

No. 635,499.

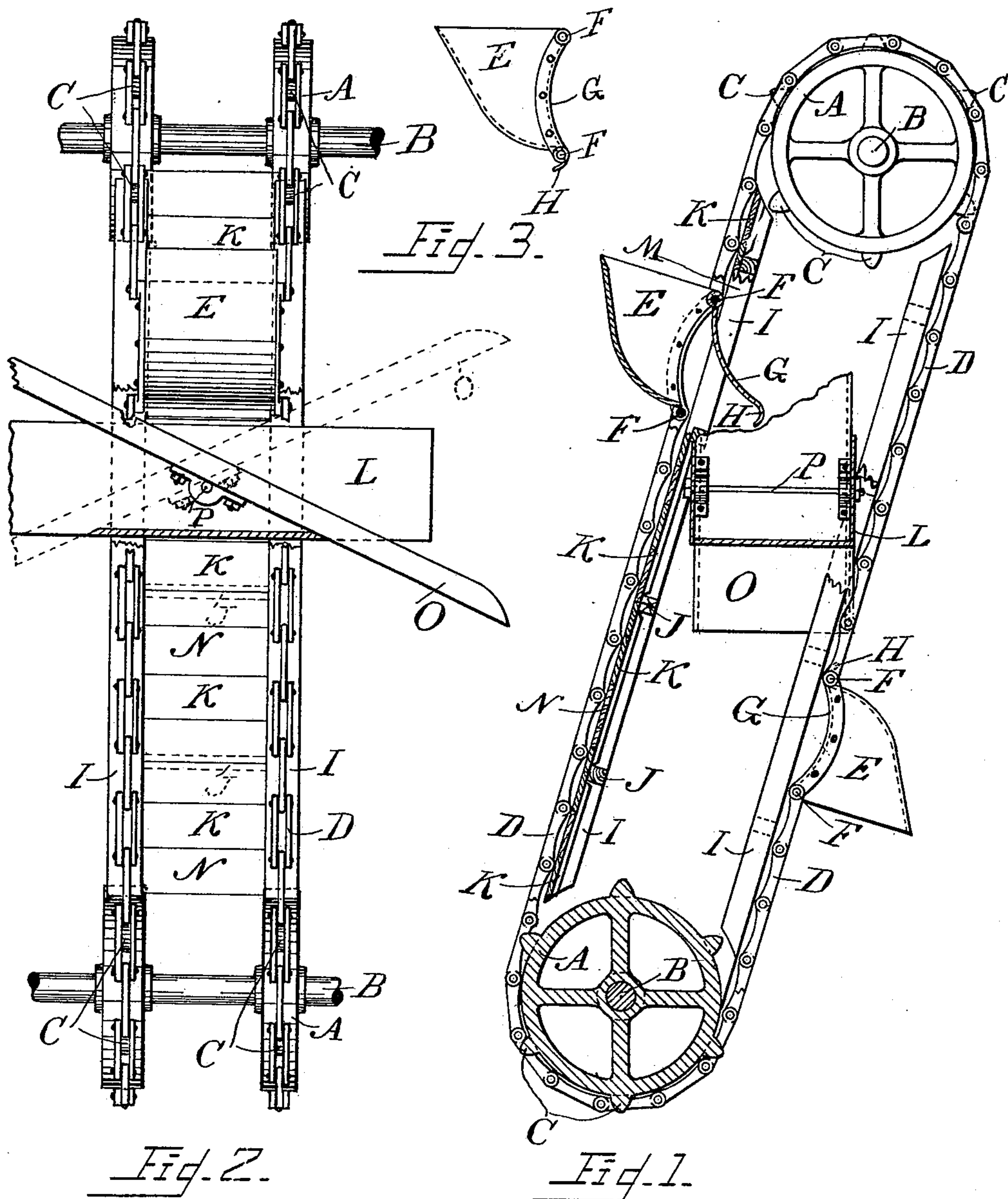
Patented Oct. 24, 1899.

R. J. MELIUS.

ELEVATOR.

(Application filed Mar. 2, 1898.)

(No Model.)



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UNITED STATES PATENT OFFICE.

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ELEVATOR.

SPECIFICATION forming part of Letters Patent No. 635,499, dated October 24, 1899.

Application filed March 2, 1898. Serial No. 672,282. (No model.)

To all whom it may concern:

Be it known that I, REUBEN J. MELIUS, a citizen of the United States, residing at Bath-on-the-Hudson, in the county of Rensselaer and State of New York, have invented new and useful Improvements in Elevators, of which the following is a specification.

This invention relates to certain improvements on the elevator for which Letters Patent of the United States No. 515,781 were granted to me on the 6th day of March, 1894; and it consists in providing the elevator with a chute having a tiltable bottom which is arranged in such manner in relation to the elevator mechanism that coal or other commodities raised by the elevator can be discharged at either side of the latter; and it also consists in providing the guide-floor for the elevator with a series of openings through which the material raised by the elevator can be automatically discharged at different elevations, and providing such openings with removable shutters for closing them when said openings are not required for use.

In the accompanying drawings, which form part of this specification and which are herein referred to, Figure 1 is a side elevation of an elevator embodying my improvements, a portion of said figure being shown in vertical section; Fig. 2, a front elevation of Fig. 1, with portions broken away to show underlying parts; and Fig. 3, an end elevation of one of the elevator-buckets detached from the chain.

As illustrated in the drawings, A designates sprocket-wheels secured to shafts B in the usual manner and provided with horns C, adapted to engage in endless chains D, which are common to this class of elevators.

E designates open-top buckets secured at stated intervals to the chains D by the usual means of securing such parts, so that the chains can be flexed, and for that purpose each of said buckets is provided with a transverse rod F at its upper and lower sides, and, as shown in Fig. 1, the uppermost rod serves as a pivot on which a swinging door G is hinged to the bucket E, and the lower edge of said door is preferably provided with a curved lip H, which closes over the lower rod,

as shown in Fig. 3, so as to slide freely over the parts on which the bucket moves.

I designates string-pieces which are arranged between the upper and lower sprocket-wheels A and on which the chains D are moved. Said string-pieces are connected together by cross-ties J to give stability to the frame so formed. The cross-ties J of the uppermost string-piece I are arranged below the outer face of said string-pieces to allow the thickness of the removable shutter K to lie even with the upper side of the string-pieces J, said removable shutters forming a guide-floor for the buckets E of the elevator.

L is an open-ended trough which is attachable to the string-pieces I directly under each opening M through the guide-floor N. The bottom of said trough is made shorter at each end of the latter than the side pieces of the trough, so as to form stops for limiting the movements of a tiltable chute that is carried by the trough L, as shown in the drawings. In the drawings only one of the openings M is shown uncovered; but several such openings may be provided, and the trough L should be adapted to be attached directly under either of the openings formed through the guide-floor N. A chute O, which is tiltable, is journaled on a rod P, arranged across said trough, so as to be at the middle, or nearly so, of the chute, so that when the latter is tilted in either direction the depressed end of the chute will take against the corresponding end of the bottom of the trough L and will be supported thereby.

The chute C is arranged so that the material raised in the buckets E will be discharged from the latter directly into the chute. Then if said chute is in the position shown by the full lines of Fig. 2 said material will pass out of the depressed end of the chute; but if said chute is tilted into the position indicated by dotted lines in Fig. 2 the discharge will occur in the opposite direction from the one just referred to, and in this manner coal or other material can be dumped at either side of the elevator at the option of an operative.

The swinging door G should be made to conform to the shape of the periphery of the rim of the sprocket-wheels A, over which the

buckets E are carried. As shown in the drawings, said swinging door is curved, but when polygonally-formed tumblers are substituted for said sprocket-wheels said doors can be made flat.

The operation of my invention is as follows: The chute O being tilted into a required position, the necessary motion is imparted to the sprocket-wheels A to carry the buckets on the descending part of the chains D into the material to be raised. Thereby the buckets E will be successively filled and moved upwardly by the ascending part of said chains. As each bucket reaches an uncovered opening M in the guide-floor N the weight of the material in the bucket will force open the door G, as shown in Fig. 1, thereby permitting the contents of the bucket to fall out of said bucket into the chute O, from whence the material will slide out to the place that is provided to receive it.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. In an elevator, the combination with an inclined guide-floor, N, composed of removable shutters, K, which form closures for openings, M, in said guide-floor; said shutters being supported in place by string-pieces, I, and cross-ties, J, as herein set forth, of an elevator-bucket, E, having, at its back, a swinging door, G, and adapted to be moved on said floor; said door being arranged to be opened by gravity while the bucket is passing over

an uncovered opening M in the guide-floor, and to close automatically by contact with the closed part of said floor, as specified.

2. In an elevator, the combination of an inclined guide-floor, N, provided with an opening or openings, M, formed therethrough, an elevator-bucket, E, having a swinging door, G, hinged to cover its rearmost side; said bucket being arranged to be moved on said guide-floor, an open-ended trough, L, and a tiltable chute, O, journaled transversely between the sides of said open-ended trough, L, whose bottom forms stops for limiting the movement of said chute in either direction; said chute being arranged directly under an opening, M, in the guide-floor, and so that the contents of said bucket will fall directly into the chute and be discharged from the depressed end of the latter, as specified.

3. The combination of a trough, L, having its opposite ends open and having a bottom that is shorter than the sides of the trough, so as to form a stop at each end thereof, and a tiltable chute, O, transversely pivoted at, or near, its mid-length to said trough and arranged to be tilted so that either end of said chute can be depressed until it takes against the corresponding end of the bottom of the trough, as specified.

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