No. 640,036. Patented Dec. 26, 1899.

B. SIMS.

DUMPING APPARATUS.

(Application filed Oct. 5, 1899.)

(No Model.) 2 Sheets—Sheet 1.

Fig. 1.

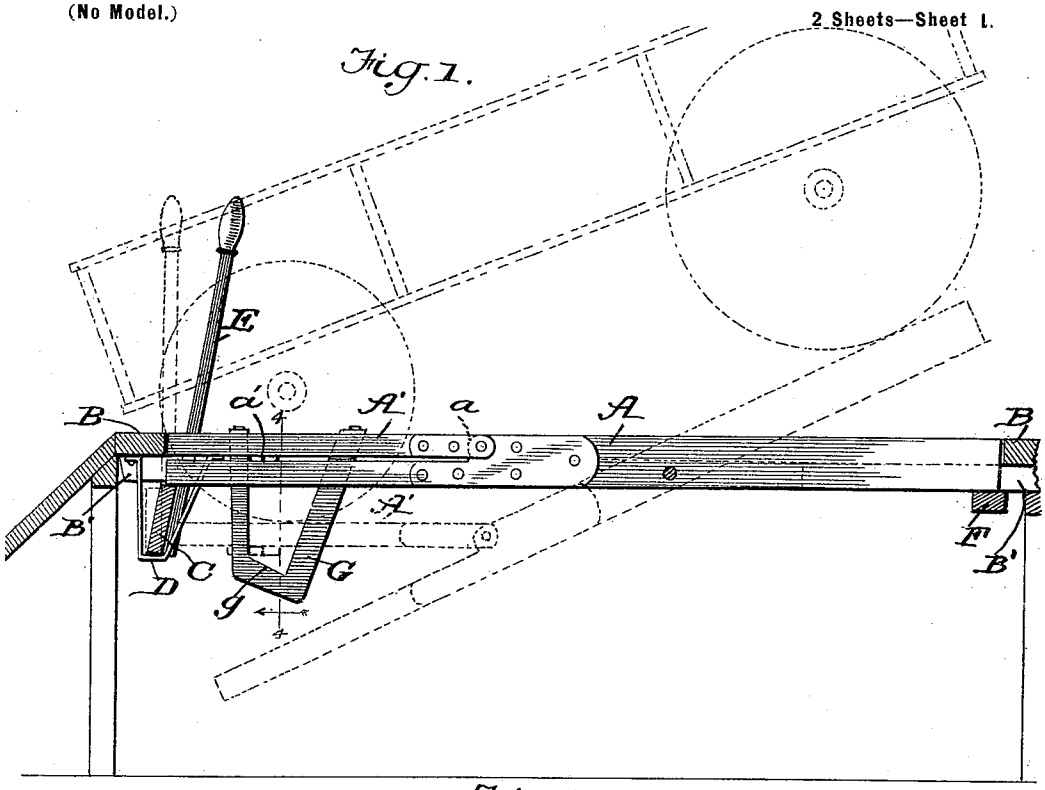
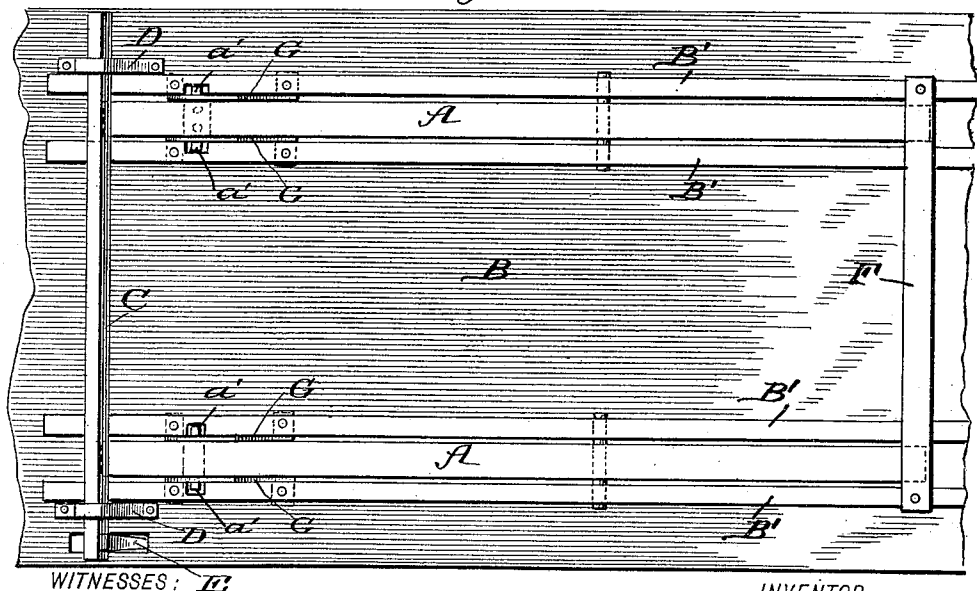


Fig. 2.



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Fig. 3.

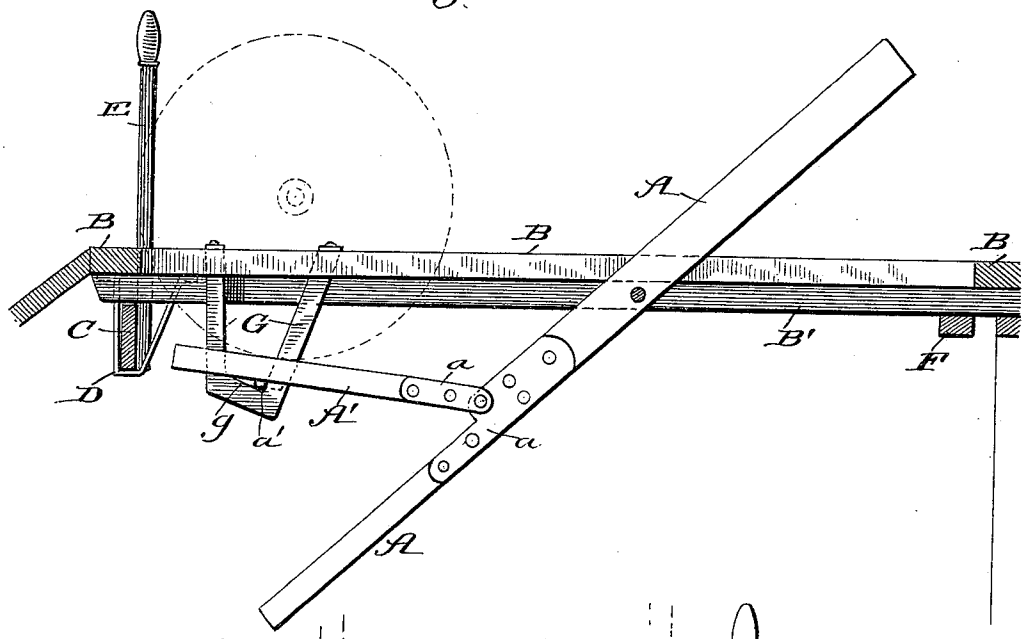


Fig. 4.

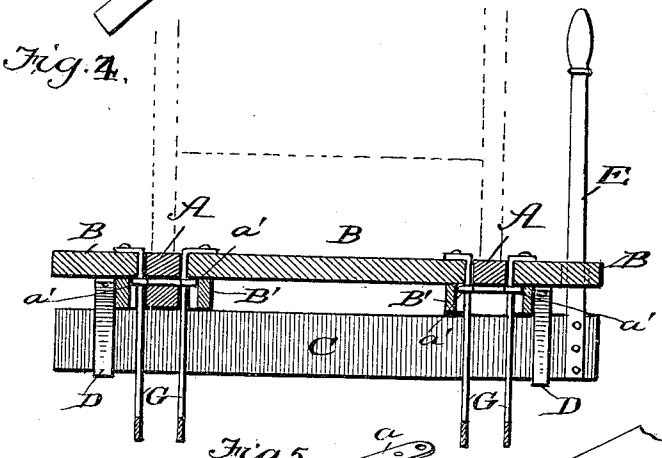
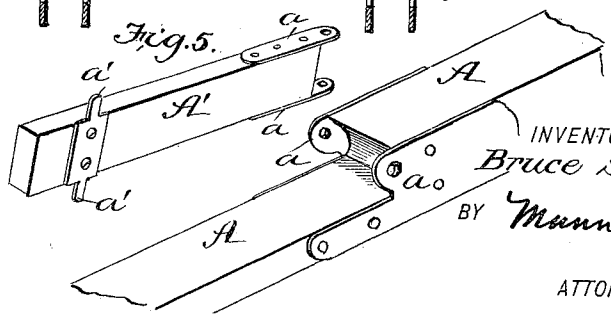


Fig. 5.



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UNITED STATES PATENT OFFICE.

BRUCE SIMS, OF PARIS, ILLINOIS, ASSIGNOR OF ONE-HALF TO CHARLES SIMS, OF SAME PLACE.

DUMPING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 640,036, dated December 26, 1899.

Application filed October 5, 1899. Serial No. 732,623. (No model.)

To all whom it may concern:

Be it known that I, BRUCE SIMS, of Paris, in the county of Edgar and State of Illinois, have invented a new and Improved Dumping Apparatus, of which the following is a specification.

My invention is an improvement in apparatus which is adapted to automatically dump loaded cars or wagons when the latter are run onto the same.

The apparatus is so constructed that the same, or nearly the same, inclination will be given to the bodies of cars or wagons having large wheels as those having smaller ones.

The details of construction and operation of parts are as hereinafter described.

In the accompanying drawings, Figure 1 is a sectional elevation of the apparatus, showing a wagon with small front wheels being dumped. Fig. 2 is a bottom plan view of the apparatus. Fig. 3 is a sectional elevation of the apparatus, showing the position of parts when a wagon with relatively large front wheels is being dumped. Fig. 4 is a vertical cross-section on line 4 4 of Fig. 1. Fig. 5 is a perspective view of one of the jointed and pivoted rails upon which the car or wagon wheels rest in the dumping operation.

The rails A, upon which a car or wagon is run to be dumped, are pivoted in the rear of their lengthwise middle in slots formed between two sills B′, attached to a platform B. The front ends of said rails rest normally upon a transverse trip-bar C, (see Fig. 1,) which is supported in hangers D. The latter are so constructed as to permit said bar to be oscillated or partly rotated on its longitudinal axis, as required to adapt it to engage and support the front ends of the rails A, as shown in full lines, Fig. 1, or to release the same, as shown by dotted lines in said figure and in full lines, Fig. 3. The bar C is oscillated for engaging or tripping the rails A by means of a hand-lever E, which projects up through the platform B, as shown, and is rigidly attached to said bar.

The rear ends of the rails A are supported upon a cross-bar F when in horizontal position. The front portion of each rail A is made in two parts—that is to say, the rail proper, A, is divided for about one-third its length and the severed portion A′ is hinged, as shown, to the body of the rail or rail proper. The parts of the hinge *a* are preferably constructed of strap-iron, as shown in Fig. 5. It will be seen that when the jointed sections A′ lie flat upon the main section or bodies of the rails A they form practically a part thereof and serve as supports for the front wheels of a car or wagon when run upon the rails, and when the rails A are tripped the said section A′ assumes an acute angle to the rail proper, as in Fig. 3.

Near its front end the section A′ is provided with lateral projections or lugs *a′*, which engage hangers G, when the rails are tripped and allowed to tilt. The said hangers G are attached to the platform B and arranged in pairs, one for each slot, in the platform B. The hangers G have an incline *g* at their lower ends upon which the aforesaid lugs *a′* strike when the rails A are tripped and tilt, so that the hinged sections A′ are caused to assume an acute angle to the rails proper, as shown in Figs. 1 and 3. Thus when a wagon having small front wheels is run on the rails (see Fig. 1) and the rails are tripped the lugs *a′* of the hinged rails A′ strike first at the upper end of the inclines *g* and the wheels are jammed against the front ends of the platform-slots, which serve as stops, while they bear upon the sections A′ at a point nearer the lugs *a′* and farther from the hinge *a* than is possible in the case of larger wheels, as shown in Fig. 3. The sections A′ thus become practically levers of the second class, the lugs *a′* being the fulcrum and the weight being applied between them and the hinge or point where the power is exerted. It is manifest that in cases of equal load or weight the leverage will vary, corresponding to the distance between the fulcra *a′* and the point of contact of the wheels with the levers or sections A′, and that said point shifts forward or backward, according as the wheels vary in diameter. Thus in the case of small wheels, Fig. 1, the levers A′ may assume a horizontal position, since the leverage at *a* will not be sufficient to depress the rails A to the lowest point, and the lugs *a′* will not slide down the inclines *g;* but in the case of large wheels the lugs *a′* will slide to

the lowest point of said inclines, as shown in Fig. 3. Thus the front axles of cars or wagons having different-sized wheels will be carried down about the same distance or into about the same proximity to the platform B, and hence practically or nearly the same inclination will be given to the car or wagon bodies in all cases. This desirable result is not practicable with dumping apparatus having tiltable rails arranged and adapted to operate as usual heretofore.

What I claim is—

1. In a dumping apparatus, the combination of tiltable rails, sections or supplemental rails hinged to and adapted to lie alongside the same, a tripping device, means for arresting the rails as they descend, and stops arranged at the front ends of said rails for contact with the wheels of a wagon, substantially as shown and described.

2. In a dumping apparatus, the combination with wheel-stops of pivoted rails, lever-sections hinged thereto, inclines arranged near the front ends of said sections, the latter having devices that strike upon and are adapted to slide down said inclines, and a tripping device, substantially as shown and described.

3. In a dumping apparatus, the combination with a frame having wheel-stops, of rails pivoted in rear thereof, lever-sections hinged to said rails on the upper side, and provided near their front ends with lateral projections, hangers having inclines at their lower ends upon which said lugs are adapted to strike and slide downward, and a tripping device, substantially as shown and described, whereby said rails and lever-sections are adapted to assume a lower position and a greater or less angle to each other, according to the variation in diameter of the wheels of cars or wagons run upon the rails, so that practically the same inclination of the car or wagon bodies is obtained in all cases.

4. In a dumping apparatus, the combination with a slotted platform, having wheel-stops of rails pivoted in said slots and having lateral projections at the front end, a transverse trip-bar, having a vertical lever, and hangers in which the bar is supported, said hangers being adapted to permit lateral oscillation of the bar as and for the purpose specified.

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

BRUCE SIMS.

Witnesses:
W. E. REDMAN,
C. A. SIMS.