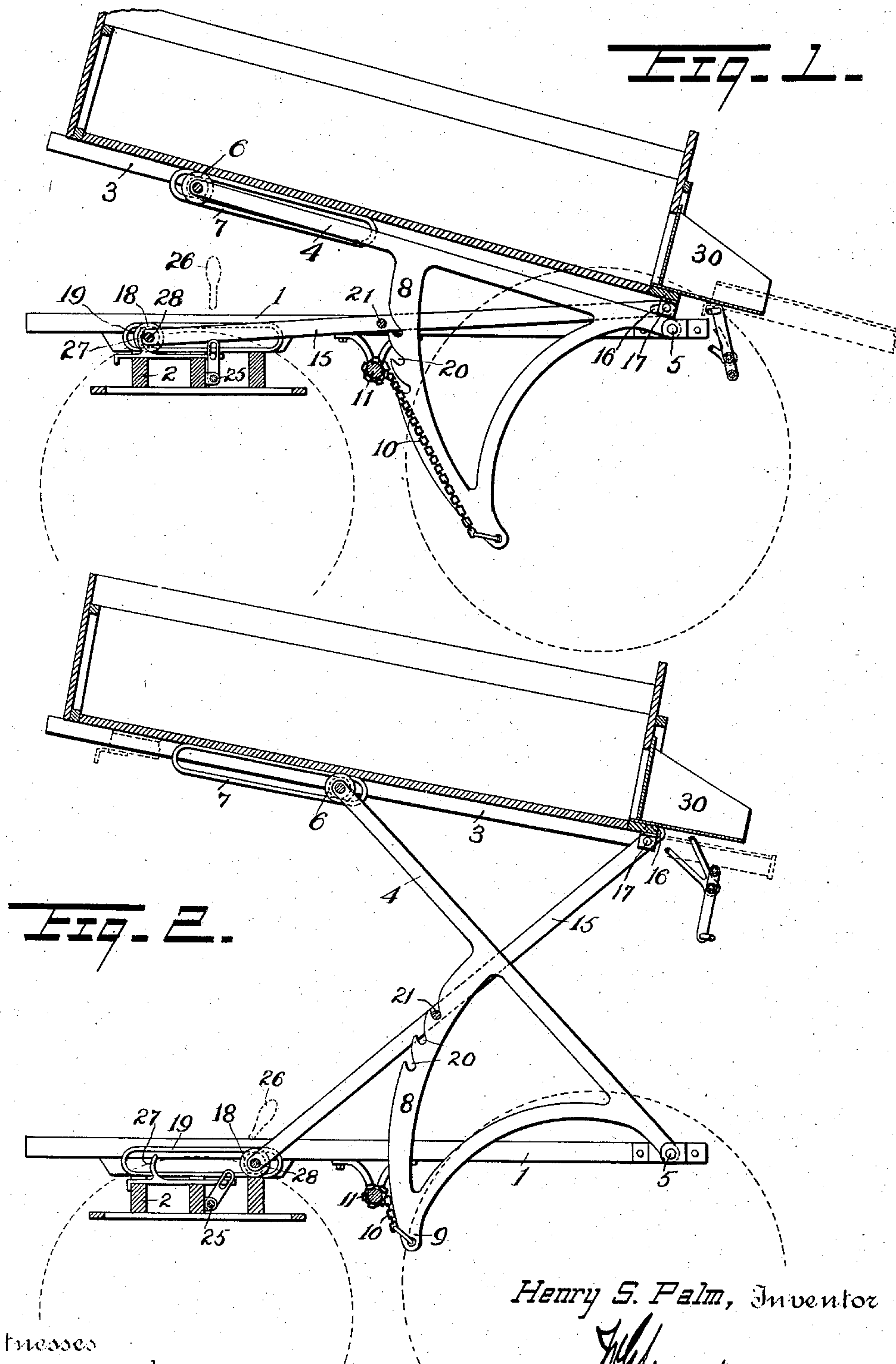


No. 859,971.

PATENTED JULY 16, 1907.

H. S. PALM.  
DUMPING WAGON.  
APPLICATION FILED OCT. 24, 1906.



Witnesses  
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# UNITED STATES PATENT OFFICE.

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## DUMPING-WAGON.

No. 859,971.

Specification of Letters Patent.

Patented July 16, 1907.

Application filed October 24, 1906, Serial No. 340,278.

*To all whom it may concern:*

Be it known, that I, HENRY S. PALM, a citizen of the United States, and a resident of the city of Reading, in the county of Berks and State of Pennsylvania, have invented certain new and useful Improvements in Dumping-Wagons, of which the following is a specification.

My invention relates particularly to chute-delivery dumping wagons, in which the loaded body is elevated so as to conveniently discharge the contents, as coal, therefrom; and it consists in the improved elevating mechanism hereafter described and claimed, the main object being to provide for safely elevating the body to a maximum height, and with a variable pitch as required under different conditions, by means simple both in construction and operation.

Figure 1 is a sectional longitudinal elevation indicating essential parts of a dumping wagon embodying my invention, the body being shown partly raised in front by the main elevating arms and the cross-arms about to be thrown into operative engagement with the main arms. Fig. 2 is a similar view to Fig. 1 showing the whole body in highly elevated position.

In the drawing the main parts of the running gear of the wagon are omitted, only the longitudinal sills 1 and the hounds 2, to which the elevating mechanism is connected, being indicated. The body, which is built upon its own sills 3, and which normally rests upon the wagon sills 1, is movably connected to the latter by a pair of main elevating arms 4, the rear ends of which are pivoted at 5 to the rear ends of the sills 1, while their roller forward ends 6 ride in suitable ways 7 beneath the forward portions of the body sills; said arms being provided as usual with intermediate depending members or quadrants 8, the lower ends 9 of which are connected by chains 10 to a winding shaft 11, so that the rotation of the latter by suitable gearing will swing the elevating arms upward upon their rear pivotal connections 5.

In my improved construction I employ in connection with the main elevating arms 4, specially constructed and arranged cross-arms 15, adapted to be independently moved into engagement with the main arms after the latter have been separately raised a greater or less distance as desired, so as to thereafter cooperate with the main arms in raising the whole body to a considerable height while maintaining its desired pitch or incline for discharging the contents. These cross-arms 15, have their rear ends slotted at 16 to engage fixed pivots 17 on the body sills 3, while their roller forward ends 18 ride in suitable ways 19 beneath the forward portions of the sills 1; so that they are capable of limited longitudinal movement upon the pivots 17 as determined by the length of the pivot-slots 16. This longitudinal movement of the cross-arms 15 is provided for the purpose of enabling

the arms to be thrown into operative engagement with the main arms when desired; such engagement being effected, as shown, by forming open edgewise notches 20 in the intermediate depending members 8 of the main arms, adapted to receive a transverse bar 21 which connects the cross-arms 15 about midway of their length. To provide for conveniently effecting the required longitudinal movement of the cross-arms 15 for thus engaging them with the main arms, I preferably mount a transverse shaft 25 on the sills 1, with a side lever 26 for turning the same, and operatively connect said shaft with fingers 27 slidably mounted on the hounds 2 and engaging a connecting bar 28 between the forward ends of the cross-arms, so that the latter may be readily moved rearward to engage the notches 20 when desired.

The operation of my improved mechanism will be readily understood from the foregoing description considered in connection with the showing of two different positions of the body in the drawing. The cross-arms 15 are normally moved forward as far as permitted by their slotted-end connections to the body at 17 (see Fig. 1), so that during the first portion of the elevating operation, the main arms alone operate to lift the body, and effect only the front end thereof. Assuming that sufficient rearward pitch for a given delivery has been attained in the position indicated in Fig. 1, the cross-arms will then be moved longitudinally rearward until the intermediate pivot-bar 21 of the cross-arms is in position to engage the first or top notch 20, when the continued operation of the winding shaft 11 will produce cooperative action of the main and cross-arms in elevating the whole body as indicated in Fig. 2; the rear pivots 17 of the body sills now bearing upon the cross-arms at the forward ends of the slots 16, and the roller ends 18 serving as a moving fulcrum in the guide way 19. The main and cross-arms being about equal in length the body will be raised in an approximately vertical line and substantially a uniform pitch of the body maintained at all elevations. If a greater pitch is desired than indicated in the drawing, the longitudinal movement of the cross-arms into engagement with the main arms as described, will merely be deferred until the main arms have been raised further than indicated in Fig. 1, and engagement then made with one of the lower notches 20. As the body is run down the cross-arms automatically move forward out of engagement with the main arms, as indicated in Fig. 2.

It will be understood that the contents of the body, as shown in the drawing, are discharged through a rear outlet or nozzle 30, into a suitable chute which is ordinarily carried under the wagon body, and drawn out when required, into suitable connection with the nozzle 30. The particular chute mechanism indicated in the drawings, having no essential relation to my



improved body elevating mechanism, is reserved for a separate application.

The preferred construction specifically described and shown may obviously be modified within the spirit of my invention.

What I claim is:—

1. A body-elevating mechanism for dumping wagons comprising main elevating arms pivoted at their rear ends to the wagon sills, cross-arms pivoted at their rear ends to the wagon body, and ways upon the body and sills in which the forward ends of said arms respectively ride, said cross-arms being longitudinally movable into and out of intermediate pivotal engagement with the main arms substantially as set forth.

2. A body-elevating mechanism for dumping wagons comprising main elevating arms pivoted at their rear ends to the wagon sills, cross-arms pivoted at their rear ends to the wagon body, and ways upon the body and sills in which the forward ends of said arms respectively ride, said cross-arms being longitudinally movable into and out of intermediate engagement with differently located points of connection on the main arms substantially as set forth.

3. A body-elevating mechanism for dumping wagons comprising main elevating arms pivoted at their rear ends to the wagon sills, cross-arms having slotted rear ends en-

gaging fixed pivots on the wagon body, and ways upon the body and sills in which the forward ends of said arms respectively ride, said main arms being provided with intermediate depending members having edgewise pivoting notches, and said cross-arms having intermediate pivoting means adapted to be engaged in said notches by longitudinal movement of the cross-arms substantially as set forth.

4. A body-elevating mechanism for dumping wagons comprising main elevating arms pivoted at their rear ends to the wagon sills, cross-arms having slotted rear ends engaging fixed pivots on the wagon body, ways upon the body and sills in which the forward ends of said arms respectively ride, said main arms being provided with intermediate depending members having edgewise pivoting notches, and said cross-arms having intermediate pivoting means adapted to be engaged in said notches, and mechanism for longitudinally moving said cross-arms into engagement with said notches comprising a handled transverse shaft, and sliding fingers operated by said shaft substantially as set forth.

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

HENRY S. PALM.

Witnesses:

D. M. STEWART,

W. G. STEWART.