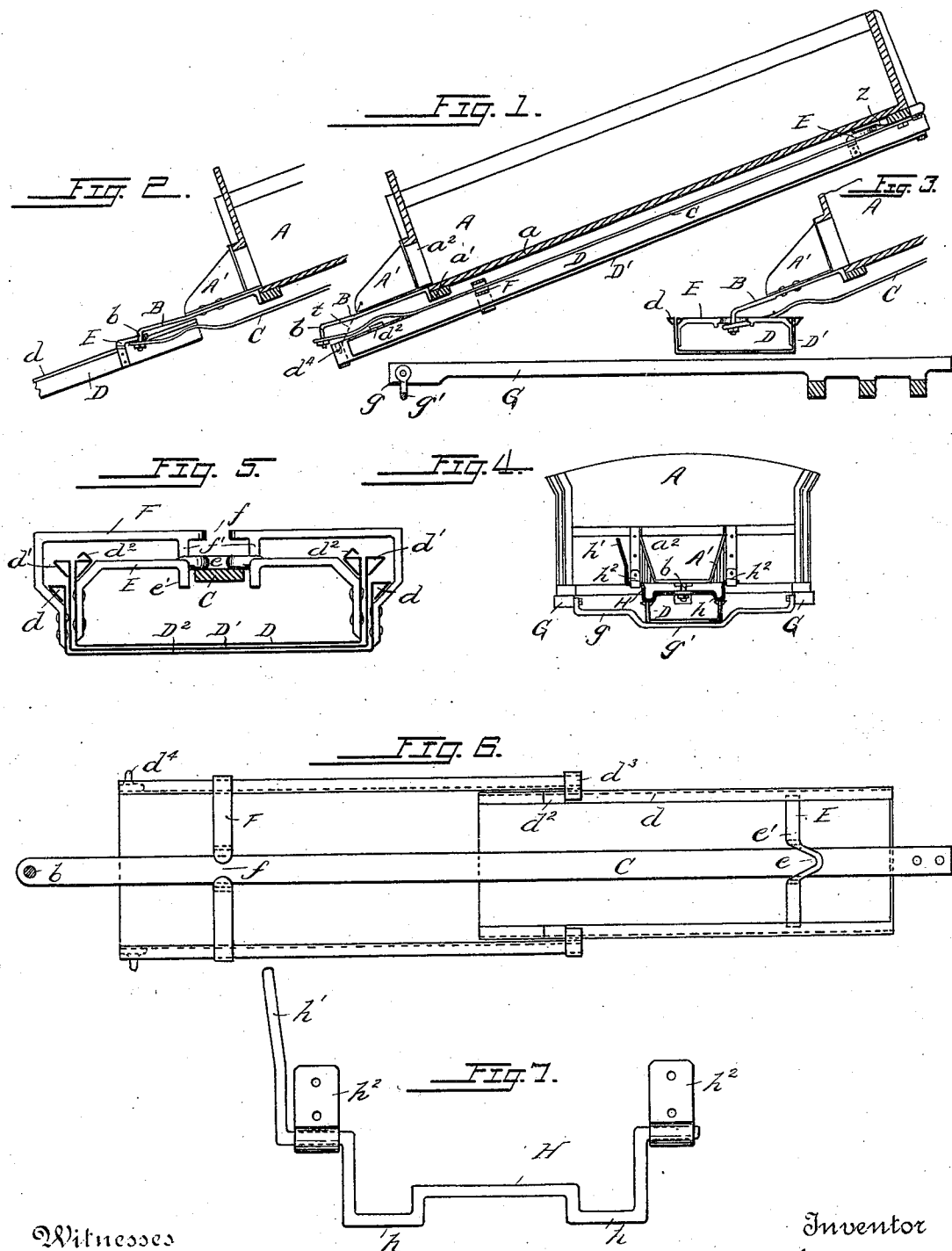


(No Model.)

W. G. STEWART.
CHUTE MECHANISM FOR DUMPING WAGONS.

No. 510,100.

Patented Dec. 5, 1893.



Witnesses

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CHUTE MECHANISM FOR DUMPING-WAGONS.

SPECIFICATION forming part of Letters Patent No. 510,100, dated December 5, 1893.

Application filed December 2, 1892. Serial No. 453,901. (No model.)

To all whom it may concern:

Be it known that I, WALTER G. STEWART, a citizen of the United States, residing at Reading, in the county of Berks, State of Pennsylvania, have invented certain Improvements in Chute Mechanisms for Dumping-Wagons, of which the following is a specification.

This invention relates to a chute mechanism adapted particularly for attachment to coal-dumping-wagons or carts in which the body is elevated from the running gear preparatory to discharging its contents.

It consists in certain improvements: first, in the construction of the chute; second, in the manner of suspending it from the body, and, third, in the manner of firmly securing it to the wagon so as to prevent rattle and wear.

Figure 1—is a longitudinal section of a portion of a dumping wagon body and running gear, the body being represented as elevated to a dumping incline with the chute in position under it. Fig. 2—is a similar section of the rear end of the body showing how the forward end of the chute is attached to it when the chute is arranged to discharge rearward. Fig. 3—is a similar view to Fig. 2 but indicates the chute arranged to discharge sidewise. Fig. 4—is an end view showing the wagon body lowered to its normal position upon the running gear. Fig. 5—is a cross-sectional view of the chute to an enlarged scale, showing three lengths or sections instead of two as in the other views, and with the hangers attached. Fig. 6—is a plan view of the chute extended. Fig. 7—shows to an enlarged scale the clamping mechanism for the chute indicated in Fig. 4.

A represents a dumping wagon body or box and G the sill of the running gear upon which the body rests when lowered.

A' represents a fixed trough or nozzle which projects rearward from the tail board and communicates with the opening a^2 in the latter, from which it is separated by a vertically sliding gate, not shown.

C is a chute-track formed of a flat bar of metal secured at its forward end to the bottom of the body and extended rearward beyond the end of the nozzle A' and attached to the pivot-shaped end b of a brace B which is rigidly attached to the nozzle.

The chute is formed as usual of two or more sections arranged telescopically so as to permit its extension as required. Fig. 5 shows three sections D, D', D². Each of these is formed of sheet metal having bent-up sides as usual. The top edge of these sides however is bent into triangular shape as shown, thus forming a substantially flat top d of considerable width, extending inward from the side on the inner section D, and outward on the sections D' and D², the tops of the two inner sections being about level when placed together while the outside section is more shallow so as to bring its triangular top below that of the section D'. The flat top d is strongly braced by the side d' of the triangle, which is bent close to the sides of the chute; and as this triangular top extends inward on the inner chute and outward on the outer chute they form jointly a very convenient and firm hold for the operator in handling the chute, in addition to greatly strengthening it, with a very slight increase of weight and with ease and economy of construction. Moreover the top d forms a convenient sliding surface for the stop-brackets d^3 , shown in Fig. 6 as limiting the longitudinal movement of the sections. The stops d^3 on the inner section, against which the brackets d^3 strike at the end of their movement, are preferably formed as shown in Figs. 1, 5 and 6, by slitting and turning upward above the top surface d a short portion of the side d' of the triangle, thus avoiding the necessity of riveting or otherwise securing thereon separately formed pieces for this purpose. The forward portion of the chute is suspended from the track C by means of a transverse hanger E which is secured to the inner section D somewhat to the rear of its forward end. The central portion of this hanger, which rides upon the upper surface of the track C is bent forward so as to form a hook e ; and side stops e' projecting downward from the hanger serve to keep this hook-shaped portion substantially in the center of the track, so that when the chute is pulled rearward this hook engages the pivot b at the rear end of the track, and serves to stop it in proper position to receive the coal as it is discharged from the nozzle A' while at the same time permitting the chute to be turned at right angles to the wagon body

as indicated in Fig. 3, for side delivery, or to any desired angle. The outer section D' is suspended at its forward end, by means of the stop brackets d^3 , from the section D. To support the rear portion of the closed chute from the track I provide a rear hanger F which is secured transversely to the rear portion of the outer section. This hanger is also provided with side stops f' which maintain it in central position upon the track, but is parted at the center, as shown at f , so as to freely pass the pivot b in sliding the chute out or in upon the track. Side chains 1, (Fig. 1,) are also provided, to support the rear end of the chute from the nozzle A' of the body when the chute is pushed in under it.

In order to keep the chute from being knocked about as the wagon is moved from place to place, thus causing objectionable noise and wear, it is necessary to provide some means to firmly hold it when the body is in its normal position upon the running gear. For this purpose I provide at the forward end of the wagon body, a spring 2 which is arranged to press upon the forward end of the chute when the latter is in position under the body, as indicated in Fig. 1 where the spring 2 presses the hanger E firmly against the track near the connecting point of the latter with the body, and thus effectually prevents any rattling movement of the forward end of the chute. At the rear end I provide for firmly clamping the chute by arranging the cross-brace g between the rear end of the running-gear sills G, so as to serve as a support for the chute when the body is lowered, the central portion g' of the brace upon which the chute rests being located at such a distance below the body as to cause the latter when lowered to bear upon the top of the chute and press it tightly against the brace g , which latter is formed as shown in Fig. 4 so as to prevent side movement of the chute. In order to permit the chute to be moved in or out if desired when the body is lowered I prefer to use a clamping device H upon the rear of the body. This is mounted in bearings h^2 so as to be capable of being swung, by means of an operating handle h' , either upward so as to leave the chute free, or downward until the bar h bears hard upon the top of the chute pressing it against the brace g .

The rear hanger F may be dispensed with without materially affecting the operation of the chute, and the construction may be otherwise considerably modified without departing from the spirit of my invention. I do not therefore limit myself to the exact construction described; but—

What I do claim is:—

1. The combination with the tail board nozzle and the chute track C suspended close to the bottom of the wagon body and terminating adjacent to the end of said nozzle in a pivot of the sliding chute suspended from said track by means of a top hanger fixed to the chute and arranged to ride upon said

track and to engage and turn upon said pivot substantially as described and for the purpose set forth.

2. The combination with the nozzle and fixed pivot b adjacent to the end of the same, of the chute provided with a top hanger E fixed transversely to the forward end of the chute, the central portion of said hanger being hook shaped to rotatably engage the pivot and the latter being provided with a ledge or bottom extension upon which the hanger is supported, substantially as set forth.

3. The combination with the tail board nozzle and the chute track carried by the wagon body and terminating adjacent to the end of said nozzle in a pivot, of the sliding chute suspended from said track by means of a hanger E fixed transversely to the forward end of the chute, the central portion of said hanger which rides upon the track being hook-shaped to engage said pivot and provided with side stops to maintain it in central position upon the track substantially as described.

4. The combination with the tail board nozzle and the chute track carried by the wagon body and terminating adjacent to the end of said nozzle in a pivot, of the sliding chute suspended from said track by means of hangers E and F fixed transversely to different points in the length of the chute and riding upon said track, the rear hanger F being open at the center to pass said pivot and the forward hanger being hook-shaped at the center to engage and turn upon the same substantially as described.

5. The combination with the movable wagon body and with the sliding chute suspended therefrom substantially as described, of a transverse bar g fixed to the rear end of the running gear and arranged to support said chute and to press the same firmly against the bottom of the wagon body when said body is lowered to its normal position upon the frame of the running gear, substantially as described.

6. The combination with the movable wagon body and with the sliding chute suspended therefrom substantially as described, of a transverse bar g fixed to the rear of the running gear and arranged to support said chute, and a clamping device H fixed to the wagon-body and arranged to bear upon the upper portion of said chute and to press the same tightly against said transverse bar substantially as and for the purpose set forth.

7. The combination with the wagon body and the chute track suspended underneath the same, of the sliding chute riding upon said track, and a spring arranged to bear upon the forward end of said chute when in its forward position upon the track, so as to firmly hold the same substantially as and for the purpose set forth.

8. The chute herein described formed of sheet-metal and having its upturned sides bent to form a top of substantially triangular cross section.

9. The chute herein described consisting of inside and outside sections arranged to slide longitudinally upon each other, each of said sections being formed of sheet metal and having its upturned sides bent to form tops of substantially triangular cross-section, said
5 ing its upturned sides bent to form tops of substantially triangular cross-section, said triangular shaped tops projecting inwardly from the sides of the inner section of the chute and outwardly from the outer sections, substantially as and for the purpose set forth.
10 substantially as and for the purpose set forth.

10. The chute herein described consisting of inside and outside sections arranged to slide longitudinally upon each other, the inside sec-

tion being formed of sheet metal and having its upturned sides bent to form tops of substantially triangular cross-section throughout the greater part of its length but having stops d^2 for the outside section formed thereon by upturning a portion of the bent top edges substantially as and for the purpose set forth. 20

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

WALTER G. STEWART.

Witnesses:

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ADAM L. OTTERBEIN.