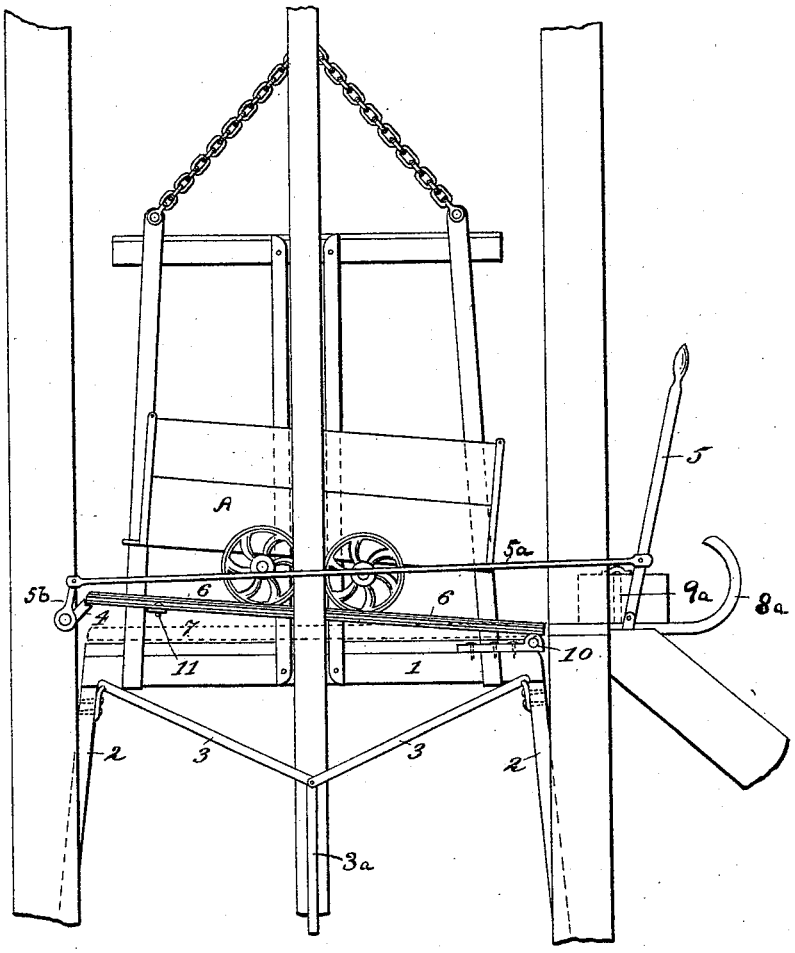
(No Model.) 2 Sheets—Sheet 1.

B. E. WIGHTMAN.

COAL ELEVATOR.

No. 455,139. Patented June 30, 1891.

Fig. 1.



Witnesses:
W. R. Lacey
Kate De Board.

Inventor:
B. E. Wightman

(No Model.) 2 Sheets—Sheet 2.

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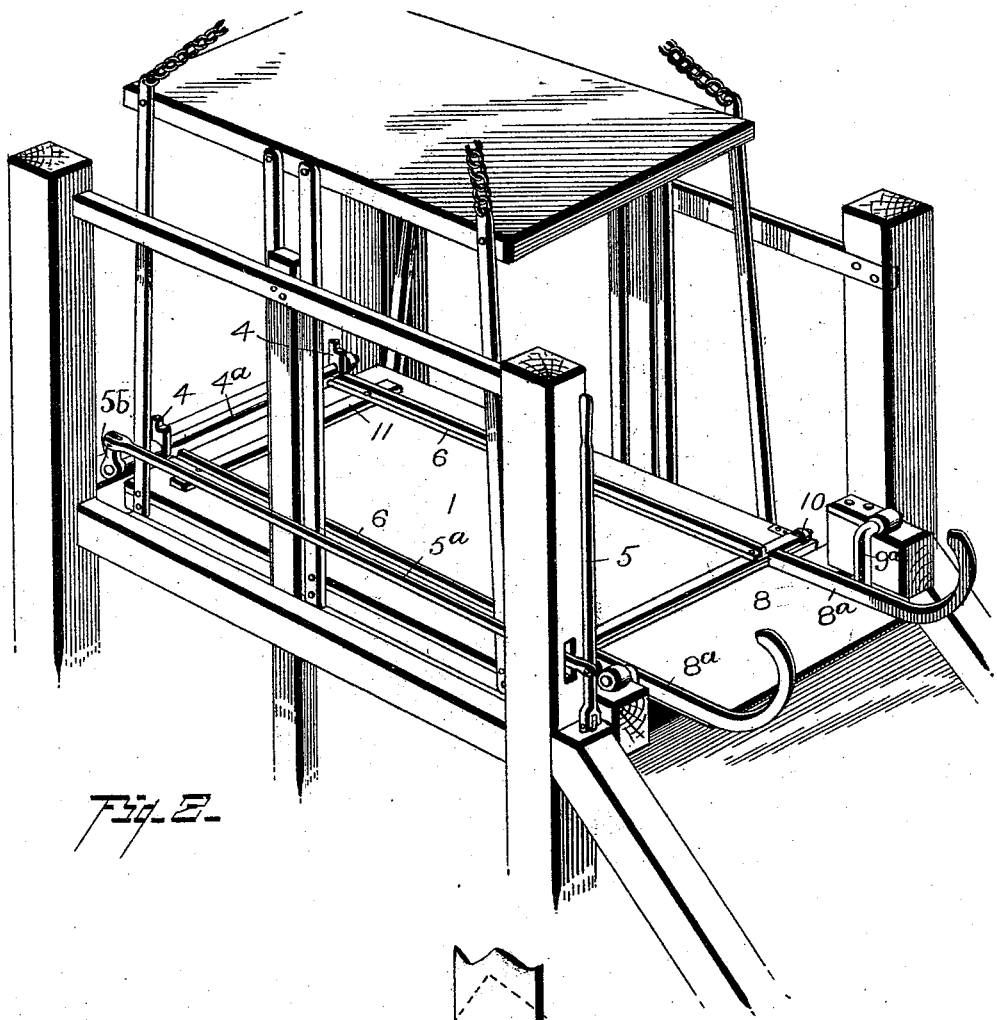

Fig. 2.

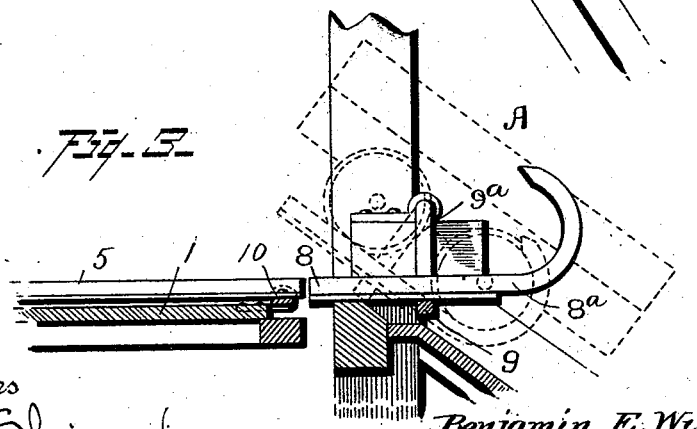

Fig. 3.

Witnesses
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Van Burn Hillyard.

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Benjamin E. Wightman.
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UNITED STATES PATENT OFFICE.

BENJAMIN E. WIGHTMAN, OF OSKALOOSA, IOWA.

COAL-ELEVATOR.

SPECIFICATION forming part of Letters Patent No. 455,139, dated June 30, 1891.

Application filed July 24, 1890. Serial No. 359,833. (No model.)

To all whom it may concern:

Be it known that I, BENJAMIN E. WIGHTMAN, a citizen of the United States, residing at Oskaloosa, in the county of Mahaska and State of Iowa, have invented certain new and useful Improvements in Coal-Elevators; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

This invention relates to a self-dumping coal-elevator or coal-hoist to be used in mining operations where coal or other minerals are elevated to the surface and dumped over screens, or any other mining from cars. The appliance is used in any ordinary shaft where coal is brought to the surface by an elevator, and no change is made in the ordinary elevator in order to use the present invention, except as herein designated.

The improvement consists of the novel features and the peculiar construction and combination of the parts, which will be hereinafter more fully described and claimed, and which are shown in the annexed drawings, in which—

Figure 1 represents an ordinary coal elevator or hoist in elevation with the appliance attached and in operation, the car being elevated to the top of the shaft and ready to be dumped. Fig. 2 is a detail perspective view of the bottom portion of the cage, showing the tilting or dumping platform, the means for supporting the rails and the relative position of the shaft, cage, tilting platform, and the said means for supporting the free ends of the rails in their elevated position. Fig. 3 is a detail view showing the car on the tilting or dumping platform in full lines, and showing the position of the car and platform when the latter is tilted.

1 represents the sill or platform of a cage of ordinary construction, upon which the car A is raised to the surface and lowered to the bottom of the shaft.

2 represents the wings, usually provided at diametrically-opposite sides of the shaft, on which the cage rests when brought to the top ready to be dumped.

3 are toggle-levers, which are connected at their outer ends with the wings 2 2 and at their inner ends with the operating-rod 3^a, by means of which the said wings are disengaged from the cage to permit the same to descend.

4^a is a shaft which is journaled to a cross-bar of the shaft, and which is provided near each end with a dog 4, which engage with and support the heel ends of the rails 6 6. The lever 5 at the dumping end of the hoist is connected by rod 5^a and arm 5^b with the shaft 4^a, and serves as means to project the dogs 4 within the path of the heel ends of the said rails 6 6, and release them from the said rails. The rails 6 6 are pivotally connected with the platform 1 at 10, and are connected near their heel ends by the cross-bar 11. The tilting or dumping platform 8 is mounted on the cross-bar 9, which is provided at each end with crank 9^a, the latter having bearing in a block which is secured to the shaft. The rails 8^a on the tilting platform have their front ends curved up to engage with the front wheels of the car A, and hold the car in place when discharging the load therefrom.

The cage or elevator is brought to the top of the shaft in the usual way, the lever 5 being operated to throw the dogs 4 under the heel ends of the rails 6 6. The cage being lowered until it rests upon the wings 2 2, the heel ends of the rails will be elevated and supported on the said dogs and cause the car to descend by gravity to the tilting or dumping platform.

The car is dumped by hand in the usual manner. After the car is dumped the lever 5 is operated to release the rails 6 6, which will fall to a normal position on the platform 1 and cause the car to move back to a normal position on said platform 1 to be lowered into the mine.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

In a coal-hoist, the combination of the shaft and the car, the tilting platform, the cross-

bar 9 having cranks 9^a at its ends, which have bearings at the sides of the mine-shaft, the rails 8^a, having their front ends curved up, the rails 6 6 on the platform of the cage, adapted to be elevated at their heel ends to cause the car to gravitate toward the tilting platform, the shaft 4^a, having dogs 4 4 for supporting the heel ends of the rails, and the operating-lever 5, connected with the shaft 4^a to disengage the dogs 4 from the rails 6 6, substantially as and for the purpose described.

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

BENJAMIN E. WIGHTMAN.

Witnesses:
JOSIAH BROWN,
KATE DE BOARD.