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CARRIAGE FOR AUTOMATIC FIREARMS

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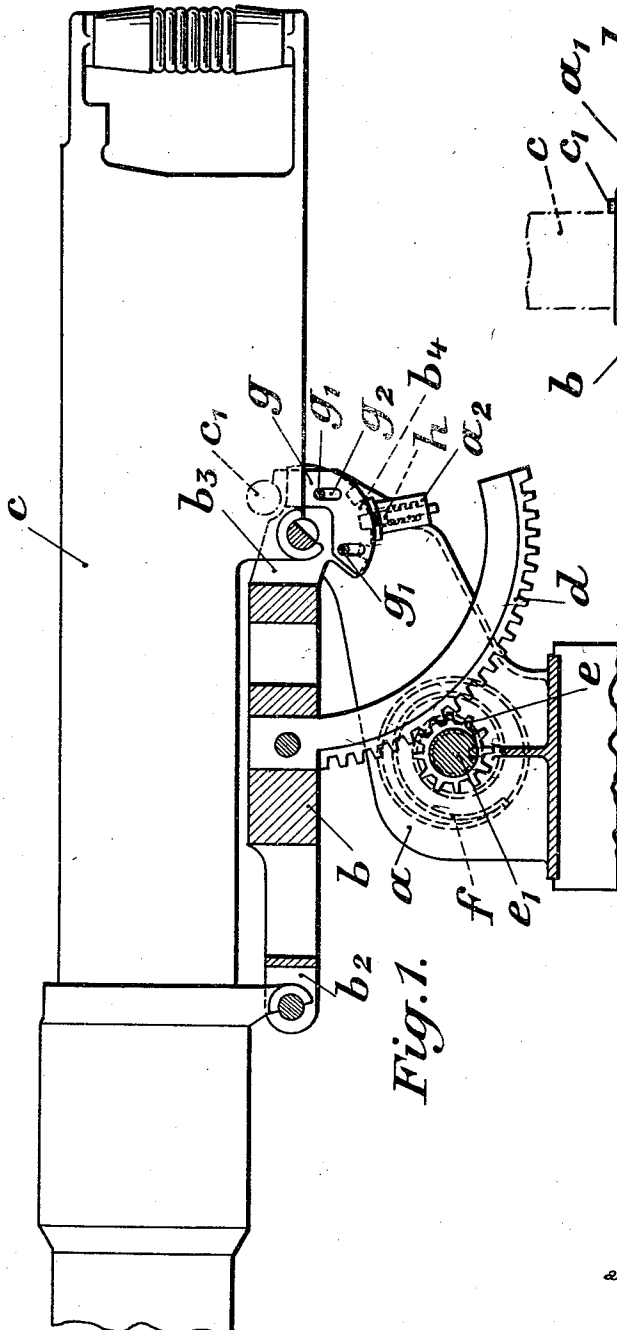


Fig. 1.

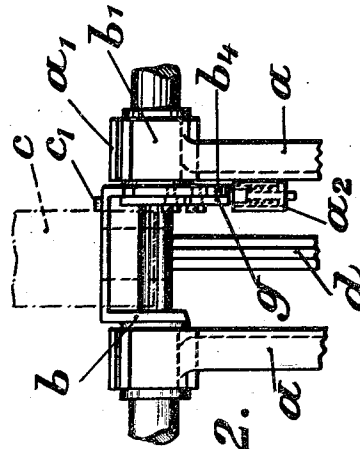


Fig. 2.

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CARRIAGE FOR AUTOMATIC FIREARMS.

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Generally automatic fire arms are detachably mounted upon a support which may, for the purpose of vertical pointing, be oscillated in a vertical plane about trunnions provided on the body of the carriage. A spring is arranged between the support of the fire arm and the carriage for balancing the arm masses unequally distributed about the trunnions as a rule in such a manner, that the greater weight is directed forwardly.

The present invention consists in a locking device arranged between the fire arm support and the body of the carriage which locking device comes, as soon as the fire arm is lifted off its support, from a position ready to work into the active position and prevents, for instance by locking the balance spring or by coupling the fire arm support to the carriage, throwing upwards of the support relieved of the fire arm. This locking device being automatically released when the fire arm is put upon its support, so that the balance spring again becomes effective and the fire arm support may again be oscillated.

The fire arm may then rest in the carriage and be oscillated either freely by hand without a pointing machine, or the self locking gear elements, necessary up to now in pointing machines, may be omitted which extremely facilitates the simple mounting and quick pointing, without endangering the gunner or damaging the carriage by a force of the balance spring becoming active on dismounting of the fire arm.

In the accompanying drawing the invention is shown by way of example.

Fig. 1 is a longitudinal section through the carriage head with the support carrying an automatic fire arm, and Fig. 2 illustrates a rear elevation of the carriage head.

The upper carriage *a* is, in a well known manner, arranged upon a frame, not shown in the drawing, for instance upon a tripod, in such a manner, that it may be oscillated in a horizontal plane. In bearings *a*₁ in the walls of the upper carriage, the support *b* for the automatic fire arm is journaled by means of the horizontal trunnions in such a manner, that it may be oscillated in a vertical plane. Fixed to the support *b* of the fire arm is a toothed sector *d* which engages with a gear wheel *e* keyed upon the shaft *e*₁ of the upper carriage. The gear wheel *e* is rotated by

means of a suitable driving mechanism, not shown in the drawing, which may, if desired, be adapted to be engaged and disengaged.

The fire arm *c* is mounted upon cross bolts provided on the forked front and rear ends *b*₂, *b*₃ of the support *b* in a manner to be easily disconnected and dismounted. According to the invention a toothed sector *b*₄ provided with notches is connected to the forked rear end *b*₃ of the support *b* for the fire arm. The toothed sector *b*₄ carries a slide *g* which is guided, by means of pins *g*₁, in slots *g*₂. Arranged opposite the teeth of the sector *b*₄ and the circular shaped outer surface of the slide *g* is a spring actuated locking bolt *h* which may be displaced in a casing *a*₂ of the upper carriage *a*.

When the fire arm *c* is put upon the support *b* its weight acts by means of a lateral cam *e*₁, upon the slide *g* which is shifted downwardly and thereby disengages the locking bolt *h* from the toothed sector *b*₄. By means of the pointing machine *e*₁, *d*, or if desired, by direct pressure upon the handle of the fire arm, the support *b* and thereby the fire arm *c* may now be oscillated about the trunnions *b*₁. A torsional spring *f* acting upon the pointing shaft *e*₁ balances, in a well known manner, the front weight of the oscillating masses.

When the fire arm *c* is to be taken off its support *b*, the rear end of the arm *c* is first disconnected from the support *b* and then lifted, whereupon the spring loaded locking bolt *h* shifts upwardly the relieved slide *g* and engages the notch of the toothed sector *b*₄ which is just situated in front of it. Hereby the fire arm support *b* is rigidly coupled to the upper carriage *a* and the force of the balancing spring *f* which tends to throw upwardly the support *b* has no effect.

What we claim is:

1. In a carriage for an automatic fire arm, trunnions provided in the body of the carriage, a support for the automatic fire arm adapted to be oscillated about said trunnions, a balancing spring acting upon said support, a locking device between said fire arm support and said carriage body and means for automatically engaging and disengaging said locking device as soon as the fire arm is taken off and mounted upon its support respectively, said locking device, when engaged, serves to lock the balancing spring or to couple the

fire arm support to the carriage body and thereby to prevent upward throwing of the fire arm support relieved from the fire arm.

2. In a carriage for an automatic fire arm, 5 trunnions provided in the body of the carriage, a support for the automatic fire arm adapted to be oscillated about said trunnions, a balancing spring acting upon said support, a locking device between said fire arm sup- 10 port and said carriage body, said locking device consisting of a toothed sector, curved around the axis of the trunnions and con-

nected to the fire arm support, a spring loaded locking bolt, provided at the upper carriage and cooperating with the toothed sector, and 15 a slide, guided in slots provided in the toothed sector and adapted to be acted upon by said spring loaded bolt and a cam provided at the fire arm.

In testimony whereof we have affixed our 20 signatures.

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