June 16, 1931. W. C. L. HAUBROE 1,810,654

SUPPORT ESPECIALLY FOR HEAVY MACHINE GUNS OR THE LIKE

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Fig. 1.

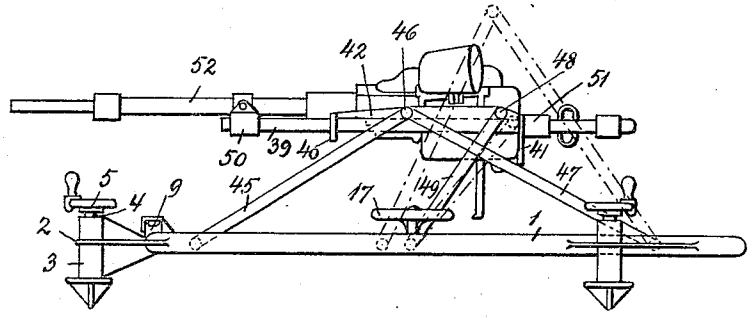
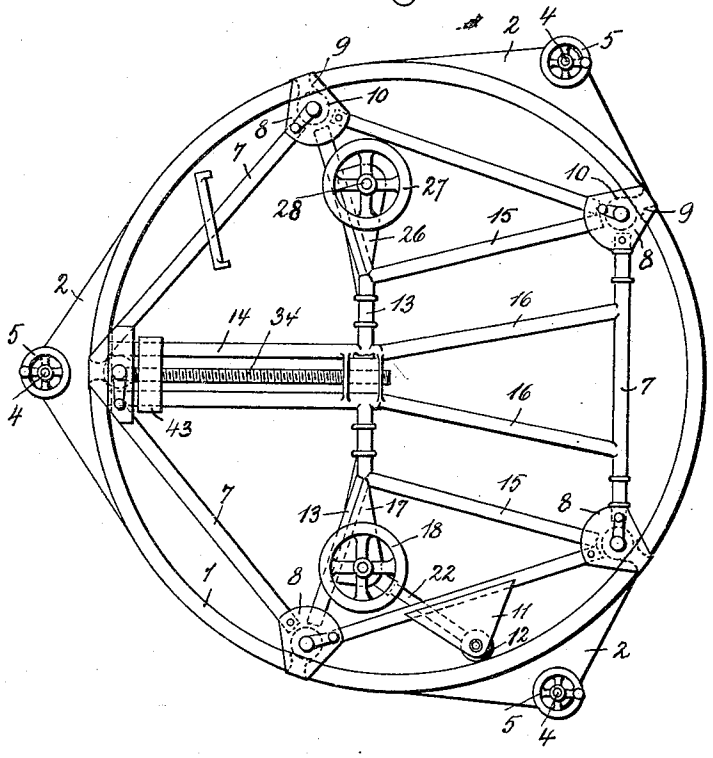


Fig. 2.



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Fig. 3.

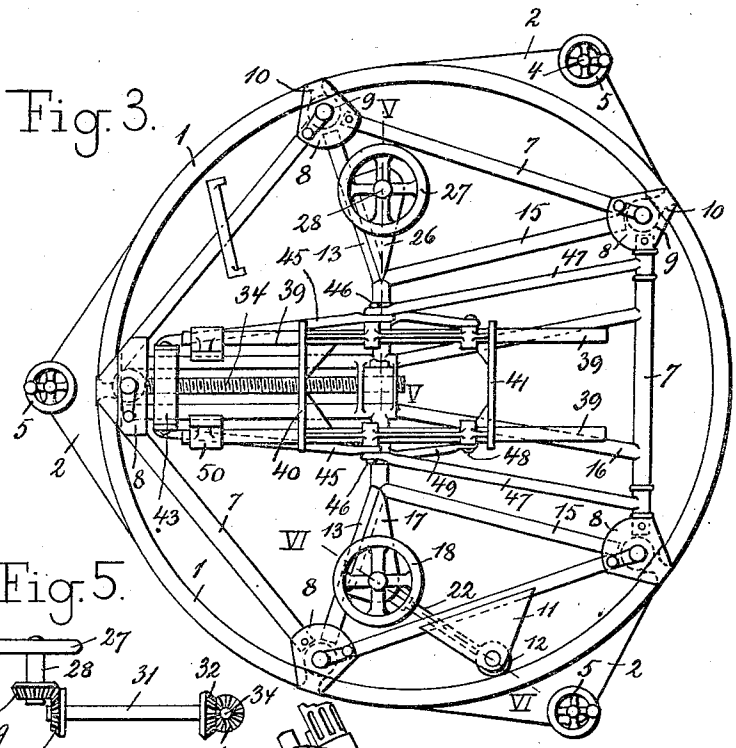


Fig. 5.

Fig. 6.

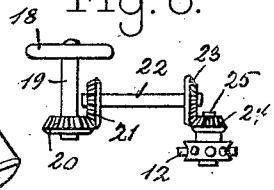


Fig. 4.

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UNITED STATES PATENT OFFICE

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SUPPORT ESPECIALLY FOR HEAVY MACHINE GUNS OR THE LIKE

Application filed November 30, 1929, Serial No. 410,704, and in Denmark July 20, 1929.

The present invention relates to a support, especially for heavy machine guns or the like. The support consists of an annular circular base fitted with vertically adjustable feet and carrying a rotatable frame on which the support proper for one or more machine guns is disposed, the said support being attached to the frame in such a manner that the elevation of machine gun or guns can easily be adjusted according to the position of the target by operation of one single hand-wheel, while simultaneously the lateral direction of the gun or guns can be varied, similarly by manipulation of one single hand-wheel.

On the drawings—

Fig. 1 shows the support in side elevation with a machine gun attached thereto,

Figs. 2 and 3 the support in top view without and with, respectively, the frame carrying the machine gun,

Fig. 4 a perspective view of the support with the machine gun placed in position, and

Figs. 5 and 6 show details of sections along the lines V—V and VI—VI, respectively, in Fig. 3.

The support consists of an annular circular base formed by a ring 1 fitted on the outside with three projecting plates 2, each of which supports a foot 3 fitted with a vertically adjustable screw 5 with hand-wheel 4, so that the base by means of these screws can be adjusted into horizontal position directly on the ground. The inner side of the ring 1 is fitted with a row of holes 6, Fig. 4, spaced uniformly so as to form a kind of internal gear.

Inside of the ring 1 there is provided a frame 7, pentagonal in the construction shown, which is fitted at each corner with a gusset plate 8. Each of these gussets carries a roll 9 resting on top of the ring 1 and another roll 10 bearing against the inner side of the ring 1. One of the members of the frame 7 is fitted with a bracket 11, in which a pinion 12 is journaled, and the teeth of this pinion engage the holes 6 in the ring 1. In the frame 7 a transverse brace 13 is inserted between two opposed gussets 8, and two parallel longitudinal braces 14 are provided between the brace 13 and the foremost gusset plate 8 of the frame 7. Between the transverse brace 13 and each of the two rear gussets 8 of the frame 7 there are further provided two longitudinal braces 15, and between the transverse brace 13 and the rear frame member in the frame 7 two further longitudinal braces 16, see especially Fig. 2.

The transverse brace 13 is fitted with a bracket 17 in which a shaft 19 with hand-wheel 18 is journaled, see especially Fig. 6, and the said shaft is fitted with a gear wheel 20 engaging another gear wheel 21 on a shaft 22, which is journaled in the brackets 17 and 11. This shaft supports also a gear wheel 23 engaging another gear wheel 24 on a shaft 25 supporting the gear wheel 12. Instead of being journaled in a special bracket 11 the shaft of the gear wheel 12 may be journaled in the gusset plate 8 shown at bottom of Fig. 2.

The transverse brace 13 supports also another bracket 26, in which a shaft 28 with hand-wheel 27 is journaled, see especially Fig. 5, and this shaft supports a gear wheel 29 engaging another gear wheel 30 on a shaft 31 disposed inside of the transverse brace 13 and supporting a gear wheel 32, which engages another gear wheel 33 on a screw spindle 34 with bearings in the transverse brace 13 and the front gusset of the frame 7 allowing the spindle to rotate but not to slide between the two longitudinal braces 14.

On the frame 7 and the longitudinal braces 15, opposite each of the hand-wheels 18 and 27, a seat 35 and 36, respectively, is provided for the operators, see Fig. 4, and the frame 7 is further fitted with foot rests 37 and 38, respectively, for the said operators.

The supporting frame for the machine gun consists of two mutually parallel longitudinal bars 39 interconnected by means of two transverse members 40 and 41. Each of the longitudinal bars is fitted on the top side with a vertical rib 42. A carriage 43 is disposed on the longitudinal braces 14 of the frame 7 and is fitted with a threaded hole 44, through which the threaded spindle 34 is screwed. Instead of this screw spindle there may be provided another suitable driving member in connection with the carriage 43. This carriage is connected to one end of two rods 45, the other end of which engages the pins 46

on the ribs 42 of the supporting frame. These pins 46 are further engaged by one end of two other rods 47, the other ends of which engage the rear member of the frame 7. Each of the ribs 42 is further fitted at rear with a pin 48, to which pins the ends of two rods 49 are connected. The other ends of these rods engage the transverse brace 13.

The two longitudinal bars 39 of the supporting frame are fitted with two carriages 50 and 51, in which the machine gun 52 is seated and fixed. These carriages are adapted to slide back and forth on the longitudinal bars 39, and the front carriage 50 and, maybe, also the rear carriage 51 are actuated by helical springs disposed within the hollow longitudinal bars 39.

The support is generally erected directly on the ground with the feet 3 resting thereon, and the ring 1 is leveled by means of the screws 4 and the hand-wheels 5. The support and the machine gun are operated by two men, one of which sits on the seat 35 and the other one on the seat 36. The first mentioned man manipulates the hand-wheel 18 and turns the frame 7 on the ring 1 by means of the hand wheel and the driving device 19, 20, 21, 22, 23, 24 and 12, which last mentioned gear wheel cooperates with the holes 6 in the ring. The frame 7 with the machine gun 52 can thereby make a full revolution about the centre of the ring 1, or any part of a full revolution to one or the other side. In the said driving device there may be inserted a disengaging clutch, so that the driving gear can be disengaged and the frame 7 can be turned directly in the ring 1. The other operator adjusts the machine gun to the proper angle of elevation, which is effected by rotation of the hand-wheel 27. From the shaft 28 of this wheel the rotation is transmitted, by way of the driving gear 29, 30, 31, 32 and 33 to the screw spindle 34, by the rotation of which the carriage 43 is moved back or forth on the longitudinal braces 14. By the rearward motion of the carriage the rods 45 and 47 will be elevated, whereby also the supporting frame and the machine gun will be elevated. The rods 49, however, cause simultaneously the supporting frame to be swung about the pins 46, in such a manner that this frame and the machine gun will be given an upward slope with the gun muzzle raised. During firing the gun recoils, while the carriages 50 and 51 slide along the longitudinal bars 39, and the recoil is absorbed by the helical springs 53, which again move the gun forward to the foremost position on the supporting frame adjustments of the elevation of the gun are effected by rotation of the hand-wheel 27 and similarly by moving the gun back to the horizontal position shown in Fig. 1, during which rearward motion the rods 49 cause the supporting frame and the gun to be swung.

On the drawings only one machine gun is shown, but there is nothing to prevent the support from being fitted with a supporting frame with two, three or four machine guns placed alongside of each other.

For transporting the support a lorry is suitably used, which may be constructed in such a manner that firing may take place from the lorry itself.

In order that the support may easily be transported from the lorry to a site, that cannot be reached by the lorry, the ring 1 may be fitted with special brackets for running wheels one of which may serve as a steering wheel.

Having thus described my invention, what I claim is:—

Support especially for heavy machine guns or the like consisting of an annular circular base member fitted with vertically adjustable feet and supporting a rotatable frame which carries a supporting frame proper for one or more machine guns the said rotary frame being of pentagonal shape and being fitted with a transverse brace and longitudinal braces and having at each corner a gusset plate with guiding rolls mounted for running along the ring, one of the frame members being further fitted with a bracket with a driving pinion cooperating with a row of holes in the ring and being rotated by a driving gear operated by the handwheel and, maybe, fitted with a disengaging clutch or the like, so that the frame may be turned directly on the ring.

In testimony whereof I have signed my name to this specification.

WERNER CHRISTIAN LASSEN HAUEROE.