(No Model.)

J. H. CHASE.

GRAIN CAR UNLOADER.

No. 277,460. Patented May 15, 1883.

Fig. 1.

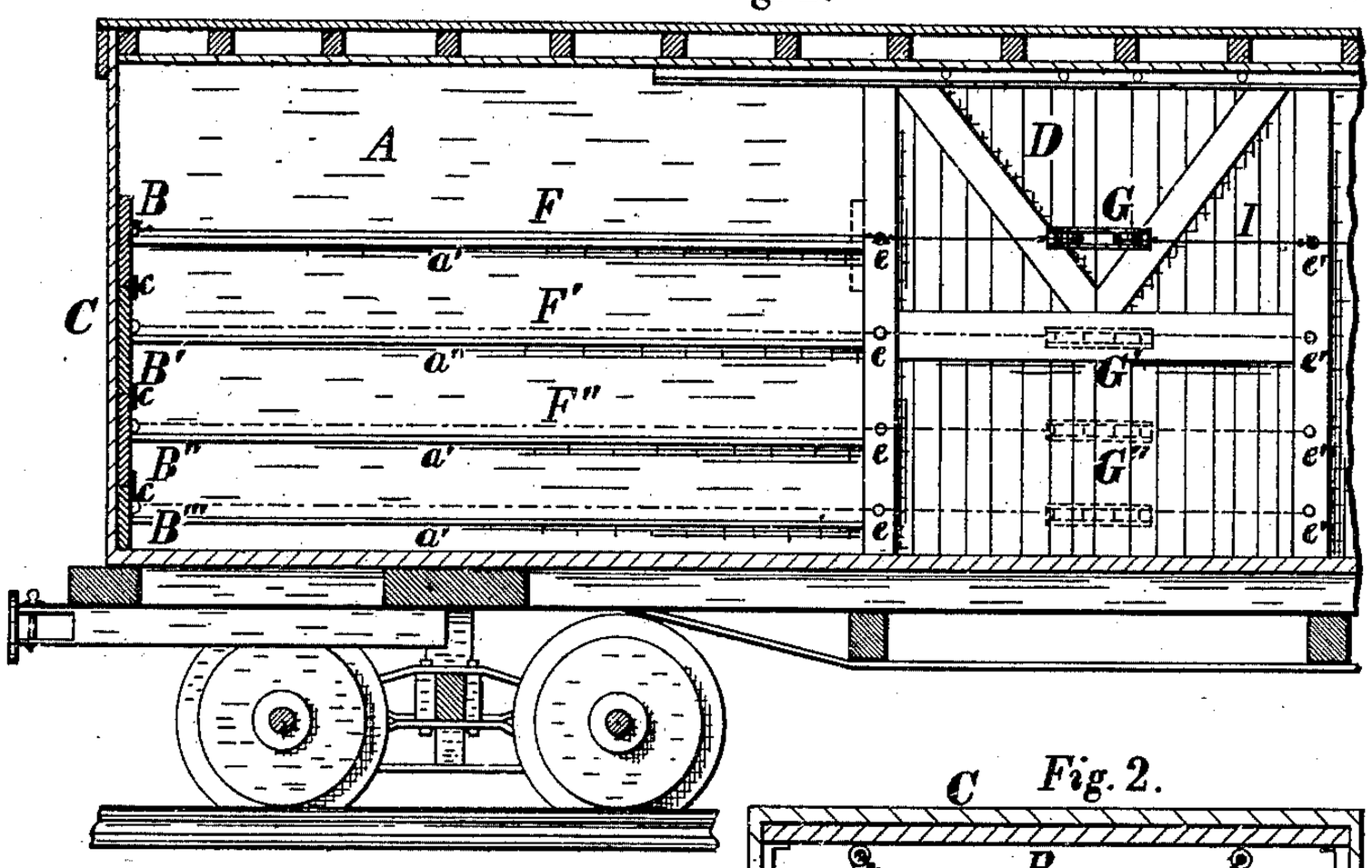


Fig. 2.

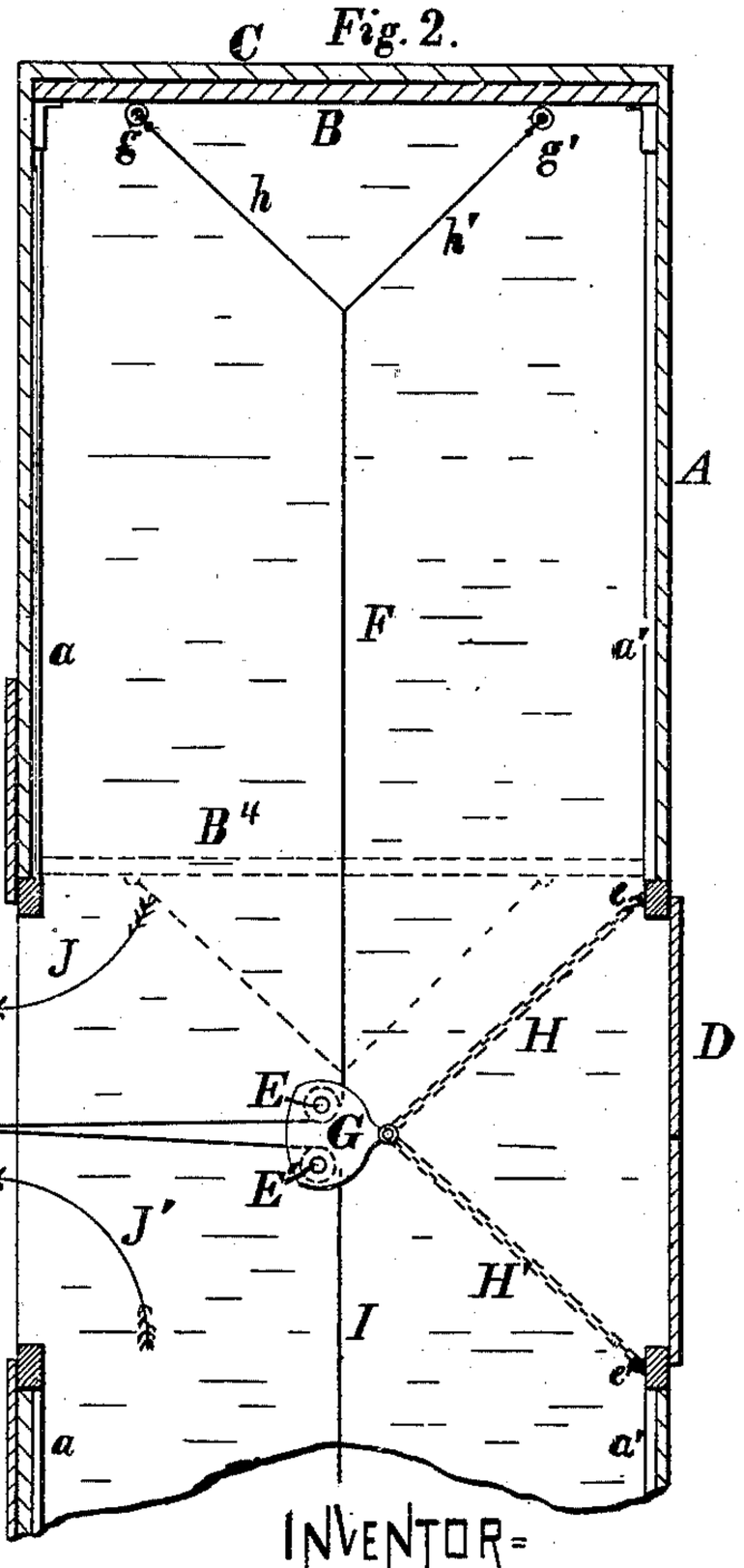


Fig. 3.

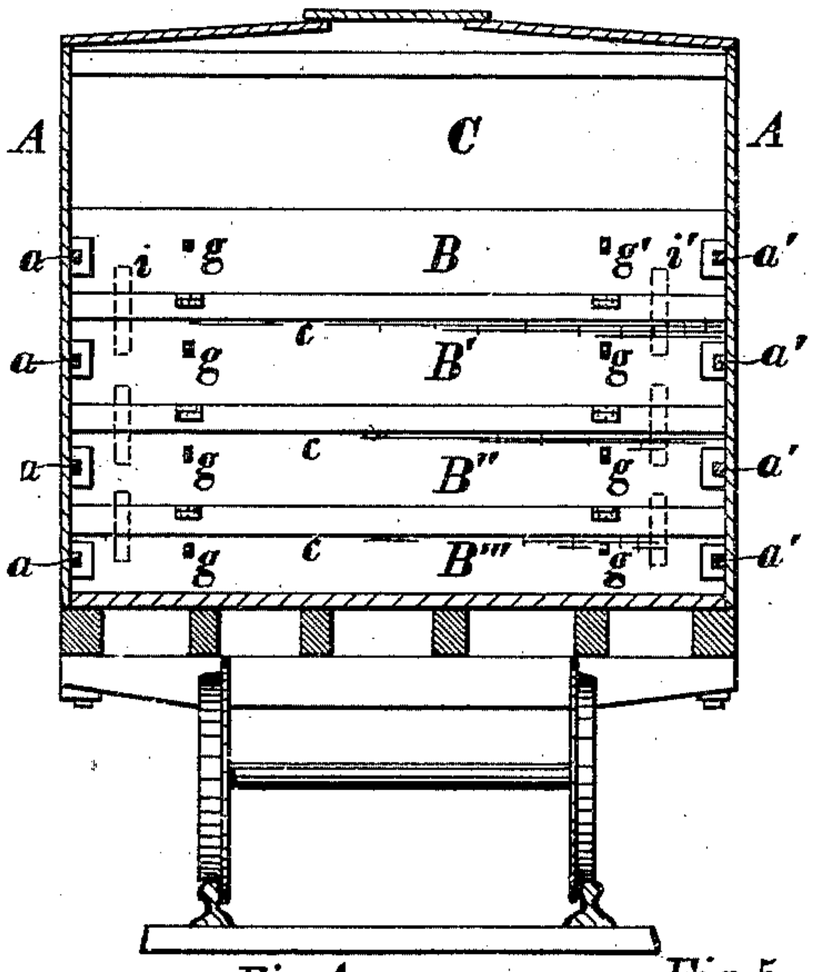


Fig. 4.

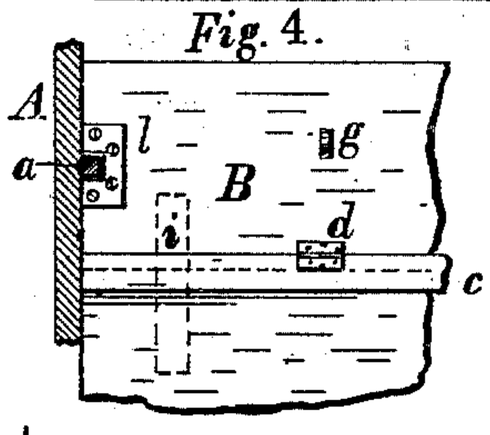
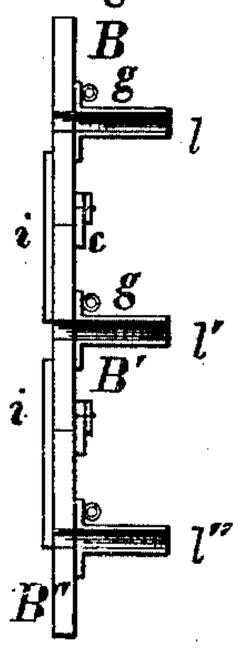


Fig. 5.



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UNITED STATES PATENT OFFICE.

JOHN H. CHASE, OF ROCHESTER, NEW YORK.

GRAIN-CAR UNLOADER.

SPECIFICATION forming part of Letters Patent No. 277,460, dated May 15, 1883.

Application filed October 25, 1882. (No model.)

To all whom it may concern:

Be it known that I, JOHN H. CHASE, of Rochester, Monroe county, New York, have invented an Improved Device for Unloading Grain-Cars, of which the following is a specification, reference being had to the accompanying drawings.

My invention relates to an improved device for unloading grain-cars; and it consists in arranging within the car one or more sliding scrapers which slide lengthwise of the car on guides or ways attached to its sides, so as to draw or force the grain within the car from its end toward the doors at its center, through which it is delivered into a suitable hopper, the whole forming a simple, cheap, and efficient device, whereby grain-carrying cars may be unloaded with great rapidity.

My invention relates, also, to certain details of the arrangement and construction of the apparatus, all as hereinafter set forth.

My improved device for unloading grain-cars is represented in the accompanying drawings, in which—

Figure 1 is a longitudinal vertical section of a grain-car embodying my improvements. Fig. 2 is a horizontal section of the same. Fig. 3 is a transverse section of the same. Fig. 4 is a front elevation of a portion of two of the draws. Fig. 5 is a side view of the draws.

In the accompanying drawing, illustrating my invention, A A represent the sides of a grain-carrying car; *a a'*, the ways or guides on which the scrapers B B' B'' slide; C, the end of the car; D, the doors; E E', the pulleys, and F the rope or chain by which the scrapers are operated. H H' are stays attached to the frame-work of the car, by which the pulley-block G is held in position.

My improvement may be applied to a grain-car of any ordinary or preferred construction.

The ways or guides *a a'*, which may be bars of either metal or wood of sufficient strength, are fastened to the inner surface of the sides of the car in any convenient way, parallel with the floor, and extending from the ends of the car to the central opening closed by the doors.

The sliding scrapers B B' extend transversely across the car its whole width, being notched or otherwise arranged so as to slide lengthwise of the car on the ways *a a'*. The scrapers are made of any convenient width or depth, their number being dependent on this dimension, and a sufficient number being employed, so that the top of the upper scraper rises up to or above the grain when the car is loaded. When not in use the scrapers remain in position against the inside of the end of the car, and do not in any way interfere with the use of the car for carrying freight other than grain. Each scraper is provided on its inner surface with the hooks or staples *g g'*, to which the chains or ropes *h h'*, attached to the end of the chain or rope F, are detachably connected. By this arrangement the rope F is made to draw evenly on each end of the scraper, so that it moves forward squarely; but the same result may be attained by other means—as, for instance, by attaching to the ends of the scraper the arms or brackets *l l'*, Figs. 4 and 5, which bear against the ways or the sides of the car during the forward movement of the scraper and prevent either one of its ends from advancing more rapidly than the other. The rope F passes around the pulley E in the pulley-block G, and, extending outward through the car-door, is attached to the hook L. The arrangement of the ways and scrapers is duplicated at the other end of the car, the rope I, Figs. 1 and 2, passing around the pulley E', serving to operate the series of scrapers at that end. The pulley-block is attached to the frame-work of the car by the stays H H', Fig. 2, a series of hooks or staples, *e e' e e'*, Fig. 1, being provided in the said frame-work for the purpose of varying the height of the pulley-block as the scrapers are successively drawn to the middle of the car.

The scrapers B B' may be made of wood or metal, as preferred, and a hook, catch, or other analogous device may be used to hold the scrapers in position against the end of the car when not in use.

The operation of my improved device for unloading grain-cars will be readily understood from the foregoing description. In order to empty the car of grain, the pulley-block G is attached by the stays H H' to the upper staples, *e e'*, and the ropes F and I are respectively connected to the upper scrapers at each end of the car. Any convenient source of power being now connected with the hook L, the two upper scrapers are drawn toward the center of the car, (B coming to B⁴, Fig. 2,) delivering a portion of the grain, so that it will

flow out of the car into a suitable hopper in the direction represented by the arrows J J′, Fig. 2. The operation is then repeated, the stays H H′ being connected with the staples *e* *e′*, next to the upper ones, and the ropes F and I to the second scraper, B′. The rope and pulley-block will now occupy the position represented in Fig. 1 at F′ and G′. When the second scraper, B′, is drawn forward it will bring the scraper B above it along with it, the scrapers B′ B″ B‴ being provided with projecting arms *i* *i′*, or other suitable devices, by which, when any one of them is drawn forward, the scraper or scrapers above it will also be moved toward the center of the car. The operation is repeated until all the scrapers have been drawn forward, thereby emptying the car of all grain except a small quantity at the doors, which may be readily removed by shoveling. Each of the scrapers, except the lower one, is provided with a hinged flap, *c*, attached to the lower edge by hinges *d* or other suitable attachment. When the scrapers are pushed back toward the end of the car these flaps swing inward and upward; but when the scrapers are drawn forward they crowd the grain along for a short distance below the lower edge of the scraper.

I claim—

1. The combination, with a grain-car, of the ways *a* *a′* and the sliding scraper B, substantially as and for the purposes set forth.

2. The combination, with a grain-car, of the ways *a* *a′* and the sliding scraper B, provided with hinged flap *c*, substantially as and for the purposes set forth.

3. The combination, with a grain-car, of the ways *a* *a′*, the sliding scraper B, pulley E, and rope or chain F, substantially as and for the purposes set forth.

4. The herein-described grain-car, provided at either end with a series of horizontal ways, *a* *a′*, and of sliding scrapers B B′, and mechanism for simultaneously moving the scrapers toward the center of the car, substantially as described.

5. The combination, with a grain-car, of the series of ways *a* *a′*, and of sliding scrapers B B′, so connected together that each scraper moves the scraper or scrapers above it, substantially as and for the purposes set forth.

6. The combination, in a grain-car, of a series of sliding scrapers at each end of the car, flexible connections F I, double pulley-block G, and stays H H′, substantially as and for the purposes described.

JOHN H. CHASE.

Witnesses:

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