

No. 731,783.

PATENTED JUNE 23, 1903.

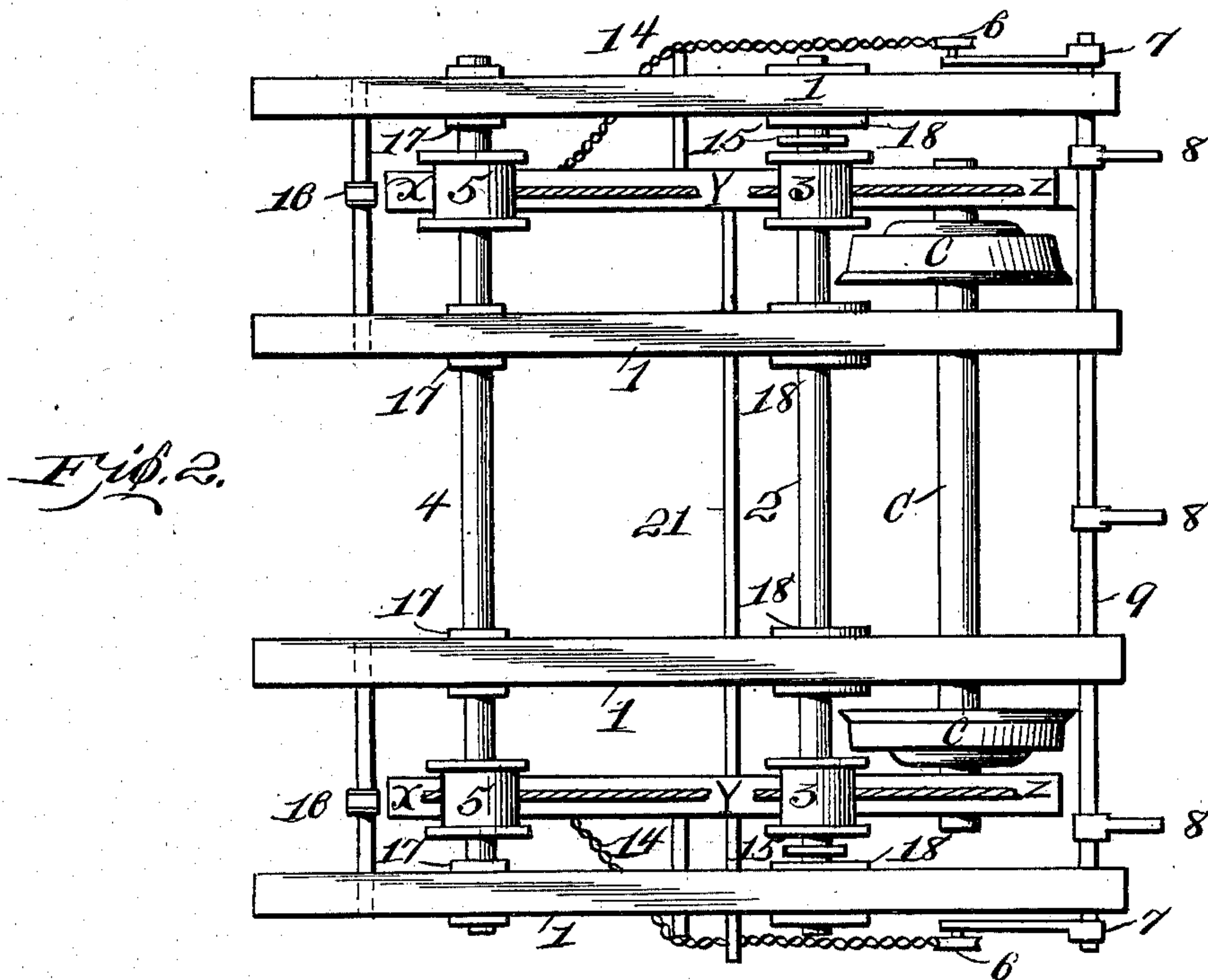
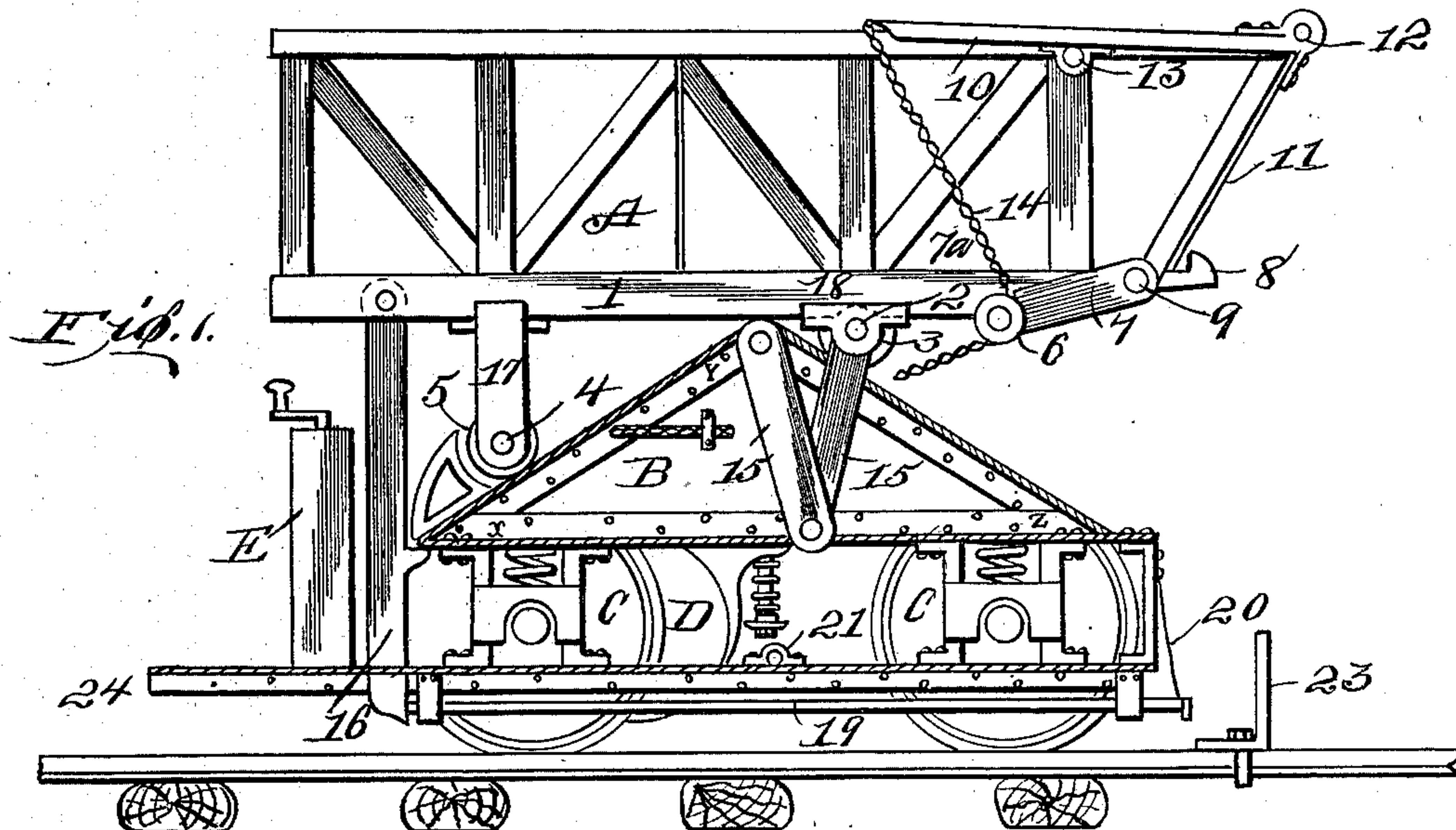
V. P. KELLER.

SELF PROPELLING AUTOMATIC DUMPING CAR.

APPLICATION FILED SEPT. 26, 1902.

NO MODEL

2 SHEETS—SHEET 1.



Witnesses  
*J. E. Wilson*  
*Will H. Crowley*

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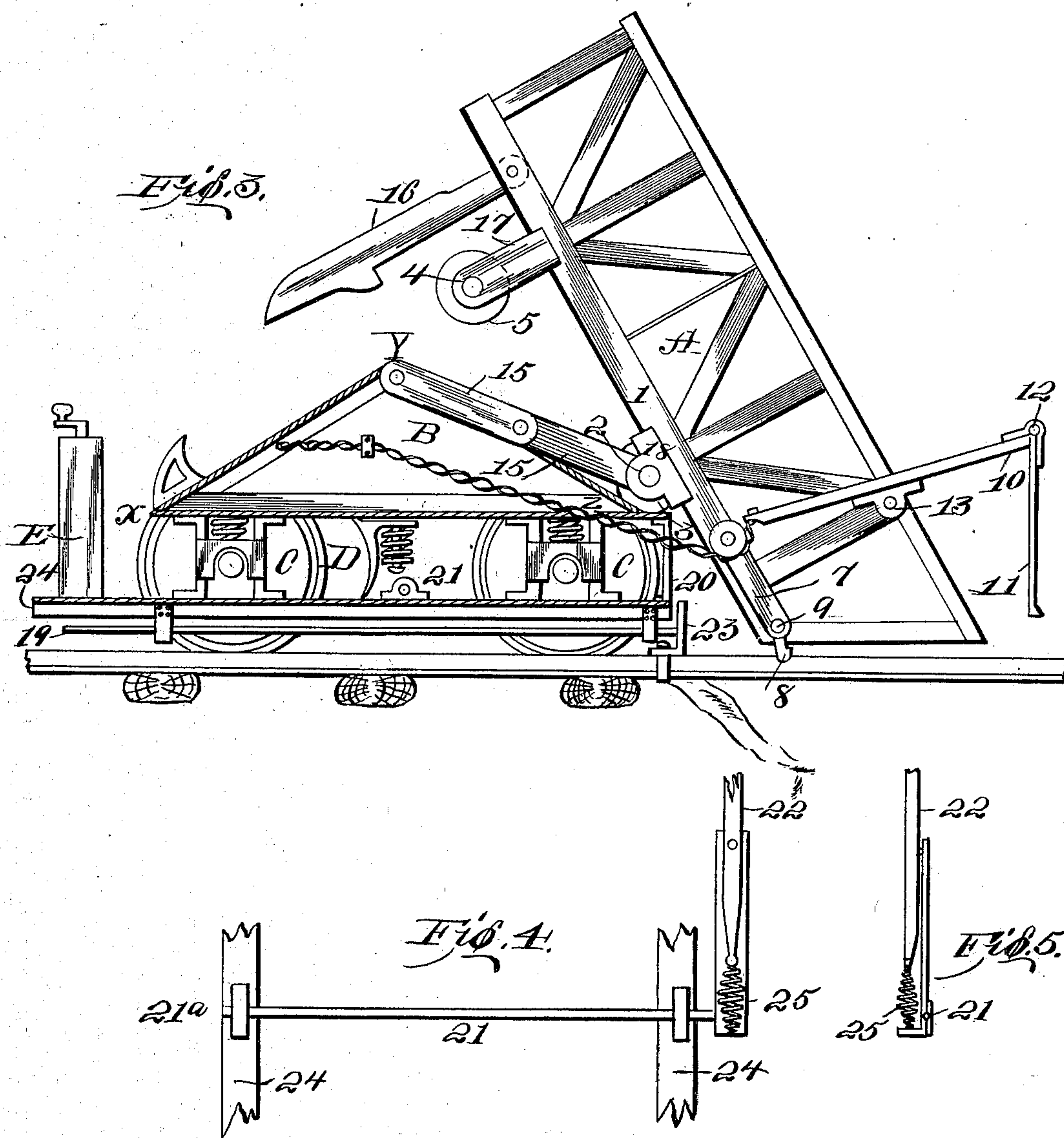
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NO MODEL.

2 SHEETS—SHEET 2.



Witnesses  
*A. Wilson*  
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# UNITED STATES PATENT OFFICE.

VOLNEY PAINE KELLER, OF MERCHANTVILLE, NEW JERSEY.

## SELF-PROPELLING AUTOMATIC DUMPING-CAR.

SPECIFICATION forming part of Letters Patent No. 731,783, dated June 23, 1903.

Application filed September 26, 1902. Serial No. 125,008. (No model.)

*To all whom it may concern:*

Be it known that I, VOLNEY PAINE KELLER, a citizen of the United States, residing at Merchantville, in the county of Camden and State of New Jersey, have invented a new and useful Self-Propelling Automatic Dumping-Car, of which the following is the specification.

My invention relates to that class of railroad-cars that are used in the construction of railroads, grading streets, digging canals, or anywhere else where earth or rocks are to be moved a limited distance and is supposed to run on a railroad-track from points not very far apart, as from a cut to a fill. Its efficiency is in the celerity with which it moves from point to point and the rapidity of its discharge, as when it is filled with earth, preferably from an overhead hopper, it carries its load quickly to the dumping place and discharges it almost instantly and automatically. I accomplish this, first, by putting a motor (preferably an electric motor) on the car-axle, making it independent of any other power for its movements and speed; second, by the ease of dumping its load by the help of gravity and momentum; third, by the automatic method of releasing the car-body from the truck and opening and removing the end-gate out of the way of the material that is being discharged. I attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of car. Fig. 2 shows plan of car with the body broken away excepting the sills 1 thereof. Fig. 3 shows car's position after it has been dumped. Figs. 4 and 5 show trolley spring and pole.

Similar symbols refer to similar parts throughout the different views.

**Car-body construction.**—Fastened to and under the frame of the body are eight axle bearings or boxes 17 and 18. These bearings or boxes should be so distributed that the greatest weight is on the front axle 2. On each of these axles are two double-flanged wheels 3 and 5, securely fastened. On the forward axle 2 are also two links 15, one on each side. These are loose and turn on the axle. On the rear end of the body are also secured two latches 16 for holding body in position on truck. Across and under the front end of the body runs a shaft 9, carry-

ing three pawls 8 for holding the end-gate shut. On each end of this shaft is fastened a lever 7, by which the shaft and pawls can be moved. On each side of body and forward are fastened two levers 10. To the forward end of each lever is hinged the end-gate, and to the other end is secured a rope or chain 14, which passes down and over pulley 6 and is fastened to the truck-body B. This chain controls the motions of the levers 10 and end-gate 11 and also the motions of levers 7 and pawls 8, all of which will be more specifically described.

**Truck construction.**—The body of the truck rests on axles and wheels C, boxes and springs, as generally used in railroad or trolley car practice; also, motor D, attached to car-wheels in the usual manner. The top of truck B is made in the shape of a triangle, (preferably out of metal plates and angles.) The idea is to form two incline rails or tracks X Y and Y Z, on which the double-flanged wheels 3 and 5 will run. The links 15 are hinged to the top part of the truck. The bottom part of truck 24 carries platform for attendant to stand on and holds controller E. On this part of truck is also fastened a trolley-spring 21 and the push-rod 19.

**Trolley pole and spring construction.**—The trolley-spring 21 rests on lower part of truck-frame 24 and is made of a single or double piece of steel of suitable strength and stiffness, so that one end of 21 is securely fastened, as at 21<sup>a</sup>, the other end moving free in its bearing. It depends entirely on the torsion of the bar to furnish the contact of the trolley-wheel to its wire. The spring 25 is to allow a small variation to the trolley-pole 22 and tends to hold it normal to the upright part of spring 21.

**Manner of working.**—The car having received its load and moved by motor to its dumping-point, as at stop or obstruction 23, Fig. 3, an obstruction is placed on the track at this point—say a piece of angle-iron fastened to the track. As the car moves slowly up to this obstruction and against it the first point touched is the push-rods 19, which are held back in place by the springs 20. This being forced forward pushes the latch 16, which it is against, far enough to free it from its catch. By this time the car has moved against



the stop 23, which brings the car to a full stop; but the car-body having nothing to hold it moves forward by its momentum, and it continues to move by the force of gravity down the incline Y Z with accelerated speed by having the excess of cumulative weight thrown on the front wheels 3. Now while the front wheels are running down the incline Y Z the hind wheels are running up incline X Y, thereby tilting it sufficiently to effect the discharge. As the car-body starts forward the chain 14 is tightened, and as pressure is brought on lever 7 it moves toward the lever 10 until it comes against a stop 7<sup>a</sup>. By this movement of lever 7 the pawls 8 become disengaged and the end-gate swings out and the continued pulling on chain 14 by the car-body's forward motion brings the end of lever 10 to pulley 6, which moves the gate entirely out of the way. (See Fig. 3.) The car-body in its forward movement is stopped by links 15, and this sudden stopping helps to jar loose any adhering masses of earth, so the whole load can be discharged *en masse*.

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

1. The combination in a self-propelling automatic dumping-car, of flanged car-wheels on car-axles, attached to a car-body in such a manner that the forward pair of wheels carry more than half the load, combined with a car-truck provided with incline tracks on which said flanged wheels move substantially as set forth.

2. The combination in a self-propelling automatic dumping-car, of a car-truck provided with incline tracks, a car-body provided with flanged wheels which run on said incline tracks and stop-links 15 connecting the car-body and car-truck, as shown and for the purpose described.

3. The combination in a self-propelling automatic dumping-car, of a car-truck provided with incline tracks, a car-body having flanged wheels running thereon, a latch-bar for holding the car-body firmly to the track, a push-rod 19 for disengaging the latch-bar, a spring 20 to hold push-rod 19 in place as set forth.

4. The combination in a self-propelling, automatic dumping-car, of a car-truck having inclined tracks thereon, a car-body with flanged wheels running on said incline tracks, a swinging end-gate, means for holding the same closed, levers by which end-gate is moved, means for simultaneous moving levers and releasing gate-fastenings, substantially as described and for the purpose set forth.

5. The combination with an automatic dumping-car body, of a truck, comprising a frame, tracks mounted upon the frame and inclining from a central point toward the ends of the truck and adapted to have the car-body removably mounted thereon, and mechanism mounted in the apex of the tracks and connected to the car-body for limiting the dumping movement of the car-body.

6. The combination with an automatic dumping-car body, of a truck, comprising a frame, tracks mounted upon the frame and inclining from a central point toward the ends of the truck and adapted to have the car-body removably mounted thereon, a shaft mounted in the apex of the inclined tracks, and stop-links connected to the said shaft and to the car-body.

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

VOLNEY PAINE KELLER.

Witnesses:

MARY A. KELLER,  
HENRY R. ZESINGER.