G. Martz,

Elevator.

No. 95,306. Patented Sept. 28. 1869.

Fig. 1.

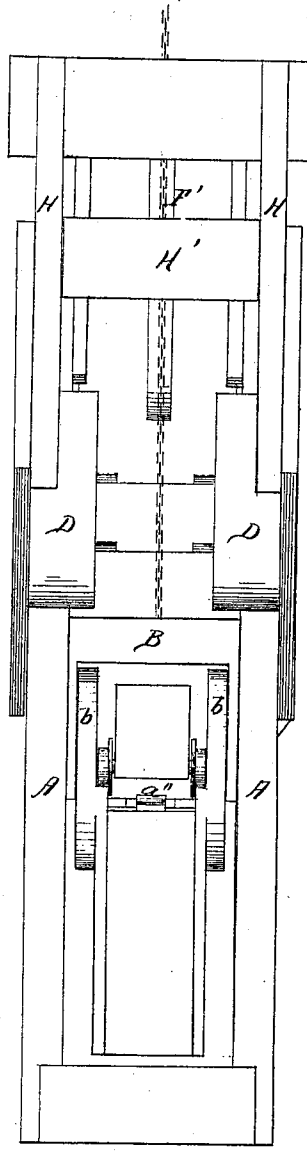
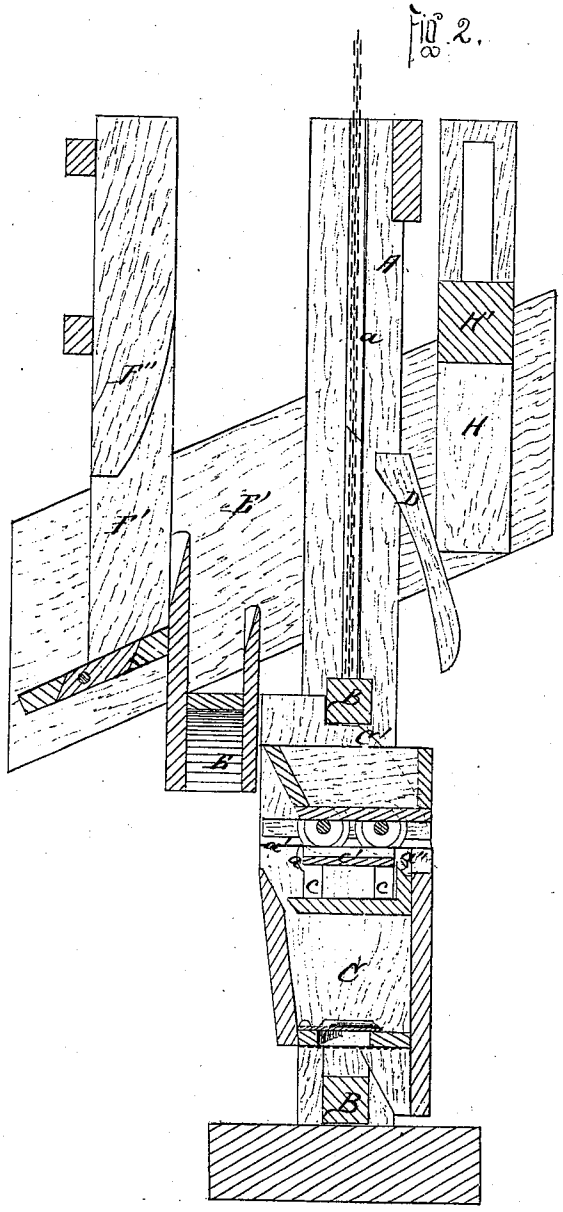


Fig. 2.



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GEORGE MARTZ, OF POTTSVILLE, PENNSYLVANIA.

Letters Patent No. 95,366, *dated September* 28, 1869.

IMPROVEMENT IN HOISTING AND DUMPING-APPARATUS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, GEORGE MARTZ, of Pottsville, in the county of Schuylkill, and State of Pennsylvania, have invented a new and improved Hoisting and Dumping-Machine for Mines; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a rear elevation, and

Figure 2 is a longitudinal vertical section.

This invention relates to hoisting water and coal from mines, and dumping the same into chutes.

The invention consists in providing the hoisting-apparatus with a centre-drop, and with curved recesses for the reception of the wheels of the coal-car, and with a catch for the retention of the body of the car.

Also, in the combination of a water-bucket and car-holder.

Also, in a peculiar dumping-apparatus, composed of the quadrantal side-pieces of the car-holder and concave deflectors, operating in connection with said side-pieces.

Also, in providing a counterweight to balance the coal-car during the dumping-process.

Also, in providing a guard to make sure against the falling of the car while dumping.

In the drawings—

A A are vertical pillars extending from the top to the bottom of a shaft in a coal-mine.

Said pillars have guide-bars *a a* upon their inner sides, on which plays the sliding frame B, which sustains the water-bucket and car.

The water-bucket C rests upon the bottom of the sliding frame. It has an orifice in its bottom, covered with coarse wire netting, for the admission of water, and a valve to control the same. The water-bucket has a front inclined side, with a sharp upper edge.

From the sides of the bucket project upward the quadrantal side pieces C′ C′ within the sliding frame.

Two slots, *c c*, are made lengthwise through each side-piece, said slots extending a little above and a little below the top of the bucket.

A platform, *c′*, extends centrally crosswise of the top of the bucket, and has projections extending through the slots *c*.

When the bucket is raised, the platform drops to the bottom of the slots. Hence it is called a "centre-drop," it being a well-known device.

The drop has tracks at its ends, for the wheels of the coal-car to rest and run upon, coincident with the tracks at the top of the bucket.

When the drop falls, it lowers the car until the ends of the latter rest upon the top of the bucket.

Curved recesses *a a* are made in the edges of the offsets *a′ a′* from the side-pieces C′, that form the tracks for the coal-car.

The curved recesses *a* receive the car-wheels after the drop-falls, and when the car-holder is inclined to dump the coal.

A catch, *a″*, projects upward from the top of the rear side of the bucket, which enters a recess in the bottom of the car, and holds it during the dumping-process.

When the bucket rests on the bottom of the sliding frame, the drop is raised to the level of the top of the bucket by offsets *e e*, projecting from the inner sides of the pillars A, the tops of which offsets come in contact with the projections extending through the slots *c*. When the drop is raised to this level, the car may be run on or off.

The side-pieces and drop, with their tracks, form a car-holder upon the top of the bucket.

The side-pieces, as before mentioned, are quadrantal, having curved edges *b b*, which may be described as their upper and rear edges.

Upon the rear sides of the pillars A A, at the proper point for producing the dump, are deflectors D D, inclined outward, and having concave front surfaces.

As the curved edges of the quadrantal side-pieces C′ strike the concave surfaces of the deflectors, the side-pieces are tilted forward upon the trunnions that connect them with the sliding frame B. The effect of such tilting is that the bucket discharges its contents into the lower chute, E, so placed crosswise between the inclined side-frame E′ that the upper sharp edge of the bucket rests directly over it when tilted down. At the same time the car moves forward on the drop until its wheels are arrested by the curved recesses *a*, and, the front end of the car being inclined forward, bridge the space over the chute E, and the car delivers its load upon the chute F, occupying the front part of the space between the inclined side-frame E′.

Said inclined side-frames support a pair of vertical posts, F′ F′, between which posts is sustained, in cross-pieces, a guard, F″, placed sufficiently far in front of the main pillars A to give the car room to fully dump its load into the chute, and yet to prevent the car from falling between the posts F′ F′, if, by any chance, it should become disengaged from the catch *a″* on the upper rear side of the bucket.

The inclined side-frames F support, at their opposite and upper ends, posts H H, similar to the posts F′ F′, and slotted lengthwise to such an extent as to permit the beam H′ to slide up and down in said slots, and form a counterweight, against which the lower end of the bucket comes when tilted down, which counterweight balances the car and prevents the friction and strain that would otherwise come upon the sliding frame B and guide-bars *a*.

Having thus described my invention,

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

1. The centre-drop c', in combination with the curved recesses a and the catch a'', in the manner and for the purpose specified.

2. In a hoisting-apparatus for mines, the combination of a water-bucket and coal-car holder, substantially as described.

3. The dumping-apparatus, consisting of the quadrantal side-pieces C', provided with means for the retention of a car, and with trunnions or other axial devices, in combination with the concave deflectors D, substantially as set forth.

4. The combination of the counterweight H' with the bucket C and slotted guide-ways H, arranged and operating in the manner explained.

5. The guard F'', in combination with the side-pieces F', arranged and operating substantially as specified.

To the above specification of my improvement I have set my hand, this 17th day of August, 1869.

Witnesses: GEORGE MARTZ.

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S. C. KEMON.