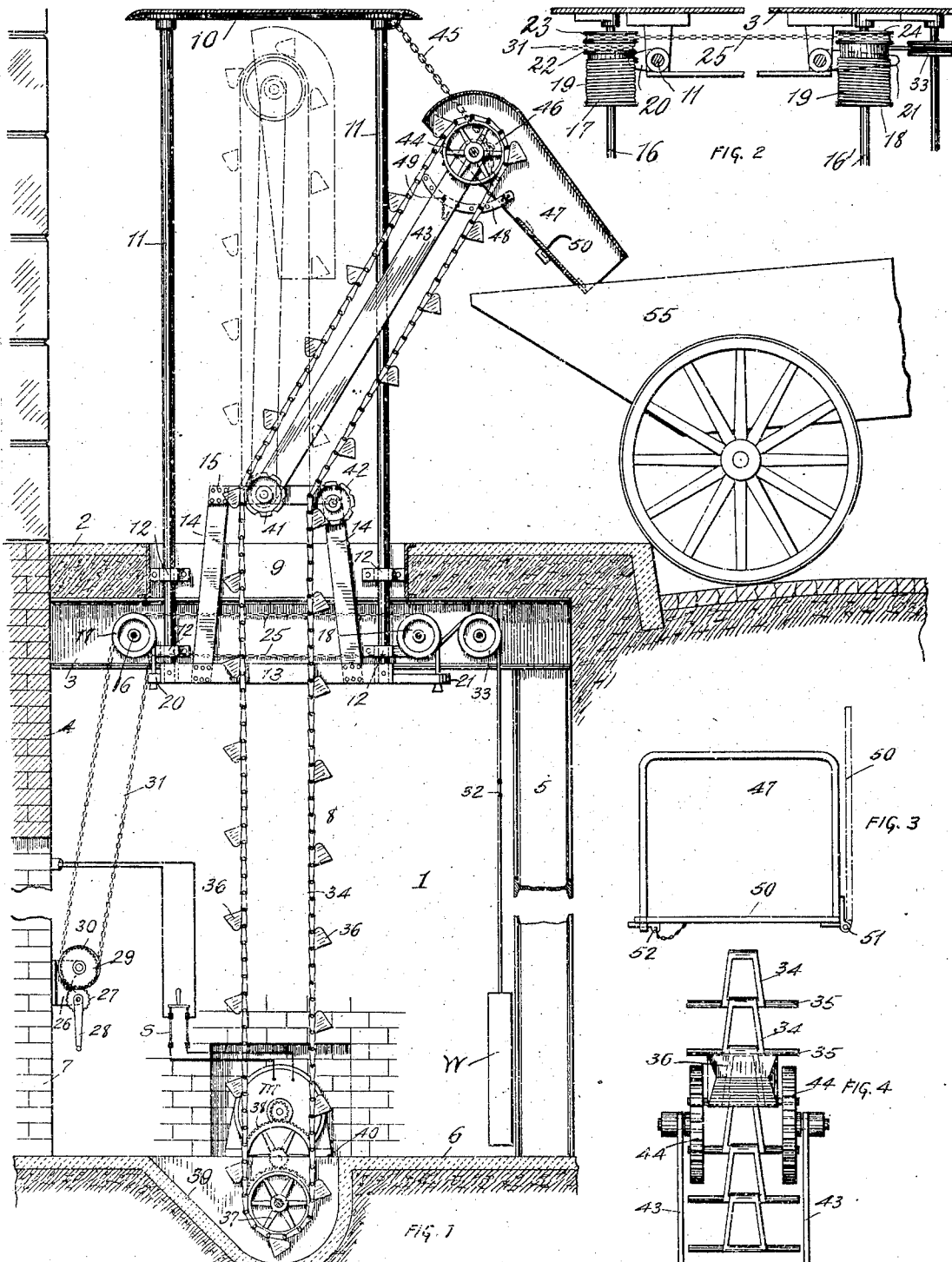


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SIDEWALK ENDLESS ASH CONVEYER.
APPLICATION FILED AUG. 16, 1907.

1,025,168.

Patented May 7, 1912.



WITNESSES:

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SIDEWALK ENDLESS ASH-CONVEYER.

1,025,168.

Specification of Letters Patent.

Patented May 7, 1912.

Application filed August 16, 1907. Serial No. 388,814.

To all whom it may concern:

Be it known that I, AUGUST SUNDH, a citizen of the United States, residing at Yonkers, in the county of Westchester and State of New York, have invented a new and useful Improvement in Sidewalk Endless Ash-Conveyers, of which the following is a specification.

My invention relates to an ash hoist or elevator especially adapted for elevating ashes from a compartment beneath a sidewalk up through an opening in the walk and depositing them in a wagon or cart at the curbstone.

One of the objects of the invention, is to provide a device of this character in which the ashes are automatically elevated by an endless conveyer from a pit or receptacle where they may be placed when removed from the furnace, and deposited in a wagon without any further handling being required.

Other objects of the invention will appear hereinafter, the novel combinations of elements and arrangement of parts being defined in the appended claims.

Referring to the drawings in which is shown a construction embodying my invention, Figure 1 is an elevation of the hoisting device, and showing in section a sidewalk and the compartment beneath it in which the device is installed; Fig. 2 is a fragmentary view showing the winding drums and their connection to the conveyer supporting frame; Fig. 3 is an end view of the chute at the upper end of the conveyer; and Fig. 4 is a view on an enlarged scale of a portion of the endless conveyer and guide sprockets therefor.

The elevator is preferably located in a place convenient to the furnace or furnaces from which the ashes must be taken, and in this instance is shown installed in a compartment 1 located beneath the sidewalk 2. The portion of the walk 2 over the compartment 1 may be supported by a framework comprising horizontal I-beams 3 secured to the foundation wall 4 and supported at their outer ends by vertical I-beams or supports 5. These vertical supports 5 rest on the cement floor 6 of the compartment 1. The compartment 1 communicates through a door or passageway 7 formed in the wall 4 with a basement or cellar in which may be located the furnaces.

The endless conveyer 8 when in use extends upwardly through an opening 9 in the sidewalk. When the conveyer is not in use it is lowered into the compartment 1 and the opening 9 is closed by a trap door or cover 10. To the under side of the cover 10 are secured vertically depending rods 11 which are guided in their vertical movements by clips or guides 12. To the lower ends of the rods 11 is secured a framework for supporting the conveyer. This framework comprises a horizontal cross bar or bars 13 secured to the lower ends of the rods 11, upwardly extending pieces 14 and an upper cross bar 15 secured to the pieces 14.

The cover 10 and parts connected thereto are lifted and lowered by the following means. Horizontal rods 16, 16' (Fig. 2) secured in the framework 3 and extending on opposite sides of the rods 11 have journaled thereon winding drums 17 and 18. Ropes or cables 19 are attached to these drums and have their outer ends secured respectively to lugs or projections 20 and 21 on the cross bar 13. Secured to the drum 17 are two sheaves or pulleys 22, 23, and secured to the drum 18 is a sheave 24 in alignment with the sheave 23. The sheaves 23 and 24 are connected for simultaneous rotation by an endless chain 25 passing over the sheaves.

Secured to the wall 4 is a bracket 26 carrying a pinion 27, a crank 28, a gear wheel 29 meshing with the pinion, and a sheave 30 secured to the gear wheel 29. An endless chain 31 forms a driving connection between the sheaves 30 and 22. A counterweight W is attached to one end of the cable 32 which extends up over a direction sheave 33 and has its other end secured to the winding drum 18.

The conveyer 8 comprises links 34, each one of which has a pivot pin 35 (Fig. 4) extending for some distance on opposite sides of the link. Buckets 36 are secured at equal intervals to the conveyer chain. The conveyer may be driven by drive wheels 37 (only one of which is shown) connected to any suitable source of power. In this case I have shown them connected to an electric motor M through a train of speed-reducing gearing 38. The drive wheels 37 are located in a pit or depression 39 formed below the level of the floor 6. The gearing 38 may be separated from this pit by a parti-

tion 40 to protect the gearing from contact with the ashes. The motor M is controlled by a switch S in the motor circuit.

The conveyer 8 extends upwardly vertically from the drive wheels 37 to sprocket wheels 41, 42 carried by the cross bar 15. Pivoted on the shaft of the sprocket wheel 41 is a pair of arms 43 extending upwardly therefrom, and at the upper ends of these arms are sprocket wheels 44 spaced apart to permit the buckets 36 to pass between them as indicated in Fig. 4. The arms 43 are held in any position desired by means of a chain 45, the different links of which may be caught on a hook 46 to adjust the inclination of said arms. At the upper end of the conveyer is a chute 47 pivoted co-axially with the wheels 44 and adjustable to any desired angle with the arms 43 by means of an arc-shaped bar 48 provided with a series of holes and a pin 49 passing through one of said holes and a hole in the arm 43. In order that the chute 47 may be folded down in line with the arms 43 as indicated in dotted lines in Fig. 1, the bottom of the chute is made in the form of a door 50 (Fig. 3) hinged at 51. When in use this door is held closed by a pin 52, and when not in use it is swung back parallel with the side of the chute as shown in Fig. 3, permitting the chute to fold down over the conveyer.

In operation, when the parts are in the position shown the drive wheels 37 will be rotated in a clockwise direction carrying the buckets 36 through the pit 39 where they will each pick up a load of ashes or other material that may be in the pit and convey it to the chute 47, where the buckets are emptied in passing over the wheels 44 and the ashes slide down the chute into a wagon 55. The upper end of the chute is in the form of a hood extending over the wheels 44 and preventing the ashes from being scattered by the wind as they are emptied from the buckets. After use, the switch S is opened to stop the motor, and the conveyer lowered into the compartment 1. In doing this the chute 47 is first folded into line with the conveyer, and the upper section of the conveyer brought into vertical alinement with the lower section, as shown in dotted lines in Fig. 1. The crank 28 is then turned in a direction to unwind the ropes 19 from the drums 17, 18, which will permit the cover 10 and the parts connected therewith to descend by gravity until the cover is in position to close the opening 9 and the conveyer entirely beneath the surface of the walk. As the rope 19 unwinds from the drum 17 the rope 32 is wound on the drum 18, lifting the counterweight which is preferably made sufficiently heavy to substantially balance the parts.

I have shown and described a device intended especially for handling ashes, but in

is obvious that it might be used for conveying other materials, and also that it might be adapted to the varying conditions found in different localities, by changes in the positions and arrangement of parts which would suggest themselves to those skilled in the art, and that various changes in the details of construction and arrangement of parts might be made without departing from the spirit and scope of the invention. I desire, therefore, not to be limited to the precise construction disclosed, but

What I claim as new and desire to have protected by Letters Patent of the United States is:—

1. The combination with a walk provided with an opening therethrough, of a cover for the opening, a vertically movable frame carrying said cover, a compartment beneath the opening, an endless conveyer having its lower portion in the compartment and its upper portion supported within said frame and movable therewith, and means for driving the conveyer.

2. The combination with a walk formed with an opening therethrough, a cover for the opening, and a compartment beneath the opening, of an endless conveyer having its lower portion in the compartment, a support for the conveyer connected to and carrying the cover and supporting the upper portion of the conveyer above the walk when the cover is open and below the walk when the cover is closed.

3. The combination with a walk provided with an opening therethrough, a cover for the opening, and a compartment beneath the walk, of vertical members beneath and supporting the cover, a supporting frame carried by said members, and an endless conveyer supported by the frame and extending above the opening when the cover is lifted to an open position.

4. The combination with a walk provided with an opening therethrough, and a compartment beneath the walk, of an endless conveyer in the compartment, a support for the conveyer vertically movable endwise into positions to hold the upper portion of the conveyer above and below the walk, respectively, a cover for said opening movable with said support and means for driving the conveyer.

5. The combination with a walk provided with an opening therethrough, and a compartment beneath the walk, of a cover for the opening, vertically depending rods connected to the under surface of the cover, a frame carried by said rods, an endless conveyer supported by the frame and extending above the walk when the cover is lifted and carried beneath the surface of the walk when the cover is lowered, and means for driving the conveyer.

6. The combination with a cover for an opening, of a frame connected to the cover for movement therewith, an endless conveyer supported by the frame, a counterweight, and means for lifting and lowering the aforesaid parts.

7. In an elevator, the combination with an endless conveyer, of a vertically movable frame supporting the conveyer, winding drums on opposite sides of the frame, cables connecting the drums and frame, means connecting the drums for simultaneous rotation, a counterweight, a cable connecting the counterweight and one of the drums, and manually operable means for rotating the drums.

8. In conveying mechanism, the combination with an endless conveyer, a frame therefor, and a chute pivoted to the frame and foldable into a position substantially in line with and partially inclosing the conveyer.

9. In conveying mechanism, the combination with a conveyer, of a direction wheel over which the conveyer passes, and a chute pivoted co-axially with the wheel and foldable back onto the conveyer and into line therewith.

10. In conveying mechanism, the combination with a conveyer, of a direction wheel over which the conveyer passes, a chute pivoted co-axially with the wheel and having a bottom movable relatively to the body of the chute.

11. In conveying mechanism, the combination with a conveyer frame, of a conveyer, and a chute hinged to said frame and having a hinged bottom.

12. In a sidewalk ash-conveyer, the combination with a cover for an opening, of framework connected to said cover, lifting apparatus for said cover and framework, a movable support extending from said framework and arranged to be swung from beneath said cover to an inclined position, driving mechanism, and an endless conveyer connected to said driving mechanism and associated with said framework and said swinging support.

13. In an ash-conveyer, the combination with a cover for an opening and framework movable with said cover, of apparatus for lifting and lowering said cover and framework, an arm pivoted to said framework and arranged to swing from beneath said cover to an inclined position, means for holding said arm in such an inclined position, an endless conveyer connected to said framework and said swinging arm, and a motor connected to said endless conveyer to drive the same.

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

AUGUST SUNDH.

Witnesses:

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ALFRED C. BECHET.