2 Sheets--Sheet 1.

T. C. STRAWN.

Self-Loading Carts.

No. 163,541 Patented May 18, 1875.

Fig. 1.

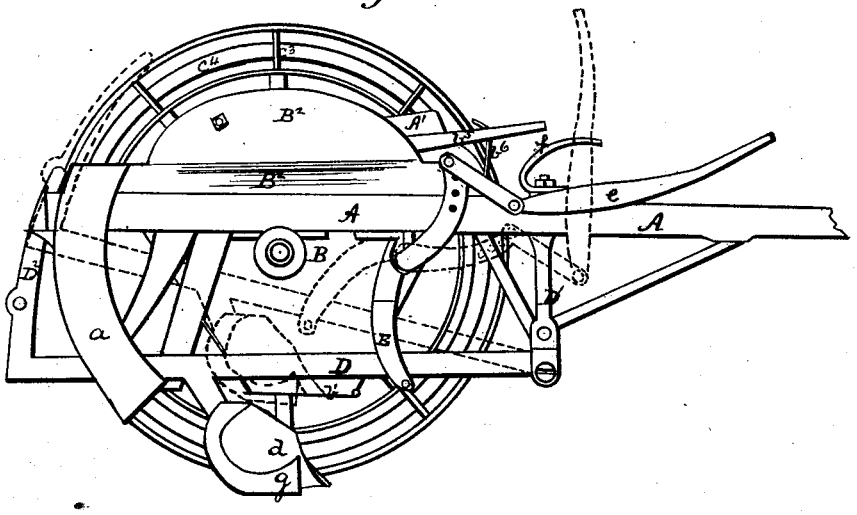
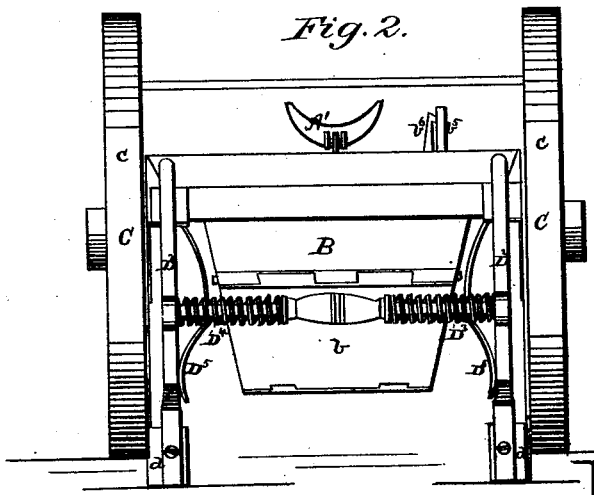


Fig. 2.



WITNESSES

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2 Sheets--Sheet 2.

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Fig. 3.

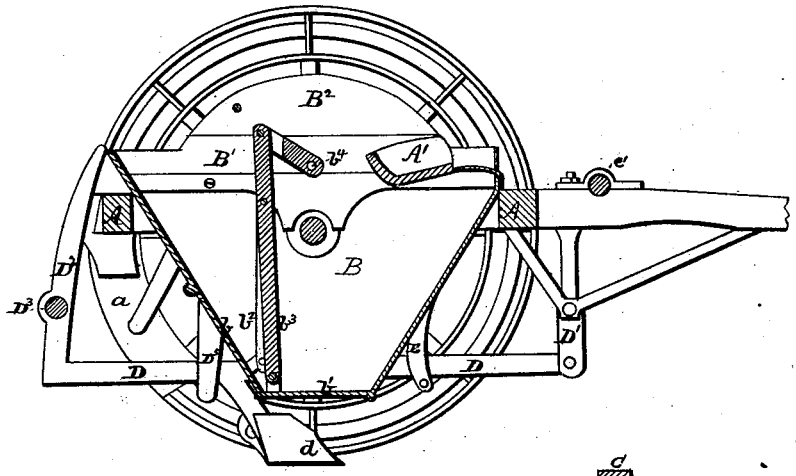


Fig. 4.

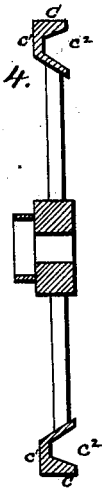
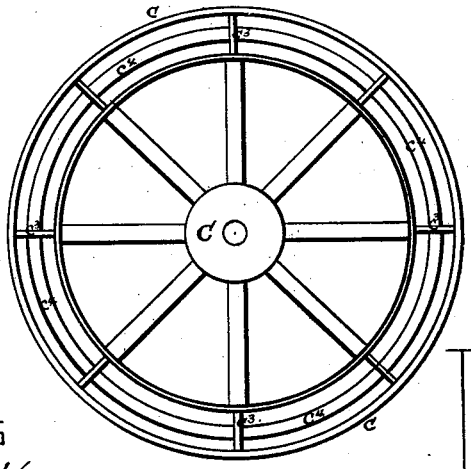


Fig. 5.



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UNITED STATES PATENT OFFICE.

THOMAS C. STRAWN, OF PERRY TOWNSHIP, FAYETTE COUNTY, ASSIGNOR TO HIMSELF AND N. Q. SPEER, OF BELLE VERNON, PENNSYLVANIA.

IMPROVEMENT IN SELF-LOADING CARTS.

Specification forming part of Letters Patent No. **163,541**, dated May 18, 1875; application filed June 13, 1874.

To all whom it may concern:

Be it known that I, THOMAS C. STRAWN, of Perry township, in the county of Fayette and State of Pennsylvania, have invented a new and useful Improvement in Self-Loading Earth-Cart; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawing, forming a part of this specification, in which—

Figure 1 is a side view of my improved cart, the adjacent wheel being removed. Fig. 2 is a rear view; Fig. 3, a longitudinal section of the box, and Figs. 4 and 5 views of the wheel.

Like letters of reference indicate like parts in the several figures.

My invention relates to self-loading dumping-carts for working roads, making excavations, and similar purposes; and it consists in the manner of hanging the plows so that less power is required to raise and lower the same, and so that they may be operated from either side of the box together or separately, as may be necessary; in the means provided to accommodate the lateral play of the plows; and, also, in constructing the dumping-bed of hopper-shape, the lower rear side and bottom being hinged and connected by a series of levers, so that the load may be readily discharged at the will of the driver.

In the drawings referred to, A indicates the frame; B, the bed; C, the wheel; and D the plow-beam, carrying the series of plows. The wheels C have broad tires *c*, and wide fellies c^1. The rims c^2 are hollowed out, and slightly broader on the side toward the cart, forming an annular space divided by a series of partitions, c^3, forming pockets or buckets c^4 around the inner edge of the wheel. *a* is a shield attached to the frame A, or to the bed, in such a position as to rest against or closely apply itself to the inner side of the wheel, said shield extending down to a short distance above the ground, so as to close the pockets in the wheel as the dirt is carried up. D represents plow-beams carrying the plows *d*. These beams are hinged at their forward ends to the standard D^1, and are provided at their rear ends with guide-pieces D^2, passing to the rear of frame A, or through suitable slots or guides. E represents a bent slotted lever, by which the plow-beams may be raised or lowered. Through the slotted lower end of the lever the plow-beam D passes, and this lever may be provided with a friction-wheel, to facilitate its movement upon the beam. Connected to the upper end of the lever E is a lever, *e*, which is within reach of the driver, and enables him to raise or lower the plow-beam as is desired. The plows upon the two sides of the frame may be connected by the shaft or rod e', so as to be operated by one lever, *e*, or they may be operated by separate levers, in which case either may be raised or lowered separately. When connected—the shaft e' passing across the front of the frame so as to be operated by one lever—I provide projecting rods D^3 upon the guides D^2, and coiled springs D^4, or their equivalents, so as to permit a slight lateral play of the plow-beams to increase the distance between the wheels and the plows to permit the passage of large stones or other obstructions. When the beams D are operated separately, instead of the springs D^4, I provide the springs D^5, attached to the frame or to the bed, and pressing directly against the sides of beam D, which will keep the plows in position under the ordinary pressure, but will yield for the passage of large stones between the wheel and the plow. *f* is a catch upon the frame for securing the lever *e* in position when the plows are elevated.

In the drawings I have shown, in addition to the ordinary form of plow, a second form, provided with a vertical plate or cutter, *g*, upon the mold-board toward the wheel, which is a shape more desirable to be used with the bucket-wheel, because the plow more readily clears itself from obstructions than when the ordinary shape is used. The bed B is of hopper form, the lower rear side *b* and the bottom b^1 being hinged to the main portion of the hopper, so as to form dumping-doors, said doors being supported by the levers b^2 and b^3, connected to the shaft b^4, from which the lever b^5 extends forward to near the driver's seat A^1, and is secured by the catch b^6 on the main portion of the bed. To either side of the hop-

per are the deflecting plates B^1, having the circular flanges B^2, or similar flanges, which extend within the rim of the wheel C, close to the fellies, so as to receive the dirt from the pockets and guide it into the bed B.

The operation of this cart is as follows: The plows being thrown down into position will, upon the forward movement of the cart, cut furrows in the ground, the displaced earth being deflected into the pockets or buckets in the periphery of the wheel, and, being prevented from escaping by means of the shields *a*, will be carried up by the buckets to a point above the bed, and, when at or near the highest point of the revolution of the wheel, will be discharged onto the deflecting plates B^1, and by them guided into the bed. Should the plows strike any obstruction the springs will permit a lateral or side play of the beams sufficient to increase the space between the wheel and the plow for the passage of the stone or other obstructing article, the plows returning to their position after the obstruction is passed. When the bed is filled it may be emptied at the pleasure of the driver by releasing the arm b^5, which will permit the opening of the hinged doors b b^1.

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

1. The plow-beam D, hinged at its forward end to the standard D^1, and provided at its rear end with a guide-piece D^2, passing in rear of frame A, in combination with the lifting-lever E, substantially as and for the purpose specified.

2. The plow-beam D, hinged to the standard D^1, and provided with guide-piece D^2, in combination with the spring D^5, constructed substantially as and for the purpose specified.

3. The plow-beams D D, hinged at their forward ends to the standards D^1 D^1, and provided at their rear ends with guide-pieces D^2 D^2, in combination with each other and with the spring D^4, substantially as and for the purpose specified.

4. The hopper-shaped box, having the lower portion *b* of the rear side and the bottom b^1 thereof hinged, and provided with the supporting-levers b^2 and b^3, substantially as and for the purpose specified.

In testimony whereof I, the said THOMAS C. STRAWN, have hereunto set my hand.

THOMAS C. STRAWN.

Witnesses:
B. F. HARRIS,
I. A. HOPKINS.