

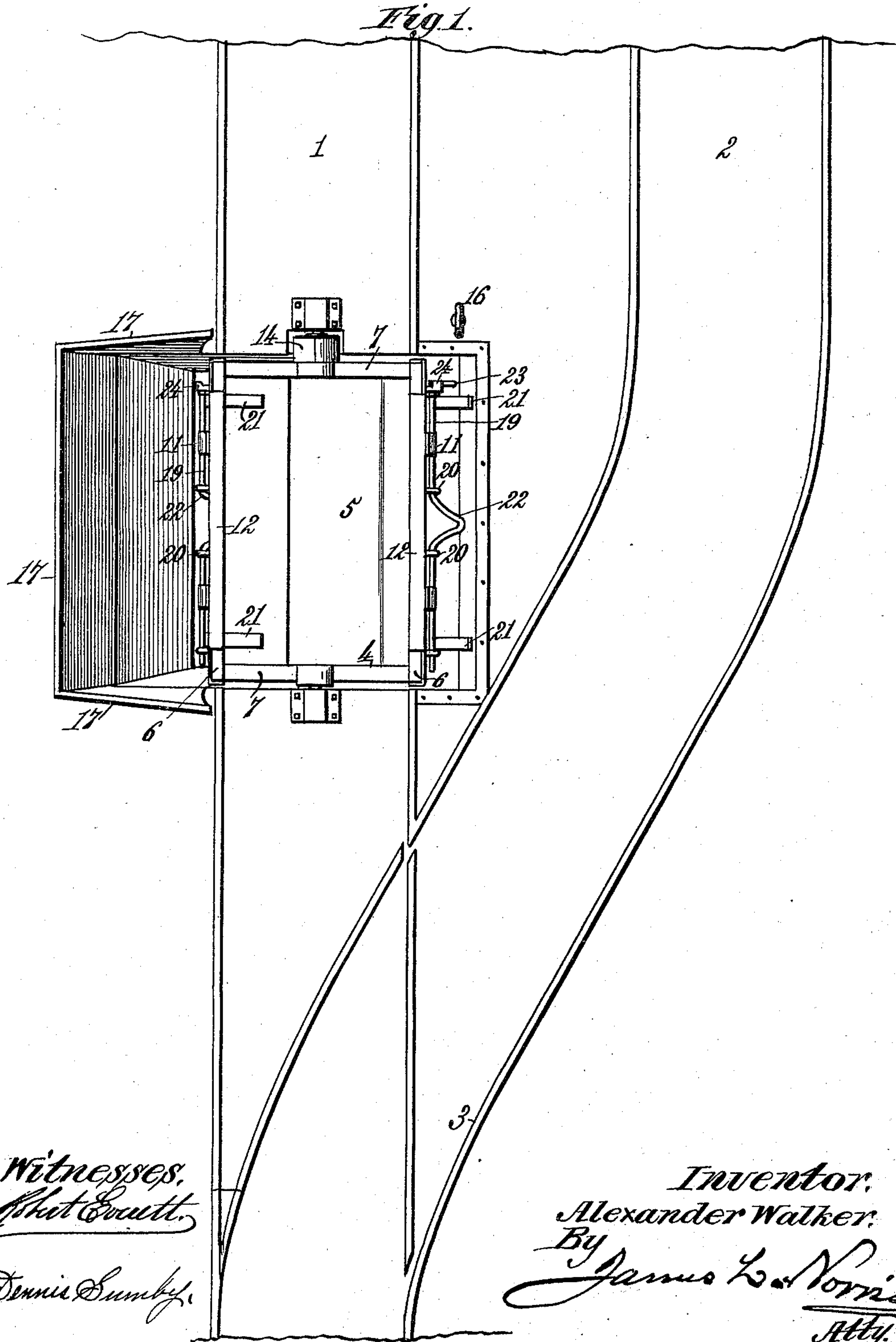
(No Model.)

2 Sheets—Sheet 1.

A. WALKER,
CAR DUMPING APPARATUS.

No. 535,647.

Patented Mar. 12, 1895.



Witnesses,
Robert E. Smith,

Dennis C. Smith,

Inventor,
Alexander Walker,
By *James L. Norris,*
Atty.

(No Model.)

2 Sheets—Sheet 2.

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Fig. 2.

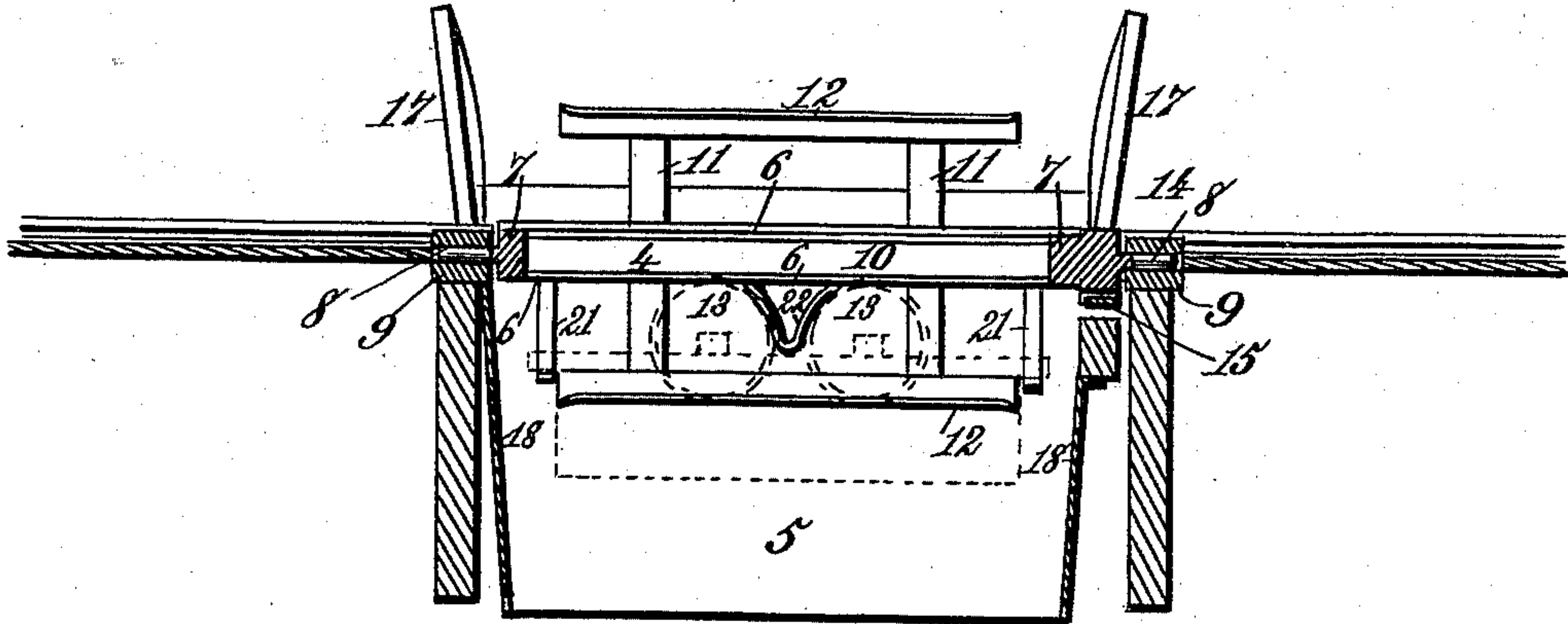


Fig. 3.

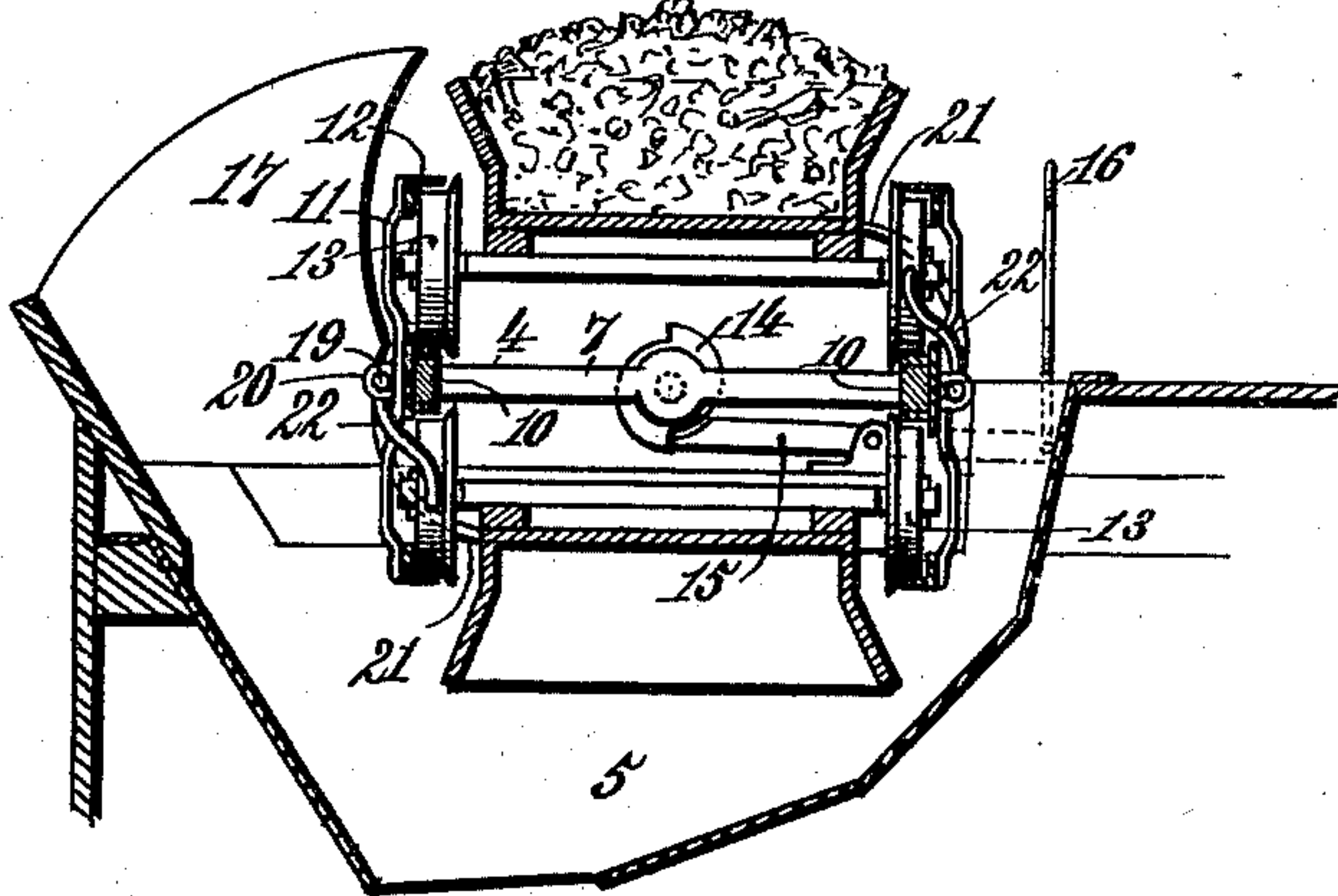
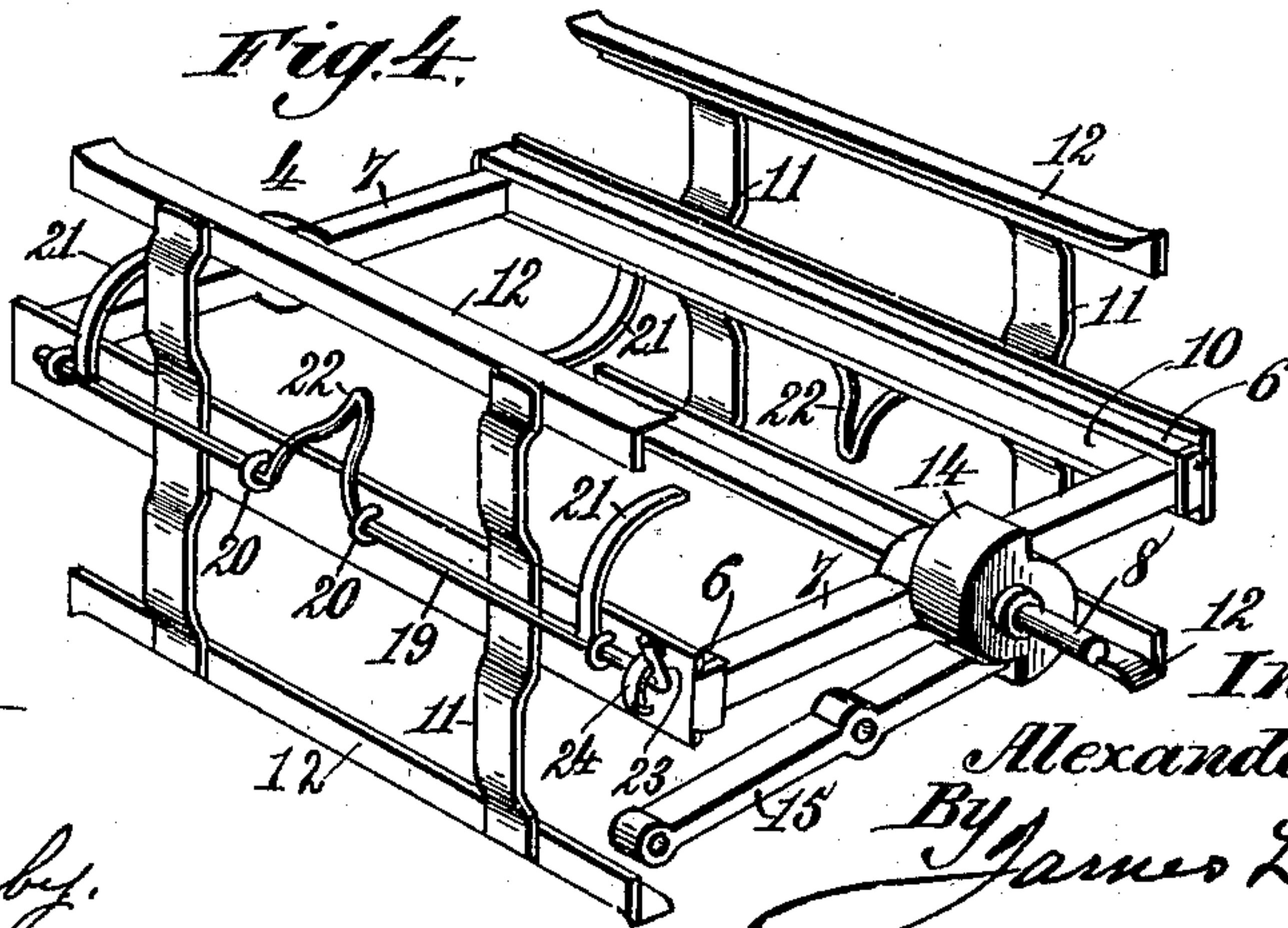


Fig. 4.



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UNITED STATES PATENT OFFICE.

ALEXANDER WALKER, OF WHAT CHEER, IOWA.

CAR-DUMPING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 535,647, dated March 12, 1895.

Application filed December 5, 1894. Serial No. 530,912. (No model.)

To all whom it may concern:

Be it known that I, ALEXANDER WALKER, a citizen of the United States, residing at What Cheer, in the county of Keokuk and State of Iowa, have invented new and useful Improvements in Car-Dumping Apparatus, of which the following is a specification.

This invention relates to car-dumping apparatus particularly adapted to the quick and easy dumping of cars at coal mines and at points of shipment, transfer or storage for coal, gravel, stone and other commodities and to facilitate an economical handling of the same.

The objects of my invention are to provide a dumping apparatus onto which a loaded car may enter from either direction and, when emptied, be pushed off in the same direction by a succeeding loaded car, and so on, the empty cars to be transferred over a switch to another track for returning them to the point of departure; to provide a simple arrangement of guards or lock bars to engage the car wheels and hold the cars onto the tilting track section without at any time interfering with a continuous passage of cars over said track section; also to provide an efficient and simply operated brake and stop for the tilting track section; and further to simplify and improve the operation of a car dumping apparatus for the cheap and economical handling of coal and other material.

My invention consists in the features of construction and novel combination of parts in an apparatus for dumping railway cars, as hereinafter more particularly described and claimed.

In the annexed drawings illustrating the invention—Figure 1, is a plan of my improved car dumping apparatus, with railway tracks. Fig. 2, is a vertical longitudinal section of the dumping apparatus. Fig. 3, is a vertical transverse section of the same. Fig. 4, is a separate view of the dumping or tilting track section with brake and stop mechanism.

The numerals 1 and 2 designate parallel railway tracks connected through a switch track 3. In one of the parallel tracks is constructed a tilting track-section 4 arranged

above a chute 5 for conducting a dumped car load to any desired point.

The tilting track section 4 consists of a rectangular frame provided with track rails 6 both on its upper and lower sides. On the end cross bars 7 of this tilting track section are trunnions 8 journaled in bearings 9 between the main track. To the outer vertical surfaces of the side bars or stringers 10, comprised in the tilting track section, are secured arms 11 that carry flanged guards or lock bars 12 which are angular in cross section and adapted to engage over the car wheels 13, outside their flanges, in such manner as to hold the car onto the track section and support it in an inverted position when the load is dumped. Each of the track rails 6 on the tilting track section may be slightly depressed below the main track to assist in holding the uppermost car when rolled onto the said tilting track section. The car is dumped by giving a slight impulse to the tilting track section 4, so that the contents of the car will pass out over the car side and thence to the chute. Thus the car does not need to be provided with doors nor removable sides or sections and the dumping of the load is effected instantaneously or as soon as the center gravity is disturbed by the impulse given to the tilting track section, by an attendant.

On one of the trunnions 8 is a ratchet wheel 14 the under side of which is normally engaged by a pivotally supported brake 15 having attached to one end a vertically projecting lever 16 through which the rotation of the tilting track section 4 can be controlled. This brake 15 will also act as a stop pawl to engage one of the teeth of the ratchet wheel 14 and thereby arrest the further rotation of the tilting track section 4 when it has completed a half revolution. A loaded car being in position upon the tilting track section 4, the brake lever 16 may be pulled upward sufficiently to release the brake or stop pawl 15 from the teeth of the ratchet wheel. Under a slight impulse the tilting track section may now be partly rotated to dump the loaded car, the brake lever 16 being meanwhile pushed down to force the brake 15 upward against the un-

toothed portion of the ratchet wheel 14 and thereby control the speed of dumping. As soon as the tilting track section 4 has made a half revolution its movement will be arrested
 5 by engagement of the brake or pawl 15 with one of the ratchet teeth, and the emptied car will thus be left in an inverted position as the now uppermost track of the tilting track section is brought into alignment with the main
 10 track, in readiness to receive a loaded car. On repeating the above described operation, the dumping of the loaded car will bring the previously emptied car again to the surface, in an upright position, and it may now be
 15 pushed along and off from the tilting track section by the next car to be dumped. The empty cars may be moved over the switch 3 to the return track 2 and thence to the point of departure. The return of the empty cars
 20 may be accomplished by gravity if a suitable inclination is given to the return track.

The chute 5 may be of any suitable construction and may have any required inclination according to the direction in which it is
 25 desired to deliver the dumped material. At the top of the chute there may be erected stationary guards 17 to prevent a scattering of the material as it is turned out or dumped from the car. When a car is in an inverted
 30 position on the under side of the tilting track section 4 it will be held thereon by the end walls 18 of the chute and cannot become disengaged until it is brought to an upright position.

It will be seen that by the arrangement of parallel tracks communicating over a switch at a point beyond the tilting track section the emptied cars will not at any time be in the way of the loaded ones so as to cause any delay in dumping. The construction of the
 40 tilting track section is such that it will not in any way interfere with the continuous passage of cars over it, if so desired; and its operation is smooth and efficient, so that it can be readily and easily controlled for the economical handling of coal, or other material, at mines or elsewhere.

If desired, the tippie or tilting track section may be provided on each side with an
 50 arrangement of adjustable stops to hold the cars from endwise displacement on the tippie when revolving to and from the dumping position.

In Figs. 1 and 4, I have shown, for instance,
 55 on each side of the tippie a rock shaft 19 journaled in bearings 20 on the sides of the tilting track section. Each rock shaft 19 is provided near its ends with arms 21 that have their outer ends bent in such manner as to clasp over the bumper beams of the cars when the shafts are rocked in the proper direction.
 60 At or near its center each rock shaft 19 is bent or cranked in such manner as to form a stop arm 22 that will come between and in contact

with the wheels of the car track at the same
 65 time that the shaft 19 is rocked in the proper direction to cause its arms 21 to engage the bumpers, and thus by means of these stop arms 21 and 22 the car will be held safely from running off at either end of the tippie
 70 while it is being revolved. A lever arm 23 on one end of each rock shaft will afford means for operating the stops; and a segment rack 24, or any other suitable device, may be provided to lock the rock shaft in the position to
 75 which it may be turned. The rock shafts on opposite sides of the tippie will have their arms normally projecting in reverse directions, or upward on one rock shaft and downward on the other. Before running a car
 80 onto the tippie the proper rock shaft will be turned so as to throw its arms 21 and 22 outward, thus permitting the car wheels to pass under and into engagement with the guards or lock bars 12 and the rock shaft 19 will then
 85 be turned back. The clasp of the stop arms 21 over the bumper beams and the engagement of the stop arm 22 between the truck wheels will now securely lock the car and prevent any endwise movement thereof
 90 on the tippie, or tilting track section, while the latter is revolved in the operation of dumping.

It is obvious that the mouth of the chute may be located at either side of the track and the stop and brake mechanism be so arranged as to permit the operation of the tippie in either direction, to the right or left.

What I claim as my invention is—

1. In a car dumping apparatus, the combination with a tilting track section or frame
 100 having track rails on its upper and lower sides, of vertical arms secured to the side bars or stringers of said frame and projecting above and below the same, and the longitudinally extended guards or lock bars secured to
 105 the ends of said arms and adapted to engage the wheels of a car to support it in an inverted position on rotation of the tilting frame and to permit the car to enter and leave the track section from either end, substantially
 110 as described.

2. In a car dumping apparatus, the combination with parallel railway tracks connected by a switch, and a chute leading from beneath one of said tracks adjacent to the chute,
 115 of a tilting track section arranged over the chute to operate in the upper portion thereof and provided on opposite sides, both above and below, with horizontal longitudinally extended guards or lock bars to engage the
 120 wheels of a car in such manner as to support it in an inverted position and adapted to permit the upright car to enter and leave the tilting track section from either end, substantially as described.

3. In a car dumping apparatus, the combination with a tilting track section having parallel longitudinally arranged guards or lock
 125

bars 12 on opposite sides both above and below to engage the wheels of a car and support it in an inverted position, of the longitudinally arranged rock shafts 19 journaled to opposite sides of the tilting track section and each provided near the ends with stop arms 21 adapted to clasp the bumper beams of a car and each having a central stop arm 22 to engage between the wheels of a car, the said stop arms on the respective rock shafts being

arranged to project in opposite directions, substantially as described.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

ALEXANDER WALKER.

Witnesses:

WM. TAYLOR RAMSAY,
WILLIAM THOMPSON.