

No. 687,277.

Patented Nov. 26, 1901.

J. SOMERVILLE.

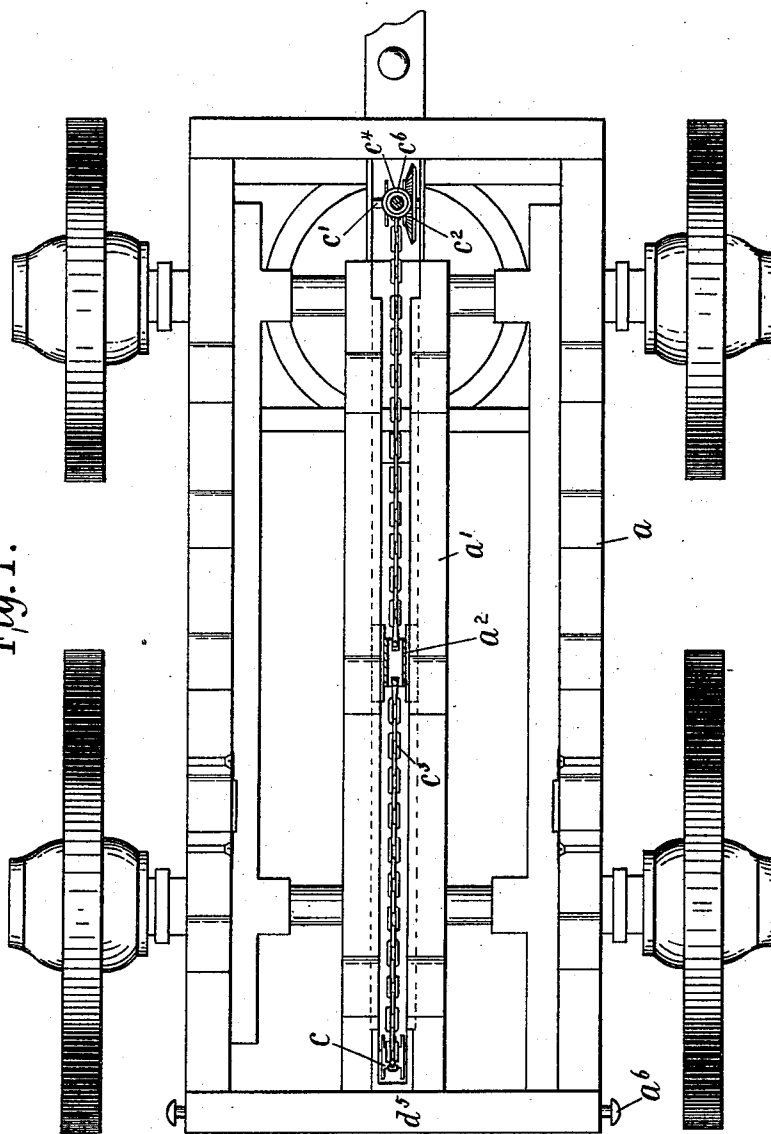
DUMP WAGON.

(Application filed Nov. 17, 1900. Renewed Oct. 19, 1901.)

(No Model.)

2 Sheets—Sheet 1.

Fig. 1.



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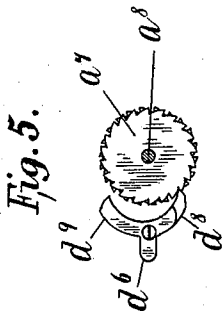
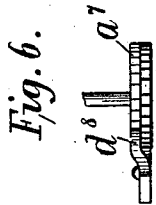
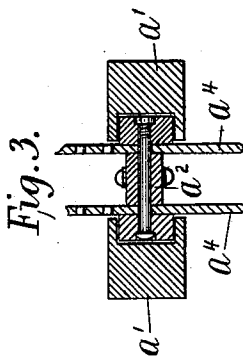
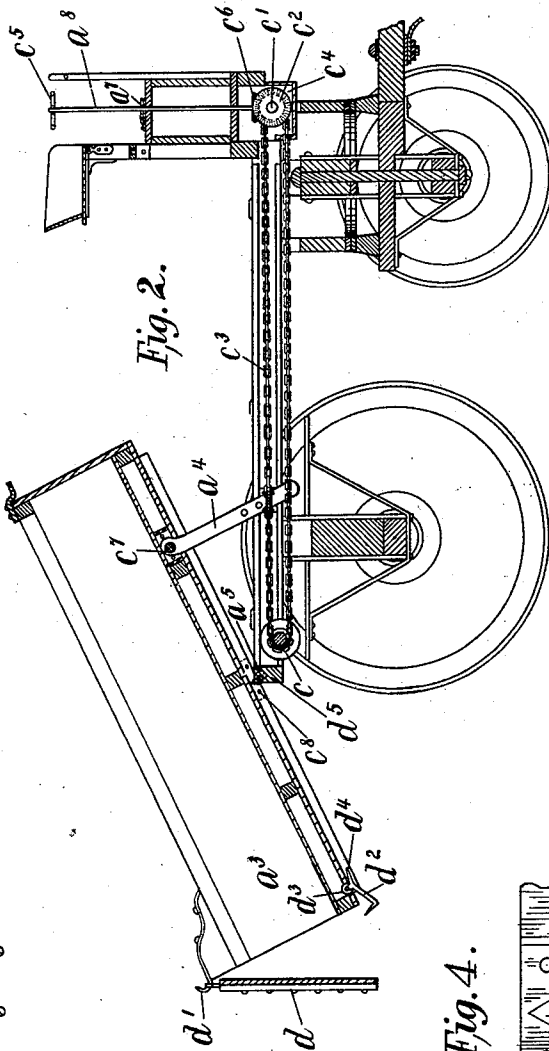
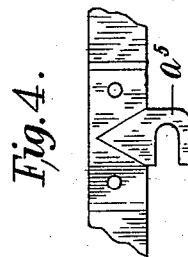
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2 Sheets—Sheet 2.



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UNITED STATES PATENT OFFICE.

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DUMP-WAGON.

SPECIFICATION forming part of Letters Patent No. 687,277, dated November 26, 1901.

Application filed November 17, 1900. Renewed October 19, 1901. Serial No. 79,198. (No model.)

To all whom it may concern:

Be it known that I, JAMES SOMERVILLE, a citizen of the United States, residing in the city of New York, in the county and State of New York, have invented a new and useful Improvement in Dump-Wagons, of which the following is a specification.

This invention relates to dump-wagons, the object of the invention being to provide a wagon with a dumping mechanism that may be operated wholly by the driver of the wagon from his seat, all of which will be hereinafter explained.

In the accompanying drawings, which form a part of this specification, my invention is fully illustrated, with similar letters of reference to indicate corresponding parts.

Figure 1 represents a plan view showing the frame a and the guide-timbers a' , between which the guide-block a^2 slides. Fig. 2 represents a vertical longitudinal section through the center of the frame a and body a^3 , showing the manner in which the lift a^4 operates to tip the body. Fig. 3 is a transverse section showing the guide-timbers a' and the guide-block a^2 , also the lifts a^4 , which are pivoted on the guide-blocks. Fig. 4 illustrates the hook a^5 , which is secured to the side of the body near its center and engages with the stops a^6 , secured to the end of the frame a , Fig. 1. Fig. 5 represents a face view of the two-way ratchet and pawl a^7 , which is located on the platform under the driver's feet and secured to the hand-wheel rod a^8 . Fig. 6 represents a side elevation of Fig. 5.

Referring to Fig. 2, (where the construction and operation of my dumping mechanism are best illustrated,) it will be seen that an endless chain is carried by the roller c , located at the rear end of the frame between the guide-timbers a' , also shown in Fig. 1, the opposite end or loop passing over the clutch-wheel mounted on the shaft c' and rotated by means of the beveled gear-wheel c^2 . The ends of the chain c^3 , as shown in Fig. 1, are secured to the guide-block a^2 . Thus as the clutch-wheel c^4 is ratcheted the guide-block a^2 moves back or forth, it being understood that the clutch-wheel c^4 is formed so that each link rests in a depression in the wheel with projections at the end of each

depression which engage between the adjacent flat links, so that the chain is clutched by the wheel sufficient to cause it to move with the wheel and in the direction in which it is being rotated. Directly above the clutch-wheel c^4 , standing vertically, is the hand-wheel rod a^8 , mounted upon the upper end of which is the hand-wheel c^5 , and mounted upon the lower end is a beveled gear-wheel c^6 , which meshes with the gear-wheel c^2 . This is the ordinary construction of beveled gearing, and it will be easily understood that as the hand-wheel c^5 is turned it rotates the gear-wheel c^6 , which carries with it the gear-wheel c^2 . The clutch-wheel c^4 and gear-wheel c^2 being fixed upon the same shaft c' , they will of course all rotate at the same time and carry with them the chain c^3 , which is clutched, as heretofore described, the back wheel c being a simple carrier for the rear loop of the chain.

Pivoted to the center of the guide-block a^2 , as shown in Figs. 2 and 3, are two lifts, as a^4 , the opposite ends of which are pivoted to the bottom of the body a^3 , as shown at c^7 , Fig. 2. Forward of the center on each side of the body, as shown by the dotted lines c^8 , Fig. 2, are secured hooks, as a^5 , Fig. 4, projecting below the side of the body in such a position that as the body moves back on the frame the hooks a^5 will engage with the stops a^6 , located on the rear end of the frame, as shown in Fig. 1, and prevent the body from moving beyond its center. Thus as the body is moved backward the hooks a^5 engage with the stops a^6 and stop, the guide-block a^2 continues to move back, and the lifts a^4 act as a pry to elevate the forward end of the body and dump the load, the height of the elevation being under the absolute control of the driver, according to the distance which he moves the guide-block a^2 back or forth. After the load has been dumped and as the guide-block a^2 is drawn forward the lift a^4 draws the front end of the body down and forward until it lies flat on the frame, and the two lifts a^4 are folded lengthwise within the guide-timbers a' and act as pullers to draw the body forward into its carrying position.

On the rear end of the body is the hanging gate d , which swings to a vertical position from the hooks d' . On the bottom of the rear end of the body directly under the gate d

are pivoted two hooks, as d^2 , one on each corner of the body. The construction of these hooks is such that the greater weight is on the hook or front side of the pivot d^3 , so that the hook by its own weight will always hang in a disengaged position, the rear end d^4 of the hook being provided to limit the fall of the hook end. Thus as the body a^3 is drawn forward on the frame, as heretofore described, the projection d^4 of the hook passes over the rear beam of the frame d^5 , which strikes the hook d^2 and forces the hook proper up outside of the gate d , which is closed against the end of the body, the rear end of course being vertical when the body is flat upon the frame. In this way the hooks d^2 form a self-locking device to hold the gate d , and as the body is moved back to dump the load the hooks d^2 by their own weight fall to a disengaged position, leaving the gate free to open by the weight of the load or as the wagon assumes an inclined position, thus automatically unlocking the gate and leaving the load free to dump.

A two-way ratchet-wheel a^7 , with the double pawl d^6 , one pawl of which, d^8 , engages with the upper ratchet and the opposite pawl d^9 arranged to engage with the lower ratchet-wheel, both being located conveniently above the driver's foot-platform, as illustrated in Fig. 2, the ratchets being fixed upon the hand-wheel rod a^8 , permits the driver by means of the side two-way ratchet and pawl to hold the body of the wagon in any desired position of elevation and to return the body again to its proper position after the load has been dumped without leaving his seat. Thus coal-dirt or any such matter can be carried to its destination and dumped and the wagon-body returned to its proper position by the driver without his leaving his place on the box.

Having thus described my invention, what I claim, and desire to secure by Letters Patent of the United States, is—

1. A dump-wagon constructed with the guide-timber a' , guide-block a^2 , arranged to slide therein, suitable means for sliding the said block back and forth within the said guide-timbers, lifts as a^4 , pivoted to the said guide-block, and to the forward part of the body as described; suitable means as hooks

a^5 , and stops a^6 , for stopping body at or near its center in its backward movement all arranged to operate substantially as described.

2. In a dump-wagon the continuous chain c^3 , secured to and carrying the sliding guide-block a^2 , lifts as a^4 , pivoted to the said guide-block and to the forward end of the wagon-body in combination with suitable stops and hooks a^5 , arranged to engage with the rear end of the frame a , when the body is being dumped, substantially as described.

3. In a dump-wagon the frame a , provided with the transverse rear frame-piece d^5 , suitable body arranged to slide on the said frame, said body provided with the hanging rear gate as d , in combination with the gravitation-hooks d^2 , pivoted to the bottom of the body in such a manner that they will be thrown upward when being drawn forward over the end frame d^5 , causing the said hooks to lock the gate d , substantially as described.

4. In a dump-wagon the hand-wheel rod a^8 , suitable two-way ratchet and pawl fixed thereto as described, the bevel gear-wheel c^6 , mounted thereon and arranged to mesh with a gear-wheel as c^2 , suitable chain-clutch as c^4 , in combination with a sliding block a^2 and chain c^3 , and suitable hand-wheel as c^5 , for operating the same, all constructed and arranged substantially as and for the purpose described.

5. In a dump-wagon the continuous chain c^3 , carrying roller c , and clutch-wheel c^4 , guide-block a^2 secured to said chain, lifts as a^4 , pivoted to the said guide-block and to the forward end of the wagon-body, stops and hooks as a^5 , arranged to engage with the rear end of the frame as described, in combination with suitable hand mechanism as hand-wheel and rod a^8 , two-way ratchet and pawl fixed thereto, bevel gear-wheel c^6 , mounted thereon and arranged to mesh with the gear-wheel as c^2 , for operating the clutch-wheel c^4 , substantially as described.

In testimony that I claim the foregoing specification I have hereunto set my hand this 27th day of September, 1900.

JAMES SOMERVILLE.

In presence of—

L. E. SMITH,

W. L. MURRAY.