

(No Model.)

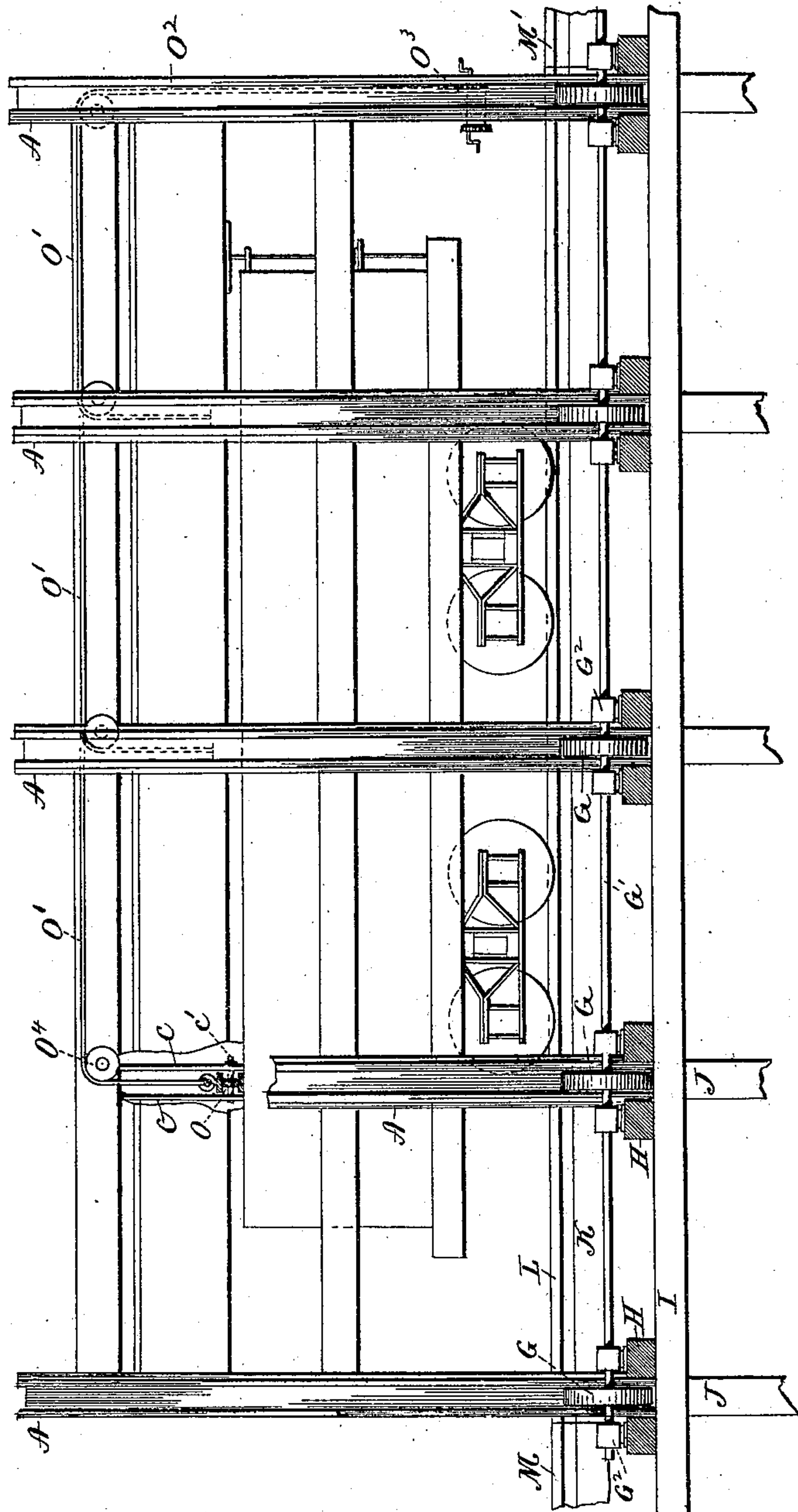
2 Sheets—Sheet 1.

E. B. WILSON.
APPARATUS FOR DUMPING CARS.

No. 477,396.

Patented June 21, 1892.

Fig. 1.



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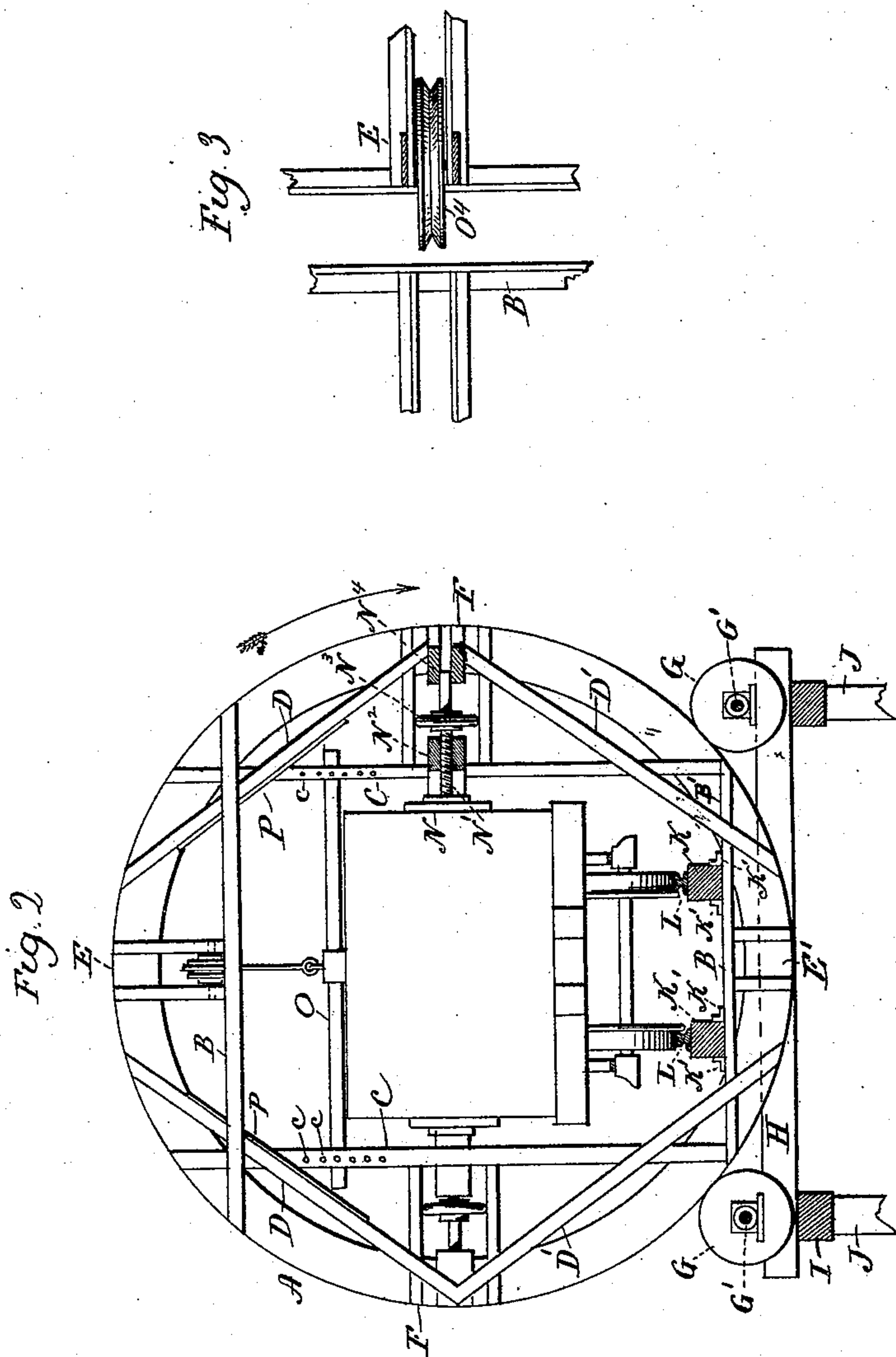
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UNITED STATES PATENT OFFICE.

EUGENE B. WILSON, OF MILFORD, CONNECTICUT.

APPARATUS FOR DUMPING CARS.

SPECIFICATION forming part of Letters Patent No. 477,396, dated June 21, 1892.

Application filed June 8, 1891. Serial No. 395,489. (No model.)

To all whom it may concern:

Be it known that I, EUGENE B. WILSON, of Milford, in the county of New Haven and State of Connecticut, have invented a new
5 Improvement in Apparatus for Dumping Railway-Cars; and I do hereby declare the following, when taken in connection with accompanying drawings and the letters of reference marked thereon, to be a full, clear, and exact
10 description of the same, and which said drawings constitute part of this specification, and represent, in—

Figure 1, a view in side elevation of a dumping apparatus constructed in accordance with
15 my invention; Fig. 2, a view thereof in end elevation; Fig. 3, a broken plan view showing the mounting of one of the pulleys on which the ropes for operating the top supports run.

My invention relates to an improvement in
20 apparatus for dumping freight-cars, the object being to provide simple and easily-handled means for removing the entire contents of a car at one operation.

With these ends in view my invention consists in a rotatable cage adapted to receive an
25 entire car and to be adjusted to the same and having certain details of construction and combinations of parts, as will be hereinafter described, and pointed out in the claims.

30 As herein shown, the main frame-work of the cage is formed by five large flanged wheels A, made in any suitable manner, but preferably composed of plates of wrought-iron riveted together and reinforced by an inside
35 frame-work (not shown) of wood. Each of these wheels is internally braced by eight pairs of parallel braces, preferably in the form of wrought-iron girders and comprising a pair of upper horizontal braces B, a pair of lower
40 horizontal braces B', two pairs of perpendicular side braces C C, two pairs of upper oblique braces D D, and two corresponding pairs of lower braces D' D'. These braces, as before explained, are riveted to the wheels and also
45 together where they cross each other. The wheels so constructed and internally braced are tied together by independent sets of horizontal ties, of which there is a set between the respective wheels. As herein shown, each
50 set of horizontal ties consists of an upper pair of ties E, a lower pair of ties E', and two side pairs F F, the said pairs being arranged at

equal distances apart, and therefore at the quarterings of the wheels. They are made in any suitable manner, but preferably consist
55 of heavy wrought-iron girders. I would have it understood, however, that I do not limit myself to any particular mode of constructing or bracing the wheels or of securing them together; but the means I have shown will
60 secure satisfactory results. The cage so constructed is supported by the flanged exterior faces of its wheels upon two horizontal series of driving-wheels G G, secured to shafts G' G', mounted in bearings G², secured to cross-
65 beams H, resting upon stringers I, attached to upright posts J. Power for rotating the shafts G' G' is transmitted to them in any convenient manner, but not shown herein. The lower pair of braces B' of the respective
70 wheels support two stringers K K, extending throughout the length of the cage and secured in place by angle-plates K' K', rails L L being mounted upon the respective stringers, so that when the cage is in its normal position they
75 will exactly align with corresponding rails M M', located at the opposite ends of the cage, and between which it may be said to be interposed. It will be readily understood from
80 this that when the cage is in its normal position a car may be run from the track into it and also out of it at the other end.

For the purpose of holding the car against lateral displacement while it is in the cage
85 each of the large wheels is provided with top and lateral supports. These may assume different forms; but, as herein shown, each of the lateral supports consists of a block N, mounted upon the inner end of a screw N', working in a nut N², bolted to the adjacent
90 pair of upright side braces C C, the said screw being provided with a hand-wheel N³ for operating it and supported at its outer end in a bearing N⁴, attached to the inner periphery of the wheel. It will be readily understood
95 that by turning the wheel N³ the block N may be moved toward or away from the center of the cage. As herein shown, the top support of each wheel consists of a girder O, arranged horizontally between the upper ends of the
100 braces of the two pairs C C of upright side braces, the said ends of said braces being provided with a vertical series of perforations c to receive locking-pins c', Fig. 1, which also

pass through suitable perforations formed in the ends of the said girder for holding the same in its adjusted positions. Provision may be made for raising and lowering these
 5 girders independently or simultaneously. As herein shown, they are all connected together by ropes or cables O' , terminating in a cable O^2 , common to them all and wound upon a drum O^3 , which when operated raises or low-
 10 ers all of the girders, according to the direction in which it is turned. The ropes or cables O' run over pulleys O^4 , mounted, as shown by Figs. 2 and 3 of the drawings, between the upper pairs of longitudinal ties,
 15 which connect the respective wheels together.

For the purpose of directing the contents of the cars into the receptacles placed below the cage to receive them I employ two long fender-
 20 plates $P P$, which are attached to the inner faces of the upper pairs of oblique braces $D D$ of the respective wheels.

In using my improved cage a loaded car is run into it and secured in place by having the
 25 side and top supports adjusted to engage with its sides and top. After these adjustments have been made the cage is rotated through the driving-shafts before mentioned, whereby the entire contents of the car are displaced, being
 30 directed into the receptacle designed for them by a chute formed by the two fender-plates mentioned. When the cage has made a quarter-turn, the main weight of the car will be thrown upon those pairs of the upright side
 35 braces C of the wheels which are carried underneath by the rotation of the cage and the side supports of the said pairs of braces. When the cage has made a half-turn, the weight of the car will be carried by the girders forming
 40 the adjustable top supports of the several wheels. After the car has been emptied the rotation of the cage is continued until it has been brought to its normal position, when the rails carried by it will be aligned with the sta-
 45 tionary track-rails $M M'$. Then the side and top supports of the wheels are disengaged from the car and the same run out of the cage. I am thus enabled to unload heavy cars with great dispatch and with a comparatively slight
 50 expenditure of power and labor. The adaptation of the cage to be adjusted to cars of different sizes makes it very comprehensive in its range of usefulness.

I would have it understood that I do not
 55 limit myself to the exact construction herein shown and described, but hold myself at liberty to make such changes and alterations therein as fairly fall within the spirit and scope of my invention. I am aware, however,
 60 that a dumping apparatus consisting of a cage or crib adapted to have a car run into it and then to be rotated to bodily invert the car and so discharge its contents is old, and I do not broadly claim such a construction.

65 Having fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In an apparatus for dumping freight-cars, a cage composed of a horizontal series of large vertically-arranged wheels, horizontal ties in- 70 terposed between and attached to the wheels to bind them together, horizontal, vertical, and oblique braces located within the wheels for stiffening them, a section of a railway located within and extending throughout the 75 length of the cage and supported upon the lower horizontal ties of the wheels, adjustable side supports mounted within the wheels in the braces thereof for engagement with the sides of the car run into the cage, adjustable 80 top supports located within the cage near the upper edges of the wheels and constituting horizontal guides, means for fastening the ends of the said guides to the braces of the wheels, and a chute located within the cage 85 and having its sides converging toward the center of the central upper point of the wheels, in combination with means for supporting and rotating the cage, substantially as described.

2. An apparatus for dumping railway-cars, 90 consisting of a cage composed of a horizontal series of large wheels arranged vertically and tied together and braced and containing adjustable side and top supports for securing the car in place and means for lifting the top 95 supports simultaneously, substantially as set forth.

3. In an apparatus for dumping freight-cars, a cage consisting of a horizontal series of large wheels arranged vertically, horizontal ties in- 100 terposed between and attached to the wheels to bind them together, horizontal, vertical, and oblique braces located within said wheels, a section of a railway extending throughout the length of the cage and located within and 105 near the lower edges of the said wheels, independently-adjustable side and top supports located within the wheels and combined with the braces thereof, the said top supports consisting of vertically-movable horizontal gird- 110 ers, fastening devices for securing the ends of the said girders to the upper ends of the vertical braces, and means located above the said girders for lifting them, in combination with means for supporting and rotating the 115 said cage.

4. In an apparatus for dumping railway-cars, a cage composed of a horizontal series of vertically-arranged large wheels, horizontal ties interposed between and attached to the 120 wheels to bind them together, internal braces for the respective wheels, a section of a railway located within the cage near the lower edges of the said wheels, independently-ad-justable side and top supports located within 125 the wheels for engagement with the sides and top of a car when it is in the cage, and fender-plates located within the cage near the upper edges of the wheels and inclined toward each other to form an open chute, in combi- 130 nation with means for supporting and rotating the wheels, substantially as described.

5. In an apparatus for dumping railway-cars, a cage composed of a horizontal series of

vertically-arranged wheels, four pairs of horizontal ties interposed between and attached to the wheels at equidistant points in the circumferences of the same to bind them together, a pair of upper and lower horizontal braces, two pairs of perpendicular braces, a pair of upper oblique braces and a pair of lower oblique braces for internally bracing each wheel, a section of railway supported by the lower horizontal braces of the several wheels, adjustable side supports for engagement with the sides of the car in the cage and vertically-adjustable girders for engagement with the top of the car, and means for attach-

ing the ends of the said girders to the upper portions of the perpendicular braces, in combination with two parallel series of small wheels upon which the large wheels rest and by which the cage is rotated, substantially as set forth.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

EUGENE B. WILSON.

Witnesses:

FRANK RIDER,
ALFRED REDDINGTON.