

944,284.

Fig. 3

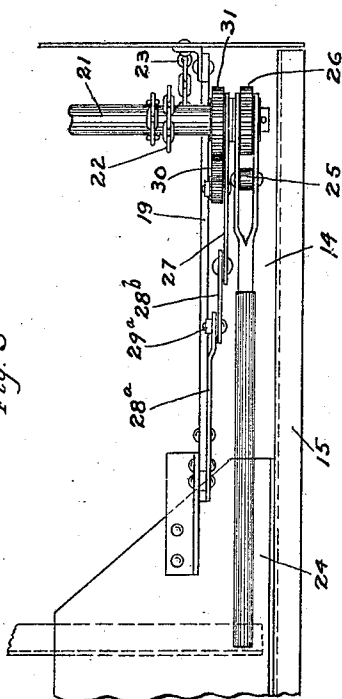


Fig. 4

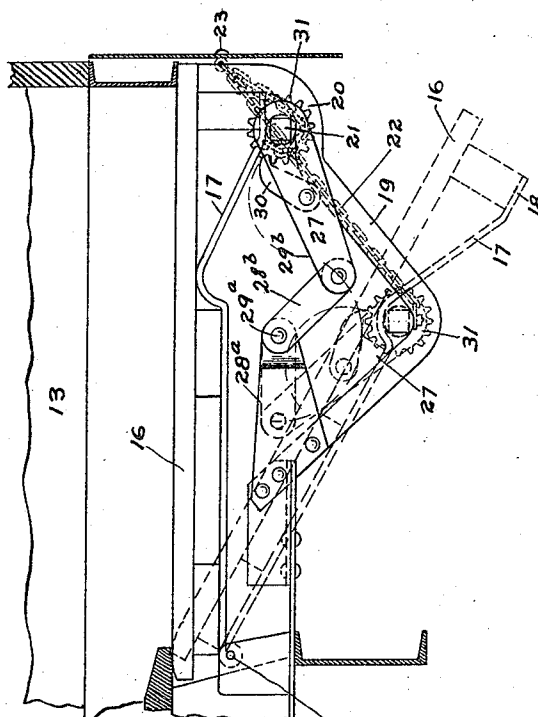


Fig. 1

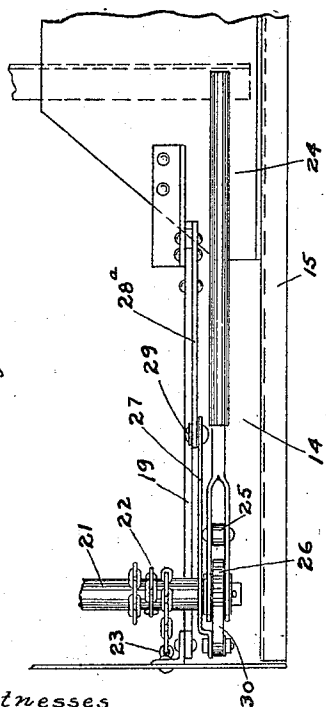
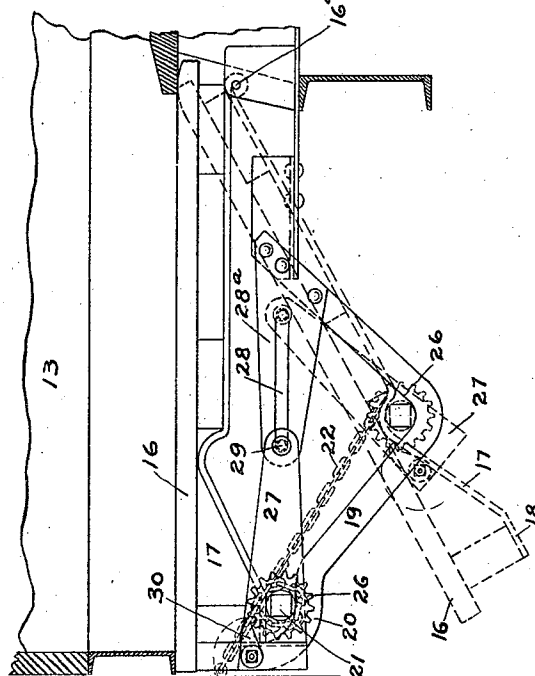


Fig. 2



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UNITED STATES PATENT OFFICE.

FREDERICK SEABERG, OF CHICAGO, ILLINOIS, ASSIGNOR TO NATIONAL DUMP CAR COMPANY, A CORPORATION OF MAINE.

DUMP-DOOR-OPERATING MECHANISM.

944,284.

Specification of Letters Patent.

Patented Dec. 28, 1909.

Application filed March 12, 1908. Serial No. 420,650.

To all whom it may concern:

Be it known that I, FREDERICK SEABERG, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Dumping-Door-Operating Mechanism, of which the following is a specification.

The object of my invention is to provide a new and improved mechanism for controlling and operating the dumping doors of dump cars.

A particular object of my invention is to provide mechanism to be used in connection with a reciprocating or creeping shaft by which to hold the shaft in any intermediate position and especially to hold it locked when it is in a position corresponding to a closure of the dumping doors.

These objects and various others will be made apparent in the following specification and claims taken in connection with the accompanying drawings, in which—

Figure 1 is a top plan view of my improvement as it would appear if the car floor were removed. Fig. 2 is an end elevation partly in section. Figs. 3 and 4 are views of a modification corresponding respectively to Figs. 1 and 2.

The particular embodiment of my invention, which I have illustrated in the drawings, is adapted to be used with a gondola car having a flat bottom comprising dumping floor sections. The car body is represented by the reference number 13. There is an opening 14 in the end sill 15, through which access may be had for the purpose of operating the doors, as will appear from the subsequent description.

One of the dumping floor sections is shown by full lines in closed position as indicated by the reference numeral 16, and is also shown by dotted lines in its open position as indicated by the same character. It is hinged longitudinally near the center of the car at 16^a. On its under side an inclined track 17 is attached, formed of a strap or sheet of iron. At its outer extremity this track has the short portion 18 parallel with the surface of the door 16. Rigidly supported underneath the car is the transverse inclined track 19 having a level portion 20 at the outer end thereof. A longitudinal shaft 21 rests upon this and similar tracks parallel therewith at different points along the length

of the car. A chain 22 is attached by one end to the longitudinal shaft 21 and after being wrapped more or less about the said shaft its other end is attached at the point 23 near the outer end of the inclined track 19. A lever 24 is mounted on the end of the shaft 21 so as to rotate freely thereon. This lever carries a pawl 25 which is adapted to engage a ratchet wheel 26, the latter being fixed on the shaft 21.

Referring to Figs. 1 and 2, a creeper consisting of a plate 27 of sheet metal, having the general shape of a quadrilateral, is provided. This creeper has a rotatable engagement at one end thereof with the shaft 21, as shown. Near its opposite end it has a pin 29 in engagement with a fixed slot 28 in a projecting member, 28^a attached to the framework of the car. The creeper 27 has pivoted thereto a dog 30, which is adapted to engage the ratchet wheel 26.

Assuming that the door is closed, the various moving parts will have the positions indicated in full lines in Fig. 2. Immediately above the shaft 21 is the level portion 18 of the track 17 which is affixed to the under side of the door 16. Thus it will be seen that the door through its attached track 18 is supported by the shaft 21, which in turn is supported by the level portion 20 of the fixed track 19. When it is desired to open the dumping door 16 the dog 30 is thrown over from the position shown in Fig. 2 to a reverse position. Then by means of the lever arm 24 the shaft is rotated counter-clockwise as viewed in Fig. 2. This movement unwinds the chain 22 from the shaft 21 and permits the shaft by rolling in contact with the track 18 and sliding on the track 20 to move toward the center of the car until it passes out from between said opposed tracks 18 and 20. Thereafter the weight of the door 16 and whatever load may be above it will cause the door to open, the track 17 pushing the shaft 21 down the track 19 until finally the moving parts will assume the positions indicated in dotted lines in Fig. 2. During this movement the pin 29 on the creeper 27 will slide in the fixed slot 28. Whenever it is desired to close the doors 16 from the dotted position the pawl 25 and the dog 30 are reversed from the positions just described. Then a clockwise movement of the lever 24 winds the shaft 21 into the chain 22, thus advancing

ing said shaft upon the inclined track 19. While the lever 24 is being returned to take a fresh stroke, its pawl 25 moving idly over the ratchet wheel 26 at this time, the shaft 5 21 is held against backward rotation by the dog 30 on the creeper 27 and the creeper in turn is held against rotation by its pin 29 in engagement with the fixed slot 28. Finally the shaft 21 will have completely closed the 10 door and lie on the level part 20 of the inclined track 19, locked by the dog 30.

It will be observed that I have provided means for shifting the longitudinal shaft 21 by direct rotation thereof and that I have 15 provided means which is adapted to hold the shaft against backward rotation at any stage. This last named means is the dog 30 which is mounted upon the creeper 27. The latter has a rotatable engagement with the 20 shaft 21, but is prevented from rotation by also engaging a fixed part of the car.

Referring to the modification illustrated in Figs. 3 and 4, this has a general resemblance to the form already described. But 25 the pin and slot connection for the creeper 27 is replaced by a link 28^b which engages the brackets 28^a at the pivotal point 29^a and engages the creeper 27 at the pivotal point 29^b. This modification also has two separate 30 ratchet wheels 26 and 31 fixed on the shaft 21. The ratchet wheel 26 is adapted

to be engaged by the pawl 25 and the ratchet wheel 31 is adapted to be engaged by the pawl 30.

I claim:

1. In a dump car, a door supporting shaft adapted to be reciprocated by rotation thereof, an inclined supporting track for said shaft, a ratchet wheel secured to said shaft, a creeper pivoted to said shaft, a link pivotally connected to said creeper and to a fixed part of the car, a detent pivoted to said creeper and adapted to engage said ratchet, and means for rotating said shaft. 35 40

2. In a dump car, a floor provided with hinged dump doors, a door supporting shaft, a ratchet wheel secured to said shaft, an inclined supporting track for said shaft, a chain secured to said shaft and to a fixed part of the car adjacent the upper end of said track, a creeper pivotally mounted on said shaft, a link pivotally connected to said creeper and to a fixed part of the car, a detent pivoted to said creeper and adapted to engage said ratchet, and means for rotating said shaft. 45 50 55

In testimony whereof, I have subscribed my name.

FREDERICK SEABERG.

Witnesses:

ANNIE C. COURTENAY,
LILLIAN A. KIBBY.