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N. ALOYOS & O. STROHBACH.

APPARATUS FOR SIGHTING RIFLES,

APPLICATION FILED MAR. 5, 1907.

Fig. 1

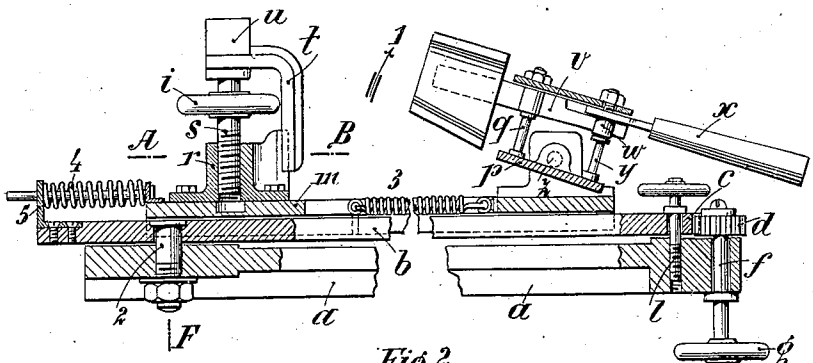


Fig. 2

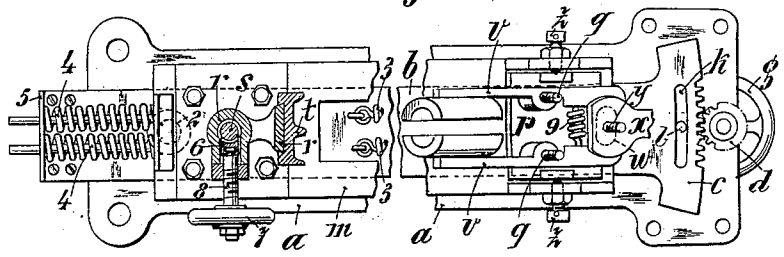


Fig. 3

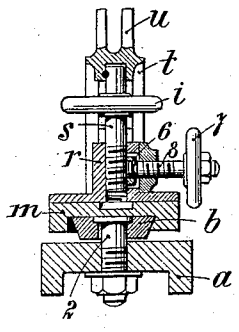
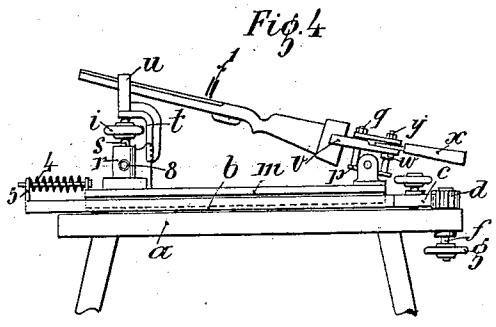


Fig. 4



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APPARATUS FOR SIGHTING RIFLES.

No. 882,988. Specification of Letters Patent. Patented March 24, 1908.

Application filed March 5, 1907. Serial No. 360,728.

To all whom it may concern:

Be it known that we, NEMETH ALOYOS and OTTO STROHBACH, subjects of the Emperor of Austria-Hungary, residing at Raab, in the Empire of Austria-Hungary, have invented certain new and useful Improvements in Apparatus for Sighting Rifles, of which the following is a specification, reference being had therein to the accompanying drawing.

The devices heretofore employed for sighting rifles, although they present the arrangement that the rifle is mounted on a carriage absorbing the horizontal component of the recoil and which after firing is returned to its former position by spring action, do not provide for any movement corresponding to the vertical component of the recoil that even if the stock is firmly clamped small displacements take place on the firing of each shot and detrimentally affect the exactitude of the corrections. In accordance with the present invention this defect is obviated owing to the fact that the clamp seizing the stock of the rifle and mounted on the carriage is rockably mounted on a horizontal pivot arranged perpendicularly to the firing direction, and the end of the barrel rests in a vertical fork which is likewise mounted on the carriage, so that when a shot is fired the rifle is able to rock slightly upwards around the horizontal axis of the stock clamp and then to fall back automatically into its former position.

The invention further relates to an arrangement for obtaining lateral movement of the rifle, in accordance with which the slideway of the carriage carrying the rifle and absorbing the recoil is rockably mounted on a vertical pivot situated approximately beneath the muzzle of the rifle and is adapted to be displaced by means of an adjusting device located at the opposite end of the table at the place for the marksman.

In Figures 1 and 2 of the accompanying drawing a sighting apparatus constructed in accordance with the present invention is illustrated in plan and in vertical section on the line A—B of Fig. 1. Fig. 3 represents a section on the line E—F of Fig. 1. Fig. 4 represents the apparatus with the rifle clamped upon it.

The construction of this sighting apparatus is as follows: At one end of a table *a*, carried on an appropriate stand, a slideway *b* of trapezoidal cross-section resting on this table is rockably mounted on a vertical bolt 2. On the other end of this table a toothed sector *c* provided with a slot *k* is mounted and a pinion *d* fixed to a vertical shaft *f* mounted in the plate *a* meshes with this sector. A hand wheel *g* is keyed upon the lower end of this shaft so that by rotating this wheel any desired lateral displacement may be imparted to the slideway *b* whereupon it may be locked by the clamping spindle *l* engaging in the transverse slot *k* and screwed into the table *a*. A carriage *m* is guided on the slideway *b* and by means of two tension springs 3, 3 arranged in a recess in the carriage and attached on the one hand to the slideway *b* and on the other to the carriage *m*, the latter is drawn in the firing direction, that is to say against the compression springs 4, 4 mounted between the end of the carriage and a stop 5 provided on the end of the slideway. The carriage is thus held in the normal position by the springs 3 and 4; by means of the recoil resulting from firing a shot the tension springs 3 are extended and in again moving forward the carriage is received by the compression springs 4 and returned to its normal position, without any shock occurring in either direction.

The fore end of the carriage *m* carries a spindle guide *r* in which a spindle *s* provided with a hand wheel *i* is guided, by means of the rotation of which the barrel fork *u*, which is guided vertically and so as to be incapable of rotation by the bracket *t*, may be raised and lowered.

In order to determine the elevation given to the rifle by the raising or lowering of the fork *u*, a portion of the spindle guide *r* is cut away and replaced by a movable jaw 6 against which the horizontal pressure spindle 7, provided with the hand wheel 8, acts.

A plate *p* is rotatably mounted on the rear end of the carriage *m* on a horizontal pivot *z* arranged at right angles to the movement of the carriage; the bolts *q*, *q* vertically mounted on this plate carry two jaws *v*, *v* which open under the influence of the tension spring 9 and which may be pressed together by means of a cam *w* located between the extensions of the jaws; this cam is rotatably mounted on a stud *y* fixed to the plate *p* and provided with a handle *x*.

The stock of the rifle to be sighted is clamped between the jaws *v*, *v* its barrel being placed in the fork *u* as shown in the general view Fig. 4. The adjustment of the rifle in the direction of the mark is effected as

regards its elevation by means of the hand wheel *i* and as regards lateral aiming by means of the hand wheel *g*. When the rifle is fired it is able to yield to the action of both components of the recoil, that is to say it is not only able to move rearwards but also upwards around the pivot axis of the plate *p* in the direction indicated by the arrow 1, and all shocks are elastically absorbed so that no permanent alteration in the position of the clamped rifle takes place.

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

1. Sighting apparatus for rifles, composed of a table provided with a vertical pivot in the front end thereof, of a guide bar pivotally connected to the table by the vertical pivot at its front end, means to adjust said guide bar around said pivot in a horizontal plane, of a slide movable on said guide bar, of recoil springs connecting the slide with the guide bar, of a fork at the front end of the slide to support the barrel of the gun provided with means to raise and lower the same, of a clamp at the rear end of the slide for the butt-end of the gun pivotally connected to the slide and of buffer-springs connecting the front end of the slide with the front end of the guide bar, substantially as described.

2. Sighting apparatus for rifles, composed of a table provided with a vertical pivot in the front end thereof, of a guide bar pivotally connected to the table by the vertical pivot at its front end, a toothed sector at the rear end and a hand wheel with pinion in gear with said sector to adjust said guide bar around said pivot in a horizontal plane, of a slide movable on said guide bar, of recoil springs connecting the slide with the guide bar, of a fork at the front end of the slide to support the barrel of the gun provided with means to raise and lower the same, and to lock it in adjusted position, of a clamp at the rear end of the slide for the butt-end of the gun, pivots in uprights projecting from the slide, engaging the clamp and supporting it on a horizontal axis at right angles to the shooting direction, and of buffer-springs connecting the front end of the slide with the front end of the guide bar, substantially as described.

3. Sighting apparatus for rifles, composed of a table provided with a vertical pivot in the front end thereof, of a guide bar pivotally connected to the table by the vertical pivot at its front end, a toothed sector at the rear end, and a hand wheel with pinion in gear with said sector, means to adjust said guide bar around said pivot in a horizontal plane, means to lock the bar in adjusted position, of a slide movable on said guide bar, of recoil springs connecting the slide with the guide bar, of a fork at the front end of the slide to support the barrel of the gun provided with means to raise and lower the same, and to lock it in adjusted position, of a clamp at the rear end of the slide for the butt-end of the gun, pivots in uprights projecting from the slide, engaging the clamp and supporting it on a horizontal axis at right angles to the shooting direction, and of buffer-springs connecting the front end of the slide with the front end of the guide bar, substantially as described.

In testimony whereof we hereunto affix our signatures in presence of two witnesses.

NEMETH ALOYOS.
OTTO STROHBACH.

Witnesses:
FREDERICK BUISER,
ALVESTO S. HOGUE.