(No Model.)

2 Sheets—Sheet 1.

F. F. CULVER.

DUMPING CAR.

No. 551,077. Patented Dec. 10, 1895.

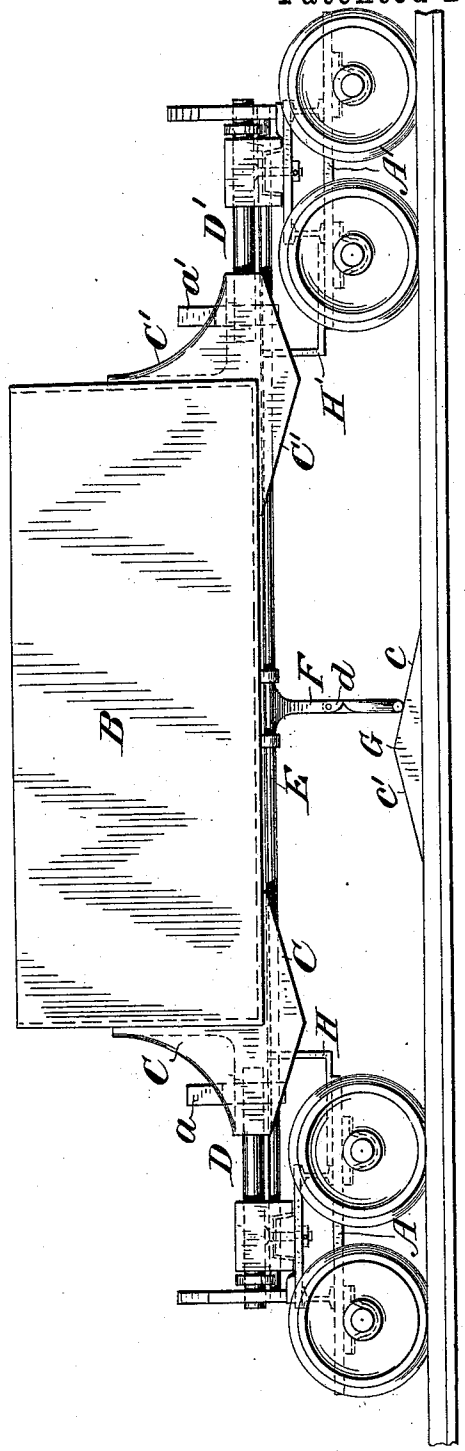

Fig. 1.

Witnesses:-

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Edward J. Musgrave

Inventor:-

Frederic F. Culver

by his attorneys

Witter & Kenyon

(No Model.) 2 Sheets—Sheet 2

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Fig. 3.

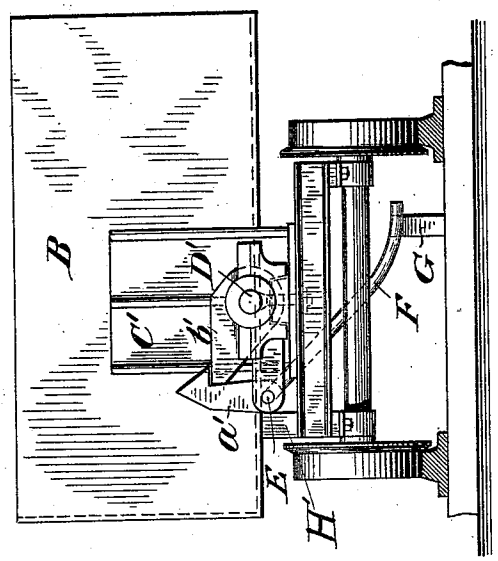
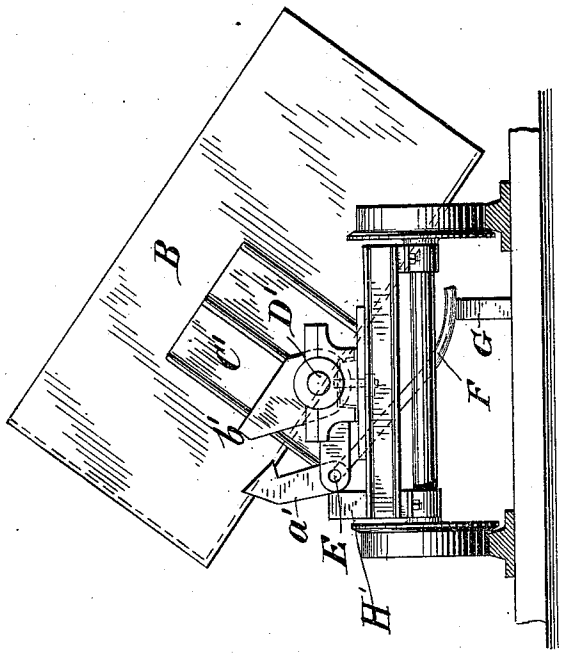


Fig. 2.



Witnesses:-

O. A. Maywood

A. Crause

Inventor:-

Frederic F. Culver

UNITED STATES PATENT OFFICE.

FREDERIC F. CULVER, OF NEW YORK, N. Y.

DUMPING-CAR.

SPECIFICATION forming part of Letters Patent No. 551,077, dated December 10, 1895.

Application filed August 3, 1895. Serial No. 558,080. (No model.)

To all whom it may concern:

Be it known that I, FREDERIC F. CULVER, a citizen of the United States, and a resident of New York city, in the county of New York, State of New York, have invented a new and useful Improvement in Dumping-Cars, of which the following is a specification.

This invention relates to dumping-cars, and has for its objects to increase the efficiency of such cars by rendering them automatic in their action, and also to lower the body of the car nearer the ground, so that the car can be loaded with greater facility without diminishing the efficiency of the car in dumping.

The invention consists of the construction hereinafter set forth.

In the drawings forming part of this specification, and in which like letters designate like parts throughout, Figure 1 is a side elevation of a car embodying the invention. Fig. 2 is a rear elevation of the car in dumping position with the dashboard removed, and Fig. 3 is a rear elevation of the car in normal position with the dashboard removed.

Referring now to the specific structure, as shown in the drawings, A and A′ are the forward and rear trucks, respectively, of the car. The car-body B rests at its ends in angle-brackets C C′, suitably supported by the trucks, and these angle-brackets are provided with trunnions D D′, fixed to the angle-brackets at one of their ends and rotatably supported at their other ends by the trucks, so that the car-body is supported on a longitudinal axis. Extending beneath the car-body is a shaft E, rotatably supported at its ends by the trucks and provided with two dogs *a a′*, fixed thereto and adapted to engage the car-body and hold it in its normal position. The dogs are arranged to directly engage the teeth *b b′*, fixed to the trunnions D D′, and when the shaft E is rotated to the left the dogs release the teeth *b b′* to permit the car to dump, and when the car is righted the dogs automatically engage the teeth *b b′* and lock the car-body in place. The shaft E is provided with suitable means for rotating it, so as to release the dogs. The means shown in the drawings consist of an arm F, secured to the shaft E and extending below the car and adapted to be moved upward to rotate the shaft. In order that the shaft may be rotated, so as to release the dogs automatically, a block G, having an inclined upper surface *c*, may be fixed to the track at any point where it is desired to dump the car, so as to be struck by the arm F as the car moves over the block, the arm riding up the incline *c* and rotating the shaft E. In order that the dogs may not be released when the car moves in the other direction, the block is provided with the incline *c′*, and the arm F is made in two sections, so hinged together at *d* that when the arm rides up the incline *c* it remains rigid; but when it rides up the incline *c′* it bends at the hinge *d*, and so does not operate the shaft E. Any other form of locking device besides the dogs and shaft E may be employed, if desired, and instead of the arm F and block G other means for releasing the car may be used. The arm F or other releasing means might be operated by hand or by cords, rods, or levers, or by pneumatic or steam power.

H H′ are supports resting on the trucks to sustain the car-body against backward tipping.

The car-body, it will be seen, is so arranged that it dumps on one side and between the forward and rear trucks instead of dumping over them, as heretofore. This is a great advantage, because it enables me to support the car-body nearer the ground without diminishing the angle of dump required to discharge the car. The car can therefore be loaded with much greater speed and facility without making any sacrifice of the capacity of the car to discharge itself.

The car-body is so balanced that when it is loaded and the locking devices released it will dump itself and when discharged of its load it will right itself and return to normal position automatically and lock itself in this position. This is a great advantage, because it saves time and labor.

The car is preferably left open on the dumping side, as shown at the right side of the car-body in Figs. 2 and 3.

In loading the car the material with which it is to be filled need be lifted only a few inches above the ground, and the car can therefore be filled more easily and rapidly than if the car-body were higher.

In discharging the car the engineer has only

to draw the car to the dumping-place, where is located the block G, and when the arm F strikes the block the car-body is unlocked and dumps itself, and when the load is discharged the car rights itself and the engineer backs the car up for a second load, the arm F riding back over the block G without unlocking the car. By arranging the car to dump between the forward and rear trucks the angle of dump can be easily made as much as forty-five degrees or more.

Various changes, which will readily suggest themselves to any one skilled in the art, could readily be made without departing from the spirit of the invention.

Having now fully described the invention and the best embodiment now known to me, what I claim as new, and desire to secure by Letters Patent, is—

1. In a dumping car, the combination of a car-body pivotally supported on a longitudinal axis so as to dump sidewise, a dog arranged to engage the car-body and hold it in its normal position from dumping and adapted to automatically engage the car body when righted, substantially as set forth.

2. In a dumping car, the combination of a car-body pivotally supported on a longitudinal axis so as to dump sidewise, a dog arranged to engage the car-body and hold it in its normal position from dumping and adapted to automatically engage the car body when righted, and an arm for releasing the dog operatively connected therewith, substantially as set forth.

3. In a dumping car, the combination of a car-body pivotally supported on a longitudinal axis so as to dump sidewise, a dog arranged to engage the car-body and hold it in its normal position from dumping and adapted to automatically engage the car-body when righted, and a jointed arm extending beneath the car and adapted to strike a fixed projection and so arranged that when the car is moving in one direction and strikes the projection the dog is released but when the car is moving in the opposite direction the dog is not released, substantially as set forth.

4. In a dumping car, the combination of a car-body supported on a longitudinal axis so as to dump sidewise between the rear and forward trucks, whereby the car may be supported near the ground without diminishing the required angle of dump, the body being so balanced that when loaded it dumps automatically and when unloaded it automatically rights itself, a dog arranged to engage the car-body and hold it in its normal position from dumping and adapted to automatically engage the car-body when righted, and means for releasing the dog, substantially as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

FREDERIC F. CULVER.

Witnesses:
H. M. STEVENSON,
E. S. CROAISE.