

No. 629,671.

Patented July 25, 1899.

G. DURRENBERGER.  
SIGHT FOR FIREARMS.

(Application filed Jan. 16, 1899.)

(No Model.)

Fig. 1

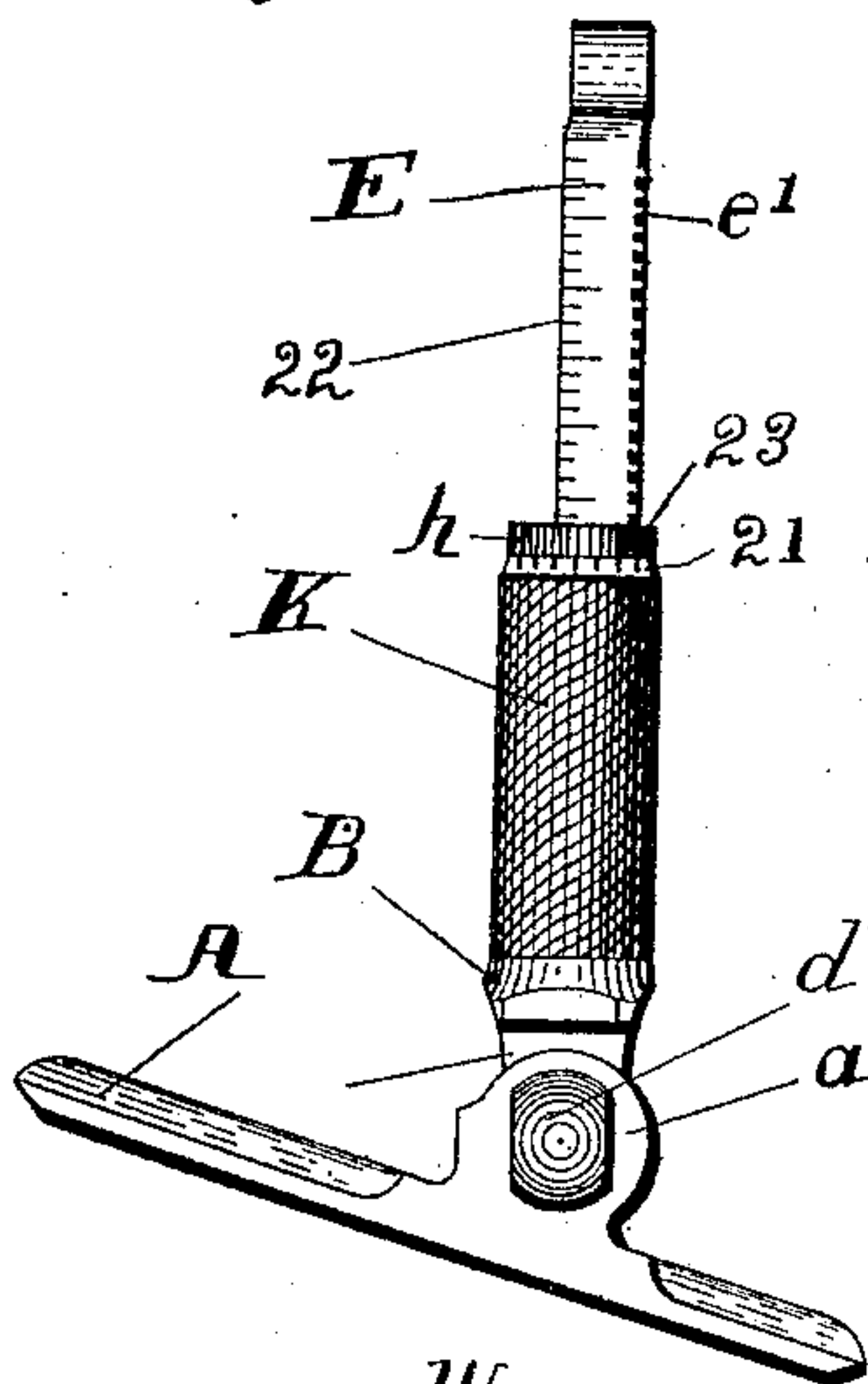


Fig. 2

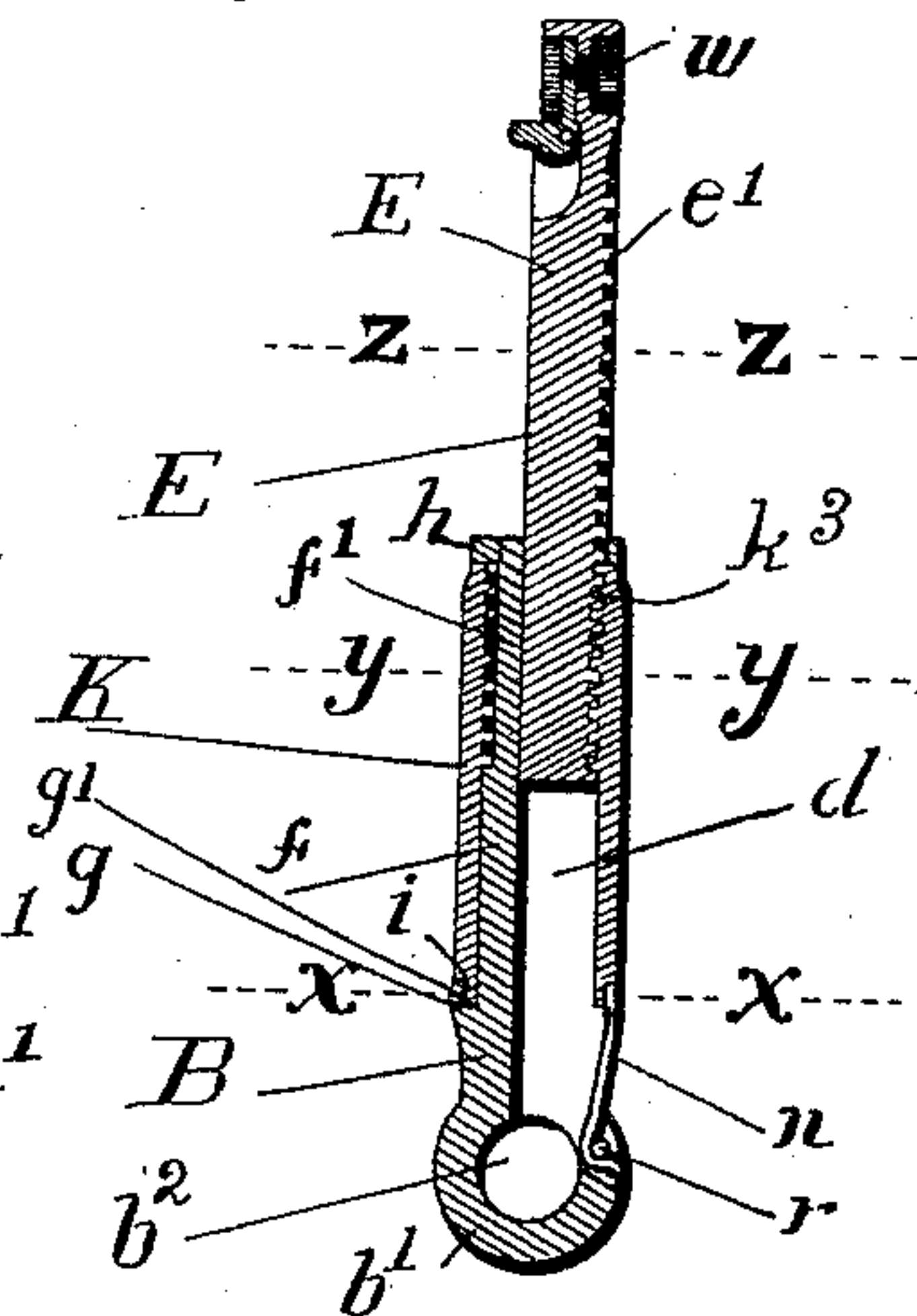


Fig. 3

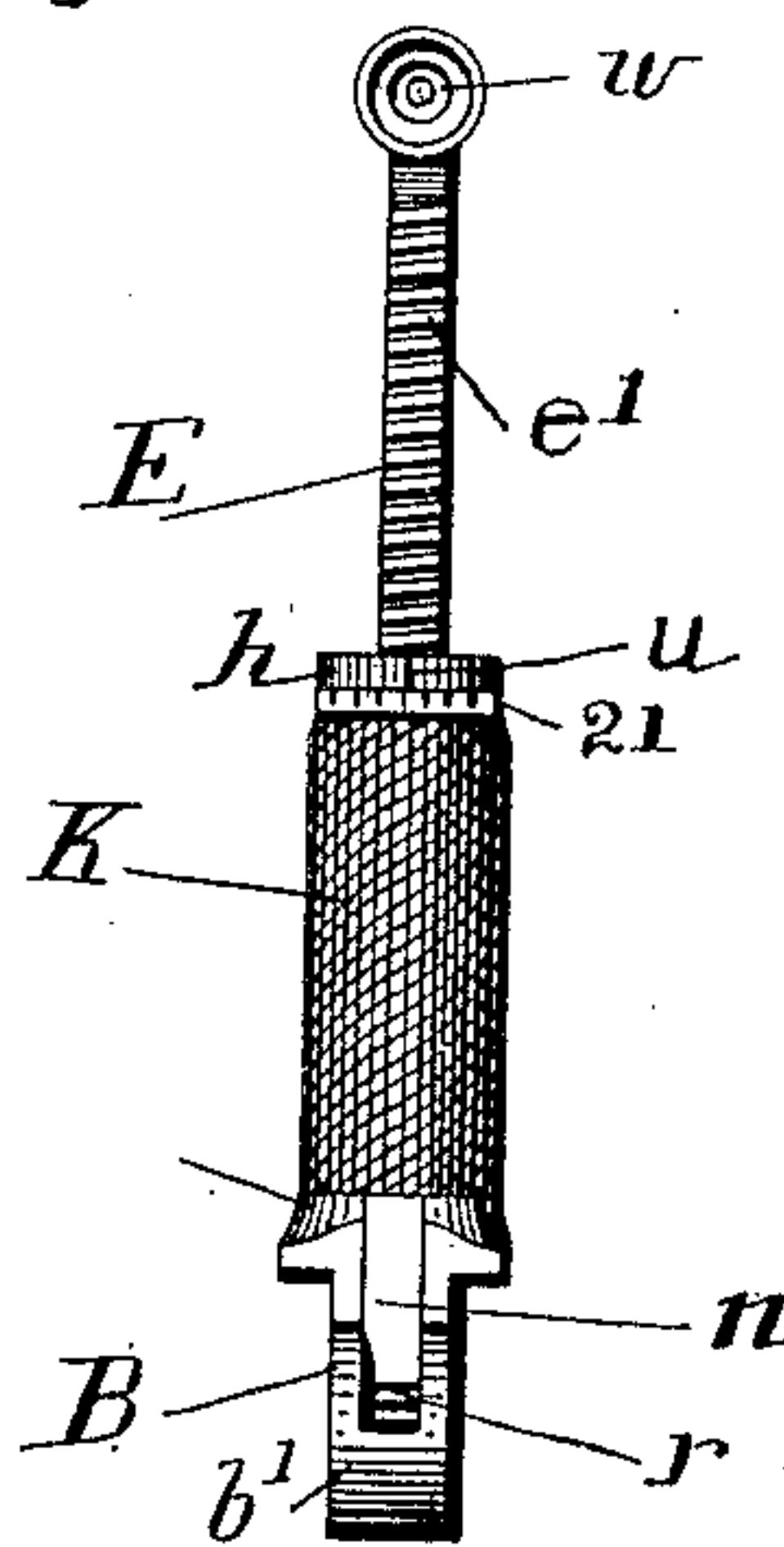


Fig. 4

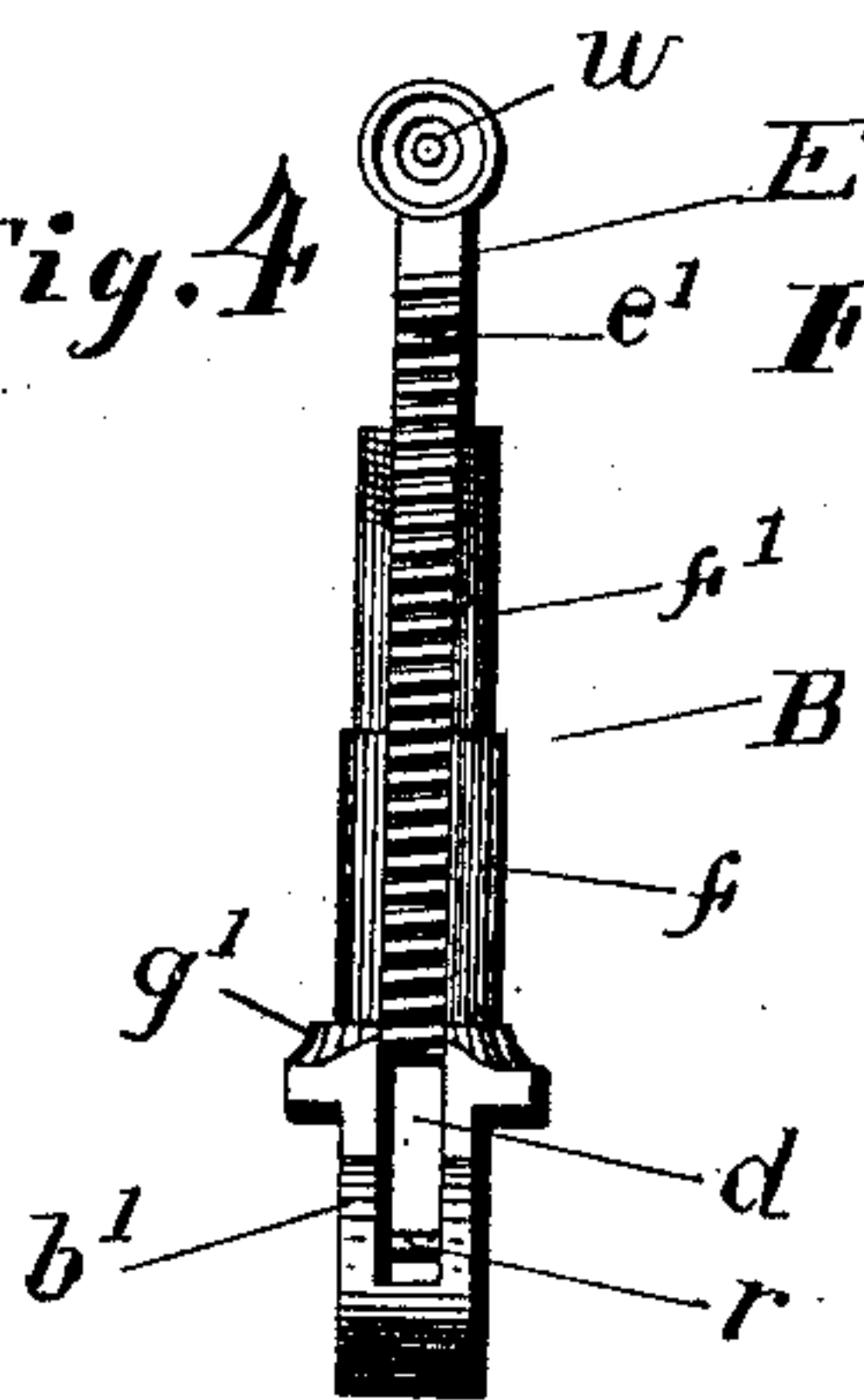


Fig. 5

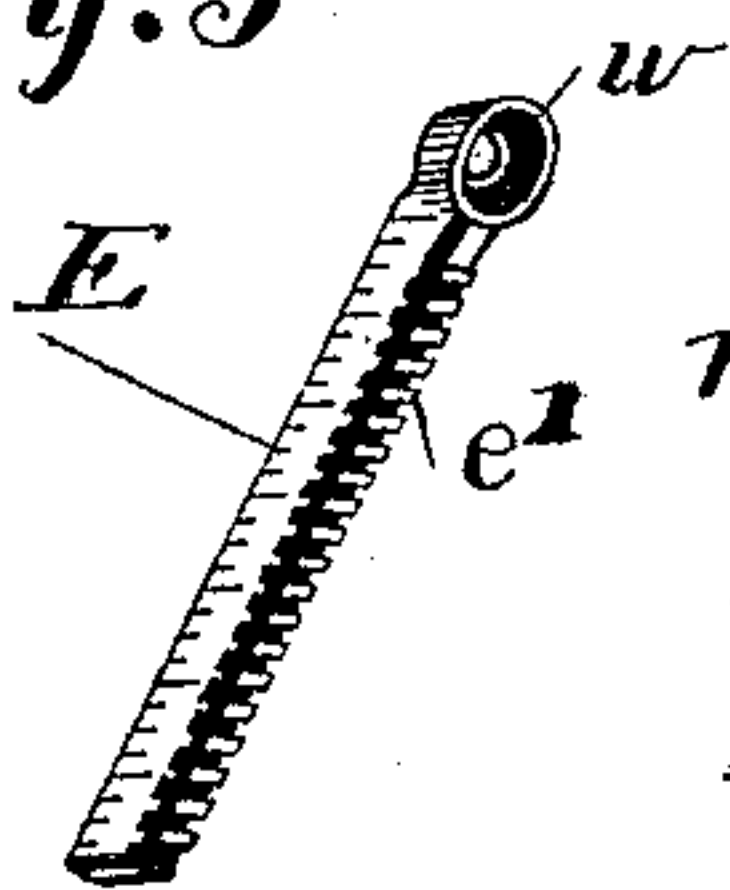


Fig. 6

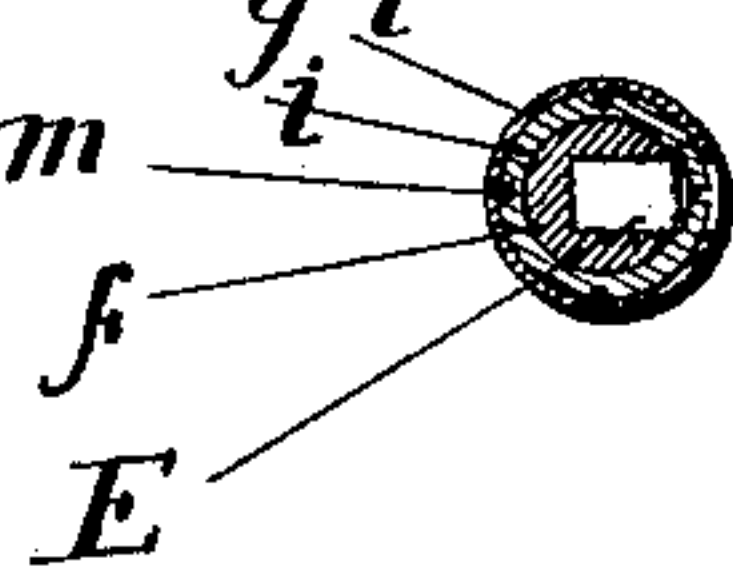


Fig. 7

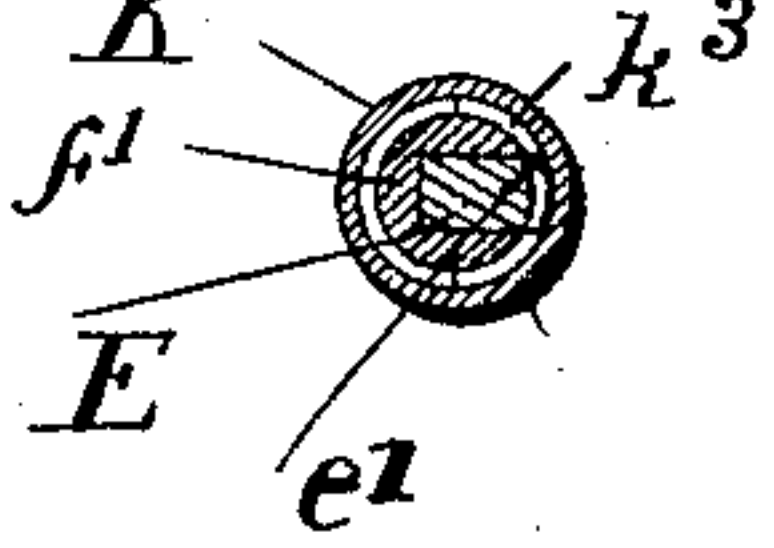


Fig. 8

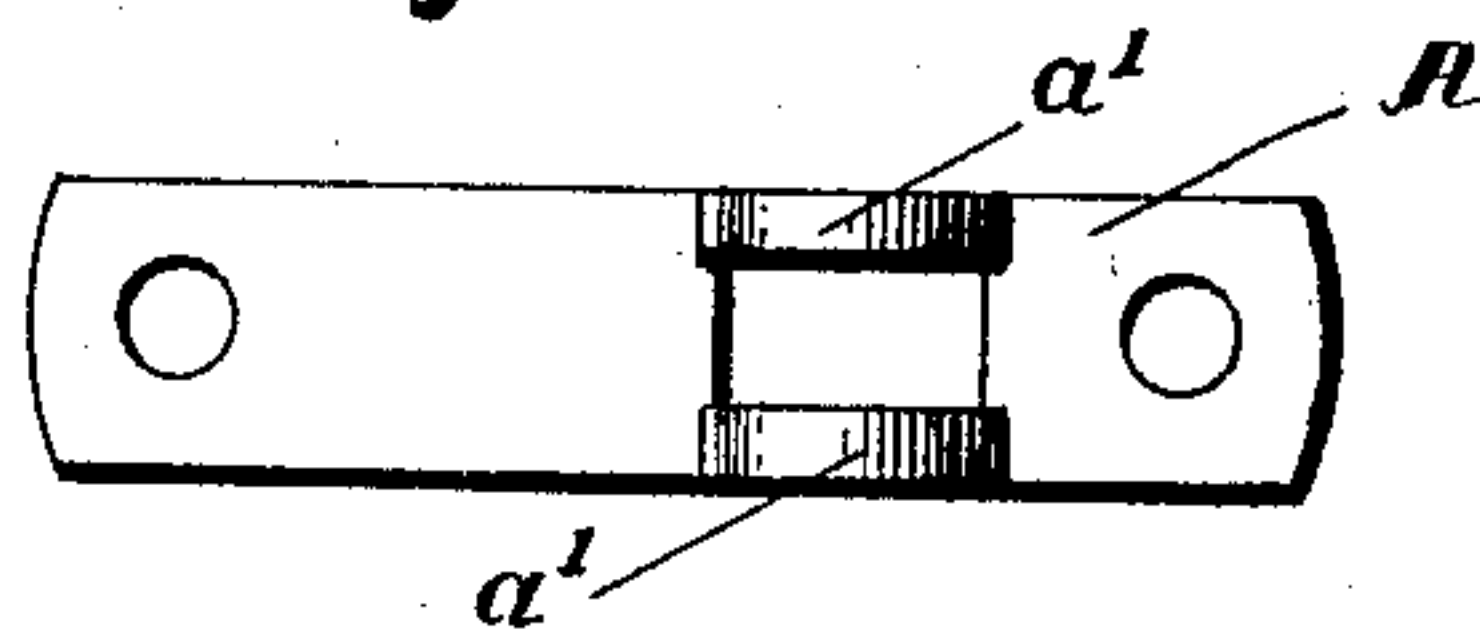


Fig. 9



Fig. 10

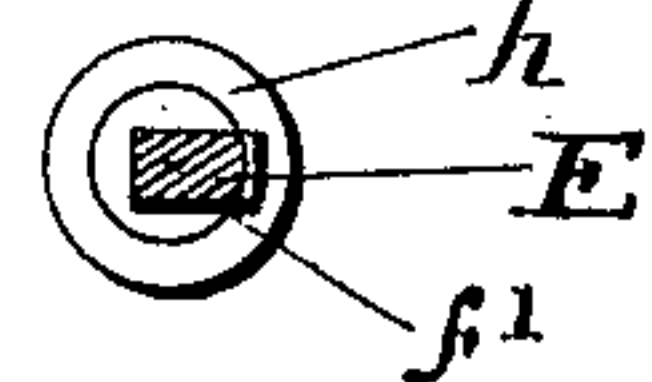


Fig. 11

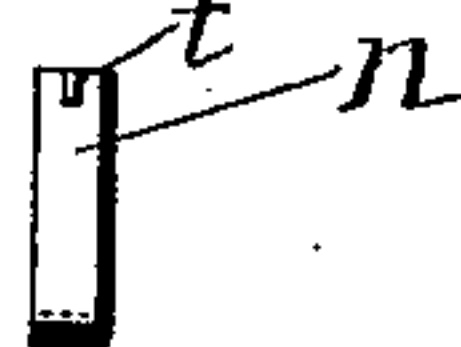
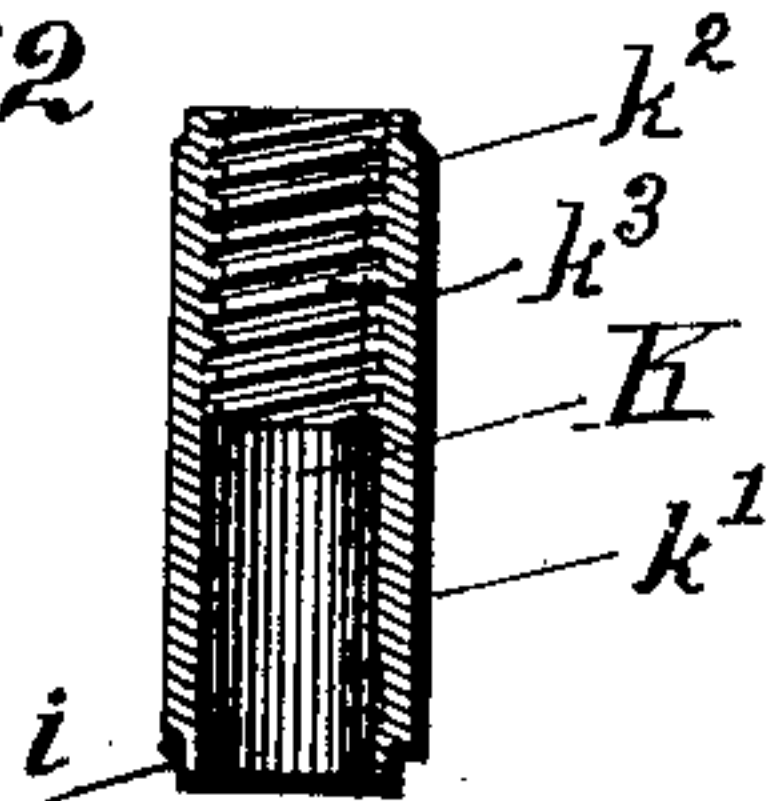


Fig. 12



WITNESSES:

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BY

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# UNITED STATES PATENT OFFICE.

GEORGE DURRENBERGER, OF MIDDLEFIELD, CONNECTICUT, ASSIGNOR TO  
LYMAN A. MILLS, OF SAME PLACE, EXECUTOR OF WILLIAM LYMAN,  
DECEASED.

## SIGHT FOR FIREARMS.

SPECIFICATION forming part of Letters Patent No. 629,671, dated July 25, 1899.

Application filed January 16, 1899. Serial No. 702,205. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE DURRENBERGER, a citizen of the United States, residing in the town of Middlefield, in the county of Middlesex, in the State of Connecticut, have invented certain new and useful Improvements in Sights for Firearms, of which the following is a specification.

My invention relates to an improvement in rear sights for firearms of the class in which a sight-post bearing a vertically-adjustable sight-shank is hinged to a mounting secured upon the tang or stock of the firearm and adapted for being folded down from the vertical position when not in use for the sake of greater compactness and less risk of injury to the mechanism while being handled in transportation.

The invention has for its object to provide a construction of sight-post which shall be held stiffly and rigid in its bearings at all positions and free from play or looseness, which, as is well known, subjects the sight to inaccuracy, which is multiplied with the height of the sight above the sight-post or leverage thereof and increases rapidly with the wear of the parts. Also, it is the purpose of the improvement to render the mechanism simple of construction and adapted to be easily assembled and with parts of great durability and not liable to become out of order in use.

The invention consists in the novel construction of the sight-post and its adjustable shank and in the construction, arrangement, and combination of parts, as hereinafter more fully described and claimed.

In the accompanying drawings, forming a part of this specification, Figure 1 is a side elevation of my improved sight in the position it usually occupies when mounted upon a gun and erected for sighting. Fig. 2 is a vertical central section through Fig. 1 longitudinally of the barrel, the movable or swinging part of the sight being detached from the base or mounting by which it is secured to the tang or stock. Fig. 3 is a rear elevation of the parts as shown in Fig. 2. Fig. 4 is a rear elevation of the sight-post and sight-shank fitted therein, the adjusting-sleeve being removed to show the construction. Fig.

5 is a perspective view of the sight-shank. Fig. 6 is a cross-section on the line  $x x$ , Fig. 2. Fig. 7 is a cross-section on the line  $y y$ , Fig. 2. Fig. 8 is a plan view of the base detached from the sighting mechanism. Fig. 9 is a plan or upper end view of the holding-nut. Fig. 10 is a plan or upper end view of the sight with the sight taken in section on the line  $z z$ , Fig. 2. Fig. 11 is a view of the holding-spring or elastic pawl, and Fig. 12 is a vertical section of the adjusting-nut.

Referring to the drawings, A designates the base or mounting, adapted to be secured to the tang or stock of the gun and provided with the ears  $a'$ , forming one part of the hinge-joint. Between said ears is fitted the eye  $b'$  of the sight-post, and a bolt or pin  $d'$ , passed through the said eye and the ears  $a'$ , serves to pivot or hinge the parts together. This portion of the sight is old and well known, which here requires no further description.

The sight-post B has a rectangular groove or way  $d$ , extending from the perforation  $b^2$  of the eye  $b'$  to the upper end of the post and opening or cutting through on the rear side thereof, as shown. In said groove is fitted a sight-shank E of rectangular cross-section, having a rack  $e'$ , with inclined teeth, forming a part of the circumference of a screw upon its rearedge or side corresponding to the opening of the groove  $d$ . The sight-post is cylindrical and of differential diameter, the lower portion being of the same diameter as the external surface of the thread of which the rack  $e'$  is a part and the upper portion  $f'$  being of the same diameter as the base of said thread or bottom of the spaces between the teeth of the rack—that is to say, the difference of the diameters on each side of the post corresponds to the height of the thread or teeth of the rack. The rack therefore projects from the groove  $d$  in the upper part  $f'$ , but is received entirely within the groove in the lower part  $f$  of the post.

At the base of the cylindrical part  $f$  is a shoulder  $g$ , interior to a rim  $g'$ , surrounding the same except on the side of the groove  $d$ . The upper end of the part  $f'$  is threaded to receive a nut  $h$ , having a groove  $h'$  at one side of its perforation for engaging the pro-



jecting part or rack of the sight-shank. Received on the post between the said shoulder  $g$  and nut  $h$  is a sleeve  $K$ , having its outer cylindrical surface suitably nurlled to adapt  
 5 it to be operated and readily turned on its bearings. The lower part  $K'$  of the sleeve is bored to fit the largest part  $f$  of the sight-post, and the upper part  $k^2$  of the sleeve is internally threaded to engage the teeth of the rack  
 10  $e'$ , its inner diameter or face of the threads  $k^3$  corresponding to the diameter of the upper part  $f'$  of the sight-post. The threads of the adjusting nut or sleeve  $K$  and the holding-nut  $h$  are preferably of opposite lead or pitch,  
 15 as here shown, the rack and sleeves having right-handed threads and the holding-nut and threaded part of the sight-post left-hand threads, which insures the following result, viz: When the adjusting-nut is turned in the  
 20 direction which brings its thrust against the holding-nut, the friction thereon tends to screw the holding-nut on instead of off. Consequently if the nut  $h$  is fitted against a shoulder or screwed tightly to place, with its groove  
 25  $h'$  in alinement with the groove  $d$  of the sight-post, there will be no tendency in operation to turn the nut and impose lateral friction on the rack.

The lower end of the adjusting nut or sleeve  
 30 is reduced to fit within the rim  $g'$ , and such reduced part  $i$  is provided with a series of indentations or ratchet depressions  $m$ , here numbering four and spaced ninety degrees apart around the circumference, as shown in  
 35 Fig. 6. In the groove  $d$  where it cuts through the side of the eye  $b'$  is arranged a flat spring  $n$ , having its lower end bent to fit under a pin  $r$ , driven through the eye  $b'$  across the groove  $d$  and forming a support, fastening,  
 40 and fulcrum for the spring. The upper end of the spring bears against the reduced part  $i$  of the adjusting-nut with a slight tension and is provided with a tooth  $t$  for engaging the depressions  $m$ , thereby forming a spring-panel  
 45 for holding the nut in place, while permitting it to be readily turned on the post in operation. The upper end 21 of the adjusting-nut is turned smooth and graduated to show its position with reference to a zero-mark  $u$  on  
 50 the nut  $h$  in fractional parts of a revolution, and the sight-shank is graduated, as shown at 22 in Fig. 1, to indicate the elevation of the sight-aperture  $w$  on the upper end thereof  
 55 23 of the nut  $h$  as a zero-point.

In operation the rotation of the adjusting-nut in the sight-post between its holding-shoulders accomplishes the elevation or depression of the sight-shank with ease, and  
 60 when lack of light renders the indicating graduation obscure the amount of the adjustment may be determined by counting the clicks made by the spring-pawl  $n$  as its tooth  $t$  snaps into the ratchet depression of the  
 65 part  $i$ .

It will be observed that the rectangular cross-sectional configuration of the sight-

shank and its bearing in the sight-post render it very firm and rigid in its seat, both against twisting and wobbling motion, and the  
 70 construction therewith of the sight-post having the enlarged base portion  $f'$  for strengthening the same forms an exceedingly strong, simple, durable, and compact sight, the parts of which may be easily assembled and are not  
 75 liable to become out of order.

I claim as my invention and desire to secure by Letters Patent—

1. In sights for firearms the combination of a sight-post adapted for mounting upon the  
 80 firearm, and having its upper part cylindrical and provided with a longitudinal groove of rectangular cross-section opening on one side thereof and a thrust-shoulder at the base of  
 85 said cylindrical part a holding-nut screwed upon the upper end of said cylindrical part a sight-shank of rectangular cross-section fitting said groove and having a screw-threaded edge or inclined toothed rack projecting from  
 90 the groove in the post, an internally-threaded adjusting-sleeve journaled on the cylindrical bearing of the sight-post between the said thrust-shoulder and holding-nut and intermeshing with the screw-rack, and a spring-pawl mounted on the sight-post and bearing  
 95 upon the said adjusting-sleeve, the sleeve being provided with depressions for being engaged by the spring to hold the sleeve from turning, substantially in the manner and for the purpose specified. 100

2. In sights for firearms the combination of a base, a sight-post hinged thereto, having a cylindrical bearing of differential diameter, the upper portion thereof being of less diameter than the base, and the post having a longitudinal parallel-sided groove opening on  
 105 one side of the bearing, a sight-shank fitted in said groove and provided with a rack or threaded edge projecting from the groove in the reduced portion of the bearing, an adjusting-sleeve journaled on said bearing, having a cylindrical lower part fitting the base thereof, and a smaller internally-threaded upper part received upon the reduced upper part of  
 110 the bearing, with its threads engaging the teeth or thread of the rack, and means for securing the sleeve against endwise motion upon its bearing, substantially in the manner and for the purpose specified. 115

3. In sights for firearms the combination of  
 120 a base, a sight-post pivoted thereon, having the cylindrical bearings and of differential diameters, the shoulder and the longitudinal groove opening on the side of the said bearings, the holding-nut screwed upon the upper  
 125 end of the bearing, the parallel-sided sight-shank fitting the said groove and provided with a screw-rack having the face and base of its teeth struck to arcs corresponding respectively to the circles of the greater and  
 130 lesser diameters of the bearing, whereby said teeth are adapted to project beyond the smaller bearing and to be received within the larger bearing, an adjusting-sleeve journaled



on the bearing of the sight-post between the  
shoulder thereof and holding-nut, and hav-  
ing a smooth bore fitting the greater bearing  
of the sight-post and a threaded bearing fit-  
5 ting the lesser bearing of the post and inter-  
meshing with the screw-rack of the sight-  
shank substantially in the manner and for the  
purpose specified.

In testimony whereof I have hereunto set  
my signature this 30th day of December, 10  
A. D. 1898.

GEORGE DURRENBERGER.

Witnesses:

IRADELL L. COOK,  
ALFRED H. AUGUR.