No. 763,268. PATENTED JUNE 21, 1904.

J. M. EDWARDS.

CONVEYER.

APPLICATION FILED MAR. 24, 1904.

NO MODEL.

Fig. 1.

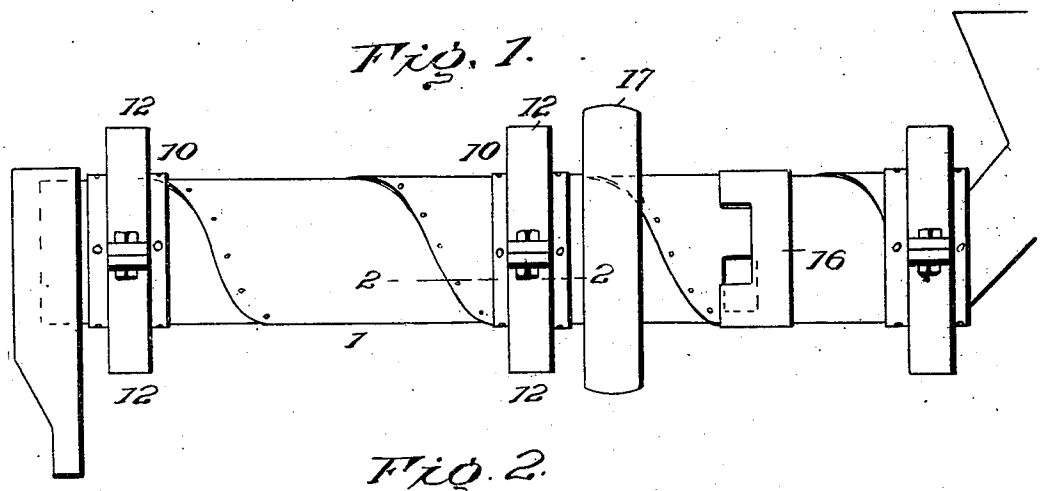


Fig. 2.

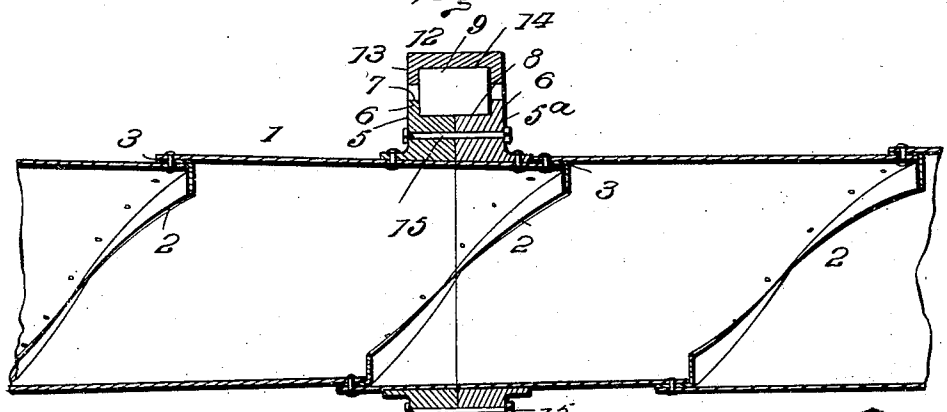


Fig. 5.

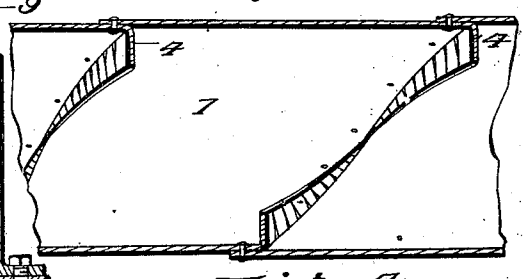


Fig. 3.

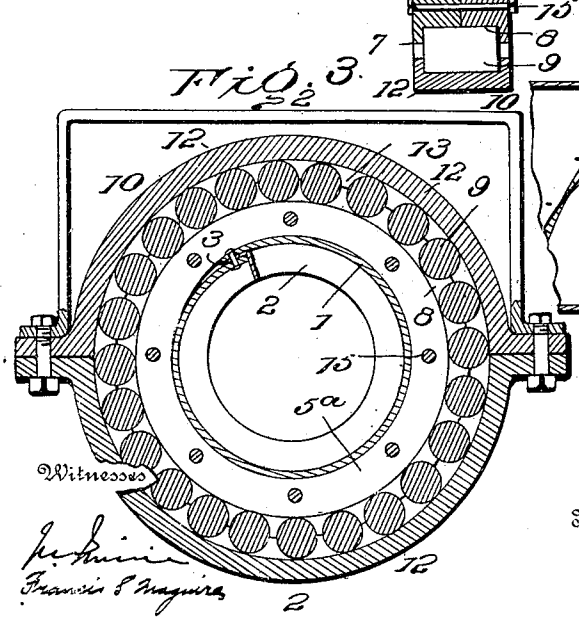
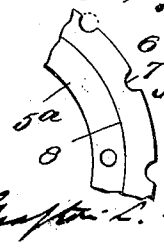


Fig. 4.



Witnesses

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No. 763,268. Patented June 21, 1904.

UNITED STATES PATENT OFFICE.

JAMES M. EDWARDS, OF NEW YORK, N. Y.

CONVEYER.

SPECIFICATION forming part of Letters Patent No. 763,268, dated June 21, 1904.

Application filed March 24, 1904. Serial No. 199,812. (No model.)

To all whom it may concern:

Be it known that I, JAMES M. EDWARDS, of New York, in the county of Queens and State of New York, have invented certain new and useful Improvements in Conveyers; 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.

This invention relates to that class of conveyers employing a rotatable cylinder having an interior spiral or helix rigidly secured to and movable with the cylinder.

The primary object of the invention is to provide improved, simple, and efficient means for providing the internal periphery of the cylinder with a spiral or helix, and a further object is to provide improved means for coupling the conveyer-sections.

In the accompanying drawings, Figure 1 is a side elevation of a conveyer made in accordance with my invention. Fig. 2 is a longitudinal section on line 2 2, Fig. 1. Fig. 3 is an end view of one of the sections, showing the coupling. Fig. 4 is a fragmentary detail. Fig. 5 is a modification.

Referring to the drawings, 1 designates the conveyer-cylinder, primarily designed for the transportation of grain in mills. This is shown in the form of a helically-wound band, preferably of metal, forming a right cylinder.

2 designates the spiral or helix. As shown in Fig. 2, it consists of an element separate from the cylinder and having its flights or convolutions provided at their outer edges with a flange 3, designed to be accommodated between the overlapping edges of the band forming the cylinder 1 and secured by rivets or otherwise.

In Fig. 5 I have shown the cylinder provided with the spiral or helix by the formation of the band constituting the cylinder. In this construction the band is provided with a flange 4 along one of its edges. When the band is coiled to form the cylinder, the flange 4 projects inwardly and forms the spiral or helix, the adjacent edge of the band overlapping that provided with the flange and the two secured by any preferred means, such as rivets. As shown, the flange is formed by bending the edge of the band and cutting notches or serrations in the bent portion to allow for the curvature.

It is known that conveyers of the kind to which my invention relates are better adapted to certain classes of work than are those having a stationary exterior casing within which rotates the spiral or helix mounted upon a central shaft. This is especially true in the transportation of liquids or finely-powdered material requiring the spiral to fit flush against the inner periphery of the cylinder. Furthermore, outlet-openings are more readily provided in a conveyer employing a rotating cylinder. Where rotating cylinders having the spiral rigidly held thereto have been employed, difficulty has been experienced in securing the spiral to the cylinder, so as to render the conveyer capable of transporting bulky material without strain upon the securing means and causing the spiral to become bent or twisted out of place. By my invention this difficulty is obviated, since the spiral is secured at every point to the cylinder and the efficiency of the conveyer thereby greatly enhanced.

My invention contemplates employing a series of sections of the conveyer-cylinder provided with an internal spiral, such sections being connected by couplings. The sections of the cylinder are provided at their ends with a pair of rigidly-secured collars 5 5^a, having peripheral flanges 6, formed with recesses 7. The space intermediate the oppositely-disposed flanges 6 constitutes a channel 8, accommodating roller-bearings 9, whose spindles are designed to fit within the recesses 7 to prevent the rollers from moving out of their relative positions.

10 is a shaft-hanger or bracket designed to be suitably suspended and shown as comprising two semicircular parts 12, secured by bolts passed through the flanges at their meeting edges. The inner periphery of the bracket is formed similarly to the collars 5—that is, it has flanges 13 and an intermediate channel 14 to accommodate the roller-bearings. If desired, balls may be substituted for the rollers by making the channels 8 and 14 circular and dispensing with the recesses 7. As shown

in Fig. 2, the collars 5 5ª are secured together by a bolt 15, the cylinder 1 extending about to the meeting faces of the collars. Another section may be connected by inserting it within the collar 5ª and securing the latter thereto. The shaft-hanger is of course not only for the purpose of coupling sections, but is to be employed as required by the length of the cylinder.

At 16 I have shown a sleeve surrounding the cylinder and normally closing an outlet therein. Any suitable means may be employed for shifting the sleeve to open and close the outlet. Any one or more of the sections may be of perforated metal to provide a combined sieve and outlet. 17 is a band-wheel fast on the cylinder designed to effect the rotation of the latter by suitable belting. This band-wheel or sprocket, if desired, may be located at any point of the cylinder.

I claim as my invention—

1. In a conveyer, a rotatable cylinder consisting of a band helically wound and having its meeting edges overlapping and secured together, such band being provided at such meeting edges with an internal spiral.

2. In a conveyer, a rotatable cylinder consisting of a helically-wound band, and a spiral within the cylinder having its flights rigidly secured between the meeting edges of the convolutions of the band.

3. In a conveyer, a rotatable cylinder consisting of a helically-wound band, and a spiral within the cylinder having the outer edges of its flights formed with flanges designed to be rigidly secured between the overlapping edges of the convolutions of the band.

4. In a conveyer, a rotatable cylinder provided with an internal spiral, collars arranged in pairs on such cylinder and rigidly secured to the latter, such collars having their peripheries channeled, a circular hanger or bracket inclosing said collars and having a channel on its internal periphery designed to register with the channel of said collars, and roller-bearings accommodated by said channels.

5. In a conveyer, a rotatable cylinder provided with an internal spiral, collars arranged in pairs on such cylinder and rigidly secured to the latter, such collars having peripheral flanges formed with recesses, a channel being provided intermediate said flanges, a circular hanger or bracket inclosing said collars and having a channel on its internal periphery designed to register with the channel of said collars, and cylinder-bearings within said channels and having their spindles accommodated by said recesses.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

JAMES M. EDWARDS.

Witnesses:
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GRAFTON L. MCGILL.