

(No Model.)

R. CHALLIS.
INDICATOR FOR ELEVATORS.

No. 539,351.

Patented May 14, 1895.

Fig. 1

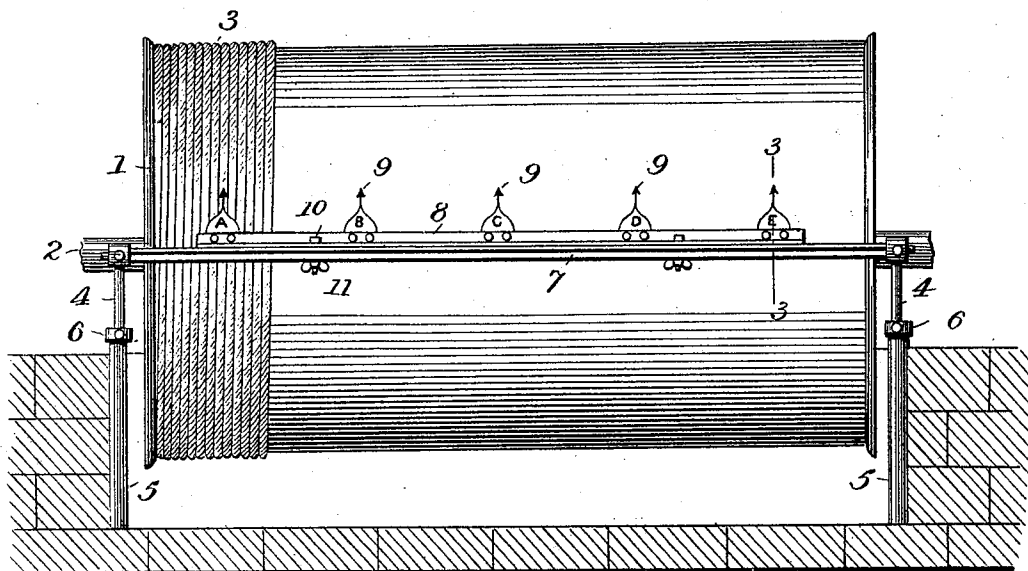


Fig. 2.

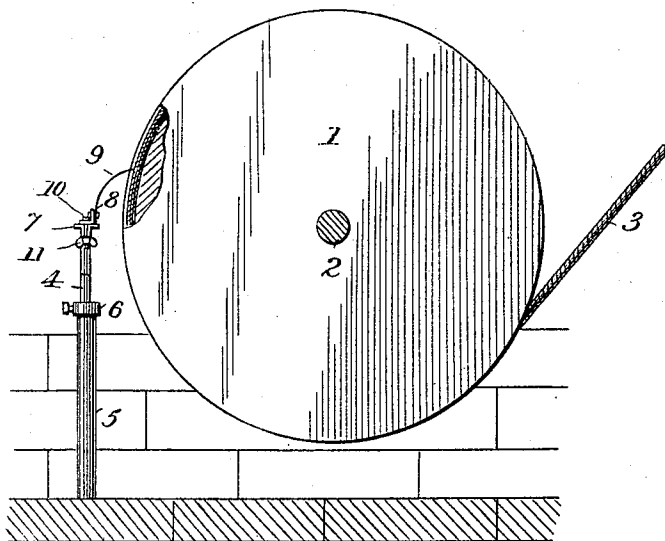
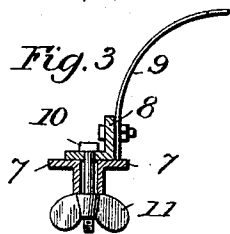


Fig. 3



Witnesses
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UNITED STATES PATENT OFFICE.

ROBERT CHALLIS, OF WILKES-BARRÉ, PENNSYLVANIA.

INDICATOR FOR ELEVATORS.

SPECIFICATION forming part of Letters Patent No. 539,351, dated May 14, 1895.

Application filed March 16, 1895. Serial No. 542,036. (No model.)

To all whom it may concern:

Be it known that I, ROBERT CHALLIS, a citizen of the United States, residing at Wilkes-Barré, in the county of Luzerne and State of Pennsylvania, have invented certain new and useful Improvements in Indicators for Elevators, of which the following is a specification.

My invention relates to devices for indicating the position of the car or platform in that class of elevators in which a hoisting drum is used.

The object of the invention is to produce a simple indicator by means of which the amount of rope or cable upon the drum at any time will show approximately the position of the car, and which will indicate when the car is at any particular level or landing.

A further object is to so construct an indicator for a series of landings that it may be readily adjusted to suit any change in the length of the cable, such as might be brought about by splicing a break.

To these ends the invention consists in a structure which I shall now proceed to describe, reference being had to the accompanying drawings, in which—

Figure 1 is a side elevation of a cylindrical drum provided with my improved indicator. Fig. 2 is an end view of the same, one of the standards of the indicator being broken away; and Fig. 3 is an enlarged section of the indicator-frame on the line 3 3 of Fig. 1.

Referring to the drawings 1 indicates the hoisting drum of an elevator such for instance as those used in mine shafts. These drums are usually operated by a pair of engines connected directly to the shaft 2 upon which the drum is mounted, but I have not considered it necessary to illustrate the engines or the shaft bearings for the purposes of the present specification.

It may be here remarked that my invention is equally applicable to conical winding drums and to drums provided with a spiral guide groove for the rope. In the present instance the drum is shown as having a plain surface, the rope 3 being connected with it at one end and winding in a spiral toward the other.

Near each end of the drum is a standard 4 which is preferably adjustable vertically. As shown the standards fit in hollow posts 5 which are set in the masonry of the hoisting

apparatus, and set screws 6 are provided for holding the standards in any desired adjustment. These standards support a bar or bars 7 upon which is adjustably carried a second bar 8 provided with indicators 9. The indicators are so spaced on the bar 8 that when the middle of the last coil of rope on the drum is opposite an indicator the cage or platform of the elevator will be at the landing corresponding to the indicator. The numbers or names of the several landings are designed to be marked on their corresponding indicators. Thus in the drawings the landings are indicated by the letters A, B, C, &c.

As shown in the drawings the indicator bar 8 is a piece of angle iron having its horizontal flange resting upon two separated supporting bars 7 also consisting of angle irons having horizontal and vertical flanges. The adjustable bar 8 is clamped to the bars 7 by means of bolts 10 and thumb nuts 11. The indicators 9 have their lower ends riveted to or otherwise securely attached to the bar 8 and their upper ends pointed and close to the rope as it is wound on the drum.

The hoisting rope stretches from use and occasionally it requires repairs, but if the indicators are correctly placed on the adjustable bar 8 they will all indicate correctly if one of them is properly adjusted after each change in the rope. The adjustment, as illustrated, simply requires that the thumb nuts be loosened and afterward tightened when the bar 8 is moved to its proper position. The adjusting can be readily made by observing when the car or platform is at the landing nearest to the hoisting drum and then setting the indicator corresponding to said landing so that its point is opposite the middle of the last coil of rope.

Instead of the arrows or pointers 9 I may substitute any other form of index or marker upon the rod 8.

The adjustable standards 4 permit the indicator to be adjusted to the height most convenient for the engineer to observe. These adjustable standards also permit a very fine adjustment of the indicator points relative to the rope, as the points move vertically while the rope is inclined or spiral.

I have described my invention in the simplest and most effective form hitherto devised

by me, but it will be evident that the mechanical details of the invention may be considerably varied without departing from the scope and spirit thereof.

5 Therefore, without limiting myself to the precise construction and arrangement of parts shown and described, I claim—

1. The combination with a hoisting drum and its rope, of a bar supported parallel with
10 the drum and a series of indicating points supported on the bar, substantially as described.

2. The combination with a hoisting drum and its rope, of a bar supported adjacent to and
15 adjustable lengthwise of the drum and a series of indicating points or markers upon said adjustable bar, substantially as described.

3. The combination with a hoisting drum and its rope, of standards at each end of the
20 drum, a bar or bars extending between the

standards and parallel and adjacent to the drum, an indicator bar adjustably supported upon said bar or bars and a series of indicating points or markers fixed upon the indicator
bar, substantially as described. 25

4. The combination with a hoisting drum and its rope, of vertically adjustable standards near each end of the drum, a supporting bar carried by the standards parallel and adjacent to the drum and an indicator bar provided with indicating points or markers and
30 adjustably carried by the said supporting bar, substantially as described.

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

ROBERT CHALLIS.

Witnesses:

H. S. REETS,

THOS. H. HOLMES.