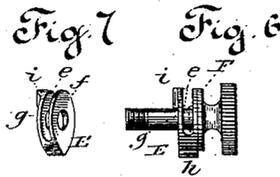
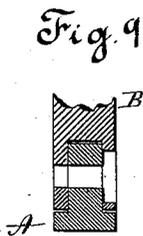
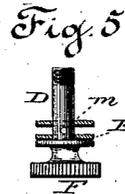
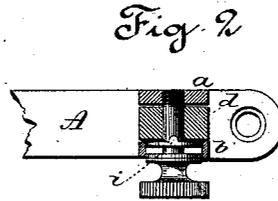
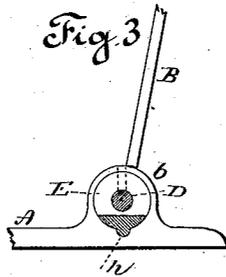
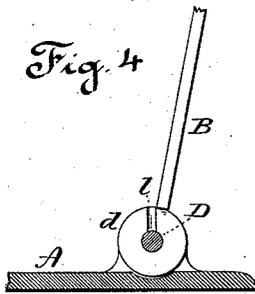
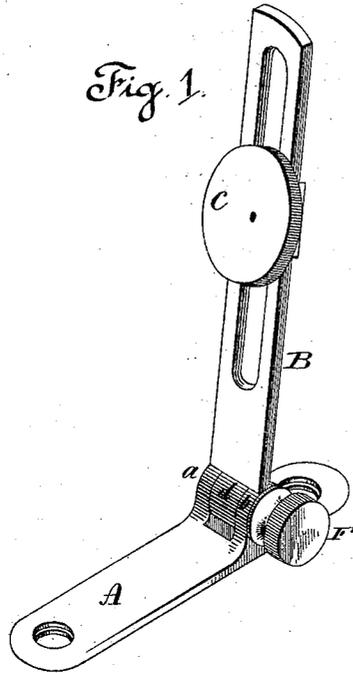


(No Model.)

W. W. WETMORE.
SIGHT FOR FIRE ARMS.

No. 338,898.

Patented Mar. 30, 1886.



Witnesses.
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UNITED STATES PATENT OFFICE.

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SIGHT FOR FIRE-ARMS.

SPECIFICATION forming part of Letters Patent No. 338,898, dated March 30, 1886.

Application filed March 1, 1886. Serial No. 193,628. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM W. WETMORE, of New Haven, in the county of New Haven and State of Connecticut, have invented a new Improvement in Sight for Fire-Arms; and I do hereby declare the following, when taken in connection with accompanying drawings and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this specification, and represent, in—

Figure 1, a perspective view showing the arm in the raised position; Fig. 2, a horizontal central section through the knuckle, showing a top view of the pintle and collar; Fig. 3, a vertical section cutting transversely through the U-shaped collar and looking toward the knuckle; Fig. 4, a section through the base, showing face view of the knuckle; Fig. 5, a top view of the pintle, showing the U-shaped collar in horizontal section; Fig. 6, a side view of the pintle and collar; Fig. 7, a perspective view of the collar detached; Fig. 8, a modification of the spring; Fig. 9, a modification of the hinge.

This invention relates to an improvement in the back sight of fire-arms, and in which the sight is arranged in an arm hinged to a base, so that it may be raised into a vertical position for use, or turned down out of the way when not required for use. The base is adapted to be attached to the tang, and in the usual construction a flat or "feather" spring is arranged in a recess in the under side of the base, one end secured to the base and the other so as to bear with frictional contact against the knuckle of the arm, the knuckle of the arm being constructed with a recess, into which the nose of the spring will enter when the arm is in the raised position, and so as to hold it in that position, but so that the spring will yield that the arm may be returned. In this arrangement of the spring the base is necessarily made of very considerable thickness, in order to form the recess-spring beneath and to make a firm attachment of the spring to the base.

The object of my invention is to avoid the use of the feather-spring, and thereby greatly reduce the thickness of the base; and the in-

vention consists in making the pivot by which the arm is hung to the base adjustable in the direction of its length through the ears and knuckle by which the arm is hinged, and combining therewith a spring-collar around the pintle and within one of the ears, to bear against the surface of the knuckle, and so that under the adjustment of the pintle the pressure of the spring-collar upon the knuckle may be increased or diminished, as occasion may require, and as more fully hereinafter described.

A represents the base, which is constructed for attachment to the tang, the shape of the base being immaterial to the invention; B, the arm hinged to the base, and which carries the adjustable sight C, the arm and sight being of common construction and arrangement. On the base two ears, *a b*, are formed, between which the arm B is hung, the arm constructed with a knuckle, *d*, to stand between the two ears. The pintle D is constructed with a screw-thread at one end to screw into the ear *a*, the body of the pintle corresponding to the opening through the knuckle *d* of the arm, and as seen in Fig. 2. The pintle is provided with a spring-collar, E, the diameter of which is somewhat less than the external diameter of the ear *b* on the base, and through the ear *b* is a concentric opening corresponding to the spring-collar E, as seen in Figs. 2 and 3. The pintle is provided with a head, F, outside the collar and so as to bear against it, and so that as the pintle is screwed into the ear *a* it will force the collar against the opposite side of the knuckle of the arm B to a greater or less extent, according as the pintle is turned. To give to the collar E the required elasticity, it is best constructed with a transverse slot, *e*, (see Fig. 7,) which extends from one side nearly through to the opposite side, thus making the collar of substantially U shape in longitudinal section—that is, composed of two parts, *f g*, connected as seen in Fig. 7. This slotting or division of the collar gives to the parts an elasticity which permits them to be forced toward each other. The head of the pintle bears against the outer part, *f*, and the part *g* bears against the side of the knuckle. The inner face of the part *g* is constructed with a projec-

tion, *i*, and the corresponding face of the knuckle on the arm B is constructed with a corresponding groove, *l*. (See Figs. 2 and 4.) The inner part, *g*, acts as a spring against the face of the knuckle. The projection *i* is rounded or inclined upon its sides, so that when the arm is raised, or in the up position, the projection on the spring will enter the corresponding recess in the knuckle, as seen in Fig. 2, and hold the arm in the up position; but because of the curved or inclined shape of the recess and projection *i* the spring or part *g* will yield under force applied to the arm, so as to permit the arm to be turned and force the part *g* away from the knuckle, as indicated in broken lines, Fig. 6, so that the arm will escape from the action of the spring and may be returned. The spring thus forced away from the knuckle will bear thereon with sufficient force to retain the arm in the down position, without necessarily providing a corresponding recess for the projection to enter when in that down position.

The amount of friction between the collar or spring and the knuckle may be adjusted—that is, increased or diminished—by turning the pintle accordingly.

By this arrangement of the spring-collar directly on the pintles of the hinge the extra thickness of the base necessary in the use of a feather-spring is avoided. Again, the spring works upon the side of the knuckle inside the joint, instead of upon the outside of the knuckle, as in the case of a feather-spring, and is therefore not liable to the obstructions to its operation to which the feather-spring is subject.

To prevent the loss of the collar in case of the removal of the pintle, I prefer to introduce a pin, *m*, through the pintle, as seen in Fig. 5, and between the two parts of the collar.

While I prefer the U shape of the spring-collar, which I have described, it may be of other forms and accomplish a good, if not substantially the same, result—as, for illustration, the collar E may be in concavo-convex shape, as indicated in Fig. 8, one side bearing against the knuckle and the head of the pintle against the reverse side of the spring-collar, so that the friction will be increased or decreased accordingly as the pintle is adjusted.

Instead of making the pintle in an integral part of the head, and so as to screw into the opposite ear, the pintle may be provided with a thin head on that end to rest against the outside of the ear, and the head at the other end made in the form of a nut, as also indicated in Fig. 8. I therefore do not wish to be understood as limiting my invention to any specific shape of the spring.

The projection and recess between the inner surface of the spring and the face of the knuckle may be omitted, the friction being sufficient to retain the parts in position, yet I prefer the projection and recess as being

adapted to indicate the correct position of the sight-arm.

I have represented the ears as formed on the base and the knuckle on the arm; but it will be understood that this order may be reversed, as indicated in Fig. 9, the pintle and the spring-collar retaining the same relation to the joint as in the first illustration.

I claim—

1. The combination of the base A and the sight-arm B, hinged together by a knuckle on the one part and corresponding ears on the other part, with a pintle through said ears and knuckle, a spring-collar on said pintle within one of said ears and adapted to bear against the corresponding side of the knuckle, with a head on the said pintle adapted to bear against said spring-collar, substantially as described, and whereby under the adjustment of the said head the force of the spring upon the knuckle may be increased or diminished.

2. The combination of the base A and the sight-arm B, hinged together by a knuckle on the one part and corresponding ears on the other part, with a pintle through said ears and knuckle, a spring-collar on said pintle within one of said ears and adapted to bear against the corresponding side of the knuckle, with a head on said pintle adapted to bear against said spring-collar, the inner side of the collar and the corresponding face of the knuckle constructed the one with a projection and the other with a corresponding recess adapted to engage each other at predetermined positions, substantially as described.

3. The combination of the base A and the sight-arm B, hinged together by a knuckle on the one part and corresponding ears on the other part, with a pintle through said ears and knuckle, a spring collar on said pintle within one of said ears and adapted to bear against the corresponding side of the knuckle, with a head on said pintle adapted to bear against said spring-collar, the collar and the ear within which it rests constructed the one with a projection and the other with a corresponding recess to prevent the rotation of the collar, substantially as described.

4. The combination of the base A and the sight-arm B, hinged together by a knuckle on the one part and corresponding ears on the other part, with a pintle through said ears and knuckle, a spring-collar of U shape in longitudinal section on said pintle, one side of the U adapted to bear against the knuckle, and the pintle constructed with a head adapted to bear against the other side of the U, substantially as described.

WILLIAM W. WETMORE.

Witnesses:

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