No. 728,634. PATENTED MAY 19, 1903.

A. J. TWIGGS.

DUMPING CAR.

APPLICATION FILED MAR. 9, 1903.

NO MODEL.

Fig. 1.

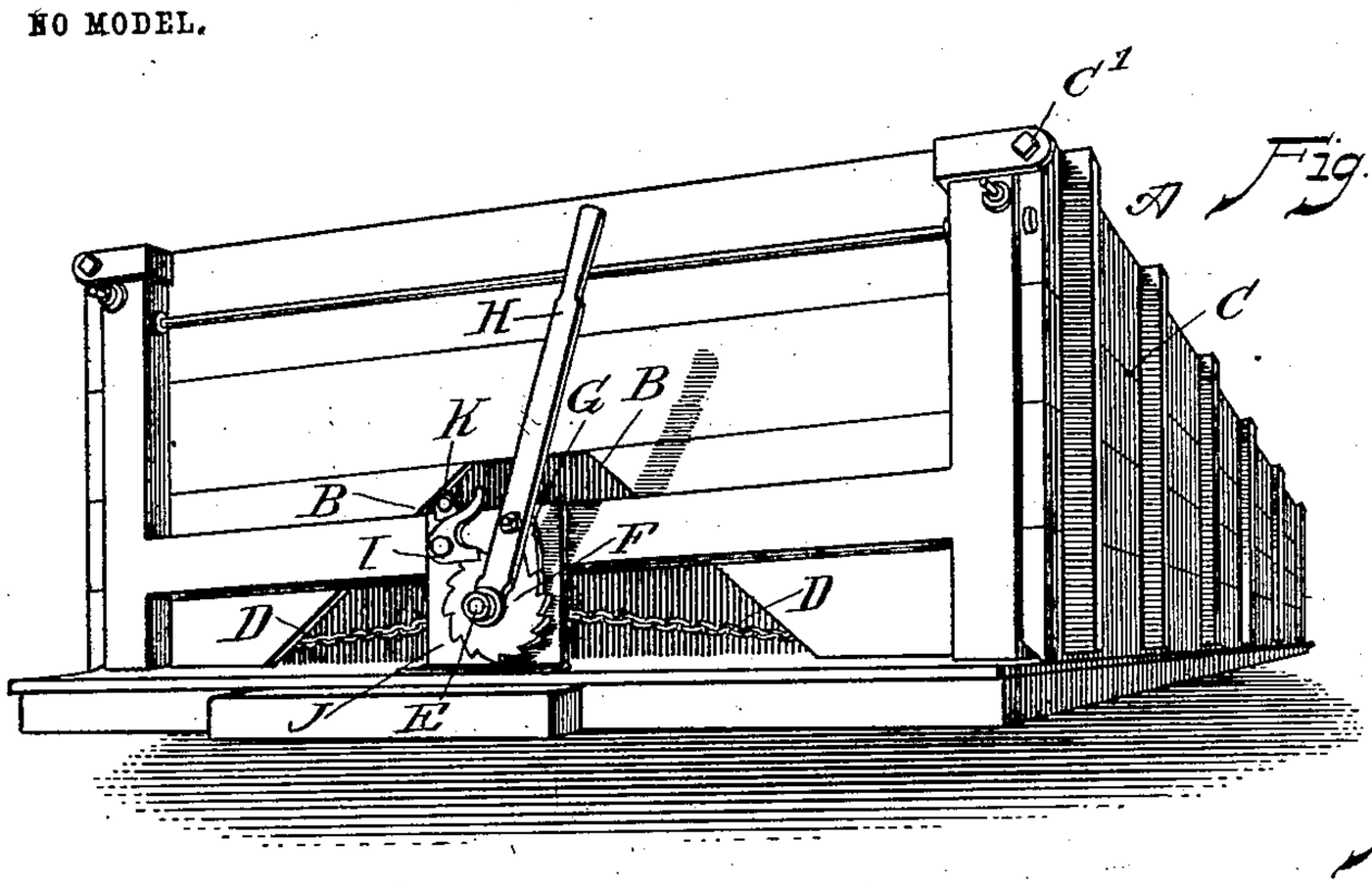


Fig. 2.

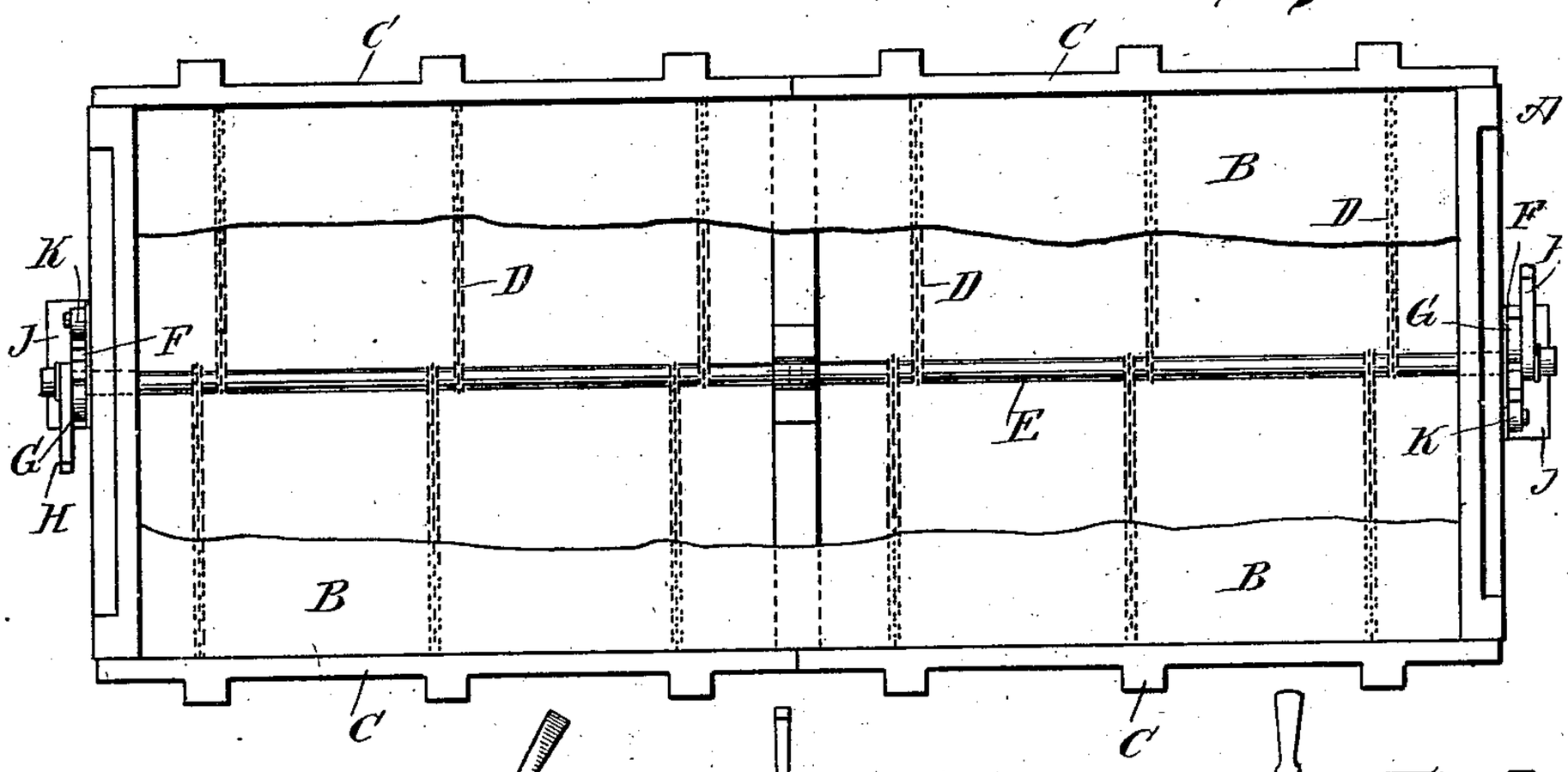


Fig. 3.

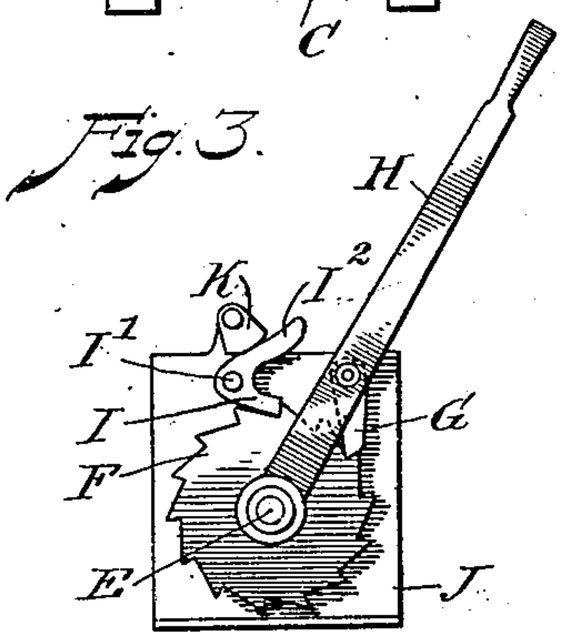


Fig. 4.

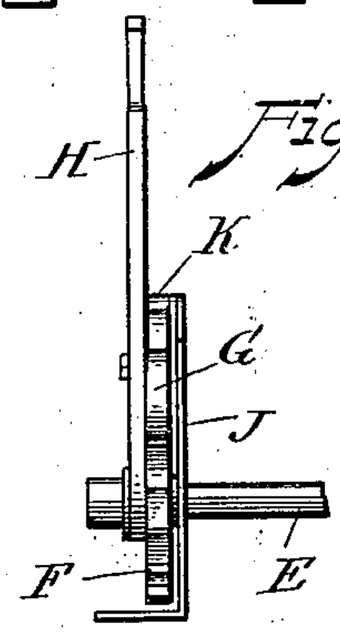
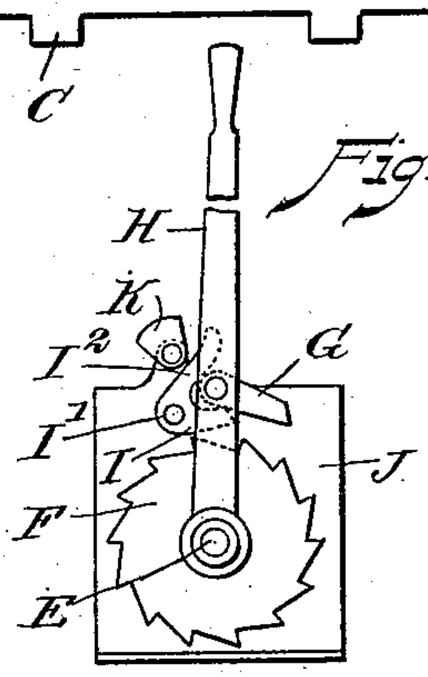


Fig. 5.



WITNESSES:

Robert S. Read

Rev. J. Hoster, Jr.

INVENTOR

Albert J. Twiggs.

BY Munn & Co.

ATTORNEYS.

No. 728,634. Patented May 19, 1903.

UNITED STATES PATENT OFFICE.

ALBERT JEFFERSON TWIGGS, OF AUGUSTA, GEORGIA.

DUMPING-CAR.

SPECIFICATION forming part of Letters Patent No. 728,634, dated May 19, 1903.

Application filed March 9, 1903. Serial No. 146,942. (No model.)

To all whom it may concern:

Be it known that I, ALBERT JEFFERSON TWIGGS, a citizen of the United States, and a resident of Augusta, in the county of Richmond and State of Georgia, have invented a new and Improved Dumping-Car, of which the following is a full, clear, and exact description.

The invention relates to railroad dumping-cars having peak-shaped bottoms and side doors at the lower end of the bottoms opening outwardly to allow the contents of the cars to slide to the sides of the track whenever the doors are opened.

The object of the invention is to provide a new and improved dumping-car which is simple and durable in construction and arranged to allow the operator to conveniently and easily close and lock the side doors and to permit ready unlocking and opening of the same whenever it is desired to discharge the contents of the car.

The invention consists of novel features and parts and combinations of the same, as will be more fully described hereinafter and then pointed out in the claims.

A practical embodiment of the invention is represented in the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a perspective view of the improvement. Fig. 2 is a plan view of the same, parts of the bottom being broken out. Fig. 3 is an enlarged face view of the operating device for the car-doors. Fig. 4 is an edge view of the same; and Fig. 5 is a face view of the same, showing the parts in an unlocked position.

The body A of the car is provided with a suitable bottom B, peak-shaped in cross-section and extending from one end of the car to the other, and the sides of the said car are adapted to be closed by doors C, of which there are preferably two for each side for railroad-cars of ordinary or standard size. The doors C are hinged at their upper ends at C′ to the car-body, and the lower ends of two oppositely-disposed doors C are connected with the outer ends of chains or ropes D, adapted to wind at their inner ends on a longitudinally-extending shaft E, journaled in suitable bearings arranged on the car-body in the space below the peak-shaped bottom B, as plainly indicated in the drawings. As shown in Fig. 2, two such shafts E are employed for the two sets of car-doors, and the outer end of each shaft E is provided with a ratchet-wheel F, adapted to be engaged by a pawl G, fulcrumed on an operating-lever H, hung loosely on the shaft E and under the control of the operator for turning the ratchet-wheel and the shaft E to wind up the chains D whenever it is desired to swing the side doors C into a closed position. The ratchet-wheel F is locked against return movement by a dog I, fulcrumed at I′ on a plate J, secured to the car-body and also forming a bearing for the outer end of the shaft E, and the said dog I is provided with an angular tripping-arm I^2, adapted to be engaged by a latch K, fulcrumed on the plate J, so that when the latch K engages the arm I^2 the dog is held in a locked position and in contact with the ratchet-wheel F, so as to prevent return movement thereof. The angular arm I^2 is so disposed relative to the fulcrum end of the pawl G that when the latch K is swung out of engagement with the arm I^2 (see Fig. 5) and the lever H is moved on the return stroke then the said arm I^2 is engaged by the fulcrum end of the pawl G, and hence swung upwardly to move the dog I out of engagement with the ratchet-wheel F. On a further return swinging movement of the lever H the dog I moves in engagement with the pawl G, so as to swing the latter out of engagement with the ratchet-wheel F to completely release the latter, and thereby unlock the shaft E. When this takes place, the pressure of the load against the inner faces of the opposite doors C causes the latter to swing open, as the chains D are now free to unwind from the unlocked shaft E, free to rotate in its bearings. Now by the arrangement described it takes but little power on the part of the operator to unlock the doors by moving the lever H at each end of the car in the return direction, so that the unlocked dog I is first disengaged from the ratchet-wheel F, and then the dog swings the pawl G out of mesh with the said ratchet-wheel, the lever H thus standing approximately in a vertical resting position, as indicated in Fig. 5. When it is desired to close the door C after the contents of the car have been dis-

charged to the sides of the track, then the operator swings the lever H forward, so that the pawl G moves away from the arm I^2 of the dog I to allow the latter to swing back into mesh with the ratchet-wheel F, and at the same time the pawl G swings out of engagement with the dog I and in mesh with the ratchet-wheel F to turn the latter on the further forward movement of the lever H. A short up-and-down motion is now given to the lever H to intermittently turn the ratchet-wheel F and shaft E to wind up the chains D.

From the foregoing it will be seen that the device is very simple and durable in construction, easily manipulated, and arranged to permit its ready application to dumping-cars as now constructed.

The device may also be used for dumping-scows and other vehicles, and it may be differently arranged from the manner shown without deviating from the spirit of my invention.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. A dumping device having a shaft, operating means connecting the shaft with doors, for opening and closing the same, a ratchet-wheel on the shaft, an operating-lever carrying a pawl engaging the said ratchet-wheel, and a dog for engaging the ratchet-wheel and having an angular tripping-arm, adapted to be engaged by means on the said lever, for throwing the dog out of mesh with the ratchet-wheel on the return movement of the latter, and for throwing the pawl out of mesh with the ratchet-wheel by the said dog, as set forth.

2. A dumping device having a shaft, operating means connecting the shaft with doors, for opening and closing the same, a ratchet-wheel on the shaft, an operating-lever carrying a pawl engaging the said ratchet-wheel, a dog for engaging the ratchet-wheel and having an angular tripping-arm, adapted to be engaged by means on the said lever, for throwing the dog out of mesh with the ratchet-wheel on the return movement of the latter, and for throwing the pawl out of mesh with the ratchet-wheel by the said dog, and a latch for engaging the said tripping-arm of the dog, to lock the latter against movement and to hold the dog in mesh with the ratchet-wheel, as set forth.

3. An operating device for chain-shafts on dumping-cars and the like, comprising a ratchet-wheel secured on the shaft, an operating-lever mounted to swing loosely on the shaft and carrying a pawl engaging the ratchet-wheel, and a dog engaging the ratchet-wheel and having an angular tripping-arm, adapted to be engaged by the fulcrum end of the said pawl, for throwing the dog out of mesh with the ratchet-wheel on the return movement of the lever, the said dog being arranged to engage the said pawl, for throwing the latter out of mesh with the ratchet-wheel, on a further return movement of the lever, as set forth.

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

ALBERT JEFFERSON TWIGGS.

Witnesses:
FRANK E. FLEMING,
JAS. K. SANFORD.