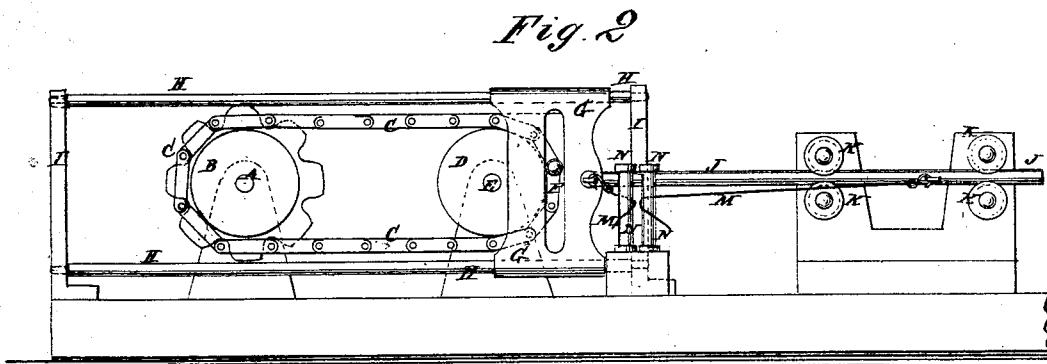
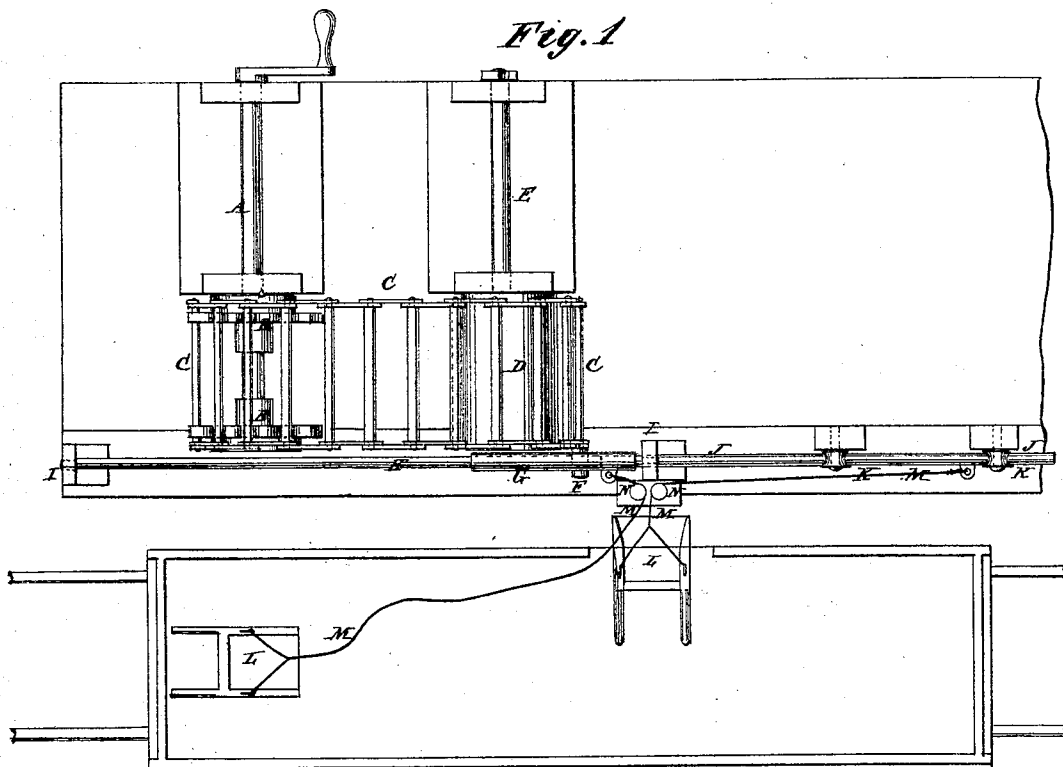


M. W. BOSWORTH.
Grain-Car Unloaders.

No. 145,780.

Patented Dec. 23, 1873.



WITNESSES:
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UNITED STATES PATENT OFFICE.

MASON W. BOSWORTH, OF BINGHAMTON, NEW YORK.

IMPROVEMENT IN GRAIN-CAR UNLOADERS.

Specification forming part of Letters Patent No. **145,780**, dated December 23, 1873; application filed November 8, 1873.

To all whom it may concern:

Be it known that I, MASON W. BOSWORTH, of Binghamton, in the county of Broome and State of New York, have invented a new and useful Improvement in Grain-Car Unloader, of which the following is a specification:

Figure 1 is a top view of my improved device. Fig. 2 is a side view of the same, the car being removed.

Similar letters of reference indicate corresponding parts.

This invention relates to an apparatus for unloading grain in bulk from railroad-cars; and it consists in the employment of a movable endless chain or apron, passing over guide-drums, and carrying a projecting gudgeon or arm, which operates in connection with a slotted sliding plate connected indirectly with the scrapers or scoops, arranged within the car. The invention further consists in attaching to the slotted sliding plate a reciprocating-rod, traveling between guide-pulleys, and connected with the movable unloading scoops or scrapers so as to draw the same to the door of the car for discharging the grain. The invention also consists in connecting the unloading scrapers, by ropes, to the reciprocating-rod, said ropes passing over guide-rollers, and so arranged that when one of a pair of scrapers is drawn to the door of the car for discharging its load, the draw-rope of the other will be slackened for permitting it to be retracted for the purpose of filling it.

A is the driving-shaft, which may be driven by any convenient power, and which revolves in bearings in any suitable frame-work. To the shaft A is attached a long chain-wheel, or two short chain-wheels, B, around which passes the endless chain C. The chain C also passes around a chain-wheel or drum, D, attached to a shaft, E, which is placed parallel with the shaft A and revolves in bearings in any suitable frame-work. The endless chain C is made wide, to enable it to resist the side draft, and is formed by attaching cross-bars to short links, as shown in Figs. 1 and 2, or in any other convenient way. The projecting end of one of the cross-bars of the chain

C, or a gudgeon, F, attached to said chain, passes through a vertical slot in a vertical plate, G, so that the said plate may be moved forward and back by the movement of the chain C. In the upper and lower edges of the plate G are formed long eyes to receive and fit upon two rods, H, the ends of which are attached to posts I, or other suitable supports. To the middle part of the plate G is attached the end of a rod, J, which passes between and is supported in a horizontal position by pulleys K, pivoted to posts or other suitable supports.

The endless chain C and the rods H should be in length a little more than half the length of a car, and the rod J should be equal in length to the united lengths of the cars to be unloaded at a time.

L are the scrapers or scoops by which the grain is removed from the cars, two of which are used for each car, and to each of which is attached a drag-rope M.

The drag-ropes M pass out through the side door of the car; pass between two long vertical friction and guide rollers, N, pivoted to suitable supports at or near the door of the car; and their other ends are attached to the rod J at a distance apart equal to a little more than half the length of the car, so that when the rod J is moving in one direction one of the scrapers L will be drawn toward the door of the car, to be emptied into the pit or bin, whence the grain is taken by the elevator, and at the same time the drag-rope of the other scraper will be slackened, so that the said scraper may be drawn back and filled.

As many sets of drag-ropes M may be attached to the rod J as there are cars to be unloaded at a time, so that the whole train may be unloaded in the time required for unloading a single car, and with a single apparatus, thus greatly economizing power and time.

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

1. In a grain-car unloader, the combination of the drums B D, endless chain C, and gudgeon

eon F, with the slotted sliding plate G and guide-rods H, substantially as and for the purpose described.

2. The slotted sliding plate G and guide-rod H in combination with the rod J and pulleys K, substantially as shown and described.

3. The rod J, arranged to be reciprocated,

as shown, in combination with the ropes M, scrapers L, and guide-rollers N, substantially as shown and described.

MASON W. BOSWORTH.

Witnesses:

WILLIAM H. CRAMPTON,
THOMAS W. RITTENHOUSE.