(No Model.) 2 Sheets—Sheet 1.

E. VON OVEN.

DUMPING VEHICLE.

No. 327,505. Patented Sept. 29, 1885.

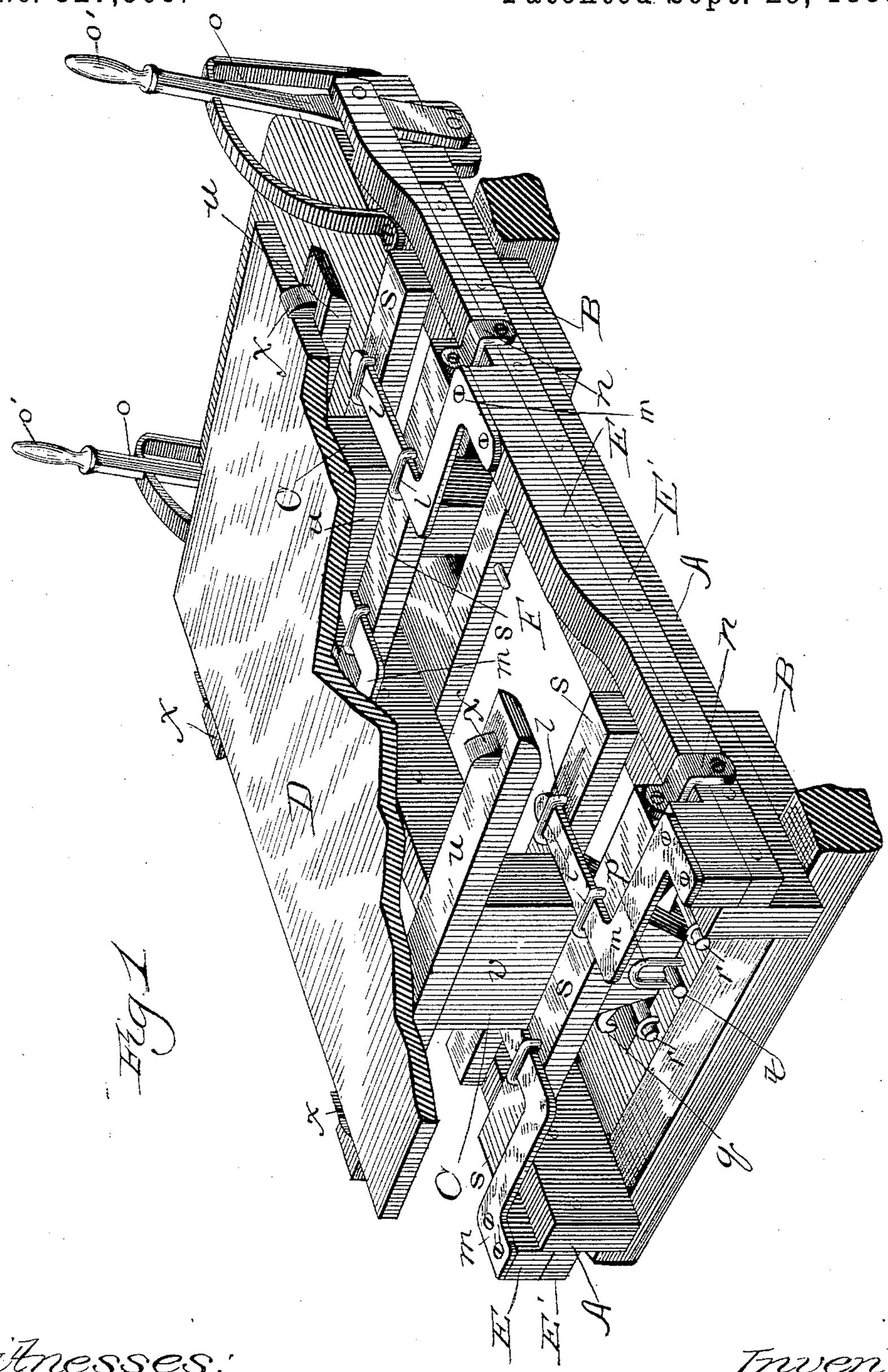

Fig 1.

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(No Model.) 2 Sheets—Sheet 2.

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Fig. 2.

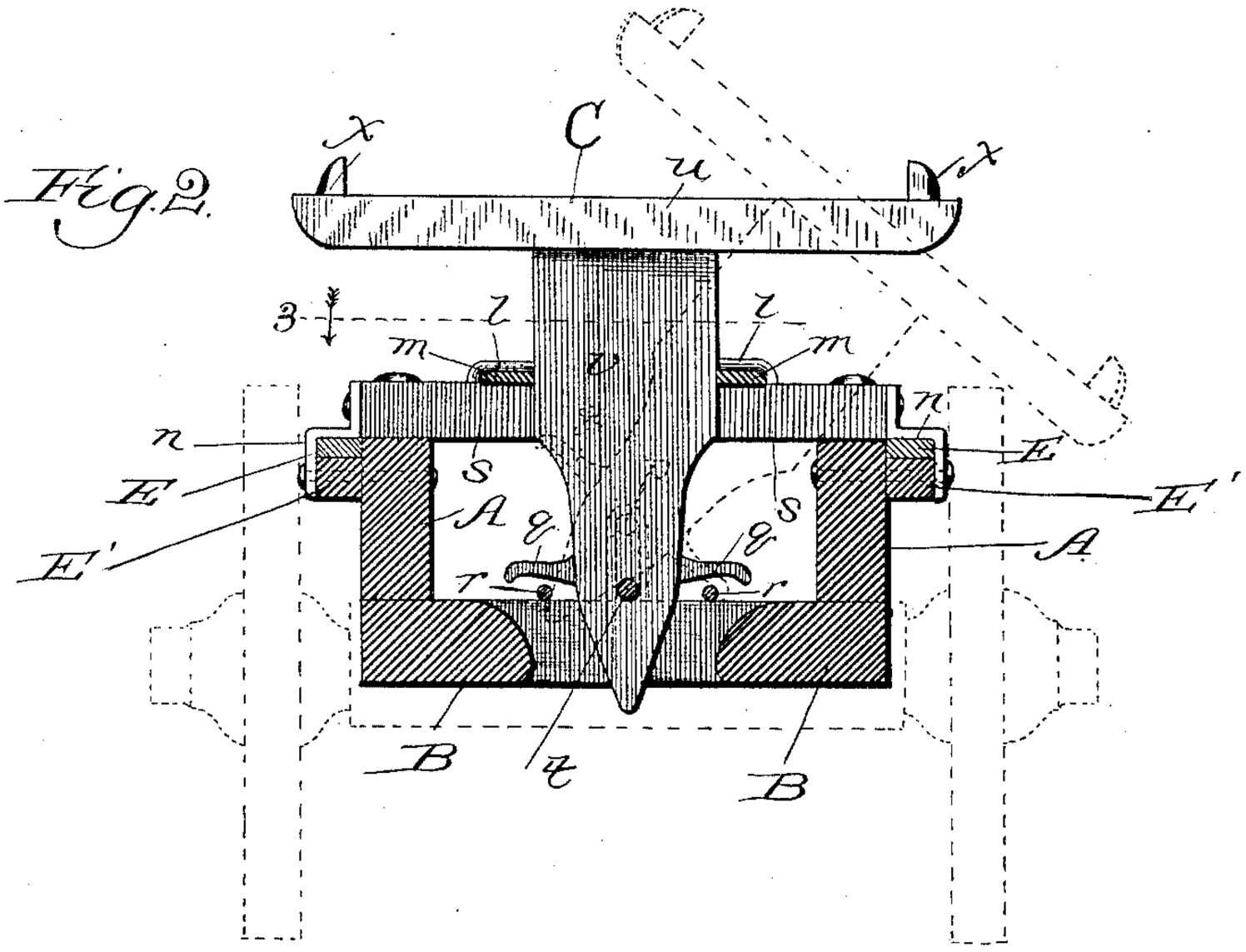


Fig. 3.

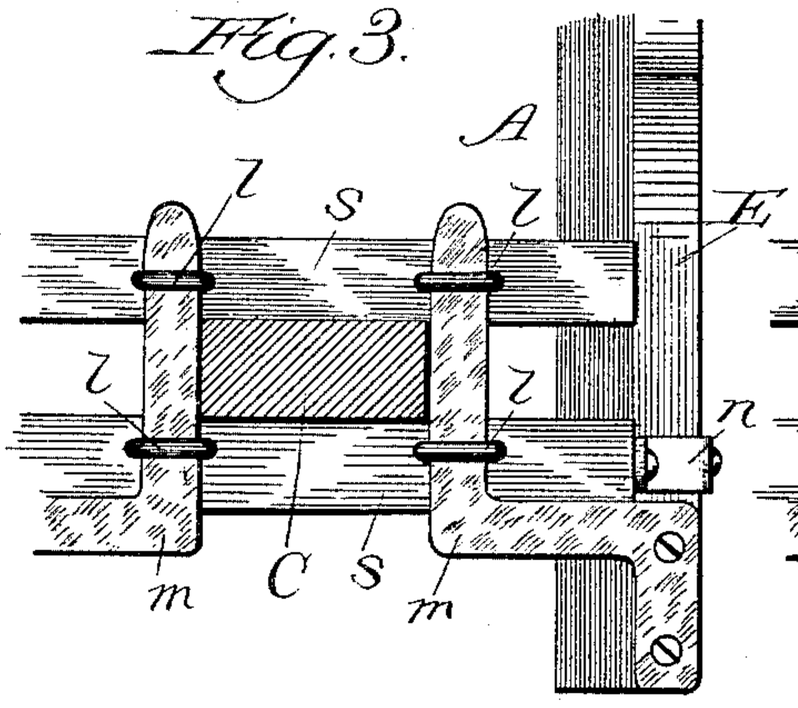
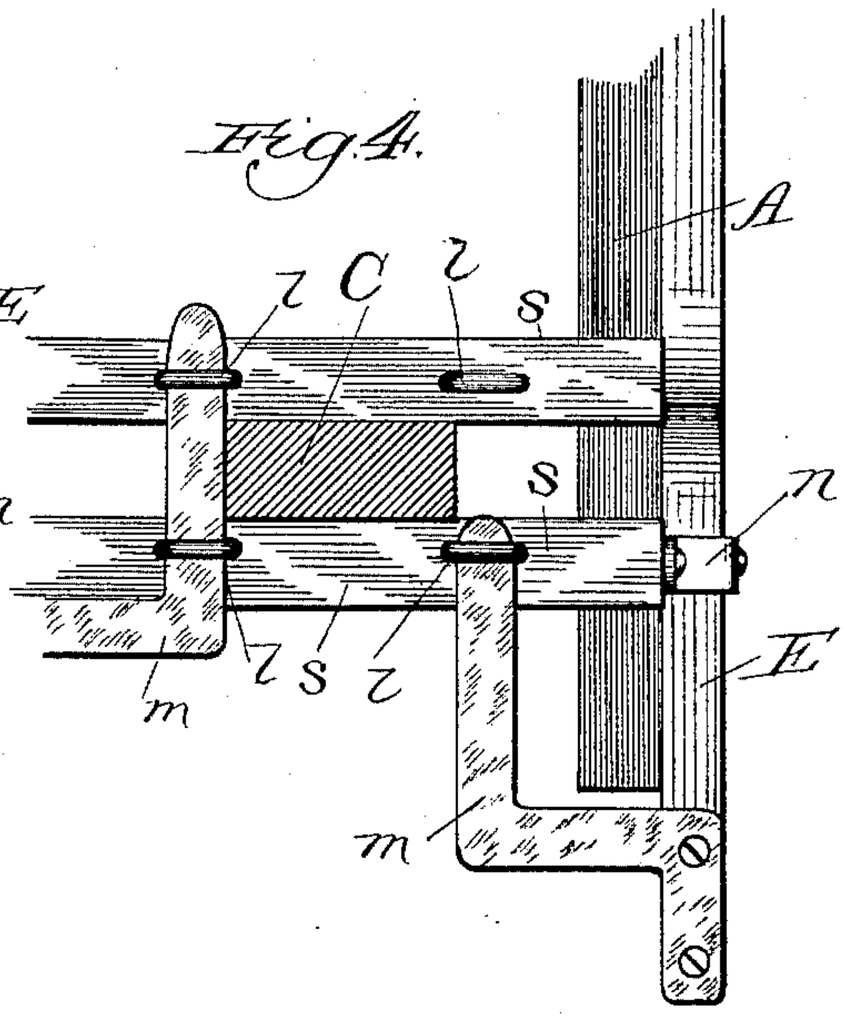


Fig. 4.



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Inventor:
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UNITED STATES PATENT OFFICE.

ERNEST VON OVEN, OF NAPERVILLE, ILLINOIS.

DUMPING-VEHICLE.

SPECIFICATION forming part of Letters Patent No. 327,505, dated September 29, 1885.

Application filed May 8, 1885. (No model.)

To all whom it may concern:

Be it known that I, ERNEST VON OVEN, a citizen of the United States, residing at Naperville, in the county of Du Page and State of Illinois, have invented certain new and useful Improvements in Dumping-Vehicles; and I do hereby declare the following to be a full, clear, and exact description of the same.

By the construction of dumping-vehicles in the form of road-wagons heretofore in use it has been possible to discharge the load only within the line of the wheels—that is to say, the earth, brick, stone, or other material forming the load falls, with the tilting of the dumps, directly below the body of the wagon or very slightly to one side, thereby causing the wheels to move over the discharged material when the vehicle is withdrawn, and causing an inconvenient strain to the horses; besides, in the case of stones, and particularly large flag-stones, preventing their being piled from the dump—a feature of very great importance in quarries, where it has hitherto been necessary to strew them singly upon the ground, whereby a great deal of extra space is taken up.

It is my object to provide a dumping device, either in the form of a wagon upon common roadways, or a car upon railway-tracks, which shall allow the load to be discharged at one side beyond the track of the wheels; and it is further my object to afford great strength and durability, combined with minimum weight, and yet furnish a simple and effective construction at moderate cost.

To these ends my invention consists in the construction of my improved device, whereby the foregoing ends are accomplished; and my invention also consists in the various details of the said construction and combinations of the parts forming the same, shown and described in the accompanying drawings, in which—

Figure 1 represents in perspective a view of my improved dumping device having a portion of the platform broken away, to display details and showing at one end a modified form of support; Fig. 2, an end elevation, partly in section, showing in dotted lines the position of the dumping-platform when tilted; Fig. 3, a plan view taken on the line 3 3 of Fig. 2, and viewed in the direction of the arrows, showing the locking mechanism which holds the platform in its normally horizontal position; and Fig. 4, a similar view showing the locking mechanism displaced on one side of the device to allow tilting of the dumping-platform toward that side.

A A are parallel horizontal beams, affording a support to the device and resting at each end upon the axles of the vehicle, and to the main side of which, toward each opposite end, the transverse bolsters B are firmly secured.

C C are vertical supports, carrying the removable platform D, and secured upon the bolsters B in pivotal bearings *t* at their lower extremities. The supports C are confined between rigid transverse guide-bars *s*, secured to lie parallel with each other to the bar A, to permit lateral movement when the locking mechanism, hereinafter described, is withdrawn. Each support C comprises the vertical portion *v* and the horizontal portion *u*, and is provided on its lateral edges, toward its lower extremity, with brackets *q*, resting upon bearings *r* in the same horizontal plane with the bearing *t*. The withdrawal of the locking mechanism, hereinafter described, permits the dumping-platform D and supports C to be tilted to the position indicated by the dotted lines in Fig. 2, when the supports C will no longer rest upon the bearings *t*, for, with the fall of the platform in either lateral direction from its normal position, the bracket *q* on that side of the support C toward which the platform falls forms a fulcrum against its bearing *r*, along which it gradually slides to throw the bearing *t* out of contact with the bolster B, and cause it to rise within the vertical staple *p*, provided to confine it. This construction allows the platform D, by raising it as it falls upon the bracket *q*, as a fulcrum to clear the wheels when set at a much less height above the bolsters than would otherwise be the case, thus bringing the center of gravity low, and enabling a large load to be carried with safety and convenience.

The locking mechanism, hereinbefore mentioned, holds the platform in its normally horizontal position. A lever, *o*, provided at its upper end with a handle, *o'*, is fulcrumed toward its lower end to the beam A, and pivotally connected with the sliding bar E to afford to the latter longitudinal motion within the guide-plates *n* and guide-bar E'. Rectangular sliding plates *m*, preferably of metal, moving

within the staples *l*, upon the guide-bars *s*, are rigidly secured to the sliding bar E, to move with the latter when actuated by the lever *o*. Two locking mechanisms of the description hereinbefore set forth are provided, one on each side of the vertical supports C, to afford to the latter, when the sliding plates *m* are drawn forward within the slots *l*, secure lateral bearings.

The operation of my device is as follows: The platform D, placed on the ground to receive the load, is raised by means of a derrick to its position upon the vehicle, where it is confined between the lugs *x*, and the vehicle is ready to be drawn to the place where it is desired to discharge the load. To accomplish this, the lever *o*, on the side toward which the load is to be dumped, is pushed backward, thereby drawing back the sliding bar E, and with it the sliding plates *m*. The sliding plates *m*, having been withdrawn from the slots *l*, as shown in Fig. 4 of the drawings, no longer afford lateral props to the supports C, which are thus permitted to swing freely and carry with them the dumping-platform D, thereby effecting the tilting of the device and discharging the wagon of its load. If the load upon that side of the dumping-platform toward which it is intended the device shall be tilted more than counterbalances the opposite side, the dumping will be effected immediately upon the withdrawal of the locking mechanism. If the heavier load is away from this side, a slight push from the operator will enable the dumping to be effected in the desired direction.

In the modification shown at F, Fig. 1, the vertical support C is simply pivoted to the bolster B with a pin, *k*. While this modification permits the discharge of the load outside the track of the wheels, and is of simple and inexpensive construction, it is not deemed so desirable as that hereinbefore described, because to enable the load to clear the wheels in the dumping operation it would necessitate supports C of greater height than it is desired to make them; but where the wheels of the vehicle are sufficiently far apart in the direction of its length to permit the dumping mechanism to lie between them, the wheels would not have to be cleaned, and hence the modification referred to could be used with advantage, and is included within the scope of my invention.

My device affords a great advantage, which I have frequently demonstrated in its use as a road-wagon dump—viz., that the load may readily be dumped, on pulling a lever, without stopping the team, and this is due to the delicacy of the pivotal supports, which renders the device practically self-dumping.

In the drawings the dumping-platform is shown supported by only two vertical swinging supports C, since, ordinarily, more will not be required; but where great weights are to be carried, or it is desired to construct devices of an unusually large size, any number of pivoted supports C, with attendant locking mechanism, may be provided.

The pivotal points of connection of the supports C to the bolsters may be below the upper surfaces of the bolsters, if desired, instead of upon them; but they should not be above the upper surfaces of the bolsters, since thereby the vehicle would be rendered top-heavy, and have a swinging motion. By affording the line where the load bears down with its whole weight, or the pivotal points on a line, or nearly so, with the axles, I cause the load to ride without producing excessive strain and avoid lateral swinging of the vehicle. Actual use of my device has demonstrated the fact that a heavy load of stone may be drawn over a very rough road with great steadiness where it would be exceedingly risky to haul a load of hay of equal weight on an ordinary vehicle. The same advantages are attained by my construction on railroad-cars, since the beds of the cars are not raised beyond the ordinary height above the wheels.

When in use as a wagon upon common roadways, the device is provided at its forward end with a narrow fixed platform in front of the tilting-platform to carry the driver's seat and afford a convenient position for the manipulation of the levers which control the locking mechanism.

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

1. A dumping-wagon, having the vertically and laterally shifting supports C for the load of sufficient length to oscillate over the sides of the vehicle, and guides secured toward the lower end of the supports moving in guides in the wagon-frame, whereby the movement of the lower end of the support shall be in a vertical line, substantially as described.

2. A dumping-vehicle, having supports C for a platform pivotally secured toward their lower ends and provided with lateral brackets *q* to engage with bearings *r*, provided on the vehicle, sustaining-bars *m* on opposite sides of the supports C and moving within suitable guides, and levers *o*, connected with the sliding bars, the whole being constructed and arranged to operate substantially as described.

3. A dumping-vehicle, comprising, in combination with the body of the vehicle, supports C for a platform pivoted within staples *p* toward their lower ends to oscillate laterally, brackets *q*, projecting from the sides of the supports C, bearings *r* for the brackets *q*, sliding bars E, confined between guides on the sides of the vehicle and provided with sustaining-bars *m* for the supports C, moving within suitable guides, and a lever, *o*, for each bar E, fulcrumed to the body of the vehicle and pivotally connected to the bars E, the whole being constructed and arranged to operate as and for the purpose set forth.

ERNEST VON OVEN.

In presence of—
B. B. BOECKER,
ARTHUR B. CODY.