No. 833,251. PATENTED OCT. 16, 1906.

M. C. SCHWAB.

GRAVITY CONVEYER.

APPLICATION FILED MAY 29, 1905.

Fig. 1.

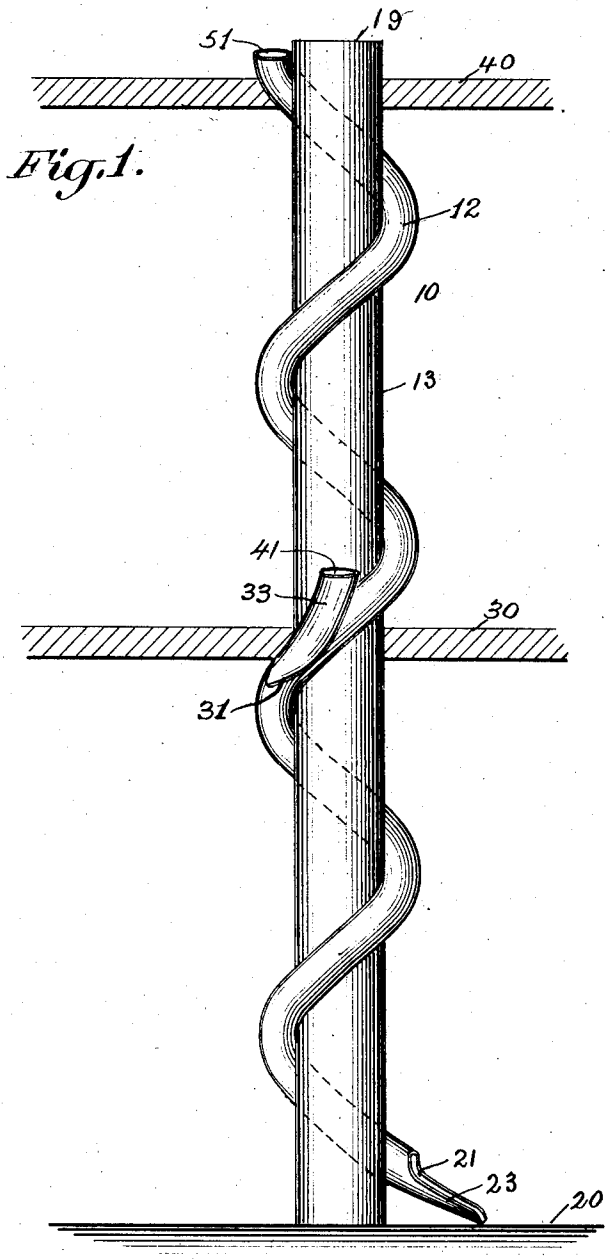


Fig. 4.

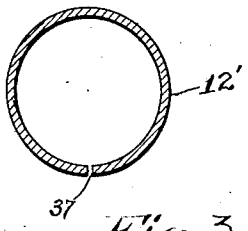


Fig. 3.

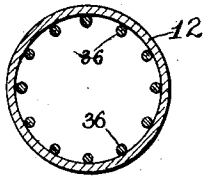
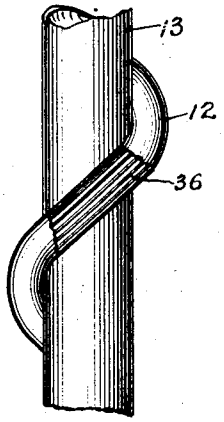


Fig. 2.



WITNESSES:

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GRAVITY-CONVEYER.

No. 833,251. Specification of Letters Patent. Patented Oct. 16, 1906.

Application filed May 29, 1905. Serial No. 262,833.

To all whom it may concern:

Be it known that I, MARTIN C. SCHWAB, a citizen of the United States, residing at Baltimore, in the State of Maryland, have invented certain new and useful Improvements in Gravity-Conveyers, of which the following is a specification.

My invention relates to conveyers, particularly of the gravity type, and has for one of its objects the provision of a tubular conveying-surface.

Other objects will appear hereinafter, the novel combinations of parts being pointed out in the claims.

In the drawings, Figure 1 represents in elevation my improved conveyer passing through a plurality of floors. Fig. 2 shows a portion of Fig. 1 broken away to show the interior construction of the spiral tube. Fig. 3 is a cross-section of the spiral tube, and Fig. 4 shows a modification of the same.

10 designates the conveyer in general. It is provided with a core or shell 13, which may be hollow and open at the top and bottom. This core is shown in Fig. 1 as extending from the ground floor 20 through the floors 30 and 40. This core may be of any suitable cross-section. It is preferably cylindrical. Wound about the core 13, so as to form a helical spiral, is the tube 12. This tube is suitably attached to the said core 13 and extends therewith through the various floors. Its interior surface forms the conveying-surface. The upper end is shown open at 51 above the floor 40, and a connecting-section 33, provided with an intake-opening, is shown at the landing 30. The lower end of the spiral tube is shown provided with an opening 21 and a trough 23, connected to said tube to serve as a guide for articles from the conveyer to the landing 20.

The tube 12 may be of heavy metal and cast in one piece or in sections and supported by the floors alone; but I preferably construct this tube of thin metal or other flexible material, so that it can be easily secured in proper position on the core 13. In such case, however, I reinforce the tube by placing wires 36 longitudinally therein, as shown in Fig. 2. These wires are shown in section in Fig. 3.

Fig. 4 represents a cross-sectional view of a pipe 12′, slitted longitudinally, as indicated at 37. When thus constructed, the pipe may be made of heavier metal than the pipe 12 of Fig. 2 and wound on the core 13 after the latter has been secured in position. The slit 37 is closed by the act of winding the tube 12′ in the form of a spiral, and therefore does not interfere with the conveying of packages in any way.

Although I have herein shown an inner shell or core for supporting the conveying-tube, I desire it to be understood that I do not wish to be limited to such supporting means, since other supporting means such as would occur to those skilled in the art may be used. Furthermore, I do not desire to limit myself to any of the details of construction or arrangement of parts herein shown and described, but reserve the right to vary the same within the spirit and scope of my invention.

What I claim, and desire to secure by Letters Patent of the United States, is—

1. The combination of landings, and a conveyer comprising a spiral tube extending through said landings.

2. The combination of landings, and a conveyer comprising a spiral tube connecting said landings and provided with intake-openings at or near said landings.

3. The combination with a spiral tubular conveyer, of landings therefor, and a tubular section provided with an intake-opening and communicating with said conveyer at or near a landing.

4. The combination with a shell, of a spiral tube secured to said shell, and an additional tube communicating with said spiral tube to form an intake-opening.

5. The combination of a gravity-conveyer, and a tube communicating laterally with said conveyer.

6. The combination with a tubular shell, of a tube wound spirally thereon and provided with intake-openings at various elevations and an exit-opening at the lower end thereof, and landings at or near said openings.

7. The combination with a core, of a spiral tube connected thereto, and reinforcing means for said tube.

8. The combination with a shell, of a flexible tube arranged to be wound spirally on said shell, and reinforcing means for said tube.

9. The combination with a shell, of a

spiral tube connected to said shell, and flexible means for reinforcing said tube.

10. The combination with a core, of a spiral tube wound thereon, and wires for reinforcing said tube.

11. The combination with a core, of a tube wound spirally thereon, and wires on the interior surface of said tube for strengthening the same.

12. The combination with a core, of a flexible tube spirally connected thereto, and wires extending longitudinally along the interior surface of said tube.

13. The combination of a core, and a longitudinally-slitted conveying-tube connected to said core.

14. The combination of a core, and a longitudinally-slitted tube spirally connected to said core.

15. The combination of a core, and a longitudinally-slitted conveying-tube wound spirally on said core.

16. The combination of a spiral gravity-conveyer, and a tube communicating with said conveyer at a point intermediate its ends.

In witness whereof I have signed my name to this specification in the presence of two subscribing witnesses.

MARTIN C. SCHWAB.

Witnesses:

CARL P. SCHROEDER,

KENNETH LOCKETT.