G. M. MOULTON.

GRAIN CAR UNLOADER.

No. 181,465. Patented Aug. 22, 1876.

Fig: 1.

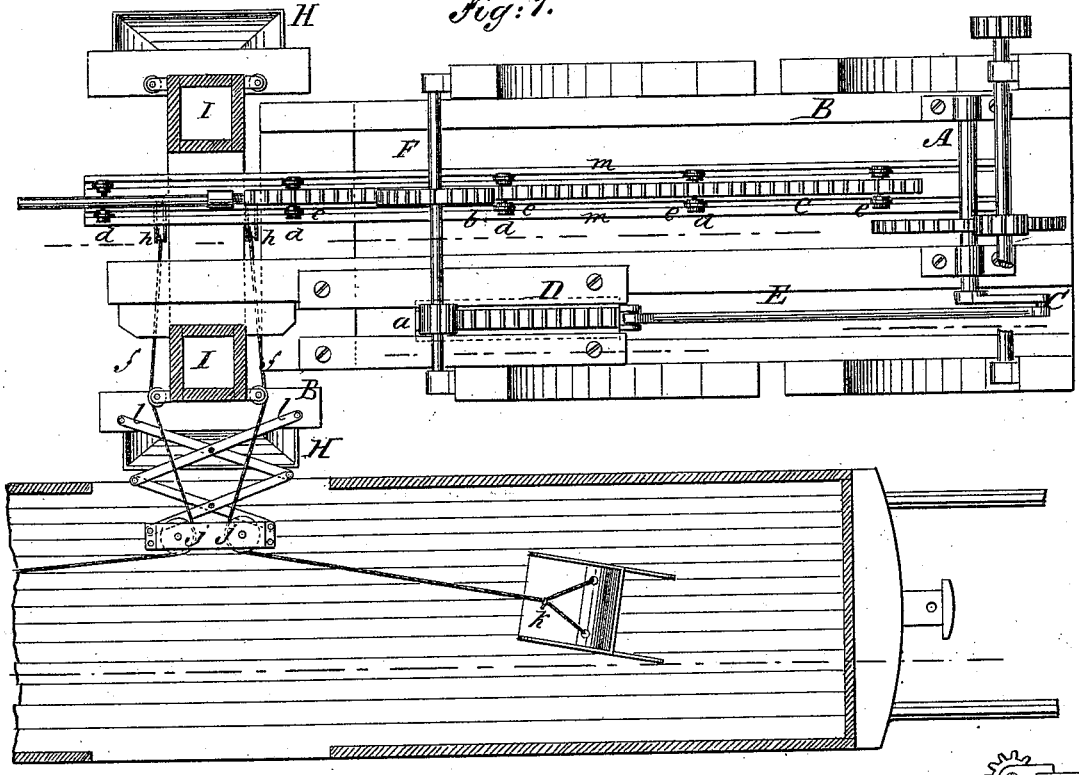

Fig: 2.

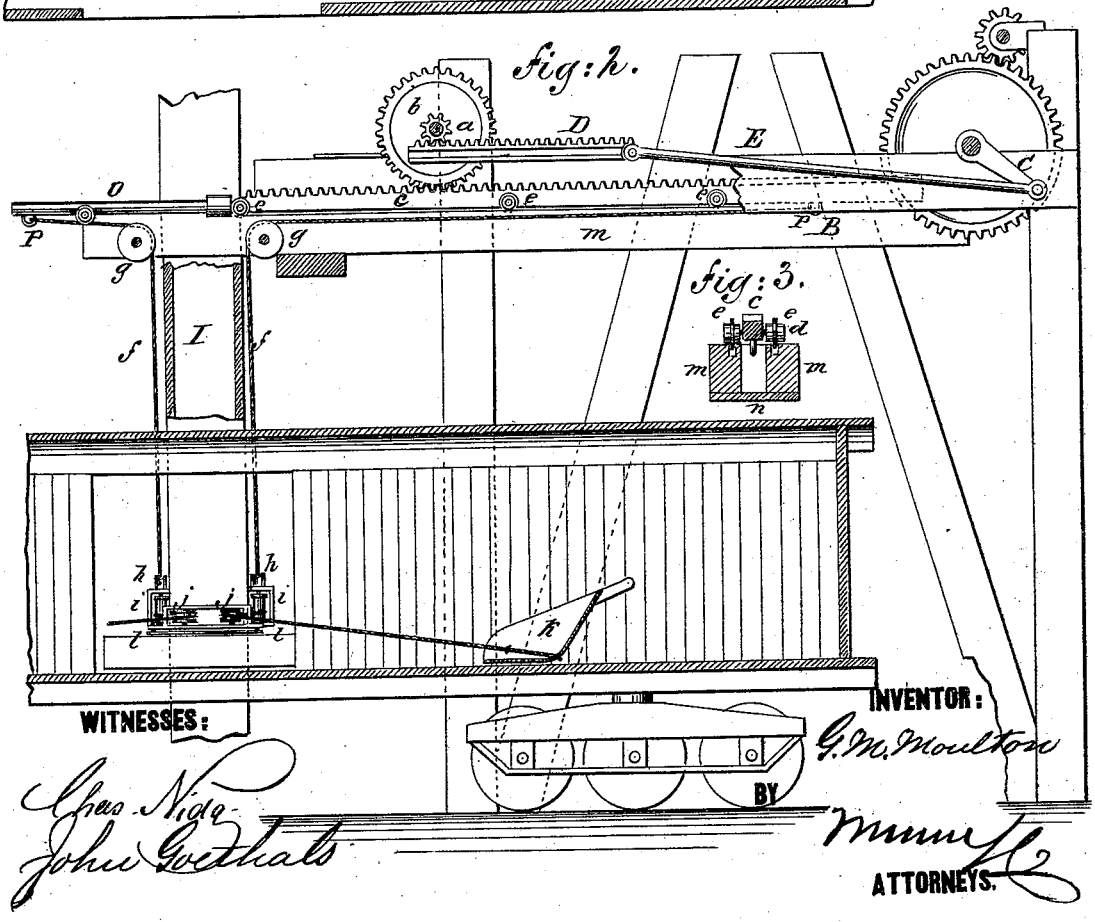

Fig: 3.

WITNESSES:

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GEORGE M. MOULTON, OF CHICAGO, ILLINOIS, ASSIGNOR TO HIMSELF AND JOSEPH T. MOULTON.

IMPROVEMENT IN GRAIN-CAR UNLOADERS.

Specification forming part of Letters Patent No. **181,465**, dated August 22, 1876; application filed June 26, 1876.

To all whom it may concern:

Be it known that I, GEORGE M. MOULTON, of Chicago, in the county of Cook and State of Illinois, have invented a new and Improved Grain-Car Unloader, of which the following is a specification:

Figure 1 is a plan. Fig. 2 is an elevation in section, taken on line *x x* and *y y* in Fig. 1. Fig. 3 is a detail view of the track and rollers.

Similar letters of reference indicate corresponding parts.

My invention relates to an apparatus for unloading grain in bulk from railroad-cars; and it consists in the employment of two sets of racks, so arranged that the first rack is operated by a crank placed on a shaft which receives its power from a convenient motor, the said rack giving motion to a pinion placed on a shaft which supports a larger wheel, that communicates a reciprocating motion to a longer rack supported on suitable frame-work, and connected with drag-ropes attached to scoops within the cars. The invention also consists in the peculiar arrangement of the supports for the guiding-pulleys in the car.

A is the driving-shaft, which may take its power from any convenient motor, and which is supported on a suitable frame-work, B. C is a crank fixed to the shaft A, and is connected, by means of the connecting-rod E, to a rack, D, which slides in suitable ways on the frame B. F is a shaft, having journal-boxes on the frame B, and carrying a pinion, *a*, which is placed so as to engage with the rack D. A large pinion, *b*, is attached to the shaft F, which meshes into a rack, *c*. Cross-bars *d*, carrying rollers *e*, are attached to the rack *c*, and run on a track consisting of a pair of stringers, *m*, which may be armed with an iron track. Planks *n* are secured to the under side of the stringers *m*, forming a box or way for the ropes. The rack *c* has at either end sections of rods or pipes *o*, attached by any suitable couplings, which are as long as the combined length of the cars to be operated on. *f f* are ropes, which are attached to eyes *p* in the rack *c* and pipes *o*, somewhat more than a half car's length apart. The ropes *f* run over the pulleys *g g*, and down to where they run into the car, when they run under the pulleys *h h* and forward horizontally into the car, being slightly deflected laterally by the rollers *i i*. The ropes run over the pulleys *j j*, and are attached to the scoops *k*.

The pulleys *j j* are supported by pivoted bars *l l*, which are arranged something like the well-known lazy-tongs. By removing one of the pins which hold this support to the frame-work it may be pushed back out of the car and out of the way.

A number of holes may be drilled in the bars *l*, so that the support may be held rigidly at any distance out from the frame-work.

A hopper, H, which leads to the elevator-leg I, is placed conveniently near the track, so that the grain may be readily discharged from the scoop *k* into it.

Two scoops are worked in each car, and a number of cars may be unloaded at the same time, and from both sides of the apparatus, by providing a number of sets of drag-ropes.

Power is communicated to the shaft A in any convenient way. The revolution of the crank *c* produces a reciprocating motion in the rack D, which, in turn, moves the pinion *a*, shaft F, and pinion *b* with a reciprocating rotary motion. From the pinion *b* motion is given to the rack *c*, which is as much greater than the motion in the rack D as the pinion *b* is larger than the pinion *a*. As the rack *c* moves, the drag-ropes *f*, which are attached, are alternately drawn, each time bringing the scoop *k* to the car-door, where its contents may be discharged into the hopper H.

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

1. A grain-car unloader provided with two racks, C D, connected by pinion with the same shaft F, the latter rack operated from drive-shaft and the former connecting with unloading mechanism, substantially as shown and described.

2. The combination of the bars *l l*, pulleys *j j*, and frame B, substantially as and for the purpose shown and described.

GEORGE M. MOULTON.

Witnesses:

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