

940,760.

APPLICATION FILED MAR. 3, 1909.

Patented Nov. 23, 1909.

2 SHEETS—SHEET 1.



Witnesses

Witnesses
E. J. Stewart
M. A. Schmidt

Fig. 2.

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AUTOMATIC DUMPING DEVICE FOR ELEVATED CARRIERS.

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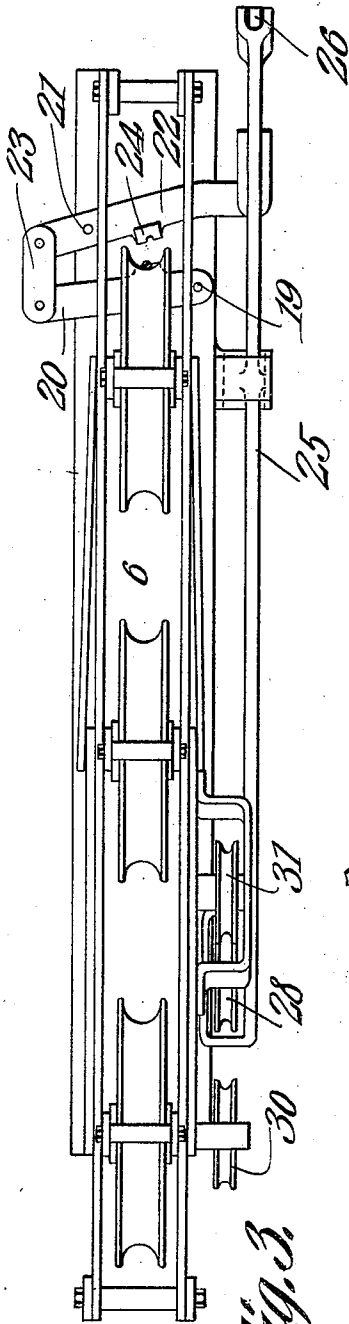


Fig. 3.

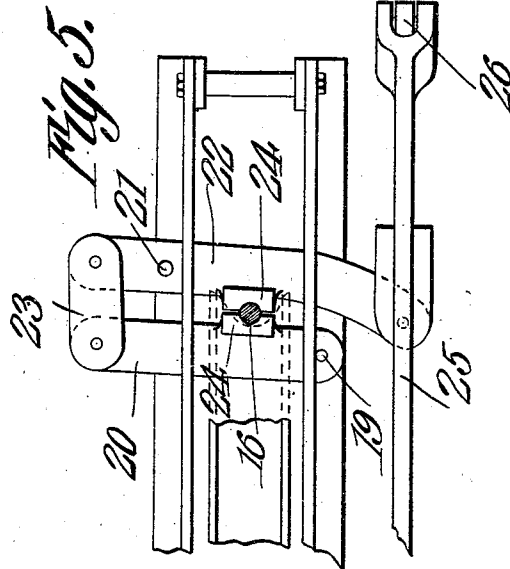


Fig. 5.

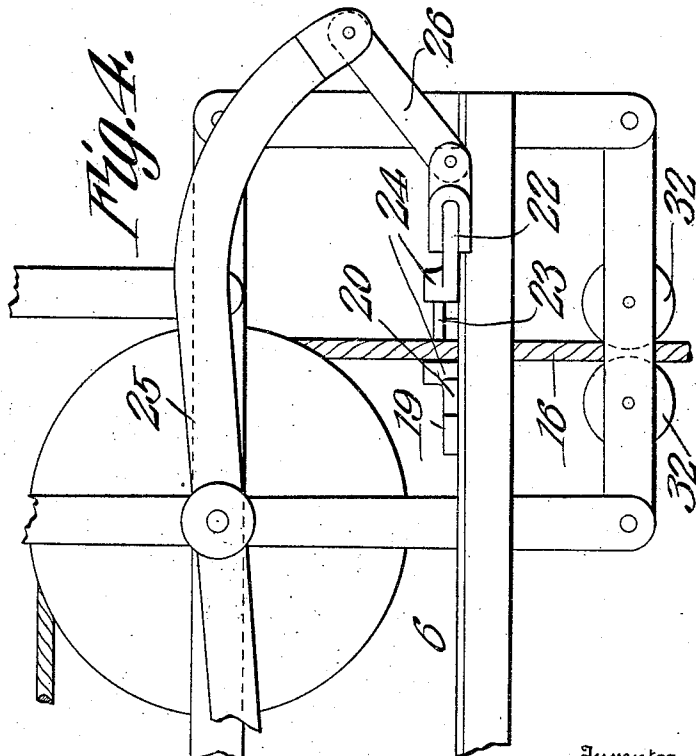


Fig. 4.

Witnesses

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UNITED STATES PATENT OFFICE.

THOMAS ODENWELDER WERNER, OF BANGOR, PENNSYLVANIA.

AUTOMATIC DUMPING DEVICE FOR ELEVATED CARRIERS.

940,760.

Specification of Letters Patent.

Patented Nov. 23, 1909.

Application filed March 3, 1909. Serial No. 481,028.

To all whom it may concern:

Be it known that I, THOMAS O. WERNER, a citizen of the United States, residing at Bangor, in the county of Northampton and State of Pennsylvania, have invented a new and useful Automatic Dumping Device for Elevated Carriers, of which the following is a specification.

This invention relates more particularly to the means for dumping the skip or bucket of an elevated carrier, the object being to provide an approved automatic dumping device which may be controlled by an attendant stationed at the hoisting engine, or at any other desired point remote from the dumping place; and also to provide a dumping device which may be made to dump the load from different elevations, the last-mentioned operation being also under the control of the attendant stationed at a point remote from the dumping place.

Another object of the invention is to provide a dumping mechanism of the kind stated which has no complicated parts, and which is easily controlled and reliable in operation.

With the foregoing objects in view, the invention consists in a novel construction and arrangement of parts to be hereinafter described and claimed, reference being had to the drawings hereto annexed in which:—

Figure 1 is an elevation of the apparatus. Fig. 2 is an end view. Fig. 3 is a plan view. Fig. 4 is an elevation of a portion of the apparatus drawn to an enlarged scale. Fig. 5 is a plan view of the parts shown in Fig. 4, the fall rope being shown locked.

In the drawings, 6 denotes a rope carriage of ordinary or preferred construction, traveling on the rope way 7, the carriage being operated in the ordinary manner. The carriage carries a fall block 8 from which the skip, bucket or other receptacle 9 is suspended by means of a chain 10 or other suitable suspension device connected to the hook 11 of the block. The receptacle 9 carries the load to be dumped.

At 12 is indicated the fall rope, said rope passing around the sheave of the fall block as usual. One end of the fall rope passes over a guide sheave 13 carried by the rope carriage, and thence extends to the hoisting engine, said fall rope operating in the usual manner to raise and lower the fall block. The other end of the fall rope is operatively

connected to the receptacle 9 for the purpose of dumping the same as will be presently described. Said end of the fall rope extends upwardly from the fall block 8 to a guide sheave 14 mounted on the carriage 6, over which it passes to a second guide sheave 15 also mounted on the carriage. From the last mentioned guide sheave the fall rope extends downwardly as indicated at 16.

To the frame of the fall block 8 is rigidly secured a triangular frame 17 which projects from one end thereof and has connected to its extremity the end of the depending portion 16 of the fall rope, said rope being connected to the frame in any suitable manner. The frame 17 is also connected at its extremity by means of a chain 18 or other suitable flexible connection with the receptacle 9. This chain is connected to one end of the receptacle, and the chain 10 heretofore described is connected to the receptacle adjacent to the opposite end thereof. The object of thus connecting the chains to the receptacle at different points, is to enable said receptacle to be tilted to dump the load, as will be presently described.

To one of the frame members of the carriage 6 is pivoted at 19 a lever 20, and to the opposite frame member of said carriage is pivoted at 21 a lever 22. These two levers are connected at one of their ends by a link 23. The opposite edges of these two levers are fitted with jaw faces 24 between which the portion 16 of the fall rope passes and is adapted to be clamped or locked. To one of the frame members of the carriage 6 is also pivoted a lever 25 which is connected at one end by a link 26 to that end of the lever 22 opposite the end to which is connected the link 23. The opposite end of the lever 25 carries a sheave 28 over which passes a rope or cable 29. One end of this rope or cable is carried over a guide sheave 30 and thence extends to any convenient place adjacent to the hoisting engine, so as to be within easy reach of the attendant. The other end of the rope 29 extends in an opposite direction, and has its end made fast in any suitable manner at the end of the rope way 7. On the carriage 6 is also mounted a guide sheave 31 over which the last-mentioned end of the rope 29 passes. On the carriage 6 is also mounted a pair of guide sheaves 32 between which the portion 16 of the fall rope is received. The sheaves are so located as to engage said rope

between the clamp and the point of its attachment to the frame 17.

In operation, to raise or lower the receptacle 9, the lever 26 is swung in a direction to disengage the jaws 24 from the depending portion 16 of the fall rope, whereupon this portion of the fall rope is freed, and the receptacle may then be raised or lowered in the usual manner. To dump the load, the portion 16 of the fall rope is clamped between the jaws 24 and thus locked, after which the fall block is lowered. Inasmuch as the chains 10 and 18 are connected to the receptacle 9 at different points, it will be seen that when the portion 16 of the fall rope is locked, and the fall block 8 is lowered, that end of the receptacle to which the chain 10 is connected tilts as shown by dotted lines in Fig. 1, and the load is dumped. By the apparatus herein described I provide means for tilting the receptacle at different elevations, said means being controlled from a point remote from the receptacle. The apparatus is easily operated, for all that the attendant is required to do is to raise or lower the load to the desired elevation when the carriage arrives at the dumping place, apply the clamp, and let the fall block lower, whereupon the load will automatically dump as already described, a pull on the rope 29 being all that is required to clamp the fall rope. The apparatus is therefore easily controlled, and requires no greater amount of attention than an ordinary elevated carrier apparatus.

What is claimed is:

1. The combination of an elevated carrier, a fall rope and its block from which the load is suspended, the fall rope being also connected to the load, and means for locking that portion of the fall rope which is connected to the load.

2. The combination with an elevated carrier, a fall rope, and its block from which the load is suspended; of a connection between the fall rope and the load, and means operable from a distance for locking that

portion of the fall rope which is between said connection and the block.

3. The combination with an elevated carrier, a fall rope, and its block from which the load is suspended; of a connection between the fall rope and the load, a clamp mounted on the carrier, and engageable with the fall rope between the aforesaid connection and the block, and means for operating the clamp.

4. The combination with an elevated carrier, a fall rope, and its block from which the load is suspended; of a connection between the fall rope and the load, a clamp mounted on the carrier, and engageable with the fall rope between the connection with the load and the block, a lever pivoted to the carrier, and operatively connected to the clamp, and means for operating the lever.

5. The combination with an elevated carrier, a fall rope, and its block from which the load is suspended; of a connection between the fall rope and the load, a pair of levers pivotally mounted on the carrier and having clamping jaws engageable with the fall rope at a point between its connection with the load and the block, a link connecting the levers at one end, an operating lever pivoted to the carrier, a link connecting said operating lever with one of the jaw levers and means for actuating the operating lever.

6. The combination with an elevated carrier, a fall rope, and its block; of a frame carried by the fall block to which frame the fall rope is fastened, connections between said frame and the load, at different points on the latter and means for locking that portion of the fall rope which is between the frame and the block.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

THOMAS ODENWELDER WERNER.

Witnesses:

CLARK C. WISE,
PETER F. YETTER.