No. 627,722.

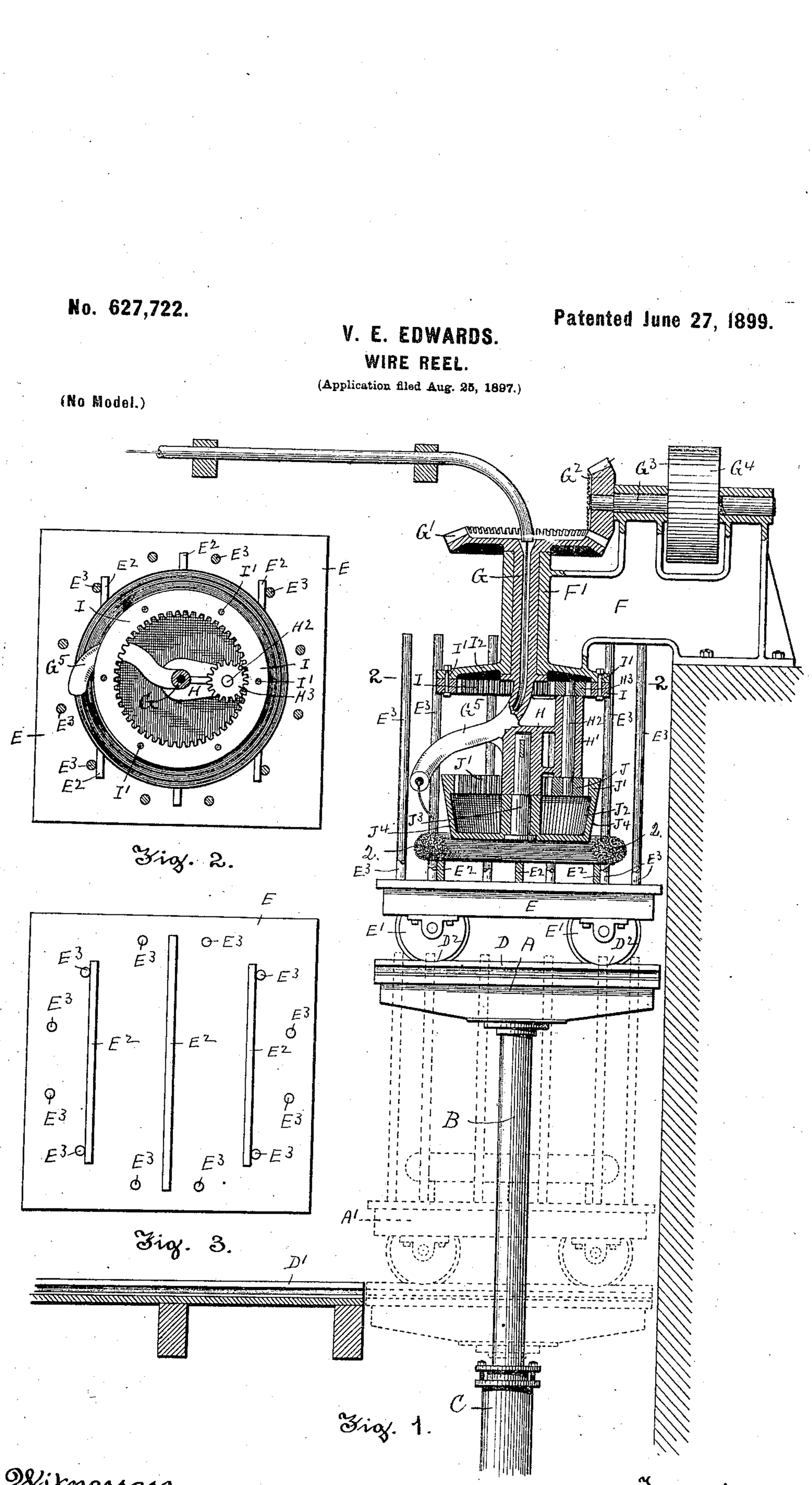
Patented June 27, 1899.

V. E. EDWARDS.

WIRE REEL.

(Application filed Aug. 25, 1897.)

(No Model.)



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VICTOR E. EDWARDS, OF WORCESTER, MASSACHUSETTS, ASSIGNOR TO THE MORGAN CONSTRUCTION COMPANY, OF SAME PLACE.

WIRE-REEL.

SPECIFICATION forming part of Letters Patent No. 627,722, dated June 27, 1899.

Application filed August 25, 1897. Serial No. 649,522. (No model.)

To all whom it may concern:

Be it known that I, VICTOR E. EDWARDS, a citizen of the United States, residing at Worcester, in the county of Worcester and State of Massachusetts, have invented a new and useful Improvement in Wire-Reels, of which the following is a specification, reference being had to the accompanying drawings, forming a part of the same and representing a reel embodying my invention.

Figure 1 is a side elevation of the reel with a portion thereof shown in central vertical sectional view with the parts of the mechanism in their operative position. Fig. 2 represents a sectional view on the line 2 2, Fig. 1, looking downward; and Fig. 3 is a top view of the car upon which the coil of wire is deposited.

Similar letters and numerals refer to similar parts in the different figures.

My present invention relates to a reeling mechanism for coiling wire, comprising a car upon which the coil of wire is deposited, said car being supported upon an elevator-platform, whereby the car as it is loaded with successive coils of wire can be gradually lowered to allow the coils to be deposited one upon the other and when the car is filled lowered entirely clear of the coiling mechanism and removed from the elevator-platform and an empty car substituted; and it consists in the construction and arrangement of parts, as hereinafter described, and set forth in the accompanying claims.

Referring to the drawings, A denotes an elevator-platform supported upon a plunger B, which is inclosed in a hydraulic cylinder C. Upon the elevator-platform is a track D, which is brought into alinement when the platform is in its lowest position with a stationary track D′, forming a continuous track, over which the cars are moved to and from the elevator-platform. The rails of the track D are provided with slight depressions D^2, fitting the tread of the car-wheels, so that the car will be held in its proper position upon the elevator-platform. The car consists of a body E, provided with truck-wheels E′ and having ribs E^2 upon its upper surface, which support the coils of wire. The car is also provided with a circular row of posts E^3, projecting upward from the body of the car concentrically with the axis of the plunger B when the car is in position with the wheels E′ resting in the depressions D^2 of the track D.

F denotes a framework supported at a higher plane and provided with a journal-bearing F′ to receive a rotating hollow shaft G, with its axis in alinement with the axis of the elevator-plunger B. The shaft G carries at its upper end a beveled gear G′, engaged by a pinion G^2 upon a horizontal shaft G^3, carrying a belt-pulley G^4, by which the hollow shaft G is rotated.

The hollow shaft G is continued at its lower end to form a curved spout or laying-arm G^5, through which the wire is delivered. Attached to the laying-arm G^5 is a frame H, which is carried by the arm as the hollow shaft G is rotated. The frame H is provided with a journal-bearing H′, which incloses a vertical shaft H^2. The upper end of the shaft H^2 is provided with a pinion H^3, which engages a stationary internal gear I, attached by bolts I′ to a circular disk I^2, forming a part of the frame F. The lower end of the vertical shaft H^2 carries a pinion J, which engages an annular rack J′, formed upon the inner surface of a tapering drum J^2, which is journaled upon a stud J^3, supported by the frame H. As the frame H is carried around by the rotation of the hollow shaft G the vertical shaft H^2 is rotated by the engagement of the pinion H^3 with the annular rack I. The rotation of the vertical shaft H^2 through the pinion J and annular rack J′ serves to rotate the drum J^2 in the opposite direction from the rotation of the frame H, from which the drum is suspended, so that the resultant of the rotation of the drum in one direction by the rotation of the frame H and the rotation of the frame in the opposite direction by means of the rotating shaft H^2 will cause the drum J^2 to remain stationary.

The drum J^2 is in the form of an inverted frustum of a cone, and the wire as it is delivered from the end of the spout G^5 is laid around the tapering sides J^4 of the drum and within the circular row of posts E^3, forming a coil 2, which is supported by the ribs E^2.

When a coil has been completed, the platform A is lowered the thickness of the coil and a second coil is laid upon the first, and so on until the space within the circular row of posts E^3 is filled with coils. When the car has been filled with coils, the platform A is lowered into the position A′, (indicated by broken lines,) bringing its track D in alinement with the stationary track D′, permitting the car to be removed and an empty car substituted.

The operation of the reeling mechanism deposits a series of coils one upon another and supported upon a car, by which they are removed to different portions of the mill to undergo successive operations without re-handling.

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

1. In a reeling mechanism the combination of a platform, a car mounted thereon and provided with a series of posts inclosing a space adapted to receive a series of coils, means for coiling the wire in said space and means for lowering said platform as each successive coil is deposited upon said car, substantially as described.

2. The combination of an elevator having a supporting-platform, a car mounted thereon and having a series of posts inclosing a space for the coils, a rotating laying-arm by which the wire is deposited on said car, and means for lowering said elevator as the successive coils are deposited on said car, substantially as described.

3. The combination with a receptacle to receive the coils, of a laying-arm by which the wire is delivered, means for rotating said arm around the axis of said receptacle and a stationary tapering drum having its smaller end the lowest and located above said coil-receptacle, substantially as described.

4. The combination with a coil-supporting platform of a rotating laying-arm by which the wire is delivered to said receptacle, a stationary drum around which the wire is laid by said arm, said drum having tapering sides from which it falls by gravity upon said coil-supporting platform, substantially as described.

5. The combination with a coil-supporting platform and a rotating arm of a rotating frame carried by said arm, a fixed stud held in said frame, a tapering drum journaled on said stud concentric with the axis of said arm and having an internal gear, an internal gear concentric with the gear on said drum, a shaft journaled in said rotating frame, a gear attached to said shaft and engaging the internal gear on said drum and a gear attached to said shaft and engaging said fixed gear whereby said drum is held from rotating as said frame rotates, substantially as described.

6. The combination with a platform, a receptacle supported by said platform for the coils of wire whereby a series of coils are held concentrically one above the other, coiling mechanism above said receptacle and means for imparting a downward step-by-step movement to said platform as the coils are successively laid thereon, substantially as described.

7. The combination of a coiling mechanism, a platform beneath said coiling mechanism, a car mounted on wheels supported on said platform and a track consisting of a pair of rails raised above the surface of said platform and provided with depressions to receive the treads of the car-wheels, said rails and said depressions being arranged to hold the car concentrically with the axis of said coiling mechanism, substantially as described.

8. The combination of a stationary conical drum having its smaller end the lowest, a laying-arm, means for revolving said arm around the larger end of said drum, and a platform below said drum upon which the coil is deposited with a clear space between said platform and drum, substantially as described.

9. The combination of a platform upon which the coil is supported, means for laying the coil upon the platform, a non-rotatable drum above said platform and means for supporting said drum from above, substantially as described.

10. The combination of a non-rotatable drum, a rotating laying-arm having its end describing a path around said drum, and a removable platform upon which the coil is laid, said platform being located below said drum, substantially as described.

Dated this 23d day of August, 1897.

VICTOR E. EDWARDS.

Witnesses:
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