

O. T. MCINTOSH.

Hoisting and Conveying Apparatus.

No. 138,910.

Patented May 13, 1873.

Fig. 1.

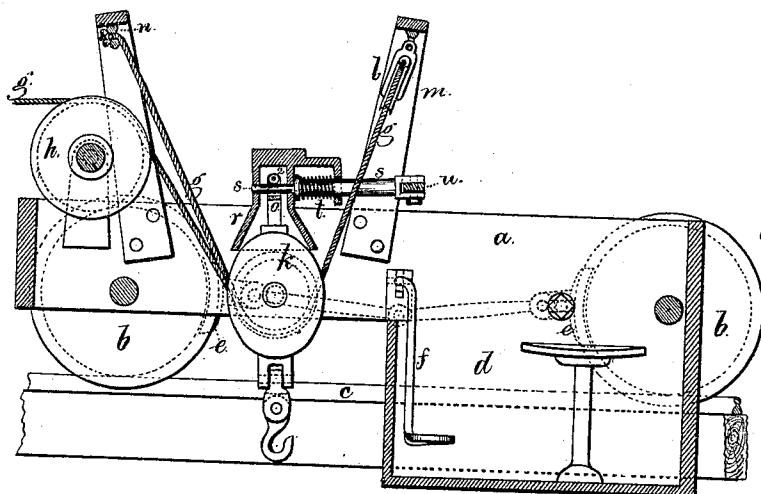


Fig. 3.

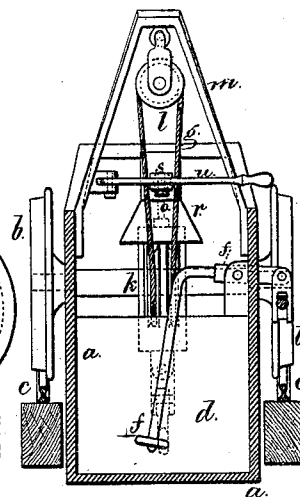


Fig. 2.

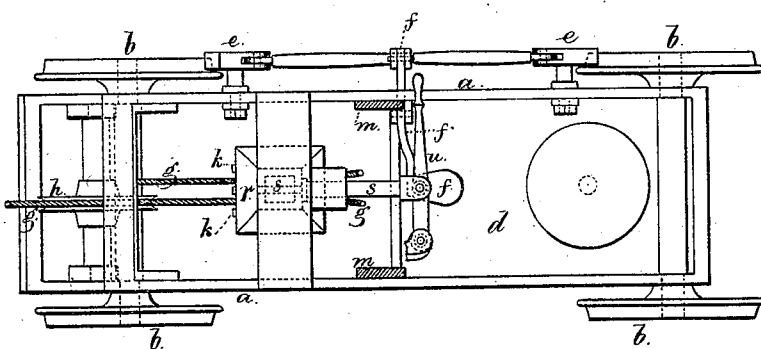
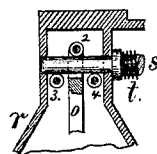


Fig. 4.



Witnesses

Char. H. Smith
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Inventor

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UNITED STATES PATENT OFFICE.

OLIVER T. MCINTOSH, OF NEW YORK, N. Y.

IMPROVEMENT IN HOISTING AND CONVEYING APPARATUS.

Specification forming part of Letters Patent No. **138,910**, dated May 13, 1873; application filed April 1, 1873.

To all whom it may concern:

Be it known that I, OLIVER T. MCINTOSH, of the city and State of New York, have invented an Improvement in Hoisting and Conveying Apparatus, of which the following is a specification:

This machine is made for drawing up any article, such as a platform, slings, bucket, or hooks; for lifting any weight and conveying it along upon an inclined railway, then lowering the weight and discharging the contents, or otherwise delivering the weight.

Elevated and inclined railways have been employed in which the bucket is raised, conveyed, and dumped; but difficulty arises in regulating the point at which the lowering or dumping takes place, because the discharging mechanism, being automatic, cannot be varied with rapidity.

In my improved hoisting and conveying mechanism the attendant is within a car upon the inclined railway, and by a brake determines the stopping and starting of such car, and by a hand-lever and bolt the suspending or lowering of the bucket or other article lifted, thus placing the entire control in the hands of the attendant.

In the drawing, Figure 1 is a vertical longitudinal section of the hoisting mechanism and car. Fig. 2 is a plan of the same, and Fig. 3 is a cross-section.

The car is made of the frame *a*, with wheels *b b*, running upon the elevated inclined track *c*. At one end of the car is a box, *d*, in which the attendant sits or stands, and this box may be inclosed or covered to protect the occupant. The brakes *e e* to the wheels *b* are operated by a lever or treadle, *f*, within the box *d*; such brakes and lever are constructed and connected in any usual manner. The hoisting-rope *g* is connected at one end to a drum, and this is revolved by competent power, and stopping and starting mechanism is provided, under the control of the engineer, in the manner now usual in hoisting and conveying machinery, and further description is not necessary. The rope *g* leads over the grooved wheel *h*, below one of the sheaves in the block *k*, up over the wheel or block *l* in the frame *m*, down below the other sheave in *k*, and up to the eye *n*, where it is fastened.

It is to be understood that the block *k* may have a greater or less number of sheaves, according to the purchase required. At the upper end of the block *k* there is the suspension-strap *o*, and *r* is a conical mouth for receiving the same and guiding it to the bolt *s*. This bolt *s* is projected into the strap *o* by the spring *t*, and can be withdrawn by the hand-lever *u* when moved by the attendant.

The rollers 2 3 4 serve to lessen friction and allow the bolt *s* to be withdrawn with facility. These rollers are shown in the detached section, Fig. 4.

The attendant holds the car in position by the brakes *e e* while the rope *g* is being drawn up, and the bucket of coal or other article raised by and with the block *k*. When completely raised the bolt *s* is projected to pass through the strap *o* and suspend the weight, and simultaneously the brakes are relieved, and the further movement of the rope *g* draws the car up the inclined track to the place of delivery of the load. The attendant stops the car by the brake at the place where the load is to be delivered. The bucket may be tipped and the load discharged; or, if the weight is to be lowered, the attendant draws the bolt *s*, and the engineer allows the rope *g* to run back as the weight is lowered. The attendant can thus direct the movement and the stopping of the car, so that the load can be dumped or lowered at any desired point. This is a great advantage, especially in taking coal, ores, grain, &c., from a boat and delivering it into carts, or dumping it upon a heap when the carts are not in place for receiving the same.

The attendant by means of the brake regulates the speed of the car in running back, and also prevents the car moving too far by the inertia when it is being drawn up.

The rope *g* may be of wire, or a chain may be used in place thereof; and the drum upon which the said rope or chain is wound may be either under control of a separate engineer, or there may be a bar or rope within reach of the attendant, by means of which he may operate the mechanism of such drum; or a bell or gong may be employed to signal the engineer.

I claim as my invention—

1. In a hoisting and conveying apparatus,

the combination of brakes to the wheels for stopping the car with the blocks, pulleys, and rope for raising or lowering a weight and moving the car upon an inclined railway, substantially as set forth.

2. The strap *o* at the upper end of the block *k*, in combination with the conical opening *r* and the bolt *s*, moved by the lever *u*, and under the control of the attendant, as and for the purposes set forth.

3. The car *a*, containing a box, *d*, for the attendant, and supported by wheels upon an

elevated railway, in combination with the brakes *e* for the wheels, the block *k* and rope *g* for raising the weight, and the hand-lever *u* and bolt *s* for sustaining such weight, as set forth.

Signed by me this 25th day of March, A. D. 1873.

OLIVER T. McINTOSH.

Witnesses:

GEO. T. PINCKNEY,
CHAS. H. SMITH.