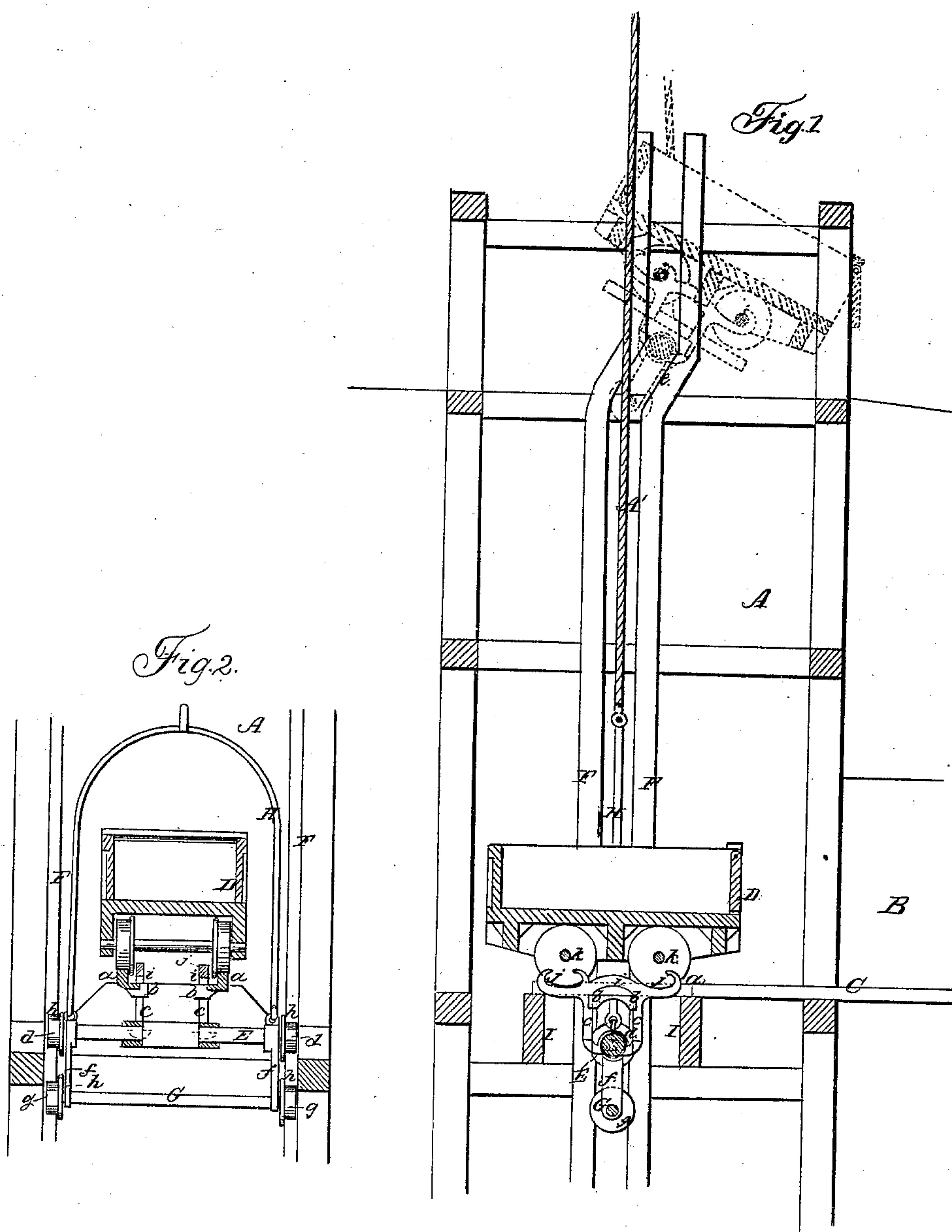


W. B. CULVER.

Dumping Car.

No. 22,492.

Patented Jan. 4, 1859.



# UNITED STATES PATENT OFFICE.

W. B. CULVER, OF SCRANTON, PENNSYLVANIA.

## APPARATUS FOR HOISTING AND DUMPING COAL.

Specification of Letters Patent No. 22,492, dated January 4, 1859.

*To all whom it may concern:*

Be it known that I, W. B. CULVER, of Scranton, in the county of Luzerne and State of Pennsylvania, have invented a new and Improved Hoisting and Dumping Apparatus or Device Designed for Raising and Dumping Coal and other Substances Raised in Shafts from Pits or Mines; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figures 1 and 2, are vertical sections of my invention shown within a shaft the two planes of section crossing each other at right angles.

Similar letters of reference indicate corresponding parts in the two figures.

To enable those skilled in the art to fully understand and construct my invention I will proceed to describe it.

A, represents a shaft and B, Fig. 1, is a gallery of a pit or mine with which the shaft communicates.

C, is a rail way or track within the gallery of the mine or pit, on which track cars D, are placed, the cars being loaded of course with the products of the mine in the usual way. The rail way or track C, connects at its termination at the bottom of the shaft A, with the portable rails *a, a*, which are provided each with two guides *b, b*, placed loosely on upright bars *c, c*, attached to a transverse bar E, the bars *c*, being allowed to slide freely up and down within the guides *b*. Each end of the bar E, to which the upright bars *c*, are attached is provided with a friction roller *d*, and these friction rollers are fitted between guides F, F, placed at opposite sides of the shaft A, and in a vertical position, the greater portion of their height, an oblique portion *e*, being formed at their upper parts nearly opposite the point where the cars are to be tilted or dumped, see Fig. 1.

To each end of the bar E, and adjoining the roller *d*, pendent bars *f, f*, are attached, and through the lower ends of the bars *f*, a rod G, passes, said rod also having friction rollers *g*, attached, the rollers *g*, being also fitted between the guides F, F. Both pairs of friction rollers *d, d, g, g*, are

provided with flanches *h*, at their inner sides, as shown clearly in Fig. 2.

The upper ends of the upright bar *c*, are attached to horizontal scroll bars *i, i*, the form of which is clearly shown in Fig. 1. These bars are so curved as to form hooks *j, j*, two on each bar *i*, the space between the hooks of each bar being equal to the space between the front and back axles *k, k*, of the cars D.

To the bar E, a bail H, is attached, the bail being sufficiently large to admit the cars D, to pass within it. I, I, are sleepers placed in the same plane as the sleepers J, of the track C, and directly at the bottom of the shaft A.

The operation is as follows:—The loaded cars D, are shoved along, one at a time, on the portable rails *a, a*, which when depressed rest on the sleepers I, I, and are in line with the rails of the track C. When a loaded car is on the rails *a, a*, the bar E, is raised by means of power applied in any proper manner to a rope A', attached to the bail H, and the bars *i, i*, rise of course with the shaft E, the hooks *j, j*, catching underneath the axles *k, k*, of the car D, the car D, is raised vertically and in a perfectly horizontal position until the rollers *d*, reach the inclined portions *e*, of the guides, when the bar E, of course follows the inclination and the car D, is tilted, as shown in red, it being seen that the bar E, and rod G, retain the car in a horizontal position while rising until the bends are reached at which point the car is allowed to tilt to an inclination at right angles with the bend *e*, and the car is allowed to descend suddenly a short distance corresponding to the "play" allowed the axles *k, k*, in the hooks *j*. The sudden tilting of the car and the sudden arresting of its descent causes its contents to be dumped upon the surface of the ground or into any receptacle placed at the top of the shaft, the tail board of the car being hinged to admit its ready opening to allow the contents of the car body to pass out. In descending the car assumes a horizontal position as the rollers pass out of the bend and when the portable rails *a, a*, reach the sleepers I, I, the shaft E, rod G, and bars *i*, descend until the bars *i*, strike the guides *b*, the bars *i*, descending sufficiently to al-



low the axles *k*, of the empty car to pass over the hooks *j*, and a loaded car to be shoved on the rails *a*, to be hoisted and dumped as the one described.

5 Having thus described my invention what I claim as new and desire to secure by Letters Patent, is, -

The arrangement and combination of the

rod *G*, bars (*f*), *E*, (*e*, *c*, *i*, *j*, *j*) bail *H*, and inclined guides (*e*) as and for the purpose 10 herein shown and described.

W. B. CULVER.

Witnesses:

WM. DICKSON,  
H. C. ROGERS.