(No Model.)

H. JAKOBSSON.

CARRIAGE FOR ARTILLERY.

No. 539,944. Patented May 28, 1895.

Fig. 1

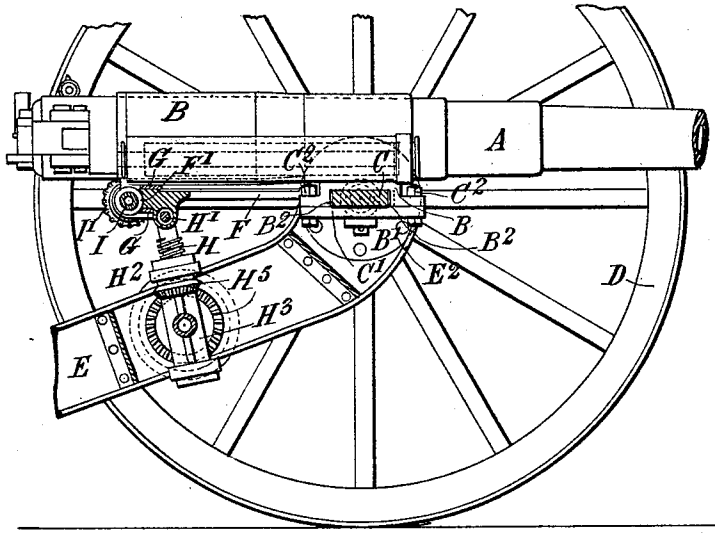


Fig. 2

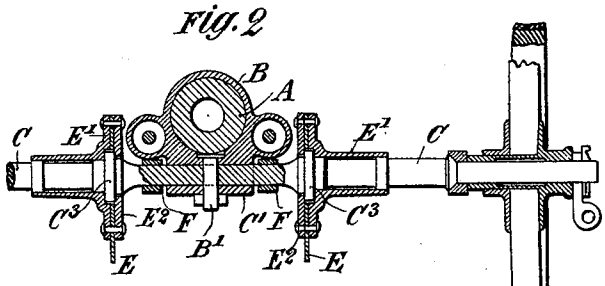
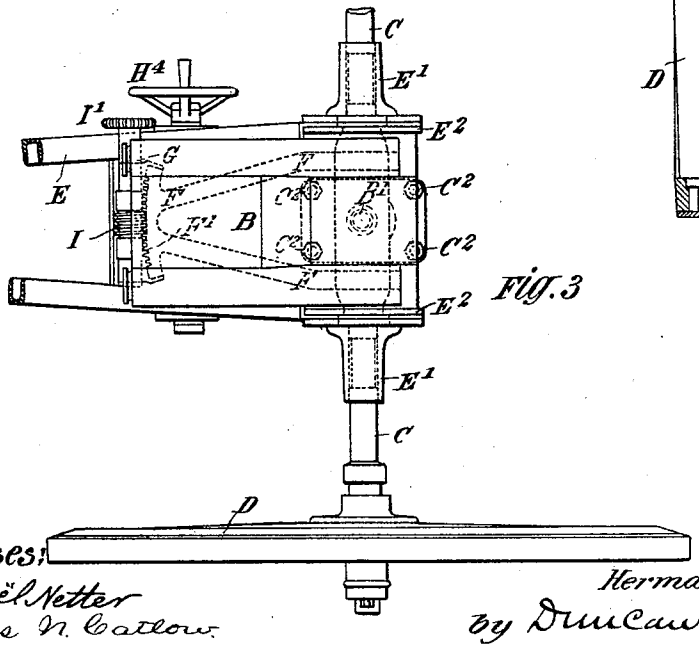


Fig. 3



Witnesses:
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James N. Catlow

Inventor
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UNITED STATES PATENT OFFICE.

HERMAN JAKOBSSON, OF LONDON, ENGLAND.

CARRIAGE FOR ARTILLERY.

SPECIFICATION forming part of Letters Patent No. 539,944, dated May 28, 1895.

Application filed May 9, 1894. Serial No. 510,580. (No model.) Patented in England October 27, 1893, No. 20,250; in France October 30, 1893, No. 233,735; in Belgium October 30, 1893, No. 106,951, and in Italy November 16, 1893, No. 35,137.

To all whom it may concern:

Be it known that I, HERMAN JAKOBSSON, engineer, a subject of the King of Sweden and Norway, and a resident of London, England, have invented certain new and useful Improvements in Carriages or Mountings for Artillery, originally forming part of the application Serial No. 490,982, filed on or about November 15, 1893, (for which I have obtained patents in Great Britain, No. 20,250, dated October 27, 1893; in France, No. 233,735, dated October 30, 1893; in Belgium, No. 106,951, dated October 30, 1893, and in Italy, No. 35,137, application date October 30, 1893, issue date November 16, 1893,) of which the following is a specification, reference being had to the accompanying drawings.

This invention relates to wheeled carriages or mountings for artillery and is designed to increase the stability and durability of such mountings and to facilitate the elevation and training of the guns thereon. The gun is so attached to the axle that when turned for elevation the axle turns with it. The gun is moreover so mounted as not to be raised very much above the axis of the wheels, and it can be horizontally adjusted, for fine or accurate laying, independently of the carriage.

Referring to the accompanying drawings, Figure 1 is a side elevation of a portion of a gun mounted in accordance with this invention, the mounting being shown in section. Fig. 2 is a vertical section of the gun and part of the mounting, taken in a plane containing the carriage-axle. Fig. 3 is a plan of the cradle and part of the mounting, the gun being removed.

A is the gun.
B is the cradle.
C is the axle.
D, D, are the wheels.
E is the trail.

The drawings show a recoil mounting provided with hydraulic recoil brakes and a cradle in which the gun slides. The central part of the axle is flattened, and the cradle is pivoted to the flat part by a pin B′ so that it can turn about said pin for horizontal laying or pointing, but must turn with the axle for elevation. C′ is a cover plate passed underneath the axle and bolted to the cradle by bolts C^2 or otherwise removably secured thereto. The axle extends through bearings E′, E′, attached by bolts, rivets or otherwise to the cheeks of the trail, said bearings being prevented from endwise displacement on the axle by inner plates E^2, E^2, secured thereto, between which and the said bearings are inclosed collars C^3 C^3 formed on the axle. Outside of these bearings are the wheels D which are fitted to turn freely upon the axle. It will be seen therefore that the ends of the axle serve as the trunnions, and the wheels as the trunnion bearings, about which the gun is turned for elevation.

For controlling the vertical turning movement of the gun and axle and for training or turning the gun horizontally for fine or accurate laying, without moving the trail of the carriage, provision is made as follows, that is to say: F is a suitable frame or arm secured at its forward end to the axis by bolts or otherwise, and entering at its rear end a guide G which is secured to the gun cradle. The said guide G can move laterally on the frame F as hereinafter described when the gun is trained for fine or accurate laying. The elevating gear comprises a screw-threaded shaft H pivoted by its upper end at H′ to the frame F and working through a nut H^2 supported by a tubular piece H^3 trunnioned in the trail sides. The said nut H^2 can be rotated by a hand wheel H^4 at the side of the trail acting through bevel gear wheels H^5. The rear edge of the frame F is provided with a toothed segment F′ having the pin B′ as its center. With the said segment there engages a worm I the shaft of which is carried in bearings formed on or attached to the cradle. I′ is a hand wheel for turning said worm. The worm is not capable of endwise movement relatively to the cradle and hence when it is rotated and thereby caused to travel along the toothed segment, the cradle is carried with it and turns about the pivot pin B′ thus effecting the fine lateral pointing or laying of the gun without moving the trail. The recess B^2 in the cradle which receives the flattened portion of the axle is made of such dimensions as to permit the cradle to turn horizontally as above set forth through the desired angle. The guide G also is made sufficiently long to allow of the desired amount of lateral turning movement. It will be observed that the shock on the ele-

vating gear due to the jump of the gun when firing is not transmitted through the horizontal training gear, and hence the latter is not injuriously strained.

In case of a non-recoil mounting the gun would be mounted directly on the axle in the manner above described with reference to the cradle, and the horizontal training worm would be carried driectly by the gun. The axle is shown straight, but in some cases it is cranked downward to lower the axis of the gun with respect to the carriage axle. Moreover the cradle might be attached below the axle instead of above it as shown.

What I claim is—

In a carriage or mounting for artillery, the combination with the wheel axle of a gun, and its cradle said cradle being mounted on the axle and turning therewith for elevation, but independently thereof for fine or accurate laying and means for effecting the laying said means comprising an arm F secured at its forward end to the axle and guided at its rear end in a guide G secured to the cradle, a toothed segment formed at said rear end, a worm carried by the cradle and gearing with said toothed segment, and means for turning said worm, substantially as described.

In witness whereof I have hereunto set my hand this 27th day of March, 1894.

HERMAN JAKOBSSON.

Witnesses:

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