

E. OLSSON.  
GUN WITH RECOILING BARREL.  
APPLICATION FILED JULY 21, 1908.

935,222.

Patented Sept. 28, 1909.

Fig. 1.

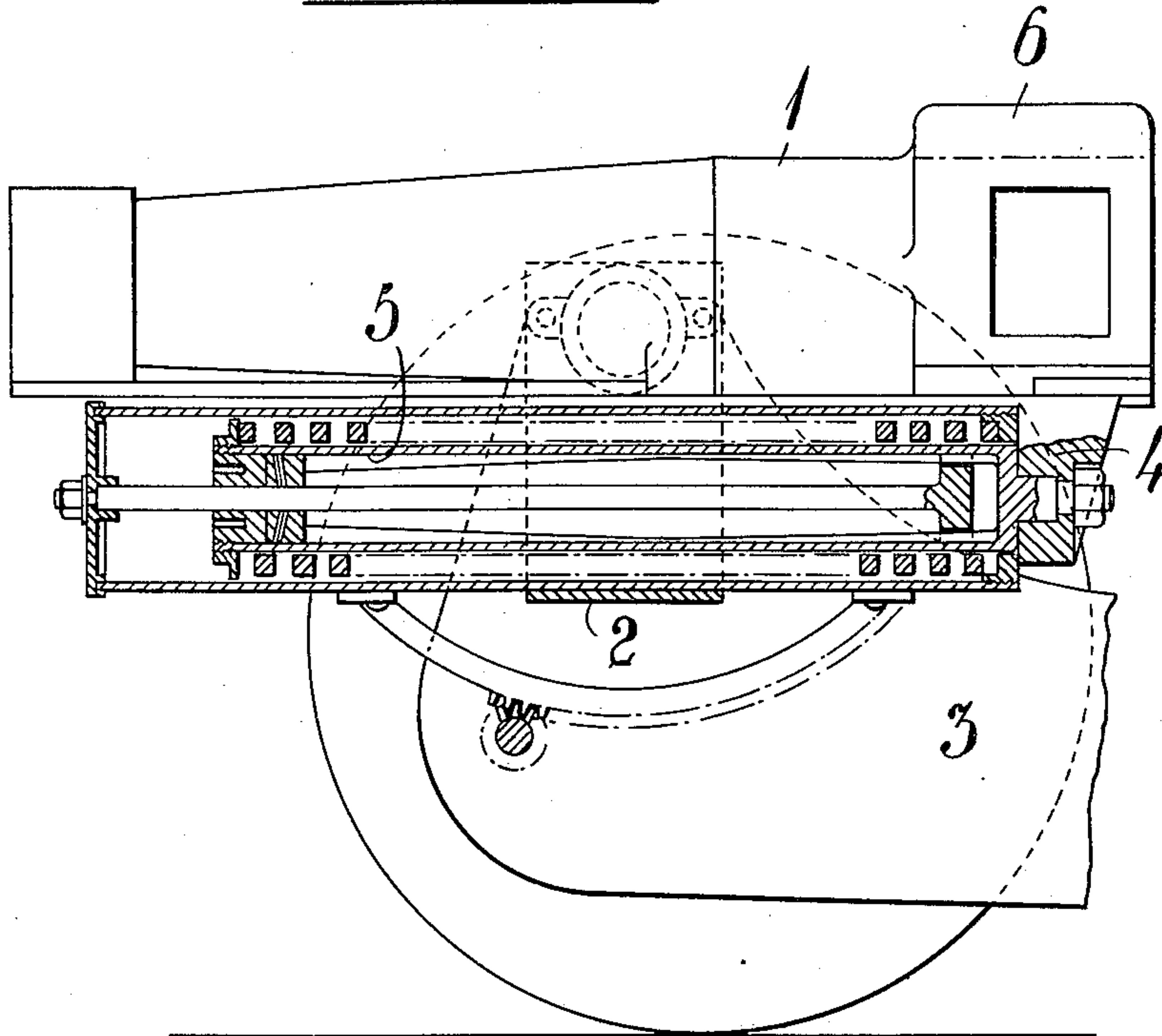
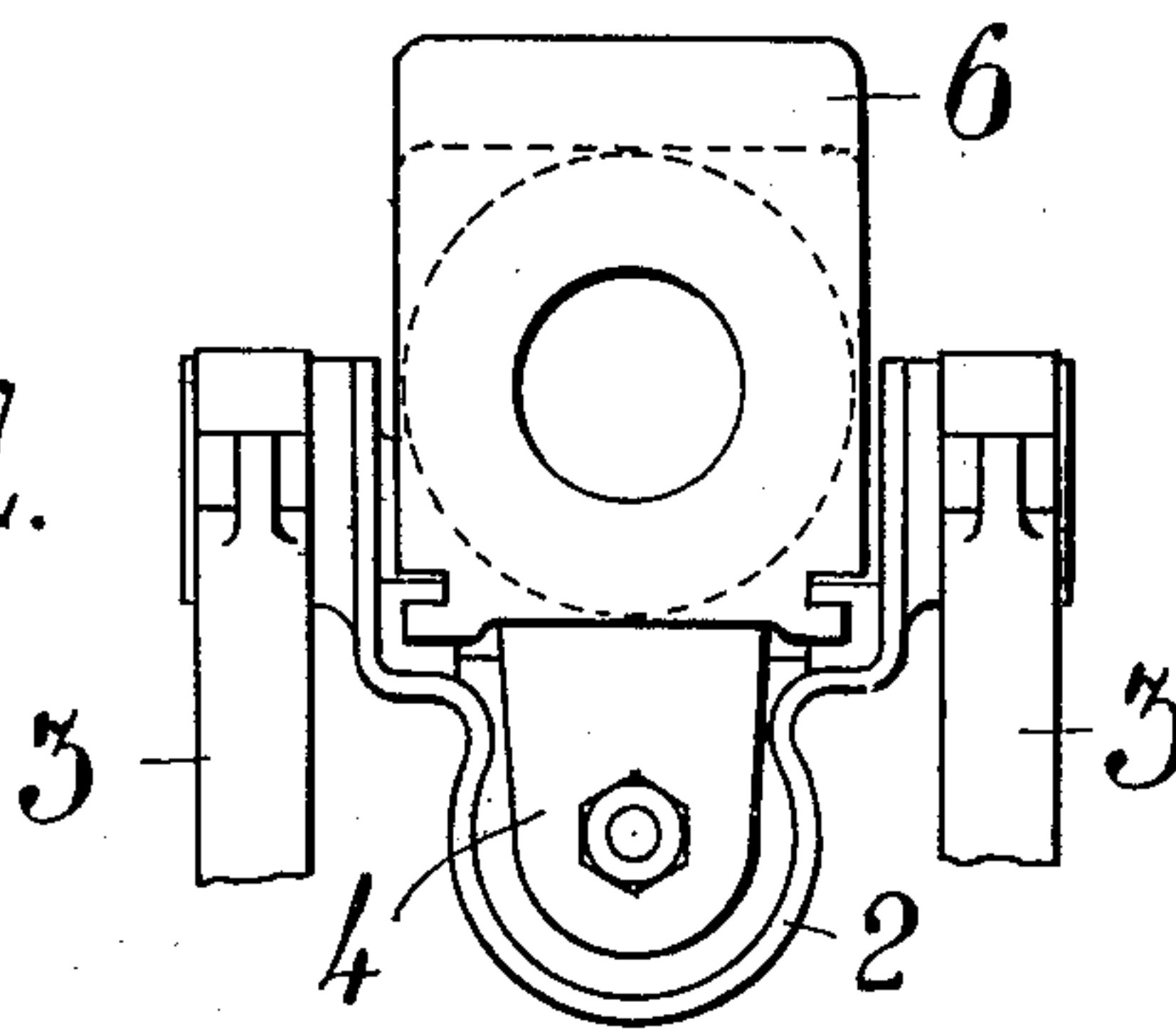


Fig. 2.



Witnesses:

*H. P. Brown*  
Walter E. Harris

Inventor:

Emil Olsson,  
By *J. H. de Vries*  
Attorney.

# UNITED STATES PATENT OFFICE.

EMIL OLSSON, OF BOFORS, SWEDEN.

GUN WITH RECOILING BARREL.

935,222.

Specification of Letters Patent. Patented Sept. 28, 1909.

Application filed July 21, 1908. Serial No. 444,632.

To all whom it may concern:

Be it known that I, EMIL OLSSON, a subject of Sweden, residing at Bofors, in the county of Wermland, Kingdom of Sweden, engineer, have invented new and useful Improvements in Guns with Recoiling Barrels, of which the following is a specification.

In such guns with recoiling barrel, in which the recoil brake is arranged on one side only of the barrel the pointing appliances and the sides of the mounting are exposed at the firing to a great strain owing to the *vis inertiae* of the recoiling parts of the recoil brake or on the whole of the parts which are placed eccentrically, said *vis inertiae* causing during the firing a couple of forces, which has a great turning effect and moreover can diminish the accuracy of hitting. For avoiding these inconveniences the recoiling system according to the present invention is balanced in such a way, that the arm of the said turning couple of forces is reduced, *i. e.* in such a way that the center of gravity of the system is moved much nearer to the axis of the barrel.

A form of the invention is illustrated in the accompanying drawing.

Figure 1 is a side view partly in section of a gun arranged according to the same, and Fig. 2 a rear view of the same gun.

The barrel 1 is supported by and can slide in the cradle 2, which is journaled in the sides of the mounting 3 by means of pivots. The recoil cylinder 5 acted upon by parts fixed to the cradle, as for inst. the brake piston and the running out spring, is attached to the barrel by means of the downward projecting ear 4. It is evident that the center of gravity of the whole recoiling system would be

situated at a comparatively great distance beneath the axis of the barrel if there were no other parts than those just mentioned, and owing to the fact that the resultant of the pressure of the powder gases at the firing acts along said axis a turning couple of forces is produced, the size of which is equal to the product of the recoil force which is equal to the pressure backward of the powder gases, if frictions etc. are eliminated and the distance between the axis of the barrel and the center of gravity of the recoiling system. In order to destroy this couple of forces or at least to essentially reduce the same the barrel is provided with a counterpoise 6 which can be integral with or can be attached to the barrel the place, size and form of said counterpoise being adapted in such a way that the aforesaid turning couple of forces is entirely compensated or compensated in such a degree as is found most suitable in each case.

Having now particularly described and ascertained the nature of my invention and in what manner the same is to be performed, I declare that what I claim is:

A gun with barrel recoil, a recoil brake arranged in only one radial direction from the axis of the barrel, and a counterpoise placed diametrically opposite the recoil brake so that the center of gravity of the brake is thereby moved nearer to the axis of the barrel.

In witness whereof I have hereunto set my hand in presence of two witnesses.

EMIL OLSSON.

Witnesses:

KARL A. R. SVANBERG,  
VICTOR HAMMAR.