

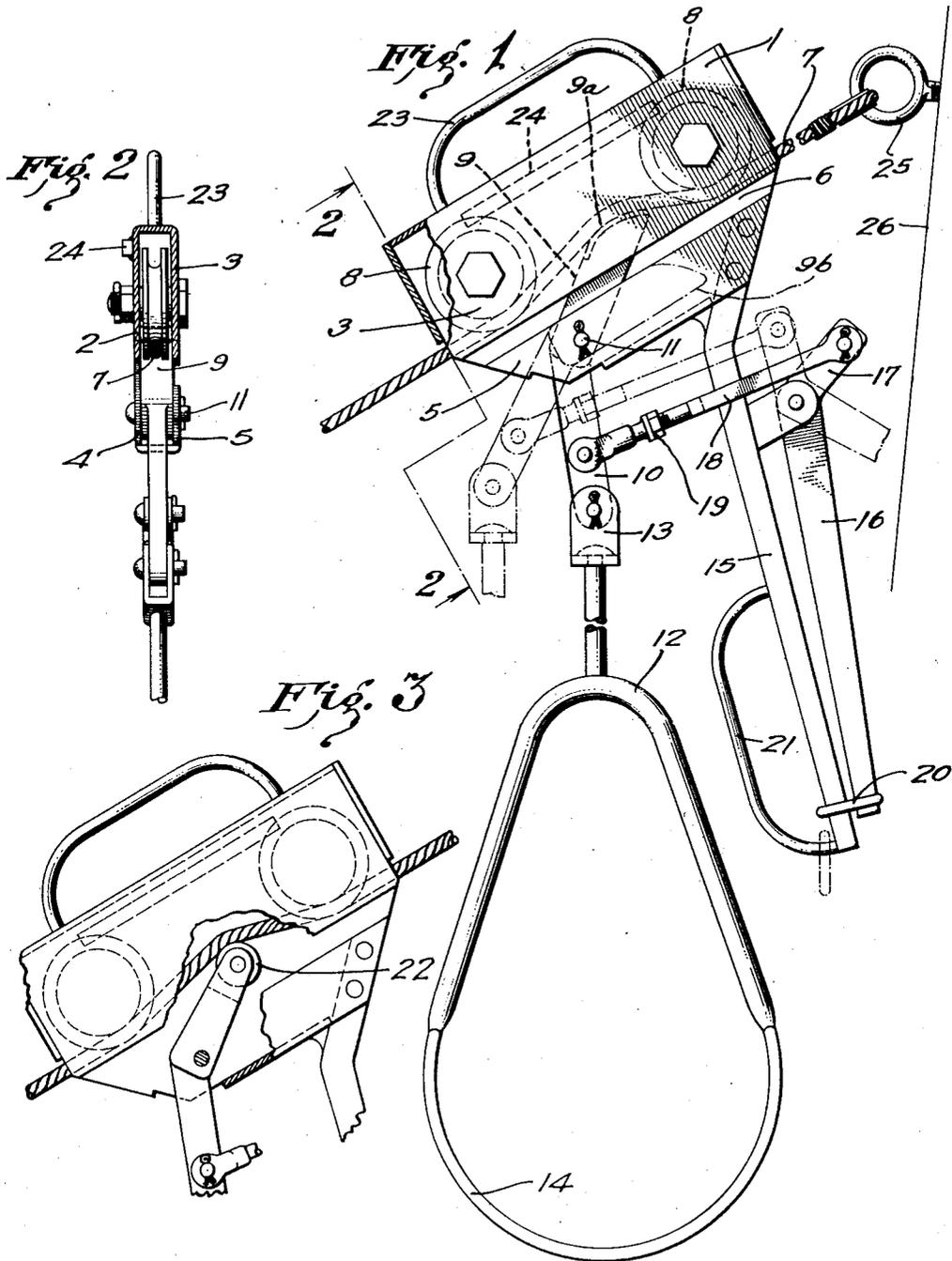
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GUY WIRE SLIDE

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GUY WIRE SLIDE

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This invention relates to a device known as an emergency slide for use on inclined guy wires extending to the ground from oil derricks or other high structures. These slides are employed to enable workmen on the structure who may be in danger from fire or an explosion to escape by riding the slide down the guy wire or cable. As usually constructed these slides must be applied to the cable by passing the cable longitudinally through the slide. Slides of this kind usually include means for exerting a braking force on the wire or cable as the slide descends on it, but such means sometimes jams and the use of these slides sometimes causes injury to the workmen using them. The general object of this invention is to improve the general construction of slides of this kind and to produce a slide of simple construction which can be readily applied to the wire or cable without necessitating sliding the carriage over the end of the cable; also to provide a slide of this kind with simple means for insuring an application of effective braking force on the cable and for enabling the braking force to be readily controlled by the rider who is riding the slide.

One of the objects of the invention is to improve the construction of the brake device and to provide a brake device on such a slide which will not jam and which will not injure the cable. Further objects of the invention will appear hereinafter.

The invention consists in the novel parts and combinations of parts to be described hereinafter, all of which contribute to produce an efficient guy wire slide.

A preferred embodiment of the invention is described in the following specification, while the broad scope of the invention is pointed out in the appended claims.

In the drawing:

Figure 1 is a side elevation of a slide embodying our invention, certain parts being broken away, and illustrating the same applied on an inclined guy wire or cable indicated as attached to an elevated point on a derrick or similar structure.

Figure 2 is a cross-section taken about on the line 2—2 of Figure 1, passing through the casing of the slide and showing the lever mechanism in elevation and partially broken away.

Figure 3 is a side elevation broken away and shown partially in section, and illustrating the adjacent portion of the cable broken away. This view illustrates a roller type of brake shoe for engaging the cable.

Before proceeding to a detailed description of the emergency slide, it should be stated that in practicing the invention the slide is preferably constructed with means whereby the weight of the rider supported on the slide applies the brake, and means is provided for enabling the force of application of the brake to be regulated.

Another feature of the invention is that means are provided for latching the brake in a position which will hold the slide fixed on the cable, and this feature is useful in facilitating the rider mounting himself under the slide without danger of its starting before he is ready. The slide is also preferably constructed so as to enable it to be applied to the cable or wire by a lateral movement onto the wire.

Referring more particularly to the parts, 1 represents a carriage in the form of a casing which may be formed out of plate metal from a blank the upper portion of which is bent so as to form two side plates 2 and 3 that are parallel with each other and the lower portion of which is bent around to form a channel-shaped bottom section for the body with two side walls 4 and 5. In this way a longitudinal opening or slot 6 is formed in the lower portion of the body, enabling it to be applied to a cable, such as the guy wire 7, by a lateral movement.

In the upper portion of the carriage we provide means for guiding the carriage on the cable. For this purpose we prefer to provide two rollers 8 spaced apart and mounted between the two plates 2 and 3. These rollers are grooved to fit over the upper side of the cable.

We provide brake means, preferably in the form of a brake shoe 9 pivotally mounted at 11 on the lower portion of the carriage and, in order to prevent any possibility of this brake jamming on the cable, the pivot pin 11 is so placed that the shoe projects toward the higher end of the cable or wire, for example, toward the right as illustrated in Figure 1.

Suitable means is provided for supporting the rider on the slide and for controlling the brake. The rider-supporting means is preferably supported on the carriage in such a way that the weight of the rider applies the brake. For this purpose the rider-supporting means preferably includes a brake lever 10 rigid with the brake 9, and hanger means in the form of a shackle 12 attached at its upper end by a pivoted knuckle 13 to the lower end of the brake lever. The shackle 12 may have the form indicated, the lower end being forged into a large wide stirrup 14 in which

the rider may sit or through which he may place one leg.

The construction provides means for enabling the rider to shift his weight with relation to the carriage so as to regulate the force of application of the brake. For this purpose we provide the carriage with an outwardly projecting rigid arm 15 on which a hand lever 16 is pivotally mounted, said lever being preferably in the form of a bell-crank lever with a short arm 17 that is connected by suitable means with the arm of the brake lever 10. This means is preferably in the form of a link 18 having adjusting means 19 for enabling its length to be regulated.

The hand lever 16 may be latched in an extreme position such as that in which it is illustrated in full lines in Figure 1. This will hold the brake shoe 9 in a position to put an extremely large bend or kink in the cable between the rollers 8 and will hold the slide against movement down the wire. The lever may be held in this position by a link 20 that is carried on the lower end of the fixed arm 15 and retained there by a stout bail or handle 21.

The brake shoe 9 may have a facing 9a of material particularly adapted for this purpose.

The guiding means, for example, the rollers 8, are located in the casing so that, when the carriage is supported on the cable, the cable will be located above and out of line with the slot 6. In this way there is no danger of the carriage becoming accidentally dislocated from the wire. When the brake is in its extreme position, indicated by the lines at 9b, the slot 6 is left clear to permit the carriage to be slipped over the cable.

If desired, instead of employing a brake shoe of the type illustrated in Figure 1, we may provide a roller 22 for this purpose (see Figure 3). In other respects the construction would be substantially the same as that already described.

In order to facilitate the carrying of the slide it may be provided on its upper edge with a stout bail or handle 23 and, if desired, the side face of the plate 2 may be provided with a hand-hold 24.

In practice the slide should be held at the upper end of the guy wire near the eye-bolt 25 that connects it to the side 26 of a derrick or other structure.

When using the slide to escape, the workman gets into the supporting means 12 and as soon as he is ready to start the slide he pulls the lever 16 toward him. This will release the link 20, which will drop down to the position in which it is indicated in dotted lines. The rider on the slide then maintains hold on the hand lever 16 but permits it to move toward the derrick slightly, which movement reduces the braking force and in this way the rider can permit himself to descend on the wire. If his speed of descent becomes dangerously high, he can check it more or less by pulling the lever 16 over toward the fixed arm 15.

It is understood that the embodiment of the invention described herein is only one of the many embodiments this invention may take, and we do not wish to be limited in the practice of the invention, nor in the claims, to the particular embodiment set forth.

What we claim is:

1. In an emergency slide for use in descending an inclined cable, the combination of a carriage having means for guiding the cable longitudinally through the carriage as the carriage moves along the cable, said carriage having an opening in its side enabling the carriage to be

applied to the cable by a lateral movement, said guiding means operating to hold the cable out of line with said opening after the carriage has been applied to the cable, rider supporting means movably supported on the carriage, braking means for engaging the cable to reduce the acceleration of the carriage as it descends on the cable, and a connection between the rider supporting means and the braking means enabling the weight of the rider to apply the braking means to the cable.

2. In an emergency slide for use in descending an inclined cable, the combination of a carriage having means for guiding the cable longitudinally through the carriage as the carriage moves along the cable, said carriage having a side plate with a longitudinal slot through the same enabling the carriage to be applied to the cable by a lateral movement, said guiding means consisting of a pair of rollers running on the upper side of the cable and operating to hold the cable out of line with said opening after the carriage has been applied to the cable, rider supporting means supported on the carriage, and braking means operatively connected with said rider supporting means for engaging the cable to reduce the acceleration of the carriage as it descends on the cable.

3. In an emergency slide for use in descending an inclined cable, the combination of a carriage having means for guiding the cable longitudinally through the carriage as the carriage moves along the cable, said carriage having a side plate with a longitudinal slot through the same enabling the carriage to be applied to the cable by a lateral movement, said guiding means consisting of a pair of rollers running on the upper side of the cable and operating to hold the cable out of line with said opening after the carriage has been applied to the cable, supporting means for supporting a rider, and movable braking means mounted on the carriage for engaging the cable to reduce the acceleration of the carriage as it descends on the cable, and connected to the supporting means so that the weight of the rider holds the braking means applied to the cable.

4. In an emergency slide for use in descending an inclined cable, the combination of a carriage having means for guiding the cable longitudinally through the carriage as the carriage moves along the cable, said carriage having an opening in its side enabling the carriage to be applied to the cable by a lateral movement, a brake with a lever, pivotally connected with the carriage, rider-supporting means carried by the brake lever so that the weight of the rider applies the brake to the cable, and means associated with the carriage enabling the rider to control the braking force and thereby control the acceleration of the carriage as it descends on the cable.

5. In an emergency slide for use in descending an inclined cable, the combination of a carriage having means for guiding the cable longitudinally through the carriage as the carriage moves along the cable, rider-supporting means movably supported on the carriage, a brake connected with the rider-supporting means so that the weight of the rider applies the brake to the cable, and means associated with the carriage enabling the rider to shift the rider supporting means to control the braking force and thereby control the acceleration of the carriage as it descends on the cable.

6. In an emergency slide for use in descending

an inclined cable, the combination of a carriage having means for guiding the cable longitudinally through the carriage as the carriage moves along the cable, rider-supporting means supported on the carriage, and including a brake lever pivotally mounted on the carriage and having a brake shoe with a curved side face for engaging the cable, said lever projecting from its pivot on the carriage toward the more elevated end of the inclined cable.

7. In an emergency slide for use in descending an inclined cable, the combination of a carriage having means for guiding the cable longitudinally through the carriage as the carriage moves along the cable, a brake lever pivotally mounted on the carriage and having a brake shoe for engaging the cable and projecting from the pivot of the brake lever toward the more elevated end of the inclined cable, and a rider's shackle movably attached to the brake lever at a point that enables the force exerted by the weight of the rider at the point of support for the shackle to apply the brake to the cable.

8. In an emergency slide for use in descending an inclined cable, the combination of a carriage having means for guiding the cable longitudinally through the carriage as the carriage moves along the cable, a brake lever pivotally mounted on the carriage and having a brake shoe with a curved side face for engaging the cable, said lever projecting from its pivot toward the more elevated end of the inclined cable, hanger means constituting a seat for the rider attached to the brake lever at a point that enables the force exerted by the weight of the rider at the point of support for the hanger means to apply the brake to the cable, and means associated with the carriage enabling the rider to shift the rider-supporting means relative to the carriage and thereby control the braking force applied to the cable.

9. In an emergency slide for use in descending an inclined cable, the combination of a carriage having means for guiding the cable longitudinally through the carriage as the carriage moves along the cable, rider-supporting means pivotally supported on the carriage, an arm rigidly connected with the carriage, and located adjacent the rider supporting means, so that it can be seized by the rider to swing the rider supporting means on its pivot and thereby shift the weight of the rider, a brake operatively connected with the rider supporting means, for engaging the side of the cable, and a hand lever within reach of the rider connected to the rider supporting means for controlling the application of the brake to the cable.

10. In an emergency slide for use in descending an inclined cable, the combination of a carriage having means for guiding the cable longitudinally through the carriage as the carriage moves along the cable, rider-supporting means including an arm pivotally supported on the carriage, an arm

rigidly connected with the carriage, a brake connected with the rider-supporting means for engaging the side of the cable, a hand lever within reach of the rider operatively connected to the rider-supporting means for shifting the rider-supporting means to control the application of the brake to the cable, means for locking the hand lever to the rigid arm to hold the rider-supporting means and the brake in an extreme position, preventing the carriage from descending on the cable.

11. In an emergency slide for use in descending an inclined cable, the combination of a carriage having means for guiding the cable longitudinally through the carriage as the carriage moves along the cable, said guiding means for the cable comprising two rollers mounted in the carriage and running on the upper side of the cable, rider-supporting means including an arm pivotally supported on the carriage, a brake rigidly connected with said arm for engaging the underside of the cable between the rollers, a rigid arm extending downwardly from the carriage and capable of being seized by the rider to shift the position of the first-named arm on its pivot to regulate the braking effect, and a hand lever operatively connected with the first-named arm and connected with the rigid arm.

12. In an emergency slide for use in descending an inclined cable, the combination of a carriage having means for guiding the cable longitudinally through the carriage as the carriage moves along the cable, said guiding means for the cable comprising two rollers mounted in the carriage and running on the upper side of the cable, rider-supporting means in the form of an arm pivotally supported on the carriage, a brake for engaging the underside of the cable between the rollers connected with said arm, a rigid arm extending downwardly from the carriage and capable of being seized by the rider to shift the rider-supporting means on its pivot and thereby regulate the braking effect, a hand lever operably connected with the first-named arm and lying adjacent to the rigid arm, and a latch for latching the hand lever to the rigid arm to hold the first-named arm and the brake in an extreme position to prevent movement of the carriage down the cable.

13. In an emergency slide for use in descending an inclined cable, the combination of a carriage having a pair of rollers for running on the upper side of the cable, a rigid arm extending down from the carriage, a brake lever pivotally mounted on the carriage and having means for engaging the under side of the cable, rider-supporting means attached to the brake lever, a hand lever pivotally mounted on the rigid arm within reach of the rider, and means connecting the same with the brake lever for controlling the latter.

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