

No. 753,232.

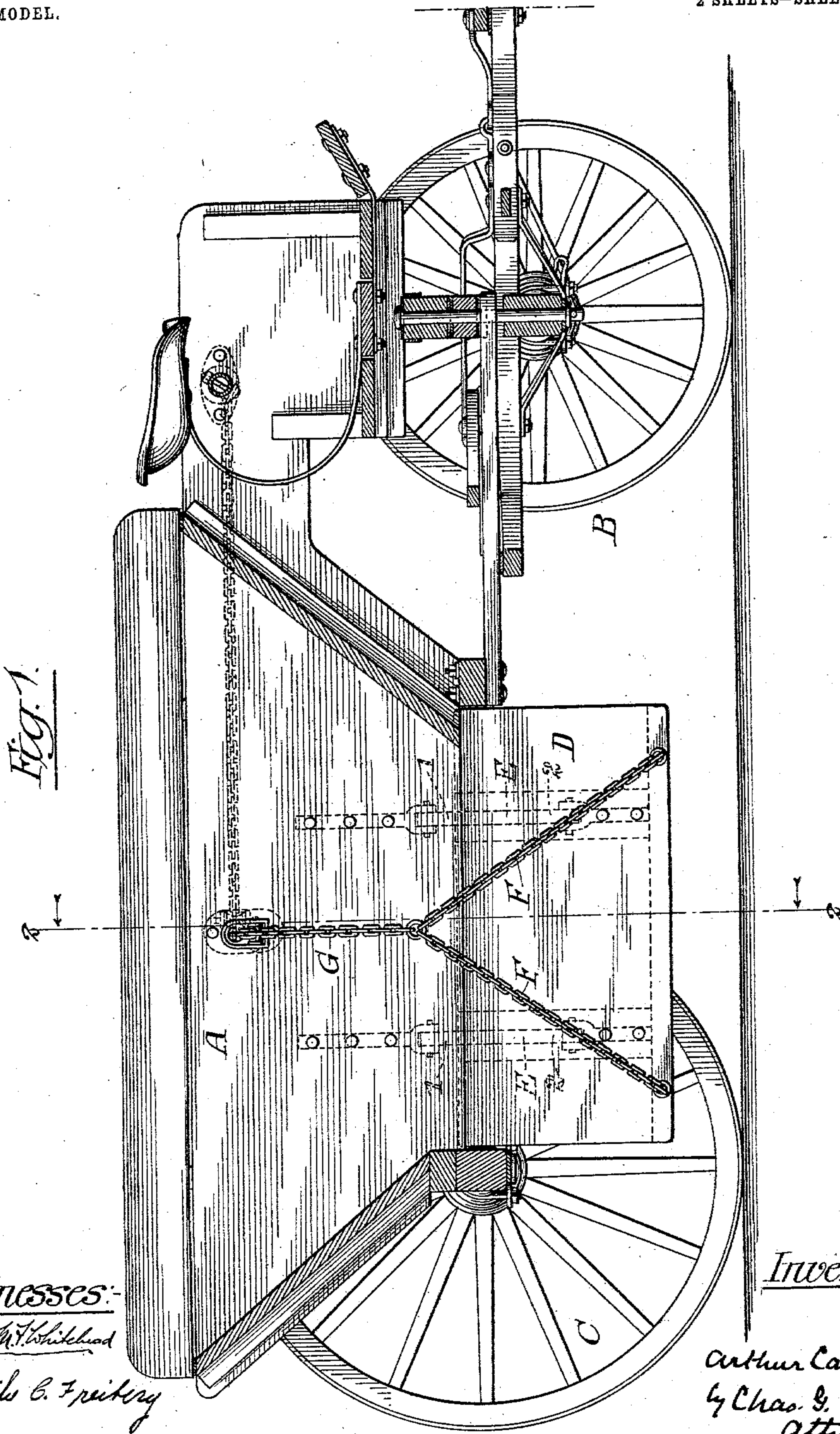
PATENTED MAR. 1, 1904.

A. CAMERON.
DUMPING WAGON.

APPLICATION FILED JULY 13, 1903.

NO MODEL.

2 SHEETS—SHEET 1.



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2 SHEETS—SHEET 2.

Fig. 2.

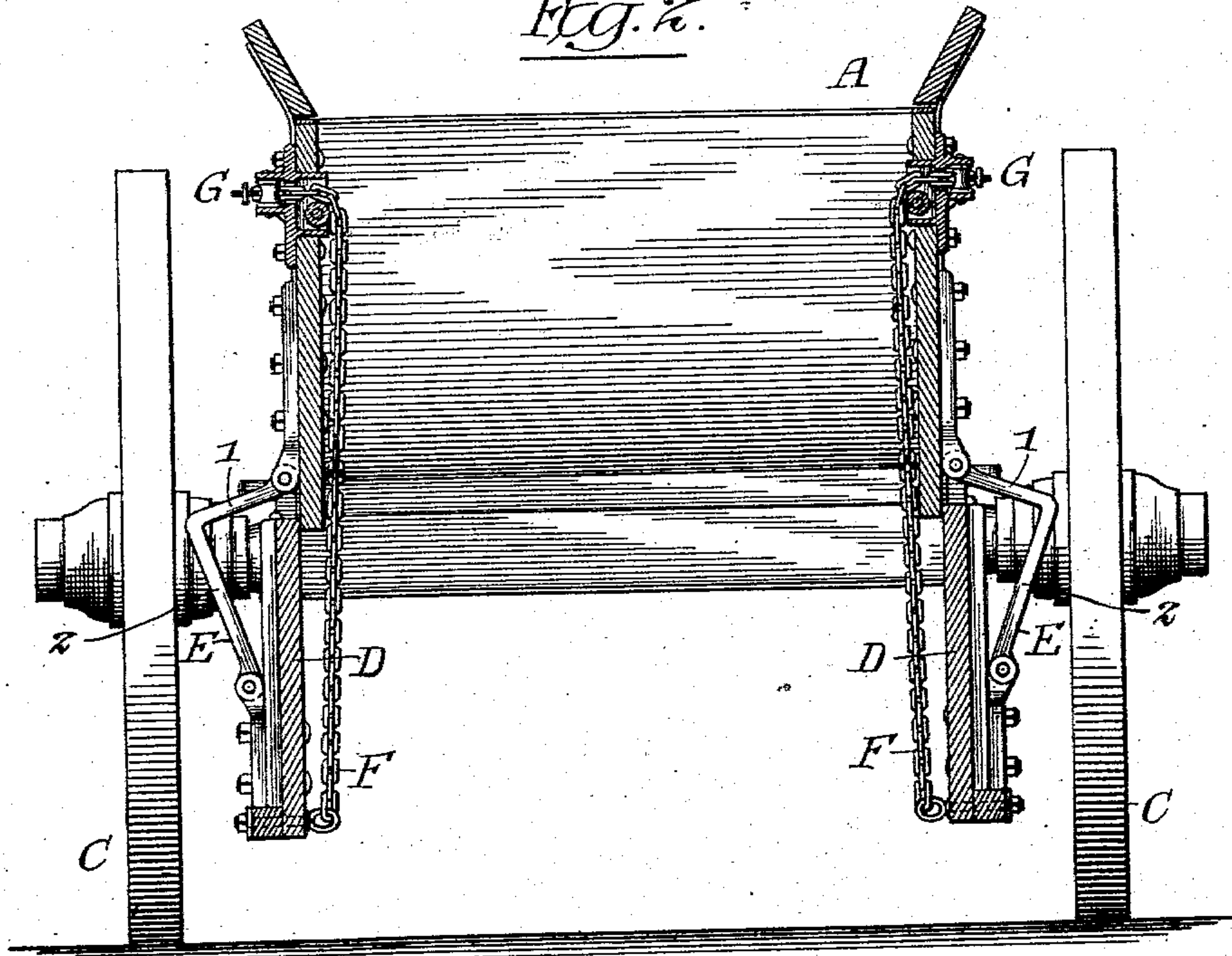
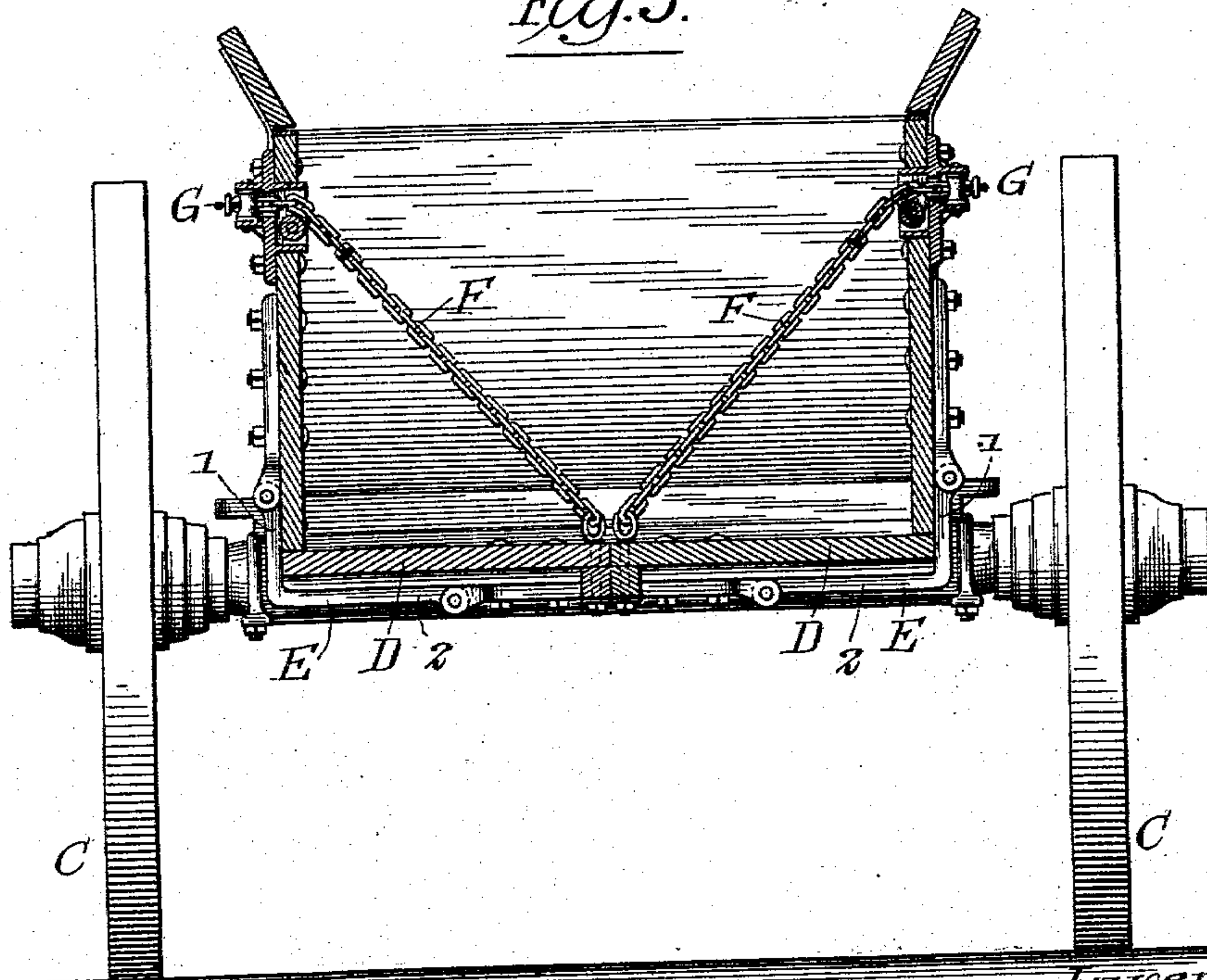


Fig. 3.



Witnesses:

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UNITED STATES PATENT OFFICE.

ARTHUR CAMERON, OF CHICAGO, ILLINOIS, ASSIGNOR TO NATIONAL DRILL AND MANUFACTURING COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF WEST VIRGINIA.

DUMPING-WAGON.

SPECIFICATION forming part of Letters Patent No. 753,232, dated March 1, 1904.

Application filed July 13, 1903. Serial No. 165,312. (No model.)

To all whom it may concern:

Be it known that I, ARTHUR CAMERON, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Dumping-Wagons, of which the following is a specification.

My invention relates to dumping-wagons of the kind in which the bottom of the wagon box or body is divided longitudinally to form a couple of bottom sections, which are hinge-connected with opposite sides of the wagon-body. These hinged bottom sections when held in a horizontal plane common to both serve as a bottom for the wagon-body, and when released they will be caused to swing downwardly by the weight of the load, and thereby open the body at its bottom and permit the load to dump. In various dumping-wagons of such class the hinged bottom sections are controlled by raising and lowering chains or cables connected with winding mechanism, so that when the chains are allowed to pay out the bottom sections will swing downwardly, while, on the other hand, when the chains or cables are wound up the bottom sections will be swung upwardly, so as to bring them into position for forming a closed bottom for the wagon-body. In some of these wagons the outer edges of the bottom boards are hinged to the lower edges of the sides of the body by pintle-hinges, so that when the load is dumped the bottom sections can swing downwardly and laterally outward to an extent to drop into vertical planes at opposite sides of the dump, while in others this result has been attained by attaching suspending-chains to the sides of the body at points higher than the bottom level thereof and connecting these suspending-chains with the bottom sections, the latter being thereby, in effect, hinge-connected with the body by means of such suspending-chains.

Objects of my invention are to permit the bottom sections to swing downwardly and laterally outward and at the same time to cause such swinging sections to bodily rise, so as to leave more space between them and the ground

for any lateral spread of the dumped material; to widen the space between the bottom sections when they are permitted to hang from their hinge connections with the wagon-body; to prevent material from collecting on the outer edges of the bottom sections when the latter swing into position to bring such edges uppermost; to dislodge material from the upper sides of the bottom sections in dumping; to place the hinge connection between the bottom sections and the body out of the way of materials contained within and dumped from the wagon-body; to effectively close the bottom of the wagon-body, and to provide certain novel and improved details serving to increase the general efficiency of dumping-wagons.

In the accompanying drawings, Figure 1 is a longitudinal central section, on a vertical plane, through a dumping-wagon embodying the principles of my invention. Fig. 2 is a section through Fig. 1 on line 2^x 2^x with the bottom sections in an open condition. Fig. 3 is a like view with the bottom sections closed.

The wagon box or body A is supported as usual or in any suitable way by front and rear wheels B C and is constructed with an open bottom—that is to say, it is constructed with sides and ends and provided with a couple of longitudinally-hinged bottom sections D D, which are hinge-connected with opposite sides of the body and arranged so that when swung into the position shown in Fig. 2 the body will be open at its bottom, and when swung into the position shown in Fig. 3 the body will be closed at its bottom by the two hinged sections, which when in such position provide a temporary bottom. These swinging bottom sections D are hinged to bent or elbow arms E, which are in turn hinged or pivoted upon the longitudinal sides of the wagon box or body at points on or adjacent to the outer faces of such sides. The upper portions 1 of the elbow-arms have their outer ends thus hinged or pivotally supported upon the sides of the wagon-body, while the outer ends of their lower portions 2 are pivotally or hinge connected with the bottom sections D at points

between the longitudinal edges of such sections. The arrangement of these hinged connections between the bottom sections and the box or body is such that when the bottom sections are in position to close the body at its bottom or form a temporary bottom therefor, as in Fig. 3, the lower arm portions 2 of the elbow-arm E will underlap and preferably lie against or adjacent to the under sides of the bottom sections. When, however, the bottom sections are released or permitted to swing downwardly, the elbow-arms E will swing outwardly, and the bottom sections while swinging downwardly and apart by reason of their own weight and the weight of the load will also relatively tilt upon the ends of the elbow-arms to which they are hinged, whereby relative separation will take place between the arm portions 2 of the elbow-arms and the portions of the bottom section which lapped over or upon such arm portions when the bottom sections occupied the position shown in Fig. 3.

As shown in Fig. 2, the arm portions 2 of the elbow-arms have relatively separated from the portions of the bottom sections which lapped over or upon them when the bottom sections occupied the position shown in Fig. 3, and it will also be seen that when the parts referred to have reached the position shown in Fig. 2 the bottom sections have their outer edges somewhat higher than the lower edges of the sides of the box or body. This rise on the part of the bottom sections can be increased by raising the points at which the elbow-arms are pivotally supported and correspondingly lengthening portions 1 of the elbow-arms to permit their portions 2 to lap under the bottom sections when the latter are closed, as in Fig. 3, it being observed that with such arrangement the spread of the rear wheels can be proportionally increased or the width of the box or body can be proportionally contracted, so as to provide between the sides of the body and the rear wheels ample clearance-space for swing on the part of the elbow-arms. The points at which these elbow-arms are hinge-connected with the under sides of the bottom sections can also be varied—as, for example, such point or connection may be midway of the longitudinal edges of each bottom section or between such middle point and either longitudinal edge—and obviously the arrangement could be such that the outer longitudinal edge portions of the bottom sections in place of lapping the outer faces of the sides of the box or body, as in Fig. 2, will come below the lower edge of such sides of the box or body when the bottom sections are in the position shown in said figure and that by increasing the spread of the rear wheels the force of the dumping action can be permitted to swing the bottom sections into downwardly-diverging planes. In all of such variations of proportion and adjustment, however, the bottom sec-

tions are hinged to the swinging elbow-arms, which are in turn pivotally suspended at opposite sides of the box or body.

While I do not limit myself to any one particular construction or arrangement of device or mechanism for raising the bottom sections from their lowered positions to the raised position shown in Fig. 2, I have shown as a means for thus operating the bottom sections two pairs of chains F, respectively, for each bottom section, as best shown in Fig. 1, in which the two chains of one of such pairs of chains have their lower ends attached to one of the bottom sections near the ends of such bottom section. With such arrangement the two chains thus attached converge upwardly and connect with a single chain G, which passes through an opening in the side of the box or body and thence extends forwardly to any suitable winding and unwinding device. This arrangement of chains is duplicated, so as to provide means for operating each bottom section. When chains are thus used, the extent to which the bottom sections can swing laterally outward can be determined by the length of the chains, and, if desired, the proportions of the operative members described can be readily varied, so as to permit the bottom sections, as shown in Fig. 2, to swing farther outward or toward the wheels, this further or increased extent of swing being an obvious possibility consistent with the principles of construction illustrated.

After the load has been dumped the bottom sections can be restored from the position shown in Fig. 2 to the position shown in Fig. 3 by drawing the chains G forwardly—for example, by swinging them upon a drum or rotary winding-shaft—whereby the chains F will be drawn upwardly, so as to raise the bottom sections. During this operation the bottom sections will also tilt in a direction to cause them to lap the arm portions 2 of the elbow-arms, and thereby permit the chains to swing both the bottom sections and the elbow-arms into the position shown in Fig. 3.

I am aware that Letters Patent of the United States No. 177,324, granted to D. J. Deen and dated May 10, 1876, shows the bottom of a wagon box or body secured and permanently held flatwise upon the lower portions of swinging elbow-arms and that such feature of construction is also illustrated in Letters Patent of the United States No. 378,272, granted to D. S. Watson and dated February 21, 1888. In said patents, however, the bottom boards or sections are not hinged to the swinging elbow-arms, and hence the results and advantages of my improvement are not therein attained.

What I claim as my invention is—

1. In a dumping-wagon, a bottom for the wagon-body comprising longitudinal bottom sections hinged to the lower arm portions of swinging elbow-arms which have their upper

arm portions pivotally supported at opposite sides of the wagon-body.

2. In a dumping-wagon, elbow-arms arranged with their upper arm portions pivotally or hinge supported at opposite sides of the wagon-body, and bottom sections hinged at points between their longitudinal edges upon the lower arm portions of such elbow-arms.

10 3. In a dumping-wagon, a bottom for the wagon-body comprising bottom sections hinged upon the lower arm portions of elbow-arms which have their upper arm portions pivotally or hinge supported at opposite sides
15 of the wagon-body, and chains for operating

the bottom sections attached to the latter at or near their free end portions.

4. In a dumping-wagon, elbow-arms having upper arm portions pivotally or hinge supported at opposite sides of the wagon-body; 20 bottom sections hinged upon the lower arm portions of such elbow-arms, and chains F attached in pairs to the bottom sections and converging upwardly to and connected with chains G.

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