No. 814,861. PATENTED MAR. 13, 1906.

C. MILLER.

DUMPING WAGON.

APPLICATION FILED FEB. 6, 1904.

4 SHEETS—SHEET 1.

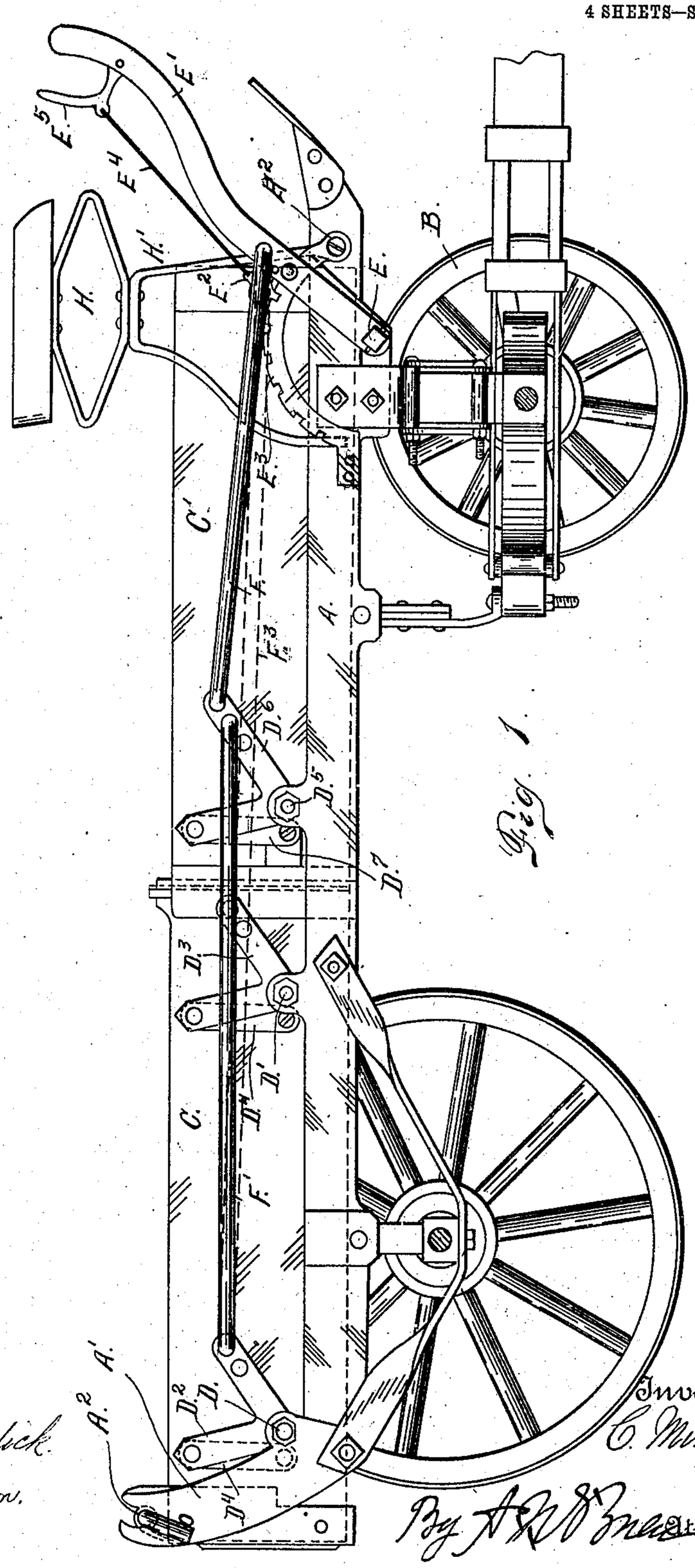

Fig. 1.

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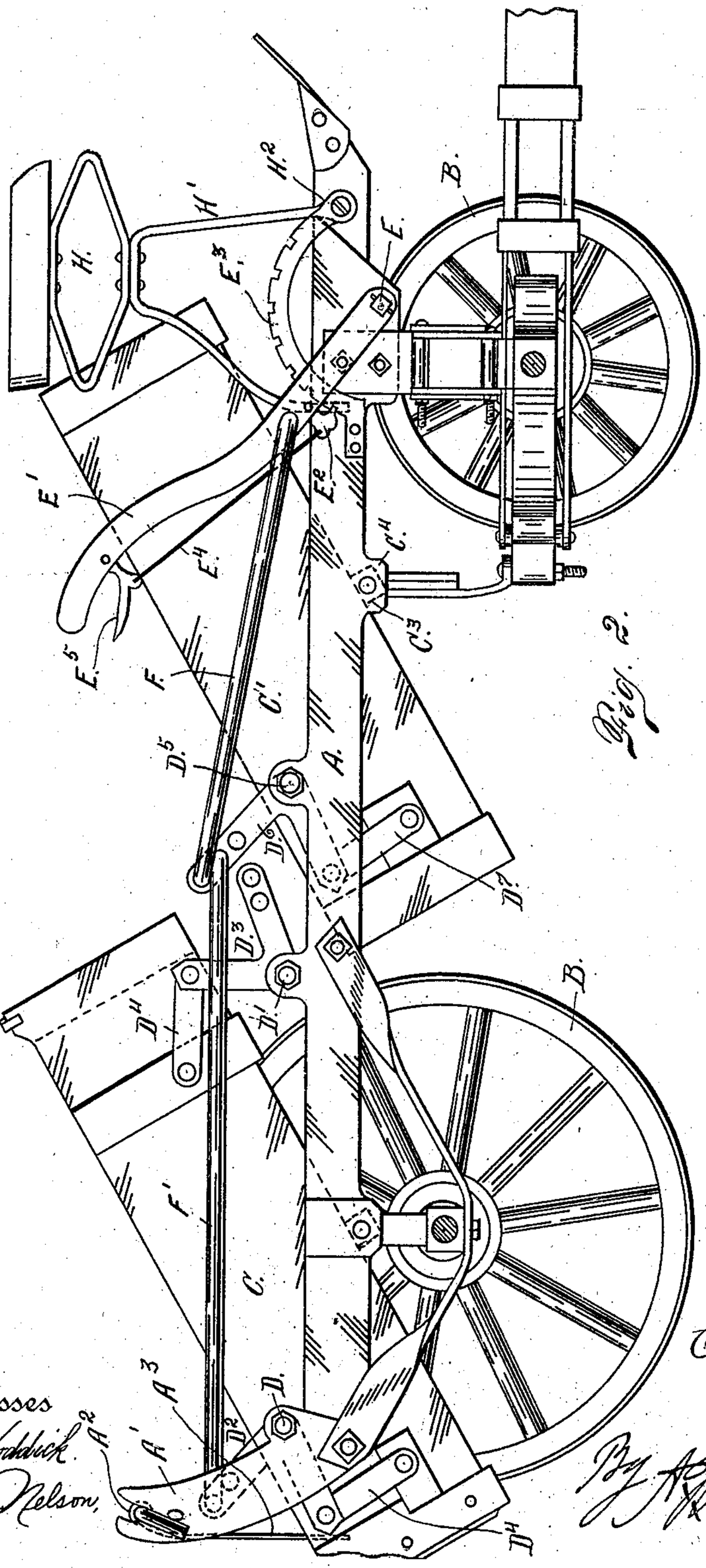

Fig. 2.

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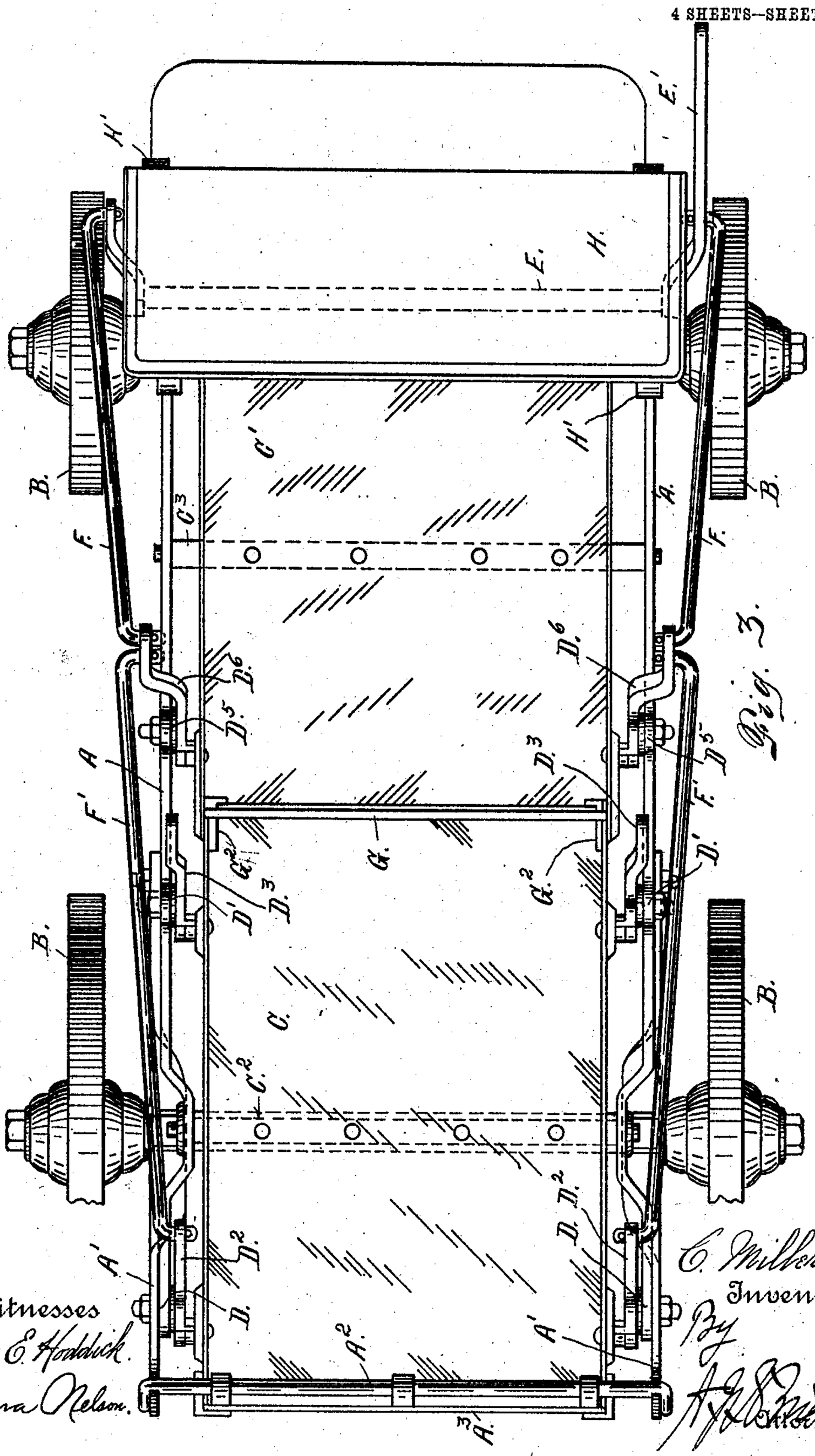
4 SHEETS—SHEET 3.



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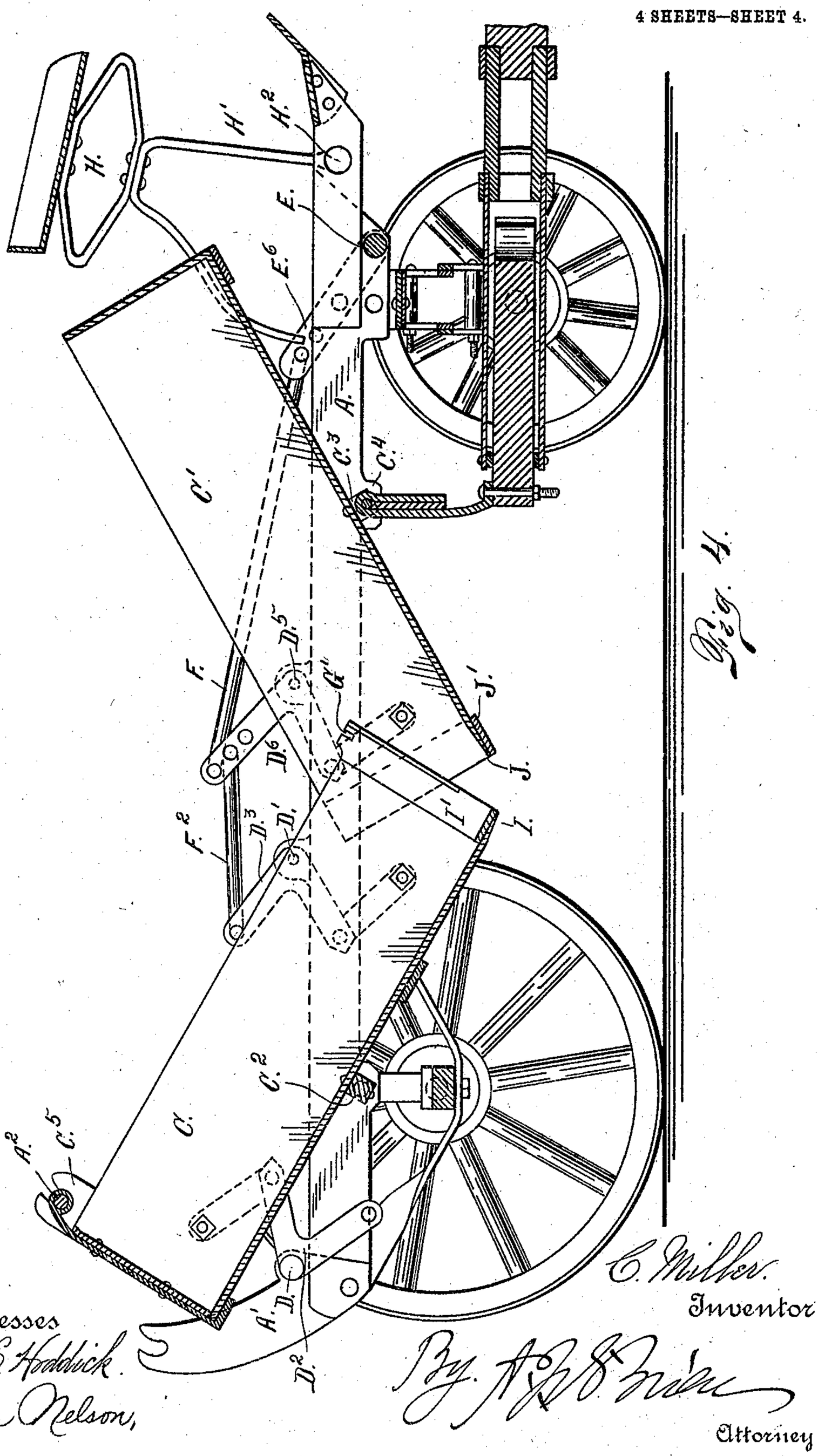

Fig. 4.

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UNITED STATES PATENT OFFICE.

CONRAD MILLER, OF DENVER, COLORADO.

DUMPING-WAGON.

No. 814,861. Specification of Letters Patent. Patented March 13, 1906.

Application filed February 6, 1904. Serial No. 192,426.

To all whom it may concern:

Be it known that I, CONRAD MILLER, a citizen of the United States of America, residing in the city and county of Denver and State of Colorado, have invented certain new and useful Improvements in Dumping-Wagons; and I 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 the letters of reference marked thereon, which form a part of this specification.

My invention relates to improvements in dumping-wagons adapted for use in connection with the hauling of any material which it is desired to quickly dump in bulk or piles and is capable of use in any relation where a dumping-wagon body is desirable or necessary.

Generally speaking, my invention consists of a suitable relatively stationary frame provided with parallel side pieces and a wagon-body divided into two sections pivotally mounted on the side pieces of the frame and adapted to be either separately or simultaneously dumped, as may be desired. These two wagon-body sections may be dumped to throw their entire contents into a single pile centrally located below or they may be both dumped rearwardly, whereby the contents of each section is dumped into a separate pile.

Having briefly outlined my improved construction as well as the function it is intended to perform, I will proceed to describe the same in detail, reference being made to the accompanying drawings, in which is illustrated an embodiment thereof.

In the drawings, Figure 1 is a side elevation of a wagon equipped with my improved dumping mechanism, the dumping-sections being shown in the upright position. Fig. 2 is a similar view showing the wagon-body sections in the inclined or dumped position, one of the sections being partly broken away for lack of space on the sheet. Fig. 3 is a top or plan view of my improved dumping-wagon, with the sections in the upright position, as shown in Fig. 1. Fig. 4 is a vertical longitudinal section taken through the wagon and showing the two wagon-body sections inclined to discharge their contents into a single central pile or heap.

The same reference characters indicate the same parts in all the views.

Let A designate each of two parallel side pieces forming the framework of the body of the wagon, the said framework being relatively stationary and suitably mounted on a running-gear of any suitable construction. In the drawings the wheels B, which support the framework, may support axles of any suitable construction. In the drawings a special construction of turning-gear is illustrated, but as nothing is claimed thereon in this application it will not be specifically set forth in detail. In the use of my improved dumping-body construction the usual long reach extending from the turning-gear in front of the rear axle should be dispensed with. With this exception the running-gear may be of any ordinary construction.

The wagon-body, as shown in the drawings, consists of two sections or members C and C′. As shown, these sections or members are substantially of the same size. The rearwardly-located section is secured at the bottom to a cross-bar C^2, whose extremities are journaled in the side pieces of the frame. This construction permits the tilting of the wagon-body sections C in either direction as may be desired. The forward section C′ is provided with a similar cross-bar C^3, whose extremities are journaled in the side pieces A. It will thus be seen that each wagon-body section is pivotally mounted centrally of its length, whereby it may be tipped or inclined with equal facility in either direction. The rear extremity of each frame-bar A is provided with an upwardly-projecting part A′, slotted to receive a rod A^2, with which the rear end-gate A^3 of the wagon-body is connected. These parts A′ support the end-gate when the wagon-body section is tipped rearwardly or inclined to the position shown in Fig. 2. However, when this section is tipped or inclined forwardly, as shown in Fig. 4 of the drawings, the wagon-body section takes the end-gate along with it, and for this purpose the said section is provided with upwardly-projecting slotted ears C^5, which are engaged by the end-gate rod A^2, and support the end-gate when the said wagon-body section is tilted forwardly.

Fulcrumed on each frame-bar A, as shown at D and D′, are two bell-crank levers D^2 and D^3, each of which has one arm connected with the wagon-body section C by a link D^4. The other arm of each bell-crank lever is provided with openings for the attachment of connecting rods or links. Also fulcrumed

on each frame-bar A, as shown at D^5, near its longitudinal center, is a bell-crank lever D^6, one arm of which is connected with the rear end of the wagon-body section C′ by a link D^7. The other arm of each bell-crank lever D^6 is provided with openings for the attachment of operating connecting-rods.

On one side of the wagon is located a hand-lever whose lower extremity is provided with a square opening to receive a correspondingly-shaped extremity of a rock-shaft E, journaled in the frame-bars A. Pivotally connected with this lever is a dog E^2, adapted to engage a notched quadrant E^3 in the ordinary way, the quadrant being secured to one of the frame-bars A. The dog E^2 is connected by a rod E^4 with a pivoted handpiece E^5, whereby the dog may be raised out of a notch in the quadrant whenever it is desired to shift the lever from one position to the other during the operation of dumping the wagon-body sections or restoring them to their upright or normal position, as may be desired. On the opposite side of the wagon from the lever E′ the lower extremity of a crank-arm E^6 is made fast to the rock-shaft E.

On one side of the wagon a rod F is pivotally connected at one extremity with the lever E′ and at its opposite extremity with one arm of the bell-crank lever E^6. As shown in the drawings, the rod F is provided with bent extremities which engage openings formed in the connected parts. On the opposite side of the wagon a similar rod F is similarly connected with the crank-arm E^6 and with one arm of the bell-crank lever D^6, located on the same side as the crank-arm. From the foregoing explanation it will be understood that the wagon-body section C′ may be tilted to the position shown in Figs. 2 and 4 and restored to its upright position by the manipulation of the hand-lever E′.

Referring now to Figs. 1, 2, and 3 of the drawings, one arm of each bell-crank lever D^6 is connected with one arm of each bell-crank lever D^2 by a rod F′, the extremities of each rod being movable in the arms of the connected levers. It will now be understood that both of the wagon-body sections C and C′ may be simultaneously tilted to the dumping position shown in Fig. 2 and simultaneously restored to their upright position shown in Figs. 1 and 3 by the manipulation of the hand-lever E′.

When it is desired to dump the wagon-body sections by tilting them in opposite directions—that is to say, by tilting the section C′ rearwardly and the sections C forwardly—the rod F′ is removed and a short rod F^2, connected at one extremity with one arm of each bell-crank lever D^3 and at its other extremity with the arm of each bell-crank lever D^6, being the same arm that the rod F is connected with. Now it will be understood that if the hand-lever E′ be thrown to the position shown in Fig. 2 that the wagon-body sections will both be tilted to the position shown in Fig. 4, or in such a manner as to dump their contents into a single central heap or pile. Now if it is desired to dump the forward section C′ without dumping the rearward section C it will only be necessary to unhook each rod F′ from the bell-crank lever D^2. Then if the arm E′ be thrown to the position shown in Fig. 2 the forward section C′ alone will be actuated. Again, if it is desired to dump the rear section without dumping the forward section it will only be necessary to remove the rods F′, detach the rods F, and connect the lever E′ and the crank-arm E^6 with long rods F^2 (indicated by dotted lines in Fig. 2) with the bell-crank levers D^2.

The forward extremity of the rear dumping-section of the wagon-body is provided with a removable end-gate G, whose upper extremities engage slots G′, formed in angle-plates G^2. These angle-plates are bent inwardly at their rear extremities to brace the end-gate and hold it securely in the proper position when the wagon is loaded. This end-gate is of course removed when the section C is dumped to the position shown in Fig. 4. It will be understood that by removing the end-gates G and A^3 my improved dumping-wagon body may be used in the ordinary way or as a rigid wagon-body. Hence its contents may be shoveled out of it or removed in the ordinary way if for any reason it is desired to do this.

For convenience I have provided the seat H with a support H′ on each side, one arm of which is pivoted to the frame, as shown at H^2, while the other arm is slotted at its lower extremity to straddle the edge of the frame-bar A. Hence the seat may be tilted forwardly for convenience, as indicated in Fig. 4 of the drawings.

From the foregoing description the use and operation of my improved dumping-wagon will be readily understood. Assuming that the dumping-body sections are in the upright position or in the position shown in Figs. 1 and 3, the hand-lever may be manipulated to throw the wagon-body sections to the position shown in Figs. 2 or 4, as desired, depending on whether the rods F′ or the rods F^2 are employed for operating purposes. It is believed that further explanation of the operation will not be required in view of the full description of the operation during the detail description of the mechanism.

Attention is called to the fact that the forward section C′ extends rearwardly a short distance beyond the forward extremity of the section C, whereby the forward extremity of the last-named section slightly overlaps the rear extremity of the forward section in order to make the wagon-body perfectly tight when the sections are in the upright position.

In order to make these adjacent extremities and the two wagon-body sections properly coöperate, the bottoms of the overlapping parts of the said sections are beveled, as shown at I and J in Fig. 4 of the drawings. In order to strengthen the parts and compensate for this bevel, the two sections are provided with interiorly and exteriorly located U-shaped reinforcing parts I′ and J′, respectively.

Having thus described my invention, what I claim is—

1. The combination with a suitable framework, of two dumping-body sections overlapping to form a tight receptacle when the said sections are in the upright position, each section being pivoted on the framework, bell-crank levers fulcrumed on the framework and having one arm connected with the forward dumping-body section on each side, a rock-shaft journaled in the framework, a hand-lever connected to operate the rock-shaft on one side of the wagon, a crank-arm having its lower extremity secured to the rock-shaft on the opposite side of the wagon, a connecting-rod connecting the hand-lever on one side of the wagon with the bell-crank lever on the corresponding side, another rod connecting the crank-arm of the rock-shaft on one side of the wagon with the bell-crank lever on the corresponding side, other bell-crank levers fulcrumed on the framework and having one arm of each connected with the rear section of the wagon-body in the rear of its pivot, and a rod connecting the bell-crank levers of the forward body-section with the bell-crank levers of the rear body-section whereby as the hand-lever is manipulated the two body-sections are simultaneously tilted to the dumping position.

2. In a dumping-wagon, the combination with a suitable frame, of a dumping-body section pivotally mounted on the frame, two bell-crank levers also pivotally mounted on the frame, a link connecting one arm of each bell-crank lever with the wagon-body section, a rock-shaft journaled in the frame, a hand-lever connected with the rock-shaft to rotate the latter on one side of the wagon, a crank-arm connected with the rock-shaft on the other side of the wagon, a connecting-rod connecting the hand-lever with one arm of the bell-crank lever on one side of the wagon, and a similar connecting-rod connecting the rock-shaft crank-arm with the bell-crank lever on the corresponding side of the wagon, whereby as the hand-lever is manipulated the wagon-body section may be tilted to the dumping position and restored to its upright position at will.

3. In a dumping-wagon, the combination with a suitable framework, of a dumping-body section pivotally mounted thereon, two levers fulcrumed on the framework near each extremity of the dumping-section, a link connecting each lever with the body-section, a hand-lever fulcrumed on the framework, and a suitable connection between the hand-lever and one of the levers connected with the body-section, whereby the latter may be tilted to the dumping position, substantially as described.

4. In a dumping-wagon, the combination with a suitable framework, having upwardly-projecting rigid arms at its extremities, one being on each side of the wagon, an end-gate supported on the said projections, a dumping-body section pivoted on the framework and located to have one extremity closed by the said end-gate when the dumping-body section is in its upright or normal position, a bell-crank lever fulcrumed on the framework, a connection between one arm of the lever and the dumping-section, and means connected with the other arm of the lever for manipulating the dumping-section.

5. In a dumping-wagon, the combination with a suitable framework provided with upwardly-projecting parts, and a body-section tiltably mounted on the framework and provided with slotted ears, the projections of the framework being also slotted to register with the slots in the ears of the dumping-body section when the latter is in the upright position, and an end-gate provided at its upper extremity with a rod adapted to simultaneously engage the slots of the projections in the ears of the dumping-body section when the latter is in its upright or normal position, the arrangement being such that as the wagon-body section is tilted in one direction, the end-gate is suspended by the projections on the framework, while when the wagon-body section is tilted in the opposite direction, it takes the end-gate with it, substantially as described.

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

CONRAD MILLER.

Witnesses:
DENA NELSON,
A. J. O'BRIEN.