

J. E. WHITE.  
GRAIN-CAR.

No. 172,228.

Patented Jan. 11, 1876.

FIG. 1.

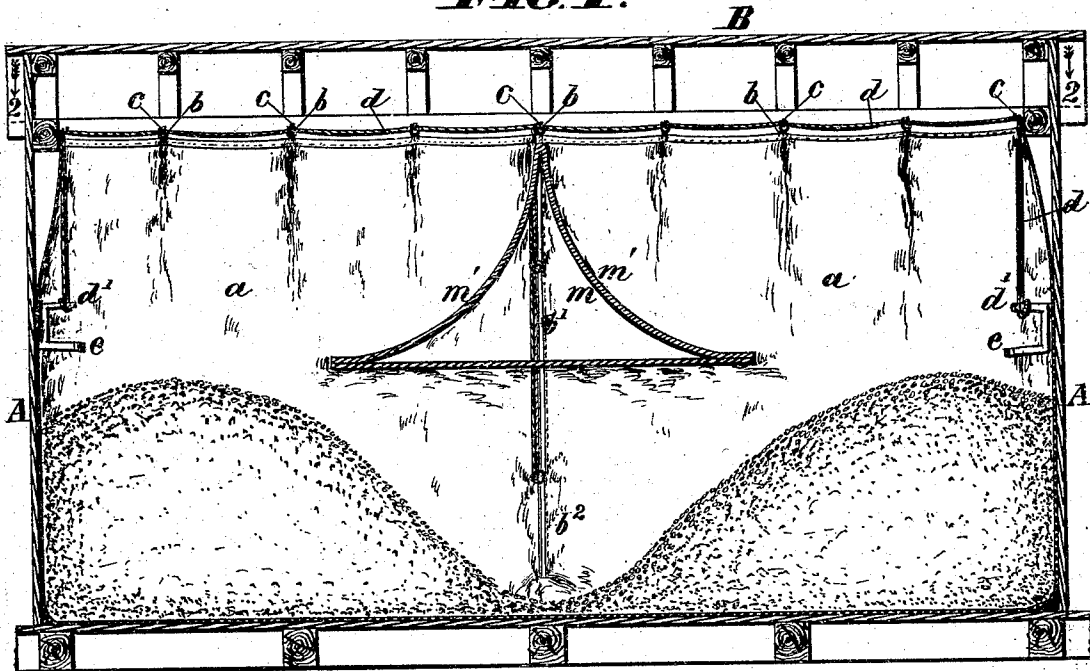
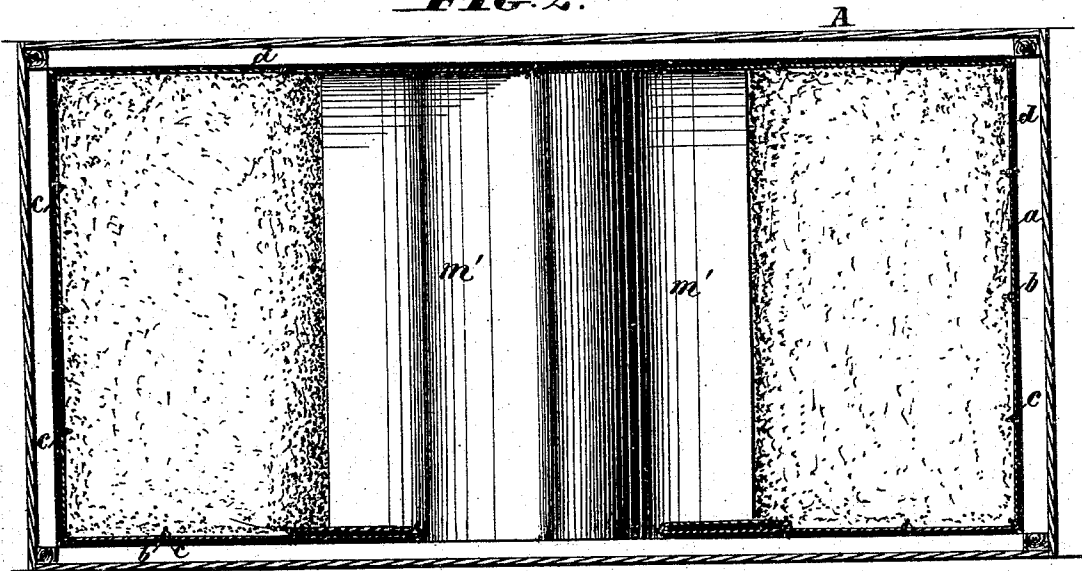


FIG. 2.



WITNESSES

Walter Allen  
Chas. J. Gooch

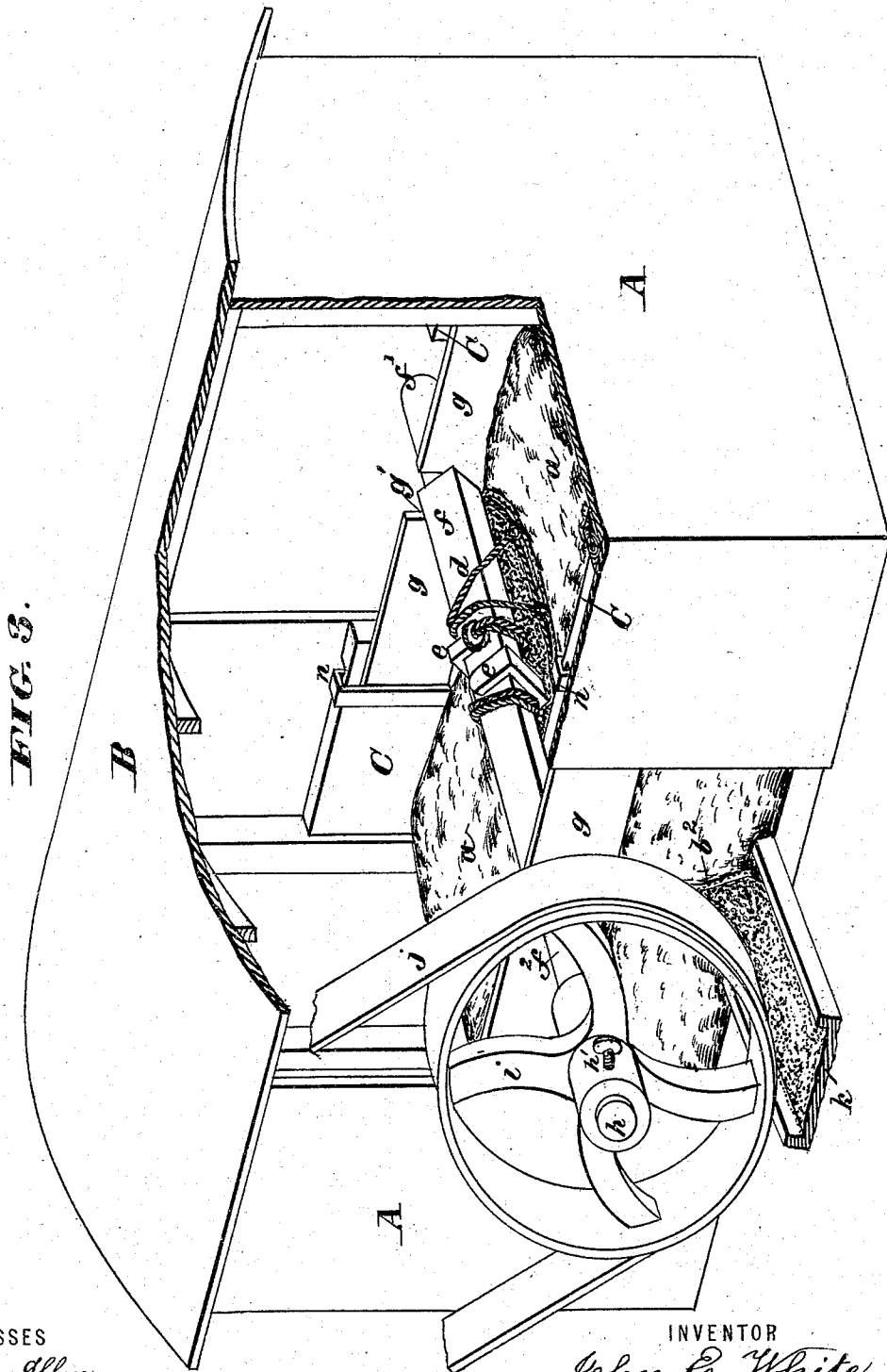
INVENTOR

John E. White  
By *Knights* Attorneys

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# UNITED STATES PATENT OFFICE.

JOHN E. WHITE, OF CLEVELAND, OHIO, ASSIGNOR TO HENRY A. COIT, OF CONCORD, NEW HAMPSHIRE.

## IMPROVEMENT IN GRAIN-CARS.

Specification forming part of Letters Patent No. 172,228, dated January 11, 1876; application filed August 18, 1875.

*To all whom it may concern:*

Be it known that I, JOHN E. WHITE, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Cars for Transporting Grain in Bulk, of which the following is a specification:

My invention relates to improved means for loading and unloading cars for the transportation of grain in bulk.

Heretofore it has been the practice to load such cars with grain without providing means for preventing the grain from coming in contact with the walls of the car, and the grain has, therefore, been liable to waste and injury by dampness in transit. It has also been the practice to load the cars irrespective of the position of the main body of the grain within the car, and to unload the car by means of scrapers and shovels.

My improvement consists, first, in providing a grain-car with an inner lining, within which the grain is placed, so as to prevent the grain from being wasted by exposure to or coming in contact with the walls or sides of the car. This lining or casing is attached by suitable hooks arranged around the top edge of the inner walls of the car.

My improvement consists, secondly, in providing means by which a lining of canvas or other analogous material can be gathered within the car, so as to force the grain within it through apertures in the lining by contracting its dimensions.

My improvement consists, thirdly, in providing a shaft, having suitable bearings, and attaching to said shaft the cords by which the lining is gathered. A pulley or wheel is applied to one end of the shaft, so that by a suitable motor the shaft can be turned, said shaft, bearings, and driving-wheel being removable and detachable one from the other.

My improvement consists, fourthly, in a deflector, which is applied to the car in such a manner as to direct the grain to each end of the car when the grain is spouted upon it from the elevator. Thus the grain is placed where it is desired to have the weight—i. e., over the trucks.

In the accompanying drawing, Figure 1 is

a vertical longitudinal section of a car-body, representing the inner casing or lining in its open condition, with the deflector in position, having received the grain from an elevator, and ready for transportation. Fig. 2 is a top view of the same on the line 2 2, the top of the car having been removed. Fig. 3 is a perspective view of a car-body, a portion of the body being broken away to exhibit the contracting or gathering apparatus as applied when the grain is in course of removal.

A represents the body of a car as constructed for the transportation of grain. *a* represents an inner casing or lining, of canvas or analogous material, so constructed as to fill the entire space inside the car. This casing *a* has rings or perforations *b* arranged at suitable intervals around the upper edge, engaging with hooks *c*, driven into the face of the upper timbers of the car just below the roof *B* of the body. Passing through the rings or perforations *b* is a cord, *d*, having at its ends *d'* hooks or yokes *e*, for attachment to the operating-shaft *f*. On the inside of the car, on each side of the doors, are placed blocks or supports *C*, adapted to support the apparatus hereinafter described. *f* represents a shaft, adapted to receive the connections of the cords, and having bearings at its ends *f*<sup>1</sup> *f*<sup>2</sup>, in excavations *g'*, made in plates or boards *g*, forming temporary supports. The plates *g* are supported by hangers *n*, depending from the upper edge of the supporting-blocks *C*. To the extended end *h* of the shaft *f* is applied a pulley or driving-wheel, *i*, which is securely attached by means of a screw, *h*<sup>1</sup>, in the collar *h*<sup>2</sup>, entering an orifice in the extended end of the shaft. The wheel or pulley *i* is turned by a band, *j*, or other motor. *k* represents a spout, through which the grain is guided into a suitable receptacle on arriving at its destination. *m* is the deflector, having outwardly and downwardly curved sides *m*<sup>1</sup> and a flat bottom, *m*<sup>2</sup>, forming a triangle. This deflector rests upon the temporary supports *g*. The lining or casing *a* has partings *b*<sup>1</sup> *b*<sup>2</sup> at the middle portion, opposite the doors, near the top and bottom, respectively. The hangers *n* may be attached to the bearings *g*, if preferred.

My invention is applicable to grain-wagons as well as to cars.

In carrying out my invention an outer door is removed, and the lining or casing *a* placed in position, with the rings or perforations *b* engaging with the supporting-hooks *c*. The back upper opening *b*<sup>1</sup> and the lower openings *b*<sup>2</sup> of the lining are securely closed in any suitable manner. The deflector *m* is next introduced within the casing *a* in such a position as to have the downwardly and outwardly curved portions directed to each end of the car. The elevator is now brought to play upon the deflector, and the grain is spouted first on one side and then on the other of the deflector or triangle, the said deflector causing the grain to be directed to each end of the car. Sufficient grain having been introduced, the descent of grain is stopped and the elevator and deflector removed, the front opening *b*<sup>1</sup> of the casing is closed, and the car-door replaced. Supposing the car filled with grain to have reached its destination, the outer doors are removed, upper openings *b*<sup>1</sup> opened, and the bearings *g* placed on their supports. The shaft *f* is inserted next in its bearings *g*', and the wheel or pulley *i* placed on the extension *h* of the shaft, and securely attached by screw *h*<sup>1</sup>. The casing *a* is now unhooked from its support *c*, and the yokes *e* on the ends *d*' of the cord *d* are attached or connected to the shaft. The spout *k*, leading to the grain-receptacle, is placed in position, and the front lower parting *b*<sup>2</sup> opened. The band *j*, or other

motor, is applied to the pulley or wheel *i*, causing the gathering-cords *d* to wind around the shaft, contract the casing *a*, and so force the grain through the front opening *b*<sup>2</sup> into the spout *k*, and thence into any receptacle placed to receive it. The contents of the casing having been nearly exhausted, the motor is stopped, and the remaining grain easily removed by hand. The yokes *e* are now removed from the shaft, which releases the casing *a*. The spout *k*, band *j*, wheel *i*, shaft *f*, and bearing-plates *g g'* are detached and removed piece by piece. The casing *a* is carefully folded and returned for another car-load to be used again when desired.

The following is claimed as new :

1. The car lining or casing *a*, of canvas or analogous material, detachably supported, substantially as and for the purpose set forth.
2. In combination with the casing *a*, the adjusting-cords *d*, for gathering the canvas, as and for the purpose specified.
3. The combination, with the grain-receptacle, of a shaft, *f*, and means by which the same is rotated for gathering the said grain-receptacle, substantially as set forth.
4. The deflector *m*, for directing the grain, in combination with a grain-car, substantially as set forth.

JOHN E. WHITE.

Witnesses:

L. W. FORD,  
E. W. ANDREWS, Jr.