

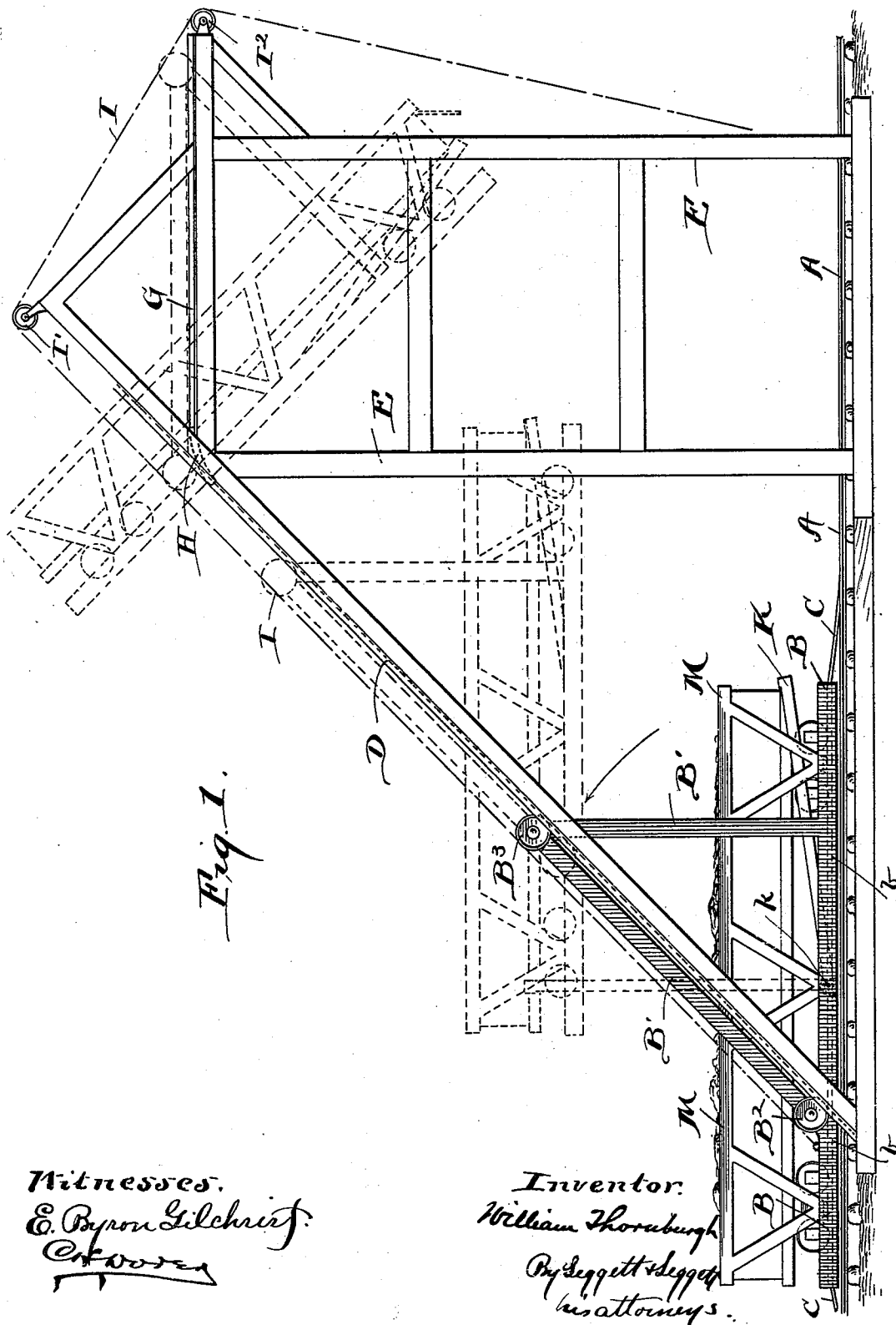
(No Model.)

2 Sheets—Sheet 1.

W. THORNBURGH.
TILTING HOIST.

No. 507,766.

Patented Oct. 31, 1893.



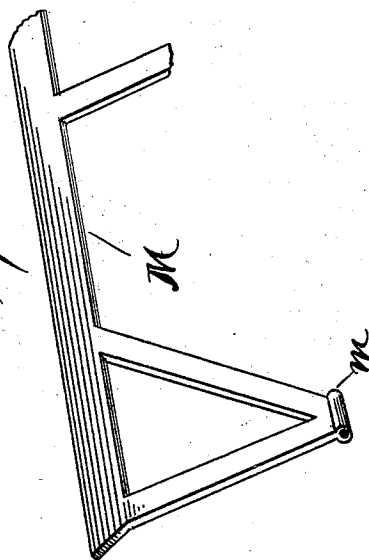
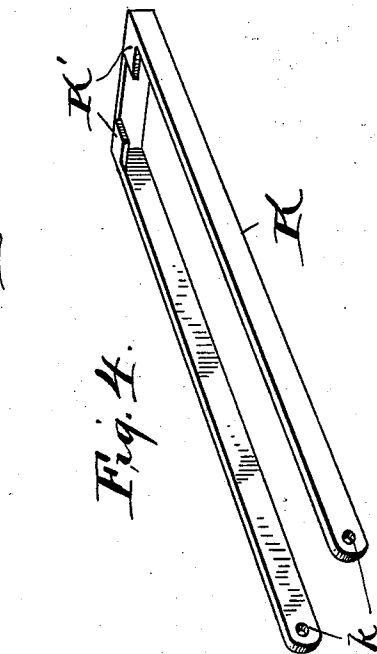
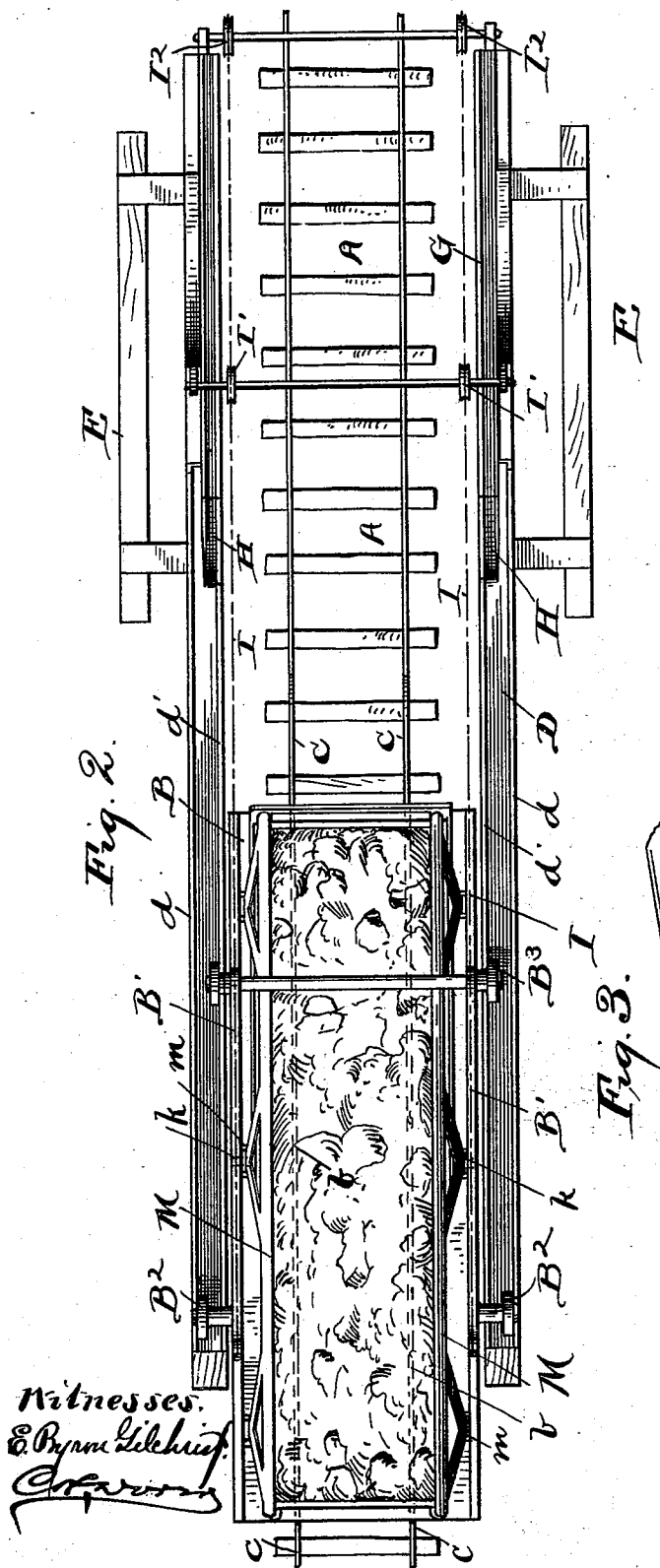
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2 Sheets—Sheet 2.

W. THORNBURGH.
TILTING HOIST.

No. 507,766.

Patented Oct. 31, 1893.



Inventor:
William Thornburgh
By Leggett & Leggett
his Attorneys.

UNITED STATES PATENT OFFICE.

WILLIAM THORNBURGH, OF CLEVELAND, OHIO.

TILTING-HOIST.

SPECIFICATION forming part of Letters Patent No. 507,766, dated October 31, 1893.

Application filed January 24, 1893. Serial No. 459,562. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM THORNBURGH, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Apparatus for Elevating Cars and Dumping their Contents; 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 pertains to make and use the same.

My invention relates to improvements in apparatus for elevating laden cars and dumping their contents, the object being to provide an apparatus whereby a car laden with coal, ore, or other material, can be bodily elevated and tipped at the desired elevation to dump the load into a chute or other device for conveying and delivering the material to a vessel or other place.

With this object in view, my invention consists in certain features of construction and in combination of parts hereinafter described and pointed out in the claims.

In the accompanying drawings, Figure 1 is a side elevation of an apparatus embodying my invention. Fig. 2 is a plan of the same. Figs. 3 and 4 are perspective views in detail.

Referring to the drawings, A represents a railway-track, and B represents a movable platform that is provided with a track *b* (shown in dotted lines) the rails whereof extend lengthwise of the platform and are located in the same vertical plane with the rails of track A. A gradual incline C, from the rails of track A to the rails of track *b* is employed for enabling cars to be pushed or moved from track A onto platform B. Platform B, at each side, is provided with an upright frame, preferably a right triangular frame, *B'*, as shown. Said frames, a suitable interval apart, are each provided with two wheels *B*², *B*³, mounted upon an inclined track D, the rails whereof are comparatively wide and preferably flanged upwardly at either side, as at *d* *d'*, wheels *B*² being adapted to travel along the outer flange *d* and wheels *B*³ being adapted to travel along the inner flanges *d'*. The wheels of each pair of wheels are located at the same elevation. The rails of inclined track D, at their lower end, are supported in any suitable manner, and, at

their upper end, are supported by an upright structure, E, located a suitable interval from the adjacent rail of track A so as to accommodate the passage of cars and locomotives passing over track A between structures E. Tracks A and D and structures E are arranged parallel with each other. At the elevation required, structure E supports a track G, the rails whereof are located in the same vertical plane with the inner portion of the rails of track D. Track G is located at an angle to track D, the rails of said tracks being connected with each other by curved rails, H, so as to facilitate the travel of wheels *B*³ of the upright frames of platform B from track D onto track G, in elevating, as hereinafter described, the platform and car upon it. The angle at which track G is located relative to track E is such that in drawing the platform and car upon it up inclined track D, the platform and car will commence to tilt or tip as soon as wheels *B*³ of the platform have mounted track G. A preferable construction is shown in Fig. 1 of the drawings wherein track G is located in a horizontal or approximately horizontal plane. The portion of track D that is traversed by wheels *B*² preferably extends somewhat above track G as shown, by which construction in the tipping or tilting operation of the car preparatory to dumping, if the car-supporting cage or platform is elevated so as to bring wheels *B*³ onto the portion of track D that extends above track G said cage or platform and the car supported thereby will be tipped or tilted still farther and thereby facilitate the dumping operation.

I represents the elevating ropes, chains or cables, that are secured to platform B, preferably near the end next adjacent wheels *B*² as shown and lead thence to and over sheaves or pulleys *I'* suitably supported at the upper end of structures E, whence they lead to and over sheaves *I*² to winding-drum or drums (not shown) of suitable driving machinery, the platform and car upon it being elevated or lowered according as the winding-drum or drums are actuated in the one direction or the other.

In the case illustrated the car upon being elevated is adapted to tip or tilt endwise, but it will be understood that any practical me-

chanic could readily modify the construction so as to adapt the car to tip or tilt laterally. The end-board of the cars; at which the load is delivered or discharged in dumping, in the case illustrated, would be hinged in any suitable manner so as to swing outwardly for discharging the load, and suitable locking mechanism would be employed to hold said board closed until the time of dumping.

10 Suitable means are provided for preventing the car when tipped or tilted, from running off the supporting platform. Preferable means for the purpose are shown in the drawings, wherein K represents a U-shaped stirrup or
15 frame that is pivoted at its ends, as at *k*, at the sides and at or near the central portion of the platform and embraces the end-sill of the car in the case illustrated (or the side-sill in the case of a laterally-tipping car) and has
20 preferably one or more flanges, *K'*, resting upon the sill. Suitable means are also provided for preventing any portion of the load when dumping the load from falling over the sides of the car in the case illustrated (or ends
25 of the car in a laterally-dumping car). Preferable means for the purpose are shown and comprises a guard M located at either side of the platform and adapted to extend the entire length or approximately the entire length
30 of the car and to extend above and overhang the sides of the car, the guards being hinged to the platform at any desired number of points, as at *m*.

I would here remark that in Fig. 1 of the drawings, in dotted lines, the car is shown
35 tipped at the upper end of inclined track D, in position for dumping, and is also shown, in dotted lines, in an intermediate position.

I would have it understood that my invention is not confined to the exact construction
40 shown, but

What I claim is—

1. The combination with an inclined track terminating at its upper end in a horizontal
45 or approximately horizontal extension, of a platform or cage adapted to travel up and down said track, said cage or platform being provided at each of two different elevations with wheels adapted to travel up and down the
50 inclined track, the upper wheels being adapted to travel upon said upper extension of the track, the arrangement of parts being such that the platform or cage shall commence to tip or tilt as soon as the upper wheel runs onto
55 said extension of the track, substantially as set forth.

2. The combination with an inclined track

terminating at its upper end in a horizontal or approximately horizontal extension, of a platform or cage provided with a track adapted to receive a car, said cage or platform being adapted to travel up and down the inclined track and provided at each of two different elevations with wheels adapted to travel up and down the inclined track, the upper wheels being adapted to travel onto
65 said upper extension of the track, and suitable propelling means for carrying said cage or platform up the inclined track, the arrangement of parts being such that the platform or cage shall commence to tip or tilt as soon as
70 the upper pair of wheels runs onto said extension of the track, substantially as set forth.

3. The combination with an inclined track and a horizontal or approximately horizontal track G near the upper end of said inclined track and forming an extension of one side of the inclined track, the other side of the inclined track extending above track G, of a platform or cage provided with a track adapted to receive a car, said cage or platform being adapted to travel up and down the inclined track and provided at each of two different elevations with a pair of wheels adapted the upper pair of wheels to travel up and down
85 the side of the inclined track terminating in track G, and the other or lower pair of wheels to travel up and down the side of the inclined track extending above track G, and suitable propelling means for carrying said cage or
90 platform up the inclined track, the arrangement of parts being such that the platform or cage shall commence to tilt as soon as the upper pair of wheels runs onto track G and shall tip or tilt still farther when the lower pair of
95 wheels runs onto the portion of the inclined track that extends above track G, substantially as set forth.

4. The combination with a platform or cage provided with a track for receiving a railway car and adapted to be tipped or tilted, of the U-shaped stirrup or frame K pivoted at its ends to opposite sides of the platform or cage and adapted to embrace the sill from end to end of that portion of the car at which the
105 load is discharged, substantially as set forth.

In testimony whereof I sign this specification, in the presence of two witnesses, this 12th day of December, 1892.

WILLIAM THORNBURGH.

Witnesses:

C. H. DORER,
WARD HOOVER.