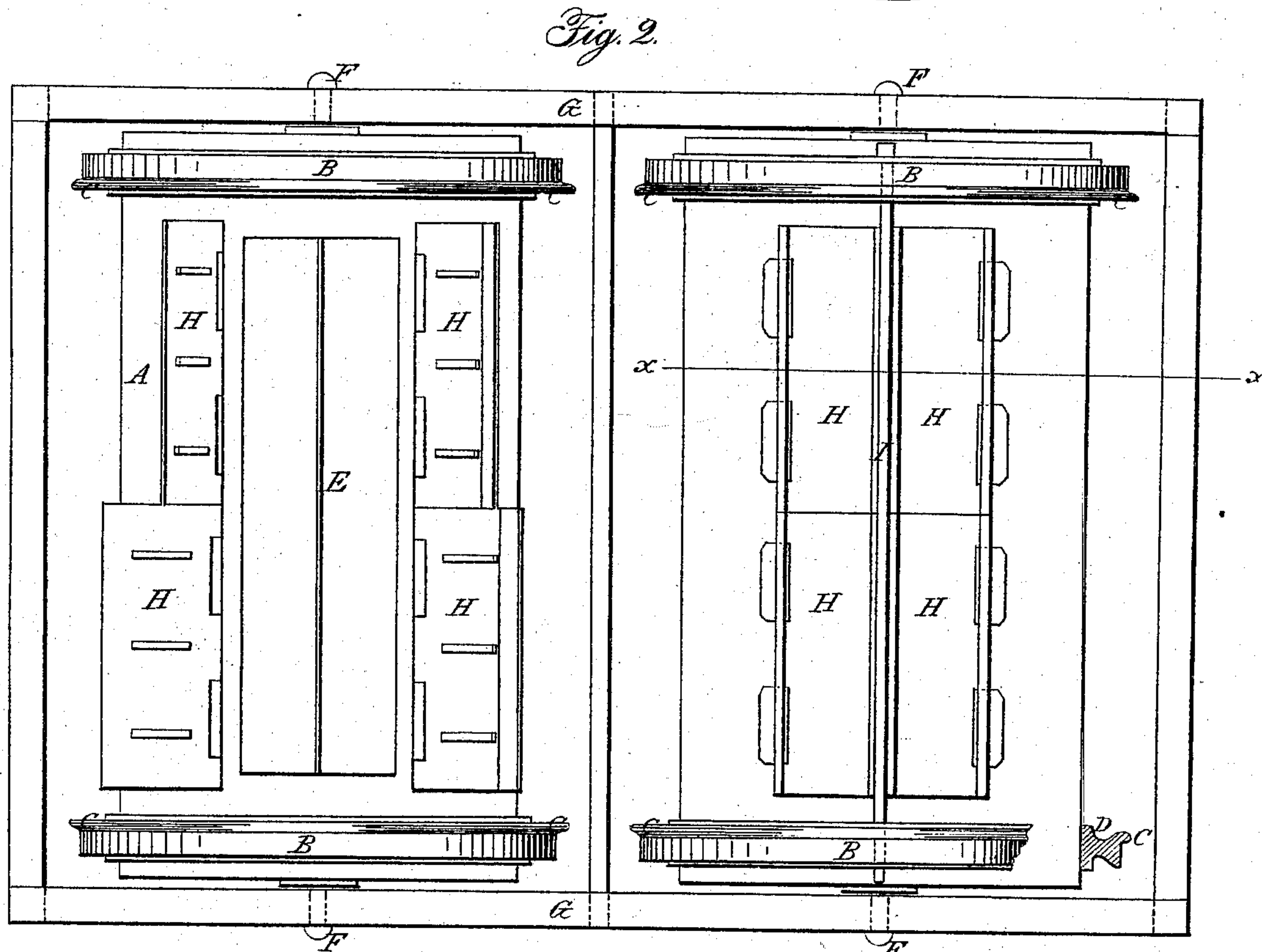
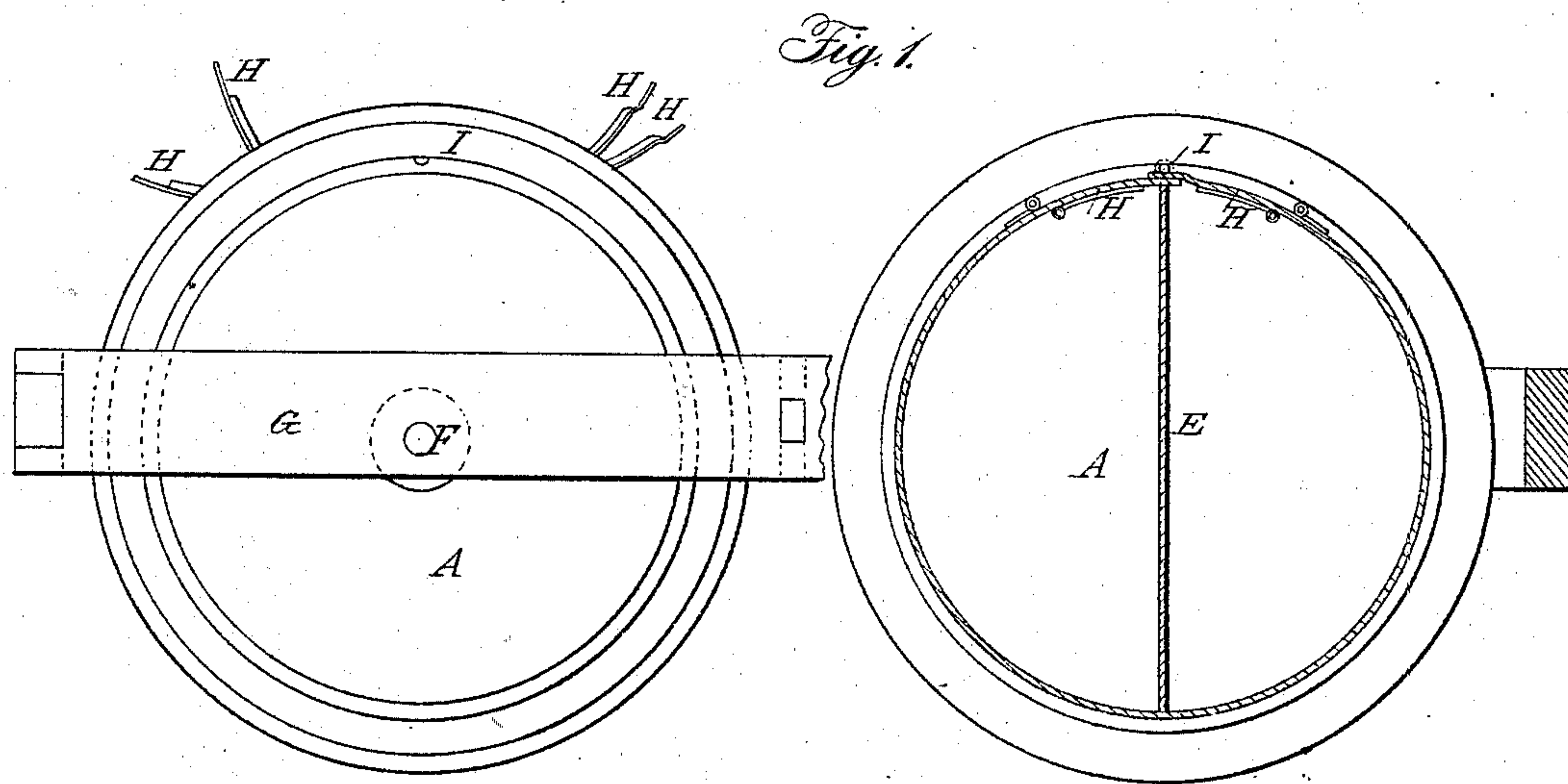


L. MYERS.
Freight Car.

No. 8,177,

Patented June 24, 1851.



UNITED STATES PATENT OFFICE.

LAURENCE MYERS, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN CARS FOR TRANSPORTATION OF COAL.

Specification forming part of Letters Patent No. 8,177, dated June 24, 1851.

To all whom it may concern:

Be it known that I, LAURENCE MYERS, of the city of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented a new and useful Improvement in Cars for the Transportation of Coal, Stone, Lime, Grain, or other Material upon Railroads; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, making a part thereof, in which—

Figure 1 represents a side view of the car with one of the cylinders in section, taken through the red line *xx* of Fig. 2. Fig. 2 represents a top view with the doors of one of the cylinders thrown open, the doors of the other being closed.

Similar letters in the several figures represent the same parts.

The nature of my invention consists in one, two, or more metallic cylinders, which are adjusted in a frame, so as to be guided by it, and which cylinders have flanged rims firmly secured to them at such points upon the cylinders as will adapt them to the width of the railroad-track upon which they are to run, and upon which flanged rims the cylinder and the material contained therein revolve, the material being kept in place while the car is in motion by the centrifugal force and prevented from falling or rolling while in the act of stopping or starting by a partition or partitions in said cylinder.

To enable others skilled in the art to make and use my invention, I will proceed to describe the same with reference to the drawings.

On a metallic cylinder A, of any suitable length and diameter, and which may be constructed like the shell of a steam-boiler and be hooped to give it the required strength, I arrange the rims B B at such points upon said cylinder as will adapt it for the track of the railroad upon which it is intended to be used, said rims being firmly bolted or riveted to said cylinders and having their tread slightly conical for the purpose of preventing friction in turning or running around the curves upon said railroad. On these rims are cast the flanges C, after the usual manner of flanges upon car-wheels, said rims projecting

several inches from the periphery of the cylinders, for the double purpose of raising the cylinders above any slight obstructions in the railroad-track, as well as to give them the necessary strength, the waist or center portion of the said rims being contracted, as seen at D, Fig. 2, to give them lightness with strength, and forming in shape a figure somewhat in appearance like a T-rail. A section of said rim is shown in Fig. 2, where the rim is represented as broken for that purpose.

Through the center of the cylinder longitudinally is a partition E, which divides the cylinder into two apartments, (one partition only being shown, but any desired number may be used, either horizontal or vertical with the plane of the cylinder,) which partition, when the train is stopping or starting, prevents the contents of the cylinder from being put in rotary motion by its gravity when the centrifugal force is not sufficient to keep it in place, said partition also tending partially to preserve the center of gravity of the load by dividing the vacancy in the cylinder, one half being above and the other half below the center of the cylinder. It has been ascertained by actual experiment that however full the cylinders may be at starting the material will pack by the motion of the cylinders, so as to leave space, and when the cylinder is divided into apartments these spaces will be above and below the center of the cylinder, and by thus distributing the spaces the load is properly equalized in the cylinder, allowing said cylinder to move off more easily at starting than if the weight was at the bottom of the cylinder and the vacant space at the top. The wearing away of the coal by abrasion has been also found by actual experiment to be three-fourths less than what is usually allowed for wastage in that article conveyed in ordinary cars.

When the train is running at the usual speed attained on railroads, the material in the cylinders is gradually forced against its inner periphery by its centrifugal tendency and there remains more at rest than it would be by the ordinary motion of cars as now constructed.

On the heads of the cylinders are fastened the journals F F, which rest and work in boxes placed on or underneath the frame G,

as may be desired, and as these journals only bear the weight of the frame there is very little friction upon them, and consequently very little oil will be required, which in the management of a railroad is a heavy item in its expenditures.

H H, &c., represent the doors of the cylinders, which may extend the whole length of the cylinder, and which are hinged in the usual manner and open outward, and through which the cylinders are loaded and unloaded. When the cylinders are filled, the doors are closed and firmly secured by a rod I, running through the rims on the cylinder, but may be fastened in any other substantial manner. A brake may also be applied by forcing a wedge-shaped piece of timber between the rims on the cylinders by means of a lever, as in cars of ordinary construction.

Among the advantages this mode of constructing cars possesses over those of ordinary construction are, first, that the large diameter of the wheels will present less obstruction or resistance to the locomotive; second, removing the weight of the load from the journals and throwing it directly upon the wheels saves the wear of the journals by the friction upon them, and also the use of oil, which is a heavy item in the expenditures in using ordinary cars; third, the material conveyed in tight cylinders revolving at the usual velocity attained upon railroads will by centrifugal force remain perfectly quiet, giving a steady

motion to the cars, and losing by abrasion three-fourths less than is usually allowed on coal carried in ordinary cars, as has been proven by actual experiment, (besides what coal-dust does accumulate in the cylinder will be retained there,) and entirely preventing the dust from finding its way into the boxes and cutting or otherwise wearing away the journals.

Having thus fully described my invention, I wish it to be distinctly understood that I do not claim the use of cylinders for conveying material upon common roads, as this has been done heretofore; but

What I do claim as of my invention, and desire to secure by Letters Patent, is—

The combination of a partition or partitions with a metallic cylinder or cylinders provided with flanged rims, as herein described, for the purpose of carrying material in bulk on rail or other roads where high velocities are attained, said material being held in place by centrifugal force while in motion and prevented from falling or rolling in the cylinder by the partition or partitions while in the act of stopping or starting, as herein fully described and shown, or by any other means essentially the same.

LAURENCE MYERS.

Witnesses:

H. DONN,

A. B. STOUGHTON.