

O. GUNNULDSON.
Dumping-Wagons.

No. 153,071.

Patented July 14, 1874.

Fig. 1.

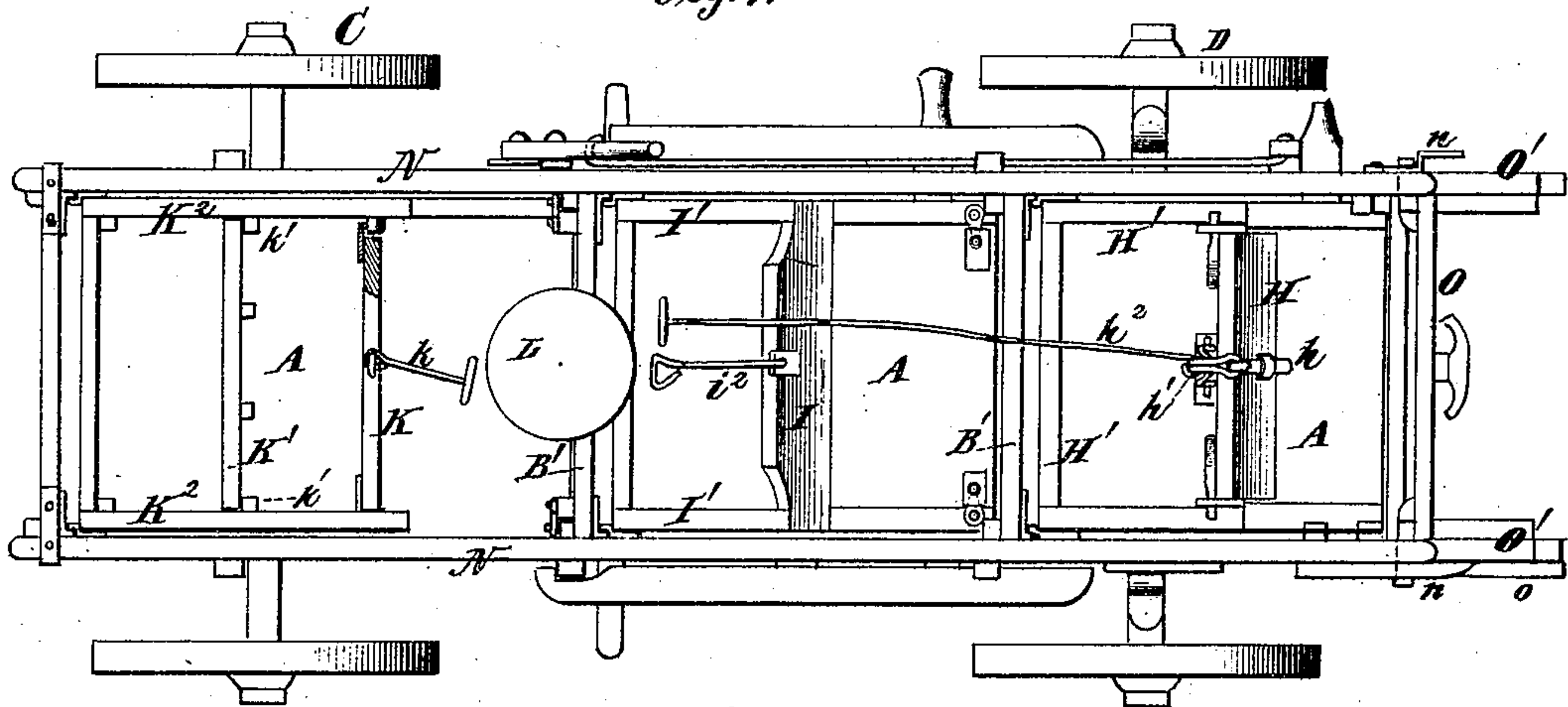


Fig. 2.

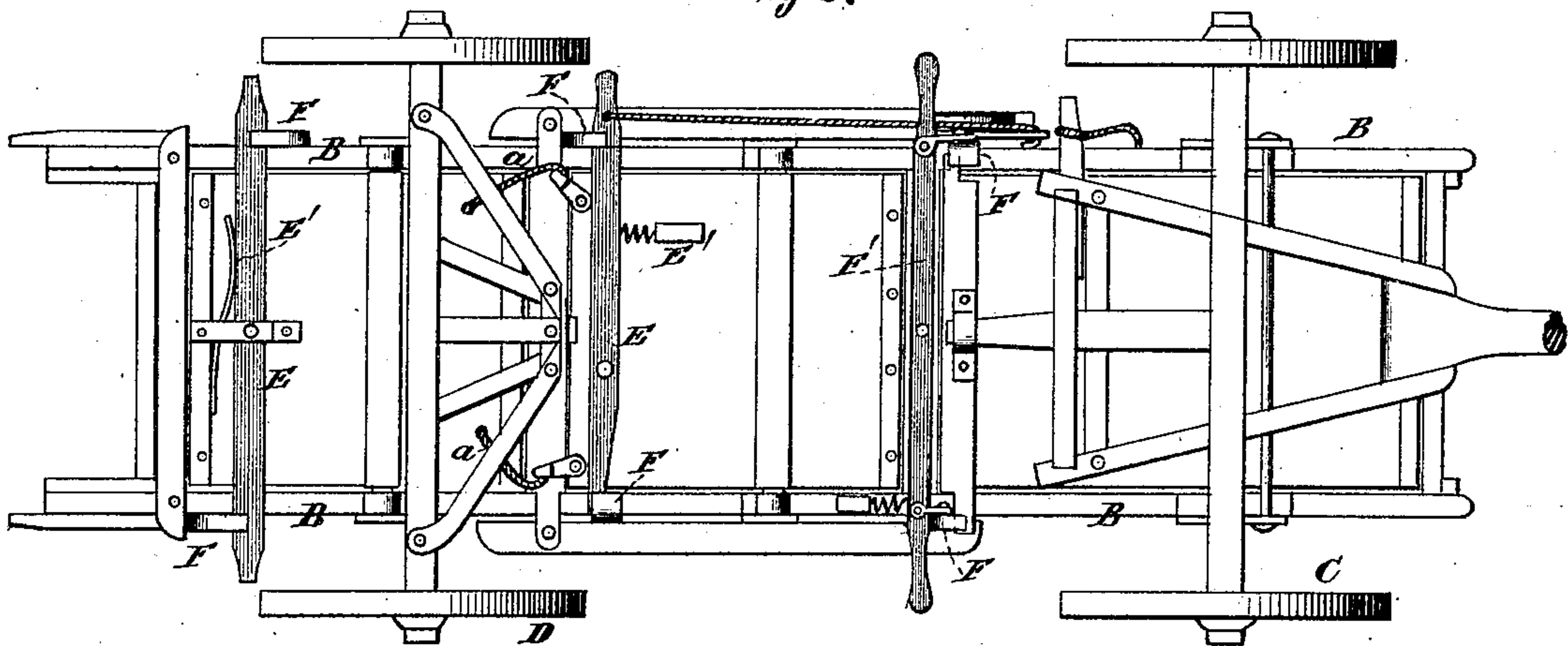
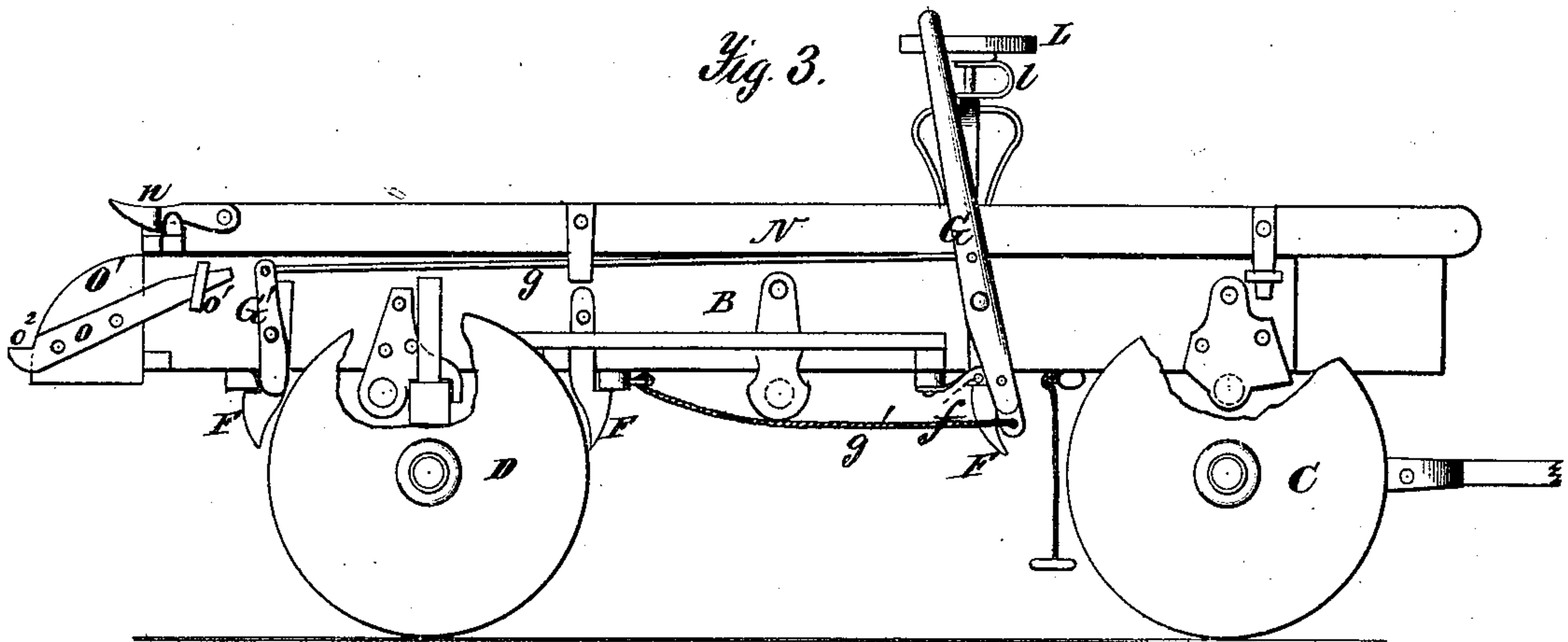


Fig. 3.



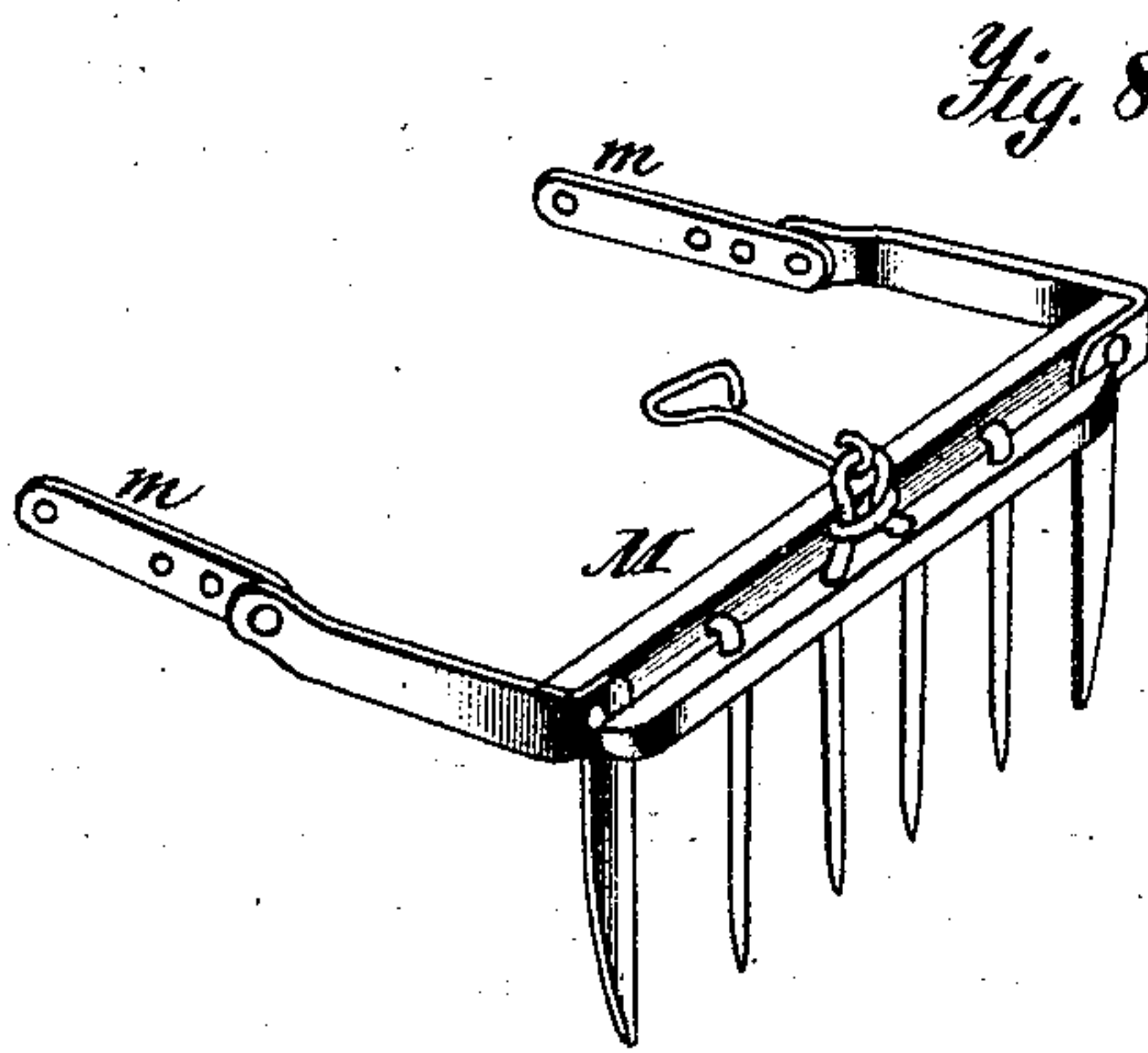
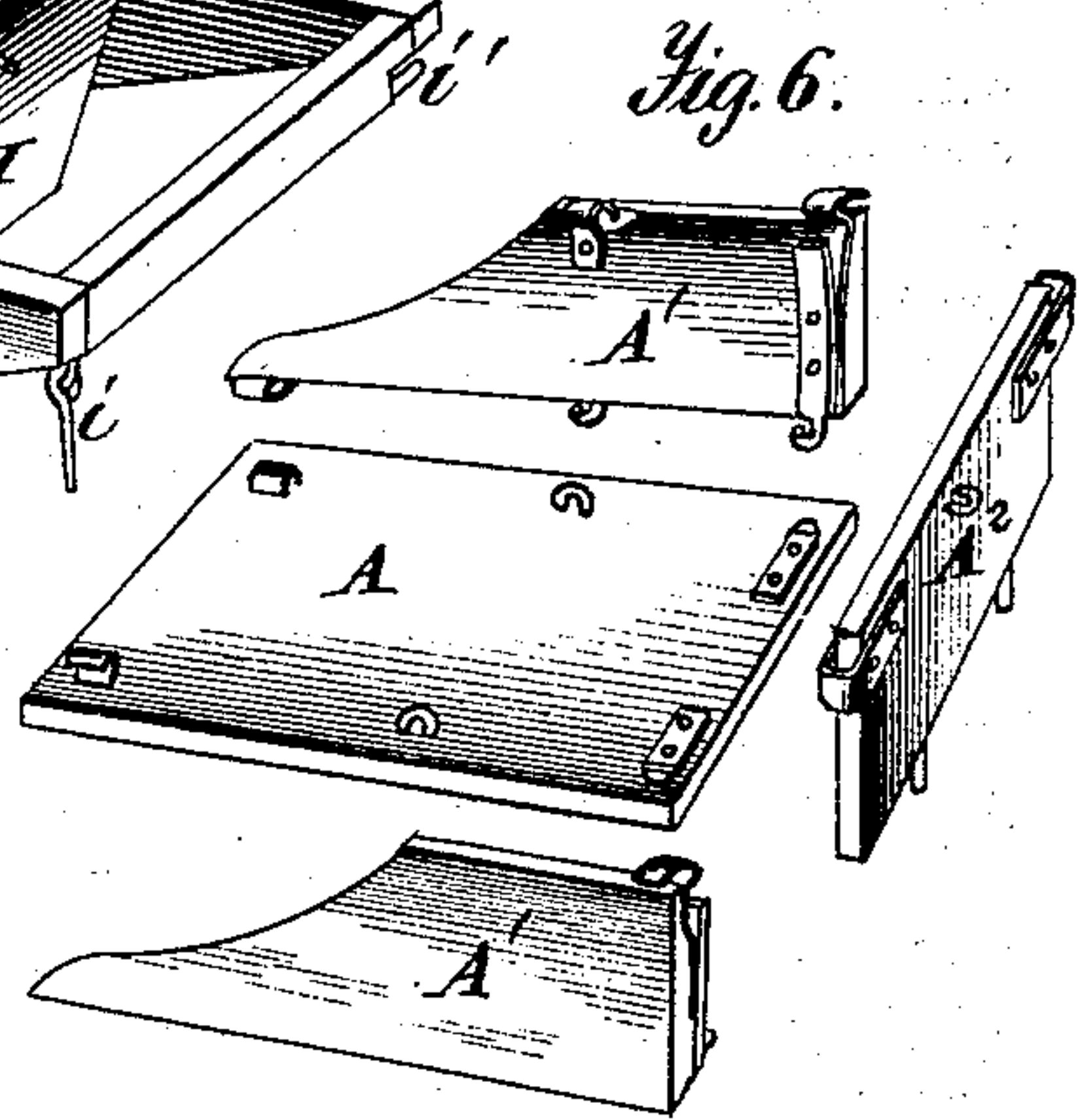
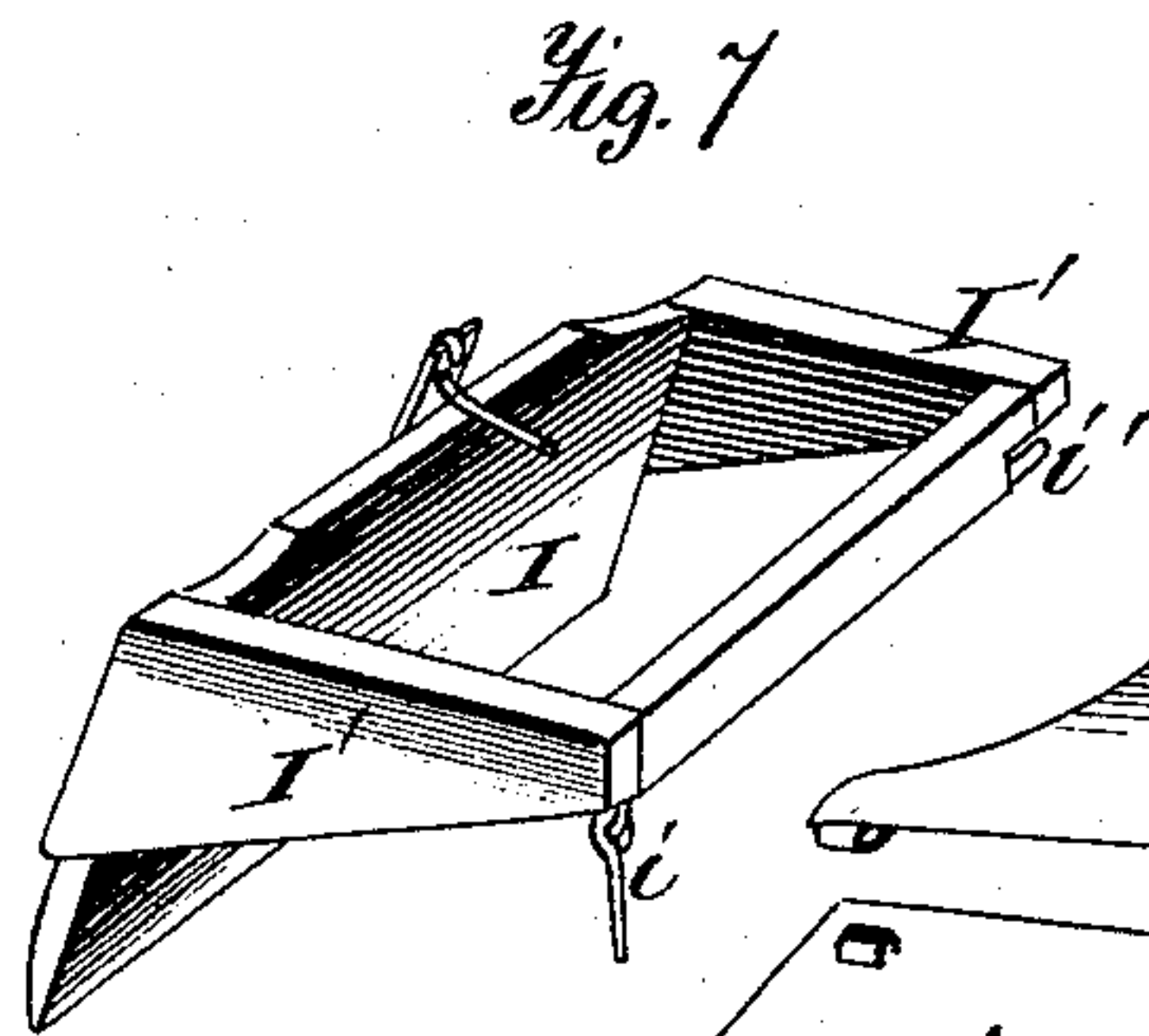
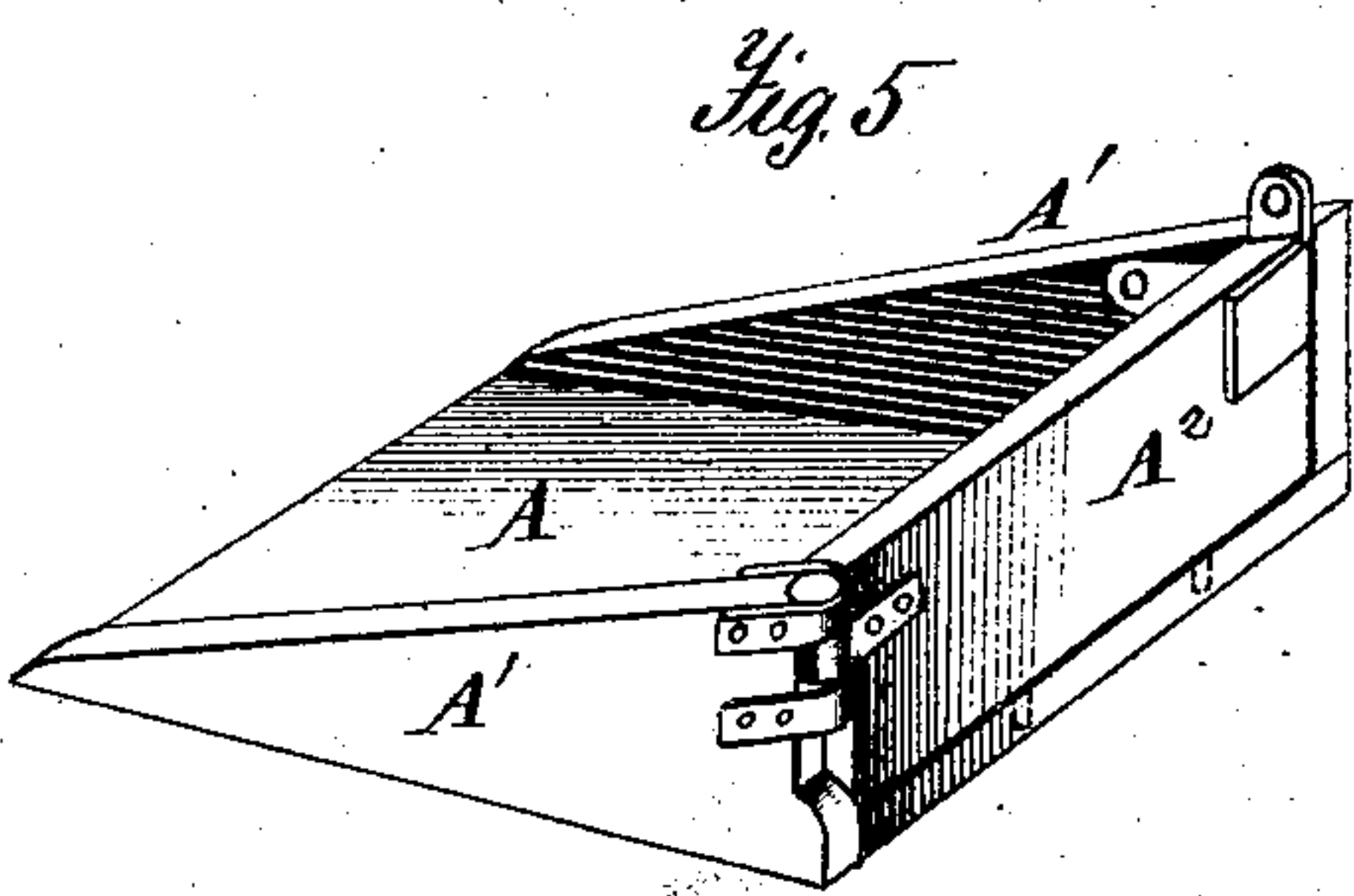
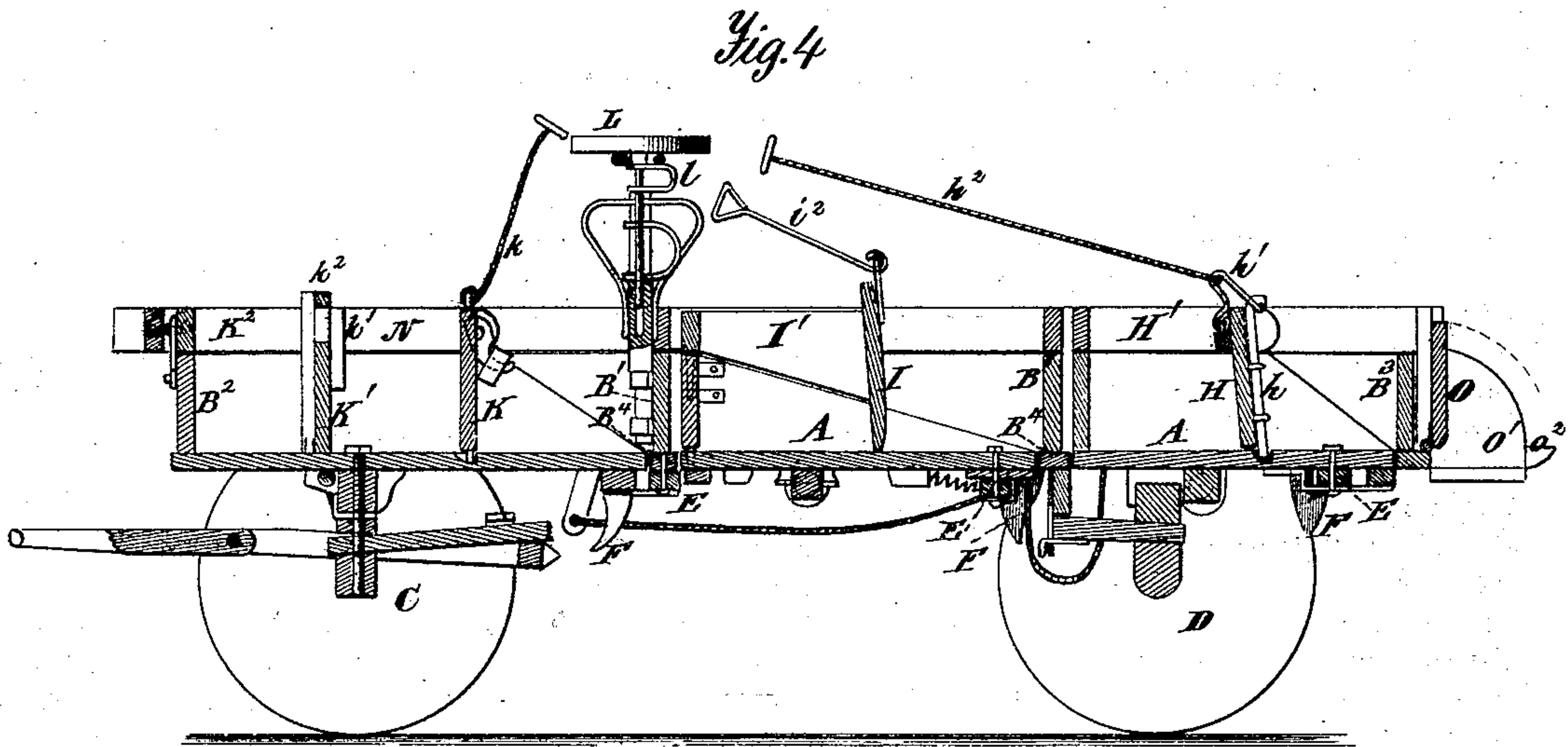
Witnesses.
A. Ruppert.
H. Quinn

Ole Gunnuldsen
Inventor.
By B. J. Eils
his Att'y.

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UNITED STATES PATENT OFFICE

OLE GUNNULDSO, OF CHRISTIANA, WISCONSIN.

IMPROVEMENT IN DUMPING-WAGONS.

Specification forming part of Letters Patent No. **153,071**, dated July 14, 1874; application filed April 8, 1874.

To all whom it may concern:

Be it known that I, OLE GUNNULDSO, of Christiana, in the county of Dane and State of Wisconsin, have invented certain Improvements in Dumping-Wagons, of which the following is a specification:

My invention is more especially designed to improve the construction of a dumping-wagon for which Letters Patent of the United States No. 138,395 were granted to me on the 29th day of April, A. D. 1873. My improvements consist, first, in combining with each dumping-box one or more movable partitions, by which the load of the whole box may be divided, so as to enable the driver to dump it in two or more heaps, which is particularly desirable in the distribution of manure; second, in making the partition-boards of the main frame between the several dumping-boxes, as well as the end-board and side-boards of the dumping-boxes, detachable, so that by the removal of such boards the dumping-wagon can be converted into an ordinary box-wagon; third, in the employment of an extension-frame adapted to be placed upon the main frame of the wagon to increase the capacity of the boxes; fourth, of certain peculiarities of construction and arrangement of some of the parts of the wagon, so clearly explained in the ensuing description and specifically pointed out in the claims covering these features as to require no particularized preliminary recital.

In the annexed drawings, Figure 1 is a plan view of my improved dumping-wagon. Fig. 2 is a bottom view of the same. Fig. 3 is a side elevation of the same. Fig. 4 is a vertical longitudinal section. Figs. 5 to 8 are detail views hereinafter more especially referred to.

The same letters of reference are used in all the figures in the designation of identical parts.

As in the wagon described in my said former patent, I employ three dumping-boxes, A, eccentrically hung on their respective axes within the rectangular main frame B, the whole being suitably supported on the trucks C and D. The journals of the center dumping-box turn in hangers formed like hooks, so that by first lifting the box it may be detached from said hangers and wholly removed, leaving a large

open space in the center of the wagon, over which to erect a simple hoisting apparatus for lifting heavy stones from the ground into the remaining dumping-boxes when the wagon is to be used for carrying or removing stones. The boxes are locked in their horizontal or loading position by levers E, centrally pivoted underneath them near their open ends, and engaging with fixed hooks F, fixed to the side timbers of the main frame and standing opposed, as shown best in Fig. 2. A spring, E', fixed to the bottom of the box, and acting on the lever, tends to throw it under the hooks, one of which at least should have a beveled head, to permit the automatic locking of the lever on turning the box into a horizontal position. The levers may extend some distance beyond the sides of the main frame, and provided with handles, by which a person walking alongside the wagon may operate them. In lieu of a lever and fixed hooks, a transverse locking-bar fixed to the box and pivoted hooks actuated by springs may be used, as illustrated in connection with the forward box; but in that case the hooks should be connected by a centrally-pivoted lever, F', to effect their simultaneous operation. The several boxes may be successively unlocked, to enable them to dump their loads, by means of a hand-lever, G, which is in this instance connected by a rod, g, to a short lever, G', bearing with one arm against the locking-lever of the rear box, and by a rope or chain, g', on the other side of its fulcrum, to the locking-lever of the second or center box, and is also capable of engaging with a pin, f, on the adjacent spring-hook of the locking-bar of the forward box. By throwing the lever forward the rear box may be unlocked, the center one by drawing it back, and the forward one by acting on the pin or projection f. The open end of the center box is connected by chains a a to the closed end of the rear box, as seen in Fig. 2, and turns up the latter when it itself is tilted to discharge its load. The forward box is drawn up by the driver by means of a rope or chain, a'. For each dumping-box one or more movable partitions are used when it is desired to divide their loads into several heaps each; and as these partitions are generally made use of only

when carrying lighter materials, each partition may be provided with an extension-frame to fit on top of the box for increasing its capacity. Such extension-frame may, however, be separate from the partition. As these partitions have to be operated from the driver's seat, I have devised peculiarly-constructed ones for each separate box, with a view to obtain the simplest and cheapest form, as well as ease and certainty of operation. Thus the partition H of the rear box is hung at its upper corners to its extension-frame H', and is locked by a vertically-sliding bolt, *h*, to the bottom of the box. The bolt *h* is pivoted to a bell-crank lever, *h*¹, which can be operated by the driver through the rope or chain *h*², to unlock the bolt, when the weight of the load behind the partition will swing it up, allowing the contents to escape under it. The partition I of the center box (illustrated by Fig. 7) is permanently secured to its extension-frame I', and the latter is hung at its forward corners to the box by hinges *i*¹, permitting ready attachment and removal thereof. This being near the driver's seat L, he may, by turning around, lift both frame and partition to discharge the load behind it, in doing which he should put his foot on the elevated closed end of the box, to prevent its being turned up by the act of lifting the partition through the rope *i*².

For the forward box I have provided two separate partitions and an independent extension-frame, K². The partition K nearest the open end of the box bears with projections at its upper corners against studs on the extension-frame, and has a central tongue at its lower edge engaging with a notch in the bottom of the box. To discharge the load between it and the partition K¹ the driver lifts the former by means of a rope, *k*, until the projections rise above the bearing-studs, when it swings freely out of the way, the tongue having also become disengaged. The partition K¹ is placed behind permanent cleats *k*', and has a fixed handle by which it can be withdrawn conveniently by the driver, as when the box is tilted the handle will be in proximity to his seat. The driver uses his foot also to hold the box down in removing these partitions. As it becomes necessary for the driver to turn about to properly manipulate the partition of the center box, I use a revolving seat, L, and also place a spring, *l*, under it to relieve the jolts in passing over rough fields. The partition M (illustrated by Fig. 8) may be used to divide the contents of a box into any number of heaps by forcing it successively farther and farther from the open end of the box, at the corners of which its links *m* are pivoted, through the contents. It is more especially designed for use in distributing manure. The extension-frame N fits upon the top of the main frame B. Its side

bars and transverse bars are so interlocked that they may be readily separated for convenience of storage when not in use. The partition-boards B¹ of the main frame are removable and seated on fixed bottom bars B⁴, which form a continuous level surface with the bottom boards of the several dumping-boxes, when the latter are all in their horizontal positions. The side-boards A¹ of the boxes are hinged to, or, rather, detachably interlocked with, the bottom boards thereof, and are held in position by the likewise removable end-board A², which, on interlocking with them, becomes itself locked. The manner of construction of the boxes is best seen in Figs. 5 and 6. Now, by removing all the partition-boards B¹, and all the sides and ends of the boxes, the remaining portions of the main frame and boxes will constitute a continuous single box with end-boards B² and B³, the latter being also removable. In lieu of, or in addition to, the end-board, I provide a gate or tail-board, O, hinged to the extreme rear end of the frame B, which, in the example illustrated, is locked in its closed position by hooks *n* on the extension-frame N. To prevent the contents of the box from escaping sidewise on letting down this tail-board, side guards O' are secured to the rear end of the main frame by arms *o*, which interlock, respectively, with suitable loops *o*¹ on the main frame, and which may project at the rear end beyond the guards, to form supports *o*² for the tail-board when let down. The side guards can be readily detached.

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

1. In combination with the tilting box of a dumping-wagon, a removable partition for dividing the load, substantially as specified.

2. The combination of the main frame B, having detachable partition-boards B¹ and permanent bottom bars B⁴, and the dumping-boxes A¹, the side and end boards of which are removable, substantially as and for the purpose specified.

3. The combination of the extension-frames of the several dumping-boxes with the extension-frame N, substantially as specified.

4. A dumping-box, in combination with the adjustable partition M *m*, substantially as and for the purpose specified.

5. The center dumping-box A, hung in open bearings, permitting its ready removal, substantially as and for the purpose specified.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

OLE GUNNULDSO.

Witnesses:

CHRISTIAN ELIXSEN,
OLE MATHISON.