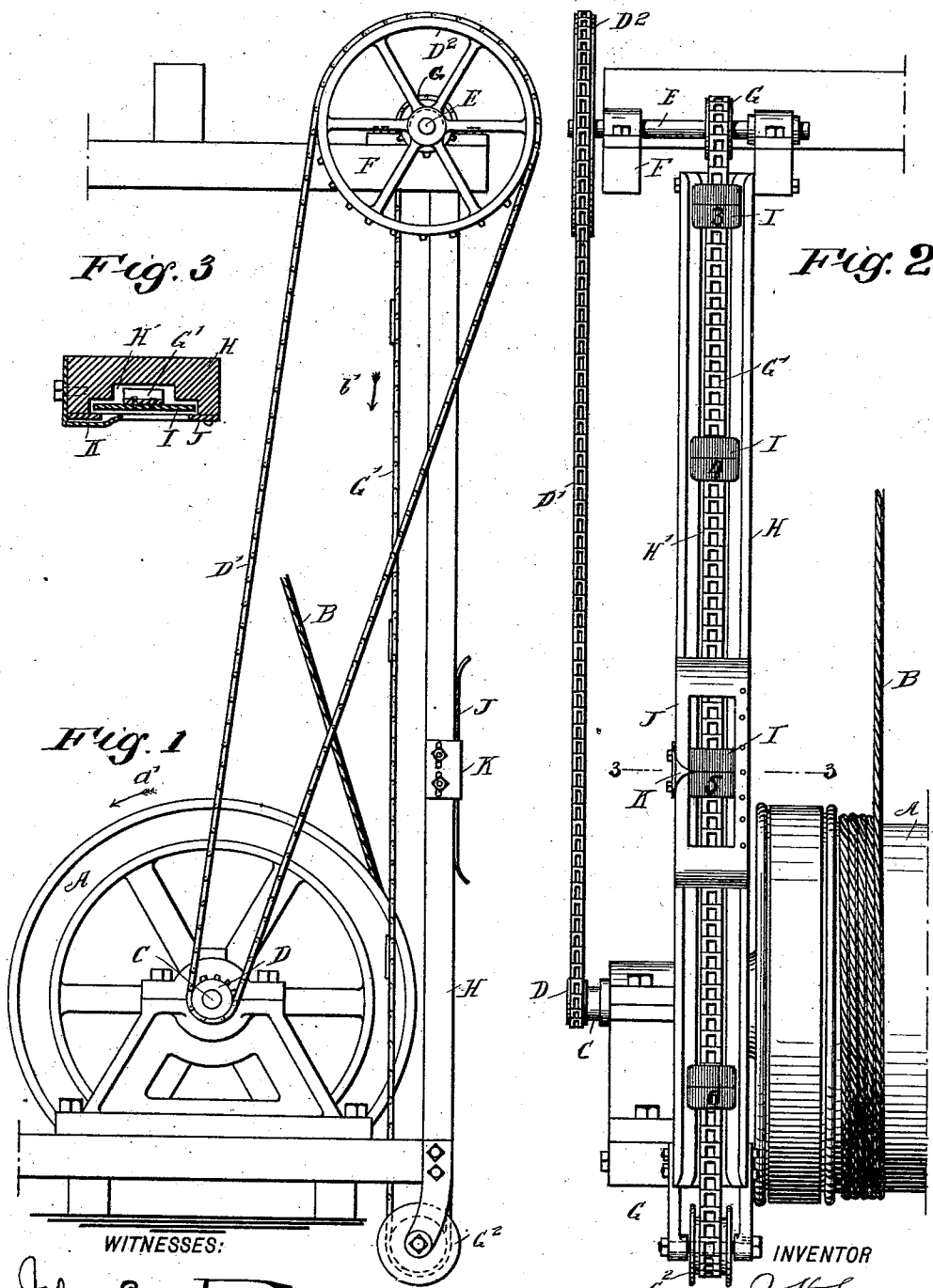


(No Model.)

J. H. SCOTT.
INDICATOR.

No. 531,572.

Patented Dec. 25, 1894.



WITNESSES:
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JOSEPH H. SCOTT, OF ASPEN, COLORADO.

INDICATOR.

SPECIFICATION forming part of Letters Patent No. 531,572, dated December 25, 1894.

Application filed September 14, 1894. Serial No. 522,989. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH H. SCOTT, of Aspen, in the county of Pitkin and State of Colorado, have invented a new and Improved Indicator, of which the following is a full, clear, and exact description.

The invention relates to hoisting apparatus, and its object is to provide a new and improved indicator which is comparatively simple and durable in construction, and more especially designed for accurately indicating, at all times, the position of the cage in the shaft of a mine.

The invention consists of certain parts and details and combinations of the same, as will be fully described hereinafter and then pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters indicate corresponding parts in all the figures.

Figure 1 is a side elevation of the improvement as applied. Fig. 2 is a front view of the same; and Fig. 3 is an enlarged sectional plan view of the same on the line 3—3 of Fig. 2.

The improved indicator is arranged on one side and at the front of the hoisting drum A, on which winds the hoisting rope B, extending to the mine shaft to carry the cage up and down in the said shaft. On the shaft C of the drum A is secured a sprocket wheel D, connected by a sprocket chain D' with a larger sprocket wheel D² secured on a shaft E journaled in suitable bearings secured on a frame work F erected in the power house, in any desired manner. On this shaft E is secured a sprocket wheel G, over which passes a chain belt G', also passing under a flanged pulley G² mounted to rotate loosely on a fixed shaft held in brackets attached to the lower end of a vertically disposed guideway H, supported from the frame work F, and thus forming part thereof. This guideway H is formed in its front with a recess H' for the passage of the front run of the chain belt G', so that the said belt is properly guided in its traveling motion, caused by the rotation of the drum A in winding up or unwinding the hoisting rope B by the connection above described. Thus, it will be seen that when the drum A is rotated in the direction of the arrow a' to unwind the hoisting rope B, then

the chain belt G' is forced to travel in the direction of the arrow b'; that is, the front run contained in the recess H', moves in an upward direction in the guideway H, and when the drum A turns in the opposite direction to wind up the hoisting rope B, then the chain belt G' travels in the inverse direction of the arrow b'; that is, the front run of the chain belt moves downward in the guideway H.

On the chain belt G' are secured plates I, located such distances apart as correspond in proportion to the different levels in the mine shaft, and the said plates I are consecutive in number and provided with indicating lines, as shown in Fig. 2, the said numbers indicating the respective level of the mine shaft.

Each plate I is preferably made of sheet metal enameled on its front face and marked as indicated, in any suitable manner, and each plate is adapted to pass in a vertically disposed recess contained in the front face of the guideway H at the time the plate is on the front run of the chain belt G'. On the front of the guideway H is secured an apertured guide plate J, having its upper and lower ends curved outward for the ready entrance of the plates I traveling in either an up or down direction, according to the motion of the drum A. Into the opening of the plate J extends a pointer K, attached to one side of the guideway H and adapted to indicate on the marked line of the plate I passing through the guideway in the rear of the apertured plate J. Thus, as the said pointer is located at the front and under the direct observation of the engineer in charge of the drum A, the said engineer can, at any time, see at a glance the position of the cage in the mine shaft, so as to be enabled to stop the hoisting drum A at the time the cage is opposite the level, the position being indicated by the marked line on the plate I being in alignment with the pointer K. Thus, as shown in Fig. 2, the pointer K and plate I indicate that the cage is on the fifth level of the mine shaft.

It will be seen that by having the apertured plate J, the indicating plates I are properly guided relative to the pointer K, without interfering with the latter.

It is understood that the length of the chain belt G' is proportioned according to the depth

of the mine shaft, and the sprocket wheels D, D² and G are rotated to bring about the proper movement of the chain belt, so that its plates I properly indicate the different
5 levels when passing the pointer K.

Having thus fully described my invention, I claim as new and desire to secure by Letters Patent—

1. An indicator comprising a traveling
10 chain belt driven from the hoisting drum, a vertically disposed guideway through which passes the front run of the said chain belt, indicating plates secured on the said chain
15 belt and denoting different levels of the mine shaft, and a pointer secured on the said guideway and adapted to indicate on the said indicating plates as they pass through the guideway, substantially as shown and described.

2. An indicator comprising a traveling chain belt driven from the hoisting drum, a
20 vertically disposed guideway through which passes the front run of the said chain belt, indicating plates secured on the said chain belt, and denoting different levels of the mine
25 shaft, and a pointer secured on the said guideway and adapted to indicate on the said indicating plates as they pass through the guideway, and an apertured guide plate secured on
30 the said guideway, the said pointer extending into the opening of the said guide plate, substantially as shown and described.

JOSEPH H. SCOTT.

Witnesses:

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ARTHUR E. PIPE.