

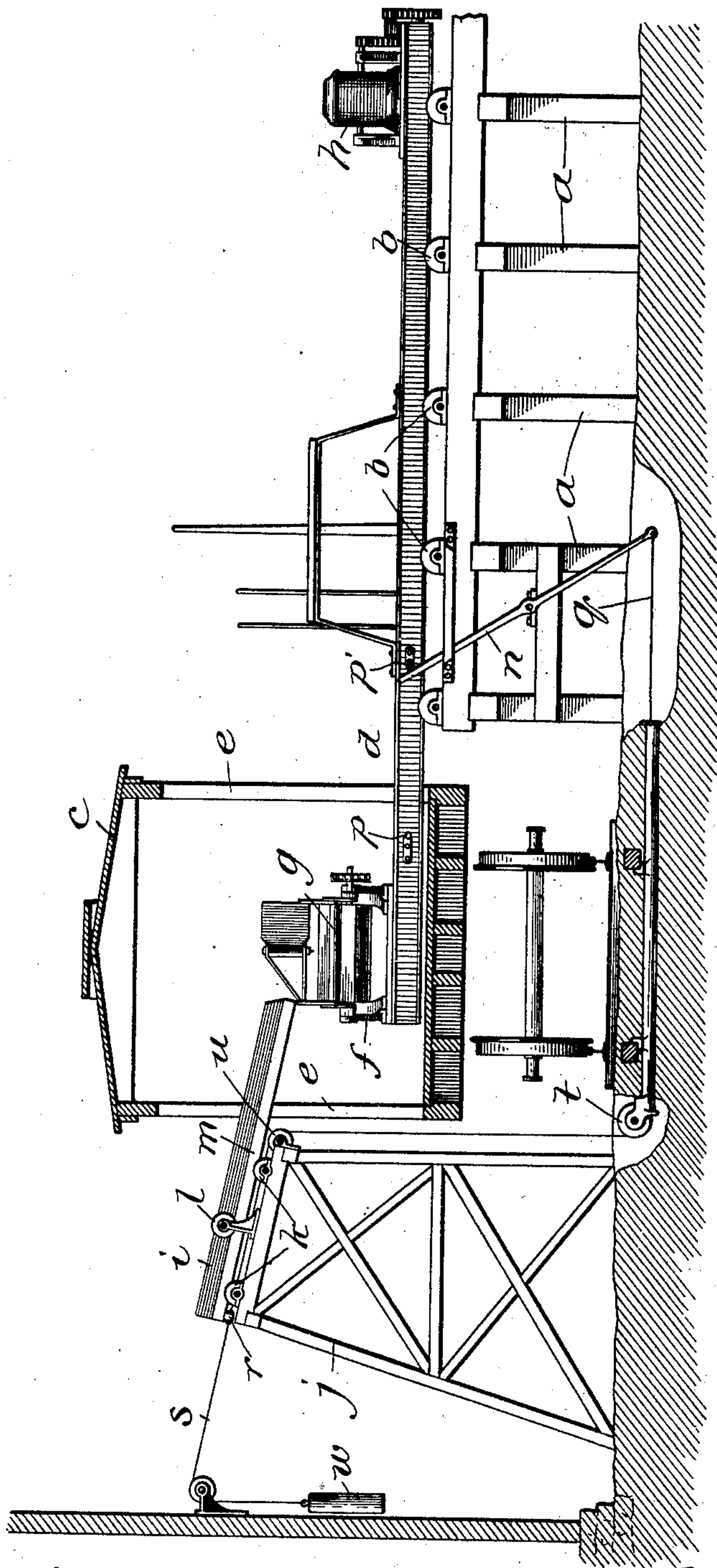
No. 711,193.

Patented Oct. 14, 1902.

G. F. BARTLETT, JR.  
BOX CAR LOADER.

(Application filed Aug. 10, 1901.)

(No Model.)



Witnesses:  
E. S. Gaylord,  
John Enders Jr.

Inventor:  
George F. Bartlett Jr.,  
By Thomas F. Sheridan,  
Attorney



# UNITED STATES PATENT OFFICE.

GEORGE F. BARTLETT, JR., OF DENVER, COLORADO.

## BOX-CAR LOADER.

SPECIFICATION forming part of Letters Patent No. 711,193, dated October 14, 1902.

Application filed August 10, 1901. Serial No. 71,570. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE F. BARTLETT, Jr., a citizen of the United States, residing at Denver, in the county of Arapahoe and State of Colorado, have invented certain new and useful Improvements in Box-Car Loaders, of which the following is a specification.

This invention relates to that type of box-car loaders which is adapted to be moved in and out of a box-car for the purpose of discharging coal from the center near one of the side openings to either or both ends of the car, and particularly to the means for operating the supply-apron—that is, the moving of the same into and out of operative position—as will be more fully hereinafter set forth.

The principal object of the invention is to provide a simple, economical, and efficient box-car loader with a movable supplying-apron and means for operating the same simultaneously with and by the movements of the car-loader frame.

Other objects of the invention will appear from an examination of the drawing and from the following description and claims.

The invention consists, first, in the combination of a box-car loader arranged to be moved backward and forward into and out of one side of a box-car, a movable apron adapted to be moved into and out of the opposite side of the car, a lever arranged to be operated by the movements of the box-car loader, and means connecting this lever with the box-car chute to operate the same by and as the car-loader is operated.

The invention consists, further and finally, in the features, combinations, and details of construction hereinafter described and claimed.

In the accompanying drawing the figure represents a box-car loader in position for use and a movable supplying-chute arranged in position to be operated in connection therewith and in accordance with this invention.

In illustrating and describing this invention I have only illustrated and described that which I consider to be new, taken in connection with so much that is old as will properly disclose the invention to others and enable

those skilled in the art to practice the same, leaving out of consideration other and well-known elements which, if described herein, would only tend to confusion, prolixity, and ambiguity.

In constructing an apparatus in accordance with these improvements I first provide a trestle *a*, of the desired size and shape, upon which is mounted a plurality of flanged wheels *b*, rotatably mounted in position and adapted to act as antifriction devices. To provide for the loading of the box-car *c*, I preferably use a box-car loader, comprising a frame portion *d*, arranged to be moved backward and forward into and out of one side opening *e* of the box-car and upon the antifriction-wheels. This box-car loader is provided at its front end with a conveyer-frame *f*, which is pivotally attached thereto, so as to be rotated in a horizontal plane, the upper portion of which is provided with a flexible conveyer *g*, all so constructed and arranged as to receive coal and discharge it to either or both ends of the car, according to the direction in which the conveyer is pointed.

The particular form of conveyer and car-loader does not form any novel part in this invention, as any of the various forms of such mechanism can be used, and it will be readily understood that the loader can be provided with a prime mover, such as the electric motor *h*, arranged to move the frame backward and forward into and out of the car; but, as above suggested, as they form no particular part of the invention it is not deemed necessary to here give a detailed illustration or description of the same.

It is desirable that some means be provided to supply coal in the desired position, so that it may be fed to the conveyer and by the conveyer discharged to the required position in the car. In order to accomplish this, a movable supplying-apron *i* is provided and held in position by means of two rollers *k*, arranged on a trestle *j* and underneath the apron-frame, and a roll or wheel *l*, also secured to the trestle-work and arranged to contact the upper surface of a lateral projection *m* on such apron-frame. In this way the apron may be moved backward and forward on such



rolls with the least amount of friction, the rolls not only acting as antifriction devices but as guides to hold them in the desired position. To move this apron into and out of position, an operating-lever  $n$  is provided and pivoted to the main trestle-work underneath the loader-frame, the upper end of which is arranged adjacent to one of the side members of such frame in position to be contacted by lugs  $p$  and  $p'$  thereon. The lower end of this operating-lever is connected by means of a cable, cord, or similar element  $q$  with the rear of the apron-frame at  $r$ . A weighted cable  $s$  is also provided and secured to the rear end of the apron-frame. The cable  $s$  is passed over a pair of idlers  $t$  and  $u$ , as shown in the drawing.

Operation: Supposing the car-loader to be in its initial position outside of the car, the prime mover is set in operation and the loader-frame moved forward. Shortly after it enters the car—say half of the amount shown in the drawing—the lug  $p'$  strikes the operating-lever and starts the chute forward, so that by the time the loader is in position to be turned, as shown in the drawing, the apron is in position to have the coal supplied thereto and through it to the flexible or other conveyer. When the car has been loaded the desired amount, the coal-loader frame is withdrawn or moved backward, and just before it is entirely withdrawn from the car the lug  $p$  on its frame contacts the operating-lever and moves it, and thereby permits the weight  $w$  to operate its cable  $s$  and also move the supplying-apron backward and out of the way. It will of course be understood that the weight  $w$  can be made heavy enough so that as the coal-loader is moved backward and withdrawn from the car it will operate the parts, and thereby dispense with the necessity of the lug  $p$ . This lug  $p$ , however, is a safety device and provides for the moving of the lever should the parts become rusty or stuck together.

The advantages incident to the use of such mechanism are obvious to those skilled in the art, the principal one being that it places all of the mechanism within the control of one man. Again, it insures the safety of such mechanism, as it provides for the introduction of the chute into the car only after the car-loader has been partially inserted and for the positive withdrawal of such chute, so that there is no danger of destruction of the parts through the movements of the box-car, which is often the case when the parts are operated separately and the chute left within the car.

I claim—

1. In a box-car loader of the class described, the combination of a box-car-loader frame arranged to be moved into and out of one side of a box-car, a supplying-apron arranged to be moved into and out of the opposite side of the car, an operating-lever arranged to be op-

erated by the movements of the box-car-loader frame, a cable connecting the operating-lever with the chute to move such chute in one direction, and a weighted cable connected with the chute to move such chute in an opposite direction, substantially as described.

2. In a box-car loader of the class described, the combination of a car-loader frame provided with a pivoted conveyer at one end arranged to be moved into and out of one side of the box-car, a movable apron arranged to be moved into and out of the opposite side of a box-car, a pivoted lever arranged to be contacted by the conveyer-frame and vibrated in both directions, a cable, cord, or similar element connecting the operating-lever with the chute to move such apron into the car after the car-loader has been partially inserted in the car, and a weighted cable connected with the chute to move such apron in the opposite direction and withdraw it from the car, substantially as described.

3. In a box-car loader of the class described, the combination of a box-car-loader frame provided with a conveyer at one end thereof arranged to be moved into and out of one side of a box-car, a movable apron arranged to be moved into and out of the opposite side of the box-car, antifriction guide-rolls upon which such apron is mounted, an operating-lever arranged to be contacted by the coal-loader frame, a cable connecting such operating-lever with the apron to move it into the car by and during the operations of the car-loader frame, and a weighted cable attached to such chute to move it in the opposite direction, substantially as described.

4. In a box-car loader of the class described, the combination of a box-car-loader frame mounted at one side of a car to be loaded, a movable supply-chute arranged at the opposite side of the car and adapted to be moved into and out of the car, and mechanism extending beneath the car and in operative connection with the car-loader frame and chute to move such chute by and during the movements of the car-loader frame, substantially as described.

5. In a box-car loader of the class described, the combination of a box-car-loader frame mounted at one side of a car to be loaded, a supply-chute-supporting frame arranged at the opposite side of the car, a movable supply-chute slidably mounted on such supporting-frame, friction-roller mechanism for reducing the friction between the chute and supporting-frame, and mechanism in operative connection with the chute and car-loader frame to move such chute by and during the movement of the car-loader frame, substantially as described.

6. In a box-car loader of the class described, the combination of a box-car-loader frame mounted at one side of a car to be loaded, a

movable supply-chute arranged at the opposite side of the car and adapted to be moved into and out of such car, and mechanism extending from the car-loader frame outside of the car to the movable supply-chute and in operative connection with such car-loader frame and chute to move the chute by and during the movements of the car-loader frame, substantially as described.

GEORGE F. BARTLETT, JR.

Witnesses:

B. F. PURDUM,

M. H. OFFICER.