

No. 616,693.

H. C. WILLIAMSON.
DUMPING CAR.

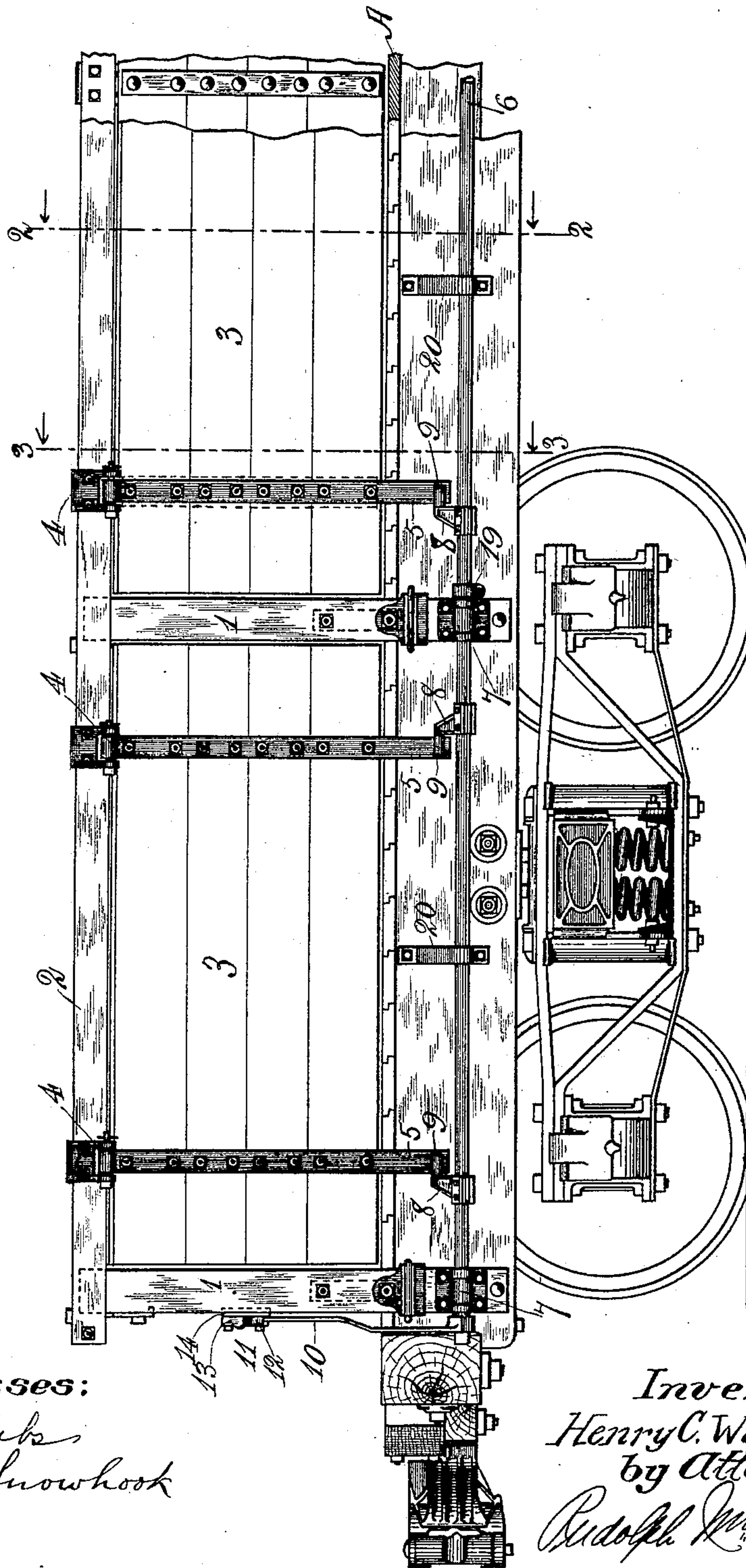
Patented Dec. 27, 1898.

(Application filed Mar. 23, 1898.)

(No Model.)

3 Sheets—Sheet 1.

Fig. 1.



Witnesses:
C. E. Combs
Wm B. Snowhook

Inventor:
Henry C. Williamson
by Attorney:
Rudolph W. Lutz

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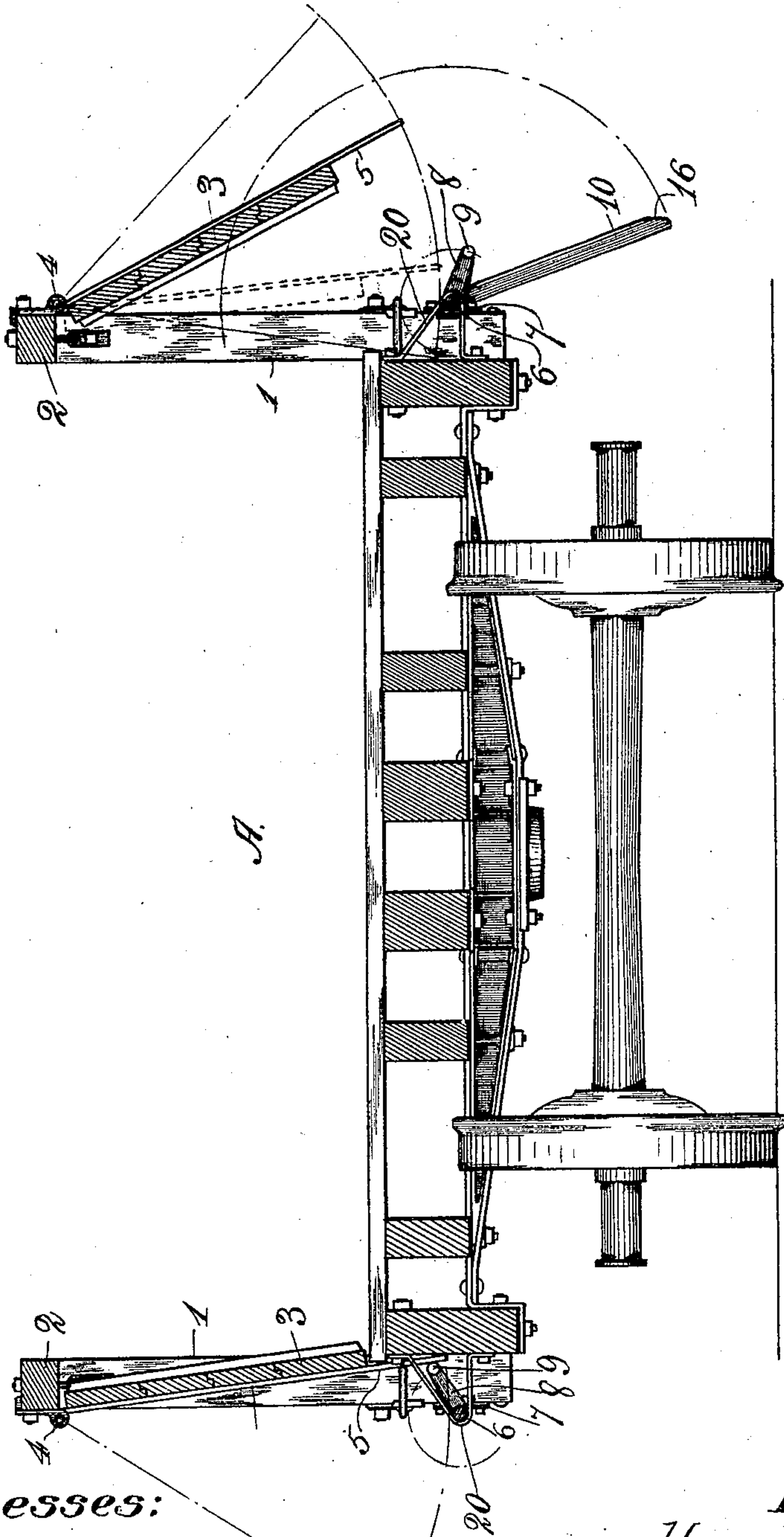
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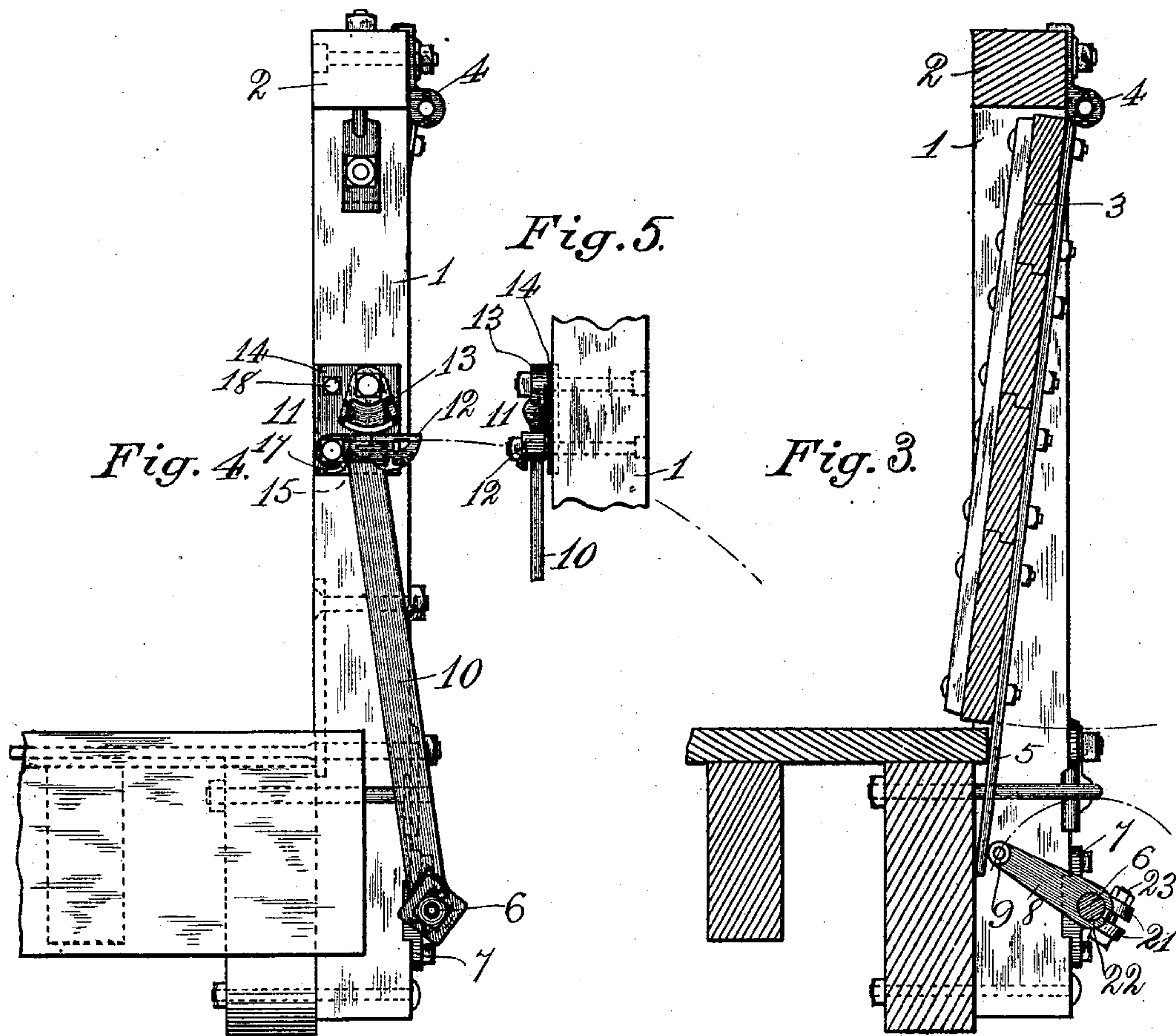
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3 Sheets—Sheet 3.



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UNITED STATES PATENT OFFICE.

HENRY C. WILLIAMSON, OF MICHIGAN CITY, INDIANA.

DUMPING-CAR.

SPECIFICATION forming part of Letters Patent No. 616,693, dated December 27, 1898.

Application filed March 23, 1898. Serial No. 674,883. (No model.)

To all whom it may concern:

Be it known that I, HENRY C. WILLIAMSON, a citizen of the United States, residing at Michigan City, in the county of La Porte and State of Indiana, have invented certain new and useful Improvements in Dumping-Cars; 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.

My invention relates to a novel construction in a dumping-car, which is termed a "side-dump" car—that is, a car from which the material is dumped from the sides—the object being to provide a car of this description which is simple in construction and efficient in operation; and it consists in the features of construction and combinations of parts hereinafter fully described and claimed.

In the accompanying drawings, illustrating my invention, Figure 1 is a partial side elevation of a dumping-car constructed in accordance with my invention. Fig. 2 is a transverse section of the same on the line 2 2 of Fig. 1. Fig. 3 is a partial sectional view, on an enlarged scale, on the line 3 3 of Fig. 1. Fig. 4 is a partial end elevation showing a lever for operating the car and the means of locking same. Fig. 5 is a detail view in elevation of the devices for locking the levers. Fig. 6 is a transverse section of a modified form of my dumping-car.

Referring now to said drawings, A indicates a flat-car upon the sides of which up-rights 1 are mounted. Upon the upper ends of said up-rights 1 beams 2 are mounted, to the outer faces of which gates or swinging sides 3 are hinged by means of the strap-hinges 4, the portions of which are secured to the said sides 3 to traverse the latter and project beyond the same, as at 5. The said up-rights 1 and beams 2 project outwardly from said car beyond the edges of the flooring, so that when said swinging sides or gates 3 are closed they incline inwardly. By placing the entire weight of the gates on the inner faces of said hinges 4 said gates, when released and hanging normally, will swing away from the sides of the flooring, so as to leave open spaces between the outer edges of said flooring and the inner faces of said gates, which is obvi-

ously advantageous. Shafts 6 are mounted in bearings 7 on the outer faces of said up-rights 1 out of the path of said projecting portions 5 of said hinges 4, and on said shafts 6 crank-arms 8 are mounted, which are provided at their ends with crank-pins 9, adapted to be swung into the path of and into engagement with said projecting portions 5 of said hinges 4. When said gates are free and hanging normally, as shown in dotted lines in Figs. 2 and 6, it will be noted that said projecting portions 5 of said hinges lie within the paths of said crank-pins 9, so that by turning said shafts 6 said crank-pins would be thrown into engagement with and force said projecting portions of said hinges against the side sills of the car. Said shafts 6 are four in number, two being mounted on each side of said car and extending over one-half its length. Each of said shafts 6 is provided at one end with a lever 10, rigidly secured thereto, and by means of which said shafts are operated. Said levers 10 are so arranged with relation to said crank-arms 8 that when the latter are in position to hold said projecting portions of the hinges against the side sills said levers are in the position shown in Fig. 4 and engaged by the locking devices 11 to prevent said levers from turning. Said locking devices 11 each consist of two members 12 and 13, pivotally mounted on a plate 14, secured to the end upright 1 of the car. Said member 12 lies horizontally and is provided on its lower face with a recess 15, adapted to receive the upper end of a lever 10. The pivot of said member 12 is inwardly of said recess 15, and its outer end is inclined and provided with a recess in said inclined portion, in which the cut-away portion 16 of said lever 10 is adapted to move. By the contact of the two inclined faces of lever 10 and member 12 of the lock the latter is adapted to be raised to permit the passage of said lever to a point below the recess 15 in said member 12 when the latter drops by gravity and receives said upper end of said lever into said recess 15, thus holding the latter against movement. Said member 12 is normally held in its horizontal position by means of a lug 17 on said plate 14, adjacent the pivot of said members 12. The member 13 of said locking device consists of a segmental casting pivoted at its

small end to said plate 14 above said member 12 and adapted when depending from its pivot to engage the upper face of said member 12 to lock the same in engagement with
 5 said lever 10. By turning said member 13 on its pivot until its side edge normally farthest from, engages the head of the bolt 18 the member 12 will be free to be raised to release said lever 10. The pressure against the
 10 crank-pins 9 will then force the latter outwardly, thus turning the shaft 6 to the position indicated on the right of Figs. 2 and 6 and permitting the gates 3 to freely swing outwardly, the load being adapted to force
 15 them outwardly about as far as indicated in full lines to the right of Figs. 2 and 6. After the main portion of the load has thus been dumped said gates swing inwardly to about the positions indicated in dotted lines in Figs.
 20 2 and 6, thus bringing the projecting portions 5 of the hinges again within the paths of the crank-pins 9. To prevent longitudinal movement of said shafts 6, collars 19 are mounted on said shafts adjacent one of the bearings
 25 of each. To further reinforce said shafts 6 between said bearings 7, I provide straps 20, secured at their ends to said side sills and bent to form loops embracing said shafts 6 midway between the bearings 7, so as to take
 30 up the strain on said shafts and prevent them from bending. In order to render said crank-arms 8 adjustable on said shafts 6 and permit them to be firmly secured thereon without weakening said shafts, I have provided
 35 each of said arms at one end with parallel lugs 21, inwardly of which is a recess 22, which is adapted to receive the shaft and be contracted thereon by means of bolts 23, adapted to draw said lugs 21 together. By
 40 this means I am enabled to secure said arms more firmly on said shafts than by the use of set-screws and make the same equally adjustable. Said arms 8 are made of malleable iron to give them sufficient elasticity to per-
 45 mit them to be clamped in the manner described.

From the foregoing it will be obvious that my device is particularly advantageous because of its extreme simplicity, which makes
 50 it cheap, durable, and efficient and easily operated by any common laborer.

I claim as my invention—

1. In a dumping-car, the combination with a hinged depending gate adapted to normally

hang with its lower end away from the side 55 of the car, and provided with downwardly-extending projections, of a shaft mounted in bearings on the side of the car below said gates and out of the path of said projections, said shaft being provided with crank-arms 60 having crank-pins at their ends in the paths of which said projections are adapted to normally hang, whereby by turning said shaft said crank-pins will be thrown into engagement with said projections, substantially as 65 described.

2. In a dumping-car, the combination with a hinged depending gate adapted to normally hang with its lower end away from the side 70 of the car, and provided with downwardly-extending projections, of a shaft mounted in bearings on the side of the car below said gates and out of the path of said projections, said shaft being provided with crank-arms 75 having crank-pins at their ends in the paths of which said projections are adapted to normally hang, and means for turning said shaft and locking it against movement, substantially as described.

3. In a dumping-car, a crank-shaft adapted 80 to operate the dumping members of a car, a lever on said shaft and means for locking said lever and thereby said shaft in position to close said dumping members, comprising a member pivoted upon a rigid portion of the 85 car adapted to normally hang in the path of said lever, an inclined end on said member adapted to be engaged by the end of said lever and turned out of the path thereof, and a recess in said member behind said inclined 90 end adapted to receive and hold said end of said lever against movement when the latter has passed said inclined end, said member being adapted to automatically reënter 95 the path of said lever when the latter has passed said inclined end, and means for holding said member in engagement with said lever, comprising a member pivoted adjacent said first-named member and adapted to be swung into the path thereof, substantially as 100 described.

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

HENRY C. WILLIAMSON.

Witnesses:

WALTER J. OGDEN,
 C. F. COMPTON.