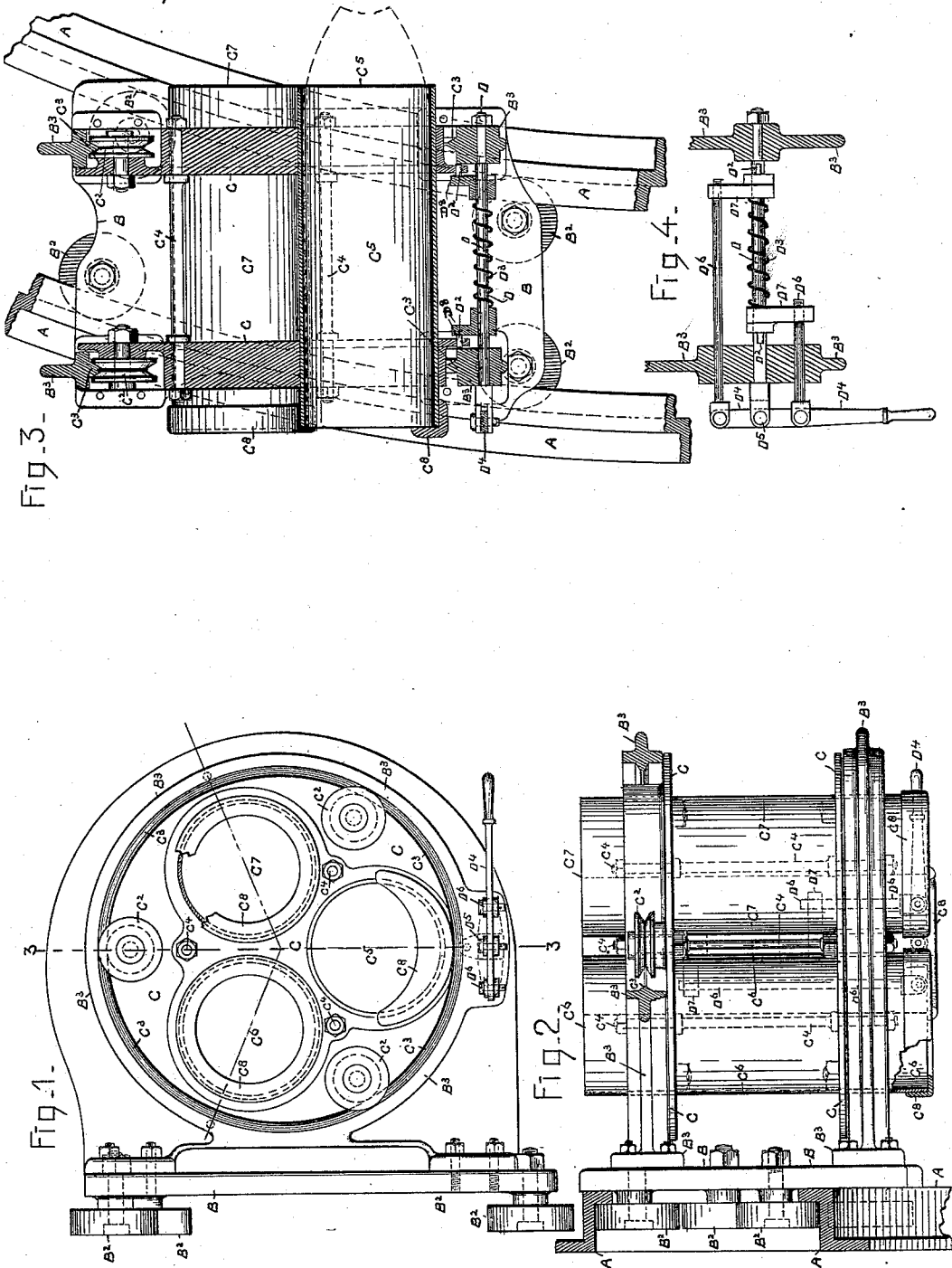


(No Model.)

H. A. SPILLER.  
ROTATING AMMUNITION CAR.

No. 470,955.

Patented Mar. 15, 1892.



WITNESSES  
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# UNITED STATES PATENT OFFICE.

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## ROTATING AMMUNITION-CAR.

SPECIFICATION forming part of Letters Patent No. 470,955, dated March 15, 1892.

Application filed August 2, 1889. Renewed January 25, 1892. Serial No. 419,162. (No model.)

*To all whom it may concern:*

Be it known that I, HARRY A. SPILLER, a citizen of the United States of America, and a resident of Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Rotating Ammunition-Cars, of which the following is a full, clear, and exact description.

This invention relates to apparatus for loading ordnance or to gun-loaders.

The object is to produce an apparatus for loading ordnance which shall be comparatively simple and which shall operate with facility and with certainty.

The special subject-matter of this invention is a car to receive the ammunition requisite to charge and load a gun and to carry and present it to the breech of the gun, there to be forced or rammed into place.

This invention consists generally in an ammunition-car composed of a carriage adapted to travel on a rail or other suitable guideway and a frame held and adapted to rotate, preferably by gravity, in said carriage, said frame having a set of chambers to receive ammunition, such as a shot and a cartridge, all fully open at one end and partially closed at the other and arranged about and having their axes parallel with the axis of rotation of the frame, with or without means for locking the frame to and unlocking it from the carriage; furthermore, in an ammunition-car composed of a carriage adapted to travel on a rail or other suitable guideway and a frame held and adapted to rotate, preferably by gravity, in said carriage, said frame having a set of chambers to receive ammunition, such as a shot and a cartridge, all the chambers being fully open at one end, partially closed at the other, and severally arranged about and at equal distances from though parallel with the axis of rotation of the frame and one chamber being heavier than any of the others, with or without means for locking the frame to and unlocking it from the carriage; furthermore, in an ammunition-car composed of a carriage adapted to travel on a rail or other suitable guideway and a frame held and adapted to rotate, preferably by gravity, in said carriage, said frame having a series of chambers to re-

ceive ammunition, such as a shot and a cartridge, all fully open at one end and partially closed at the other and arranged about and having their axes parallel with the axis of rotation of the frame, in combination with means to lock the frame to and unlock it from the carriage, said means consisting, essentially, of bolts held and sliding in the carriage and of a lever fulcrumed on the carriage and having both bolts taking into sockets or recesses in the rotating frame, all so that by moving the lever in either direction the bolts are simultaneously moved in one case in direction away from each other, thereby bolting or locking the rotating frame to the carriage, and in the other case in direction toward each other, thereby unbolting or unlocking the frame from the carriage, and finally in certain novel details of construction, all as more fully hereinafter set forth.

In the accompanying drawings, in which like letters and marks of reference indicate corresponding parts, Figure 1 is an end elevation of the ammunition-car. Fig. 2 is a plan view thereof. Fig. 3 is a longitudinal vertical section on the line 3 3 of Fig. 1, and Fig. 4 is an enlarged view in elevation of the means for locking and unlocking the carriage and rotating frame, the rotating frame being removed.

In the drawings, A A are two parallel rails for the travel of the ammunition-car. This car is composed in substance of a carriage to travel on said rails, a frame to rotate in said carriage, and means on the carriage and in the rotating frame to effect locking of the frame and unlocking it from the carriage.

The railway A A, being suitably supported, may run either upward or laterally, or both upward and laterally, or in any other desired direction or directions, and it is arranged for the car to travel along its length and be brought to a position below, above, or to one side of the gun to be charged and to a position directly opposite to and at the breech thereof, whereby the ammunition carried may then immediately be forced into the gun.

As particularly shown, the car and railway are adapted to the running of the car in an upward direction and under an arrangement

thereof and of the gun, substantially as will be shown in another application.

Neither the construction nor the arrangement of the railways A A forms any part of this invention, and either may be of any suitable kind for the travel of the ammunition-car, now to be described in detail.

The carriage of the ammunition-car is a rectangular frame-work base having traction-wheels B<sup>2</sup>, adapted to engage with the rails and thus hold the carriage to the same, while leaving it free to run, and two annular supports B<sup>3</sup>, held on opposite end portions of and projecting at right angles from the base.

The rotating frame of the ammunition-car consists in substance of two heads C, each located within one of the annular supports B<sup>3</sup> and having at its periphery three V-grooved traction-wheels C<sup>2</sup>, severally engaging a corresponding V-shaped rib C<sup>3</sup> within each annular support B<sup>3</sup>, and of bolts C<sup>4</sup> C<sup>4</sup>, each at opposite end portions screw-threaded and shouldered and receiving screw-threaded nuts severally joining together the two heads, the frame carrying a set of cylindrical chambers or compartments C<sup>5</sup> C<sup>6</sup> C<sup>7</sup>, arranged about and having their axes parallel with and equidistant from the axis of rotation of the frame and severally extending between and carried by the heads, the chambers being preferably closed at the sides, but fully open at one end and partially closed at the other by a flange C<sup>8</sup> at the back of each, which either entirely or partly surrounds the chamber, leaving the end only partially open, the closed part furnishing a backing or abutment. Each chamber is for the reception of ammunition—such as a cartridge or a shot—to be placed in it against the flange C<sup>8</sup>.

The means for locking and unlocking the rotating frame to and from the carriage consists, in substance, of a horizontal rod D, which is located at the lower side of the supports B<sup>3</sup> and extends between them and at its opposite end portions is fixed therein, the rod being parallel with the axis of rotation of the rotating frame, of two sliding blocks D<sup>1</sup>, carrying two bolts or projections D<sup>2</sup> D<sup>2</sup>, of a spring D<sup>3</sup> upon the rod D and confined endwise between the two blocks, and operating-lever D<sup>4</sup>, fulcrumed on a post D<sup>5</sup>, held on one of the supports B<sup>3</sup> and at opposite end portions and at equal distances from its fulcrum having rods D<sup>6</sup> D<sup>6</sup> pivoted to and connecting it to the sliding blocks D<sup>1</sup>. Each head of the rotating frame has three sockets D<sup>8</sup> located at equal distances apart and in position to receive the bolts D<sup>2</sup>, so that as any ammunition-chamber of the rotating frame is brought into a given position and axially coincident with the axis of the gun, in connection with which the ammunition-car herein described is used the rotating frame can then be locked to the carriage by engaging the slide-bolts D<sup>2</sup> of the carriage with the sockets of the rotating frame then in line therewith, the carriage being unlocked from the rotating frame by

disengaging the bolts from the sockets. The slide-bolts are both simultaneously operated from the lever D<sup>4</sup>, which is common to both, and in the movement of the lever in one direction the blocks moving on the guide-rod D travel toward each other, thereby unlocking the rotating frame from the carriage, and in the movement of the lever in the other direction they travel away from each other, thereby locking the rotating frame to the carriage. The spring B<sup>3</sup>, carried by the guide-rod and confined endwise between the slide-blocks, acts to engage the bolts automatically.

The ammunition compartment or chamber C<sup>5</sup> and the one to receive the shot is made of greater weight than either of the other compartments C<sup>6</sup> C<sup>7</sup>, and this is effected by making its walls heavier than the walls of either of the others or otherwise, and as in practice its contained load—to wit, a shot—is of greater weight than the contained load of either of the other chambers—to wit, a cartridge—obviously when the rotating frame is unlocked from the carriage the heaviest or shot chamber will, from gravity and whether charged or not charged, provided the other chambers are in the same condition relative to it, automatically assume the lowermost position and be locked, whereby in the use of the car for carrying ammunition to the gun the shot-charged chamber is normally and relatively situated for presentation of the shot first, whereupon, having transferred the shot to the gun and unlocked the rotating chamber, a cartridge-chamber will present itself, and preferably one loaded slightly in excess of the other, and so on for the next chamber of the set. Upon finally unlocking the rotating frame it comes automatically to its original and normal position—to wit, with the heaviest or shot chamber lowest.

While I have shown and described the rotating frame carrying three compartments, it is of course to be understood that I do not limit myself to this number.

The ammunition-car of this invention is especially applicable to the railway and the mechanism for running an ammunition-car up and down thereon constituting the subject-matter, in part, of a separate application, Serial No. 325,859, for Letters Patent of the United States, and to which reference is hereby had for a more particular understanding thereof; but while so applicable it is not to be limited thereto.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A car to be used in the loading of guns and for receiving and carrying ammunition, composed of a carriage adapted to be held and to travel on a rail or other suitable guideway and a frame held and rotating in said carriage, said frame having a series of chambers or compartments for receiving ammunition, all fully open at one end and partially closed at the other and arranged about and

parallel with the axis of rotation of the frame and at equal distances therefrom, substantially as described.

2. A car for receiving and carrying ammunition to load guns, composed of a carriage adapted to be held and to travel on a rail or other suitable guideway, a frame held and rotating in said carriage, said frame having a series of chambers or compartments for receiving ammunition, all fully open at one end and partially closed at the other and arranged above and parallel with the axis of rotation of the frame, in combination with means for locking the frame to the carriage, consisting of a pin carried upon the carriage and indentations in the frame for receiving the pin, substantially as described.

3. A car for receiving and carrying ammunition to load guns, composed of a carriage adapted to be held and to travel on a rail or other suitable guideway and a frame held and rotating in said carriage, said frame having a series of chambers or compartments for receiving ammunition, all fully open at one end and partially closed at the other and arranged about and at equal distances from the axis of rotation of the frame, one of the chambers being normally of greater weight than any of the others, substantially as described, for the purposes specified.

4. A car to be used in the loading of guns and for receiving and carrying ammunition, composed of a carriage having traction-wheels  $B^2$  and parallel annular supports  $B^3$  severally fixed on the carriage, of a rotating frame com-

posed of circular heads C, joined together and rotating in and held on said annular supports, having a series of chambers or compartments for receiving ammunition, all open at one end, but partially closed at the other, and parallel with and axially equidistant from the axis of rotation of the frame, substantially as described, for the purposes specified.

5. A car to be used in the loading of guns and for receiving and carrying ammunition, composed of a carriage adapted to be held and to travel on a rail or other suitable guideway, a frame held and rotating in said carriage and having a series of chambers or compartments for receiving ammunition, all fully open at one end, but partially closed at the other, and parallel with and at equal distances from the axis of rotation of the frame, and means held on and carried by said carriage and said rotating frame to lock them to and unlock them from each other, consisting of sliding bolts  $D^2$  and an operating-lever  $D^4$ , common to the bolts, bolts and lever being on the carriage and sockets  $D^3$  on the rotating frame, the bolts and sockets relatively arranged for the bolts to enter into and be withdrawn from the sockets, substantially as described, for the purposes specified.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

HARRY A. SPILLER.

Witnesses:

ALBERT W. BROWN,

HENRY F. MCKEEVER.