

No. 640,337.

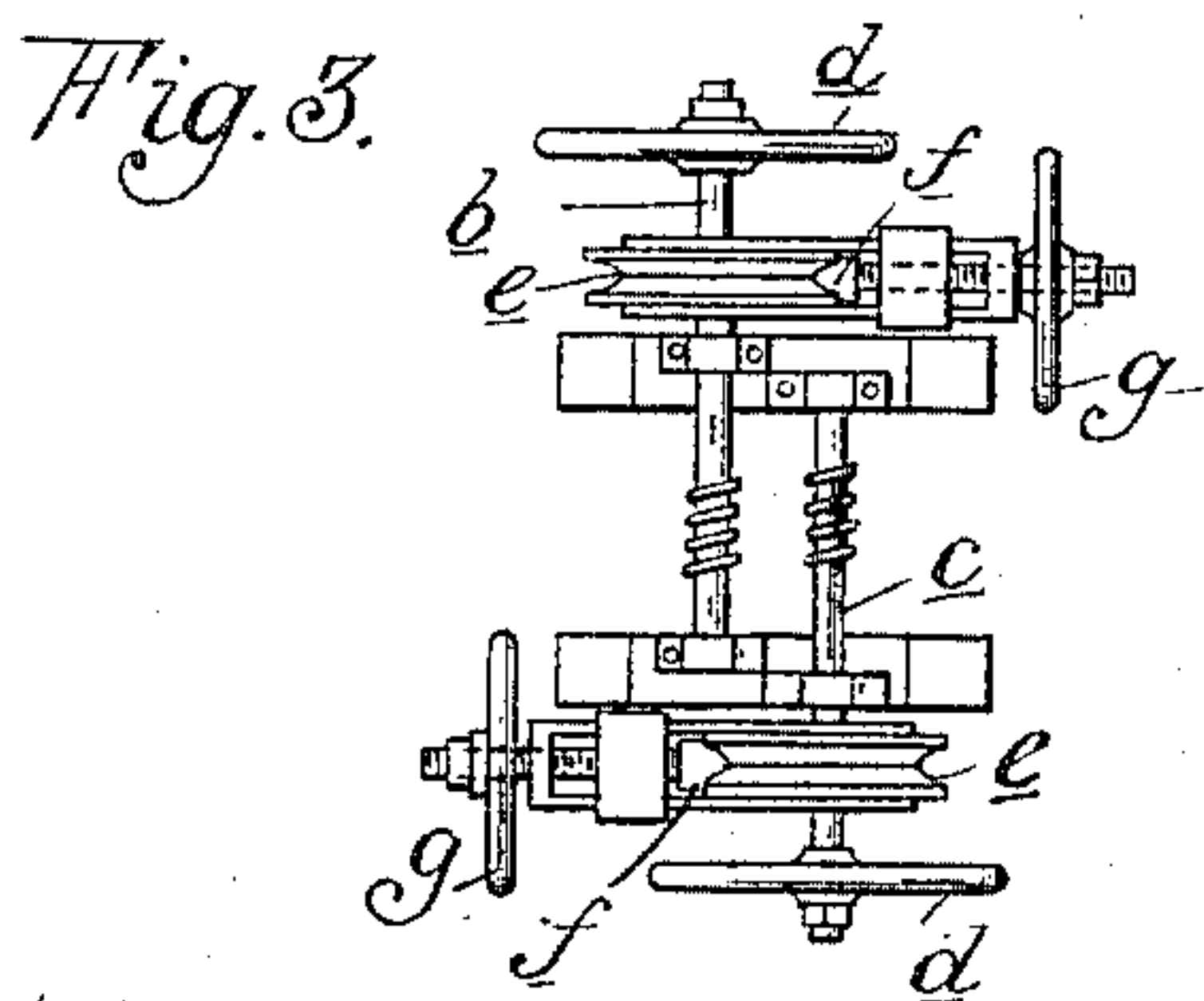
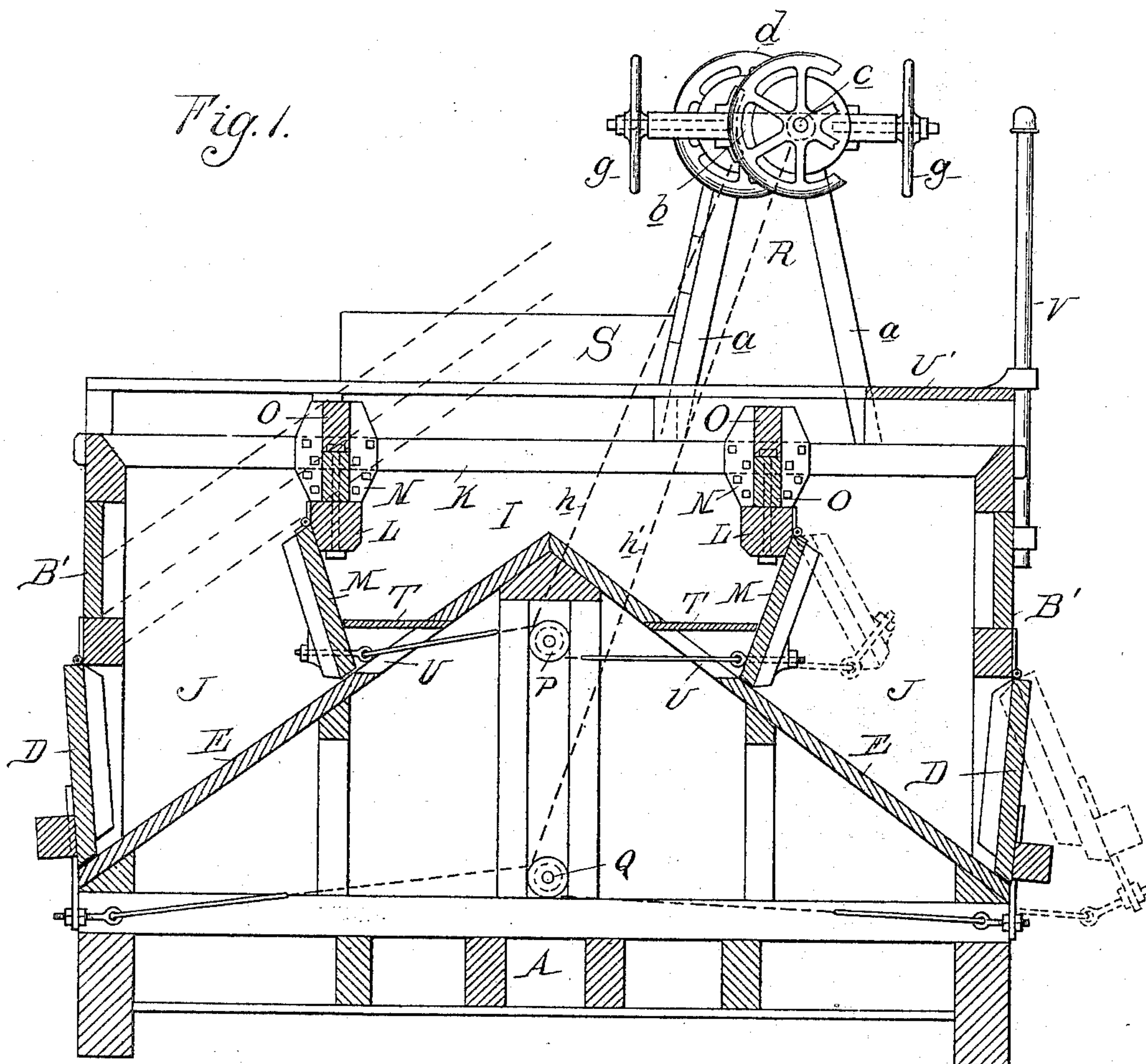
Patented Jan. 2, 1900.

A. TORREY.
DUMPING CAR.

(Application filed Oct. 5, 1899.)

(No Model.)

2 Sheets—Sheet 1.



Witnesses:

V. D. Kinner
J. A. Koelke.

Inventor:

Augustus Torrey,

By *Parish & Bonnell*

Attorney

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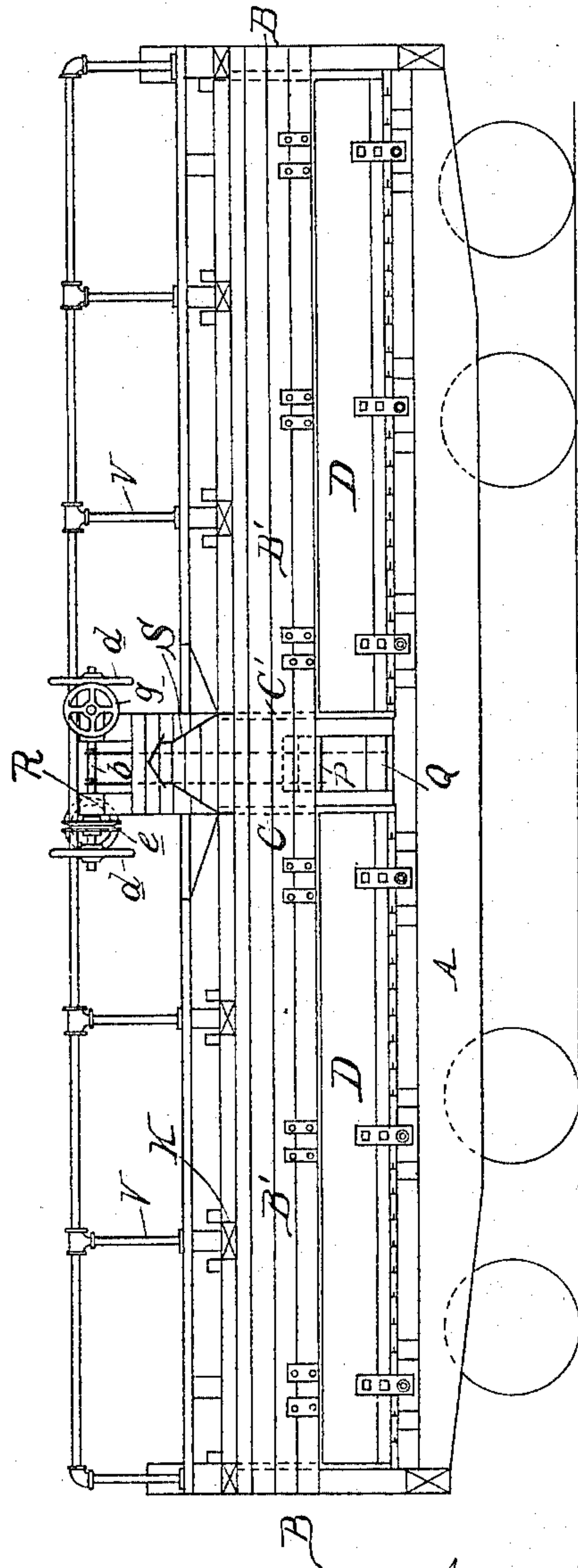


Fig. 2.

Witnesses:
V. D. Kinner
J. A. Noelke.

Inventor:
Augustus Torrey,
By *Barth H. Barth*
Attorneys.

UNITED STATES PATENT OFFICE.

AUGUSTUS TORREY, OF DETROIT, MICHIGAN.

DUMPING-CAR.

SPECIFICATION forming part of Letters Patent No. 640,337, dated January 2, 1900.

Application filed October 5, 1899. Serial No. 732,605. (No model.)

To all whom it may concern:

Be it known that I, AUGUSTUS TORREY, a citizen of the United States of America, residing at Detroit, in the county of Wayne and State of Michigan, have invented certain new and useful Improvements in Dumping-Cars, of which the following is a specification, reference being had therein to the accompanying drawings.

10 This invention refers more particularly to self-dumping cars principally designed for carrying dirt or gravel along the road-bed; and the object of the invention is to adapt the car either to dump its full load, one-half on
15 each side of the track, or to dump one-half of its load only at a time and to dump it each time alike and close to the track, and, further, to divide equally loads of various amounts and character.

20 While in the present state of the art it is not new to make a dumping-car which permits the fractional discharge of a load, so that the material can be distributed along the road-bed, it is not dumped at the same distance
25 from the rail every time—that is to say, the car-body is made with two tiers of discharge-doors in the sides, the top ones being first opened to dump one part of the load and then the rest is dumped by opening the lower tier.

30 On account of the upper tier being so much higher up the material instead of being dumped close to the ends of the ties, as from the lower discharge-doors, is thrown considerably outward and requires extra work in
35 shoveling, and often the road-bed is not wide enough to permit of dumping at all from the upper discharge-doors. Furthermore, there is no certainty of the load being equally divided, and any excess over the normal load
40 for which the car is built is dumped with the first discharge, while if the load is below the normal the first dumping would be smaller than the second. It is further apparent that the character of the material to be dumped
45 will affect uniformity of dumping.

This invention entirely remedies these objections; and to this end it consists in a new construction in which the car-body is divided by two inside partitions longitudinally of the
50 car into a central pocket and two outside pockets, the central pocket having means for discharging to the outside pockets and the

latter having low-down discharge-doors to the outside, so that after dumping the contents of the outside pockets the second half of the
55 load is supplied from the central pocket, which opens into both outside pockets, and from there through the same discharge-doors through which the first dumping was made to the ground, thus making two dumpings in
60 precisely the same relative place at the ends of the ties where it is most convenient for use. Furthermore, by a peculiar arrangement of the dividing-partitions the load is
65 always equally divided in the loading of the car, all as more fully hereinafter described, and shown in the accompanying drawings, in which—

Figure 1 is a vertical central cross-section of a dumping-car embodying the invention. 70
Fig. 2 is a diagram side elevation thereof, and Fig. 3 is a plan of the duplex windlass for controlling the opening and closing of the discharge-doors:

In the drawings the invention is shown as
75 applied to the car-body of the well-known type of self-dumping side-discharge gravel-car, in which A is the bed-frame; B and B', the end and side walls, respectively; C C', transverse division-walls in the center, divid-
80 ing the car-body between the ends into two compartments for the load; D, the discharge-doors in the sides, and E the chute-boards, forming the bottom of the compartments, all arranged and operating in the known manner,
85 except as more fully hereinafter described.

Each compartment is divided interiorly by longitudinal partition-walls into a central pocket I and two outside pockets J, and the lower portion of each partition-wall consti-
90 tutes a discharge-door M, opening outwardly from the pocket I into the outside pocket J, adjacent thereto.

To support the interior partition-walls, cross-beams K are secured at intervals upon
95 the side walls, and to these the longitudinal beams L are supported, to which the discharge-doors M are hinged. Above the beams L there are secured to the cross-beams K the vertical guides N, adapted to removably hold
100 in position one or more top boards O, according to the height to which the car is to be loaded.

The discharge-doors D and M are respec-

tively connected to winding-drums P and Q, suitably journaled in the center of the car-body in the space below the floor, and these winding-drums are in turn operated by means of a duplex windlass R, mounted on top of the car. This windlass is supported upon a suitable gallows-frame *a* above the central transverse partitions C C' to one side of the longitudinal center, and comprises the winding-shafts *b c*, journaled in parallel relation to each other, each having a hand-wheel *d*, secured to opposite ends of the shafts and connected by chains or cables with the drums P and Q, respectively, whereby one shaft controls the opening and closing of the doors D and the other the opening and closing of the doors M.

Each of the shafts *c* and *b* carries a grooved friction-pulley *e*, provided with friction-blocks *f*, fitting the face of the pulleys and adapted to be pressed thereto by means of screws operated by the hand-wheels *g*, all so arranged that if the friction-blocks are screwed tightly upon the pulleys the shafts *b* and *c* are prevented from revolving, and thereby prevent the unwinding of the chains or cables which hold the doors M and D closed.

The chains or cables *h h'*, which connect the windlass with the drums P and Q, pass down in the opening or well formed between the partitions C C', and to prevent in loading the dirt from falling into this well a suitable saddle S is placed over it. Saddles T are also placed over the openings U, through which the connections of the doors M pass through the floor.

In practice the parts being constructed as shown and described they are intended to operate as follows: If the car is loaded along its longitudinal center, it will be seen that after the central pocket I is filled to the height of the longitudinal beams L or to the height of one or more of the partition-boards O the dirt overflows into the outside pockets and fills the same too, and the loading is completed when the load-lines in the inside and outside pockets coincide, and the three dotted lines in Fig. 1 indicate the load-lines at three different heights of the longitudinal partitions representing different cubical contents. At each load-line an accurate division is made of the load—that is, the inside pocket contains one half of the cubical contents and the two outside pockets together the other half.

The entire load can be dumped by first releasing the hand-wheel *g* which controls the inner doors M and afterward releasing the hand-wheel *g* which controls the outer doors D D or each half can be dumped separately by opening first the outside doors D and then after shifting the car opening the inside doors M also. The dirt from the inside pocket by the simultaneous opening of the doors M, which have previously been released, is divided, one-half passing out through each opening and thence through the openings in

the outside pockets to the ground, thus making exactly the same division and depositing the dirt in the same relative place as at the first dumping.

The construction of the car may be variously modified within the spirit of the invention, which has for its principal object to dump one-half of the load in the same relative position to the track as the other one-half is dumped and to deliver the material from the car thus irrespective of the amount or character of the material. Thus where the car is designed to carry a minimum load only there is no need of the removable division-boards O. In fact, the interior partitions may be solely represented by the doors M, and in this view the beam L is merely for convenience in hinging. It is also for the sake of convenience only that the car is divided transversely into two principal compartments, and it is obvious that the car-body may have but one principal compartment, the operating devices being placed at the end of the car-body instead of being in the middle, or the number of principal compartments may be increased.

By placing the windlass for operating the doors on top easy access is gained to it by means of a suitable platform U, guarded by a railing V, while at the same time no valuable space is sacrificed, and it is obvious also that the open space in the middle of the car may be dispensed with, except as to leave sufficient space for the chains *h h'*.

Those acquainted with the use of dumping-cars in the construction and maintenance of the road-bed of railways will readily understand the practical value of the advantages of the invention.

I claim—

1. In a dumping-car, a car-body having a bottom sloping outwardly from the longitudinal center to the sides of the car, exterior discharge-doors in the sides for automatically dumping the load on opposite sides of the car and corresponding interior discharge-doors adapted to retain a portion of the load centrally of the car body and floor and dump the same separately of the other portion.

2. In a dumping-car, a car-body having a bottom sloping outwardly from the longitudinal center to the sides of the car, exterior discharge-doors in the sides of the car for automatically dumping the load equally on opposite sides of the car, and longitudinal partitions extending from the bottom of the car to the load-line and forming a separate pocket centrally of the car adapted to receive and hold one-half of the load, and discharge-doors in said partitions corresponding to the discharge-doors in the side of the car-body and connected with each other for joint operation independent of the exterior discharge-doors.

3. In a dumping-car, a self-dumping side-discharging car-body longitudinally divided above its sloping bottom into a central pocket adapted to receive and hold one-half the load and two side pockets adapted to receive and

hold each one-fourth of the load at a certain load-line of the car, said pockets having corresponding side discharge-doors for automatically discharging the load to opposite sides of the car respectively, the doors of the inner pocket being independently operative.

4. In a dumping-car, a car-body having a bottom sloping outwardly from the longitudinal center to the sides of the car, exterior discharge-doors in the sides of the car at the foot of the sloping bottom, corresponding interior discharge-doors forming in whole or in part partitions longitudinally dividing the car-body into a central pocket adapted to receive one-half of the load and side pockets adapted to receive each one-fourth of the load at a certain load-line of the car, separate winding-drums under the bottom of the car-body to which said outside and inside discharge-doors are respectively connected for separate operation, and a double windlass mounted on top of the car-body and adapted to operate the winding-drums independently of each other.

5. In a dumping-car, the car-body having the bottom G sloping outwardly from the center to the sides, the outside discharge-doors D thereof, the winding-drum Q to which said doors are connected, the transverse partitions C C' dividing the car-body into compart-

ments, the beams L longitudinally supported above the car-bottom on opposite sides of the center, the discharge-doors M hinged to said beams, the drums P to which said doors are connected for joint operation, the partition-boards O detachably secured above the beams L, and the double windlass R mounted above the partitions C C' centrally of the car.

6. In a dumping-car, the combination with a car-body having side discharge-doors, and a bottom sloping outwardly from the center toward said doors, and adapted to automatically discharge the load on opposite sides of the car in like halves on opening the doors, and longitudinal partitions adapted to divide the load in loading the car along its longitudinal center to the height of said partitions for the purpose of retaining one-half of the load in the center of the car in dumping, said partitions having independent discharge-doors corresponding to the discharge-doors in the sides of the car-body and means for adjusting the partitions to different load-lines.

In testimony whereof I affix my signature in presence of two witnesses.

AUGUSTUS TORREY.

Witnesses:

GEO. E. TEGART,
HENRY RUSSEL.