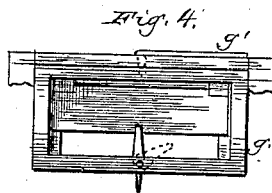
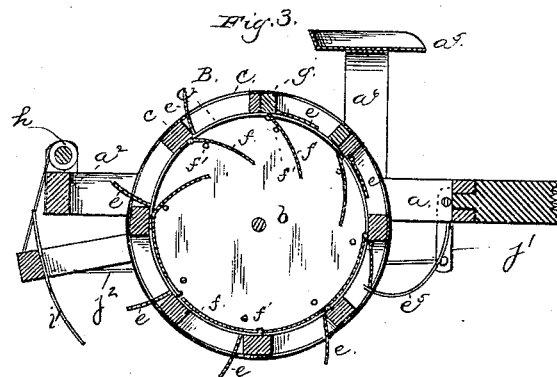
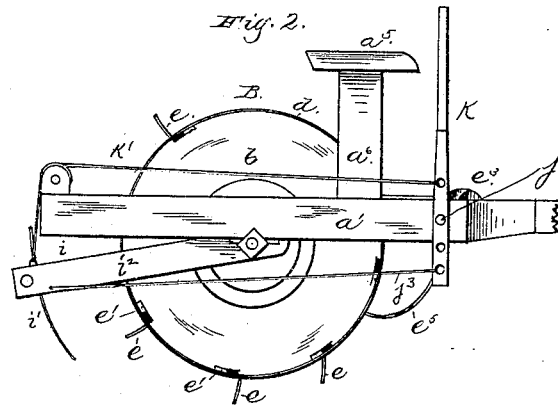
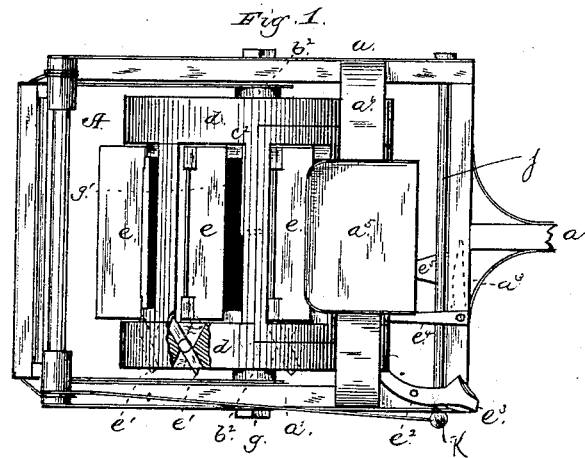


(No Model.)

A. J. PETRIE.
SELF LOADING CART.

No. 266,880.

Patented Oct. 31, 1882.



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UNITED STATES PATENT OFFICE.

ANDREW JACKSON PETRIE, OF MELROSE, MINNESOTA.

SELF-LOADING CART.

SPECIFICATION forming part of Letters Patent No. 266,880, dated October 31, 1882.

Application filed July 20, 1882. (No model.)

To all whom it may concern:

Be it known that I, ANDREW JACKSON PETRIE, a citizen of the United States, residing at Melrose, in the county of Stearns and State of Minnesota, have invented certain new and useful Improvements in Self-Loading Carts; and I do 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, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

This invention relates to improvements in carts; and it consists in the construction and arrangement of the several parts, as will be hereinafter fully described, and specifically pointed out in the claims.

In the drawings, Figure 1 is a plan view, Fig. 2 is a side elevation, and Fig. 3 is a vertical section, of a cart constructed according to my invention; and Fig. 4 is a detail view of the removable section.

A represents the framing, composed of the side bars, a a' , the rear bar, a^2 , and the front bar, a^3 . a^4 is the tongue, fixed to the center of bar a^3 .

a^5 represents the driver's seat, supported on bar a^6 , extending from one to the other of the side bars, a a' .

B represents the revolving cylinder. It is provided in its ends b b' with gudgeons b^2 , centrally arranged and journaled in suitable bearings in side bars, a a' , as shown. In the periphery of this cylinder I form elongated rectangular openings c , extended across from end to end of the same. c' represents the portion of cylinder between these openings c .

c^2 represents a metallic plate, secured to the inner side of the cylinder and extended slightly beyond the ends of the openings c , as shown, and adapted to serve as bearings for the ends of the shovel-doors, hereinafter described.

d d represent the tires of the cylinder, secured on the periphery at either end thereof, as shown. I also face the separating-pieces c' with metal plates, to protect them from wear in the revolution of the cart. At the back of the pieces c' the metallic plates are arranged

flush thereto; but at their forward edges the plates are extended slightly over the openings c , as shown.

e represents the outer or shovel doors. They are made about as long as and slightly narrower than the opening c , and they are hinged at the rear within said openings below the surface of the cylinder, and so that they will turn outward, as shown, as the cylinder is revolved, and drop into the opening c , when brought to the top of the cylinder, with their ends resting against the pieces c^2 , as shown in Fig. 1.

e' represents latches pivoted at one side in slots formed under the tire of the cylinder opposite the door e , and arranged to be turned so as to bring one of their ends over the edge of the adjacent door and lock it within the opening c or away from the doors, as is desired in the operation of the device, as will be described. When one end of these latches is projected over the door e in position to hold it shut the opposite end is flush with the outer end of the cylinder, as shown in Fig. 1; but when the latch is turned so as to permit the door to open the outer end is projected beyond the cylinder in position to be engaged by the lever e^2 , hereinafter described. The walls of the slots in which the triggers are pivoted are arranged at angles to each other, and form abutting shoulders which brace the triggers in their several positions, as shown in Fig. 1.

e^2 represents a foot-lever, pivoted on the side beam a' . The front portion, e^3 , of this lever is constructed to receive the foot of the driver, so that he may force the rear portion against the side of the cylinder, where it engages the latches e' , turning them and locking the doors e .

e^4 represents a spring-bar, pivoted on top of bar a^3 , and arranged to be turned so its end can engage the inner points of latches e' and force them back and release the doors e when it is desired to load the cart. This bar, like lever e^2 , is arranged in convenient reach of the foot of the operator.

e^5 represents a spring-bar, having its upper end secured to bar a^3 and its lower end curved back and arranged to engage the doors e , and open them when the cart is being loaded. The doors ordinarily will of their own weight open properly as they are brought near the ground

in the revolution of the cylinder; but by use of this spring-bar there is secured a more certain and efficient action.

f represents the inner doors. They are pivoted on the inner side of the cylinder, nearly or immediately under the point of pivot of doors *e*, and are made large enough to cover entirely the opening *c*. These doors operate automatically to close their relative opening *c* at the bottom and fall from and clear of the openings when they are at the top or above the middle of the cylinder, and they are supported from dropping too far and interfering one with the other by the pins *f'*, projected from the ends of the cylinder.

g represents a removable section cut in the cylinder. It is secured in place by a bolt operated by spring-bar *g'*, as shown in Fig. 1. It may be desirable to provide several of these doors to facilitate unloading when the dumping-point has been reached. It will be understood that when so desired these sections may be extended from end to end of the cylinder instead of being made shorter than same, as shown.

h represents a windlass, journaled over the bar *a²* in lugs projected from the ends of bars *a a'*, as shown.

i represents the scraper, composed of the hoe *i'* and the supporting-arms *i²*. The forward ends of the arms *i²* are journaled on the gudgeons *b²*, and they extend back slightly in rear of the cylinder B, and are secured to the hoe *i'*.

i³ represents chains secured to the opposite ends of the scraper-hoe, and carried up and secured to the windlass *h*.

j represents a shaft journaled in the side bars, *a a'*, immediately in rear of bar *a³*. This shaft is carried through the bars *a a'*, and it has secured to it on the outer side of the bar *a* the depending arm *j'*, which is connected by rod *j²* with the scraper *i*, and aids to force the scraper in the ground when the lever hereinafter described is drawn back.

k represents the scraper-operating lever. It is secured to the end of shaft *j* next the bar *a'*, and extended up within reach of the driver. It is also extended below the shaft a distance equal to the length of the arm *j'*, and its lower end is connected with the scraper by rod *j³*, operating, in connection with the rod *j²*, to force the scraper into the ground by the lever *k*.

k' represents a rod secured to lever *k* above the point of its connection with shaft *j*, and carried back and connected with the windlass *h*. Thus by drawing the lever back or forcing it forward the scraper can be forced into or held clear of the ground, as may be desired.

In the operation of my device, as the cylinder is rolled, the doors *e*, when they are brought below the center of the cylinder, drop out, as shown, and are forced into the soil and carry it up nearly to the top of the cylinder and deliver it through the openings *c* into the cylinders, the inner doors being then open, as

shown. The scraper accumulates the dirt in rear of the cylinder, where it may be easily caught up by the shovel-doors. The operation of the triggers and operating foot-lever *e² e⁴* will be readily understood on reference to the drawings and description hereinbefore given. When the cart has been filled the latches are turned to lock the shovel-doors, and the cart is rolled off to the dumping-place.

My cart is of especial advantage in handling of dirt in building of railroads or any other kind of work requiring grading, it being much lighter of draft than the ordinary cart, as it rolls on the top of the soil instead of sinking therein, and also as it loads itself and saves the expenses of the laborers, and as the cart is driven to and from the dump it leaves the grade smooth and even instead of cutting it up in ruts, as is the case where the common cart is employed.

Where so desired, the cylinder might be mounted on wheels of a larger diameter, and could be elevated off the ground, when loaded, and carried off to the dump. In such case the doors *e*, which I preferably hinge to turn down in the openings *c*, could be rigidly secured to cylinder and projected out in position to shovel the dirt into the opening *c*.

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

1. In a self-loading cart, the combination of the cylinder B, provided with openings *c*, the shovel-doors *e*, secured to said cylinder and arranged to deliver dirt through the openings *c*, and the doors *f*, hinged within the cylinder in position to automatically open and close the openings *c*, substantially as and for the purposes set forth.

2. In a dirt-cart, the combination of the rolling cylinder B, provided with the openings *c*, the shovel-doors *e*, hinged and arranged to drop into the openings *c*, and the doors *f*, hinged within the cylinder and arranged to automatically open and close the openings *c* as the cylinder is revolved, substantially as and for the purposes set forth.

3. In a rolling cart, the combination of the cylinder B, provided with openings *c*, the shovel-doors *e*, hinged within the openings *c*, the latches *e'*, pivoted at one side of and arranged to be turned over the edge of and lock the doors *e*, and means for operating the latches *e'*, substantially as and for the purposes set forth.

4. In a rolling cart, the combination of the cylinder B, provided with hinged doors *e*, and the spring-bar *e⁵*, having one end properly supported on the framing of the cart and its opposite end held in position to engage and open the doors *e* as the cylinder is revolved, substantially as and for the purposes set forth.

5. In a rolling cart, the combination, with the cylinder B, provided with doors *e* and latches *e'*, of the levers *e² e⁴*, having one end pivoted on the framing of the cart in front of the cylinder and their opposite ends arranged

to be turned to engage the opposite ends of the latches e' , and in convenient reach of the operator, substantially as set forth.

6. In a rolling cart, the combination of the
5 cylinder B, the scraper i , having its arms journaled on the gudgeons of the cylinder B, and its hoe arranged to work immediately in rear of the cylinder, the windlass h , supported on the framing and connected with the scraper
10 i , the lever k , secured on shaft j and connected with the windlass and the scraper by rods k'

j^2 , and the shaft j , having the lever secured to one end and provided at its other end with the depending arm j' , connected with the scraper by rod j^2 , substantially as and for the purposes 15 set forth.

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

ANDREW JACKSON PETRIE.

Witnesses:

S. R. FOOT,

W. S. LAMB.