(No Model.)

R. J. MELIUS.

ELEVATOR.

No. 515,781. Patented Mar. 6, 1894.

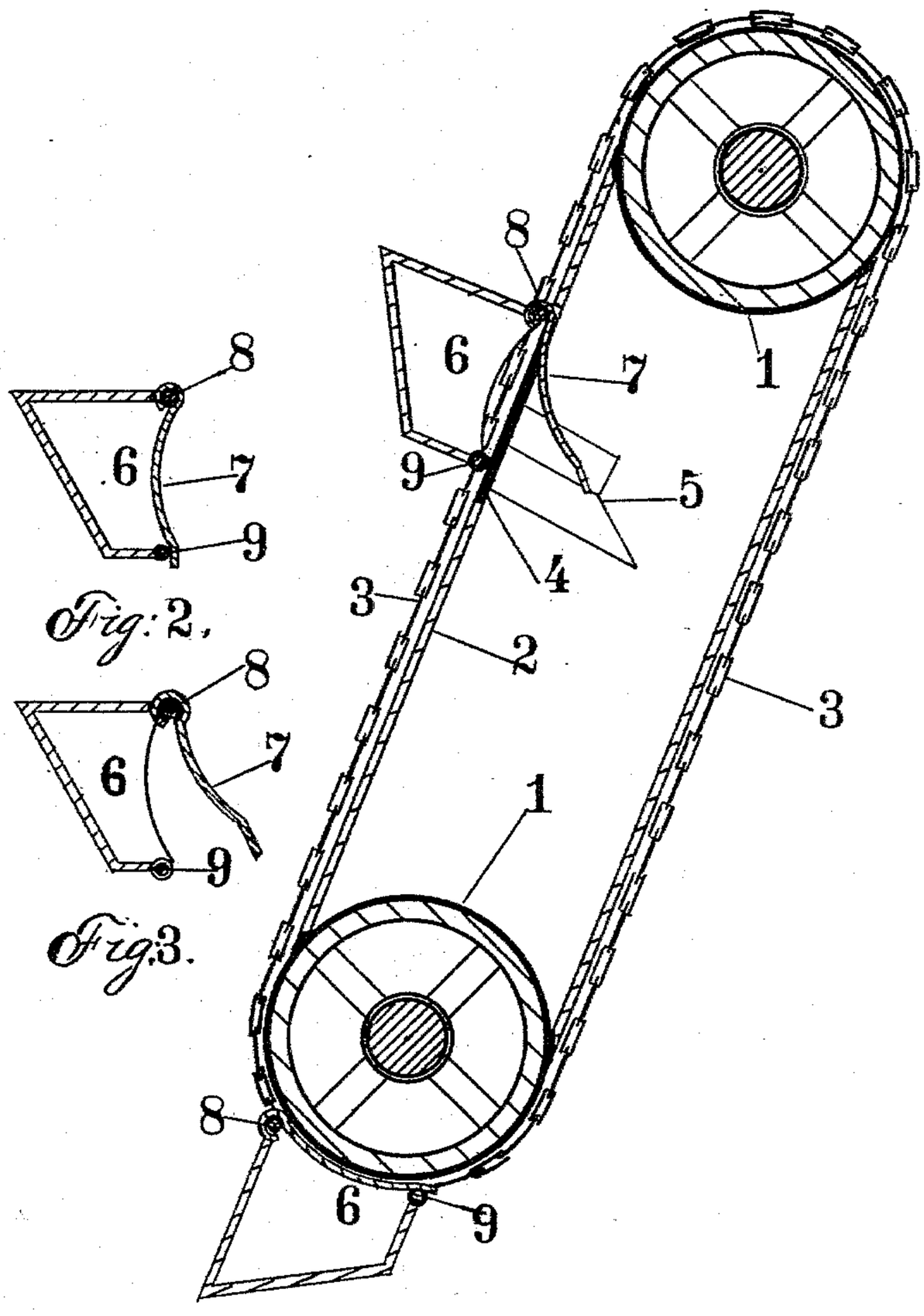

Fig: 1.

Fig: 2.

Fig: 3.

Witnesses
H. G. Avery:
J. E. Harris.

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UNITED STATES PATENT OFFICE.

REUBEN J. MELIUS, OF BATH-ON-THE-HUDSON, NEW YORK.

ELEVATOR.

SPECIFICATION forming part of Letters Patent No. 515,781, dated March 6, 1894.

Application filed September 1, 1893. Serial No. 484,539. (No model.)

To all whom it may concern:

Be it known that I, REUBEN J. MELIUS, a citizen of the United States of America, residing at Bath-on-the-Hudson, Rensselaer county, New York, have invented certain new and useful Improvements in Elevators; and I do hereby 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 figures of reference marked thereon, which form a part of this specification.

The object of my invention is to provide a new and improved elevator for coal, grain and other commodities.

In the drawings Figure 1 shows a vertical sectional view of my elevator in operative construction; Fig. 2 a vertical sectional view of one of the buckets closed; Fig. 3 a vertical sectional view of one of the buckets open ready to discharge its contents.

The drums 1, which may be sprocket wheels if desired, are arranged to carry the chain 3 as they revolve. Under the chain 3 is the guide floor 2, in which is an opening 4 from which leads the chute 5 to any place desired. To the chain 3 is attached the buckets 6. 6. in the following manner, viz.: A bar 8 passes through the top of the bucket 6 and its ends extend beyond the side of the buckets and engage with the chain 3 and are made fast thereto, and at the bucket's foot or bottom a bar 9 passes through the bucket and its ends protrude beyond the sides of the bucket and are made fast to the chain 3, the bars 8. 9. keeping the bucket from tipping or tilting as many buckets do in other elevators. On the bar 8 is sleeved or pivoted the curved sheet or apron 7 which forms the rear side of the bucket and its lower end preferably drops a trifle below the bottom of the bucket as shown. The curve in the sheet or apron or door 7 is made to correspond with the curvature of the drums 1. 1. so that when the bucket passes over the drums presenting its rear side or door to the drum's periphery, it will practically lie close against it and ride smoothly over it and cause no extra strain on the chain or derangement of the buckets. The apron or door 7 swinging on the rod 8 easily, opens and closes with facility.

Traps or openings 4 may be arranged for at any point along the guide floor 2 so as to allow of dumping the buckets in succession at any desired height.

The operation will be seen by following the course of the bucket 6 lying under and against the lower drum 1. As it rises by the movement of the chain 3, its rear side or door 7 is kept closed by the pressing of its lower end against the floor 2 until it arrives in front of the opening 4 in the floor when the door 7 swings into the opening 4 and the contents are discharged into a chute or other receptacle or upon a floor provided to receive it. As the bucket continues to rise, the door 7 strikes against the upper edge of the opening 4 and is swung shut and remains so until it has passed around the drums 1. 1. and become loaded and again reaches the opening in the floor way. The buckets therefore, never tip or tilt but their discharge is accomplished by means of the swinging back or door 7 which acts automatically.

I operate my elevator by any power procurable, as steam power, but I have shown only such portions thereof as I have deemed new and novel, as I claim nothing new concerning the means of applying power thereto as I apply it in any well known manner, and in the usual way adopted with elevators.

The guide floor 2 is stationary and is preferably made of slats, either wood or metal, to suit the work in hand. The chain 3 shown in the drawings is seen as located beyond the bucket and is one of two chains, the other being located on the opposite side of the bucket and attached to the bars 8. 8. and 9. 9. making an even pull on the buckets causing them to rise evenly.

The apron or door 7 is preferably made of stiff sheet iron or steel and the body of the buckets of any material desired. I do not confine myself to any particular manner of making the door 7 swing, as it may be accomplished in any desired manner, and where I have shown a common chain at 3, an eye-bar chain may be used if desired, or any other kind of lifting apparatus.

The advantage of having a door in the rear

of the bucket, instead of in the sides or end is, that as the bucket passes over the drums all strain on the sides of the buckets arising from the position assumed by the buckets in passing over the practically curved surface of the drum is practically borne by the curved door, as that door is not fastened to the sides of the bucket except pivotally, which allows of some little play, the rigid portions of the bucket are not strained and racked in passing over the drum as they would be if the curved door was simply one side of the bucket and rigidly attached thereto, and said door being curved it forms practically a vertical section of a tube, which is practically unyielding to any strain tending to bend it crosswise of its length, and it therefore forms the strongest possible backing the bucket could have, while at the same time there is enough play about the pivot on which it is hung to relieve the rigid portions of the bucket from much of the strain they would otherwise be subjected to.

Having fully described my invention, what I claim is—

An elevator having a guide floor with an opening in it and revolving devices around which are carried buckets, said buckets having the rear side coming in proximity to and passing over the periphery of the revolving devices in the form of a curved automatically opening and closing pivoted door, said door being arranged to have movement about the pivot that any movement of the door shall not operate to rack the rigid walls of the bucket, the curvature of the door and that of the revolving devices around which and over which it passes being practically of the same radius, said curved door being arranged to open and discharge its contents when the bucket reaches an opening in the guide floor and to close after the bucket has discharged its load, as and for the purposes described.

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

REUBEN J. MELIUS.

Witnesses:
H. G. AVERY,
W. M. BROWN.