

No. 667,707.

Patented Feb. 12, 1901.

G. KAUTZ, SR.
DUMPING WAGON.

(Application filed May 25, 1900.)

(No Model.)

2 Sheets—Sheet 1.

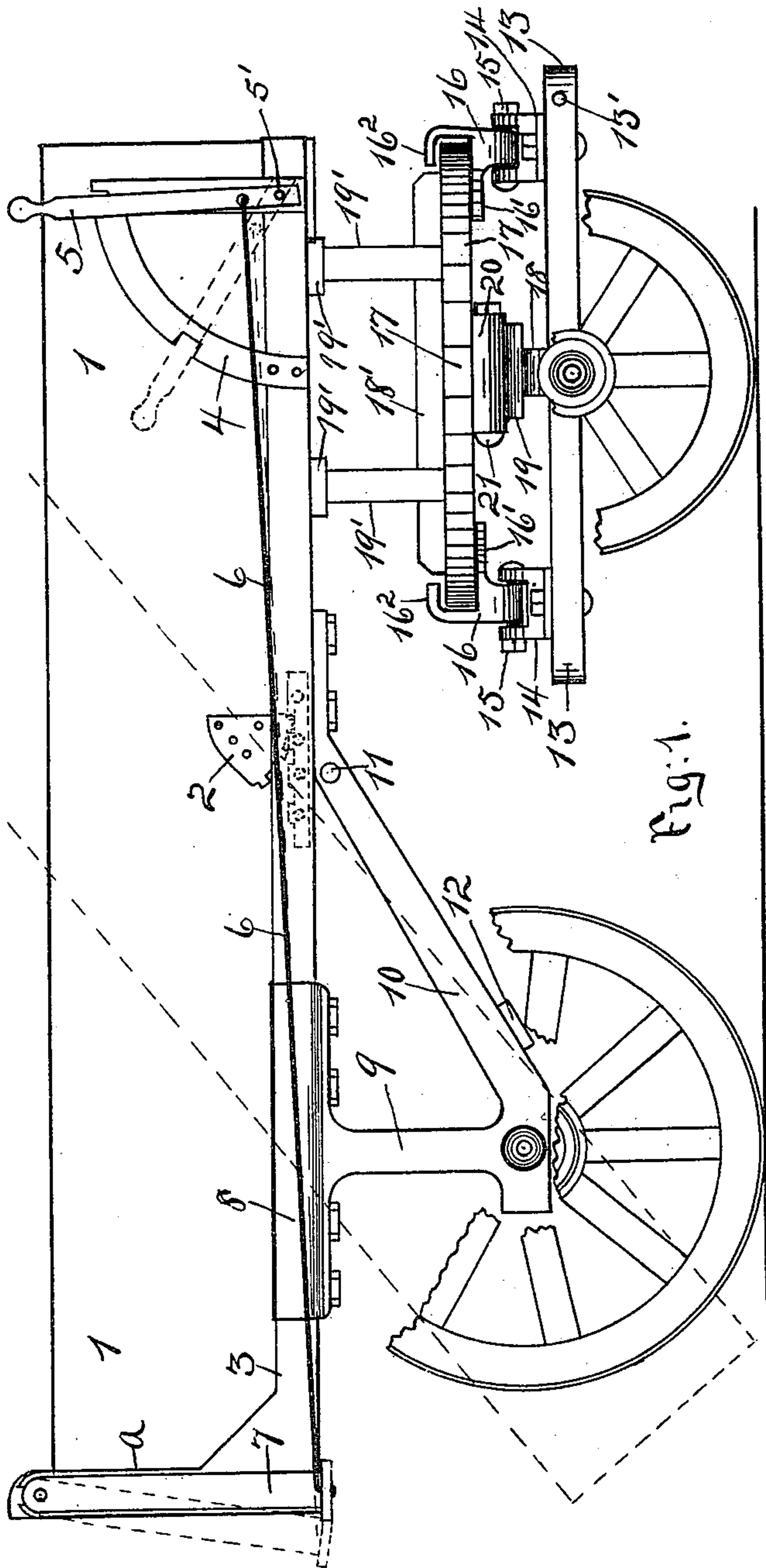


Fig. 1.

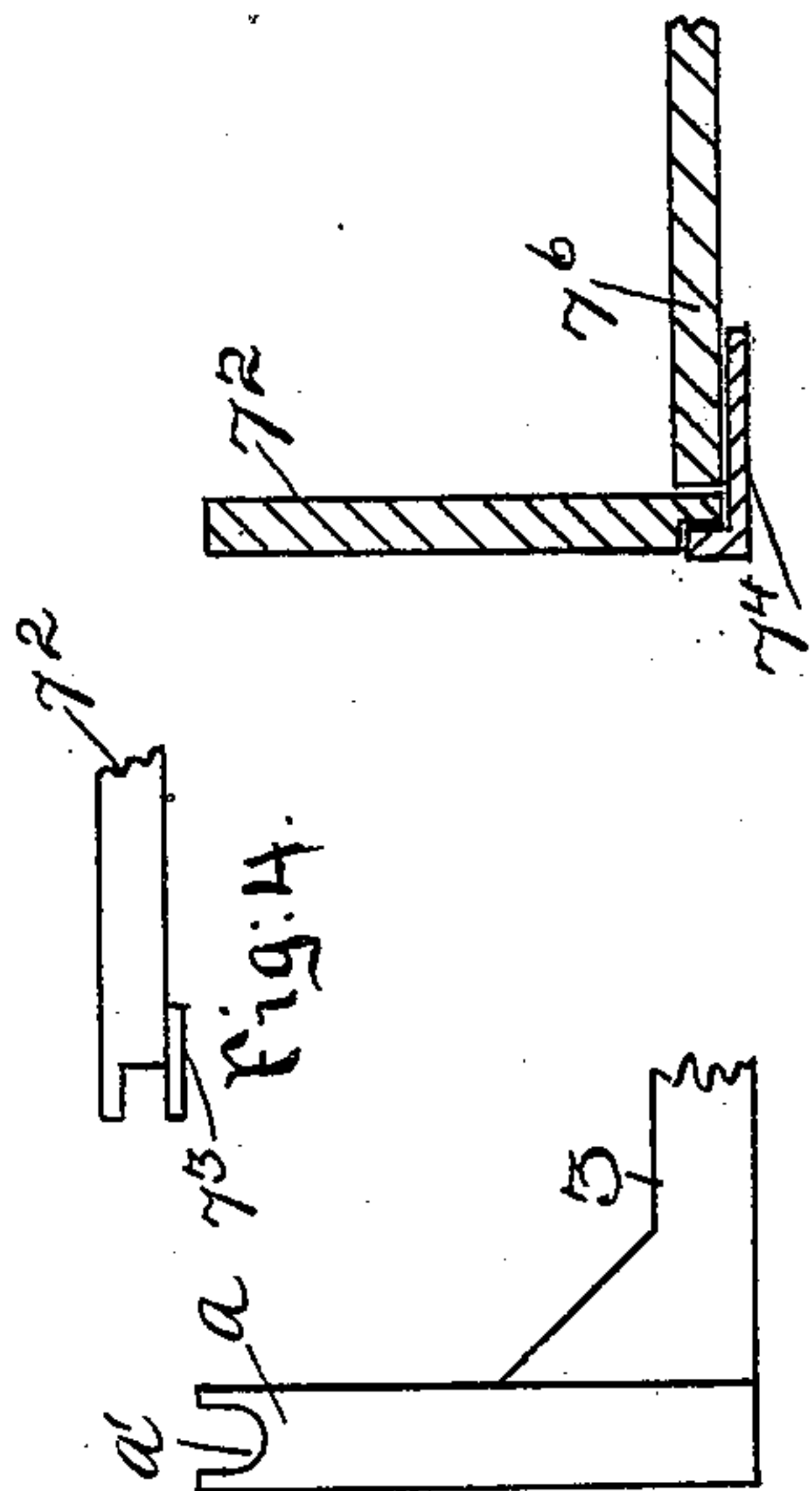


Fig. 3.

Fig. 4.

Fig. 5.

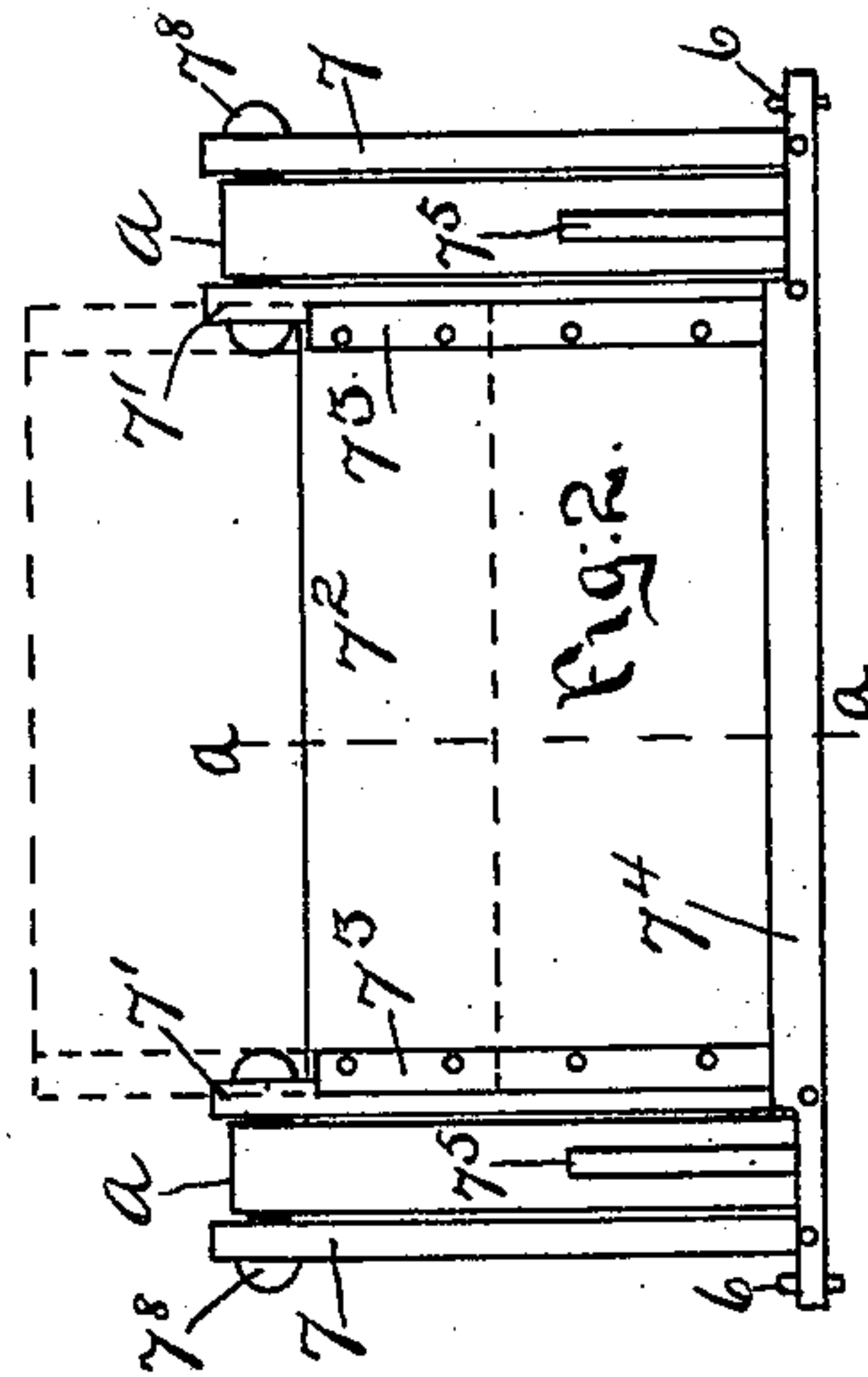


Fig. 2.

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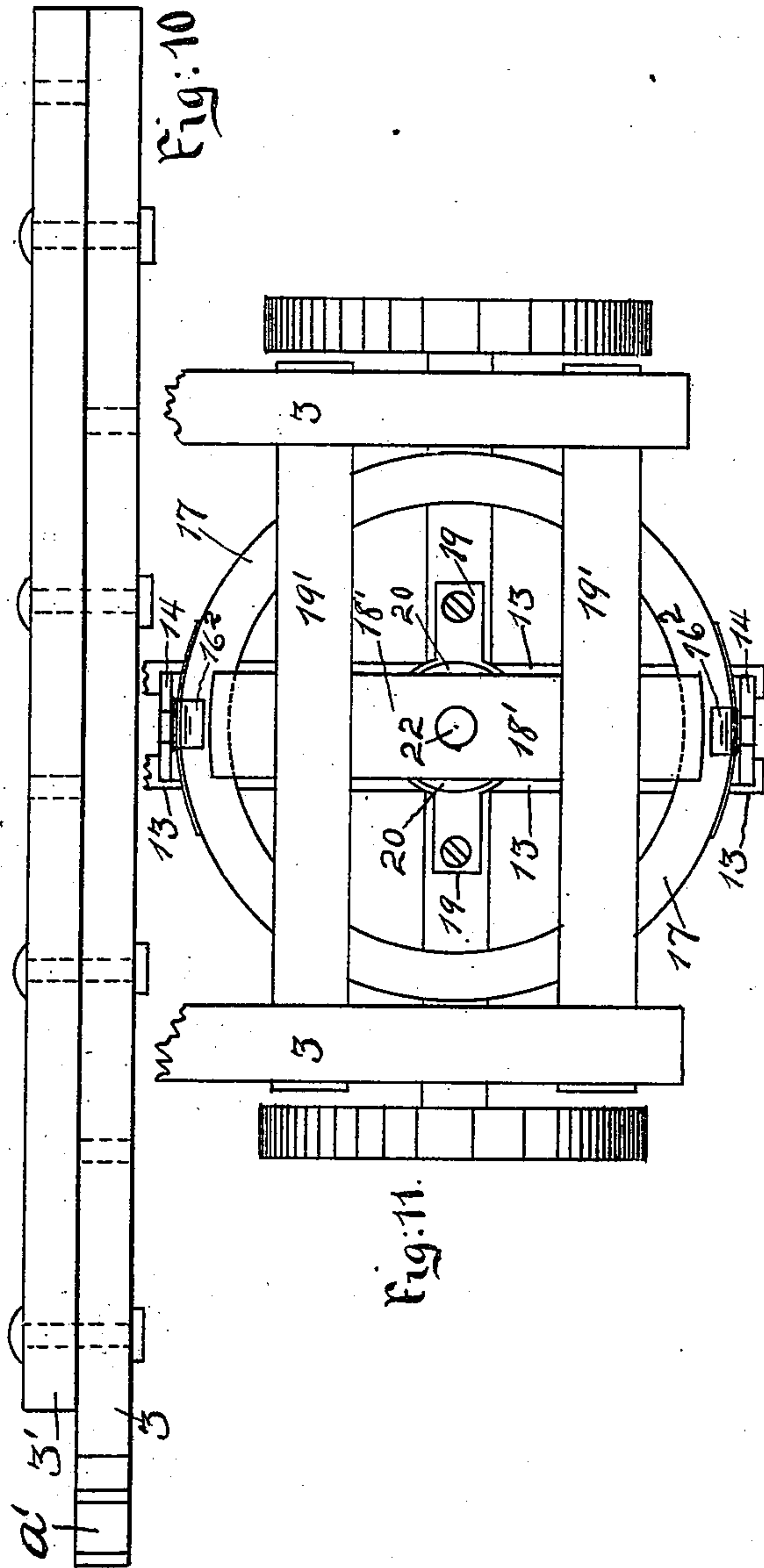
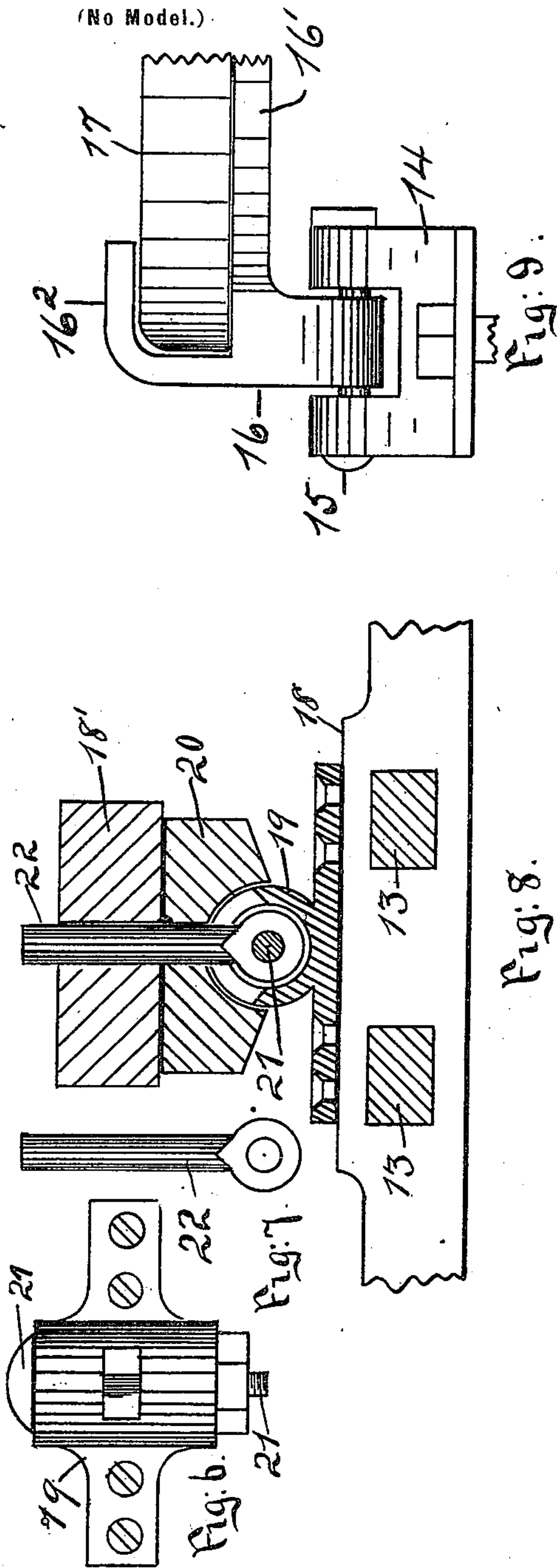
Inventor:
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UNITED STATES PATENT OFFICE.

GEORGE KAUTZ, SR., OF ALBANY, NEW YORK.

DUMPING-WAGON.

SPECIFICATION forming part of Letters Patent No. 667,707, dated February 12, 1901.

Application filed May 25, 1900. Serial No. 17,973. (No model.)

To all whom it may concern:

Be it known that I, GEORGE KAUTZ, Sr., a citizen of the United States, residing at Albany, New York, have invented certain new and useful Improvements in Dumping-Wagons; and I do hereby 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 characters of reference marked thereon, which form a part of this specification.

My invention relates to a new and improved dumping-wagon and a new and improved fifth-wheel therefor.

In the drawings, Figure 1 shows a side elevation of my wagon with the wheels broken away to clearly show the parts; Fig. 2, a plan view of the end board; Fig. 3, a side elevation of a part of one end of the frame; Fig. 4, an edge view of a portion of the tail-board; Fig. 5, a vertical section of the tail-board, taken on line *a a* of Fig. 2; Fig. 6, a plan view of the central rocking device; Fig. 7, an elevation of the king-bolt; Fig. 8, a vertical cross-section of the rocking device, axle, hounds, and binder, showing the king-bolt in elevation; Fig. 9, an elevation of one of the outer rocking devices enlarged to show the construction; Fig. 10, a top view of the frame, showing it to be double and extensible; and Fig. 11, a plan view of the fifth-wheel and its adjuncts.

The numeral 1 shows the wagon-box, which is preferably tight, so as not to spill the contents, and sits between the frames 3, which are sufficiently heavy timbers preferably; but iron beams may be used, if desired. The frame 3 rests on the rear axle, which is preferably made of cast-steel, and has a channel-bar 8 preferably, in which the frame 3 rests and is preferably bolted fast therein, the upright of the axle extending to the wheel-journal and then passing obliquely forward and upward until it meets the frame, to which it is made fast, this axle not differing in principle from that shown in my patent granted April 5, 1898, and numbered 601,659. Across the oblique arm of the axle is set a brace 12 for the purpose of stiffening the axle and also to form a rest for the box when it is

tipped, as shown by the dotted lines in Fig. 1, so that the box is kept from reaching the ground. The box 1 is made to tip rearward, preferably by means of the segment 2, which is fastened to the box and has teeth, as seen, which teeth mesh with those in a parallel toothed bar fastened to the inside of frame 3, as shown by the dotted lines, and this manner of making my box tip is used so that the box may be lifted from the frames and the wagon and placed in position again with the least possible trouble.

My box has an improved end-board, which is constructed as follows: *a* represents the post, mortised, preferably, to the frame 3. On either side thereof are set the strips 7 and 7', (see Fig. 2,) having a bottom-connecting piece 7⁴, the ends of the bottom piece projecting enough beyond the sides of the frame to receive the rods 6 6. In the top of the post *a* is a U-shaped opening *a'*, in which the bolt 7⁸ rotates. The end-board proper, 7², has a flange 7³ overlapping the strip 7' and forms a groove in the ends of the tail-board, as seen in Fig. 4, in which groove a portion of the strip 7' rests and slides. The tail-board therefore rests in a swinging frame arranged to swing outward from the end of the box 1 far enough to allow the lower rail 7⁴ of the frame to swing clear of the bottom board 7⁶ of the wagon, which will allow of the box 1 being tipped, and when the end or tail board is drawn in and against the rear end of the box 1 the projecting lip of the lower rail 7⁴ lies under the ends of the bottom board and prevents the box from tipping. 7⁵ shows the end of the tenon of rail 3. The tail-board is forced rearward and drawn again to the box 1 by means of the rod 6 and the lever 5, which is provided with a segment 4, with notches in which the lever 5 may be brought to rest, the dotted lines in Fig. 1 showing the tail-board forced rearward in position for the box to be tipped or dumped. The tail-board 7² also lifts clear of its frame, as do the tail-boards of ordinary wagons, as is indicated by the dotted lines in Fig. 2.

I have provided my wagon with a platform much superior to those in present use.

The numeral 13 represents the usual hounds of a wagon. On top of these hounds is secured the brackets 14, in which turn the fork

16, said fork having an under lip 16', forming a section or segment of a circle lying under the circle 17 and upon which it turns, one of the prongs of the fork 16² lying over the circle, as shown. This fork 16 rocks or tips sidewise by reason of its being pivoted by the pivot 15, as seen. Over the center of the front axle I set a lateral rocking device composed, preferably, of the winged cylinder 19, having a slot in its upper surface in which the king-bolt 22 rests and moves laterally. On the top of this I set the block 20, arranged to move over and upon the cylinder 19 and through which the king-bolt 22 passes, and on top of this block 20 rests the stay-piece 18', through which the king-bolt passes, the piece 18' and the standards 19' being made fast to the circle or fifth-wheel 17 and to the wagon-frame. It will at once be seen that with this arrangement the circle 17 not only allows of the front wheels turning in the usual manner, but also that the circle 17 and all the parts above it have a sidewise-tipping motion, so that when the wagon passes over an obstruction under one of its front or hind wheels, so that the wheel is raised from the ground, the circle 17 tips sidewise without any possible strain being put on the circle and without the circle becoming jammed with its under half 16'. In all platform-wagons heretofore made the difficulty was to prevent this sidewise and torsion strain on the circle and its adjacent parts. In my invention I have provided a device that will move freely in any and all positions in which it may be placed. Another important point gained is that in case the king-bolt should break the hind part of the wagon could not run forward over the front part and injure either the driver or the team, for the forks 16² act as a preventive to such action.

In Fig. 10 I show how I have made my wagon extensible by having a rail 3', outside the main rail 3, bolted thereto, so that when the frame is desired to be extended the bolts are removed and the rails extended and rebolted, thus allowing of the wagon being lengthened. As there is no rear axle to my wagon, passing under and across the same, and as no reach is used, this can be easily accomplished.

The operation of my wagon is as follows: When it is desired to tip or dump the box, the lever 5 is thrown down, as seen in the dotted lines in Fig. 1, when the tail-board frame and the tail-board will be thrust rearward and the lower rail 7⁴ of the tail-board frame will clear the bottom boards 7⁶ and the box may be dumped. When the contents are discharged, the box is drawn back into its normal position and lever 5 drawn back, when the tail-board frame and the tail-board will be drawn forward and lower rail 7⁴ will rest under the bottom boards 7⁶, thus preventing the box from dumping. When it is desired to draw lumber too long for the box, the tail-board frame and tail-board are removed entirely by lifting the tail-board frame

out of the U-shaped opening α' in the posts α , and the rear end of the box is free, so that long lumber may hang over the rear end and be thus drawn on the wagon. When it is desired to draw stone and not have the box injured, the tail-board frame and tail-board are removed, the box tipped as in dumping, and removed from the wagon entirely by taking it out between the rails or stringer 3 at the rear end, and then placing plank on the bottom of the frame and replacing the tail-board frame and tail-board, if desired, by hanging the tail-board frame in the U-shaped openings in posts α . When the wagon is to be extended, the bolts are removed from the stringers or rails 3 and 3' and these pieces slid over each other and the bolts replaced, as will be seen in Fig. 10. As the wagon passes over uneven ground the strain always heretofore thrown on the fifth-wheel or circle and its adjacent parts is entirely abrogated, for any torsion strain put upon the stringers or rails 3, tending to lift one end of one of them, will be equalized by the forks 16, rotating partly on the pivot 15, and the king-bolt 22 will move laterally by means of the pivot 21, thus preventing any strain being brought on the fifth-wheel or circle 17.

The axle for the wheels is preferably shrunk into an opening in the axle-frame 9 and 10, the axle not passing across the wagon from wheel to wheel. At 11 is set a brace-rod, passing across the wagon to the opposite axle-frame for stiffening purposes. The rear axle-frame and axle are made, preferably, of cast-steel, and the frame, as 9 and 10, is in one solid piece, the axle proper, on which the wheel is hung and turns, being preferably shrunk into an opening made to receive it in the frame and projects only on the side of the frame facing the wheel and does not cross the wagon from wheel to wheel in order that the box may have sufficient room to swing downward in the act of dumping. The construction, therefore, will be seen to be an improvement on that shown in my former patent hereinbefore referred to.

Having described my invention, what I claim is—

1. In a vehicle an axle-frame for the rear wheels consisting of an upright bearing-piece, as 9, having a top extension in form practically of a channel-bar, as 8, in which rests the side bar or stringer of the wagon-frame, and a brace, as 10, running forward and upward and meeting the side bar or stringer at a point in front of the rear wheels, said brace being attached to the side bar or stringer, and an axle attached to the axle-frame and projecting outwardly only that the wheels may be carried thereby and revolve thereon, said axle-frame being in one continuous piece substantially as described.

2. A tail-board for dumping-wagons and other vehicles consisting of a skeleton framework hung upon supports and removable at will, the framework embracing the supports

when in its normal position and a portion thereof extending under the end of the wagon-box and acting as a support thereto, the frame being arranged to swing outwardly and relieve the box end of its support, and having a tail-board fitted in the frame and arranged to be opened, closed or removed at will without disturbing the framework substantially as described.

3. In a vehicle a fifth-wheel or turning-circle consisting of a circle carried by a sidewise-tipping device upon which the circle revolves and a pivoted tipping king-bolt arranged to move with the tipping device all connected to the front axle and upper works of the wagon and arranged to allow the wheel or circle to tip sidewise and relieve unnecessary strains thereon substantially as described.

4. In a vehicle a fifth-wheel or turning-circle carried by a sidewise-swinging device and arranged to allow the circle to revolve and a pivoted king-bolt having a sidewise swing in practical unison with the movements of the sidewise-swinging device, the circle being revolvable about the king-bolt, a portion of the sidewise-swinging device extending under the circle and upon which it rests and revolves substantially as described.

5. In a vehicle a pivoted king-bolt and a turning-circle or fifth-wheel, the king-bolt being arranged to allow a tipping or rolling sidewise motion to the circle substantially as described.

6. In a vehicle a pivoted king-bolt and a turning-circle or fifth-wheel and supports for said wheel, the king-bolt and said supports

being arranged to allow a rotary and also a sidewise-tipping motion to the turning-circle in order that unnecessary strains upon the circle may be avoided substantially as described.

7. A fifth-wheel for a wagon consisting of an upper circle rotatable about a pivoted king-bolt and having a lower circle pivotally attached to the running-gear, the lower circle having clips or sustaining-prongs overlapping the upper circle in order that in case the king-bolt breaks or becomes misplaced, the upper and the lower circle will be held together and be prevented from separating substantially as described.

8. In a vehicle an axle-frame for the rear wheels consisting of an upright piece, as 9, having a top extension in form practically of a channel-bar, as 8, in which rests the side bar or stringer of the wagon-frame, and a brace, as 10, running forward and upward and meeting the side bar or stringer at a point in front of the rear wheels, said brace being attached to the side bar or stringer, and having a cross-brace, as 12, bracing the two axle-frames, and an axle attached to the axle-frame and projecting outwardly only, that the wheels may be carried thereby and revolve thereon, said axle-frame being in one continuous piece substantially as described.

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

GEORGE KAUTZ, SEN.

Witnesses:

W. M. BROWN,
J. P. HARRIS.