

N^o 4868



A.D. 1908

Date of Application, 3rd Mar., 1908—Accepted, 11th June, 1908

COMPLETE SPECIFICATION.

“Improvements relating to Rope and Cable Grips for Haulage Purposes.”

We, MAX ADOLF BLEICHERT and PAUL MAX BLEICHERT, of Leipzig-Gohlis, in the Kingdom of Saxony, Manufacturers, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

5 Ordinary rope and cable grips for haulage purposes, operated by the weight of the load which is being hauled, have the disadvantage that when the trolley is travelling on a steep gradient the action of the hauling rope causes the front and rear trolley wheels to be unequally loaded, and the gripping action is reduced by the inclined position of the trolley relatively to the load, since in this position only a component of the weight acts on the grip-actuating mechanism, and the hauling rope is therefore not gripped with the same amount of force as when the trolley is travelling on a horizontal track. In some known constructions this disadvantage is obviated by so placing the point of suspension of the hanger on the trolley that the load on the wheels remains uniform on all gradients. In other known constructions an increased gripping action is obtained on gradients by means of inclined abutment-surfaces on the trolley and hanger, which are caused to co-act with each other when the trolley sways relatively to the hanger, and by this means act on the hanger-pin and grip connected thereto.

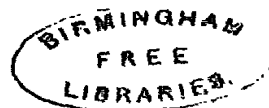
The present invention consists in obtaining increased gripping action on gradients, with uniform load on the trolley wheels, by arranging abutments on the trolley or hanger, so placed that the swaying of the hanger relatively to the trolley is limited, and that the tendency of the hanger, on gradients, to sway beyond the limit fixed causes the gripping action to be increased proportionally to the steepness of the gradient. This arrangement allows of working on gradients far exceeding 45 degrees, with the same security as when working on a horizontal track. At the same time the load on the wheels is kept uniform, since the inclined hanger throws additional load on the trolley wheel which is relieved by the action of the hauling rope.

A construction embodying the invention is shown in the annexed drawing, which represents a grip coupling the trolley to a hauling rope below the rail-rope or cable.

The two wheels *a* are connected to each other by a frame *b*, from which is suspended the hanger *c* which carries the load, the hanger being rotatable about a pivot *e* located above the grip *d*. Two bars *f* are fixed to the frame, above the hanger, and abutment screws *g* are adjustable in lugs at the lower ends of said bars, so that the abutments can be adjusted according to the steepness of the gradient. Instead of screws, adjustable springs or the like may be used as abutments. The adjustment of the abutments for any particular gradient depends on the distance of the centre of gravity of the load from the hauling rope and cable.

When the trolley is travelling on a steep gradient the suspended hanger bears against the abutment *g* adjacent the lower wheel *a*, and the abutment limits the extent to which the hanger can rotate about the pivot *e*, so that the

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hanger assumes an inclined position. By this means the force with which the grip engages the hauling rope is increased.

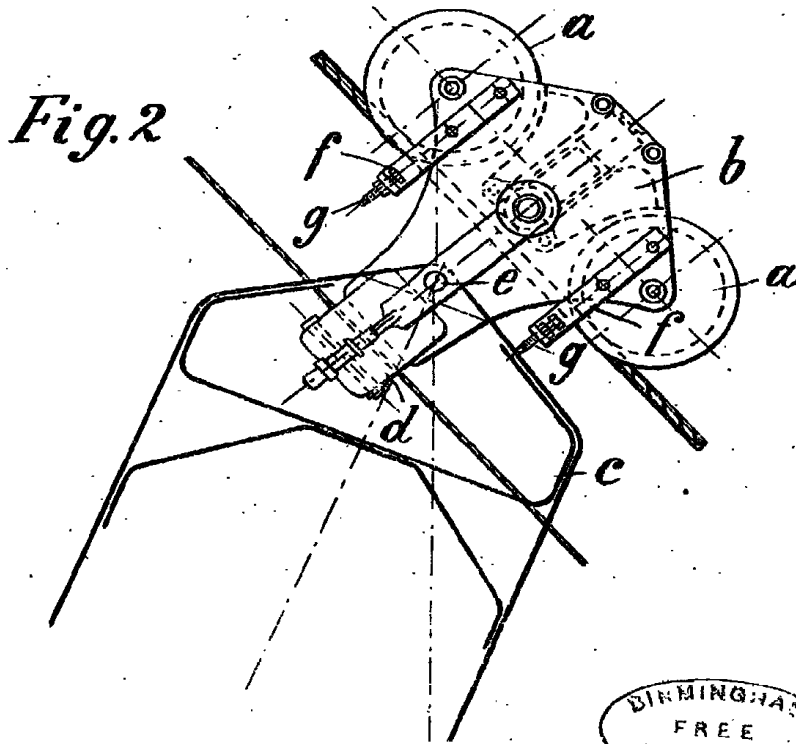
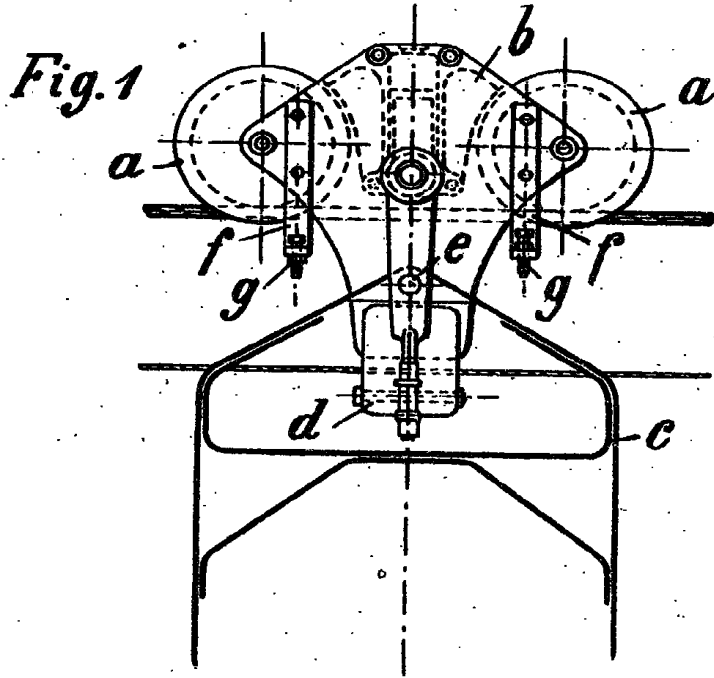
The construction illustrated may be modified in various ways. Instead of having a separate vertical abutment-bar at each end of the trolley-frame, a single normally horizontal bar may be used, with abutments at its ends, or abutment-springs may be directly connected to the frame. Instead of arranging the abutments on the frame they may be arranged on the hanger. With suitable modifications the device may be applied to a grip engaging a hauling rope above the cable, or to a combination of trolleys. 5

Having now particularly described and ascertained the nature of our said invention and in what manner the same is to be performed, we declare that what we claim is:—

In combination with a rope or cable grip actuated by the weight of a load suspended from a trolley by means of a hanger, abutments carried by said trolley or hanger and so placed as to limit the swaying of the hanger relatively to the trolley, for the purpose set forth. 1

Dated this 12th day of February, 1908.

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[This Drawing is a reproduction of the Original on a reduced scale.]

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