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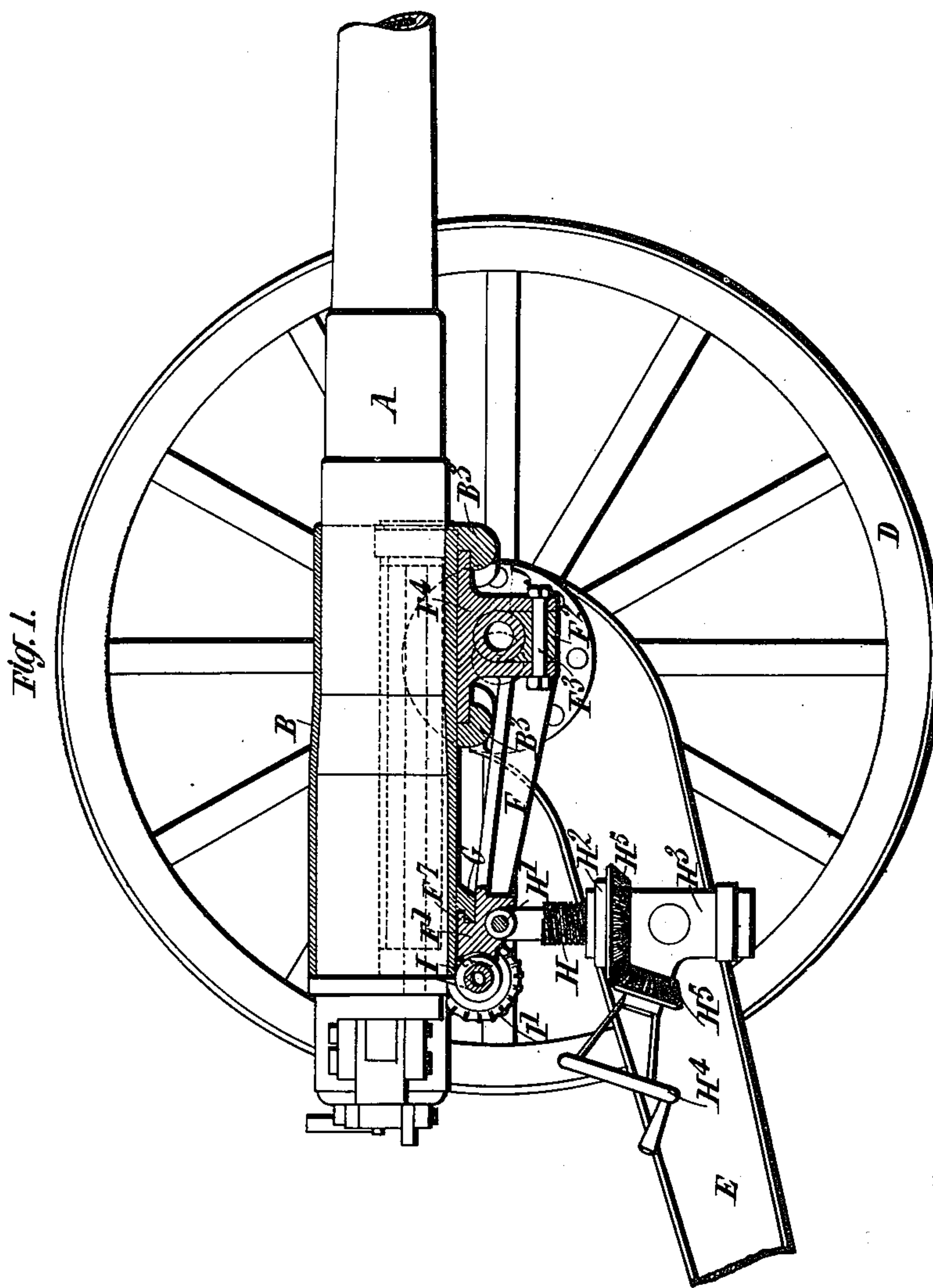
4 Sheets—Sheet 1.

H. JAKOBSSON.

CARRIAGE OR MOUNTING FOR ARTILLERY.

No. 531,417.

Patented Dec. 25, 1894.



Witnesses:
Kaspar Vetter
James H. Catter

Inventor
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(No Model.)

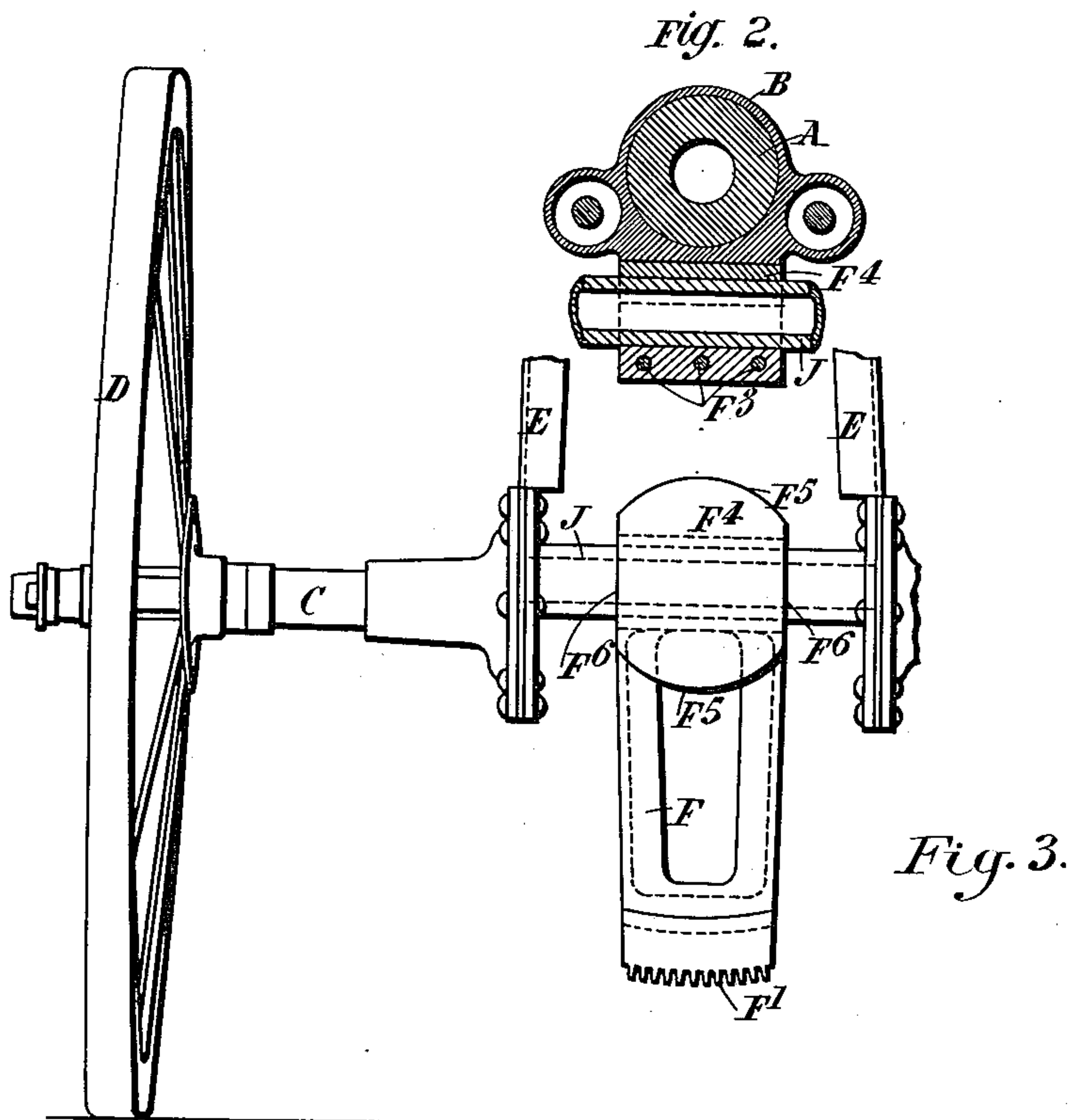
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H. JAKOBSSON.

CARRIAGE OR MOUNTING FOR ARTILLERY.

No. 531,417.

Patented Dec. 25, 1894.



Witnesses:

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(No Model.)

4 Sheets—Sheet 3.

H. JAKOBSSON.

CARRIAGE OR MOUNTING FOR ARTILLERY.

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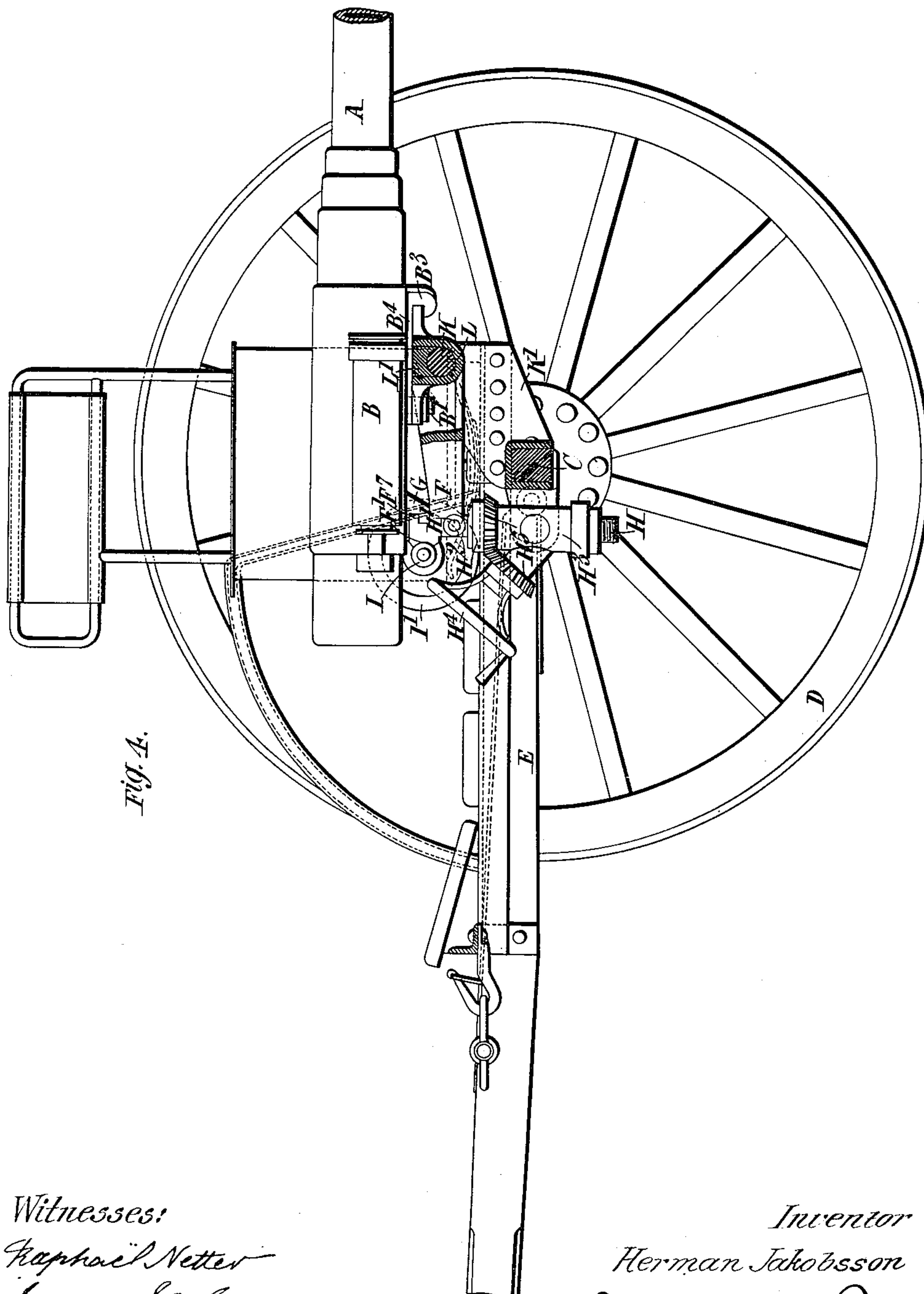


Fig. 4.

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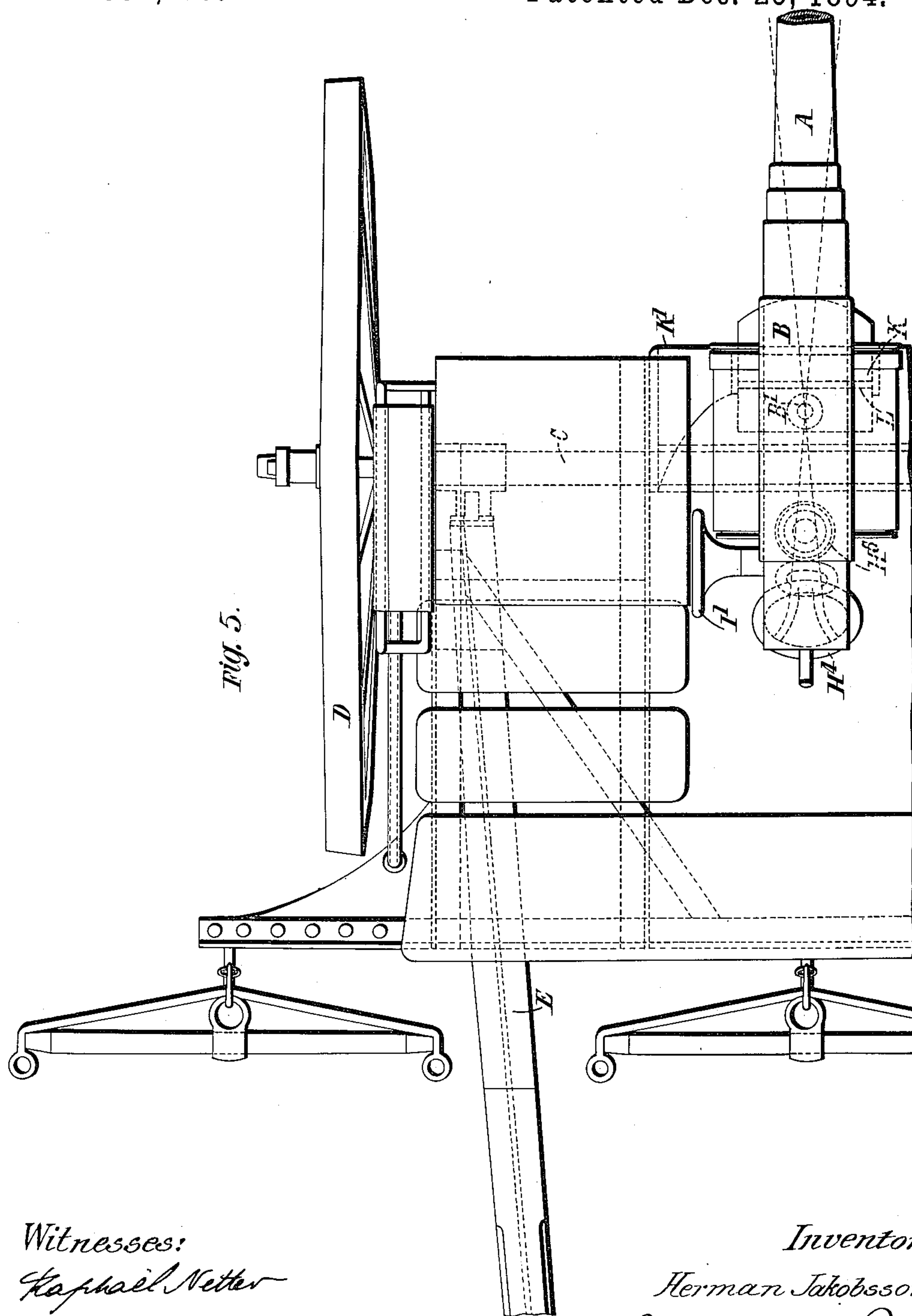
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4 Sheets—Sheet 4.

H. JAKOBSSON.
CARRIAGE OR MOUNTING FOR ARTILLERY.

No. 531,417.

Patented Dec. 25, 1894.



Witnesses:
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UNITED STATES PATENT OFFICE.

HERMAN JAKOBSSON, OF LONDON, ENGLAND.

CARRIAGE OR MOUNTING FOR ARTILLERY.

SPECIFICATION forming part of Letters Patent No. 531,417, dated December 25, 1894.

Application filed November 15, 1893. Serial No. 490,982. (No model.)

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, of which the following is a specification, reference being had to the accompanying drawings.

10 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.

15 The gun is carried by and moves with a cradle which is mounted on a transom secured to the trail, and so as to be capable of horizontal and vertical movement independently of said transom.

20 A special feature of importance and novelty consists in securing the transom to the trail in the plane of the axle and mounting the cradle on such transom so that the gun will be raised but very little above the axis of the wheels. In any case, however, the advantage of fine and accurate adjustment for elevation and laying is secured by the employment of the cradle.

Referring to the accompanying drawings, 30 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 transverse section of the gun and cradle taken through the center of the supporting transom. Fig. 3 is a plan of a part of the mounting hereinafter described. Fig. 4 is another view similar to Fig. 1, but showing a still further modified form of the mounting. Fig. 5 is a plan of the same.

40 Like letters of reference denote corresponding parts throughout the drawings.

A is the gun.

B is the cradle.

C is the axle.

45 D, D are the wheels.

E is the trail.

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 attached to the transom J 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 through a nut H² supported by a tubular piece H³ trunnioned in the trail sides. The said nut H² can be rotated by a hand wheel H⁴ at the side of the trail acting through bevel gear wheels H⁵. The rear edge of the frame F is provided with a toothed segment F'. 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 thus effecting the fine lateral pointing or laying of the gun without moving the trail. The guide G is made sufficiently long to allow of the desired amount of lateral turning movement.

It will be observed that the shock on the elevating 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.

The axle C is made in two parts secured to the trail sides which are in this case joined by a central solid or hollow transom J on which the gun cradle is mounted and about which the cradle turns for elevation. The mode of mounting the cradle is as follows: that is to say, the rearwardly extending frame or arm F is constructed at its forward end to turn on the transom J to which it is removably attached. For example the frame or arm is formed with jaws that pass over the transom and are held in place by a block F² that fits between the jaws on the under side of the transom and is secured by bolts F³. F⁴ is a table preferably formed whole or in one piece with the frame or arm F and adapted to receive the cradle which is furnished with pieces B³ hook-shaped in transverse section that engage with the edges of the table and prevent the cradle from rising. The forward and rear ends F⁵, F⁶, of the table are curved to form arcs of circles having a common center, and

the two sides F^6 F^6 of the table are flat, as clearly shown in Fig. 3. The opposite curved portions of the table together form a pivot about which the cradle can turn for horizontal laying. The flat sides enable the cradle to be placed on and taken off the table. The removal and replacement are effected when the cradle is turned through a quarter of a revolution from its normal position. It will be observed that the transom J-is not quite in line with the axis of the two parts of the axle C but is slightly in advance thereof. By this means the weight of the gun is utilized for partially balancing the trail. The transom may however be coaxial with the two parts of the axle or may be placed in rear of the same if desired. In this mounting moreover the guide G is formed by a projection from the cradle which is hook shaped in transverse section and constructed to engage a similar hook shaped projection F^7 from the frame or arm F.

Referring now to Figs. 4 and 5 which show what is termed a "galloping" carriage, the gun in this construction is pivoted to turn for elevation about an axis K carried by short cheeks K' secured to the axle C.

The mode of mounting the gun is as follows: that is to say, L is a clip constructed to fit round the axis K and having an upper flat face on which a flat part B^4 of the cradle rests. B' is a pivot pin securing the cradle to the clip, and about which the gun can turn for fine horizontal pointing. L' is a distance block inserted between the part B^4 and the axis K. The forward edge of the clip L is curved to an arc of a circle having the pivot pin B' as a center. B^3 is a claw engaging with said curved edge and preventing the gun from lifting. The arm F is secured at its forward end to the axis K and at its rear end is constructed substantially like the corresponding arm in the mounting last described. The rest of the mounting is also substantially like that above described.

Instead of hydraulic brakes I may use india-rubber or steel springs or buffers or other devices for controlling the recoil of the gun.

The said invention is also applicable not only to cradle mountings but also to other forms of recoil or non-recoil mountings.

What I claim is—

1. In a carriage or mounting for artillery, the combination with the trail, the divided wheel axle, and a transom fixed to the trail

in the plane of the axle, of a cradle mounted on said transom and movable vertically for elevation and horizontally for accurate laying independently of said transom, and a gun mounted in the cradle, as set forth.

2. In a carriage or mounting for artillery the combination with the trail, the wheel axle, and a transom fixed to the trail, of a cradle mounted to turn about said transom for elevation, and in a horizontal direction independently of the transom, for accurate laying, a gun carried by the cradle, means for elevating the cradle and means for turning the same horizontally to effect the fine or accurate laying of the gun, substantially as described.

3. In a carriage or mounting for artillery, the combination with the trail, the wheel axle, and a transom fixed to the trail of a gun cradle mounted to turn on the transom for elevation, a gun carried by the cradle, said cradle also turning in a horizontal direction independently of the transom for fine or accurate laying, means for elevating the cradle, an arm F secured at its forward end to the transom and entering at its rear end a guide G on 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.

4. In a carriage or mounting for artillery, the combination, with the wheel axle of a trail comprising shafts E and cheeks K' secured to the axle, a transom secured to said cheeks, a gun cradle mounted to turn thereon for elevation, a gun carried by the cradle, said cradle also turning in a horizontal direction independently of the transom for fine or accurate laying, means for elevating the gun and means for effecting the horizontal laying said latter means comprising an arm F carried at its forward end by the transom and guided at its rear end by 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 30th day of October, 1893.

HERMAN JAKOBSSON.

Witnesses:

GEORGE HOOD,
THOMAS LAKE.