R. LORENZ.

GUN WITH RAILWAY GUN CARRIAGE.

APPLICATION FILED SEPT. 8, 1920.

1,360,549. Patented Nov. 30, 1920.

Fig. 1.

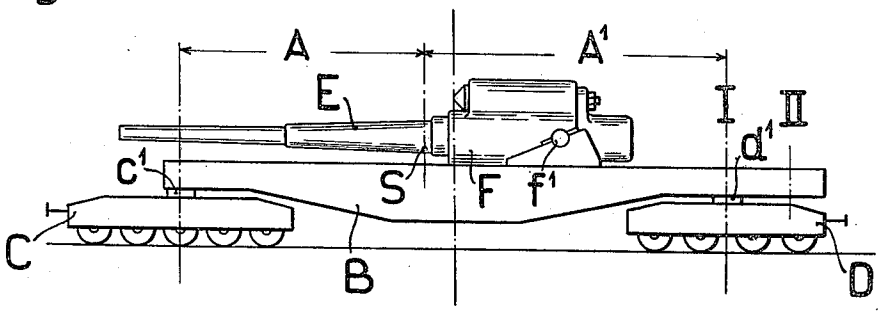



Fig. 2.

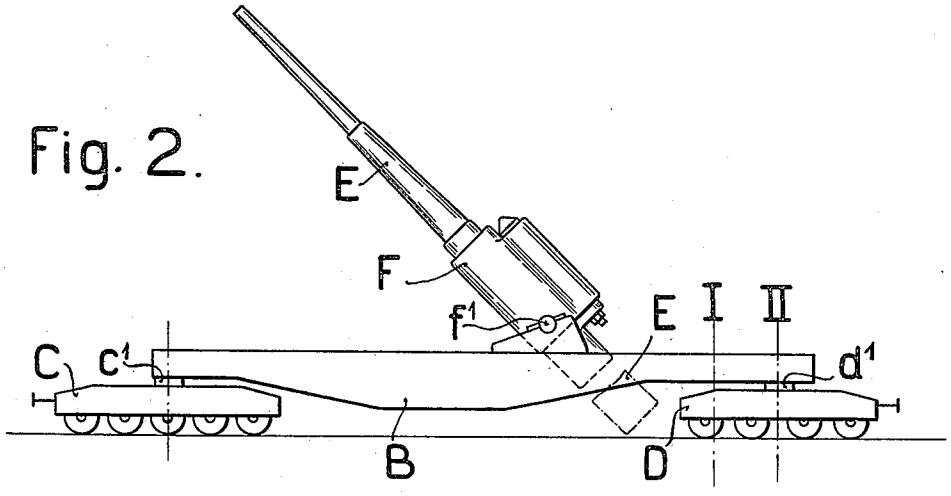
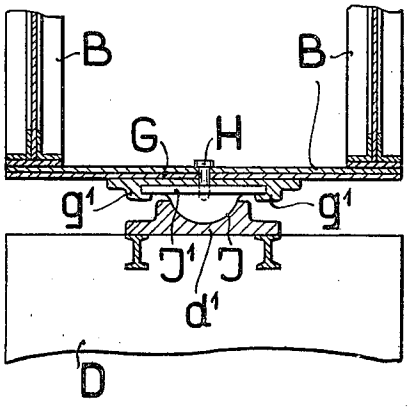



Fig. 3.

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# UNITED STATES PATENT OFFICE.

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## GUN WITH RAILWAY GUN-CARRIAGE.

1,360,549. Specification of Letters Patent. Patented Nov. 30, 1920.

Application filed September 8, 1920. Serial No. 408,980.

*To all whom it may concern:*

Be it known that I, RUDOLF LORENZ, residing at Essen, Germany, a citizen of the German Republic, have invented certain new and useful Improvements in Guns with Railway Gun-Carriages, of which the following is a specification.

This invention relates to guns with railway gun carriages and has reference to the special arrangement of the rear bogie of the railway carriage.

The invention will be described with reference to the accompanying drawings in which the invention is diagrammatically illustrated.

Figure 1 is a side elevation of the gun in the transport position,

Fig. 2 is a side elevation of the gun in the firing position and

Fig. 3 is a transverse section on a larger scale through the bogie pin bearing of the rear bogie.

The railway gun carriage has a frame B, which is supported at $c^1$ and $d^1$ on two bogies C, D. The gun barrel E is guided in the cradle F, which is pivotally mounted in the frame B by means of horizontal trunnions $f^1$. Between the cradle F and the frame B there is interposed an elevating gear not shown in the drawing.

The pivot pin of the rear bogie D, which is constructed in the form of a knuckle pin J (see Fig. 3) bears in a pan $d^1$. This knuckle pin is fixed to the frame B by means of ribs $g^1$ of a slideway plate G connected to the frame. The bogie D is secured relatively to the frame B by means of a bolt H (see Fig. 3) which can be inserted in bolt holes in the parts B, G and J $J^1$. In the frame B and the slideway G are formed bolt holes which correspond to the positions I and II of the bogie D (see Figs. 1 and 2).

When the gun is in the transport position, the rear bogie D occupies the position I (see Fig. 1) in which it is brought so near to the front bogie C that on curves the gun is not swung too far sidewise, and therefore the contour of the railway line can be efficiently utilized. The distances A and $A^1$ between the vertical axes of rotation of the bogies C, D, from the center of gravity S of the gun as a whole are so calculated that the load is uniformly distributed on the several axles of the bogies.

As shown in the drawing the center of gravity S lies nearer to the front bogie C, which is therefore more heavily loaded and therefore has one axle more than the rear bogie. This corresponds to the actual conditions and is the result of the fact that an equalizer (not shown in the drawing) is to be mounted on the front part of the frame B, which compensates the front weight of the parts of the gun, which oscillate about the trunnions.

When the gun is to be transferred to the firing position, the bogie D is pushed to the rear into position II, (see Fig. 2) and secured in this position by the bolt H. With the rear bogie in this position the distance between the bogie D and the trunnions $f^1$ is so great that the gun barrel E when fired at an elevation and recoiling does not strike against the bogie (see the position of the barrel E shown in dot and dash lines in Fig. 2).

Claims.

1. A railway gun and carriage therefor which comprises a frame, a gun supported on the frame, two bogies, means pivotally supporting said frame at each end thereof upon one of the bogies and means whereby this pivotal support at one end of the frame may be varied.

2. A railway gun and carriage therefor which comprises two bogies, a frame for supporting the gun, pivotal connections between each end of the frame and the bogies and means whereby one of these pivotal connections can be adjusted longitudinally of the frame.

3. A railway gun and carriage therefor which comprises bogies, a frame supporting the gun, means pivotally supporting each end of the frame upon the bogies, one of said pivotal connections comprising a knuckle pin, a bearing therefor, said knuckle pin being slidably mounted with respect to said frame and means for securing said knuckle pin in its adjusted positions, substantially as described.

The foregoing specification signed at Essen, Germany, this 20th day of May, 1920.

R. LORENZ.

In presence of—
HANS GOTTSMANN,
JOSEF OLBERTZ.