

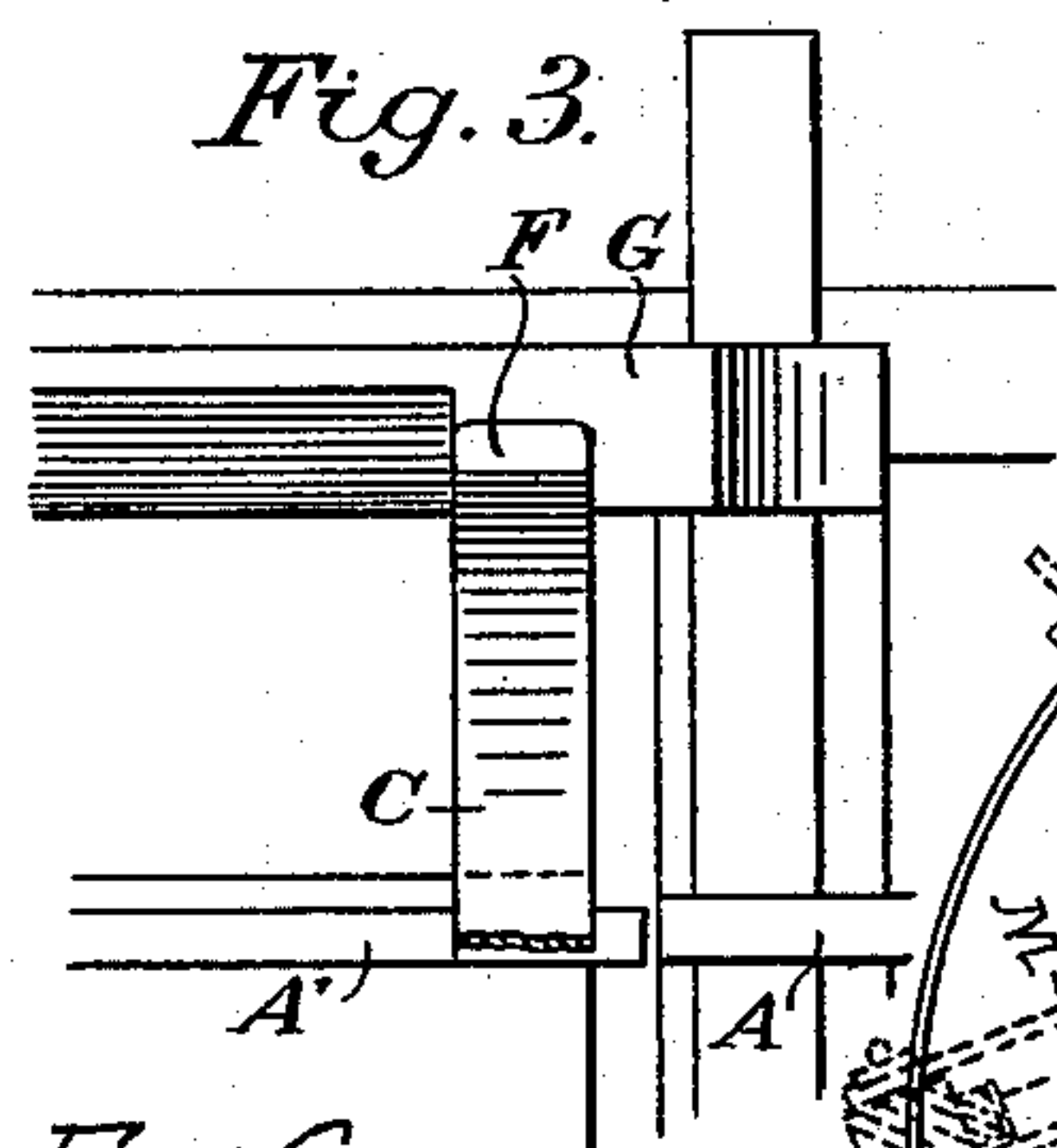
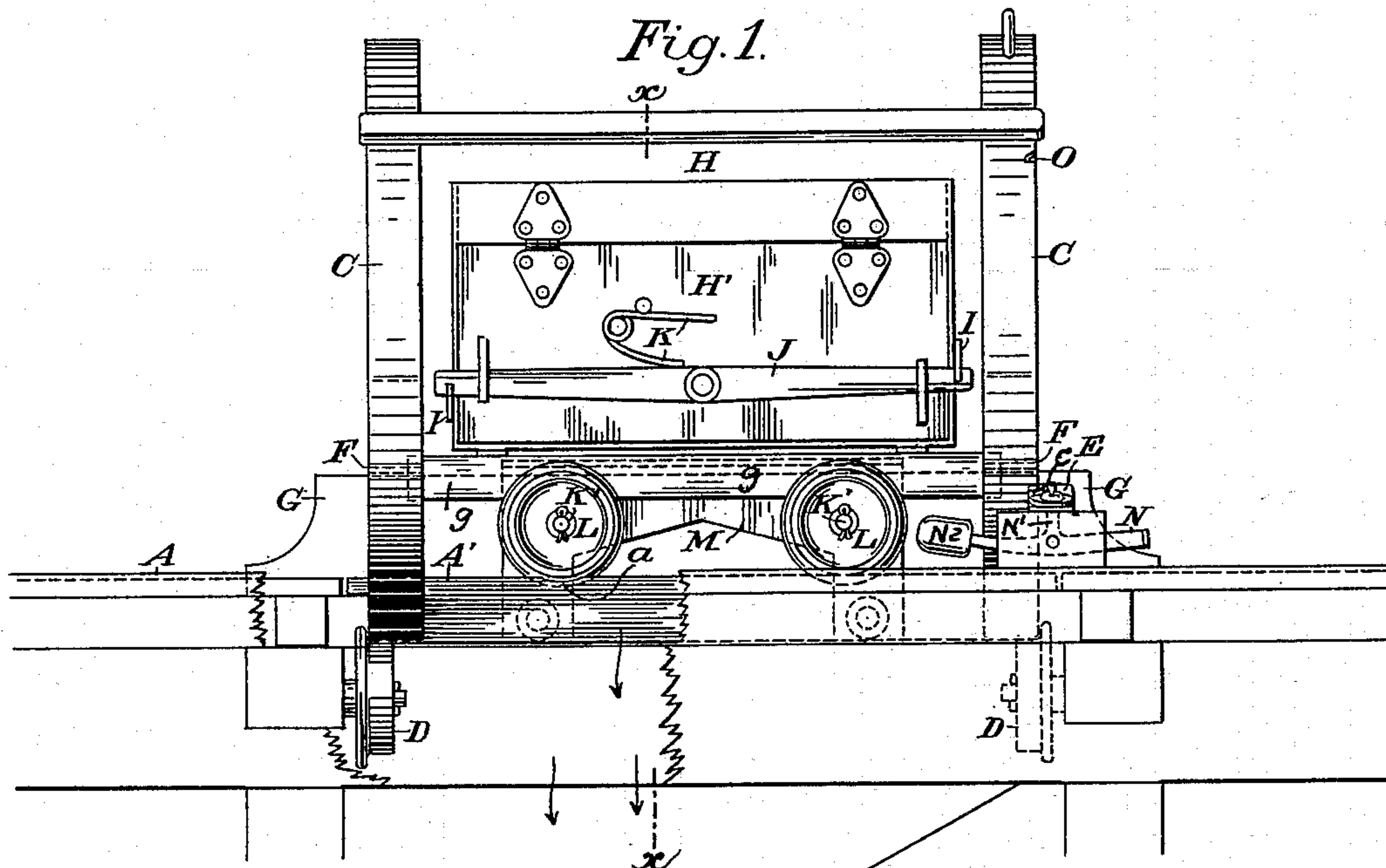
No. 615,554.

Patented Dec. 6, 1898.

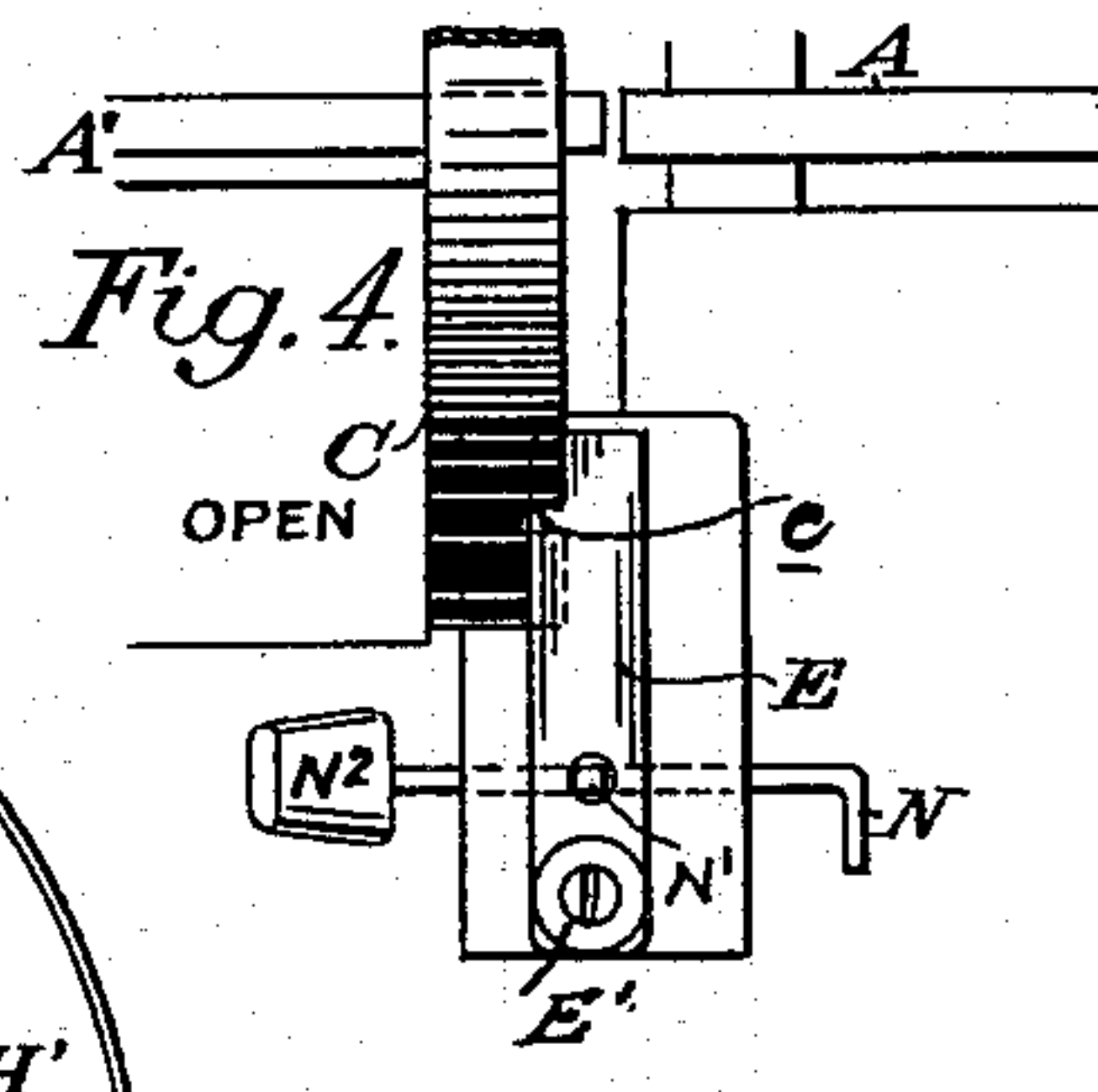
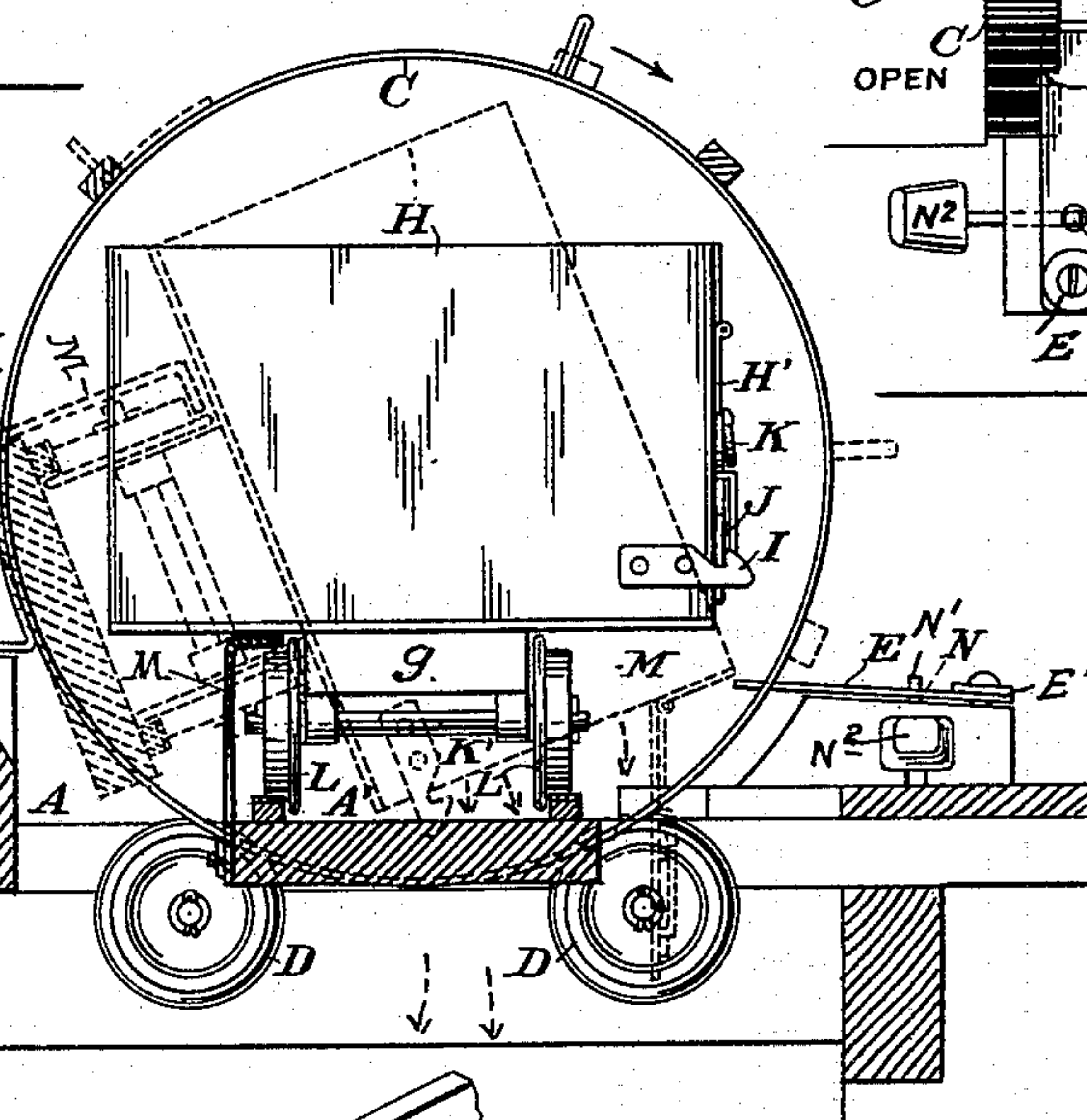
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CAR DUMPING APPARATUS.

(Application filed Feb. 18, 1898.)

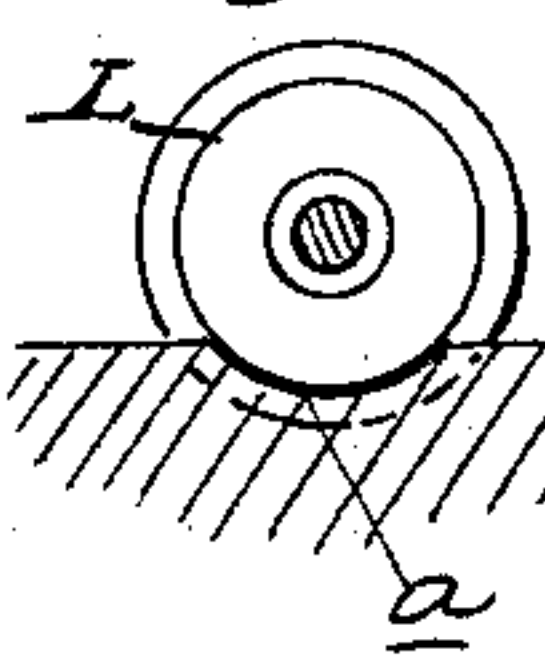
(No Model.)



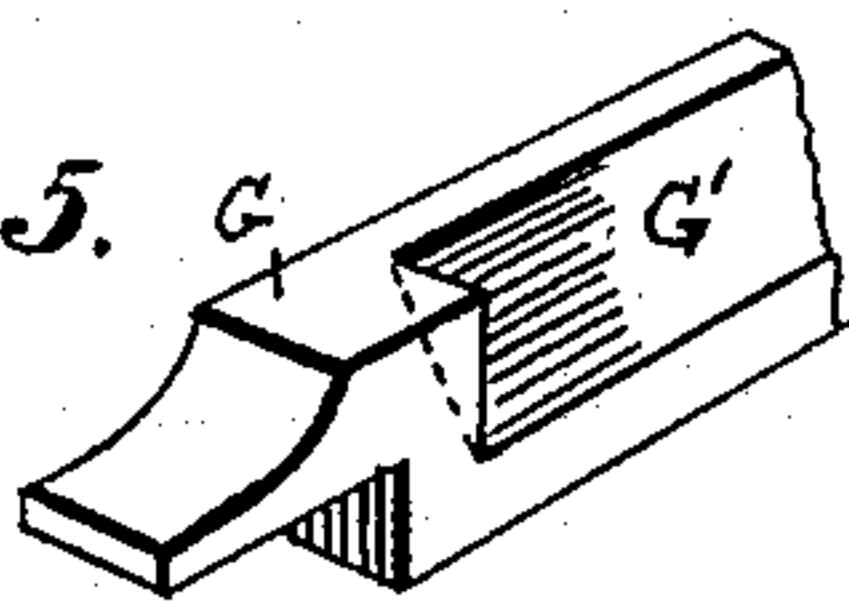
*Fig. 2.*



*Fig. 6.*



*Fig. 5.*



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# UNITED STATES PATENT OFFICE.

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## CAR-DUMPING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 615,554, dated December 6, 1898.

Application filed February 18, 1898. Serial No. 670,768. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM HOGAN, a citizen of the United States, residing at Washington, county of Nevada, State of California, have invented an Improvement in Car-Dumping Apparatus; and I hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to a device which is especially useful for dumping cars, so as to discharge loads therefrom, and again right the car.

It consists in the parts and the constructions and combinations of parts hereinafter described and claimed.

Figure 1 is a longitudinal elevation. Fig. 2 is a transverse section on the line  $x x$  of Fig. 1. Fig. 3 is a portion of a plan showing the stop on the rings C. Fig. 4 is a similar view showing the locking arrangement for the rings C. Fig. 5 is a detail in perspective of one end of the support G. Fig. 6 is a detail of the stop or check  $a$ .

The object of my device is to provide a convenient means for discharging loads from cars and other similar vehicles and to return the vehicles to their normal position ready for another load.

A represents a track which approaches the point where the discharge is to take place from any direction. At the point where the discharge is to take place is a section A' of sufficient length to receive the car to be dumped. This section of track is supported in rings or segments C, to which the track and a proper supporting-bed are secured. These segments may be of only sufficient length to allow the track and this car to be turned sufficiently to discharge the load from the car by gravitation, or the segments may, as shown in the present case, be made in the form of an entire circle. These segments rest upon wheels D, journaled to turn easily, and they normally stand so that the tracks A' are in line with the main tracks A. In this position they are held by a latch E, which engages a notch  $c$  in the edge of one of the segments or clamps it in any other suitable manner. Upon the opposite side are lugs F, which contact with a framework or support G, so that the track cannot be turned any farther in that direction

and can only be turned in the opposite direction when the latch is disengaged.

The car is very simply constructed. It consists of a containing-box H, having upon one side or end a hinged door H', with latches of any suitable description by which the door is normally retained in a closed condition. In the present case I have shown the door as hinged or swiveled from its upper edge, forming the entire side of the car. Upon each end of the car are fixed catches I, one of which faces upward and the other downward. Pivoted to the swinging door or side of the car is a lever-arm J, which is pressed by a spring K so that it will normally engage both of the latches. The pivot or fulcrum being in the center, when the lever is pushed so as to turn it about its fulcrum its opposite ends disengage simultaneously from the catches and allow the door or gate to swing open, and when the door is again closed the lever-latch passes over the points of the catches and automatically engages them by the action of its spring, so as to again close the door. This car-body is mounted upon any suitable supporting-framework. As here shown, for simplicity and cheapness I have shown a bed of timber  $g$ , having approximately a width of sixteen inches and a depth of six inches and a length of about six inches more than the car-body, so that the ends of these timbers of adjacent cars form bumpers. These timbers are connected together, so that all the cars will form a train, by any suitable coupling which is easily disengaged. Upon the lower side of the timber are the axles K', carrying the wheels L. These wheels run upon the tracks A A'.

The plate or latch E is pivoted at the outer end at E', and the other end swings horizontally to and from the edge of the segment. The lever N is pivoted about the center and has an arm N' projecting upwardly, as shown in Fig. 1, and the arm passes through a hole in the latch E, so that when the lever N is tilted one way or the other it acts to move the latch. N<sup>2</sup> is a weight upon one end of the lever N, and this normally holds that end of the lever down and, acting upon the latch E, presses it against the edge of the segment C, so that whenever either of the notches  $c$  or O



are brought into line with the latch the latter will be forced to engage them.

The support G is shown in detail in Fig. 5. The ends of the support G are made full and rectangular, and the part G', intermediate between the ends, is cut away in order to allow the framework of the car to turn without contact; but the lugs F on the segments are in line with the full portion of the support G, upon which they rest.

Upon one side of the supplemental and turnable tracks A' is a frame M, the upper edge of which projects so as to extend over the tops of the wheels on that side when the car is upon the track-section A' or to otherwise engage and hold the car in place upon the track. This device is upon the opposite side from that toward which the car is to discharge, and it prevents the car from lifting from the track when the track is turned so as to tilt the car.

This discharging device for cars may be made to discharge either endwise or sidewise, and it may also be arranged to discharge cars laden with any substance or commodity which it is desirable to discharge in bulk. In my present invention I have shown it as applied to ore-cars, which are usually hauled in trains of eight or ten or more, and as here shown each car is successively run upon the discharging dumping-table, and after its load is discharged it passes on to the section of track beyond until all the cars have been thus unloaded. They are then all coupled together and the mule or other hauling power connected with them and all hauled back again to the mine or other point where they are to be loaded.

The track A' has a depression or other stop or check  $\alpha$ , which receives the wheels of a car and holds it sufficiently to prevent its moving out of place while being discharged.

The operation will be as follows: The car being run in upon the dumping-table the locking device M engages the wheels upon one side. By placing the foot upon the lever N the latch E is disengaged from the segment, and by taking hold of the segment with one hand the whole device, car and all, may be turned upon the rollers or wheels which support the segment, the side of the car having been previously unlatched, so that as the car tilts with the platform the material begins to slide out until it is all finally discharged. If there be some of the contents which stick or are not properly discharged, the segment may be turned far enough to allow the latch E to engage with a second notch O, and thus hold the car in this position until the contents can be dislodged.

In the dumping of ore from cars it is usually discharged upon what is known as a "grizzly," consisting of an inclined framework of iron bars a short distance apart, so that any ore fine enough to pass between these bars passes directly to a grinding-mill, while

all the larger pieces of ore will slide off the bars and be delivered to the stamps or other crushing devices, by which it is eventually broken up small enough for the subsequent milling. By this peculiar means of discharging the cars the discharge will commence at one side of the grizzly, and as the car turns about the axis of the segment the discharge edge will gradually move toward the other side, and the ore will thus be well distributed from one side to the other instead of all being dumped in one place. The discharge being completed the segment and the car are returned to their normal position, the latch and stop-lugs stopping the track A' in line with the main track A, while the gate or door at the side of the car will usually latch by gravitation as the car returns to its upright position. If there is a train of cars, the empty car is pushed on beyond the dumping-section and the next car follows it upon the section, and so on until the whole train is discharged. They can then be recoupled and hauled off to the point where they are to be loaded.

Any suitable or well-known form of registering apparatus may be so connected as to be actuated by the tilting mechanism and thus keep a record of all the loads delivered by the apparatus.

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

1. The combination with a dumping-car, a main line of track and an independent section of track adapted to receive said car, of curved segments supporting opposite ends of the independent section and turnable about an axial line which is approximately the center of gravity of the loaded car, a roller-support for the segments, a latch at one side of the segments and adapted to engage the latter and hold the same against movement in one direction, and lugs upon the opposite side of the segments and a frame or support engaged thereby to prevent the segments being turned in the other direction.

2. The combination with a dumping-car, a main line of track and an independent section of track adapted to receive said car, of curved segments supporting the opposite ends of the section, and turnable about an axial line which is approximately the center of gravity of the car, a roller-support for the segments, a latch at one side of the segments and adapted to engage notches in the latter and thereby hold the segments against movement in one direction whereby the supplemental tracks are retained in line with the main tracks, a weighted fulcrumed lever having an extension-arm for operating the latch, a stop at the opposite side of the segments and lugs on said segments to engage said stop and thereby limit the movement of the segments in the opposite direction.

3. The combination with a dumping-car, a main line of track and an independent sec-



tion of track having a stop engaged by the car-wheels to hold the car in place while discharging; of segments supporting the opposite ends of the section, and a roller-support therefor, independent stops at opposite sides of the segments each for preventing movement of the segments in one direction, and a frame secured to one side of the section and having its upper end turned inwardly over the car-wheels on that side to retain the car upon the track while it is being tilted.

4. In a dumping apparatus, a car mounted upon a bed and wheels and having a hinged outwardly-swinging side, a main track upon which the car travels, and an independent section adapted to receive the car and mounted upon curved segments to which said section is fixed, wheels journaled to support the segments and upon which the segments are turnable so as to move the track transversely and tilt the car, stops fixed to the segments upon one side to prevent the track moving out of line with the main track in the opposite direction, and a latch upon the other side

adapted to engage and hold the segments and track in its normal position.

5. A car-dumping device consisting of a section of track, curved segments upon which its opposite ends are supported, journaled wheels upon which the segments rest whereby they and the track may be turned transversely with relation to the main track, stops upon one side whereby the section of track is prevented from passing the line of the main track in one direction, an automatic latching device adapted to engage the notch or notches in the opposite side of the segment to retain the tracks in line while the car is entering or leaving, said segments and track being turnable about the axial line of the segments which is approximately the center of gravity of the loaded car.

In witness whereof I have hereunto set my hand.

WILLIAM HOGAN.

Witnesses:

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