

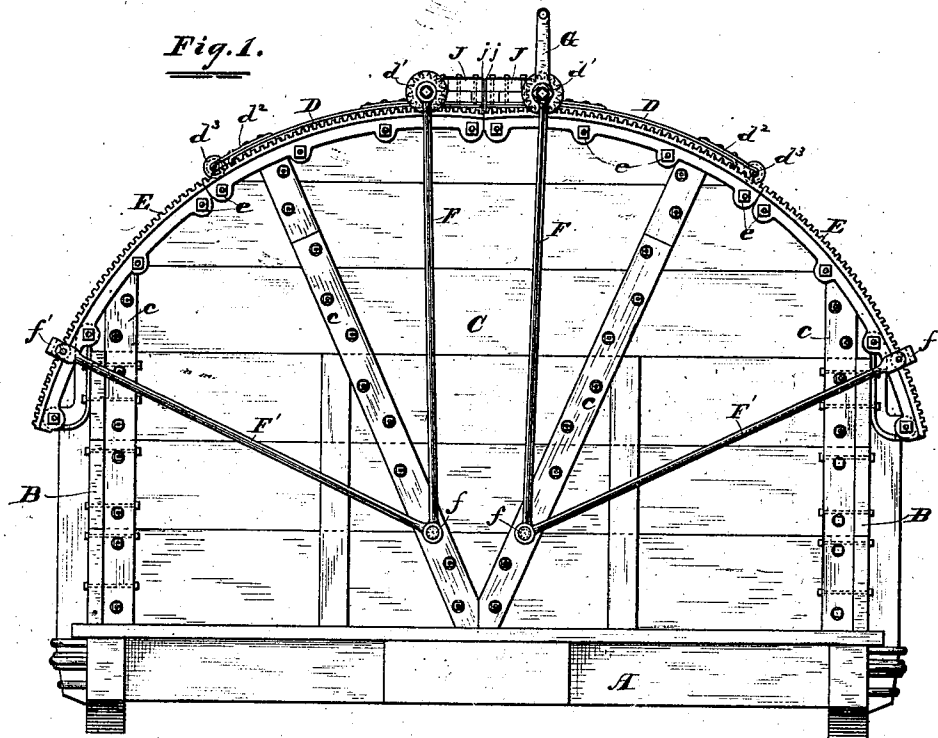
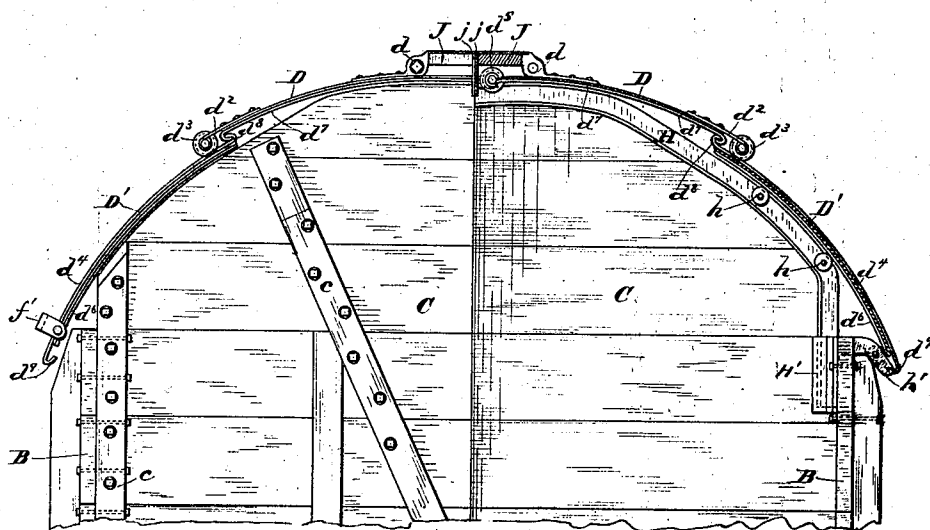
(No Model.)

2 Sheets—Sheet 1.

R. H. WYMAN
CAR COVER.

No. 312,786.

Patented Feb. 24, 1885.



Witnesses:

W. L. Baker
M. M. Gridley

Inventor:

Richard H. Wyman,
per Gridley & Fletcher,
Attorneys.

(No Model.)

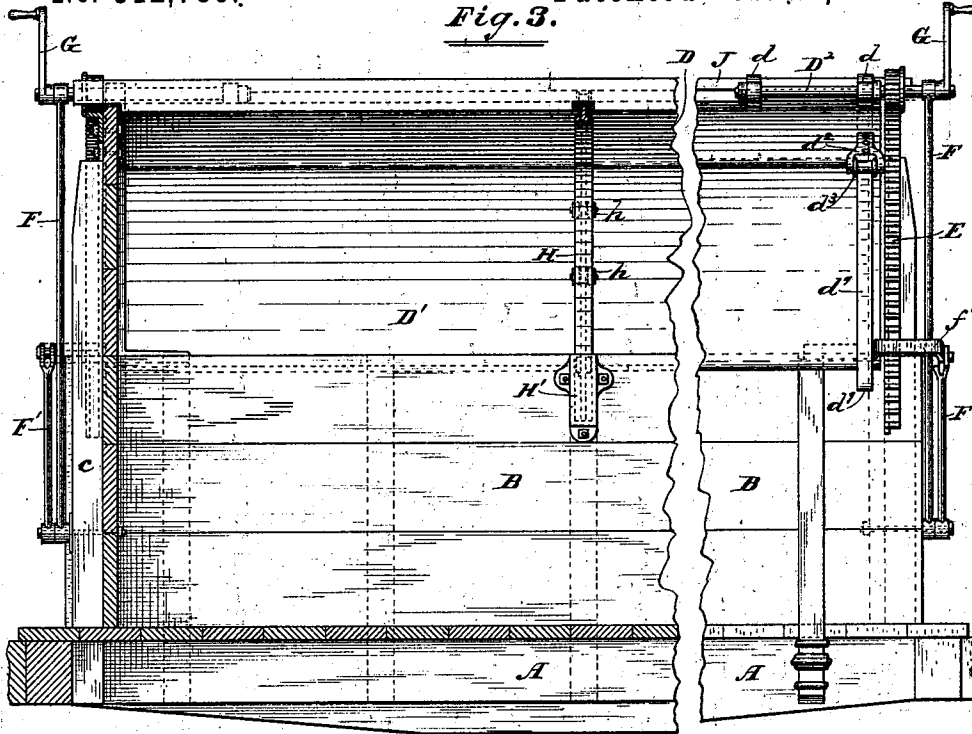
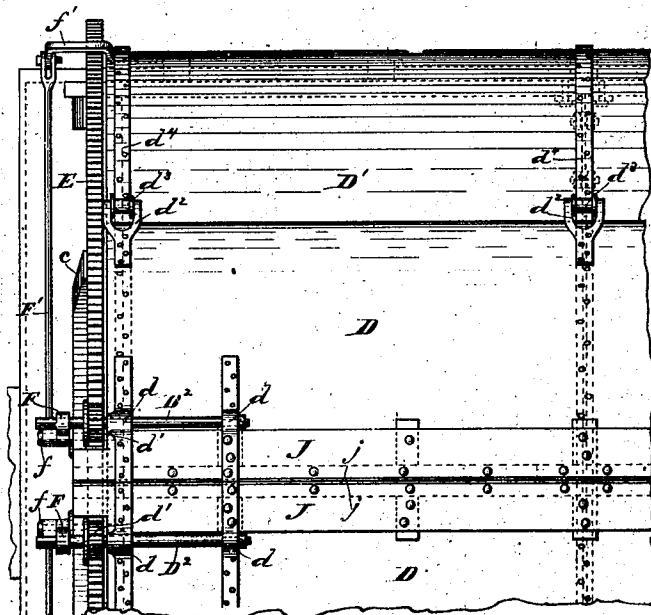
2 Sheets—Sheet 2.

R. H. WYMAN.
CAR COVER.

No. 312,786.

Patented Feb. 24, 1885.

Fig. 3.



Witnesses:
H. H. Baker.
W. W. Gindley

Fig. 4.

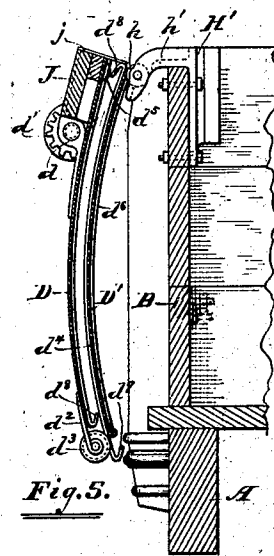


Fig. 5.

Inventor:
Richard H. Wyman,
per Gridley & Fletcher,
Attorneys.

UNITED STATES PATENT OFFICE.

RICHARD H. WYMAN, OF EVANSTON, ILLINOIS.

CAR-COVER.

SPECIFICATION forming part of Letters Patent No. 312,786, dated February 24, 1885.

Application filed July 8, 1884. (No model.)

To all whom it may concern:

Be it known that I, RICHARD H. WYMAN, of Evanston, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Railway-Car Covers, of which the following is a description, reference being had to the accompanying drawings, in which—

Figure 1 is an end view of the car with the trucks removed. Fig. 2 is a similar end view in which the supporting-bars, segmental rack, and one-half of the end board is removed, showing the end of one-half of the cover and the ribs or supporting-braces used to prevent the sections from sagging, and upon which they slide. Fig. 3 is a side view of the car, partly in section and partly in elevation, the former showing a view within the car. Fig. 4 is a plan view of a part of said cover when closed; and Fig. 5 is a transverse vertical sectional view in detail of a portion of the car, showing one-half of the cover when open and disposed at the side of said car.

Like letters of reference indicate like parts in the different figures.

My invention relates to that class of railway-cars designed especially for the transportation of coal and other articles in bulk, the covers thereof being removable, so that said cars may be readily loaded from chutes, if desired, the contents being protected while in transit by closing and locking said covers, and made accessible by opening the same.

Said invention consists in the improved mode of constructing, supporting, and operating said covers, as hereinafter more particularly described.

In the drawings, A represents the sills and frame-work of the car, B B the sides, and C C the ends, the latter being semicircular in shape, or substantially so, and provided with cleats *c c c c*, preferably arranged and secured thereto in the manner shown in Fig. 1, for the purpose of strengthening said ends. The cover is semi-cylindrical in form, and consists of the movable longitudinal sections D D D' D', arranged as shown, the sections D D being adapted to separate from each other above the center line of the car and to slide over the sections D' D', respectively, until said sections D D' assume a position at the side of the car, as shown in Fig. 5, thus wholly uncovering the car for loading. Each of said sections is com-

posed of sheet metal, preferably so corrugated as to impart stiffness thereto. Upon the top of each of said end boards I place segmental racks E E, which are secured rigidly to said end boards by means of bolts *e*, Fig. 1.

Upon each end of the sections D D, and bolted thereto, are bearings *d d*, into which are loosely inserted shafts D² D², upon and near the outer end of each of which is rigidly attached a pinion, *d'*, so constructed and adjusted as to engage with the rack E.

Between the ends of the shafts D² and the pinions *d'* are loosely secured braces or bars F F, the lower end of each of which is pivoted upon a bearing, *f*, secured to the end boards, C, each of said bearings being concentric with the arc of the circle formed by the rack with which it is connected. Corresponding bars, F' F', the lower ends of which are also pivoted upon the bearings *f f*, respectively, are pivotally connected with arms *f' f'*, rigidly secured to the lower side at each end of the plates or sections D' D', and bent upwardly sufficiently, as more clearly shown in Fig. 4, to avoid contact with the rack E. Said bars F F and F' F' serve to support the weight, or most of the weight, of the cover at the ends, and the pinions *d' d'* are thus relieved from unnecessary friction and permitted to act more freely, while the lower parts of the sections D' D' are held outwardly to a sufficient extent to prevent contact with the sides of the car when the covers are moved. The outer end of each of the shafts D² D² is squared, as shown, so that cranks G G may be connected therewith to operate the same.

To prevent friction and unnecessary wear in the movement of the plates D D over their fellows, I secure rigidly to the lower part of each of said plates bearings *d² d²*, in which are secured the friction-rollers *d³ d³*, the trend of which is upon bands or plates *d⁴ d⁴*, bolted in the usual manner to the plates D' D'. The upper edges of the plates D D are also provided with the rollers *d⁵*, Figs. 2 and 5, connected thereto in a similar manner to said plates, and bearing upon tracks or flanges upon the inside of the end boards, C C, and likewise upon intermediate supports or arches, H, Figs. 2 and 3. Said ribs or arches H are supported in sockets H', Figs. 2, 3, and 5, from which they may be removed when the covers are thrown

back to load the car. Friction-rollers are likewise placed upon said arches, as well as upon outward extensions or brackets *h'*, (one of which is more clearly shown in Fig. 5,) upon 5 which the plates or sections *D' D'* rest, bands *d''* being bolted beneath said plates to form bearing-surfaces therefor as the sections are moved. It will be observed that the arches *H* are not circular in form, but are depressed 10 about midway from the top, which construction is intended to permit the rollers *d''* to pass downward without being brought into contact with the stationary rollers *h h*. Said arches should be sufficiently close together to firmly 15 support the cover throughout its entire length. The bands *d'* are bent at the top, and corresponding bands, *d' d'*, are bent at the lower ends, forming hooks *d'' d''*, which engage with each other, as shown in Fig. 2. Said bands *d' d'* 20 are likewise bent at the bottom, forming corresponding hooks, *d'' d''*, which are intended to engage, as shown in Fig. 2, with the end of the bracket or projection *h'*, thus limiting the upward movement of the sections *D' D'*.

25 In order to form a walk upon the top of the car, and to impart greater stiffness to the covers, I secure planks *J J* upon the top of the sections *D D*, bolting the same to said sections, as shown in Figs. 1, 2, and 5, said planks being 30 re-enforced by iron flanges or plates *j j*, bolted or secured thereto in any well-known manner.

It is obvious that when the covers are closed,

as shown in Fig. 2, they may be secured and locked by means of a hasp and staple connecting one with the other, either upon the top of the car or at the ends, or bolts may be inserted through the same into the end boards, *C C*, or arches *H*. 35

To open the cover the cranks *G G* are placed 40 upon the respective shafts at either end, as shown in Fig. 3, and upon turning them in unison the covers are lowered in turn to the position shown in Fig. 5. The arches *H* may then be removed and the car loaded, when said 45 arches may be replaced and the car again covered by reversing the movement of the cranks, the sections *D D* being drawn upward thereby until the hooks *d'' d''* engage, when the sections *D' D'* are likewise drawn up. 50

It is obvious that by means of the devices shown I am enabled to obtain great strength and lightness of construction combined with the utmost economy of space and simplicity of operation. 55

Having thus described my invention, what I claim is—

In a railway-car provided with movable sectional covers, the combination of the removable supports *H*, bent as shown, friction-rollers *h*, and sockets *H'*, with said car and covers, substantially as and for the purposes set forth. 60

RICHARD H. WYMAN.

Witnesses:

D. H. FLETCHER,
W. S. BAKER.