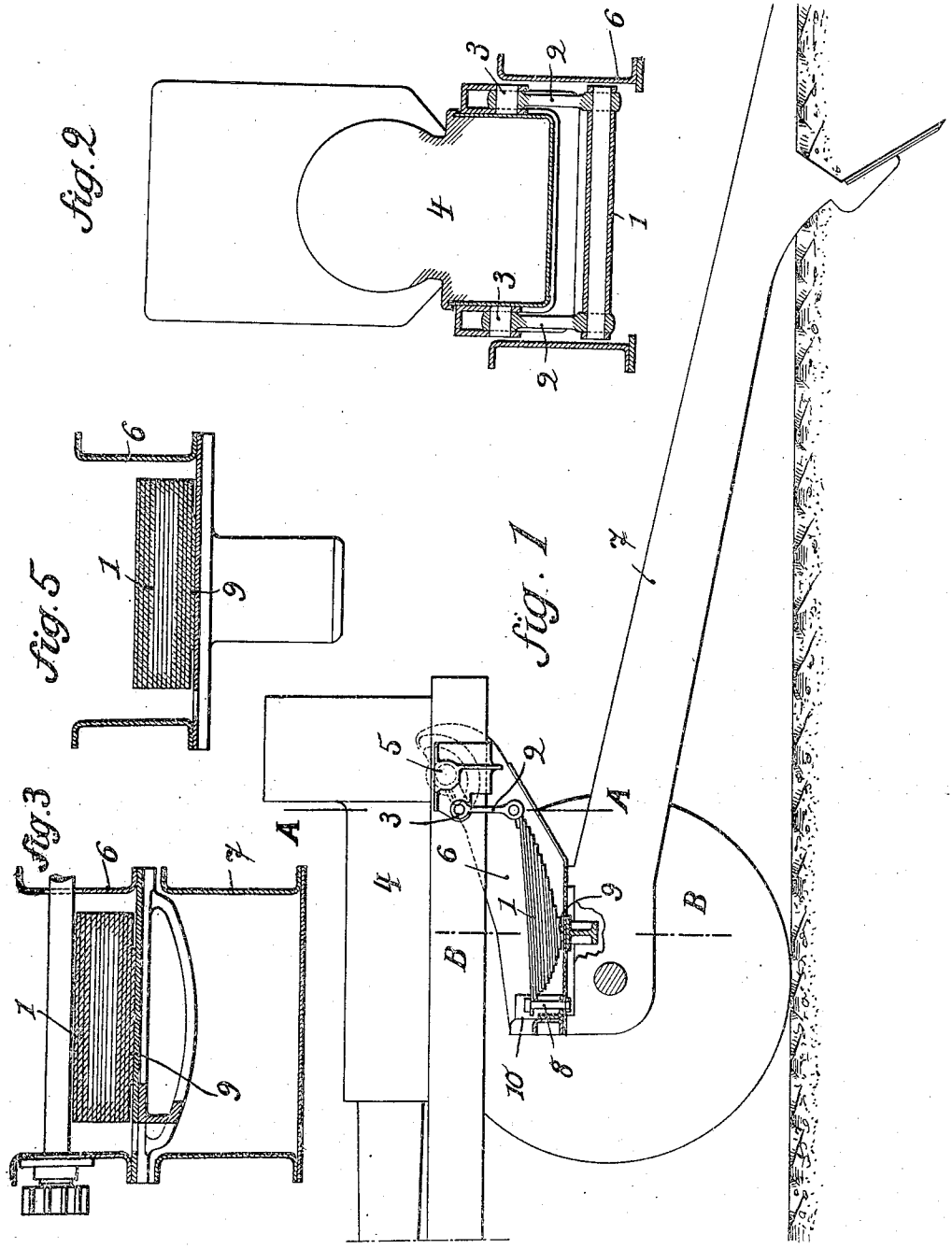
July 22, 1924. 1,502,320

E. RIMAILHO

EQUILIBRATING DEVICE

Filed Aug. 14, 1923 2 Sheets-Sheet 1



Inventor
E. Rimailho
By Mark & Clerk

July 22, 1924. 1,502,320

E. RIMAILHO

EQUILIBRATING DEVICE

Filed Aug. 14, 1923 2 Sheets-Sheet 2

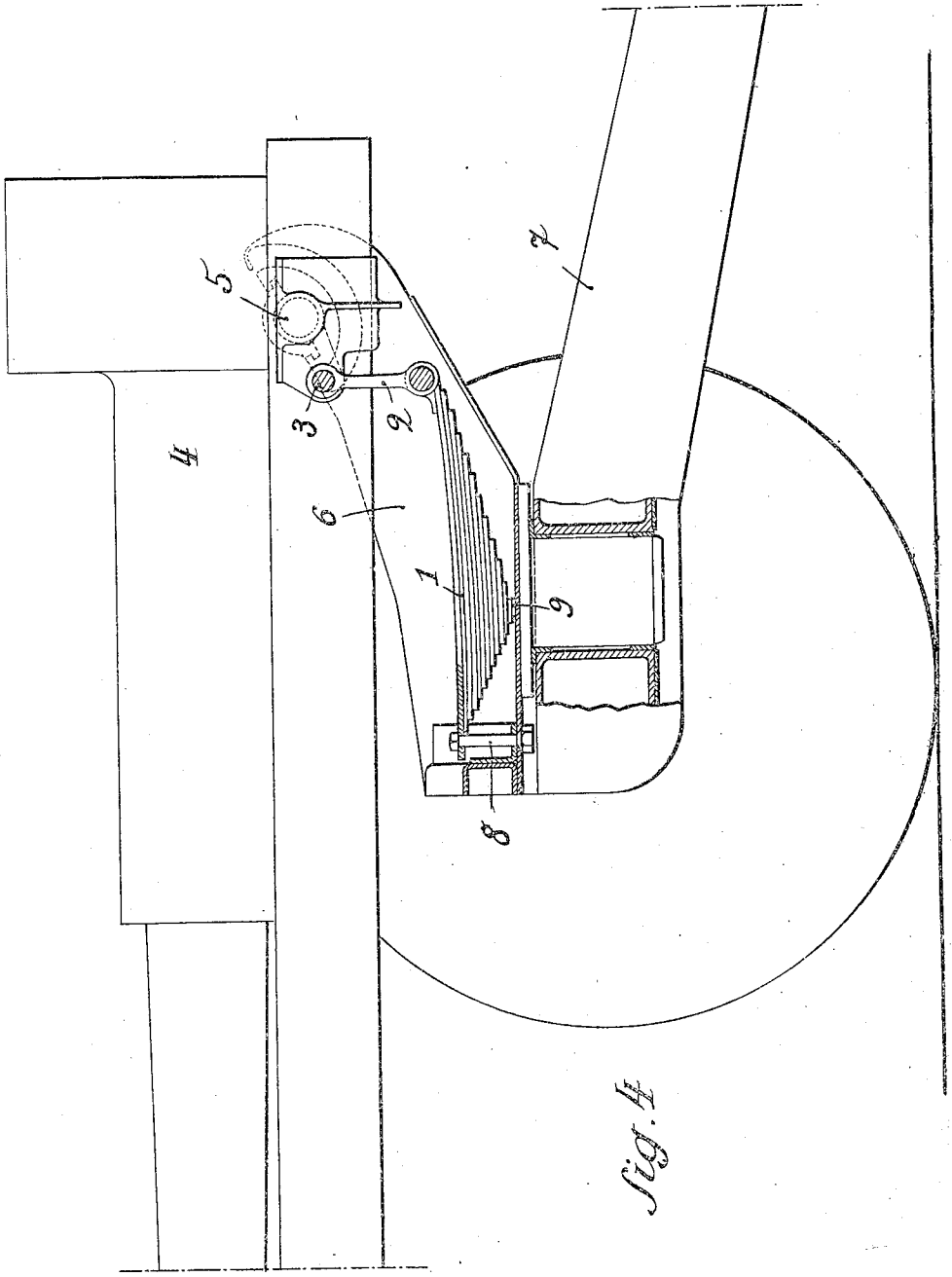


Fig. 4

Inventor
E. Rimailho
By Marks & Clerk
Attys.

Patented July 22, 1924. 1,502,320

UNITED STATES PATENT OFFICE.

EMILE RIMAILHO, OF PARIS, FRANCE, ASSIGNOR TO COMPAGNIE DES FORGES & ACIERIES DE LA MARINE & D'HOMECOURT, OF PARIS, FRANCE.

EQUILIBRATING DEVICE.

Application filed August 14, 1923. Serial No. 657,446.

To all whom it may concern:

Be it known that I, EMILE RIMAILHO, a citizen of the Republic of France, and residing at Paris, Seine Department, No. 12 Rue de la Rochefoucauld, in the Republic of France, have invented certain new and useful Equilibrating Device, of which the following is a specification.

For cannon in which the trunnions of the piece are situated in the rear of the centre of gravity, use is made as a general rule of equilibrating devices of the compressed air or the helical spring type, but these occupy a considerable space and require special casings. The present invention relates to a gun provided with an equilibrating device comprising plate springs which are disposed to advantage between the mass swinging upon trunnions and the carriage, without an individual casing or outwardly projecting parts.

The appended drawing shews by way of example a form of construction of a gun provided with an equilibrating device according to the invention.

Fig. 1 is a longitudinal section on the axis of the gun.

Fig. 2 is a transverse section on the line A—A of Fig. 1.

Fig. 3 is a like section on the line B—B of the same figure.

Figs. 4 and 5 are views similar to Figs. 1 and 3, but relative to a gun comprising a small pivoting carriage.

A plate spring 1, Figs. 1 and 3, symmetrical or otherwise, is connected at one of its outer ends by the links 2, 2 with the small trunnions 3, 3 disposed upon the swinging mass 4 forwardly of the usual trunnions 5 upon which the swinging mass is pivoted, or rearwardly of the same according to the direction in which the said plate spring is to act. The said spring is attached to the trunnion support 6, pivoted or secured to the carriage 7, by the bolts 8, and it bears upon said support at the middle part through the intermediary of a block 9 which allows small movements of oscillation. Obviously, the said plate spring, instead of being symmetrical or slightly dissymmetrical, may be a half-spring fitted at 10 into the said trunnion support.

The said arrangements, which have the minimum size and the smallest number of accessory parts, will allow of protecting the spring of the equilibrating device by placing it within the trunnion support.

Instead of employing a single spring, the latter may obviously be longitudinally divided into two or more spring portions.

Figs. 4 and 5 shew the arrangement of the same equilibrating device upon a trunnion support constituting a small pivoting carriage.

It is obvious that the invention is not limited to the two forms of construction herein disclosed, and without departing from the spirit of the invention we might vary the method of connection or attaching of the spring or springs on the one hand to the trunnion support and on the other to the swinging mass; the said springs may for example be caused to bear directly upon the oscillating mass and they may be connected to the small carriage by links, or like constructions may be employed.

Claims:

1. Piece of ordnance comprising a carriage, a cradle, a barrel placed in this cradle, trunnions placed upon this cradle at the rear of the center of gravity of the whole constituting the gun-cradle, a support for these trunnions upon the said carriage, and a leaf spring maintained upon the carriage at one of its ends and connected at the other end with the cradle in order to maintain the balance of the whole about the trunnions.

2. Piece of ordnance comprising a carriage, an oscillating mass having trunnions which rest upon this carriage, these trunnions being placed at the rear of the center of gravity of the oscillating mass and a spring composed of leaves which is connected, on the one hand, with the carriage and, on the other hand, with the oscillating mass, so as to compensate the weight of the latter for maintaining its balance about the said trunnions.

3. Piece of ordnance comprising a carriage, an oscillating mass upon this carriage, trunnions upon this mass, placed at the rear of its center of gravity, a support for these trunnions upon the said carriage, a leaf spring located in this support and means for maintaining this spring at one of its ends upon the said support, its other end being connected with the oscillating mass in front of the trunnions.

4. Piece of ordnance comprising a car-

riage, an oscillating mass upon this carriage, trunnions upon this mass, placed at the rear of its center of gravity, a support for these trunnions pivotally mounted upon the said carriage, a leaf spring located in this support and means for maintaining this spring at one of its ends upon the said support, its other end being connected with the oscillating mass in front of the trunnions.

In testimony that I claim the foregoing as my invention I have signed my name in presence of a subscribing witness.

EMILE RIMAILHO.

Witness:
EMILE COMPIN.