled gripping jaws. The levers 30 are provided with offsets 36 so that the upper portions thereof overlap the levers 26 adjacent the pivotal connections therebetween. The pair of levers 26 are coupled at their lower outer ends by a pivot pin 38 and the levers 30 are similarly coupled by pins 40. A link 42 is pivotally supported by the pivot pin 38 between the levers 26 and a similar link 44 is supported by pivot pin 40 between the ends of the levers 30. The links 42 and 44 are coupled by the pivot pin 46, which also constitutes a support for a shackle 48. A tension spring 50 is provided connected to lever 42 at 52 and connected to lever 44 at 54.

The tension spring normally acts to move the pivot pins 38 and 40 towards each other and to separate the pivot pins 34 and 46. This action tends to urge the pivot pins 38 and 32 towards each other and to force the gripping jaws 12 and 14 together. It will be apparent that this gripping action is assisted if a load is placed upon the shackle 48 so that the gripping jaws are forced into tight engagement with the wire cable 10. In order to change the position of the cable grip device it is only necessary to grasp the cable grip device in such a manner that the pivot pins 34 and 46 are urged towards each other against the resistance of the spring 50 to separate the gripping jaws. It will be apparent that the grip-

ping jaws will be maintained in contact with the cable throughout the vertical height of the jaws even though the load which is hung upon the shackle is not quite in line with the cable 10. In this form of my device the cable must be introduced endwise between the gripping jaws and is prevented from lateral separation with respect to the gripping jaws.

In Figs. 7 to 9 I have shown a modification of the cable grip device in which the gripping device may be used as a pulling member, in which case it is desirable to permit lateral assembly of the cable with respect to the gripping device. In this form the cable 60 is grasped between the jaws 62 and 64. One of the jaw members such as 62 is formed with tongues 66 similar to the tongues 18 of the first embodiment of the device, while the jaw 64 has recesses 68 to receive the tongues 66. The jaw 64, however, is not itself provided with tongue portions so that the jaws when separated are free to receive a cable introduced laterally from one side with respect to the jaws. The jaw 62 is carried by pivot pin 70 upon a lever 72 having a bracket 74 fastened thereto by rivets 76. The jaw 64 is coupled by pivot pin 78 to lever 80 provided with bracket 82 fixed in position by rivets 84. The levers 72 and 80 are pivotally connected at their ends by the pivot pin 86, but the brackets 74 and 82 do not extend into overlapping relationship and therefore the space between the jaws is free to receive the cable. The gripping device in other respects is constructed similar to the device shown in Fig. 1, and the operation is substantially the same except that the cable may be introduced laterally instead of endwise only, as in Fig. 1.

I claim:

1. A cable grip device comprising a pair of cable grip jaws arranged to engage a cable received between the jaws, lever arms pivoted intermediate their ends upon said jaws and disposed in angular relation, means pivotally connecting the inner ends of said lever arms, lever arms pivotally connected at their inner ends and pivotally connected at their outer ends to the outer ends of said first-mentioned lever arms, and means for suspending a load upon the pivotal connection between said second-mentioned lever arms to cause said jaws to move into gripping relation with the cable.

2. A cable grip device comprising a pair of cable grip jaws oppositely disposed in cooperative relationship to receive a cable therebetween, a lever member pivotally supporting each of said jaws, a pivotal connection between the inner ends of said lever members disposed substantially axially between said jaws, said lever members extending outwardly in angular relationship, a second pair of lever members pivotally connected at their outer ends to the outer ends of said first-mentioned lever members, a pivotal connection between the inner ends of said second-mentioned lever members, a shackle carried by said last-mentioned pivotal connection and a tension spring extending between said last-mentioned lever members normally urging said jaws into gripping relation with the cable.

3. A cable grip device comprising a pair of levers pivotally connected at their inner ends, a pair of cable grip jaws pivoted to said levers adjacent the pivotal connection between said levers, means guiding said jaws for relative lateral movement in parallel relation, and means acting upon said levers to move said jaws towards each other to grip the cable.

4. A cable grip device comprising a pair of cable grip jaws, each of said jaws being identical in shape but disposed in opposite relationship to receive a cable therebetween, each of said jaws having a pair of tongues cooperatively engaging recesses formed in the other jaw, lever members for pivotally supporting each of said jaws, a fulcrum pivot constituting a pivotal connection between said lever members, and means engaging the outer ends of said lever means for moving said lever members about the fulcrum pivot to force said jaws into gripping relation with the cable.

5. A cable grip device comprising a pair of cable grip jaws identical in size and shape, each of said jaws having a grooved, serrated surface for gripping the cable, each of said jaws having a pair of outwardly directed tongues at the upper and lower ends thereof and at one side thereof, and a pair of recesses formed in the opposite side of the jaw adapted to receive the tongues of the other jaw whereby said jaws are brought into interfitting relationship and guided to move in substantially parallel relationship, a pair of levers pivotally connected to one of said jaws on opposite sides thereof, a similar pair of levers pivotally connected to the other jaw on opposite sides thereof, a pair of pivotal connections between the lever members which support said jaws, said lever members extending outwardly in angular relationship from said jaws, a pair of links pivotally connected at their adjoining ends, said links being pivoted at their outer ends upon said lever members, and tension spring means acting between said links to move said links towards each other and to urge said jaws into gripping relation with the cable.

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