

K. VÖLLER.
 AMMUNITION WAGON.
 APPLICATION FILED NOV. 5, 1907.

1,045,761.

Patented Nov. 26, 1912.

2 SHEETS—SHEET 1.

Fig. 1.

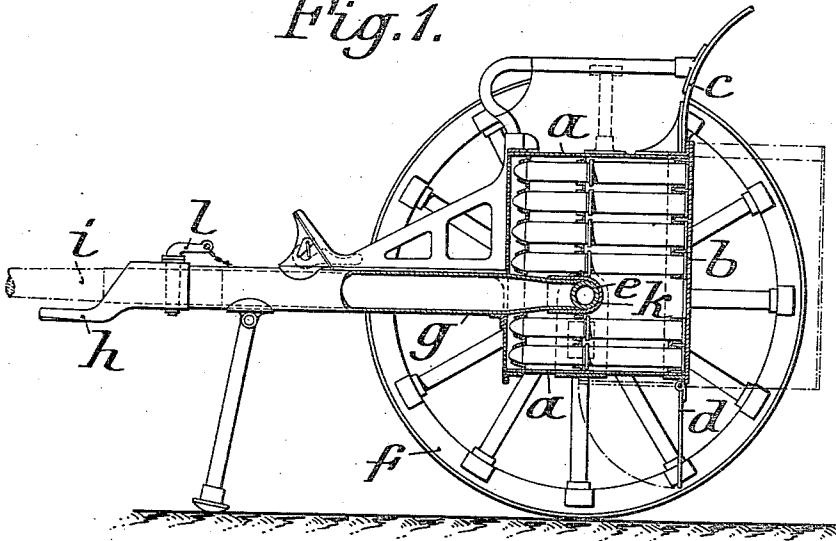
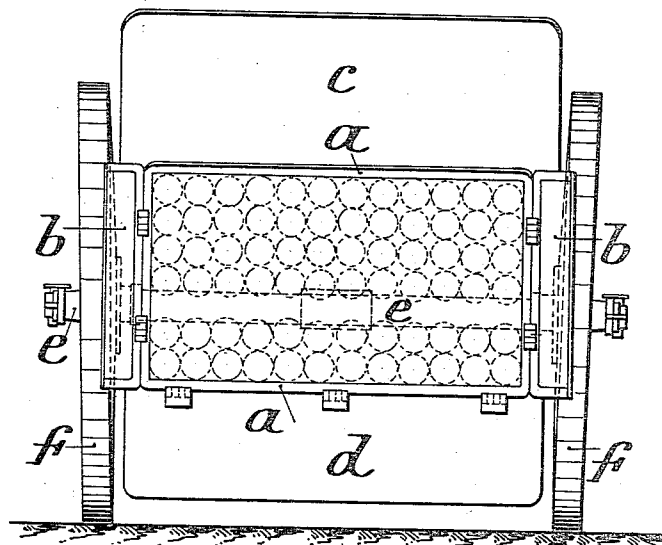


Fig. 2.



WITNESSES

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2 SHEETS—SHEET 2.

Fig. 3.

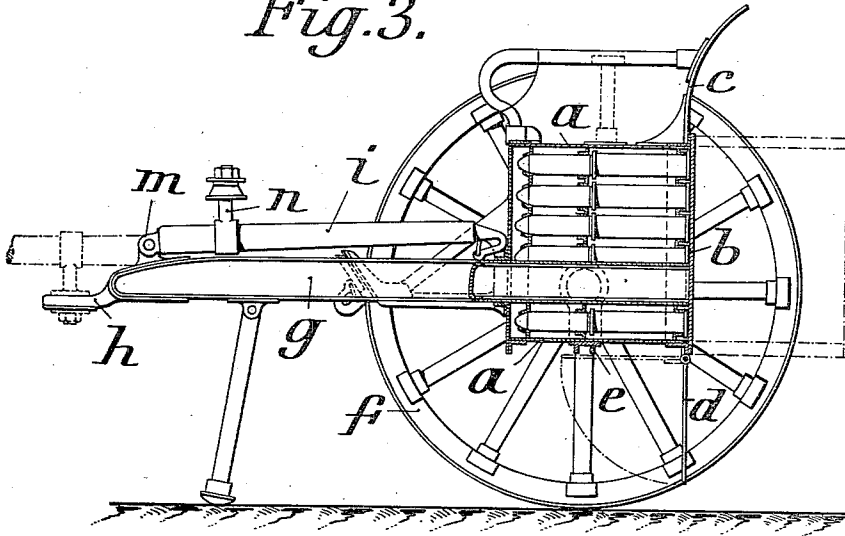
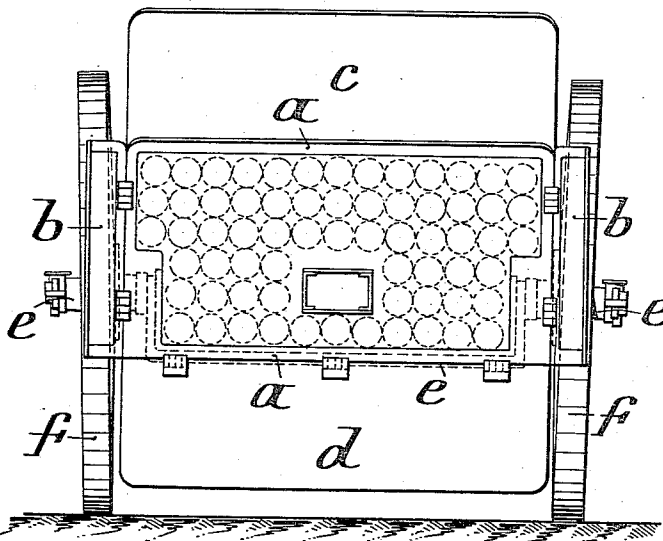


Fig. 4.



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UNITED STATES PATENT OFFICE.

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AMMUNITION-WAGON.

1,045,761.

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To all whom it may concern:

Be it known that I, KARL VÖLLER, engineer, a subject of the German Emperor, residing at 17 Fülcherstrasse, Dusseldorf, Germany, have invented certain new and useful Improvements in Ammunition-Wagons; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

Artillery ammunition carts for modern rapid firing ordnance, apart from the fact that they should be properly armored, ought to fulfil various requirements. If one construction fulfils sufficiently one condition, it hitherto exhibits an objection in another direction; a second construction may obviate the objection but is found wanting in the first named condition.

An ammunition cart having a given breadth of wheel base should accommodate in its box the largest possible quantity of ammunition compatible with the permissible limit of weight. Usually the top of the box is used as a seat for the men, and for this reason the center of gravity of the cart ought not to lie too high above the axle; on other grounds also the height of the cart is limited. It is necessary, therefore, in order to carry a certain quantity of ammunition, to provide the necessary space by extending the box in the direction of its length, that is, at right angles to the axle of the cart, so that several shot or cases comprising shot and cartridges may be laid horizontally over each other in only a few layers. The unloading of the ammunition is hereby seriously impeded. Only the layer of ammunition lying against the rear wall can be taken out without trouble; in order to remove the layers lying in front it is necessary to enter the box; the cartridges or shot whether separate or in cases must first be drawn rearward before they can be removed from the box. To avoid this objection the ammunition, shot or cartridges, but generally only cartridges, has been arranged vertically in the flat box of the cart, and when required the whole cart has been tipped, that is to say turned on its axle so that the cartridges are brought into a horizontal position and the ends that lay uppermost during transport become rearwardly directed. The cartridges are now in superimposed layers and can be conveniently re-

moved. As in this arrangement of the shot, on account of the now usual great length of the cartridges, the permissible height of the ammunition cart would be exceeded, the box has been extended somewhat below the axis of the wheels, the center of gravity being also lowered by the construction.

The necessity for tipping the cart is an objection. It involves manipulation which, when the cart is under fire, is dangerous for the men. It has been proposed to pack the ammunition horizontally, so that each cartridge occupies the whole length of the box. In this case also the permissible height of the cart is exceeded, because in order to carry a certain number of cartridges, a large number of superimposed layers must be packed.

The present invention relates to a construction of ammunition cart which, by suitable combination of the known arrangements, avoids the objections inherent in them while preserving their advantages. The box maintains the same position both in transport and when firing and is therefore not adapted to be tipped; it contains devices for carrying the ammunition horizontally so that the cartridges lie only in one series which is repeated in a vertical direction. It is therefore easy and convenient to unload the ammunition when firing. In order that the necessary quantity of ammunition may be carried in spite of the said arrangements, the requisite space is provided by extending the box so far below the axle as may be necessary in order to accommodate the same quantity of ammunition as is possible in horizontal boxes with cartridges behind each other, or as is necessary for sure service during shooting. As an additional object, the construction secures an extension of the system downward and therefore a diminution of the tipping moment, which is desirable and advantageous.

The invention is illustrated in the accompanying drawings in two forms. Figures 1 and 3 show these forms respectively in side elevation partly in section, while Figs. 2 and 4 are corresponding rear views.

The box *a* receives the horizontal layers of ammunition and is closed behind the doors *b*. The latter also serve to protect the men from side fire while they are unloading the ammunition. On the box *a* are seats for the men, whereof the back *c* serves as a shield

protecting the men unloading from fire from in front and from above. For a like purpose a folding shield *d* is provided below and is arranged to be turned up beneath the cart during transport and there fastened in any suitable manner as indicated in dotted lines in Figs. 1 and 3. The box *a* is supported through the axle *e* from the wheel *f*. The draft beam *g* is firmly connected with the box and has the draw-hook *h* at its front end as well as a device for fixing the pole *i*.

In the form shown in Figs. 1 and 2 the axle *e* extends through the box, there being room beneath it for packing two layers of ammunition. The beam *g* is fixed by a shell *k* to the axle and is so guided in, or connected with, the box, that relative movement of these parts is not possible. For transport the pole *i* can be inserted into the front rounded end of the hollow beam *g* and fixed therein by a bolt *l*. When the pole is not required it can be reversed and pushed into the beam *g* and secured by the bolt, so that it is not in the way but is always at hand.

The form shown in Figs. 3 and 4 differs from that just described in that the axle *e* is bent to receive the box and is suitably connected with the latter underneath it. By this arrangement a portion of the space in the cart which in the previously described form is occupied by the axle extending through the box, becomes available. The beam *g* which is of rectangular cross section, extends through the box *a* and is suitably fixed thereto. The beam is open at the rear end, so that its interior may be used for storing accessories. The pole *i* is linked to the eye *m* of the beam *g* and can be turned back upward over the beam and there fastened. For transport the pole *i* is connected firmly with the beam *g* by pushing the bolt *n* through the draw hook *h* and fastening it there by the screw nut. A spring union which can be unfastened by a handle may be used instead of the nut and bolt.

A third construction is one in which flanges or the like on the sides of the box carry bearings for the wheel axles, so that the middle portion of the axle is not required.

Having now particularly described and ascertained the nature of our said invention and in what manner the same is to be performed, we declare that what we claim is:

1. In an ammunition wagon, the combination, with the wheels, a connecting cranked axle, and a hollow draft beam with its end open to the rear, of a chest arranged to contain the ammunition in horizontal layers, said chest built around and fixed to the hollow beam and supported in the bend of the cranked axle.

2. In an ammunition wagon, the combination, with the wheels, a connecting cranked axle, and a hollow draft beam with its end open to the rear, of a chest arranged to contain the ammunition in horizontal layers, said chest built around and fixed to the hollow beam and supported in the bend of the cranked axle, the top of the chest arranged as a seat with an upwardly and rearwardly extending solid steel back, and a steel plate hinged to the lower edge of the chest to swing to a vertical and horizontal position.

3. In an ammunition wagon, the combination, with the wheels and the axle, of a non-tilting chest carried thereby and extending beneath the axis of the wheels, said chest arranged to receive fixed ammunition in horizontal layers with base to the rear, and the top of the chest arranged as a seat with upwardly extending back to serve as a bullet-proof shield to the ammunition handler.

In testimony whereof I have hereunto affixed my signature in the presence of two witnesses.

KARL VÖLLER.

Witnesses:

M. ENGELS,
CLEMENS HECKMANN.