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Patented Nov. 25, 1902.

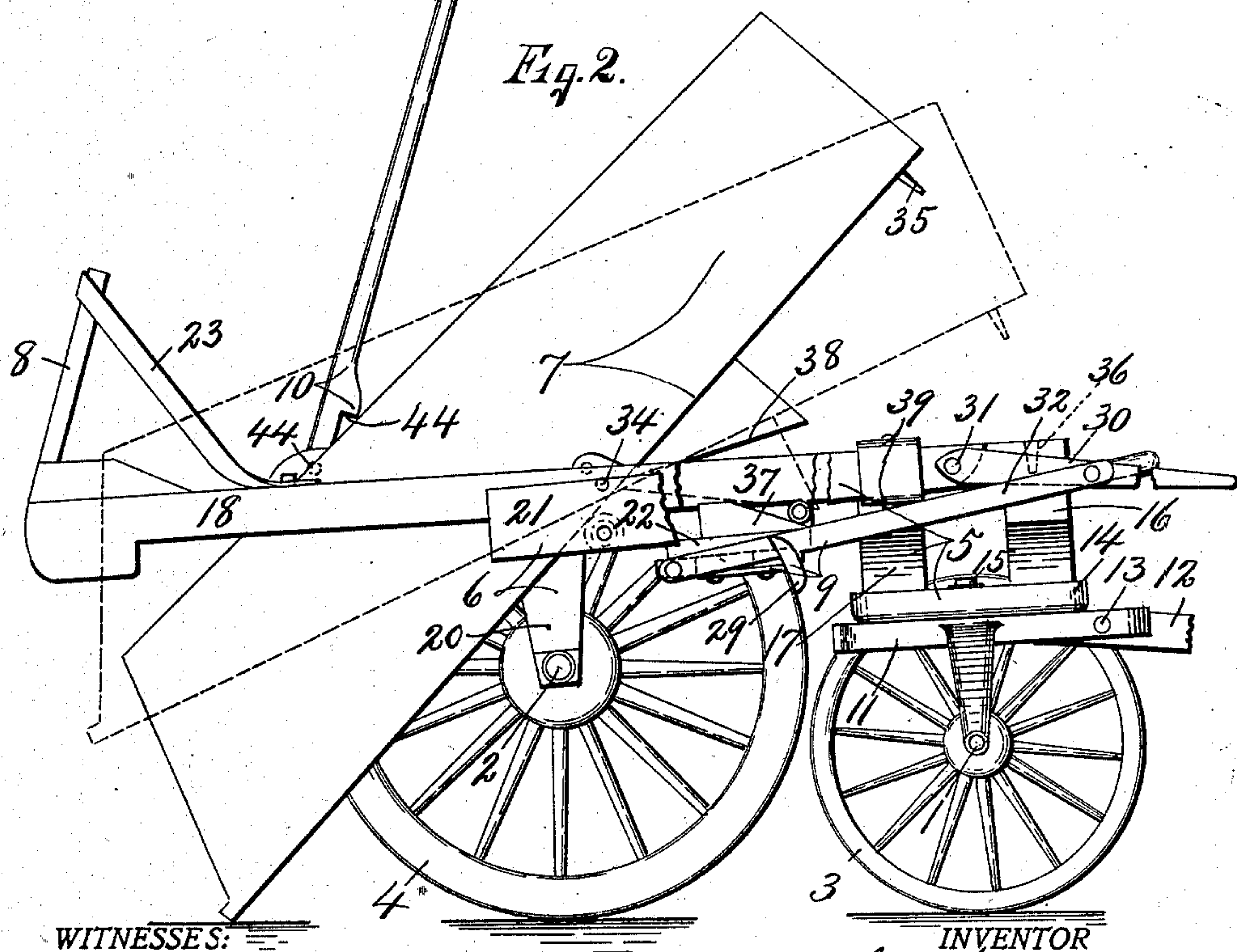
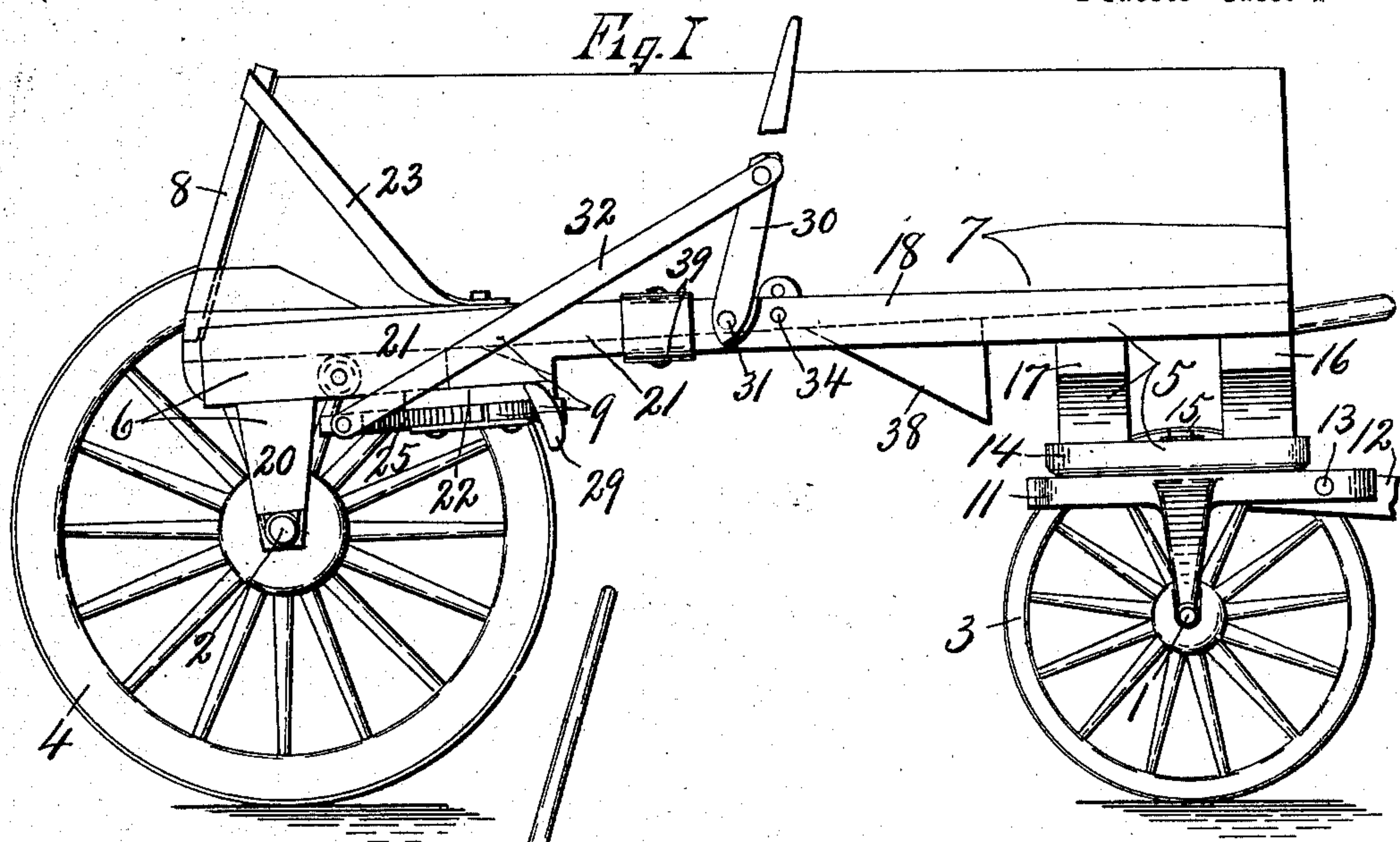
J. W. HAYWOOD.

DUMP WAGON.

(Application filed May 5, 1902.)

(No Model.)

2 Sheets—Sheet 1.



WITNESSES:

W. J. Brewer.
No. 6, Chace,

INVENTOR

John W. Haywood.

BY

BY
Smith & Wilson
ATTORNEYS.

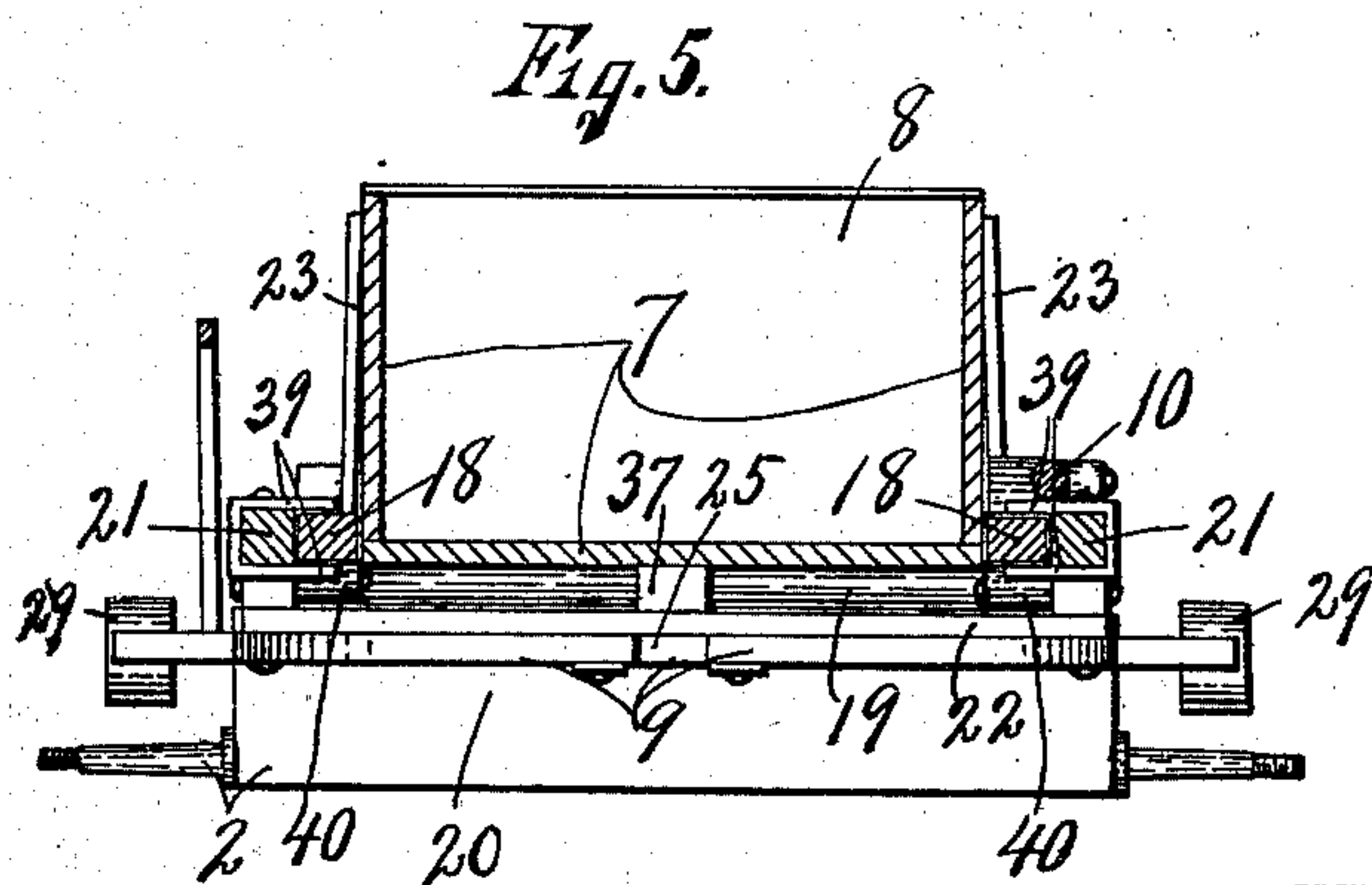
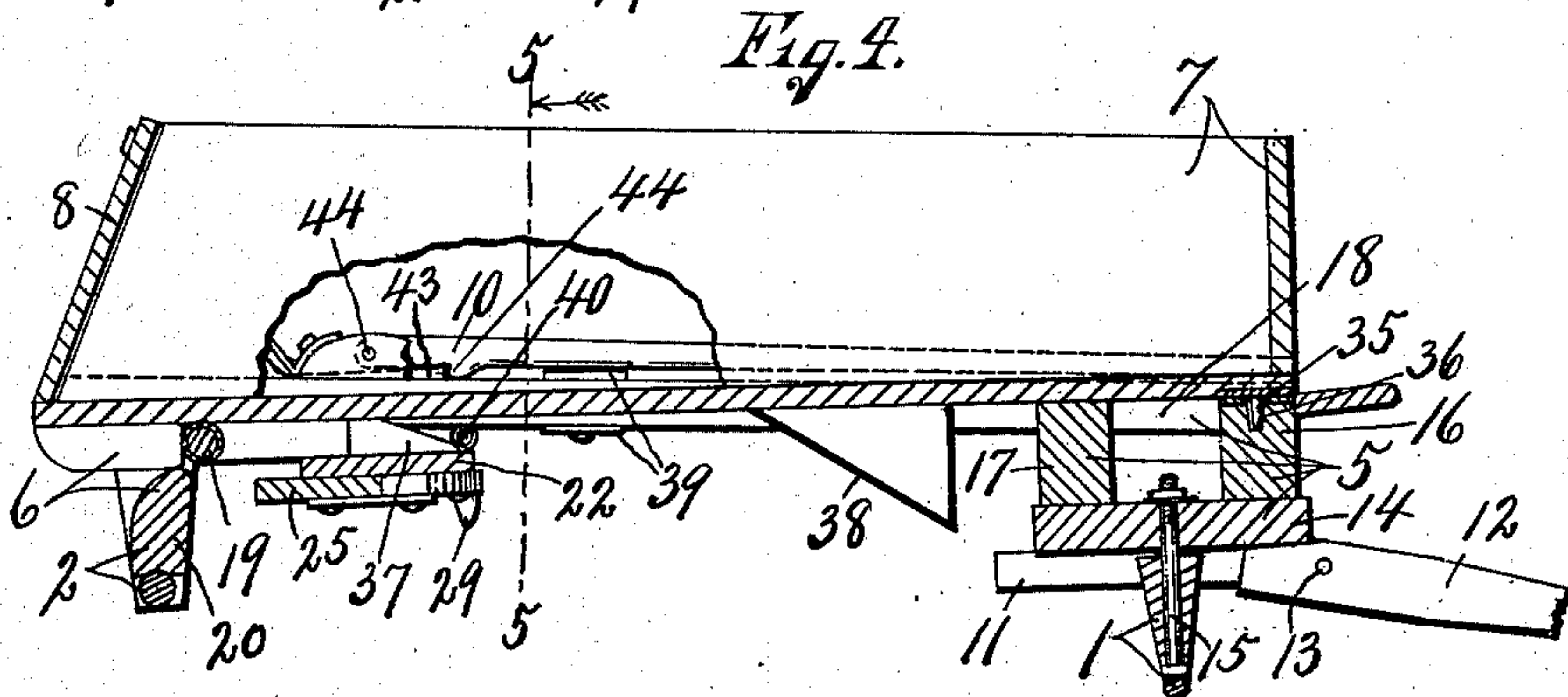
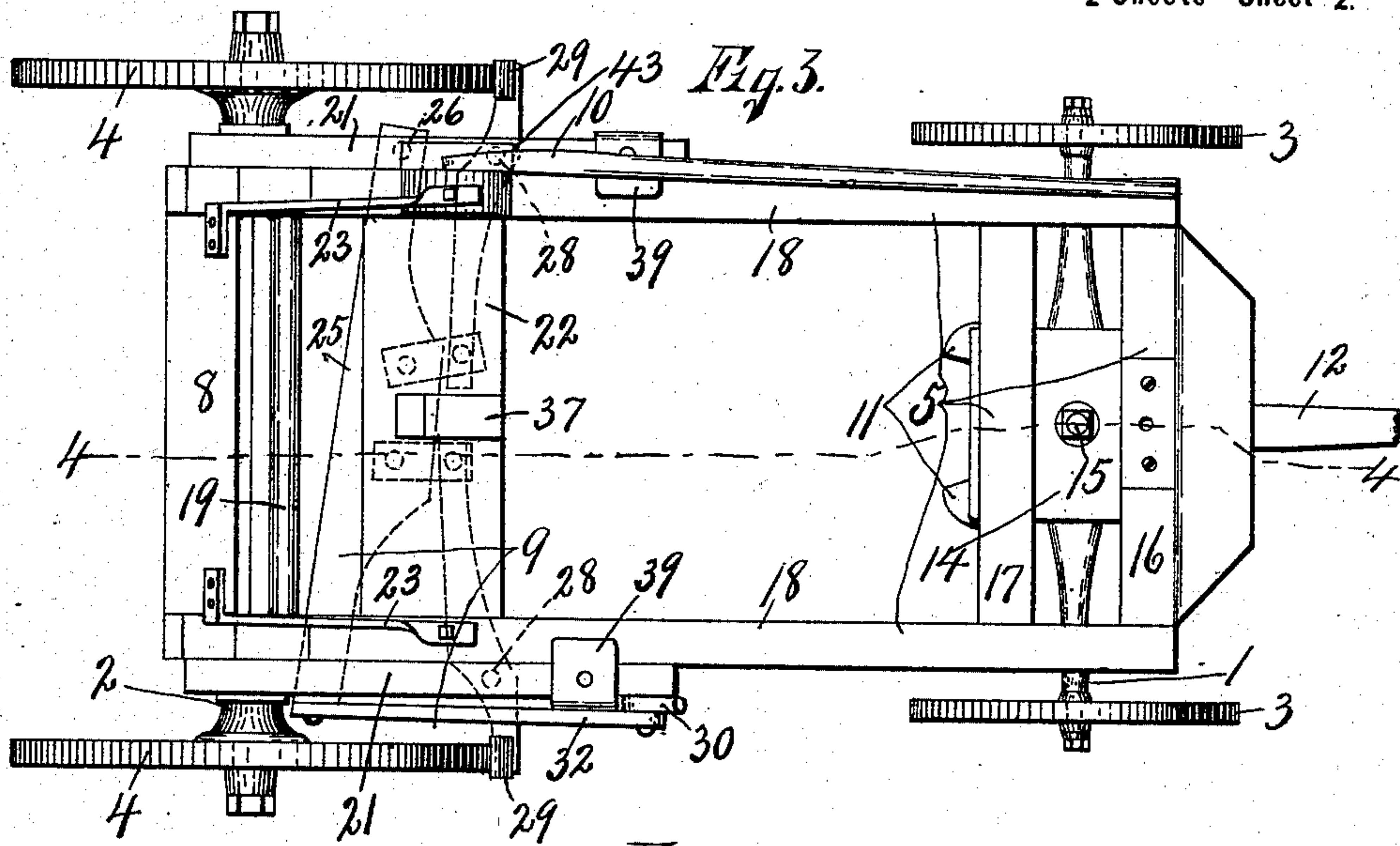
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2 Sheets—Sheet 2.



WITNESSES:

M. T. Brewer.
H. C. Chace.

INVENTOR

John W. Haywood

BY

Smith & Wilson
ATTORNEYS.

UNITED STATES PATENT OFFICE.

JOHN W. HAYWOOD, OF SYRACUSE, NEW YORK.

DUMP-WAGON.

SPECIFICATION forming part of Letters Patent No. 714,481, dated November 25, 1902.

Application filed May 5, 1902. Serial No. 105,991. (No model.)

To all whom it may concern:

Be it known that I, JOHN W. HAYWOOD, of Syracuse, in the county of Onondaga, in the State of New York, have invented new and
5 useful Improvements in Dump-Wagons, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

This invention relates to improvements in
10 dump-wagons.

One of the objects of this invention is to provide a tilting box which is centrally pivoted to a suitable support and adapted to be moved lengthwise of the line of draft for the
15 purpose of dumping the load at the rear of the rear axle.

Another object is to mount the tilting box in such manner as to be moved rearwardly by the backing of the horses or other propelling power, whereby the pivotal support
20 of the box is moved rearwardly toward the rear axle and the rear end of the box is free to tilt downwardly and rearwardly.

A further object is to provide a suitable
25 brake for holding the rear wheels from movement during the operation of moving the box rearwardly and tilting the same.

A still further object is to provide a tail-board for the open end of the box, which tail-
30 board is fixed to the support in such manner that the box is free to tilt rearwardly and downwardly between the tail-board and rear axle.

Another object is to provide means for automatically operating the forward end of the box as the same is moved rearwardly for facilitating the dumping of the load; and a further object is to provide movable means for
40 locking the box-support and front axle from rearward movement when the parts are in their normal position.

To this end the invention consists in the combination, construction, and arrangements of the parts of a dump-wagon, as hereinafter
45 fully described, and pointed out in the claims.

Referring to the drawings, Figures 1 and 2 are side elevations of a dump-wagon embodying the features of my invention, the wheels at one side of the wagon being removed, the
50 parts being shown in their normal or loading position in Fig. 1 and as dumping in Fig. 2. Fig. 3 is a top plan view of the running-gear

and other parts of my invention, the tilting box being removed for disclosing the underlying parts. Fig. 4 is a sectional view taken
55 on line 4 4, Fig. 3, the wheels being removed and the box being shown in operative position and in section. Fig. 5 is a transverse sectional view taken on line 5 5, Fig. 4.

Similar reference characters indicate corresponding parts in all the views.

In the drawings I have shown a dump-wagon consisting of front and rear axles 1 and 2, front and rear wheels 3 and 4, mounted
60 on the axles, a frame 5, having its front end mounted on the front axle and its rear end extended beyond and carried by the rear axle, a second frame 6, mounted on the rear axle and extended forwardly therefrom, a
65 dump-box 7, mounted on the frame 5 and extended rearwardly over the rear axle, a tail-board 8, brake mechanism 9, and a detent 10.

The front axle 1 is provided with suitable hounds 11, to which is connected a pole or equivalent device 12, said pole being pivoted
75 at 13 in front of its rear end, and the rear end is arranged to engage the lower face of a head-block 14 for the purpose of holding the pole or thills in their elevated position and at the same time permitting the same to be
80 moved upwardly. This axle 1 is connected to the head-block 14, which forms a portion of the frame 5, by a king-bolt 15, upon which the front axle readily turns in guiding the
85 wagon.

The axle 1 and its supporting-wheels are moved toward and away from the rear axle 2, this movement being effected by the motive power, as the horses, for a purpose hereinafter described.

The frame 5 is mounted at its front end upon the axle 1 and hounds 11 and comprises the head-block 14, transverse bars 16 and 17, secured to the head-block, lengthwise substantially parallel side bars 18, having their
95 front ends secured to the opposite ends of the cross-bars 16 and 17 and their rear ends resting upon a bearing 19, carried by the rear axle 2.

The rear frame 6 is carried by the rear axle 100 2 and consists, essentially, of a cross-bar 20 and lengthwise substantially parallel side bars 21, extending forwardly from the opposite ends of the cross-bar 20 and united at

their forward ends by an additional cross-bar 22, which is located in front of the rear axle substantially parallel therewith, this latter cross-bar serving to brace the forward ends 5 of the bars 21 against lateral strain.

The tail-board 8 is secured to the extreme rear ends of the bars 18 and serves not only to unite and stiffen the rear ends of the frame-bars 18, but also forms a closure for the open 10 rear end of the dump-box, presently described. This tail-board preferably extends above the upper plane of the side bars 18 and usually inclines forwardly from its lower edge for permitting the tilting movement of the rear 15 end of the box and is held firmly in position by suitable brace-bars 23, connecting the upper end edges of the tail-board to the side bars 18.

The brake mechanism 9 may be of any desired construction adapted to prevent the rotation of the rear wheels during the movement of the front axle backward and forward in the act of dumping or returning the box to its normal position. As seen in the drawings, this brake mechanism consists of a 25 main lever 25, pivoted at one end at 26 to the cross-bar 22, additional levers 27, also pivoted at their intermediate portions at 28 to the cross-bar 22, their inner ends being 30 linked to the intermediate portion of the lever 25, and their outer ends are provided with shoes 29 for engaging the periphery of the wheels 4. A suitable lever 30 is pivoted at 31 to the forward end of one of the bars 21, 35 and its intermediate portion is connected by a link 32 to the free end of the lever 25, said lever 30 and link 32 being connected in such manner that when the brake is applied the pivotal connection of the link with the lever 40 is in substantially the same straight line with the pivotal connection of the link with the lever 25, so as to form a toggle-lock to hold the brake in operative position.

The box 7 may be of any desired form or 45 size adapted to be used in connection with the rearwardly-sliding frame 5, said box being centrally pivoted at 34 to and between the side bars 18, its forward end normally resting upon the cross-bars 16 and 17, and its 50 rear end rests upon the bearing 19, said forward end being provided with a depending stud 35, arranged to enter a socket 36 in the front bar 16 when the box is in its normal or loading position, this stud and socket serving 55 to lock the box from lateral or lengthwise vibration or movement and also permits the box to be readily tilted when desired.

It is evident from the foregoing description that the frame 5 being locked to the front 60 axle 1 by the king-bolt 15 and the box 7 being pivotally mounted upon the side bars 18 of the frame 5 any forward or rearward movement of the axle 1 toward and away from the rear axle 2 imparts a similar lengthwise movement to the sliding frame 5 and box 7 and 65 also to the end-board 8, which is mounted upon the rear ends of the side bars 18.

The rear end of the box 7 is open, and when said box is in its normal position the end-board 8 firmly engages the end edges of the 70 side walls of the box and is of sufficient width to close the open end of the box.

Mounted upon the central portion of the bar 22 and upon the lower face of the bottom of the box 7 are inclined bearings 37 and 38, 75 the bearing 38 being adapted to ride upon the bearing 37 as the box is moved rearwardly and automatically elevates the forward end of the box to facilitate the dumping of the load. In order to guide the frame 5 in its 80 rearward and forward movement, I provide the forward ends of the bars 21 with suitable guides or ways 39, arranged in the form of loops, which overlap the lower and upper faces of the bars 18 and prevent any vertical 85 vibration of the bars 18 and 21. In order to further support the intermediate portions of the bars 18, upon which the dump-box is mounted, I provide the forward ends of the bars 21 with inwardly-projecting roller-bear- 90 ings 40, which engage the lower faces of the intermediate portions of the bars 18.

The bearing 19, although carried by the axle 2, is preferably mounted in the rear ends of the bars 21 and consists of a roller which 95 is better adapted to facilitate the sliding movement of the frame 5 and dump-box 7 and also forms a convenient support for the box during its tilting movement when the pivots 34 are directly over its axis. 100

Although, as previously stated, the tilting box is pivoted at substantially its central portion, the heavier end is nevertheless at the rear of the pivot in order that the tilting may be as nearly automatic as possible when the 105 pivot of the box is moved to a position directly over or at the rear of the roller-bearing 19.

The detent 10 may also be of any desired construction adapted to hold the sliding frame 110 and the front axle in their normal positions. As seen in the drawings, this detent consists of a lever having a shoulder 42, arranged to engage a similar shoulder 43, provided upon the upper face of one of the bars 21, said lever 115 being pivoted at 44 to the adjacent side bar 18 of the frame 5, so that when the sliding frame is drawn forwardly by the horses or other propelling power the shoulder 42 automatically drops into engagement with 120 the shoulder 43, the forward end of the lever being extended to a point in proximity to the position of the operator, so that the operator may readily release the detent when it is desired to back the horses to dump the load. 125

Although I have shown and described a rear-end dump-wagon having front and rear axles and supporting-wheels, it is evident that the essential features of my invention are equally applicable to two-wheeled wagons, 130 and I do not, therefore, limit myself to the precise construction and arrangement shown and described.

Having thus described my invention, what

I claim, and desire to secure by Letters Patent, is—

1. A rear-end dump-wagon comprising a rear axle, a front axle movable toward and away from the rear axle, guide-bars projecting forwardly from the rear axle, a frame movable with the front axle and having its rear end guided on said bars, a dump-box pivotally mounted on the frame, means for automatically tilting the box as the same is moved rearwardly to dump at the rear of the rear axle, a tail-board for the box fixed to the frame, a detent for holding the box in its normal position, and brake mechanism to hold the rear wheels when the front axles are moved rearwardly.

2. A dump-wagon comprising front and rear axles, the front axle being movable toward and away from the rear axle, a bearing over the rear axle, a frame locked to the front axle and having its rear end resting on said bearing, a dump-box centrally pivoted on the frame and having its forward end normally resting on the front end of the frame and its rear end resting on the bearing, and a tail-board for the box fixed to the rear end of the frame, the box tilting rearwardly between the tail-board and said bearing when the front axle is moved rearwardly.

3. In a dump-wagon, the combination of a rear axle, wheels mounted on the axle, a brake for the wheels, a bearing above the axle, a front axle and wheels movable toward and away from the rear axle, a frame having its front end resting upon and locked to the front axle and its rear end resting on the bearing over the rear axle, a dump-box centrally pivoted to the frame and having its forward end resting on said frame above the front axle and its rear end open and resting on the bearing, and a tail-board fixed to the rear end of the frame for closing the open end of the box, said box automatically tilting rearwardly and downwardly between the end-board and bearing as the forward axle is moved rearwardly.

4. In a dump-wagon, the combination of a rear axle, wheels mounted on the axle, a brake for the wheels, a bearing above the axle, a front axle and wheels movable toward and away from the rear axle, a frame having its front end resting upon and locked to the front axle and its rear end resting on the bearing over the rear axle, a dump-box centrally pivoted to the frame and having its forward end resting on said frame above the front axle and its rear end open and resting on the bear-

ing, and a tail-board fixed to the rear end of the frame for closing the open end of the box, said box automatically tilting rearwardly and downwardly between the end-board and bearing as the forward axle is moved rearwardly, and means for locking the frame and front axle from rearward movement.

5. In a dump-wagon, the combination of rear and front axles and wheels, the front axle being movable toward and away from the rear axle, a frame carried by the front axle and extended rearwardly beyond the rear axle, a bearing for the rear end of the frame, a tail-board fixed to the frame, a box centrally pivoted on the frame and tilting between the end-board and bearing when the front axle is moved rearwardly.

6. In a dump-wagon, the combination of front and rear axles, a frame carried by said axles, wheels on the axles, the front axle and frame being movable lengthwise independently of the rear axle, a brake for the rear wheels, a rearwardly-tilting box centrally pivoted on the frame and movable therewith, said box having its rear end open, a tail-board for said open end of the box fixed to the frame, means for elevating the forward end of the box as the same is moved rearwardly, and a detent for locking the frame and front axle from rearward movement when in their normal positions.

7. In a dump-wagon, the combination with an axle and wheels, guides carried by the axle, a sliding frame on the guides, a pole or thills connected to the sliding frame, a tail-board fixed to the frame, and a rearwardly-tilting box centrally pivoted on the frame and dumping between the tail-board and axle as the frame is moved rearwardly.

8. In a dump-wagon, the combination with an axle and wheels, guides carried by the axle, a sliding frame on the guides, a pole or thills connected to the sliding frame, a tail-board fixed to the frame, and a rearwardly-tilting box centrally pivoted on the frame and dumping between the tail-board and axle as the frame is moved rearwardly, a brake for the wheels, and means for locking the frame in its normal position.

In witness whereof I have hereunto set my hand this 2d day of May, 1902.

JOHN W. HAYWOOD.

Witnesses:

MILDRED M. NOTT,
HOWARD P. DENISON.