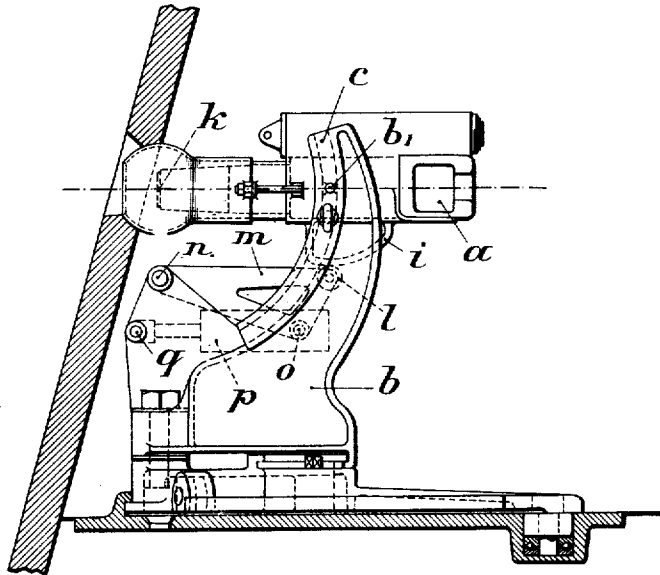


K. VÖLLER & C. WANINGER.
GUN WITH GUIDEWAYS INSTEAD OF TRUNNIONS.
APPLICATION FILED JUNE 22, 1915.

1,175,026.

Patented Mar. 14, 1916.



INVENTORS
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UNITED STATES PATENT OFFICE.

KARL VÖLLER AND CARL WANINGER, OF DUSSELDORF, GERMANY, ASSIGNORS
TO RHEINISCHE METALLWAAREN- UND MASCHINENFABRIK, OF DUSSELDORF-
DERENDORF, GERMANY, A CORPORATION OF GERMANY.

GUN WITH GUIDEWAYS INSTEAD OF TRUNNIONS.

1,175,026.

Specification of Letters Patent.

Patented Mar. 14, 1916.

Application filed June 22, 1915. Serial No. 35,686.

To all whom it may concern:

Be it known that we, KARL VÖLLER, a subject of the German Emperor, residing at 12 Scharnhorststrasse, Dusseldorf, and CARL WANINGER, a subject of the German Emperor, residing at 128 Uerdingerstrasse, Dusseldorf, Germany, have invented certain new and useful Improvements in Guns with Guideways Instead of Trunnions; and we 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 invention relates to guns that are guided in guideways when elevated as it is especially the case with casemate guns. In such guns the axis of elevation lies in the fore end of the barrel so that the elevating mechanism must lift the whole weight of the gun barrel and of the cradle, generally spoken of as the elevated parts.

The present invention consists in an arrangement whereby the said weight is compensated in a most exact and complete manner by means of a lever pivoted on the carriage and connected with a compensating device, a bow being connected with the elevated parts and resting on the lever.

An embodiment of the invention is shown by the accompanying drawing representing a side elevation and omitting all parts not necessary for understanding the invention.

The gun barrel a can be elevated by any known elevating mechanism not represented in the drawing and is guided during its elevating motion within a curved guideway c connected with the carriage b and curved around the axis k of elevation lying in the fore end of the gun barrel.

b^1 is the center of gravity of the elevated parts and the latter are provided with a bow i resting on a roller l arranged on a lever m pivoted at n on the carriage b . The lever m is pivotally connected at o with the spring box p of a compensating device of

any known construction pivotally connected at q with the carriage b . The bowl i is preferably curved around an axis passing through the center of gravity b^1 .

In the horizontal position of the gun barrel a shown in the drawing the line $n l$ of the lever m is also horizontal. Its length $n l$ is equal to the distance of the axis k from the center of gravity b^1 and the point n lies exactly beneath the axis k . In consequence of this arrangement the compensating pressure is directed in all positions of elevation through the center of gravity of the elevated parts so that no additional friction can be produced in the curved guideways.

Having thus described our invention what we claim is:—

1. In a gun in which the elevated parts are guided by curved ways when elevated the combination of a weight compensating device, a lever connected therewith and a bow connected with the elevated parts and resting on said lever.

2. In a gun in which the elevated parts are guided by curved ways when elevated the combination of a weight compensating device, a lever connected therewith, the length of which is equal to the distance between the axis of elevation and the center of gravity of the elevated parts, and a bow connected with these parts and resting on said lever.

3. In a gun in which the elevated parts are guided by curved ways when elevated the combination of a weight compensating device, a lever connected therewith, the pivot of which is situated vertically beneath the axis of elevation, and a bow connected with the elevated parts and resting on said lever.

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

KARL VÖLLER.
CARL WANINGER.

Witnesses:

FREDERICK HOYERMANN,
BERNHARD GRICLING.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."