

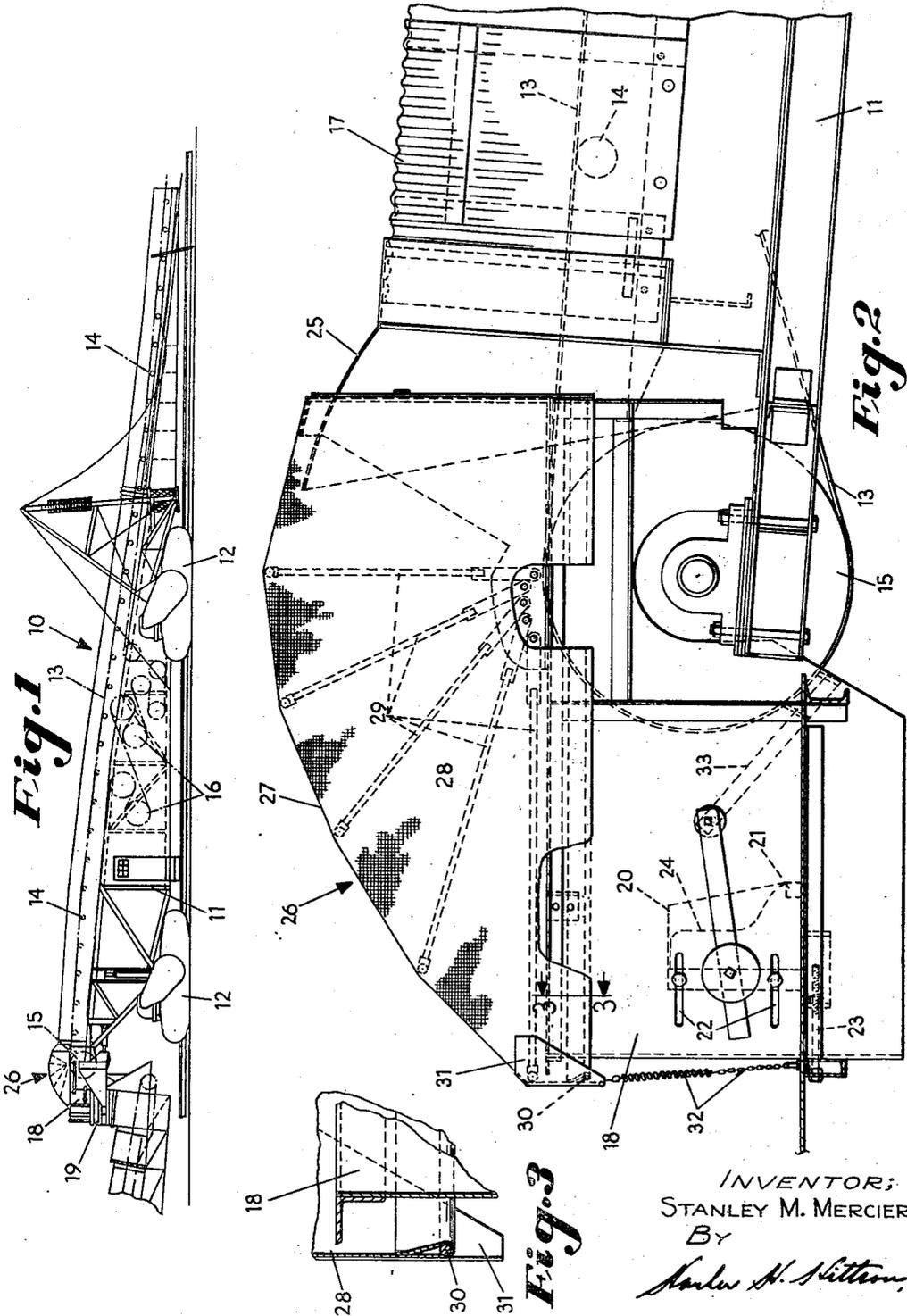
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FLEXIBLE COVER FOR BELT CONVEYERS

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FLEXIBLE COVER FOR BELT CONVEYERS

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4 Claims. (Cl. 198-228)

1

2

This invention relates to a belt conveyer, and an object of the invention is to provide such a conveyer with cover means to protect particularly material carried on the upper run thereof from being blown away by wind or from becoming wet during rain, and generally to afford protection to said material and the belt and including a flexible hood or cover adjacent the head or discharge pulley which may be opened or thrown back to afford access at this position.

Other objects of the invention will appear hereinafter, the novel features and combinations being set forth in the appended claims.

In the accompanying drawings:

Fig. 1 is a side elevational view of the head section of a trailing conveyer which incorporates the features of my invention;

Fig. 2 is an enlarged side elevational view showing particularly the flexible hinged cover and associated protecting means adjacent the head shaft of the conveyer; and

Fig. 3 is a detailed sectional view taken on the line 3-3 of Fig. 2, looking in the direction of the arrows.

In Fig. 1 of the drawings there is illustrated a head section 10 of a trailing conveyer portion of a stacking system which incorporates the features of my invention. Certain features of the head section 10 are disclosed more in detail in my co-pending application, Serial No. 145,501, entitled Conveyer Apparatus, Including a Portable Stacker and Connected Portable Trailing Conveyer, filed February 21, 1950, and in my application, Serial No. 145,503, entitled Belt Conveyer Head Section of a Stacking System, filed February 21, 1950.

The head section 10 includes an elongated generally horizontally extending frame 11 mounted on four power driven crawlers 12, two at the front and two at the rear, on opposite sides, by which the head section 10 is propelled and steered. Mounted on the frame 11 is an endless belt conveyer including a belt 13 carried on spaced troughing idlers 14. The belt 13 extends around a head pulley or drum 15 carried at the front of the frame 11 and is driven by a plurality of drive pulleys 16.

Stacker systems of the type involving a head section, such as that illustrated, are generally employed out of doors where they are subject to the elements, including wind, rain, snow and the like, and consequently it is desirable to protect the material being conveyed, as well as the belt 13, from such elements. To this end, the belt 13 and particularly the upper load carrying run

thereof together with the material thereon is preferably protected by cover means which, as shown in the illustrated embodiment of my invention, includes a relatively stationary cover 17 carried by the frame 11 which may be made up of a plurality of overlapping segments of corrugated sheet metal bent semi-cylindrical and placed over the upper run of the belt 13, with the bottom edges rigidly attached to the frame 11.

Forward of the head pulley or drum 15 is a hopper or shield 18 bent in a general U-shape, with two sides of the U on opposite sides of the drum or pulley 15 and rigidly attached to the frame 11. The shield or hopper 18 extends upwardly and has an open bottom extending into a turntable construction 19 disclosed in detail and claimed in my application, Serial No. 145,501, above identified.

The shield 18 carries an adjustable stone box 20 which is a generally V-shaped upwardly extending member having a material supporting bottom which extends to a transverse square rod 21 at its rear portion, said box being adjustably carried inside the shield 18 and being adjustable forwardly and rearwardly by machine screws cooperating with elongated slots 22, the forward and rearward adjustment being provided by nut and bolt adjusting means 23.

Material discharged over the head pulley 15 will be received, at least in part, in the stone box 20 where the material will build up, as suggested by the dotted lines 24, which acts as a cushion to receive large stones discharged over the pulley 15 and to take some of the shock thereof to reduce damage and wear which otherwise might be caused to the shield or hopper 18 or other parts of the complete system.

Adjacent the forwardmost portion of the stationary cover 17 there is an arched canopy 25, preferably of metal, such as sheet steel, which is attached to the frame 11 and which extends into and has overlapping relation with a hinged flexible cover 26 which, in general, follows the configuration and construction of the well-known baby buggy or flexible top of an old style automobile or buggy. That is, the cover 26 has a generally arched top piece 27 which is transversely horizontal, terminating in a pair of generally upright side curtains, one of which is seen at 28, said flexible cover being made of canvas or any similar or desirable flexible material.

The cover 26 is supported on a plurality of U-shaped hinged ribs 29, the opposite free ends of which are pivotally attached to a bracket of the frame 11 on transverse horizontal axes, there

3

being five of such ribs 29 illustrated. The lower periphery or edge of the cover 26, including the front edge of the top piece 27 and the side edges of curtains 28, is provided with weight means in the form of a rope or cable 30 sewed in a loop in said cover 26. As clearly illustrated in Fig. 3 of the drawings, the bottom free edge of the cover 26 overlaps the upper edge of the U-shaped shield or hopper 18, including the rear portion thereof which extends laterally on opposite sides of the head pulley 15.

To hold the cover 26 down in its protecting position the forward corners of the cover 26 are preferably provided with tabs, one of which is seen at 31, with each of which a hold-down spring and chain 32 cooperates, one end of said spring and chain 32 being attached to a portion of the frame 11 adjacent the shield 18, the other being removably attached to a tab 31. By detaching the hold-down means 32 the removable cover 26 may be swung to its collapsed position by swinging all of the ribs 29 rearwardly about their pivots so that access may be had to the interior of the shield 18.

A belt cleaning device 33 of generally standard construction is also preferably carried by the shield or hopper 18 and cooperates with the belt 13 as it moves around the bottom of the head pulley 15.

Obviously those skilled in the art may make various changes in the details and arrangement of parts without departing from the spirit and scope of the invention as defined by the claims hereto appended, and applicant therefore wishes not to be restricted to the precise construction herein disclosed.

Having thus described and shown an embodiment of the invention, what it is desired to secure by Letters Patent of the United States is:

1. A conveyer including an elongated, generally horizontal frame member, belt conveying mechanism on said frame including a head pulley, a stationary cover over a portion of the belt conveying mechanism, a flexible cover extending around the head pulley, an arched canopy overlapping between said stationary cover and said flexible cover, and a U-shaped shield forward of the head pulley to which the flexible cover extends.

2. In combination, an elongated stacker conveyer head section main frame and cover mechanism, said main frame being adapted to carry a pulley at one end over which the discharge end of an endless conveyer is trained, an upright shield having an open top and bottom carried at the end of said main frame adjacent said pulley for covering and protecting material discharged over said pulley by said endless conveyer, said generally upright shield being rigidly mounted to the end of the main frame, an inverted substantially U-shaped cover rigidly mounted upon said main frame and located to cover and protect material being conveyed toward said head pulley by said conveyer, a rigid canopy rigidly carried by said main frame associated with said inverted U-shaped cover extending toward said pulley, a collapsible cover extending from said canopy over said pulley and the top of said shield and having an edge overlapping the top of said shield, said

4

collapsible cover including supporting rib means carried by said main frame between said canopy and said shield, and disconnectable means for holding said collapsible cover in its pulley and shield covering position including tabs on said flexible cover and spring means acting between said tabs and main frame adjacent said shield.

3. In combination, an elongated stacker conveyer head section main frame and cover mechanism, said main frame being adapted to carry a pulley at one end over which the discharge end of an endless conveyer is trained, an upright shield having an open top and bottom carried at the end of said main frame adjacent said pulley for covering and protecting material discharged over said pulley by said endless conveyer, said generally upright shield being rigidly mounted to the end of the main frame, an inverted substantially U-shaped cover rigidly mounted upon said main frame and located to cover and protect material being conveyed toward said head pulley by said conveyer, a rigid canopy rigidly carried by said main frame associated with said inverted U-shaped cover extending toward said pulley, a collapsible cover extending from said canopy over said pulley and the top of said shield and having an edge overlapping the top of said shield, said collapsible cover including supporting rib means carried by said main frame between said canopy and said shield, and disconnectable means for holding said collapsible cover in its pulley and shield covering position.

4. In combination, an elongated stacker conveyer head section main frame and cover mechanism, said main frame being adapted to carry a pulley at one end over which the discharge end of an endless conveyer is trained, an upright shield having an open top and bottom carried at the end of said main frame adjacent said pulley for covering and protecting material discharged over said pulley by said endless conveyer, said generally upright shield being rigidly mounted to the end of the main frame, a rigid canopy rigidly carried by said main frame and located to cover and protect material being conveyed toward said pulley by said conveyer, a collapsible cover extending from said canopy over said pulley and the top of said shield and having an edge overlapping the top of said shield, said collapsible cover including supporting rib means carried by said main frame between said canopy and said shield, and disconnectable means for holding said collapsible cover in its pulley and shield covering position including tabs on said flexible cover and spring means acting between said tabs and main frame adjacent said shield.

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References Cited in the file of this patent

UNITED STATES PATENTS

Number	Name	Date
273,470	Crawford et al.	Mar. 6, 1883
381,025	Parmalee	Apr. 10, 1888
464,530	States et al.	Dec. 8, 1891
1,261,179	Stuart	Apr. 2, 1918
1,446,124	Lichtenberg	Feb. 20, 1923
1,854,560	Owens et al.	Apr. 19, 1932