F. N. FINNEY & C. E. BENTON.

Plow for Unloading Gravel from Flat Cars.

No. 152,624. Patented June 30, 1874.

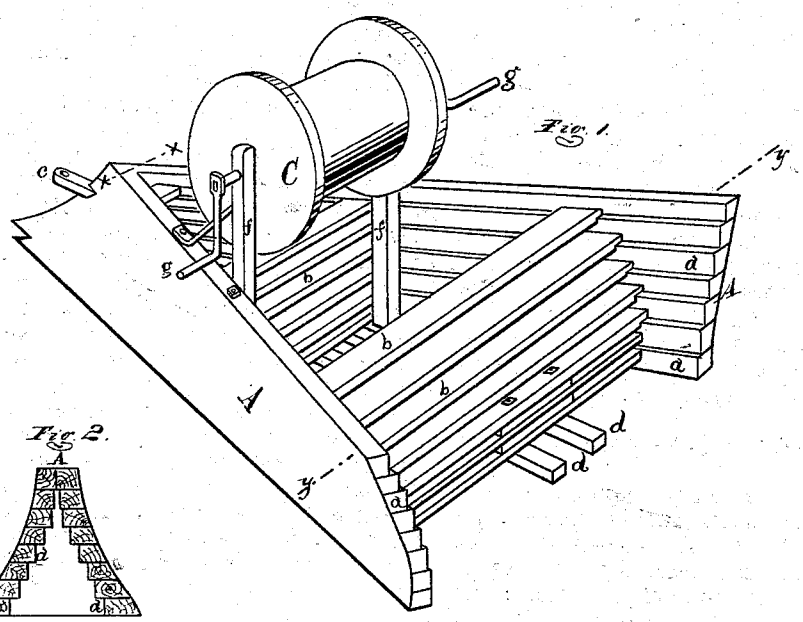

Fig. 1.

Fig. 2.

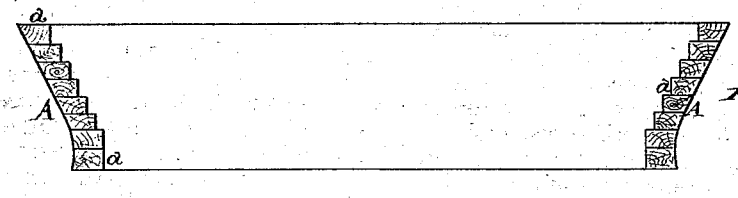

Fig. 3.

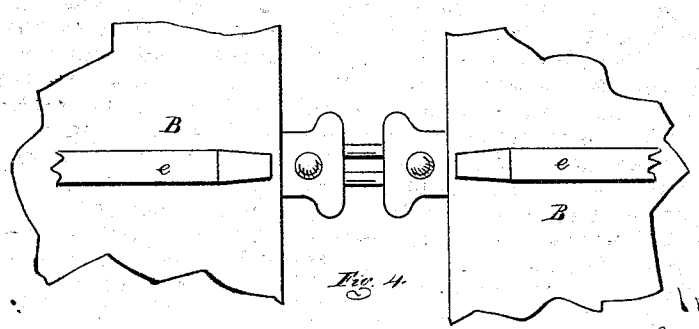

Fig. 4.

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UNITED STATES PATENT OFFICE.

FREDERICK N. FINNEY AND CORYDON E. BENTON, OF ST. THOMAS, CANADA.

IMPROVEMENT IN PLOWS FOR UNLOADING GRAVEL FROM FLAT CARS.

Specification forming part of Letters Patent No. **152,624**, dated June 30, 1874; application filed June 3, 1873.

To all whom it may concern:

Be it known that we, FREDERICK N. FINNEY and CORYDON E. BENTON, of St. Thomas, in the county of Elgin and Province of Ontario, have invented a new and useful Improvement in a Device for Unloading Gravel or Ballast from Flat Cars; and we do declare that the following is a true and accurate description thereof, reference being had to the accompanying drawings and to the letters of reference marked thereon, and being a part of this specification, in which—

Figure 1 is a perspective view of our improved unloading-plow, taken from the rear. Fig. 2 is a cross-section of the front end, taken on the line *x x*. Fig. 3 is a cross-section of the rear end, taken at *y y*. Fig. 4 is a partial plan of two flat cars coupled, each provided with the central longitudinal guide for our plow.

Like letters refer to like parts in the several figures.

This invention has for its object to provide an improved means for rapidly unloading a train loaded with ballast, depositing the latter at the sides of the track, without employing manual labor for the purpose; and to this end it consists in a peculiarly-constructed double mold-board plow, ordinarily carried on the rear flat of the train, along whose entire length it is drawn, when the train is stationary at the dumping-place, by the locomotive, discharging each flat as it is drawn over it, as more fully hereinafter set forth.

In the drawing, A represents a double mold-board plow, preferably built up of a large number of timbers, *a*, internally braced by cross-pieces *b* mortised in the mold-boards. The width of the plow is equal to that of the deck of a platform-car. The plow is so molded that it will under-run the ballast at its front end, while its rear ends overhang at the top, the slopes of the sides being reversed at the rear ends. *c* is a draft-iron at the front end of the plow. *d d* are two wooden strips of wood, longitudinally secured to the lower braces, parallel with the central line of the plow, to embrace a guide-stringer, *e*, bolted to the deck or platform B of a flat car longitudinally along its center. C is a drum or windlass, whose shaft is journaled in standards *f*, bolted to the middle row of braces *b*, and provided with cranks *g*, through which the wire cable used for drawing the plow may be wound up on the windlass.

The brake-shafts of the cars of the gravel-train should be sectional, and coupled together by sockets or otherwise, so that the upper part of each shaft may be removed when the train is to be unloaded.

When the train is backed into a gravel-pit to be loaded, the plow should be upon the rear end of the last car in the train. After loading with gravel or other ballast the train is drawn to the part of the line where ballast is required, and, after setting all the brakes, the projecting tops of the brake-shafts are removed. The engine is then disconnected from the train. The end of the wire-cable is then carried to and hooked into the draw-bar of the locomotive, while its other end is hooked into the draft-iron *c* of the plow. The plow is now drawn forward by the locomotive, pushing the ballast off the sides of the cars as it advances, until it reaches the front end of the train. The cable is now detached and wound up on the windlass, the brake-shafts replaced, and the train backed down to the gravel-pit, upon reaching which the first car, with the plow, is detached and run down the track of the pit, and then the remainder of the train is switched down after it and coupled up, leaving the plow on the hind car of the train, as before.

In this manner a train can be unloaded in a very short time; in fact, fifteen cars have been unloaded in three minutes. The saving of time and labor is obvious.

We are aware that plows have been made heretofore for unloading railway-cars, and that such plows have been used with guides to regulate their movement, and that machinery of different kinds has been employed to draw these plows over the cars, and consequently we do not claim the broad invention in either of these particulars.

What we claim as our invention, and desire to secure by Letters Patent, is—

The plow A, constructed of the timbers *a* and cross-pieces *b*, with overhanging rear sides, substantially as set forth.

FREDERICK N. FINNEY.
C. E. BENTON.

Witnesses:
J. J. BOURNE,
J. W. SHELDON.