

(No Model.)

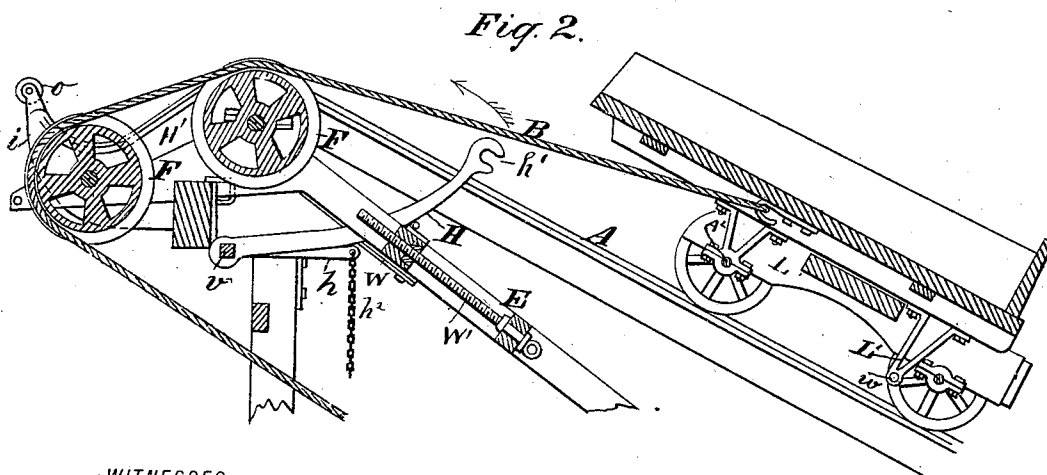
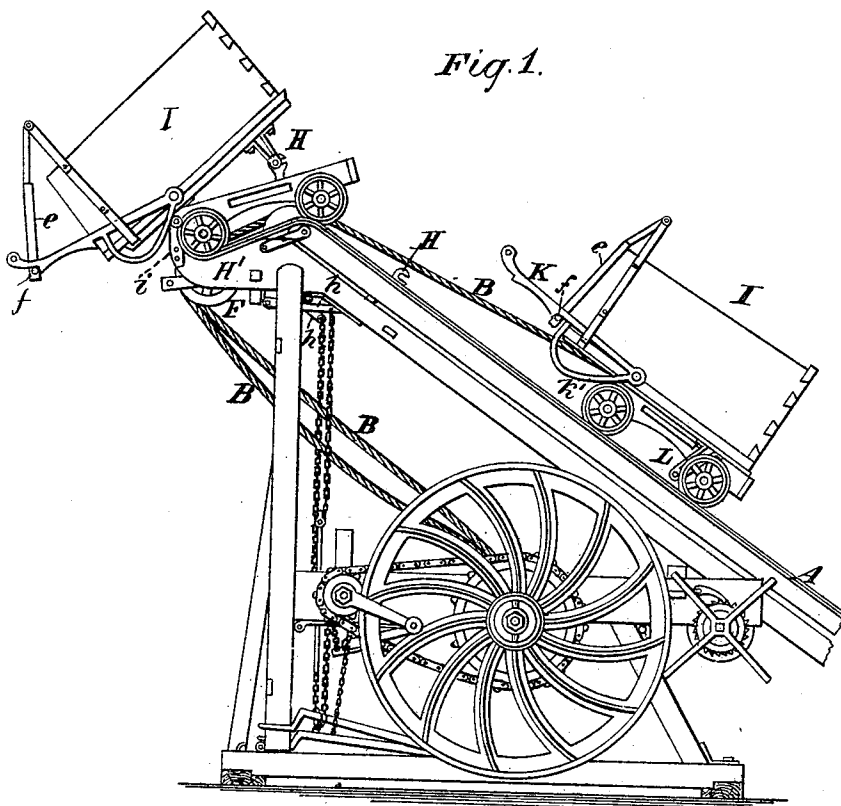
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G. WARTTINGER.

GATE OPENING DEVICE FOR DUMPING CARS.

No. 360,261.

Patented Mar. 29, 1887.



WITNESSES:

Carl Karp  
Henry Mann

Gottlob Warthinger  
INVENTOR  
BY *Loefer Praeger*  
ATTORNEYS.

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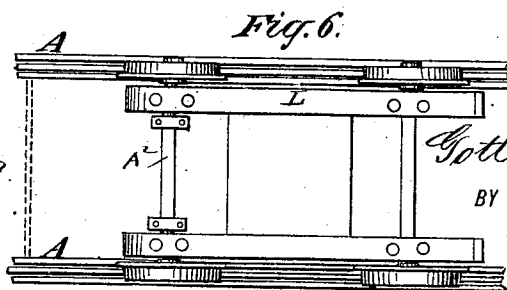
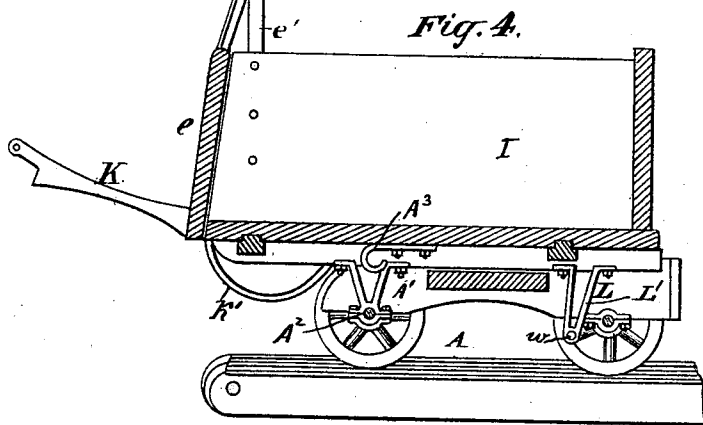
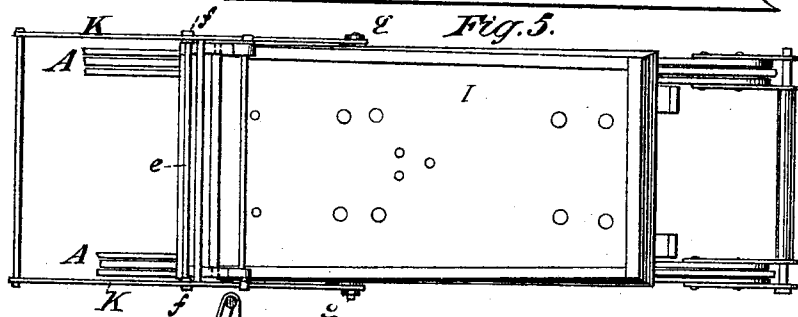
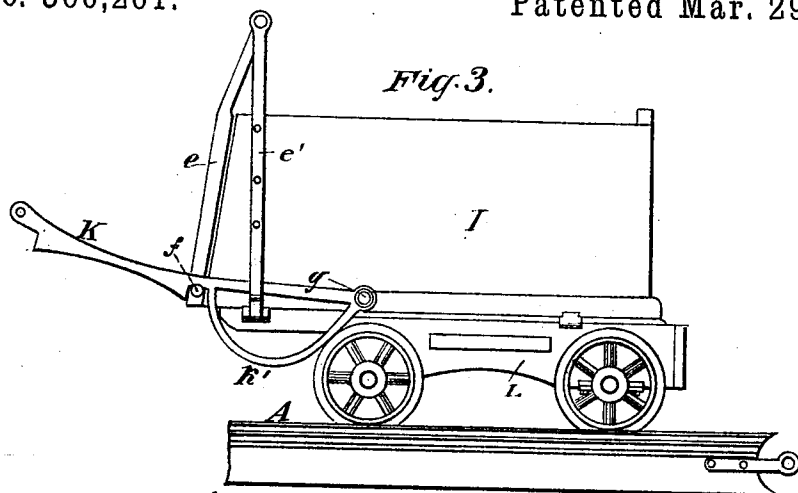
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WITNESSES:

*Carl Karp*  
*Adolf Mann*

INVENTOR

*Gottlob Warttinger*

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# UNITED STATES PATENT OFFICE.

GOTTLOB WARTTINGER, OF BERLIN, GERMANY.

## GATE-OPENING DEVICE FOR DUMPING-CARS.

SPECIFICATION forming part of Letters Patent No. 360,261, dated March 29, 1887.

Application filed April 15, 1886. Serial No. 198,920. (No model.) Patented in England March 24, 1886, No. 4,155; in Belgium April 15, 1886, No. 72,557; in France July 30, 1886, No. 175,188; in Austria-Hungary August 24, 1886, No. 12,615 and No. 38,471, and in Germany October 29, 1886, No. 38,276.

*To all whom it may concern:*

Be it known that I, GOTTLOB WARTTINGER, of the city of Berlin, in the Kingdom of Prussia and Empire of Germany, have invented new and useful Improvements in Devices for Opening Gates of Dumping-Cars, (which has heretofore been patented in the following countries: by the government of Germany, No. 38,276, dated October 29, 1886; Great Britain, No. 4,155, March 24, 1886; France, No. 175,188, July 30, 1886; Belgium, No. 72,557, April 15, 1886; Austria-Hungary, No. 12,615 and No. 38,471, August 24, 1886,) of which the following is a specification.

The object of my invention is to provide a new and improved automatic dumping-car to be used for loading vessels and freight-cars, removing earth from excavations, and for all other purposes where loads are to be raised or dumped.

The invention consists in a dumping-car mounted on its truck in such a manner that one end can swing up from the truck, the other end being provided with a swinging end-gate closed by latches having cam projections, which latches are raised automatically by suitable devices on an inclined dumping-track, all as will be described and set forth hereinafter, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a side view of a dumping-track and two of my dumping cars, one of them being shown in the position for dumping and the other in the position it has while containing the load. Fig. 2 is an enlarged detailed longitudinal sectional view of the dumping-track and dumping mechanism, a modification of the car being shown. Fig. 3 is a side view of the improved automatic dumping-car. Fig. 4 is a longitudinal sectional view of the same. Fig. 5 is a plan view of the car and parts of the truck, and Fig. 6 is a plan view of the truck.

Similar letters of reference indicate corresponding parts.

The car-body I is provided with fixed side walls and one fixed end wall, the other end wall or gate, *e*, being mounted to swing, and is provided at its upper ends with upwardly-projecting bars, which are pivoted at their upper ends on a cross-rod uniting the upper

ends of standards *e'*, secured to the sides of the car. From each side edge of the said swinging gate *e* a pintle, *f*, projects at the lower end, with which pintles the shoulders of latches K can engage, said latches K being pivoted to the sides of the car-body and projecting some distance beyond that end of the car provided with the end-gate *e*. Each latch K is provided between the pintle *f* and the pivot *g* of the latch with a downwardly-projecting cam part, *h'*, the outer ends of the two latches K being united by a cross-rod.

On the under side of the car frames A' are secured, which are mounted to turn on the front axle, A<sup>2</sup>, which axle is suitably journaled in the truck L. To the rear part of the under side of the car-body frames L' are fastened, which are united by the transverse rod *w*. The rear part of the car-body rests loosely on the truck, so that it can be swung upward, the front axle, A<sup>2</sup>, being the center on which it swings. A hook, A<sup>3</sup>, is provided at the under side of the car-body, to which hook the traction-rope B can be fastened.

From the highest point of the inclined track the part H' is inclined downward and in opposite direction, and at the end of the said part H' the upwardly-inclined arms *i* are formed, in the upper end of which the rollers *o* are pivoted. The inner curvature of said arms *i* corresponds to a quarter-circle of one of the wheels of the truck. A shaft, *v*, is pivoted on the frame of the inclined track, and is provided with an arm, *h*, from which a chain, *h'*, extends downward to suitable levers or other devices for operating it. The shaft *v* is also provided with two arms, H, at the sides of the tracks, said arms being provided at their upper ends with notches *h'*, adapted to receive the cross-bar *w*, uniting the hangers or frames L' of the rear part of the bottom of the car-body. The arms H rest against the cross-piece W, held movably between two suitable side pieces, which cross-piece W can be adjusted by means of a screw, W', screwed through a nut on the said cross-piece W, and held on the cross-piece E of the frame in such a manner that it can turn within the cross-piece, but not move in the direction of its length. Suitable cushions or buffers are to be provided, against

which the arms H can swing. The hoisting-cable B, or rope, passes over suitable pulleys, F F, on the upper part of the track-frame.

The operation is as follows: The loaded cars 5 are hoisted up the inclined track, as shown in Fig. 1, and pass over the highest point of the inclined track and to the inclined part H', on which they run until the front wheels of the truck rest against the inner edges of the arms i. 10 As the car passes up the inclined track the cross-rod w passes into the notches h' of the arms H, whereby said arms are pulled forward and at the same time swung up, as shown by the arrow in Fig. 2, whereby the rod w is 15 raised, and, as said rod is fastened by the hangers L' on the rear part of the car-body, the rear end of the car is raised, as shown in Fig. 1. When the car runs down the inclined part H', the rollers o act on the cam parts k' of 20 the latches K and raise the said latches, whereby the pins f are disengaged from the shoulders of said latches and the gate e is released, thus permitting the same to swing from the end of the car, as shown in Fig. 1, whereby the 25 end of the car is opened to permit the load to slide down the inclined floor of the car, the weight of the material in the car also assisting in swinging the gate e outward. As the arms H are swung up in the direction of the arrow 30 shown in Fig. 2 the arm h is also raised. When it is desired to move the car from the inclined part H' back onto the inclined track A, the chain h<sup>2</sup> is pulled, whereby the arms H are swung in the inverse direction of the arrow, 35 Fig. 2, and move the car off the inclined part H' upon the inclined track A, down which it runs by its own weight. As the arms H are swung in the inverse direction of the arrow in Fig. 2 the rod w is also swung down and the 40 rear part of the car brought back upon the truck. When the car runs down the inclined track A, the end-gate e swings against the end of the car and the shoulders in the latches K catch on the end pins, f, and thus keep the end- 45 gate closed. The car is thus tilted and the gate opened automatically when the car arrives at the top of the inclined dumping-frame and track, and when the car moves back down

the said inclined track it is automatically swung back upon the truck and the end-gate 50 closed.

If desired, the flat cars shown in Fig. 2 may be used, which need not be provided with end-gates.

As shown, the latches K project some distance beyond the swinging end-gate, and when 55 the end-gate is opened, as shown in Fig. 1, they prevent the lateral swinging movement of said gate.

The apparatus is constructed with two parallel tracks, which, however, do not appear 60 in side view, and there is one car on each track.

Having thus described my invention, I claim as new and desire to secure by Letters Patent— 65

1. A dumping-car provided with a swinging end-gate having pintles projecting from the sides at the bottom or swinging edge, combined with latches pivoted to the sides of the car-body, and provided with shoulders or offsets for engaging with the pintles on the end 70 gate and with downwardly-projecting cam parts, substantially as shown and described.

2. The combination, with a car-body having a swinging end-gate provided with pintles on 75 the side edges at the swinging end, of latches pivoted to the sides of the car-body and projecting some distance beyond the pivoted end gate, and provided with offsets or shoulders for engagement with the pintles and 80 with downwardly-projecting cam parts, substantially as shown and described.

3. The combination, with the car-truck, of a car-body, frames secured to the bottom of the car-body and mounted to swing on the front 85 axle, and frames secured to the rear part of the bottom of the car-body and united by a rod, substantially as shown and described.

In testimony that I claim the foregoing as my invention I have signed my name in presence of two subscribing witnesses. 90

GOTTLOB WARTTINGER.

Witnesses:

B. ROJ,

H. SCHLOSS.