

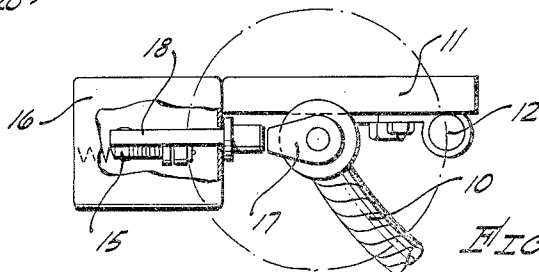
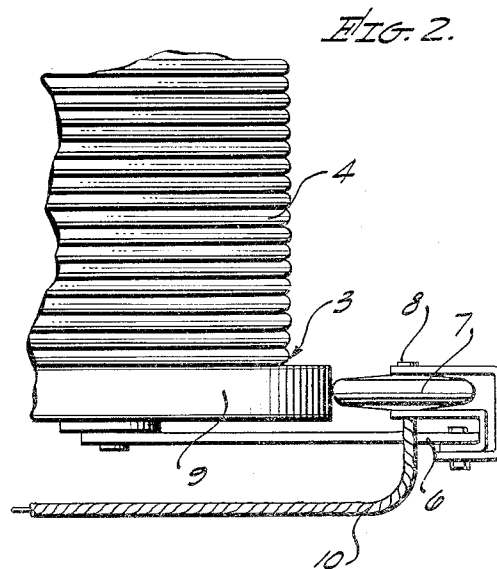
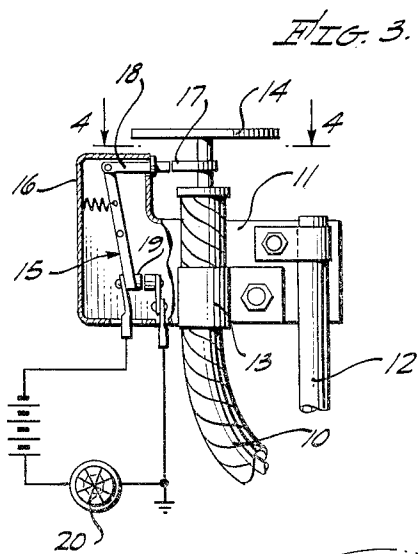
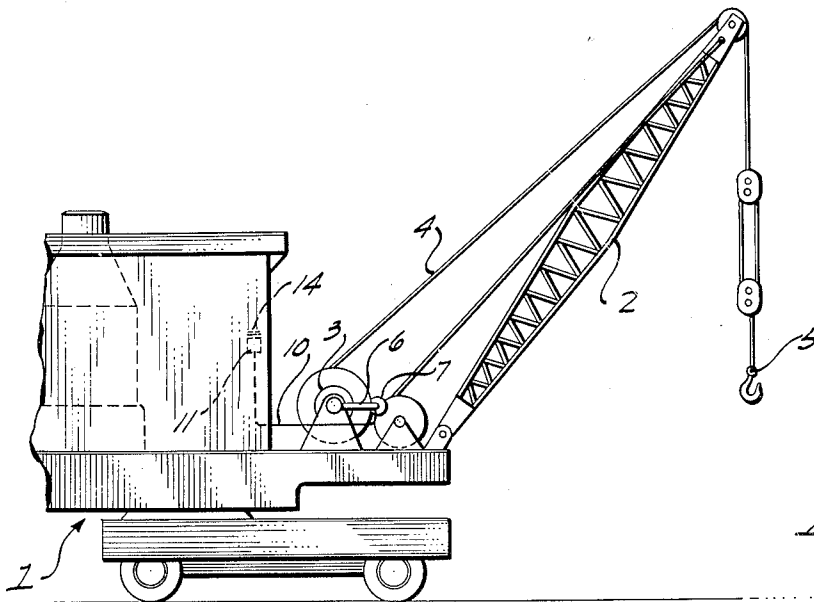
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P. E. NEWSOM

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HOIST DRUM ROTATION INDICATOR

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INVENTOR.
PAUL E. NEWSOM,

BY

H. A. Friedman

ATTORNEY.

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HOIST DRUM ROTATION INDICATOR

Paul E. Newsom, Long Beach, Calif.

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3 Claims. (Cl. 340—271)

This invention relates to an indicator for a hoist drum so that the operator of the hoisting equipment can quickly and easily determine if the hoisting drum is rotating. In hoisting the equipment such as portable and stationary cranes, oil well drilling machinery, construction hoists, etc., it frequently is true that the sling or hook which is moved by rotation of the drum is not visible to the operator, and therefore, it is very difficult to know whether this sling or hook is moving, and also whether it is moving slowly or rapidly.

An object of my invention is to provide an indicator consisting of a rotatable wheel or disc which is driven by and from the hoisting drum, the rotatable disc being so positioned that the operator can place his fingers on the disc and thus determine whether the hoisting drum is rotating, and also approximately the speed of rotation of the drum.

A feature of my invention is to provide a novel hoist drum rotation indicator which can be mounted on present hoisting equipment and which will effectively acquaint the operator with the knowledge as to whether the drum is rotating even though the load or the hook of the hoisting equipment can not be seen.

Another object of my invention is to provide a novel hoist drum rotation indicator which is simple in construction, inexpensive to manufacture and effective in operation.

Other objects, advantages and features of invention may appear from the accompanying drawing, the subjoined detailed description and the appended claims.

In the drawing:

Figure 1 is a side elevation of a portable hoisting crane with my indicator mounted thereon.

Figure 2 is a fragmentary top plan view of a hoisting drum with the drive wheel mounted thereon.

Figure 3 is a side elevation of the indicating disc end of the indicator with parts broken away to show interior construction.

Figure 4 is a sectional view taken on line 4—4 of Figure 3.

Referring more particularly to the drawing, the numeral 1 diagrammatically indicates a portable hoisting crane which includes a pivotally mounted boom 2, a power driven drum 3, on which the cable 4 is reeled. The cable extends over the boom 2 and supports a hook or sling 5, all of which is usual and well known in the art. It frequently happens that the boom 2 will project over an intervening wall or other obstruction, and therefore the hook 5 can not be seen by the operator who must stand in or on the crane 1 in order to control the power mechanism which drives the drum 3. The operator also must watch the boom 2, and therefore his eyes can not also be on the drum 3 to determine if this drum is rotating.

My indicator consists of a bracket 6 which is attached to the frame of the drum 3, or to some suitable stationary structure adjacent this drum. The bracket 6 supports a

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wheel 7 which is freely journaled in the bracket 6 on a shaft 8. The wheel 7 is preferably rubber tired or may be a gear, and it engages the flange 9 of the drum 3, and therefore rotates with the drum. A flexible sheathed cable 10 is attached to the shaft 8 and this cable extends to the position maintained by the operator of the crane or hoist.

At the operator's end of the cable 10 there is provided a bracket 11 which may be attached to the engine throttle 12, or to some suitable place close to the throttle. The sheath of the cable 10 is secured to the bracket 11 as shown at 13 and a disc 14 is secured to the cable itself. It will thus be evident that when the wheel 7 is rotating, the disc 14 will also rotate. If desired, an electric light may be actuated by rotation of the cable, and this mechanism includes a make and break switch 15 mounted in a housing 16, preferably on the bracket 11. A cam 17 on the cable 10 engages the pin 18 of the switch 15, thus causing the contacts 19 to make and break on each rotation of the cable 10. The contacts 19 control the flow of the current to a light 20 or a buzzer, thus enabling the operator to not only feel the rotation of the drum 3, but also to observe or hear whether the drum is rotating.

Having described my invention, I claim:

1. In combination with hoisting equipment including a power driven drum, a wheel engageable with the drum and rotatable thereby, mounting means for said wheel adjacent said drum and in which the wheel is journaled, a disc remotely positioned from said wheel and adapted to be manually engaged by the hoist rig operator at a point remotely removed from the drum, a bracket on which the disc is mounted and a flexible cable attached at one end to the wheel and at the other end to the disc whereby the disc and wheel are synchronously rotated, an electrical contact means positioned adjacent the disc, and operating means extending from said disc to said contact means to actuate said contact means as the disc rotates.

2. In combination with a hoisting rig including a power driven drum, an indicator to determine rotation of said drum, including a wheel, a bracket fixedly mounted adjacent the drum, means journalling said wheel on the bracket, said wheel engaging the drum and rotatable thereby, a disc remotely positioned from said wheel and adapted to be manually engaged by the hoist rig operator at a point remotely removed from the drum, a second bracket, a flexible cable attached at one end to said wheel and at the other end to said disc, said cable being attached to the second bracket whereby the disc is supported.

3. In combination with a hoisting rig including a power driven drum, an indicator to determine rotation of said drum, including a wheel, a bracket fixedly mounted adjacent the drum, means journalling said wheel on the bracket, said wheel engaging the drum and rotatable thereby, a disc remotely positioned from said wheel and adapted to be manually engaged by the hoist rig operator at a point remotely removed from the drum, a second bracket, a flexible cable attached at one end to said wheel and at the other end to said disc, said cable being attached to the second bracket whereby the disc is supported, an electrical contact means mounted on the second bracket, and operating means extending from the flexible cable to the contact means.

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