

(No Model.)

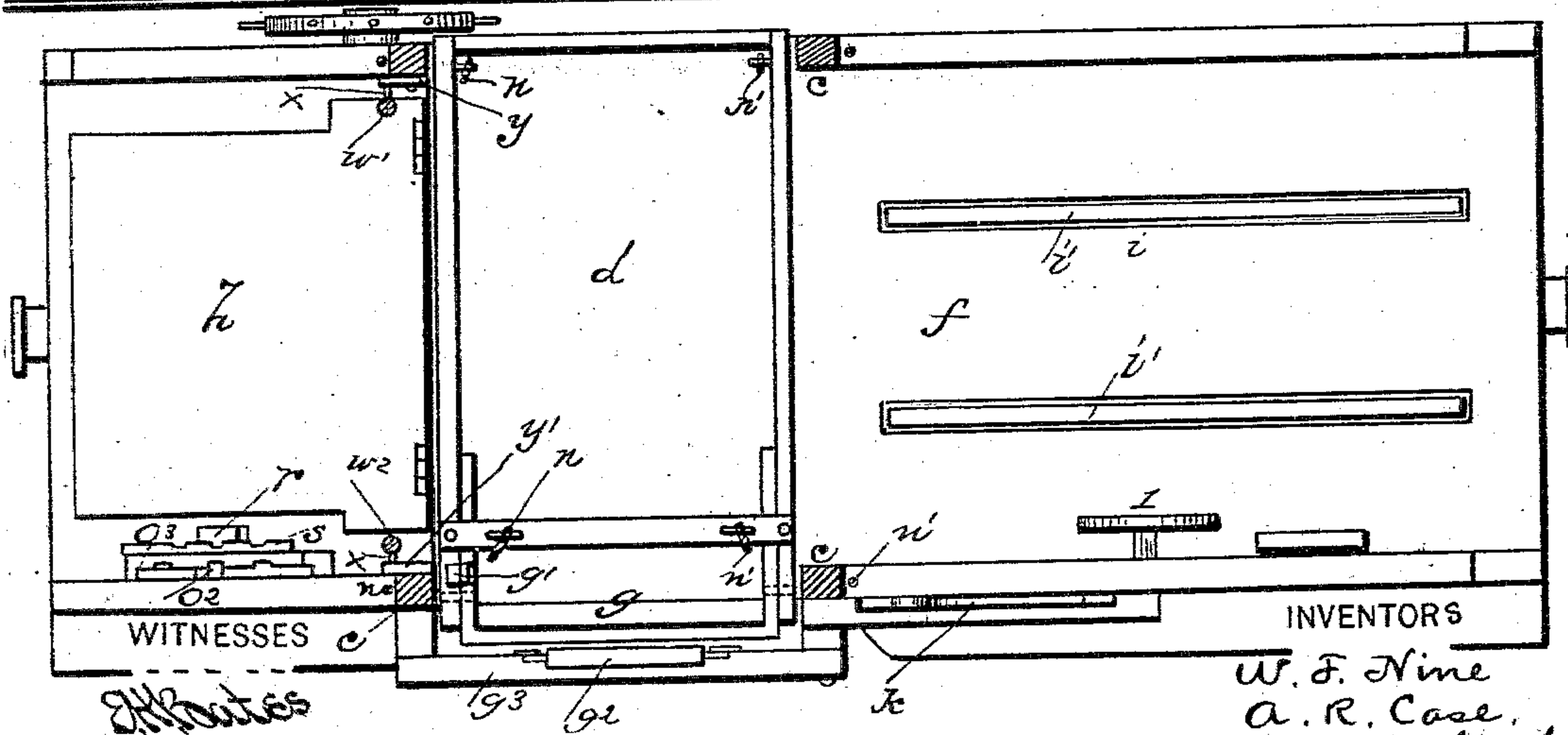
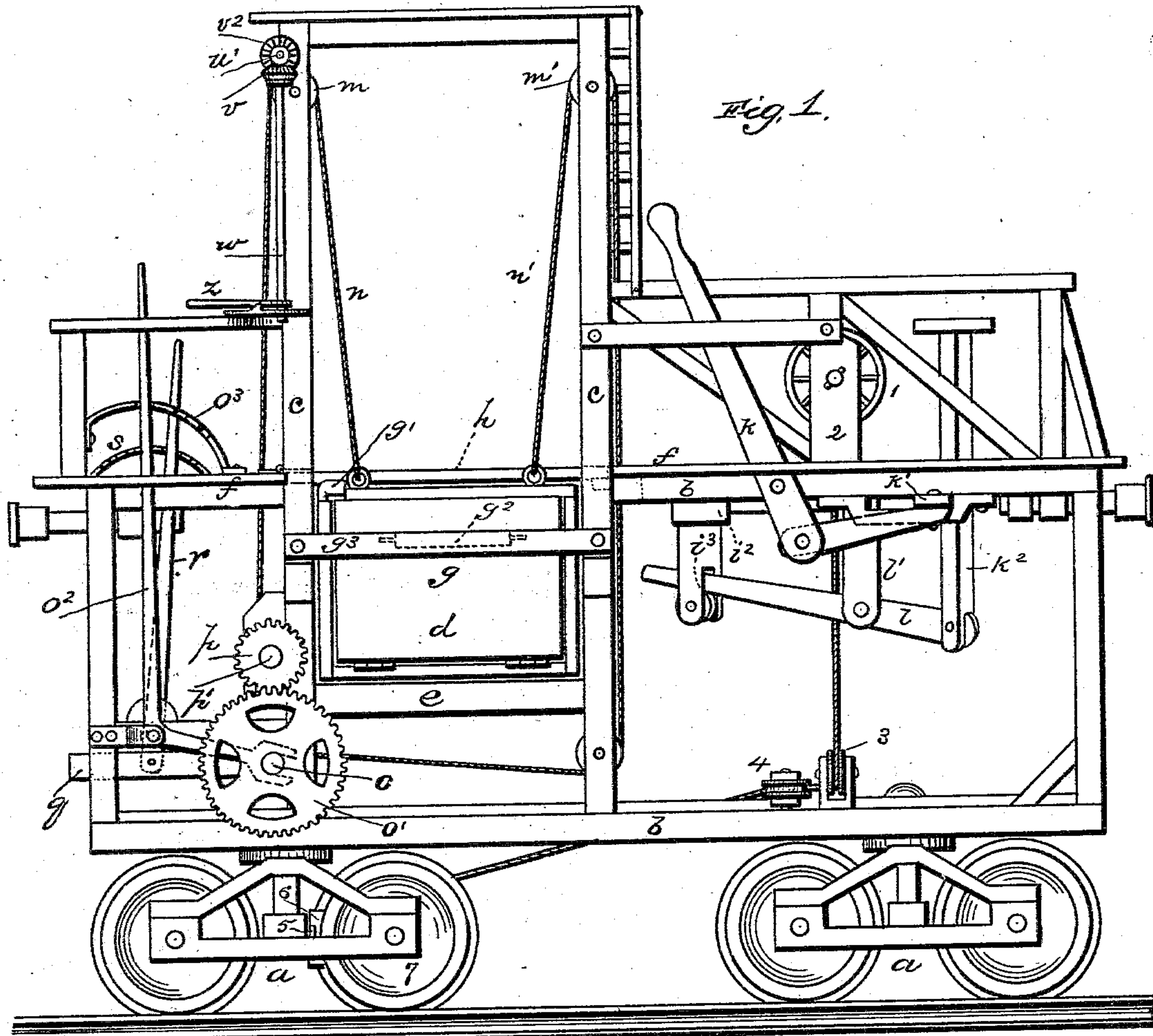
2 Sheets—Sheet 1.

W. F. NINE & A. R. CASE.

DUMPING PLATFORM.

No. 288,103.

Patented Nov. 6, 1883.



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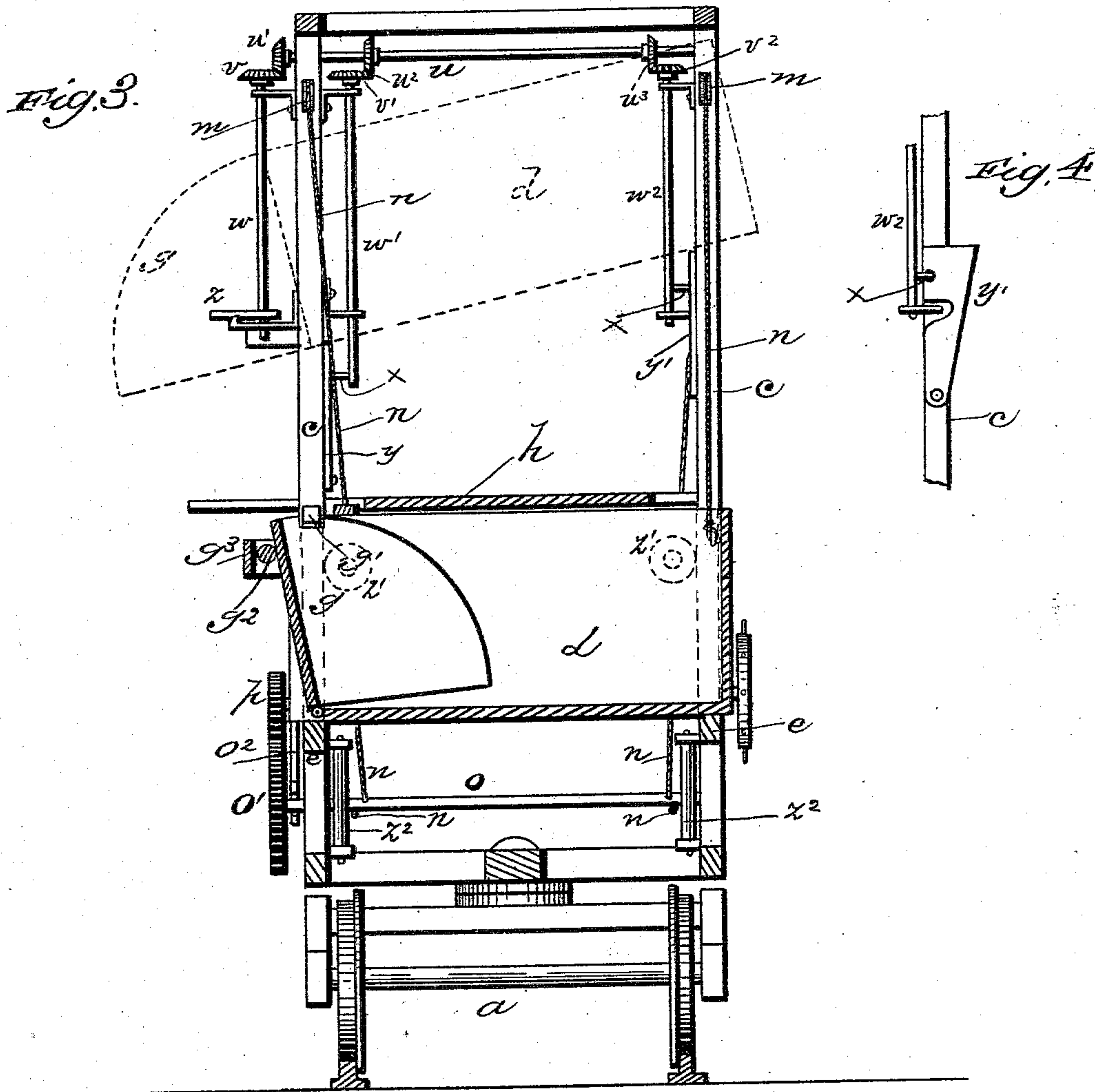
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UNITED STATES PATENT OFFICE.

WILLIAM F. NINE AND ALBER R. CASE, OF SULLY, IOWA.

DUMPING-PLATFORM.

SPECIFICATION forming part of Letters Patent No. 288,103, dated November 6, 1883.

Application filed August 14, 1883. (No model.)

To all whom it may concern:

Be it known that we, W. F. NINE and A. R. CASE, citizens of the United States of America, residing at Sully, in the county of Jasper and State of Iowa, have invented certain new and useful Improvements in Dumping-Platforms; and we do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

Figure 1 of the drawings is a representation of a side elevation of our machine. Fig. 2 is a plan view, partly in section. Fig. 3 is a transverse vertical sectional view, and Fig. 4 is a detail view.

This invention has relation to portable dumping-machines; and it consists in the construction and novel arrangement of devices, as will be hereinafter fully described, and particularly pointed out in the claims appended.

The machine is designed to be built at the manufactory, on trucks adapted to run on the regular railway-tracks, and is to be coupled into a train and run to its destination, ready for work on its arrival. It is to be stationed at any desired point, and employed in loading grain into cars or buildings, in loading coal, stone, bricks, dressed pork, and the like, from wagons driven up onto the platform of the machine upon an inclined plane, and again from the platform down an inclined plane, and it may be moved from place to place, whenever desired, on a temporary track or otherwise. Its utility is obvious for the several purposes for which it is intended, and its cost is small when compared with its usefulness.

Referring by letter to the accompanying drawings, *a* designates a car-truck, which may be made removable, if desired, in order that the machine may be made a fixture; but in most instances it will form a part of the machine in order that it may be moved from place to place on the track, but even when on the track the machine will be held in place by the inclined planes.

The main object of this invention is to permit loaded wagons to be driven upon the platform of the machine and to have their con-

tents dumped into a dumping-box, from which they may be deposited into a car or into the second story of a building, if necessary, the dimensions of the machine being adequate to effect either result.

The horizontal frame *b* should be about thirty feet long, eight feet wide, and four or five feet high, while the vertical portion of the frame *c*, in which the dumping-box *d* works, should be about twenty feet high. These dimensions may be varied to suit the location in which the machine is to be used.

The machine is provided with a draw-head at each end of the frame, by which it may be coupled to the cars in a train when it is to be transported by steam. It can, however, be easily drawn by four horses. It may be operated, when placed, either by steam-power, horse-power, or by a tread-wheel, or in any other suitable manner to accomplish the purposes.

The dumping-box *d*, when in its normal position, rests upon cross-bars *e* at the ends of the vertical frame *c*, the edges of the dumping-box *d* being nearly flush with the platform *f*. The dumping-box *d* is provided at one end with a hinged box end-gate, *g*, which is held in place by a latch, *g'*. This end-gate is adapted to be closed when the dumping-box descends, after having been elevated to discharge its contents, by a roller, *g''*, having bearings in a cross-bar, *g'''*, at that end of the vertical frame *c*. A hinged bridge, *h*, is adapted to be turned over the dumping-box *d*, to make the platform continuous when the wagon is to be driven on it to the auxiliary dumper *i*.

The auxiliary dumper *i* consists of two parallel sunken and eccentrically-pivoted bars, *i'*, in one side of the platform *f*, which are connected on their under faces by suitable cross-bars, one of which, *i''*, has a depending bifurcated arm, *i'''*, provided with a friction-roller at its lower end. This auxiliary dumper *i* is held in its normal position by a brake-lever, *k*, the shoe *k'* of which is pivoted at one end to one of the longitudinal timbers of the platform at that side, and pivoted at the other end to one arm of the brake-lever *k*, and engages a lateral notch in the vertical arm *k''* of a compound lever, the arm *l* of which is fulcrumed in a depending, bifurcated arm, *l'*, beneath the platform, the free end of the fulcrumed arm *l* passing through the bifurcation in the depend-

ing arm i^3 , and engaging the friction-roller therein.

The loaded wagon is to be driven upon the auxiliary dumper i , the end-gate of the wagon removed, and the brake-lever k released from its confinement at the side rail of the platform. This converts the auxiliary dumper into an inclined plane, the rear end of the wagon, or a cart, if one be used, being the lowest. The contents of the wagon are therefore naturally and quickly deposited into the dumping-box. As the wagon is driven from the platform it will replace the auxiliary dumper, and the brake-lever may be again applied to hold it in place.

The vertical frame is provided in each of its four uprights near their upper ends with a pulley, the two on the uprights nearest the front end of the machine being marked m , and those nearest the rear end of the machine m' .

The ropes n n' , by which the dumping-box is raised and lowered in the vertical frame, are connected to the dumping-box near its rear end and to a cross-strip near its front end at opposite sides thereof, and pass through holes in the horizontal transverse shaft o , under the lower pulleys and over the upper pulleys, as shown, so that when the gearing is operated to elevate the dumping-box they will be wound upon the shaft o , and when it is lowered they will unwind therefrom.

The shaft o is provided at one end with a gear-wheel, o' , and is operated by a lever, o^2 , which engages a rack, o^3 , to throw it in and out of gear with a pinion, p , on one end of the power-shaft p' .

q designates a brake operated by a lever, r , engaging a rack, s , to be applied to the shaft o , to regulate the descent of the dumping-box after it has been emptied.

u designates a horizontal shaft, arranged transversely of the vertical frame near its upper end on its front side, having vertical miter-gear wheels u' u^2 u^3 , two intermediates, and one at the end, which mesh with horizontal miter-gear wheels v v' v^2 , on vertical shafts w w' w^2 . The shafts w' w^2 have short arm x , which engage pivoted stop-plates y y' , on the inner faces of the front uprights, for imparting the incline to the dumping-box when elevated. The stop-plates y y' are projected inwardly at the proper time by means of a lever, z , on the vertical shaft w , and are withdrawn by reversing the movement of said lever.

A hand-wheel, 1, has its bearing in a post, 2, on the platform at the side of the auxiliary dumper, and a cord secured to one of its spokes passes down through the platform under a pulley, 3, on the frame beneath; from thence around a pulley, 4, at right angles to the vertical pulley 3 and in a horizontal plane, and from thence it leads to the brake-arm 5 and applies the brake-shoes 6 to the truck-wheel 7. When the hand-wheel is turned backward, the brakes will be thrown off by the force of the wheels themselves.

The operation of this machine is in no wise complicated. The dumping-box is provided with friction-wheels z' , which engage the uprights of the vertical frame, and vertical rollers z^2 engage and prevent the wear of the ropes. When in its normal position, the hinged bridge is let down over the dumping-box to form a continuous platform, over which the wagon may be driven to the auxiliary dumper. The bridge is then raised and turned back upon the platform, the end-gate of the wagon removed, and the auxiliary dumper tripped to lodge the contents of the wagon in the dumping-box, and the wagon is then driven off, resetting the auxiliary dumper as it passes off, the lever being applied to hold it in place. The gear-wheels are then thrown into engagement, and the dumping-box is elevated above the stop-plates. The gear-wheels are then thrown out of engagement, and the box descends, and its rear end rests upon the stop-plate y' , the front end of the box continuing to descend until the stop-plate y , which is two and one-half feet lower, is reached, when the box end-gate of the dumping-box is open, and the contents of the dumping-box are discharged into the adjacent car or building, as the case may be. The dumping-box is then again elevated to the top of the vertical frame, and the stop-plates withdrawn, the brake applied to the shaft o , and the gear-wheels disengaged, when the dumping-box will gradually descend to its normal position, the box end-gate being closed in the descent.

A ladder is secured to one of the uprights to enable the attendant to ascend the vertical frame for repairs or other purposes.

Having thus fully described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. In a dumping-machine, the combination, with the horizontal frame, and the vertical frame mounted upon a car-truck and provided with a platform, and a hinged bridge adapted to cover a dumping-box, of a dumping-box having a hinged-box end-gate, and adapted to be raised and lowered in the vertical frame by suitable gearing, the stop-plates of unequal height adapted to be projected under the dumping-box, and the auxiliary dumper pivoted in the platform and controlled by suitable levers to trip and also to lock it in place, substantially as and for the purposes specified.

2. In a dumping-machine, the combination, with the vertical frame, the dumping-box, and mechanism for raising and lowering it, of the unequal stop-plates, and mechanism for projecting them beneath and withdrawing them from beneath the dumping-box, substantially as specified.

In testimony whereof I affix my signature in presence of two witnesses.

W. F. NINE.
A. R. CASE.

Witnesses:

C. W. TERRELL,
G. H. BARBOUR.