

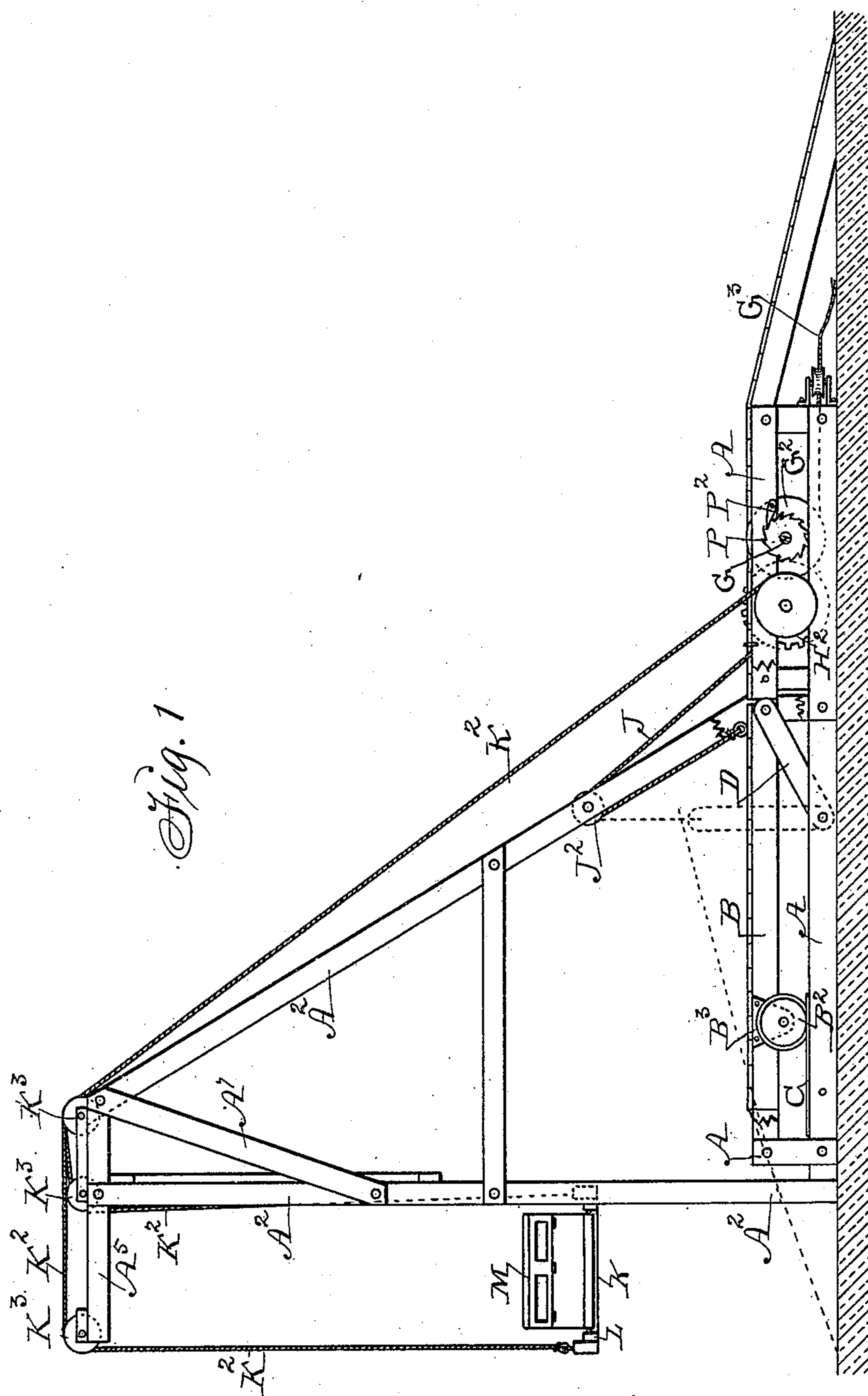
(No Model.)

2 Sheets—Sheet 1.

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WAGON DUMP AND ELEVATOR.

No. 447,191.

Patented Feb. 24, 1891.



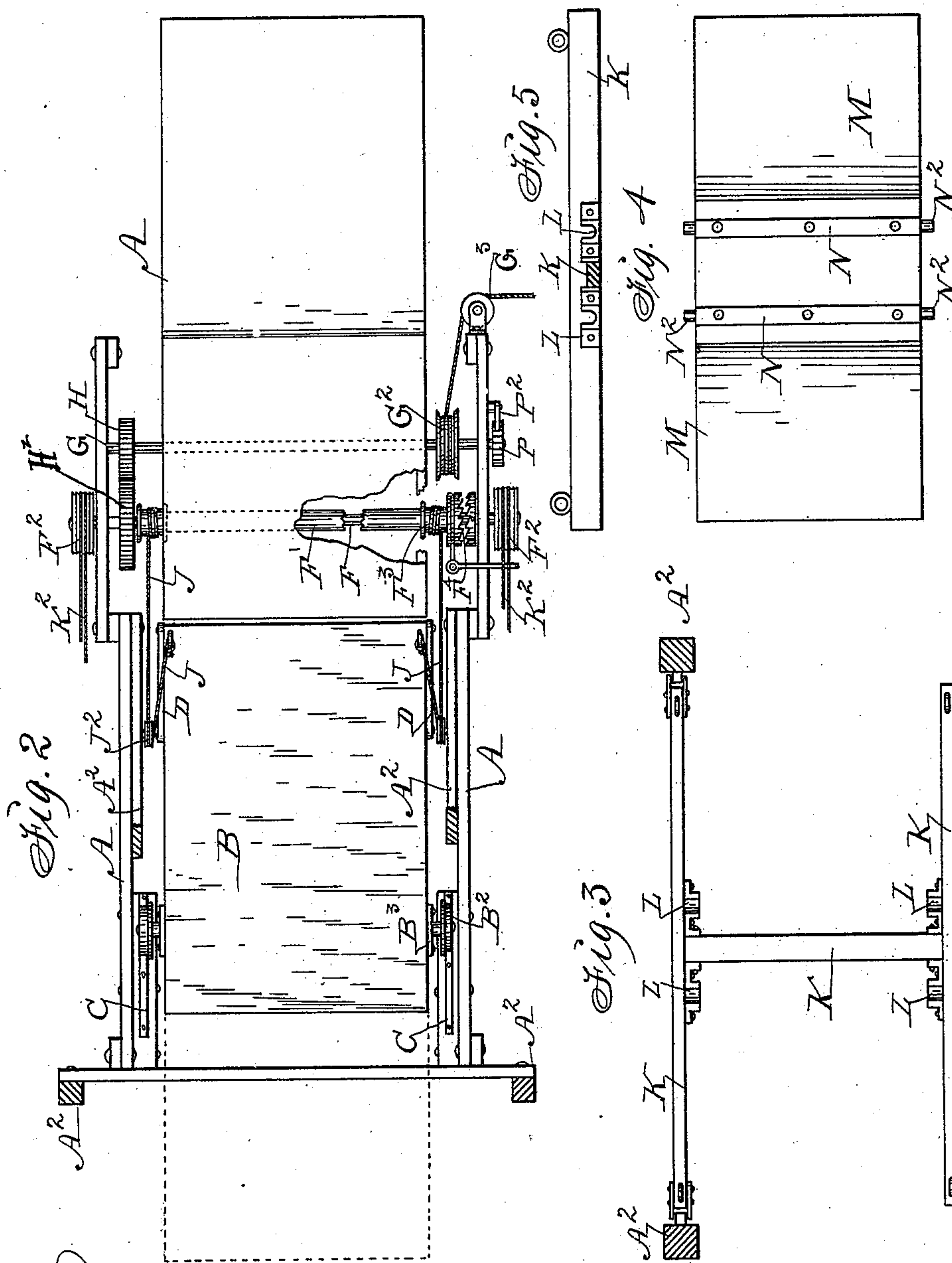
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Witnesses:  
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# UNITED STATES PATENT OFFICE.

JOHN S. KIDD, OF DES MOINES, IOWA.

## WAGON DUMP AND ELEVATOR.

SPECIFICATION forming part of Letters Patent No. 447,191, dated February 24, 1891.

Application filed September 5, 1888. Renewed August 20, 1889. Again renewed August 11, 1890. Serial No. 361,640.  
(No model.)

*To all whom it may concern:*

Be it known that I, JOHN S. KIDD, a citizen of the United States of America, and a resident of Des Moines, in the county of Polk and State of Iowa, have invented an Improved Wagon Dump and Elevator, of which the following is a specification.

My object is to reduce the height of the platform upon which a wagon is drawn by horses hitched to the wagon, as required, to favor the horses, and also to utilize the weight of the suspended elevator-box for raising the front end of a wagon preparatory to dumping its contents into the elevator-box.

My invention consists in the construction and combination of an adjustable section of a platform with a fixed section and an elevator-frame in such a manner that the adjustable section can be placed in an inclined position, while a loaded wagon is upon it, and then moved longitudinally toward the elevator-box into which the contents of the wagon are to be dumped, and also in combining the elevator-box with the platform and the elevator-frame and hoisting mechanism in such a manner that the weight of the elevator-box can be applied to the rear end of the adjustable section of the platform to raise the front end of a loaded wagon on the adjustable section.

Figure 1 of the accompanying drawings is a side view, and Fig. 2 a top view, of an elevator-frame and dumping-platform similar in construction and appearance to the frame and platform shown in my application, Serial No. 284,307, filed August 31, 1888. Fig. 3 is a top view of the frame upon which the elevator-box is raised and lowered. Fig. 4 is a bottom view of an elevator-box adapted to be operated upon the frame. Fig. 5 is a side view of a section of the frame that has bearings fixed thereto to engage the end of cross-bars fixed to the bottom of the box.

A represents the fixed portion of the wagon-platform, and A<sup>2</sup> the elevator-frame to which it is attached.

B is the frame of the adjustable section of the wagon-platform, preferably supported at its front end upon wheels B<sup>2</sup>, that are con-

nected therewith by means of bearers B<sup>3</sup>, fixed to side bars of the frame.

C represents short rails or tracks fixed to the frame of the fixed portion of the platform in such a manner that the wheels B<sup>2</sup> will travel thereon.

D are straight bars pivoted to the rear ends of the side bars of the frame B, and also to the side bars at the base of the fixed portion A of the complete platform, in such a manner that they will swing vertically to aid in lifting the rear end of the adjustable section and support it in an inclined position, as indicated by dotted lines in Fig. 1.

F is a shaft adapted to rotate in bearings fixed to the platform-frame A.

F' is a tubular shaft or sleeve on the shaft F. F<sup>2</sup> are drums fixed on the ends of the shaft F, and F<sup>3</sup> drums on the ends of the sleeve.

F<sup>4</sup> is a clutch for connecting the sleeve with the shaft F so they will rotate jointly.

G is a rotating shaft in parallel position with the shaft F. It has a fixed drum G<sup>2</sup> at one end, to which a rope G<sup>3</sup> is fixed for operating the shaft.

H is a gear-wheel fixed to the other end of the shaft G to engage a wheel H<sup>2</sup>, fixed to the shaft F in such a manner that motion and power will be transmitted from one shaft to the other in raising and lowering the adjustable section B of the platform and an elevator-box.

J are ropes fixed to the rear and top corners of the section B of the platform and extended over directing-pulleys J<sup>2</sup>, attached to the elevator-frame, and from thence down to the drums F<sup>3</sup>, to which they are attached.

K is a frame suspended from the top of the elevator-frame by means of ropes K<sup>2</sup>, that pass over directing-pulleys in a common way and are fastened to the drums F<sup>2</sup>.

L are metal castings fixed to the frame, to serve as corner-braces in the frame and also as bearings or fulcrums upon which to support and operate an elevator-box M, that has two bars N fixed across its bottom. The bars have journals N<sup>2</sup> on their ends, that fit and operate on the fulcrums L in such a manner



that the box can be tilted in reverse ways at the will of the operator, as required to discharge the contents of the box in different directions at different times.

5 P is a ratchet-wheel on the end of the shaft G, and P<sup>2</sup> is a pawl pivoted to the platform-frame A in such a manner that any backlash of the hoisting-rope G<sup>3</sup> will be prevented as the loaded box M is elevated, and also as re-  
10 quired to retain the box elevated.

To place a loaded wagon upon the adjustable section B of the platform, an inclined approach is placed at the front end of said section, as indicated by dotted lines in Fig. 1, and the wagon then advanced over the ap-  
15 proach to the top of the platform, by means of horses and by driving through under the elevator-box M, suspended over the approach. The approach is then removed and the pawl  
20 P<sup>2</sup> adjusted to allow the shafts G and F to rotate and the box M to descend and rest upon the ground at the rear end of the platform-section B. As the box descends by force of gravity, the ropes K<sup>2</sup> unwind from the  
25 drums F<sup>2</sup>, and in so doing rotate the shaft F and wind the ropes J on the drums F<sup>3</sup>, as required to lift the rear end of the platform-section B and the front end of the wagon thereon. As the box descends and the wagon  
30 and adjustable section are brought into an inclined position; they are also jointly advanced toward the elevator-box, as required to bring the end of the wagon-box in proper position to discharge its contents into the ele-  
35 vator-box. As the box descends, the horses are backed and aid in tilting the dump-section and wagon. When the wagon is unloaded, the sleeve is freed from the shaft F by means of the clutch F<sup>4</sup>, to allow the sleeve  
40 and drums on its ends to rotate and unwind the ropes J from the drums F<sup>3</sup>, as required to allow the elevated platform-section B to return to its normal level position, so that the wagon can be advanced and the hoisting-rope  
45 G<sup>3</sup> attached to the wagon and the loaded elevator-box hoisted as the wagon is moved from the platform.

By doubling the ropes J over the pulleys J<sup>2</sup> and connecting them with the drums F<sup>3</sup>  
50 and the movable end of the platform, and connecting the ropes K<sup>2</sup> with the drums F<sup>2</sup>, of larger diameter, on the sleeve F', to which the drums F<sup>3</sup> are fixed, the power of gravity inherent in the box is augmented sufficiently  
55 to operate the platform-section in the manner described.

In my former application, hereinbefore referred to, I raise and lower an elevator-box by means of ropes passed over pulleys in the  
60 same manner as now shown; but the ropes are not connected with the dumping-platform for the purpose of utilizing the weight of the box to lift the platform and dumping the wagon.

65 I am aware elevator-boxes have been suspended from the top of the frame, and con-

nected with mechanism on the platform and base of the frame by means of ropes for the purpose of raising and lowering the box; but my combination of an elevator-box with  
70 a wagon-dumping platform and operating mechanism in such a manner that the weight of the box can be utilized to lift and dump a wagon is novel and greatly advantageous.

I claim as my invention—

1. In a wagon dump and elevator, the combination of a platform-section that is supported upon traction-wheels at one end and hinged to a fixed platform at its other end by means of straight bars in such a manner that  
80 when the hinged end is elevated the complete section will be moved longitudinally toward an elevator-box, for the purposes stated.

2. The platform-section B, having fixed bearings B<sup>2</sup> and wheels B<sup>3</sup> at its front end  
85 and pivoted bars D at its rear end, in combination with a platform and elevator-frame and mechanism for lifting the rear end of the movable platform-section, for the purposes stated.

3. The ropes J, passed over pulleys J<sup>2</sup>, attached to an elevator-frame, the rotating sleeve or shaft F', having fixed drums F<sup>3</sup>, and the platform-section B, supported upon wheels at its front end and connected at its rear end  
95 with the fixed platform by means of bars D, arranged and combined to operate in the manner set forth.

4. The combination of the shaft G, having a fixed drum G<sup>2</sup>, and fixed gear-wheel H, the  
100 shaft F, having fixed drums F<sup>2</sup>, the sleeve F', having fixed drums F<sup>3</sup>, the ropes J, extended over pulleys J<sup>2</sup>, attached to the elevator-frame, the platform-section B, mounted on wheels at its front end and connected with  
105 the fixed platform by means of bars D, and an elevator-box suspended from the top of the elevator-frame by means of ropes fixed to the drums F<sup>2</sup>, to operate in the manner set forth, for the purposes stated.

5. A wagon dump and elevator comprising an elevator-frame and a wagon-platform fixed to the base of the elevator-frame, an adjustable platform-section supported upon traction-wheels at its front end, hinged to the  
115 fixed platform at its rear ends by means of bars that allow vertical adjustment and longitudinal motion to the adjustable section, an elevator-box suspended from the top of the elevator-frame by means of ropes and pul-  
120 leys, a rotating shaft having fixed drums to which said ropes are attached to raise and lower the said box, mechanism for rotating shaft, and ropes extended over pulleys attached to the elevator-frame and connected  
125 with the shaft and also with the rear end of the adjustable platform section, arranged and combined to operate in the manner set forth, for the purposes stated.

6. In a wagon dump and elevator, the combination of a suspended elevator-box and ad-  
130 justable platform-section and mechanism for



transferring the weight of the box to the said platform-section, for the purpose of elevating one end of a wagon on the platform-section.

5 7. The combination of an elevator-box suspended from the top of an elevator-frame by means of ropes, mechanism for operating the ropes to raise and lower the box, and an adjustable platform adapted to support a wagon

and connected with the rope-operating mechanism for the purpose of dumping the contents of the wagon into the elevator-box.

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