H. K. SCHOLEFELD.

SWITCH FOR TROLLEY CONVEYERS.

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1,020,453.

Patented Mar. 19, 1912.

Fig. 1.

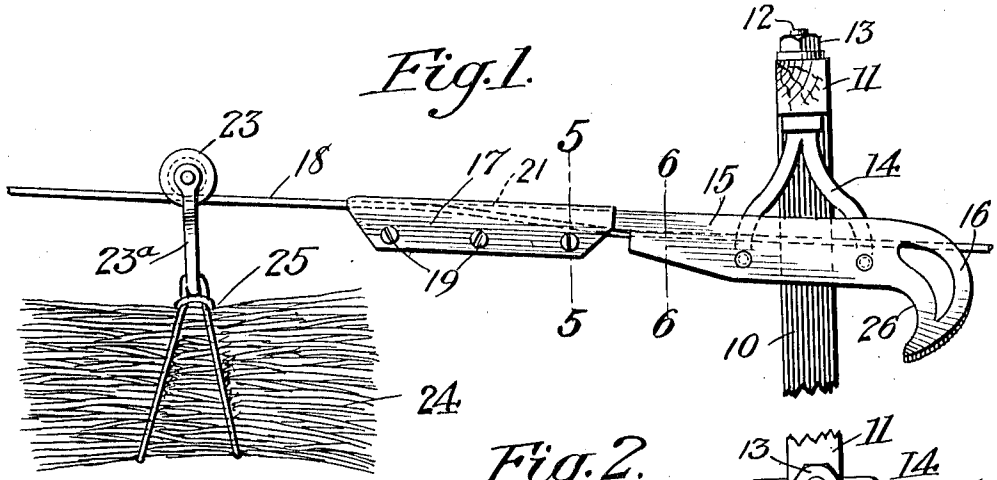

Fig. 2.

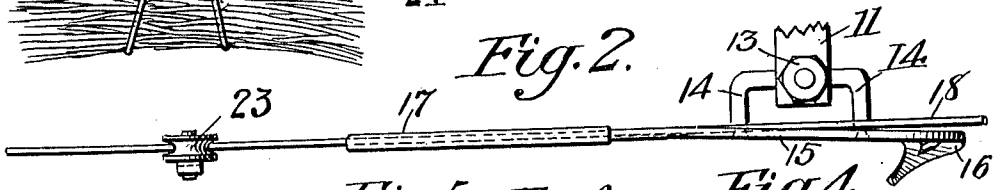

Fig. 7.

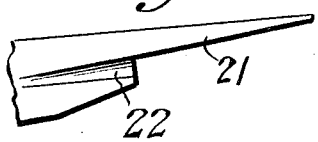

Fig. 5.

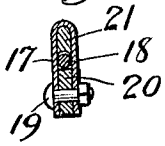

Fig. 6.

Fig. 4.

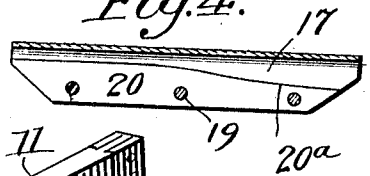

Fig. 3.

Witnesses.

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SWITCH FOR TROLLEY-CONVEYERS.

1,020,453. Specification of Letters Patent. Patented Mar. 19, 1912.

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To all whom it may concern:

Be it known that I, HERMAN KEELING SCHOLEFELD, a subject of the King of Great Britain, residing at Kailua, Territory of Hawaii, have invented certain new and useful Improvements in Switches for Trolley-Conveyers; and I do hereby 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.

This invention relates to switches such as employed in trolley systems for conveying sugar cane, cord wood or other freight over a suitable cable or other track from which the load is suspended, and the invention relates particularly to a switch arranged to deflect the trolley and its load from the cable or track and thereby dump the load in the desired spot.

My invention is peculiarly applicable to trolley systems for conveying bundles of sugar cane, supported from the trolleys by suitable slings or the like. Heretofore, in so far as I am aware, the trolleys have been released from the cable or track in such a manner that they fall with the respective bundles of cane, and it has been necessary for the watchman at the dumping switch to remove each trolley from the respective bundle of cane with which it is often entangled. In case the watchman or attendant at the switch fails to remove the trolley from the cane for any reason, the trolley is apt to find its way into the crushing machinery of the sugar mill. In actual practice, a large number of trolleys have been destroyed in this way, with considerable damage to the crushing machinery itself.

The object of the present invention is to provide a dumping switch having means to separate the trolley and load as they fall from the cable, and to discharge the trolley and load in opposite directions. Hence the trolleys will be automatically and reliably separated from the respective bundles of cane or other freight, and the watchman at the switch can give his entire attention to the removal of the sling by which the load has been supported. The improved switch absolutely insures the removal of every trolley from its bundle of freight, and it is therefore unnecessary to use special precautions for detecting the presence of trolleys in the cane or the like, which have escaped the vigilance of the attendant at the cable switch.

To these ends, the invention consists in the novel features and combinations of parts to be hereinafter described and claimed.

In the accompanying drawing: Figure 1 is a side elevation of a trolley conveyer system embodying a switch constructed in accordance with the invention; Fig. 2 is a top plan view of the parts shown in Fig. 1, the bundle supported from the trolley being omitted; Fig. 3 is a perspective view of the parts shown in Fig. 1, illustrating the dumping of the load and trolley; Fig. 4 is a longitudinal vertical section through the clip for securing the cable to the switch; Fig. 5 is a section on line 5—5 of Fig. 1; Fig. 6 is a section on line 6—6 of Fig. 1; and, Fig. 7 is an enlarged detail view of one end portion of the switch proper.

Referring to the drawings, 10 indicates a suitable cable supporting post having a horizontal arm 11 from which depends a hanger 12 secured to the arm 11 by a nut 13. The hanger 12 is provided below the arm 11 with divergent legs 14 suitably attached at their ends to the intermediate portion of a switch plate 15 which is provided at one end with a dumping or throwing portion 16 and secured at the opposite end to a clip 17 embracing a cable or trolley wire 18. The clip 17 is preferably formed of a U-shaped plate of sheet metal the edges of which are clamped by means of screws or bolts 19 to an interior block or strip 20 which confines the cable 18 within the upper portion of the clip at one end but which is cut away at the opposite end of the clip, as indicated at 20^a, to permit the introduction of the pointed end portion 21 of the switch plate 15. The portion 21 is grooved at its lower edge, as shown in Fig. 5, and it is inserted in the clip with a wedge-like action by which the cable is tightly pressed between the under surface of the pointed portion 21 and the upper surface of the strip 20. The

cable 18 continues through the clip into a groove 22 formed in one face of the switch plate 15, as shown in Figs. 6 and 7, and said cable passes over the lower horizontal portions of the hanger arms 14 by which the switch plate is suspended from the supporting post.

By the described arrangement of the switch plate and clip, the said parts may be firmly locked together in such a manner that their upper edges will form in conjunction a practically continuous rolling surface for the trolley wheel 23 from which the load 24 is suspended by means of a sling 25. When it is desired to detach the switch plate and clip from each other, this can be readily effected by pulling them apart. However, the particular connection between the switch plate and the clip does not form a material part of the present invention.

The most important feature of the invention resides in the form given to the dumping or throwing end of the switch plate, whereby the trolley and its load are thrown in opposite directions. In order to realize this result, the end portion 16 of the switch plate is deflected in a downward direction in order to present an abutment 26, preferably of the curved shape shown in the drawing. The upper edge of the switch plate is preferably joined with the depending end portion by an easy curve over which the trolley wheel 23 passes when the depending hook 23^a of the trolley is arrested by the abutment 26. The lower extremity of the depending portion 16 is of pointed shape, and the whole end portion of the switch plate is given an outward curve, extending laterally and transversely to a certain extent with reference to the trolley wire or cable.

The operation of the apparatus is substantially as follows: The trolley 23 supporting the load 24 rolls down the cable 18 by gravity and when it reaches the switch it rolls over the upper edge of the clip 17 and thence over the upper edge of the switch plate 15, the trolley being thereby separated from the cable 18 which continues on at the side of the switch plate. The hook 23^a carried by the trolley wheel is made of such size that when the trolley reaches the end of the upper straight edge of the switch plate, said hook will be arrested by the abutment surface 26, with the result that the trolley wheel will pass downward quickly around the outer curved edge of the depending portion 16. The hook 23^a being held for an instant in contact with the surface 26, the trolley in continuing its downward movement will be inverted thereby releasing the bundle 24 which drops to the ground, usually at a point nearly beneath the cable way. The inverted trolley, on the other hand, is still under the influence of the laterally deflected tip of the switch plate, which swings said trolley around in a lateral direction and guides it in such a manner that the trolley is finally thrown off at a tangent, as shown in dotted lines in Fig. 3, so that it lands at a considerable distance from the bundle which it has supported. It will thus be seen that the invention provides automatic means for throwing the load in one direction and the trolley in another direction, and it is therefore impossible for the trolley to land on the load or to become entangled with the same.

Of course I do not wish to limit myself to a deflection of the trolley and load in any particular direction, although the arrangement shown, which throws the trolley off in a lateral and preferably a slightly rearward direction has been found to give very good results. I also wish to have it understood that I do not limit myself to any special means for supporting the switch plate, or to any special means for suspending the load from the trolley formed by the cable wheel and its hook or equivalent device.

What I claim is:

1. A dumping or throwing switch for trolley conveyer systems comprising a switch plate having means to substantially invert the trolley and thereby dump the load, the load and trolley being so thrown as to fall at a distance from each other.

2. A dumping or throwing switch for trolley conveyer systems comprising a cable way, and a switch plate onto which the trolley runs from said cable way, said switch plate having a down-turned portion to invert the trolley and throw it off at a tangent.

3. In a trolley conveyer system, the combination of a trolley wire or cable, a switch plate onto which the trolley runs from said trolley wire or cable, and an abutment on said switch plate to arrest and invert the trolley and thereby dump the load, the load and trolley being thrown in opposite directions.

4. In a trolley conveyer system, a switch comprising a switch plate having a down-turned laterally directed terminal portion, and a trolley to travel over said plate, comprising a hook arrested by said terminal portion in such a manner as to invert the trolley and thereby dump the load, the trolley being guided laterally by said terminal portion and thrown off from the switch plate in a lateral direction.

5. A switch such as described, comprising a plate having a pointed extremity at one end and a down-turned laterally bent extremity at the opposite end.

6. A device such as described, comprising

a plate, and a trolley running on one edge of the plate and having a depending hook, one end of said plate being down-turned and laterally curved for the passage of the trolley, and the inner edge of said down-turned portion forming an abutment for the trolley hook.

In testimony whereof I affix my signature, in presence of two witnesses.

HERMAN KEELING SCHOLEFELD.

Witnesses:
A. C. KAAUA,
HARRY SIMMONS.