

H. D. ELLS.  
DUMPING WAGON.

APPLICATION FILED DEC. 31, 1908; RENEWED MAR. 12, 1910.

969,259.

Patented Sept. 6, 1910.

2 SHEETS—SHEET 1.

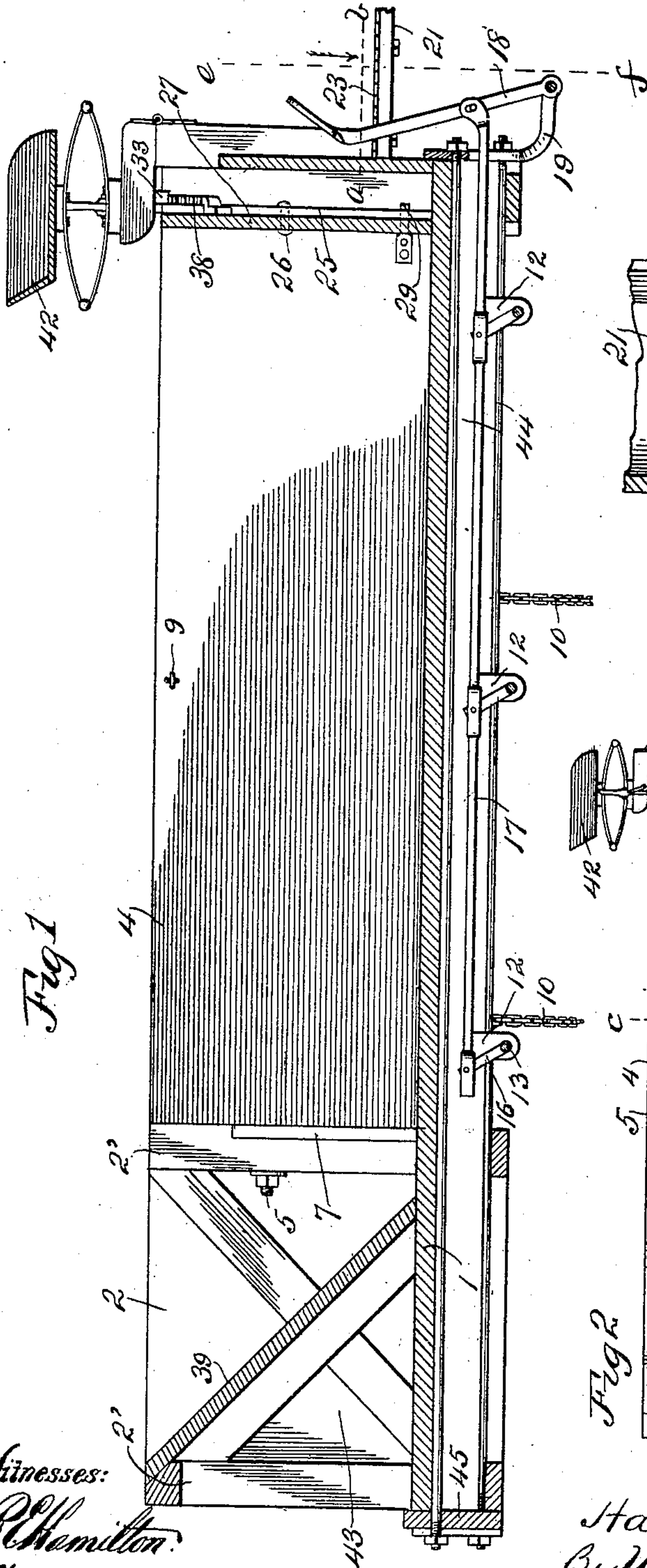


Fig 1

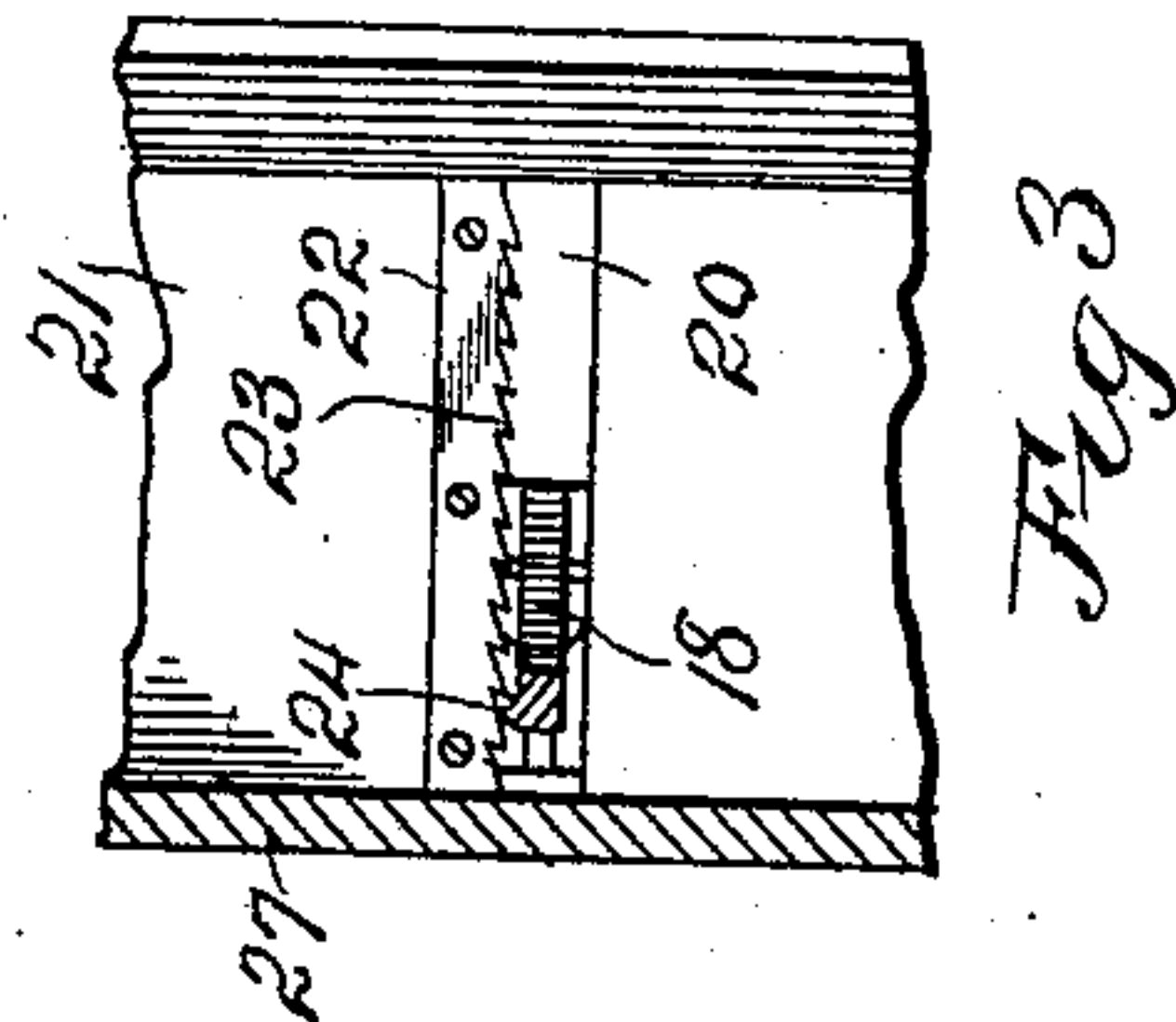


Fig 3

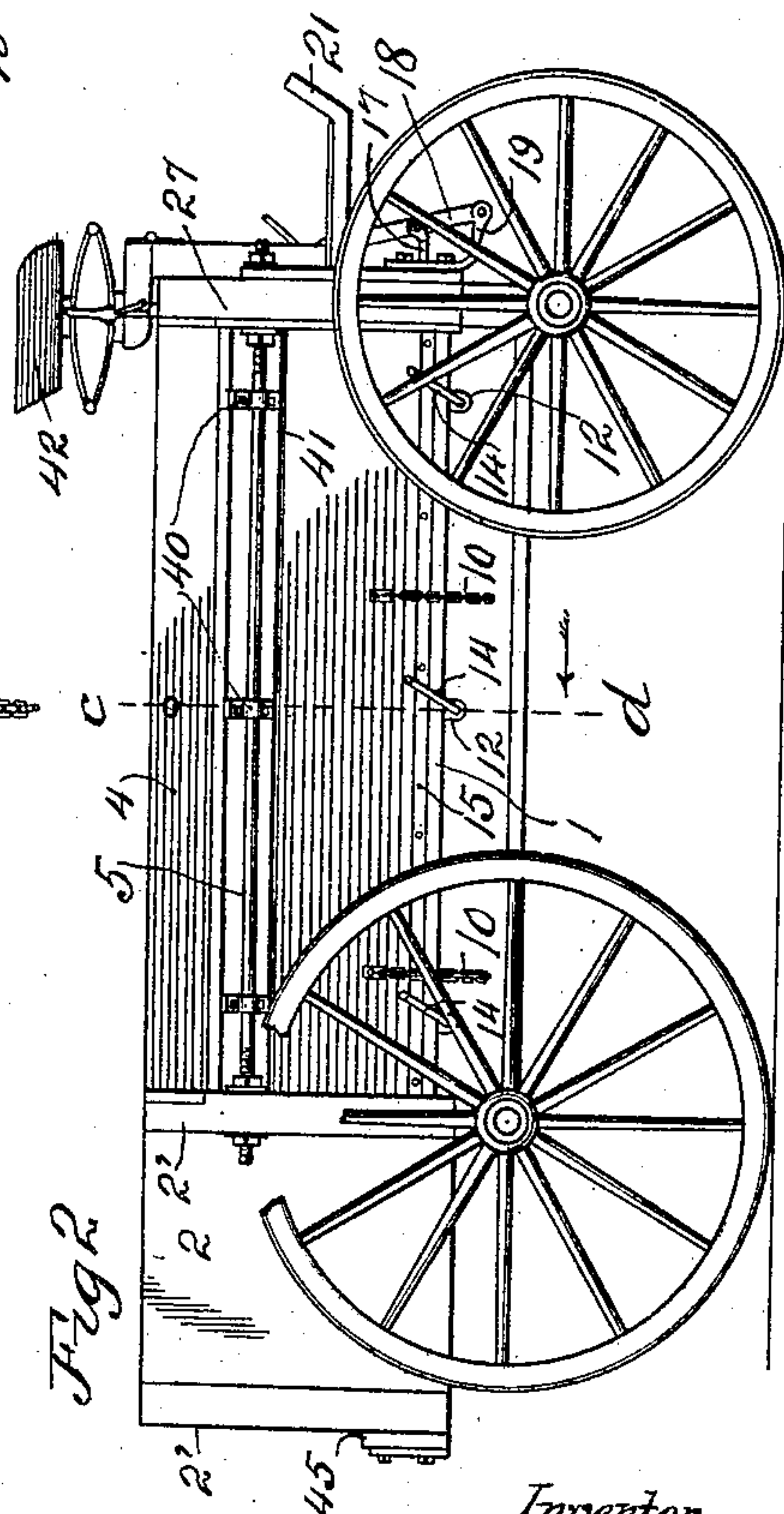


Fig 2

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E. B. House

Inventor,  
Hallett D. Ellis.  
By Warren D. House,  
His Attorney.

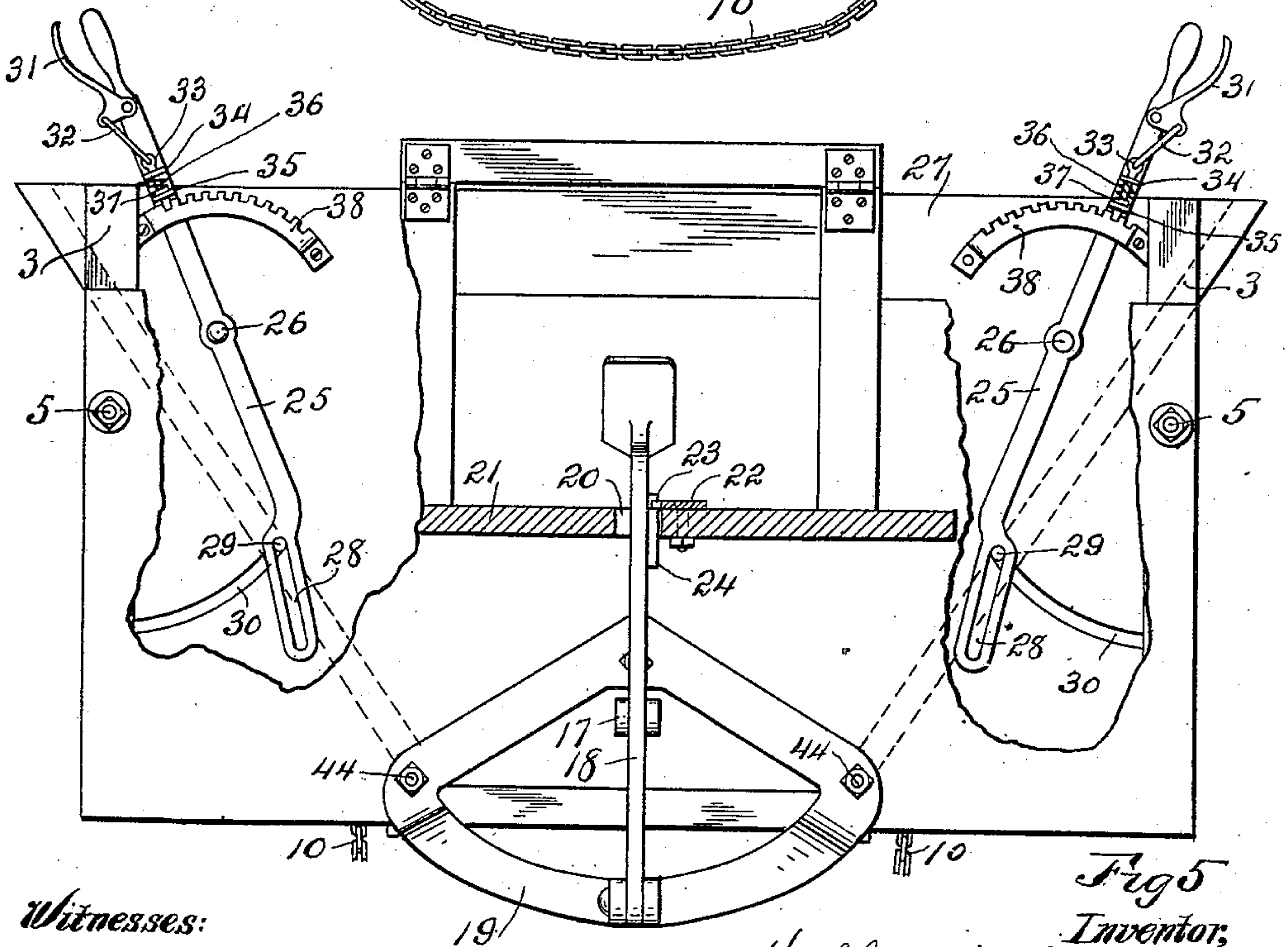
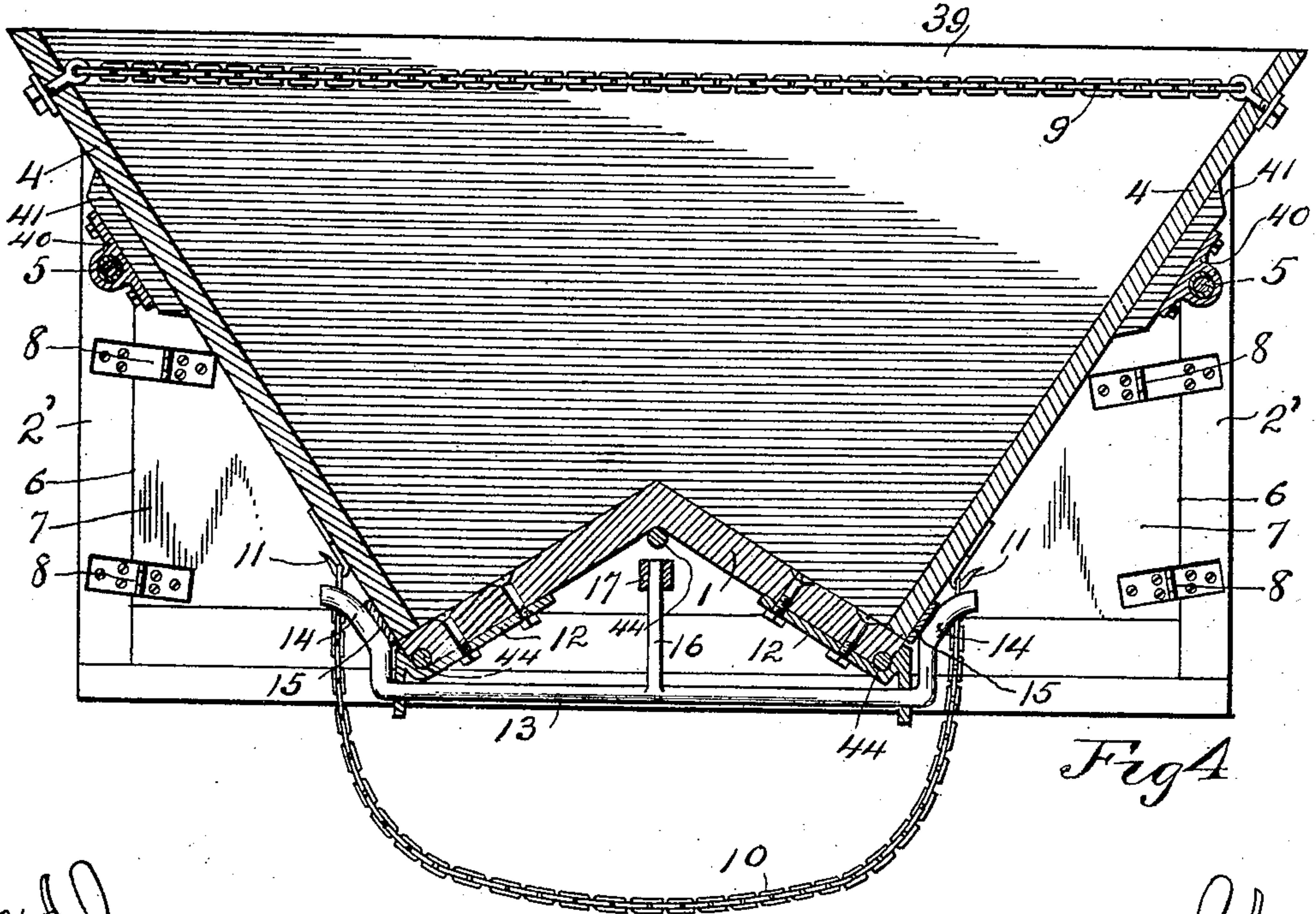
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*E. B. House*

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*His Attorney.*



# UNITED STATES PATENT OFFICE.

HALLETT D. ELLS, OF KANSAS CITY, MISSOURI.

## DUMPING-WAGON.

969,259.

Specification of Letters Patent.

Patented Sept. 6, 1910.

Application filed December 31, 1908, Serial No. 470,184. Renewed March 12, 1910. Serial No. 549,007.

*To all whom it may concern:*

Be it known that I, HALLETT D. ELLS, a citizen of Canada, residing at Kansas City, in the county of Jackson and State of Missouri, have invented a certain new and useful Improvement in Dumping-Wagons, of which the following is a specification.

My invention relates to improvements in dumping wagons.

10 The object of my invention is to provide a dumping wagon which is simple in construction and efficient in operation and which may be operated to discharge the load under complete control of the operator.

15 The novel features of my invention are hereinafter fully described and claimed.

In the accompanying drawings which illustrate the preferred form of my invention—Figure 1 is a longitudinal, vertical, sectional view. Fig. 2 is a side elevation reduced. Fig. 3 is a horizontal section, enlarged, taken on the dotted line *a—b* of Fig. 1. Fig. 4 is a cross section, enlarged, taken on the dotted line *c—d* of Fig. 2, and showing the swinging side portions in the closed positions. Fig. 5 is a front view, partially in elevation and partly broken away, and in vertical section, the section being taken on the dotted line *e—f* of Fig. 1.

30 Similar characters of reference indicate similar parts.

In its preferable form the wagon bed is provided with a bottom portion 1, which inclines downwardly and outwardly at each side of its longitudinal center. At the rear of the bed, on opposite sides thereof, are vertical stationary side portions 2, each having vertical standards 2', two in number and disposed one in advance of the other. At the forward end and upon each side of the wagon bed are vertical standards 3. The bed is provided with two swinging side portions 4, which are respectively pivotally mounted upon horizontal bars 5, the ends of which extend through and are respectively secured to the standards 3 and the forward standards 2'. The swinging side portions 4, in the closed position, lie over the inclined bottom portion 1. Said side portions 4 are pivoted on the bars 5 so as to swing outwardly at their lower edges and when inwardly swung to the closed positions shown in Figs. 4 and 5, said side portions 4 abut respectively at their rear ends against the forward standards 2'.

The swinging side portions 4, when in the closed positions shown in Fig. 4, are disposed obliquely to the stationary side portions 2, thus providing openings 6 intermediate the side portions 4 and the standards 2'. The openings 6 are normally closed by swinging closures 7 connected by hinges 8 to the forward standards 2'. The arrangement of the parts is such that when the swinging portions 4 are swung to the closed positions shown in Fig. 4 they will respectively force to the closed positions the closures 7, which, when in the closed positions, will be disposed transversely to the portions 4, the rear edges of which will lie against the forward sides of the closures 7. Preferably the swinging portions 4 will have their upper edges disposed above the bars 5. To assist in supporting the load a chain 9 is preferably provided, its ends being secured respectively to the side portions 4 above the bars 5.

To adjustably limit the outward swinging of the lower portions of the side portions 4 a chain 10, which passes beneath the inclined bottom portion 1 has its ends secured respectively to hooks 11, mounted respectively on the outer sides of the portions 4. By detaching the chain from one of said hooks the length of the chain 10 intermediate the hooks 11 may be changed by inserting the hook which has been disengaged in such link as will make the chain of the desired length intermediate the hooks.

For releasably holding the swinging portions 4 securely in the closed position when the bed is carrying a load, the following described mechanism is preferably provided:—At opposite edges and upon the bottom side of the inclined bottom portion 1, are rigidly secured a plurality of brackets 12 in which are pivotally mounted a plurality of horizontal, transverse rock bars 13, each at its ends having upwardly turned arms 14, adapted, when the swinging side portions 4 are in the closed positions, to embrace respectively two longitudinal plates 15, secured respectively upon the outer sides of and adjacent to the lower edges of the side portions 4. Each rock bar 13 is provided with a crank 16, which is pivotally connected to a horizontal longitudinally movable connecting member 17, the forward end of which is pivoted to a lever 18, above the pivotal point of said lever, the lever 18 being



disposed in a vertical plane and pivoted at its lower end to a bracket 19, secured to the bed at the forward end thereof. The lever 18 extends upwardly through a vertical slot 20 of a horizontal foot board 21, as shown in Figs. 3 and 5. A horizontal plate 22 is secured to the upper side of the foot board 21 parallel with the slot 20, and is provided at the side adjacent said slot with ratchet teeth 23, adapted to engage a lateral projection 24, provided on the lever 18 so as to releasably engage and hold said lever from forwardly swinging. There is sufficient resiliency in the lever 18 and bracket 19 to permit the lever to be laterally swung in the slot 20 so as to disengage the projection 24 from the teeth 23 when it is desired to swing the lever 18 forward to a position in which it will, through the intermediacy of the connecting member 17 and cranks 16, rock the bars 13 to positions in which the arms 14 will be disposed below the path of movement of the swinging side portions 4.

In order that the swinging side portions 4 may be independently controlled in their swinging movement so that different portions of the load may be distributed at opposite sides of the bed, in the proportions desired, the following described mechanism is preferably employed:—Two levers 25, are respectively pivoted upon horizontal bolts 26, which extend into and are rigidly secured to the forward end 27 of the bed. The lower ends of said levers 25 are provided respectively with longitudinal slots 28 into which extend horizontal pins 29 which are secured respectively to the forward ends of the swinging side portions 4. The forward end 27 is provided with arcuate slots 30, through which the pins 29 respectively project.

By swinging the levers 25 in the proper direction the swinging side portions 4 may be swung thereby to the closed positions shown in Figs. 4 and 5. The levers 25 may also be employed to adjustably control the swinging movement of the side portions 4 during a dumping operation. In order that this function may be effected the following described locking mechanisms are preferably provided:—Two bell crank levers 31 are pivotally mounted respectively upon the levers 25, adjacent to the upper ends thereof. Said bell crank levers are respectively connected by links 32 with two bolts 33, longitudinally slidably mounted in bearings 34 and 35, provided on each of the levers 25. Two coil springs 36 respectively encircle the bolts 33 and have their upper ends bearing respectively against the bearings 34 and their lower ends bearing against collars 37 secured respectively to the bolts 33 intermediate the bearings 34 and 35. The coil springs 36 normally force the lower ends of the bolts 33 into engagement respectively with the notched upper edges of two arcuate plates

38 which respectively embrace the levers 25 above the bolts 26 and are secured to the end 27 of the bed.

By properly swinging the levers 31 the bolts 33 may be withdrawn from engagement with the notched plates 38 thereby permitting the levers 25 to be swung to the desired positions.

The rear end of the wagon bed, which is denoted by 39, is disposed intermediate the stationary side portions 2 and inclines downwardly and forwardly toward the openings 6. At its forward lower end it intersects the bottom 1.

The swinging side portions 4 are preferably respectively pivoted to the bars 5 by means of bearings 40 which are pivotally mounted on the bars 5 and are rigidly secured to two longitudinal plates 41, secured respectively to the outer sides of the side portions 4.

When it is desired to dump a load the operator, who sits upon a seat 42, supported upon the front end of the bed, forces forward with his foot the lever 18, after first disengaging the lever from the toothed plate 22, thus rocking the bars 13 so as to release the swinging side portions 4. The operator then may independently swing the levers 25 to such positions as will dispose the swinging side portions 4 so as to distribute the load at opposite sides of the wagon in the proportions desired. The levers 25 may be manipulated so as to permit one or both side portions 4 to swing to a dumping position and they may be operated so as to permit both side portions 4 to swing to the fully open position, which is predetermined by the length imparted to the chain 10 intermediate the hooks 11.

When the side portions 4 have been swung to the open position the load will slide downward by gravity from the wagon bed and will force forward the swinging closures 7. After the load has been dumped the levers 25 are operated to swing the side portions 4 to the closed position shown in Fig. 4 and in Fig. 5, at which time the closures 7 will be swung by the side portions 4 to the closed position, shown in Fig. 4. The operator then forces rearwardly the lever 18, thereby rocking the rock bars 13 into positions in which the arms 14 will embrace the outer sides of the side portions 4, thus reliably holding the said side portions in their closed positions.

Intermediate the stationary sides 2 and at the rear of the inclined end portion 39, is provided, above the bottom portion 1, a chamber 43 which may be used for the reception of tools or other articles.

In order that a rigid construction may be afforded three longitudinal bars 44 are disposed below and support the bottom portion 1. The ends of said bars are secured to



the bracket 19 through which they extend, and to a transverse horizontal bar 45, secured to the rear end of the bed.

Various modifications of my invention, within the scope of the appended claims, may be made without departing from its spirit.

Having thus described my invention, what I claim and desire to secure by Letters Patent, is:—

1. In a dumping wagon, the combination with a wagon bed having outwardly movable sides, of a member for releasably embracing said sides to hold them in the inner closed positions, means for moving said member into and out of engagement with said sides, and two levers pivoted to said bed and respectively engaging said sides for independently controlling the movement of said sides.

2. In a dumping wagon, the combination with a wagon bed having outwardly movable sides, of a rock bar having means for embracing and holding said sides in the inner closed positions, means for rocking said bar into and out of engagement with said sides, and two levers pivoted to the bed, for independently controlling the movement of said sides.

3. In a dumping wagon, the combination with a wagon bed having outwardly movable sides, of a member for embracing and holding said sides in the inner closed position, a lever for moving said member into and out of engagement with said sides, and two other levers pivoted to said bed for independently controlling the movement of said sides.

4. In a dumping wagon, the combination with a wagon bed having outwardly movable sides, of a rock member pivoted on said bed and having means for embracing and holding said sides in the inner closed positions, a lever for rocking said rock member, and two levers pivoted to said bed for independently controlling the movement of said sides.

5. In a dumping wagon, the combination with a wagon bed having outwardly movable sides, of a member for embracing and holding said sides in the inner closed positions, means for moving said member into and out of position in which it will engage said sides, two levers for independently controlling the movement of said sides, and two locking means for respectively adjustably holding said levers in different positions.

6. In a dumping wagon, the combination with a wagon bed having outwardly movable sides, of a rock member for embracing and holding said sides in the inner closed positions, means for rocking said member, and two levers for independently controlling the movement of said sides.

7. In a dumping wagon, the combination with a wagon bed having outwardly movable sides, of a rock member for embracing and holding said sides in the inner closed positions, a lever for rocking said rock member, two levers for independently controlling the movement of said sides, and two locking means for respectively adjustably holding said last two levers in different positions.

8. In a dumping wagon, the combination with a wagon bed having outwardly movable sides, of a plurality of members movable to and from positions embracing and holding said sides in the inner closed positions, a lever, means connected with said lever for moving said members to and from a position engaging said sides, and two levers pivoted to the bed for independently controlling the movement of said sides.

9. In a dumping wagon, the combination with a wagon bed having outwardly movable sides, of a plurality of rock members each having means for embracing and holding said sides in the inner closed positions, means for swinging said rock members into and out of engagement with said sides, and independent means for controlling the movement of said sides.

10. In a dumping wagon, the combination with a wagon bed having outwardly movable sides, of a rock member for embracing and holding said sides in the inner closed positions, and adjustable means for independently controlling the movement of said sides.

11. In a dumping wagon, the combination with a wagon bed having outwardly movable sides, of a plurality of rock members each having means for embracing and holding said sides in the inner closed positions, means for rocking said members to and from positions engaging said sides, and adjustable means for independently controlling the movement of said sides.

12. In a dumping wagon, a wagon bed having opposite vertical stationary side portions, swinging side portions respectively obliquely intersecting said vertical portions when the swinging portions are in the closed positions, thereby providing two openings respectively intermediate the stationary side portions and the swinging side portions, and movable closures for said openings respectively.

13. In a dumping wagon, a wagon bed having vertical side stationary portions, swinging side portions which in the closed positions obliquely intersect respectively said stationary portions, thereby providing openings intermediate the stationary portions and the swinging portions, and closures for said openings movable to the closed positions by said swinging side portions.



14. In a dumping wagon, a wagon bed having stationary side portions, swinging side portions which in the closed positions obliquely intersect said stationary portions respectively, thereby providing openings intermediate the stationary and the swinging side portions, and swinging closures for said openings movable to the closed position by the closing movement of said swinging portions.

15. In a dumping wagon, a wagon bed having stationary side portions, swinging side portions which in the closed positions obliquely intersect the stationary portions and thus provide openings intermediate the swinging portions and the stationary portions, a rear end intermediate said stationary side portions and inclining toward said openings, and movable closures for said openings respectively.

16. In a dumping wagon, the combination with a wagon bed having stationary side portions, swinging side portions which in the closed positions obliquely intersect said stationary portions, thus providing openings intermediate said swinging side portions and the stationary side portions, and closures for said openings movable to the closed position by said swinging side portions, of means for releasably embracing and holding said swinging side portions in the closed positions, and means for independently controlling the swinging of said swinging side portions.

17. In a dumping wagon, a wagon bed

having a bottom which inclines downwardly and outwardly from the longitudinal center, and having stationary side portions, swinging side portions which in the closed positions obliquely intersect said stationary side portions, thus providing openings intermediate the side stationary portions and the swinging side portions, movable closures for said openings, and a rear end which lies intermediate the stationary side portions and inclines downwardly toward said openings and intersects the bottom of the bed.

18. In a dumping wagon, the combination with a wagon bed having outwardly swinging side portions and a bottom which inclines downwardly and outwardly from the longitudinal center, of a rock member pivoted to said bed and having arms for embracing and holding said side portions in the closed positions, a lever pivoted to said bed, means connected with said lever for swinging said rock member, adjustable means for limiting the outward swinging of said side portions, releasable means for holding said lever in a position in which the rock member will embrace the side portions, and means for independently controlling the swinging of said side portions.

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

HALLETT D. ELLS.

Witnesses:

E. B. HOUSE,

THOS. H. WALKER.