33-246. OR 1,088,137 SR

T. A. FIDJELAND.

CROSS WIRE FRAME FOR FIREARM SIGHTING TELESCOPES.

APPLICATION FILED JUNE 6, 1913.

1,088,137. Patented Feb. 24, 1914.

CLASS M 17 356/50

Fig. 1.

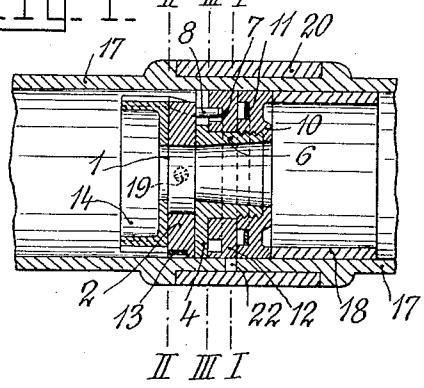
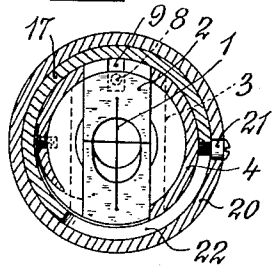


Fig. 2.



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Fig. 4.

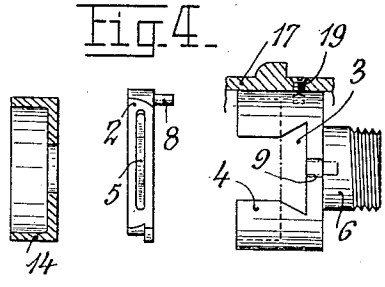


Fig. 7.

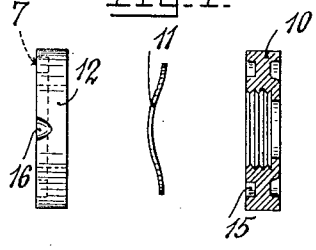


Fig. 3. Fig. 5. Fig. 6. Fig. 8.

Fig. 9.

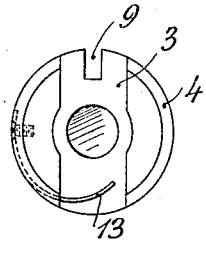
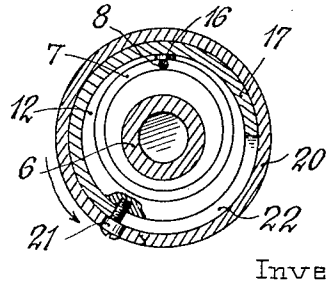


Fig. 10.



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TERJE AANENSEN FIDJELAND, OF FASTVEDT, IVELAND, CHRISTIANSAND, NORWAY.

CROSS-WIRE FRAME FOR FIREARM SIGHTING-TELESCOPES.

1,088,137. Specification of Letters Patent. Patented Feb. 24, 1914.

Application filed June 6, 1913. Serial No. 772,067.

To all whom it may concern:

Be it known that I, TERJE AANENSEN FIDJELAND, gunmaker, subject of Norway, residing at Fastvedt, Iveland, Pr. Christiansand, Norway, have invented new and useful Improvements in Cross-Wire Frames for Firearm Sighting-Telescopes, of which the following is a specification.

The present invention relates to a frame for adjustable crosswires employed in sighting telescopes for fire arms.

The invention is illustrated in the accompanying drawing in which:

Figure 1 is a longitudinal section through a portion of the telescope with the cross-wire frame. Fig. 2 a cross section of the outer parts on line I—I and of the inner parts on line II—II of Fig. 1. Figs. 3–8 show all the parts of the frame taken to pieces. Fig. 9 is an end view of the guide portion of the crosswire holder seen from the left hand side in Fig. 1. Fig. 10 is a cross section on line III—III of Fig. 1.

The cross-wire —1— (Figs. 1 and 2) is mounted in a holder in the form of a slide —2— (Fig. 4) guided in a dove-tail recess —3— (Fig. 5) in the guide socket —4—, any possible play being eliminated by means of a small spring —5— partially let into one of the inclined long sides of the slide —2— as shown in Fig. 4. The guide socket forms on the right hand side a hollow hub —6— for the passage of the light on to which is slipped a rotatable disk —12— having an eccentric cam groove —7— in which engages a pin —8— on one end of the cross-wire slide —2—, said pin passing through a radial slot —9— in the edge of the guide socket —4—. Exteriorly of the disk —12— the hub —6— is provided with screw threads which are engaged by the screw threads of a retaining disk —10— (Fig. 8). Between both is placed a bent or twisted metal spring washer —11— (Fig. 7) serving to prevent any play of the disk —12— and moreover to impart to the same a certain resistance to rotation so that it will remain in a given adjusted position. A spring —13— on the guide socket —4— tends to press the slide —2— upwardly. Finally a plate-shaped end disk —14— has been inserted in the socket —4— at the left end of the same (Fig. 3).

The described frame is easily assembled the disk —12— being slipped on to the hub —6—, when the spring washer —11— is placed in its groove —15— in the disk —10— which is now screwed on. The end disk —14— is placed in position, and after the disk —12— has been turned into such a position that the slot —9— will register with a recess —16— extending from the edge of the disk —12— into the cam groove —7— at a point of the same remote from the center, the cross-wire slide —2— can be pushed laterally into its guide whereby its pin —8— will enter the slot —9— and at the same time through the recess —16— into the cam groove —7—, and on now rotating the disk —12— about a small angle with respect to the socket —4— or the slide —2—, respectively, the latter is held securely in place, and the frame thus assembled can be introduced in the telescope tube —17— where it stops in one direction against an inner, fixed abutment —18— (Fig. 1) being moreover secured by a screw —19— (Figs. 1 and 5) extending through the tube —17— into the guide socket —4— so that the latter will at the same time be held against rotation. The screw —19— is secured in position by a rotatable sleeve —20— surrounding the tube —17— and connected by a screw —21— with the cam disk —12— (see Fig. 10) and being provided exteriorly with a distance scale. During the rotation of the scale sleeve —20— the screw —21— travels in a limiting groove —22— in the tube —17—.

In Fig. 10 the slide —2— (the pin 8) and consequently also the cross-wire are in their upper position. On rotating the scale sleeve —20— in the direction of the arrow in Fig. —10—, the groove —7— forces the pin —8— toward the center so that the slide —2— with the cross-wire —1— will be forced downwardly against the action of the spring —13—. The other extreme position is seen from Fig. 2.

It is old to guide a cross-wire holder by means of a cam groove in a rotatable disk. The present invention however, is distinguished by various arrangements enabling the parts to be centered with certainty, to be easily assembled and to be readily made. An important feature is that the cam disk —12— turns on a hub —6— on the guide socket. Thereby is obtained an absolutely reliable centering without the necessity that the outer diameters of said two parts should be of the same size. Secondly the mutual

position of the parts is insured without risking any play, by means of the disk —10— and its spring washer —11—. Furthermore the cam groove —7— is made as a circular groove extending entirely around the disk. Only a fractional portion of the same will be operative in adjusting the cross-wire, but the fact that the groove extends entirely around greatly facilitates the manufacture. Finally the assembling operation is facilitated by the presence of the recess —16— as hereinbefore explained.

Having now described my invention, what I claim as new and desire to secure by Letters Patent is:

1. In a cross-wire frame for telescopes, in combination, a cross-wire holder, a guiding member in which said holder is slidingly mounted, said member being provided with a hollow hub, and a disk rotatably supported on said hub and provided with a cam groove, said holder being provided with a portion engaging said cam groove whereby rotation of said disk will move said holder.

2. In a cross-wire frame for telescopes, in combination, a cross-wire holder, a guiding member in which said holder is slidingly mounted, said member being provided with a hollow hub having its outer end exteriorly threaded, a disk rotatably supported on said hub and provided with a cam groove, said holder being provided with a portion engaging said cam groove whereby rotation of said disk will move said holder, a second disk provided with a threaded opening adapted to engage the threaded end of said hub, and a spring washer interposed between said disks.

3. In a cross-wire frame for telescopes, in combination, a cross-wire holder, a guiding member in which said holder is slidingly mounted, said member being provided with a hollow hub, and a disk rotatably supported on said hub and provided with a circular cam groove eccentrically positioned with respect to said hub, said holder being provided with a portion engaging said cam groove whereby rotation of said disk will move said holder.

4. In a cross-wire frame for telescopes, in combination, a cross-wire holder provided with a laterally extending projection, a guiding member in which said holder is slidingly mounted and provided with a slot adapted to receive said projection, and a rotatable disk operatively associated with said member and provided with a cam groove adapted to receive said projection, said disk being provided with a recess communicating with said groove and adapted to be brought into registry with the slot in said guide member by rotating said disk relatively to said guide member.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

TERJE AANENSEN FIDJELAND.

Witnesses:

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."