K. VÖLLER.

CENTER PIVOT GUN CARRIAGE.

APPLICATION FILED JULY 7, 1915.

1,399,674.

Patented Dec. 6, 1921.

2 SHEETS—SHEET 1.

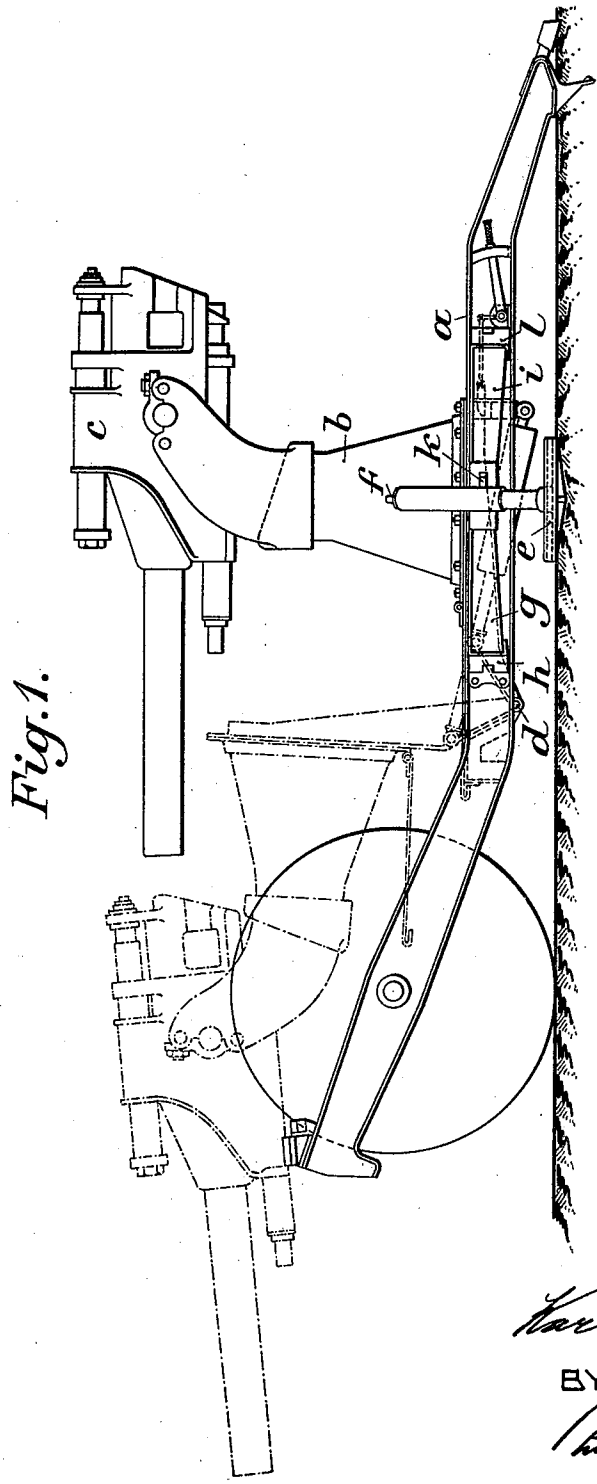

Fig. 1.

INVENTOR

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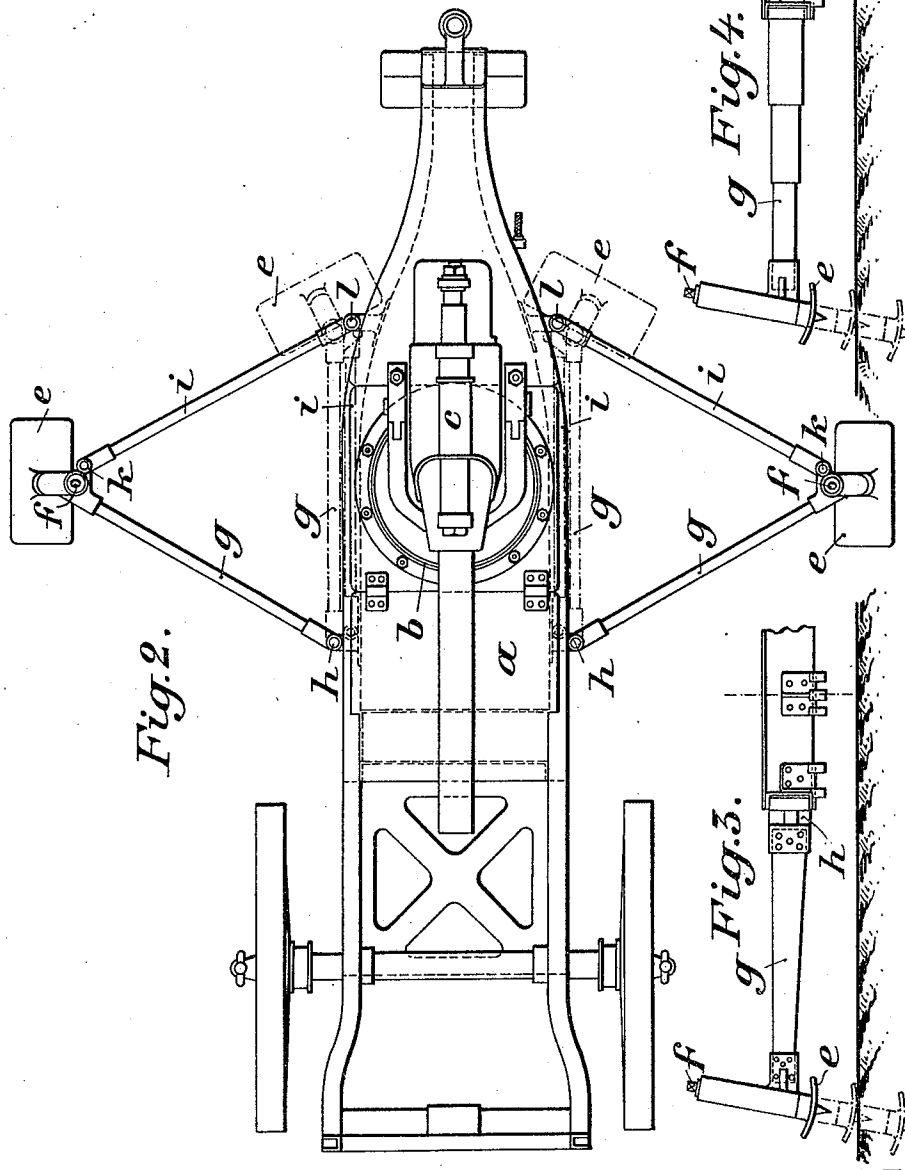

Fig. 2.

Fig. 4.

Fig. 3.

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KARL VÖLLER, OF DUSSELDORF, GERMANY, ASSIGNOR TO RHEINISCHE METALL-WAAREN- UND MASCHINENFABRIK, OF DÜSSELDORF-DERENDORF, GERMANY, A CORPORATION OF GERMANY.

CENTER-PIVOT-GUN CARRIAGE.

1,399,674. Specification of Letters Patent. Patented Dec. 6, 1921.

Application filed July 7, 1915. Serial No. 38,431.

(GRANTED UNDER THE PROVISIONS OF THE ACT OF MARCH 3, 1921, 41 STAT. L., 1313.)

To all whom it may concern:

Be it known that I, KARL VÖLLER, engineer, a subject of the German Emperor, residing at Dusseldorf, 12, Scharnhoststrasse, Germany, have invented certain new and useful Improvements in Center-Pivot-Gun Carriages; 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.

The modern guns used principally against aeroplanes and air ships and consisting of a gun carriage carrying a center pivot gun, which as a rule can be turned down, are worked from a platform formed by the horizontal part of the carriage carrying the standard and by side plates hinged to the sides of the carriage and adapted to be turned down. This platform considerably increases the weight of the gun; moreover it must be relatively broad, the side plates being limited in breadth in order not to unduly increase the breadth of the carriage when they are turned up. Below the side plates struts provided with spikes are hinged to the platform, said struts being adapted to be folded up also. The side plates as well as the struts form heavy encumbrances while the carriage is moving along.

The present invention does away with these high superstructures in order to diminish the total weight of the gun, the time required to make the gun ready for firing and to render its working easier.

To this end the gun carriage is made only slightly broader than the base of the gun standard; the side plates are dispensed with entirely and the gun carriage is made so low that the gun can be worked from the ground and a very low firing level obtained. The side struts provided with spikes are not hinged to horizontal bolts in order to be turned upward, but they are adapted to be turned around vertically disposed bolts or else are pulled out of the carriage in a longitudinal direction and as arranged are free of links which might be caused to bend in under the influence of the tilting motion imparted to the gun after firing. This latter arrangement is the more important for the reason that it does not require any locking of the struts in the firing position, in contradistinction of the old struts hinged to horizontal bolts where the carriage will bend in sidewise if the gun is fired without the hinges having been locked before.

In the drawings accompanying the specification the preferred form of a gun carriage according to my invention is shown.

Figure 1 is an elevation, and

Fig. 2 is a plan view of an aeroplane gun adapted to be turned over and mounted on a platform provided with struts as described.

Figs. 3 and 4 are details.

Upon the carriage *a* which has its horizontal part arranged close to the ground, the standard *b* is mounted in usual manner, permitting the gun *c* to be turned 360 degrees. In the traveling position the gun may be turned over around the pin *d* in a well known manner as shown in dotted lines, in order to carry its weight above the wheel axle.

As shown in Fig. 2 the horizontal part of the carriage is not broader than the base of the gun standard, and a special platform and side plates linked to it can therefore be dispensed with entirely.

Side bracing of the carriage is effected through the instrumentality of pairs of struts *g* and *i* arranged on each side of the carriage, such struts being spaced apart at their inner ends and secured to the carriage by vertically disposed pivots *h* and *l*, respectively. These struts, which are of approximately the same length, are connected at their outer ends by means of a vertically disposed bolt *k*. At the extreme outer end of each strut *g* is a spike *e* adapted to be screwed up and down in a well known manner by means of screws *f*. The side bracing is so arranged that the spikes *e* are in alinement and at right angles to the longitudinal axis of the gun carriage. It is to be further noted that these spikes are disposed on a line passing centrally through the gun standard. In this way provision is made for effecting proper support in every position of the central pivoted gun, no matter in which direction the latter may be turned.

In the traveling position the struts *g* and *i*

are turned, together with the spikes *e*, so as to lie close to the sides of the carriage. This can be effected by either pulling out the bolts *l*, folding the strut *i* against the strut *g* by turning it around bolt *k* and then folding them together with the spikes against the side of the carriage by turning them around bolt *h*; or else the bolts *k* may be removed and then first the strut *i* and then strut *g* are folded against the carriage.

In the modification shown in Fig. 4 the struts carrying the spikes consist of telescoping tubes adapted to be simply pulled out sidewise.

It is clear that owing to the arrangements described there is no need for locking the struts in the position of firing, as there is no danger of their bending in or being shoved together, when the gun is fired, as would happen with struts hinged to horizontal pins. The new arrangement further offers the advantage of diminishing the time required for making the gun ready for firing as it is no more necessary to turn down the platform side plates and the struts, as in the old arrangement, especially in those cases where the gun is to be trained sidewise. With the present arrangement it is possible also to fire the gun without laying out the struts; this is very useful in urgent cases.

I claim:—

1. In combination with a gun carriage, a center pivot gun, and a standard therefor, braces arranged at the sides of said carriage comprising horizontally collapsible struts having at their outer ends a spike, the outer ends of said braces when extended being in alinement with each other and with a line drawn through said standard at right angles to the longitudinal axis of said gun carriage.

2. In a center pivot gun carriage, in combination, foldable braces arranged on the sides of said carriage, each brace comprising a strut pivoted to said carriage and having at its outer end a spike, and a second strut pivotally connected to said first mentioned strut at a point adjacent said spike and also to said carriage.

3. In a center pivot gun carriage, in combination, foldable braces arranged to be folded horizontally on the sides of said carriage each comprising two spaced apart struts pivotally secured to said carriage, and detachably connected at their outer ends, one of said struts having a spike mounted at its extreme outer end, the outer ends of said braces when in extended position being in alinement and disposed at right angles to the longitudinal axis of said gun carriage.

In testimony whereof, I have signed this specification in the presence of two subscribing witnesses.

KARL VÖLLER. [L. S.]

Witnesses:
HELEN NUFER,
ALBERT NUFER.