June 18, 1946. E. B. LEAR ET AL 2,402,289

HOIST DRUM COVER

Filed Sept. 3, 1943

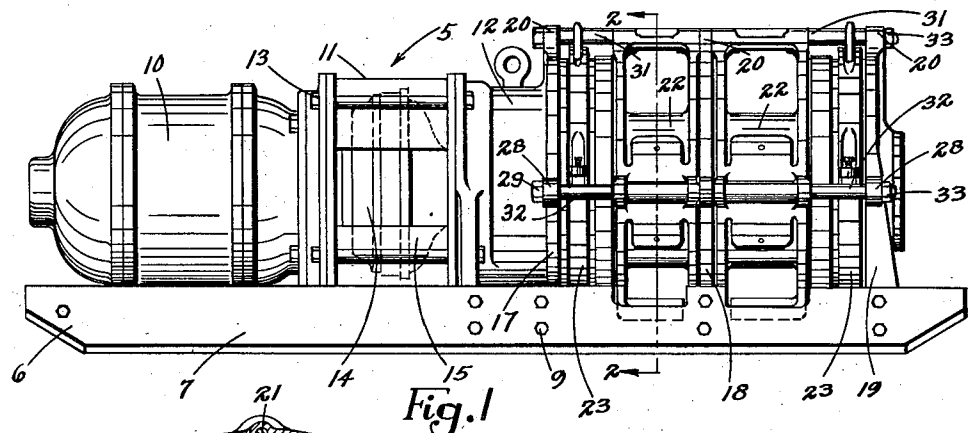


Fig. 1

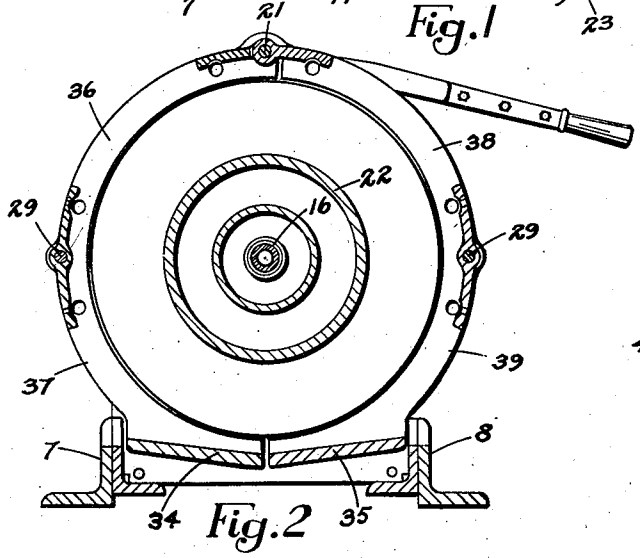


Fig. 2

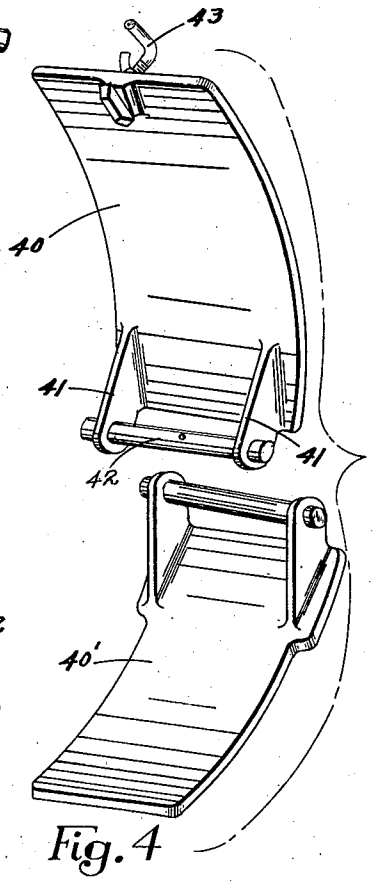


Fig. 4

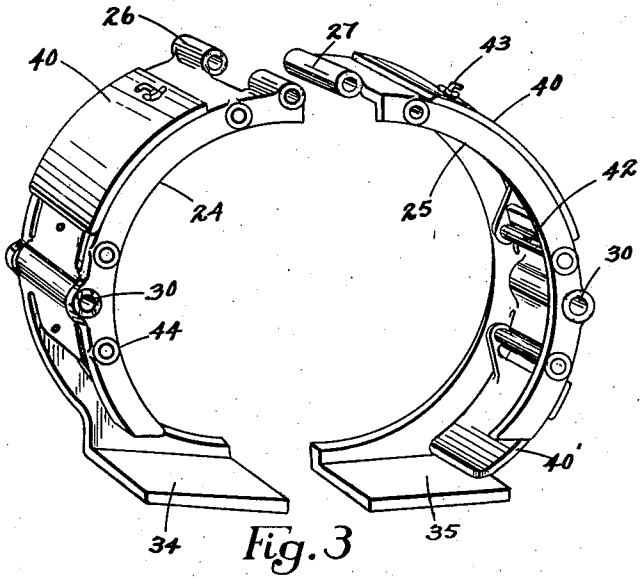


Fig. 3

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HOIST DRUM COVER

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2 Claims. (Cl. 254—186)

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The present invention relates broadly to slusher hoists, but more particularly to improvements in a cover or guard for the winding drums of such hoists.

One object of the invention is to provide a cover structure for the drums of a slusher hoist which will permit rapid assembly and disassembly of said hoist.

Another object of the invention resides in the provision of a cover structure arranged on the hoist in a manner to add rigidity thereto.

A further object of the invention is to provide a cover or guard for the winding drum which includes pivoted closure members arranged to conceal and protect the cable being wound thereon but which are readily accessible to view the travel of the cable, when occasion demands.

Other objects and advantages more or less ancillary to the foregoing reside in the specific construction and aggroupment of the elements peculiar to this structure, as will become apparent from a more complete examination of this specification.

In the drawing which illustrates the invention:

Fig. 1 is a side elevational view of a hoist embodying the invention.

Fig. 2 is an enlarged cross-sectional view taken substantially on line 2—2 of Fig. 1.

Fig. 3 is a perspective view of the cover sections, the same being shown removed from the hoist.

Fig. 4 is a perspective view of the pivoted closure members of the cover removed from said cover.

Referring to the drawing for a more detailed description thereof, and in which like numbers designate corresponding parts throughout the several views, the hoist is generally designated by the reference numeral 5 and includes a base frame 6 having two parallel side members 7 and 8, preferably made of L-shaped angle iron, and secured together by any suitable means such as cross-bolts 9. Longitudinally mounted on the frame 6, there is a hoist assembly shown to include a motor 10, a hydraulic coupling housing 11 and a gear reduction casing 12, all secured together by bolts 13. Obviously, the driving member 14 of the hydraulic coupling within the housing 11 is operatively connected to the motor 10, while the driven member 15 of the hydraulic coupling is mounted on a shaft, not shown, extending into the gear reduction casing 12. Projecting longitudinally away from the casing 12, there is a shaft 16 adequately journaled within longitudinally spaced bearing supports 17, 18, and 19, the bearing support 17 being an integral part of

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the casing 12, while the support 19 forms the end of the hoist assembly shown in Fig. 1. Each of these supports is rigidly secured to the base frame 6 by the cross-bolts 9, while the upper end of each support is formed with a lug 20 through which extends a tie rod 21.

Rotatably mounted so as to be driven through the shaft 16 are one or more spaced drums 22, there being two shown in Fig. 1, but it is to be understood that one or more such drums are capable of being used in a hoist of this character. The drums 22 are operatively associated with other drums 23 which in turn are interconnected with the shaft 16 by any suitable gearing in a manner to drivingly rotate one or the other of said drums 22. The type of driving mechanism employed is well known in this art and forms no part of the present invention.

In accordance with the present invention, the drums 22 are each provided with a cover or closure member, the construction of which permits rapid assembly and disassembly of the hoist. The cover member is best shown in Fig. 3 of the drawing and comprises a pair of semi-cylindrical shaped sections 24 and 25 formed with annular rims and adapted to be disposed around each drum 22. The section 24 is formed with a bifurcated end 26 while the section 25 is formed with a looped terminal 27 adapted to be disposed between the sections of the bifurcated end when in position to receive the tie rod 21. The bearing supports 17, 18, and 19 have lugs 28 formed on opposed sides thereof to receive the tie rods 29. When the sections 24 and 25 are in position around each of the drums 22, the side tie rods 29 will pass through openings 30 formed in the side wall of each section. As is to be understood, the openings 30 are in longitudinal alignment with the lugs 28 as are also the bifurcated ends of the sections in alignment with the lugs 20. In actual practice, spacer members 31 are disposed between the bearing supports 17 and 19 and the adjacent faces of the sections 24 and 25. Likewise, similar spacer members 32 are disposed between the lugs 28 and the outer faces of the sections 24 and 25. By means of the nuts 33, the tie rods 21 and 29 are securely clamped in the assembly of the device and the entire unit forms a rigid compact cover for the drums 22.

The lower half of each section 24 and 25 is provided with a plate-like portion 34 and 35 which are in substantial contacting relation when the cover is in place as shown in Fig. 2 of the drawing, and it will be observed that said plate-like portions are confined within the parallel side

members 7 and 8 of the base 6. These portions protect the lower side of the drums.

The section 24 is formed with relatively large openings 36 and 37, and the section 25 is formed with similar openings 38 and 39. The openings 36, 38, and 39 are adapted to be closed by individual flaps 40, while the opening 37 remains uncovered because the cable is trained through said opening and over and around its respective drum 22. In other words, the cable passes through the openings 37 as it is being wound and unwound from the drums 22. Each flap 40 is formed with a pair of laterally extending ears 41 which extend within the sections and between the annular rims thereof through which projects a pin or other fastening means 42. In this manner, each flap 40 is pivotally connected to its respective section so as to close the openings therein and the upper end of the upper flaps carry locking studs 43 for retaining said flaps in closed position. The flap closing the opening 39 which is identified by the reference numeral 40' has its outer end resting against the plate 35 and is thus precluded from pivotal movement. It is unnecessary to open the flap 40' since the operator of the hoist, when desiring to view the travel of the cable on the drum, opens one or the other of the flaps 40 and moves it back on its pivot.

When rollers are desired for guiding the cable in its travel to and from the drums, the same may be secured between the annular rims of the section 24 by being supported therebeteween and mounted on studs adapted to extend through the openings 44. In Figs. 1 and 2 of the drawing, the sections 24 and 25 have been disclosed with the flaps 40 removed for sake of clarity; however, it is to be understood that use of the flaps is optional. The cover and flaps are primarily designed to protect the cable being wound on the drums when using the hoists in mines and for protecting the drums from falling particles in such use.

From the above description when taken in connection with the accompanying drawing, it will be apparent that there has been provided a cover structure for the drums of a slusher hoist which

will add rigidity to such hoists while permitting rapid assembly and disassembly thereof. The cover sections are relatively light so that the weight of the hoist is not materially increased with the use thereof.

Although the foregoing description is necessarily of a detailed character, in order to completely set forth the invention, it is to be understood that the specific terminology is not intended to be restrictive or confining and it is to be further understood that various rearrangements of parts and modifications of structural detail may be resorted to without departing from the scope or spirit of the invention as herein claimed.

We claim:

1. In a portable slusher hoist or the like, a base frame, spaced bearing supports connected to said base frame and extending vertically therefrom, a winding drum rotatably carried by said supports, a cover for said drum, said cover comprising a pair of semi-circularly shaped members adapted to encircle said drum, said bearing supports and said semi-circular members having aligned apertures therein, and a tie rod extending through said apertures for connecting said bearing supports and said cover members together.

2. In a portable slusher hoist or the like, a base frame, spaced bearing supports connected to said base frame and extending vertically therefrom, a winding drum rotatably carried by said supports, a cover for said drum, said cover comprising a pair of semi-circularly shaped members adapted to encircle said drum, said cover having an aperture therein affording access to said drum, a movable member for closing said aperture, means for retaining said movable member in closed position, ears or lugs on said bearing supports and said semi-circular members spaced from said base frame and having apertures extending therethrough, and tie rods extending through said apertures in said lugs or ears for connecting said bearing supports and said cover members together whereby a light rigid structure is provided for supporting said winding drum.

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