Dec. 15, 1925. 1,565,966

G. N. SIMPSON

CAR DUMPER

Filed Aug. 16, 1924 4 Sheets-Sheet 1

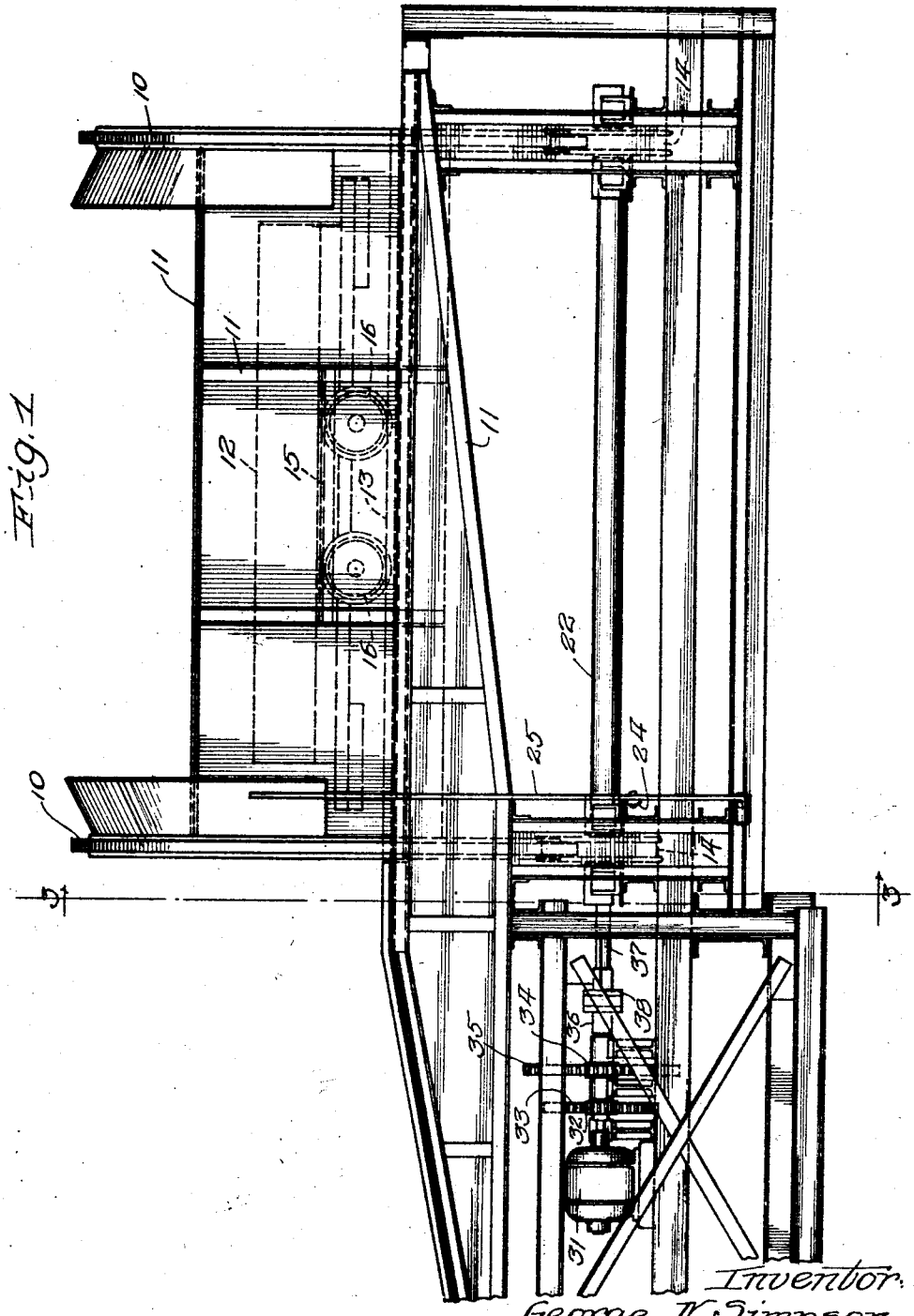


Fig. 1.

Inventor:
George N. Simpson,
By Dyrenforth, Lee, Chritton & Wiles, Attys.

Dec. 15, 1925. 1,565,966

G. N. SIMPSON

CAR DUMPER

Filed Aug. 16, 1924 4 Sheets-Sheet 2

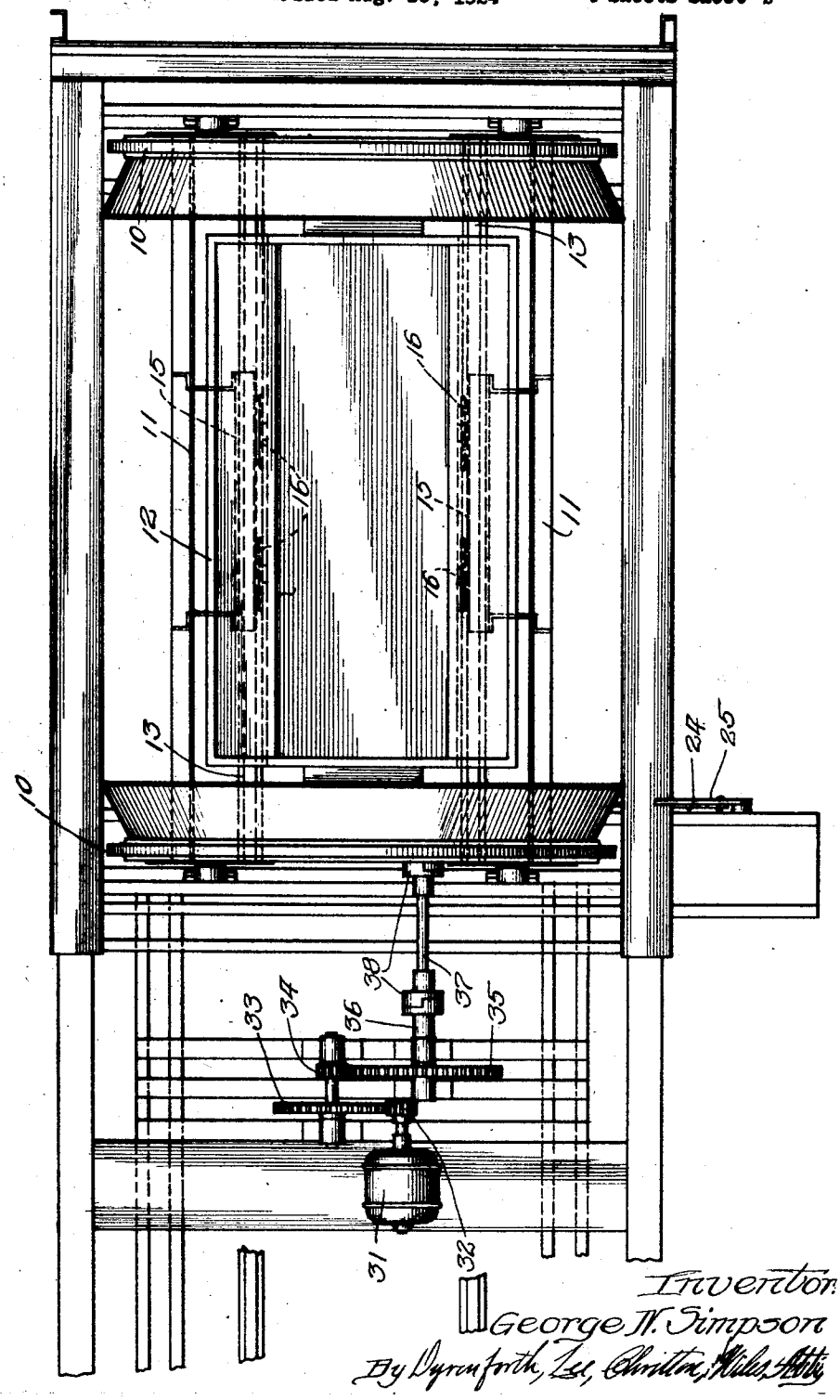


Fig. 2

Inventor:
George N. Simpson
By Dyrenforth, Lee, Christie, Miles & Ritter

Dec. 15, 1925. 1,565,966

G. N. SIMPSON

CAR DUMPER

Filed Aug. 16, 1924 4 Sheets-Sheet 3

Fig. 4.

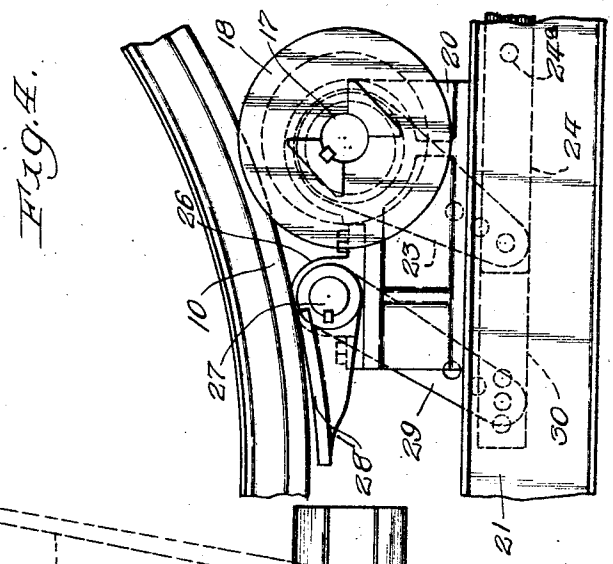
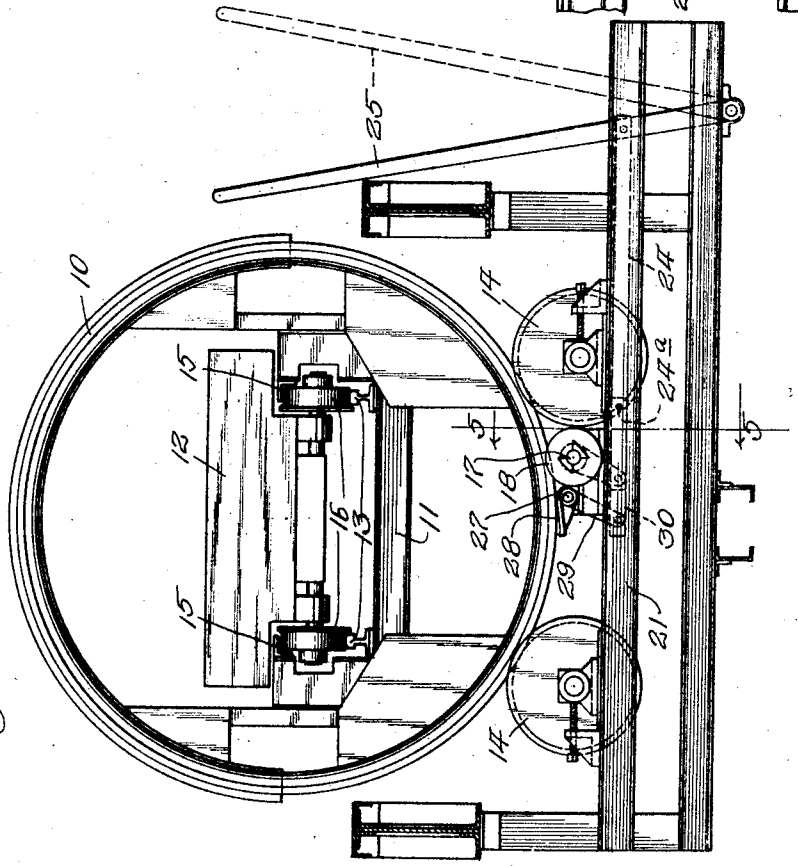


Fig. 3.



Inventor:
George N. Simpson,
By Dyrenforth, Lee, Chrisman & Miles, Attys.

Dec. 15, 1925. 1,565,966

G. N. SIMPSON

CAR DUMPER

Filed Aug. 16, 1924 4 Sheets-Sheet 4

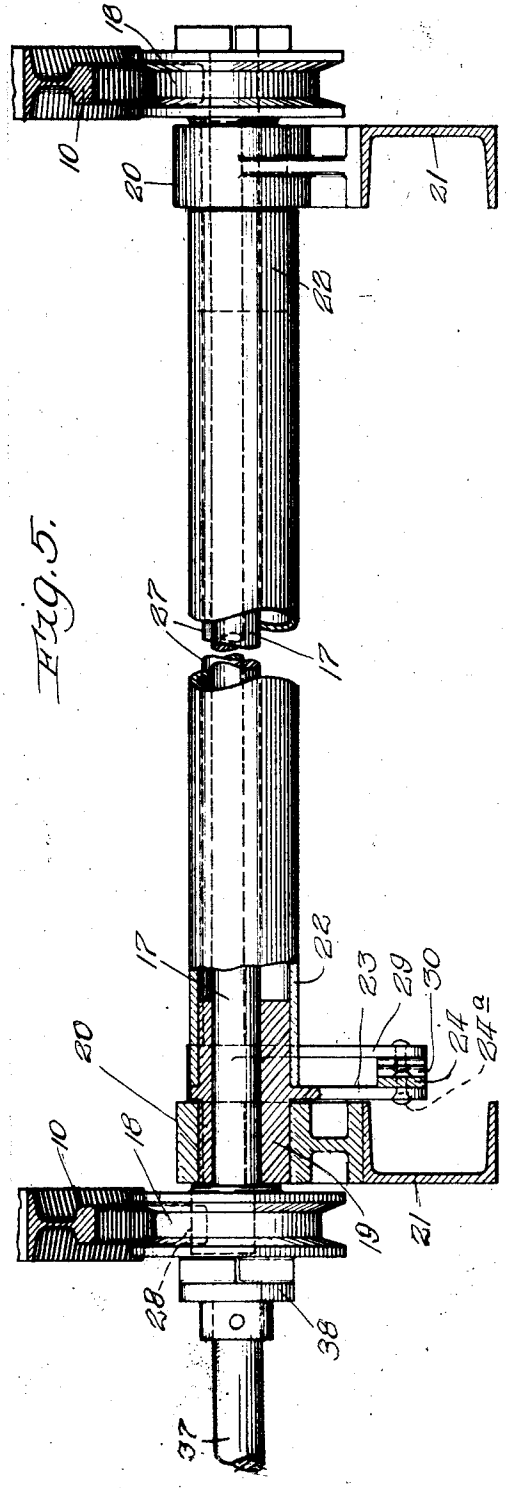


Fig. 5.

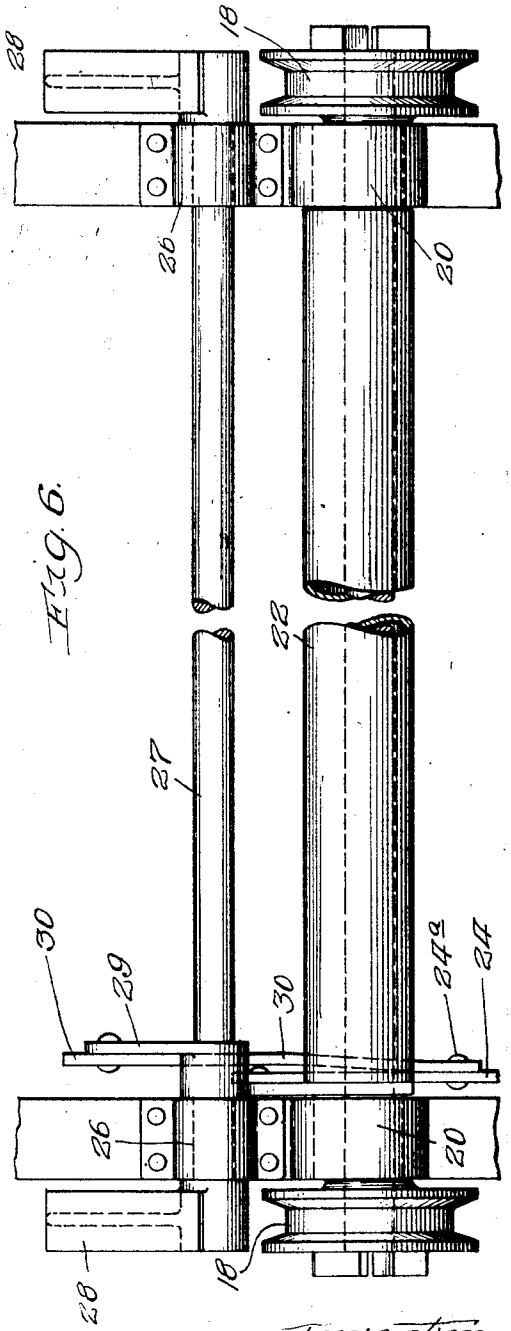


Fig. 6.

Inventor:
George N. Simpson,
By Dyrenforth, Lee, Chritton & Wiles,
Attys.

Patented Dec. 15, 1925. 1,565,966

UNITED STATES PATENT OFFICE.

GEORGE N. SIMPSON, OF CHICAGO, ILLINOIS.

CAR DUMPER.

Application filed August 16, 1924. Serial No. 732,464.

To all whom it may concern:

Be it known that I, GEORGE N. SIMPSON, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Car Dumpers, of which the following is a specification.

This invention relates to improvements in car dumpers, and more especially to that type of car dumper comprising a cylindrical rotatable cage adapted to contain a car to be dumped. In such dumpers, rotation of the cage serves to invert the car and dump the contents. My invention relates more particularly to the method and mechanism of rotating the cage, stopping the same, and the like.

My improved dumper is easy and cheap to construct and easy to operate and maintain. Its construction is strong and rugged. Other features and advantages of my invention will appear more fully as I proceed with my specification.

In that form of device embodying the features of my invention shown in the accompanying drawings, Figure 1 is a view in side elevation of a complete car dumper, Fig. 2 is a top plan view of the same, Fig. 3 is a view taken as indicated by the line 3—3 of Fig. 1, Fig. 4 is a view on an enlarged scale showing the driving wheel and brake shoe, Fig. 5 is a view taken as indicated by the line 5—5 of Fig. 3, and Fig. 6 is a top plan view showing the driving wheels and brake shoes.

As shown in the drawings, 10, 10 indicate the ring rails which are suitably joined by struts, braces, and the like 11, 11, in order to form a complete cylindrical cage adapted to contain a car 12 resting upon the rails 13, 13 in the cage. The cylindrical cage is rotatably supported on the four wheels 14, 14; a ring rail 10 resting on a pair of such wheels at each end of the cylindrical cage. Any suitable means such as angle irons 15, 15 are mounted within the cylindrical cage to occupy a position above the wheels 16, 16 of the car 12 in order to hold the same on the rails 13, 13, during the dumping operation.

I will now describe the construction and operation of the mechanism for rotating the cylindrical cage and stopping or braking the same. 17 indicates a rotatable shaft extending substantially the entire length of the cylindrical cage. On each end of the shaft 17 is mounted a driving wheel 18 adapted to engage with one of the ring rails 10. The shaft 17 with the driving wheels 18 is adapted to rotate continuously. When it is desired to rotate the cage, the driving wheels 18, 18 are moved into frictional engagement with the ring rails 10, 10. When it is desired to release the power from the cage, the driving wheels are moved out of contact with the ring rails. I will now describe the means for so moving the driving wheels 18, 18 into or out of contact with the ring rails. The ends of the shaft 17 are mounted in eccentric bearings 19, 19, which in turn are rotatably supported in blocks 20, 20, resting on the beams 21, 21. Each of the eccentric bearings 19 is circular on its outer surface where it rests in the block 20 but the circular hole in the bearing carrying the shaft 17 is eccentrically arranged. By this construction, rotation of the bearings 19, 19 in the blocks 20, 20, obviously will cause the driving wheels 18, 18 to approach or recede from the ring rails 10, 10. The two eccentric bearings 19, 19 are connected by the hollow tube 22, so that these bearings will always move together. Rotation of the eccentric bearings 19, 19, is effected in the following manner. One of these bearings carries a downwardly projecting arm 23 to which is connected a rod 24, which in turn is connected to the operating lever 25. Movement of the operating lever serves to twist the bearings 19, 19, in the blocks 20, 20, to move the driving wheels 18, 18, into or out of engagement with the ring rails 10, 10.

Mounted on the beams 21, 21, adjacent the blocks 20, 20, are also two bearings 26, 26, carrying the rod 27. On the ends of the rod 27 are two brake shoes 28, 28 adapted to be moved into or out of contact with the ring rails 10, 10, by rotation of the rod 27. The rod 27 is provided with a downwardly extending arm 29, to the lower end of which is attached a bar 30 having one end also attached to the rod 24 at 24^a. The parts are so arranged that movement of the operating lever 25 in one direction serves to rotate the bearings 19, 19 to move the driving wheels 18, 18, into frictional engagment with the ring rails 10, 10. Such movement of the operating lever serves to rotate the rod 27 to swing the brake shoes 28, 28, out of engagement with the ring rails 10, 10. Movement of the operating lever 25 in the op-

posite direction serves to draw the driving wheels 18, 18, away from the ring rails 10, 10, and thence move the brake shoes 28, 28, into contact with such ring rails to stop the momentum of the cage.

The shaft 17 carrying the driving wheels 18, 18, may be rotated in any suitable manner. I have here shown an electric motor 31 adapted for such purpose. Power is transmitted from the motor 31 through the pinions 32, 33, 34, and 35, as shown, to the shaft 36. From the shaft 36, power is transmitted to the shaft 17 by the intermediary shaft 37. The ends of the intermediary shaft 37 are provided with two jaw clutches 38, 38 in order to give the requisite flexibility, to permit the turning of the eccentric bearings 19, 19, in the blocks 20, 20, during the continuous rotation of the shaft 17.

While I have shown and described certain embodiments of my invention, it is to be understood that it is capable of many modifications. Changes, therefore, in the construction and arrangement may be made without departing from the spirit and scope of the invention as disclosed in the appended claims, in which it is my intention to claim all novelty inherent in my invention as broadly as possible in view of the prior art.

What I claim as new, and desire to secure by Letters Patent, is:

1. In combination with a cylindrical rotatable cage having ring rails mounted on supporting rollers; a driving wheel arranged adjacent one of the ring rails, said driving wheel being carried by a shaft mounted in an eccentric bearing; a brake shoe adjacent one of the ring rails and mounted on a shaft rotatably supported parallel to the shaft carrying the driving wheel; and means for simultaneously rotating the eccentric bearing to bring the driving wheel into contact with the ring rail and rocking the shaft carrying the brake shoe to move said brake shoe out of contact with the ring rail; and vice versa.

2. In combination with a cylindrical rotatable cage having ring rails mounted on supporting rollers; a pair of driving wheels arranged adjacent the ring rails and mounted on a shaft carried by eccentric bearings rotatably supported in blocks; means for rotating said bearings in said blocks; a shaft arranged parallel to the shaft carrying the driving wheels; a pair of brake shoes mounted on said last mentioned shaft arranged adjacent the ring rails; and means for rotating said shaft carrying said brake shoes.

3. In combination with a cylindrical rotatable cage having ring rails mounted on supporting rollers; a pair of driving wheels arranged adjacent the ring rails and mounted on a shaft carried by eccentric bearings rotatably supported in blocks; a shaft arranged parallel to the shaft carrying the driving wheels; a pair of brake shoes mounted on said last mentioned shaft arranged adjacent the ring rails; and means for simultaneously rotating the shaft carrying the brake shoes and the eccentric bearings in their supporting blocks.

Witness my hand and seal this 14 day of August, A. D. 1924.

GEORGE N. SIMPSON.