

No. 775,958.

PATENTED NOV. 29, 1904.

J. WINDRIDGE.  
SIGHT FOR FIREARMS.  
APPLICATION FILED MAR. 21, 1904.

NO MODEL.

Fig. 1

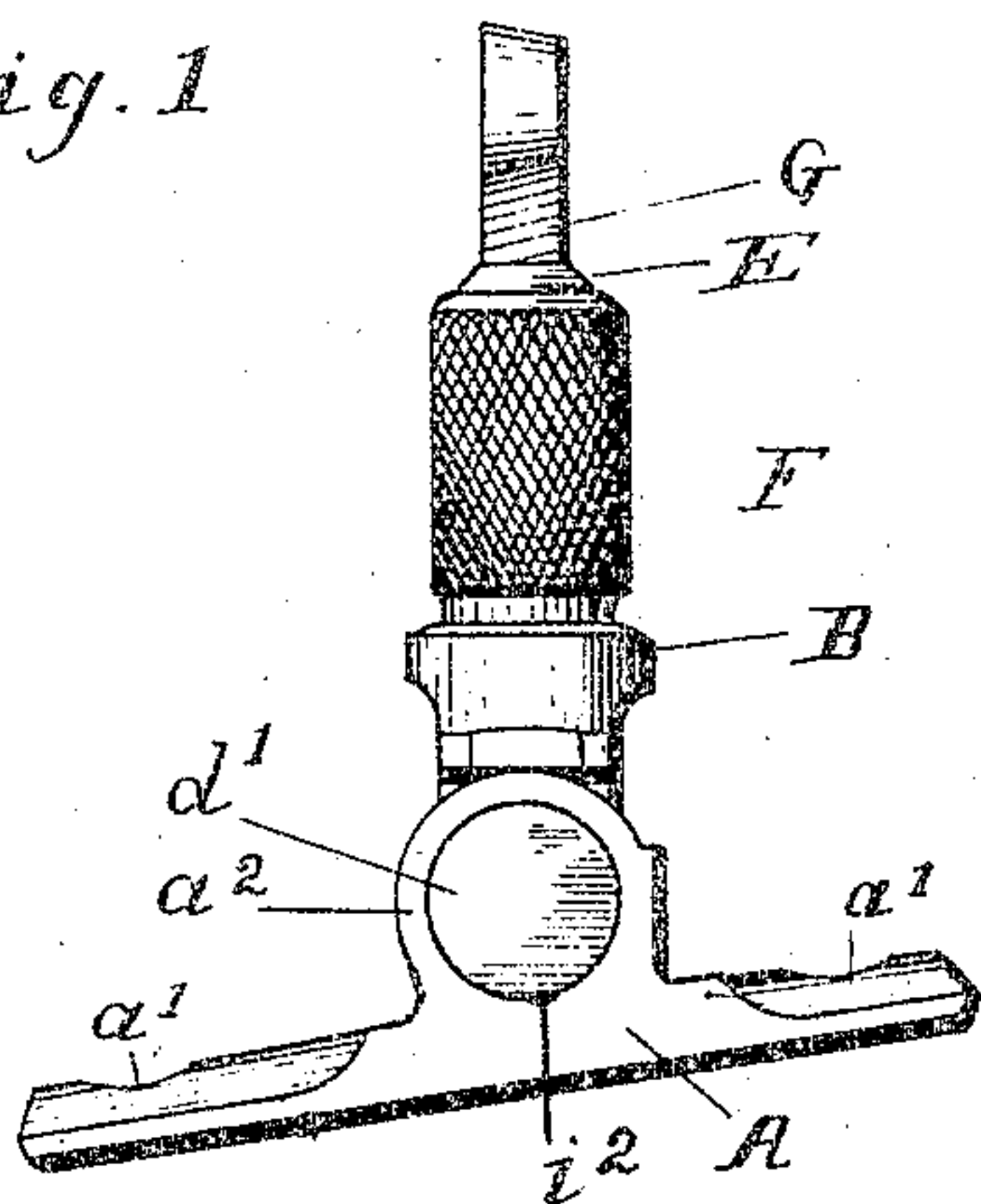


Fig. 2

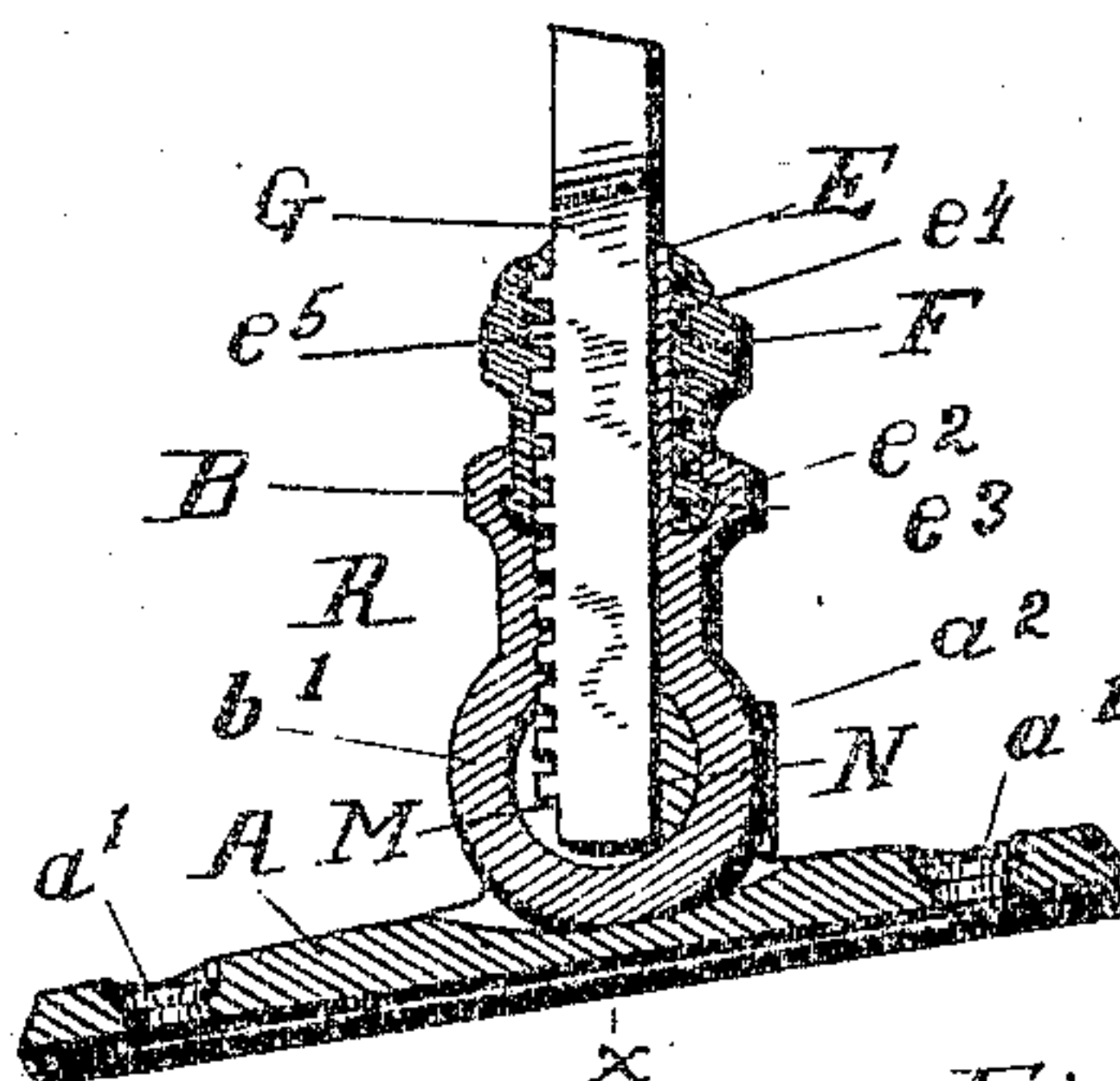


Fig. 3

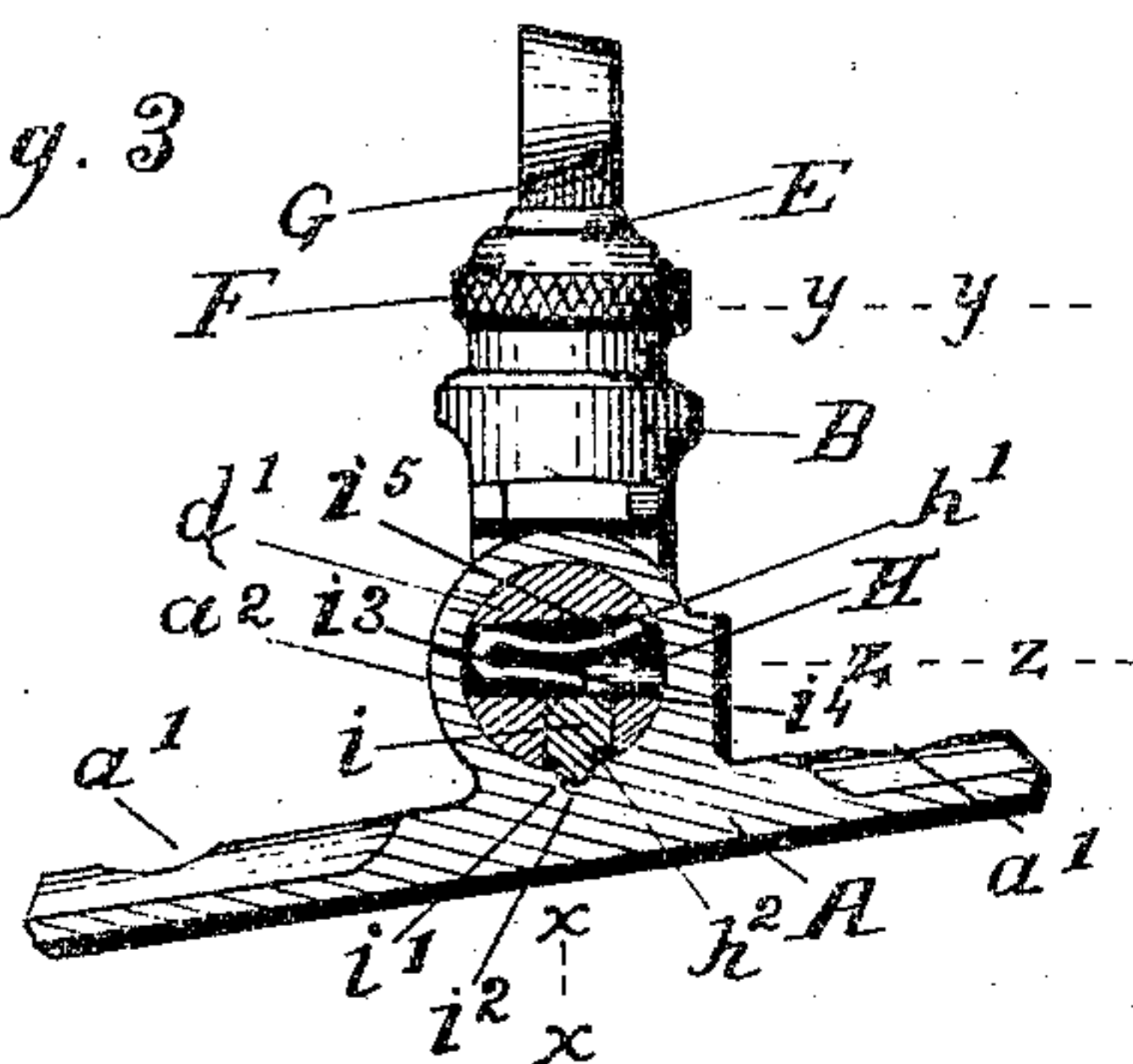


Fig. 4

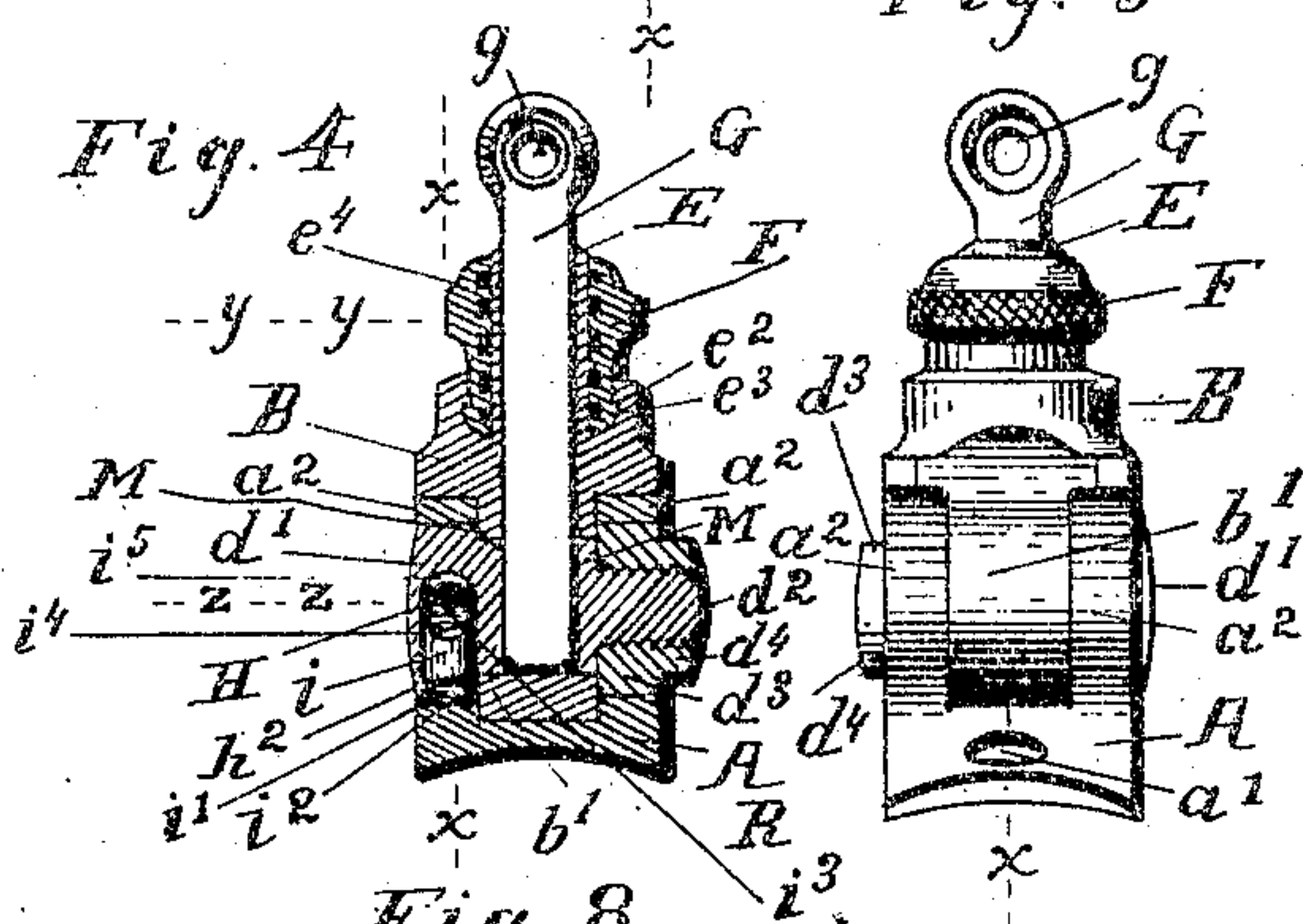


Fig. 5

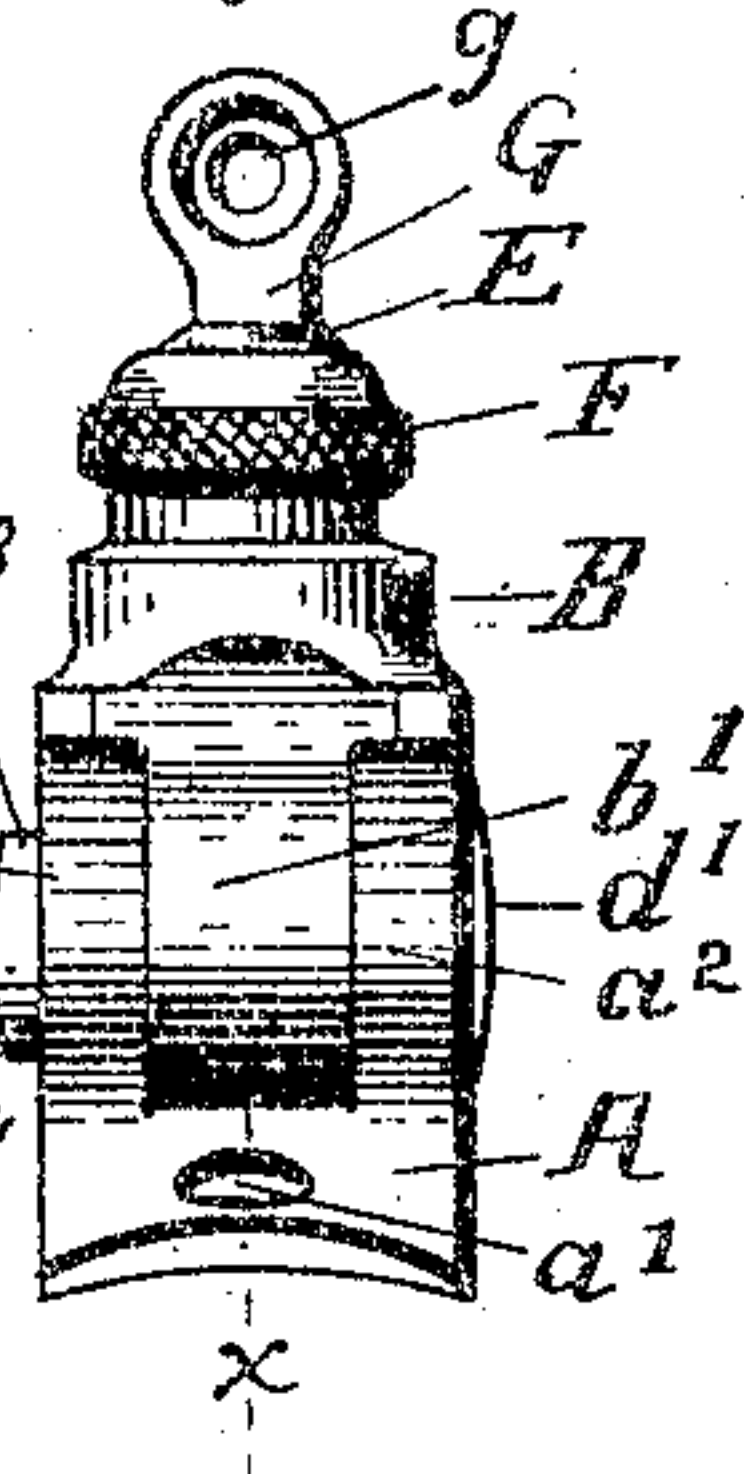


Fig. 6

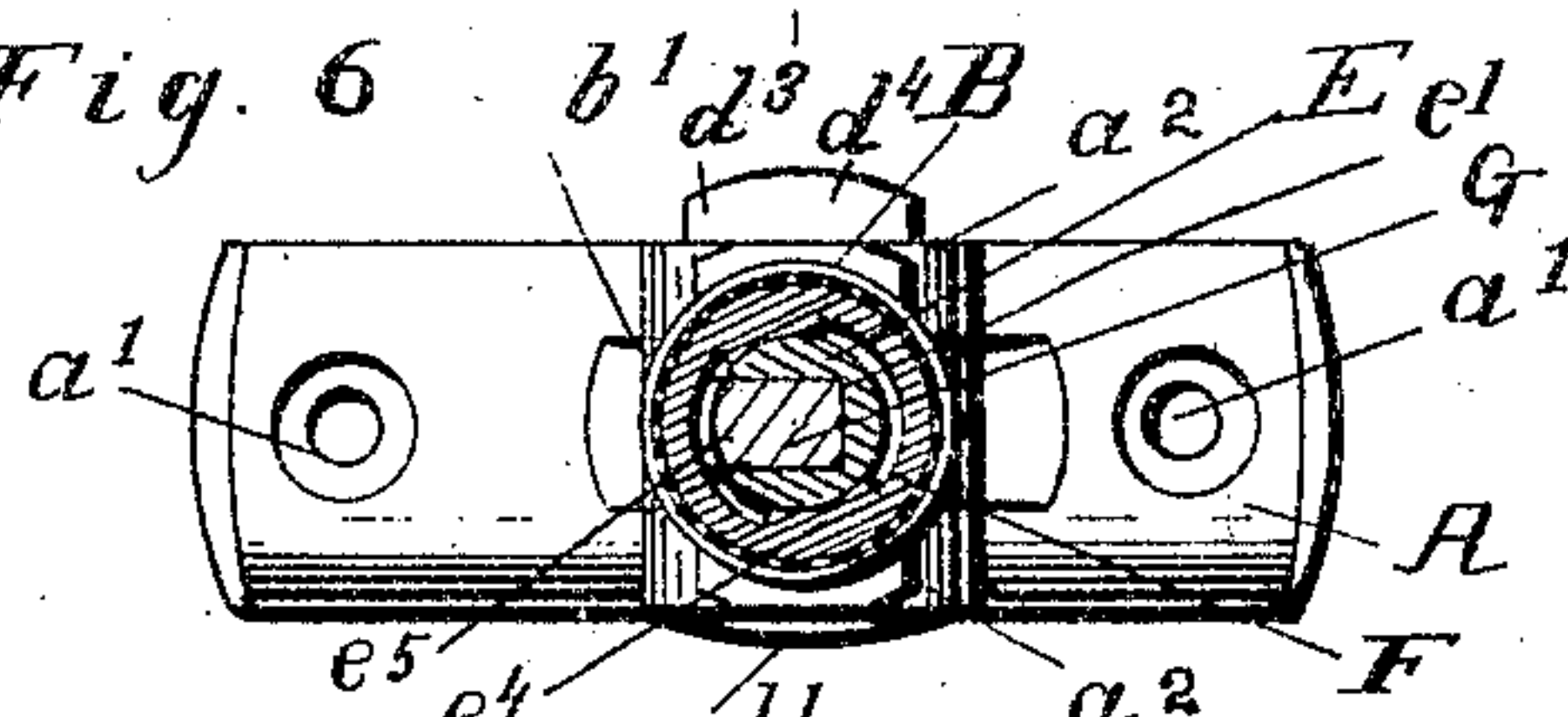


Fig. 7

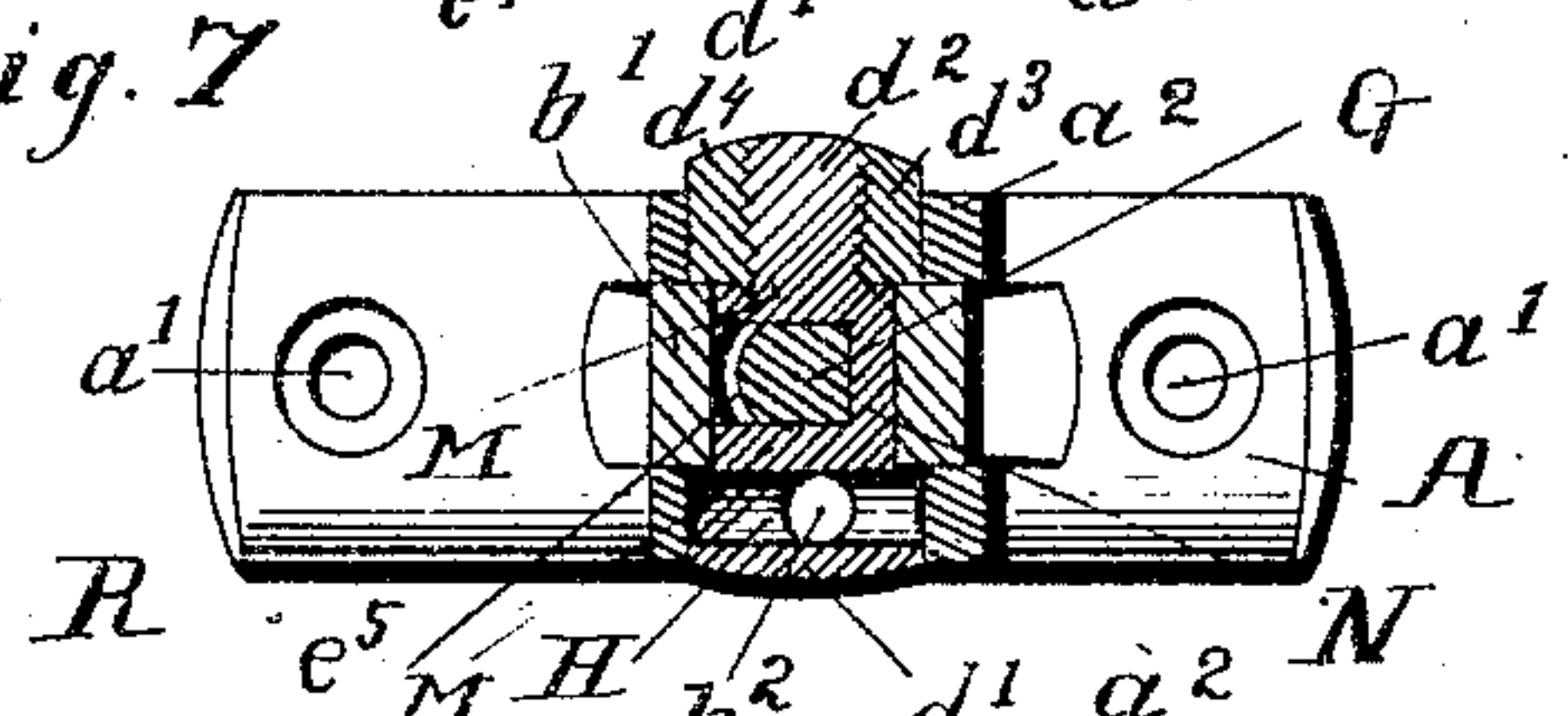


Fig. 8

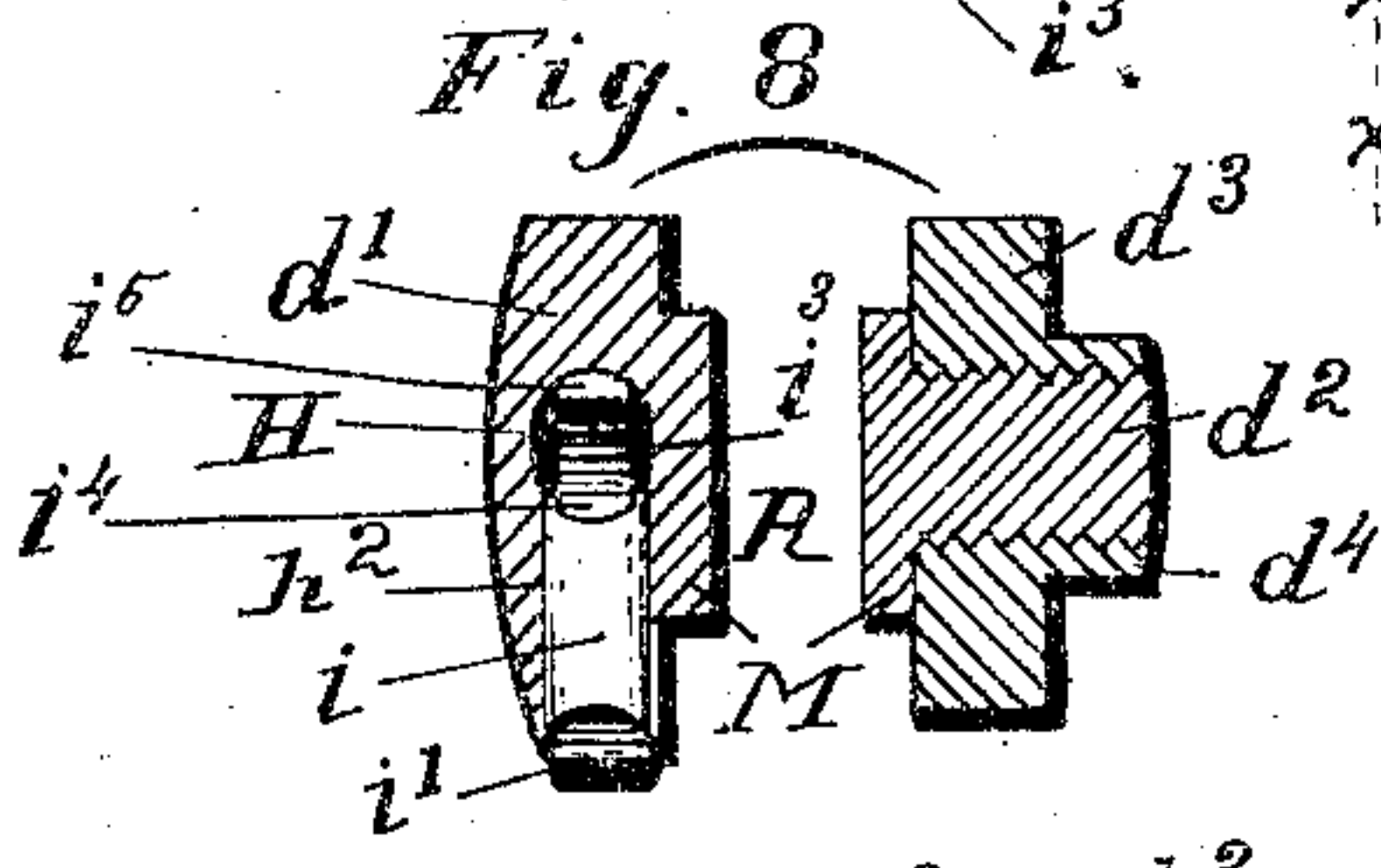


Fig. 9

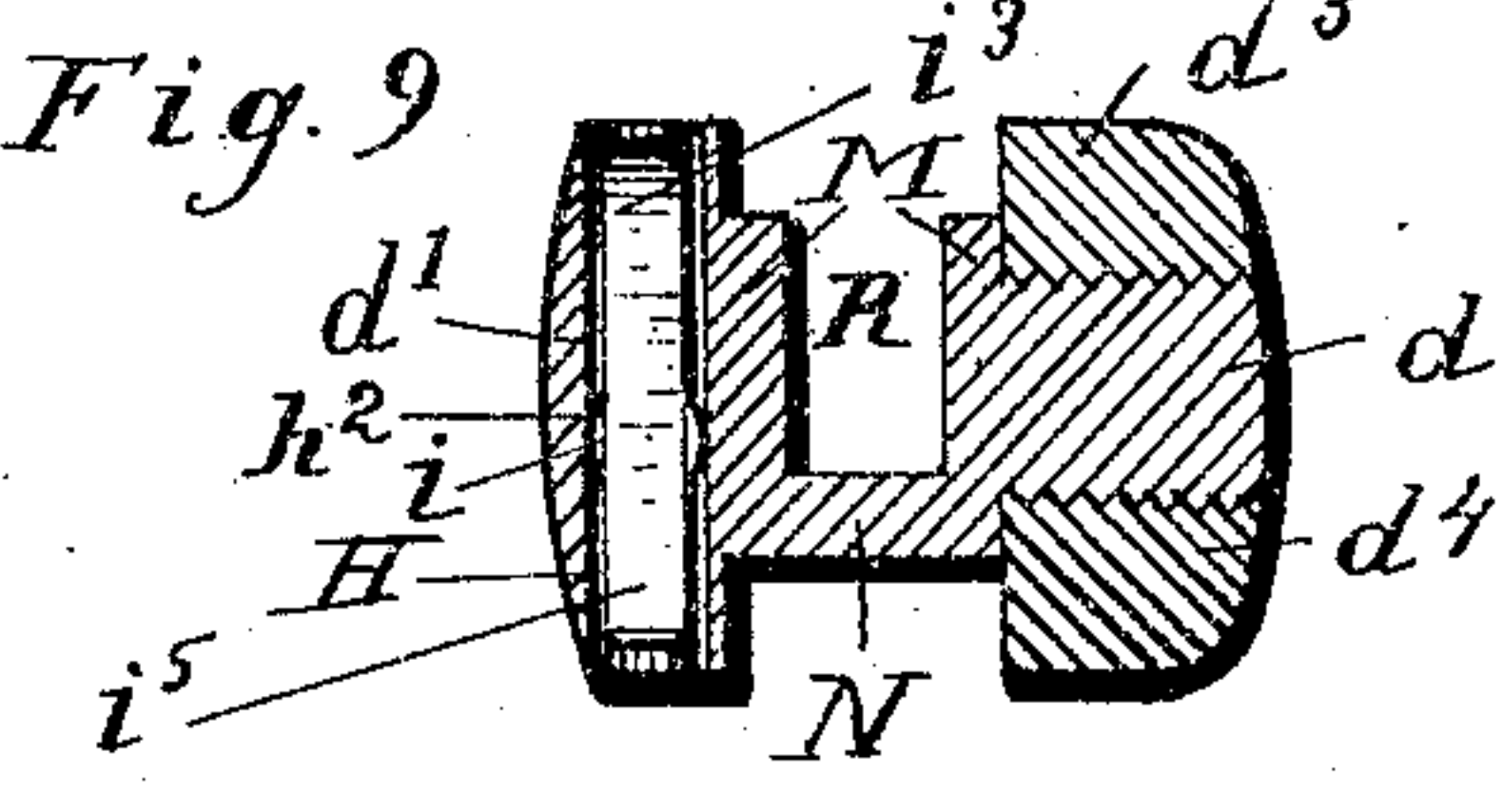
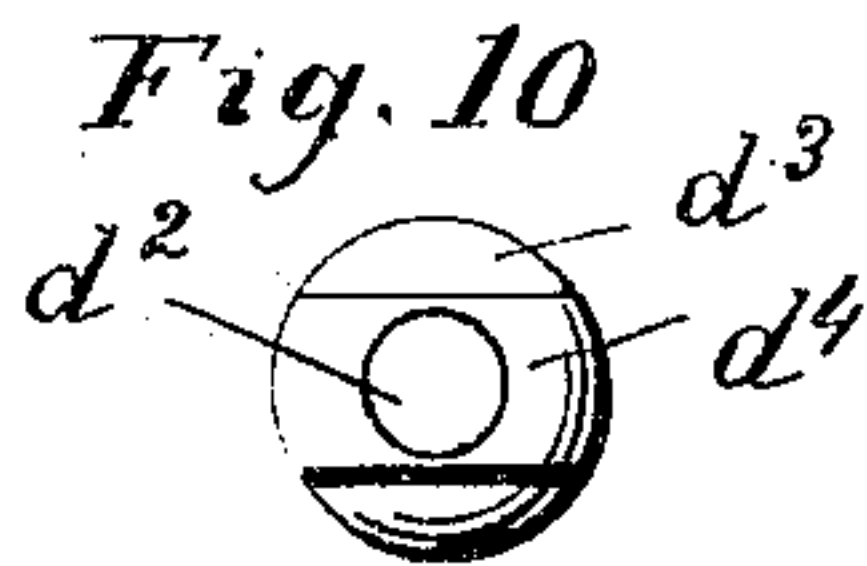


Fig. 10



WITNESSES:

Linus Barnes  
Willis Barnes

INVENTOR

James Windridge  
BY  
George L. Barnes  
ATTORNEY



# UNITED STATES PATENT OFFICE.

JAMES WINDRIDGE, OF MIDDLEFIELD, CONNECTICUT, ASSIGNOR TO THE  
LYMAN GUN SIGHT CORPORATION, OF MIDDLEFIELD, CONNECTICUT,  
A CORPORATION OF CONNECTICUT.

## SIGHT FOR FIREARMS.

SPECIFICATION forming part of Letters Patent No. 775,958, dated November 29, 1904.

Application filed March 21, 1904. Serial No. 199,305. (No model.)

*To all whom it may concern:*

Be it known that I, JAMES WINDRIDGE, a citizen of the United States, and a resident of Middlefield, in the county of Middlesex and State of Connecticut, have invented certain new and useful Improvements in Sights for Firearms, of which the following is a full, clear, and exact specification.

My invention relates to sights for firearms; and it has for its object to provide improved spring-detent mechanism for folding sights or that class in which the sight is hinged to the base and yieldingly held in sighting position by means of a spring-actuated holding tooth or detent.

The particular form of sight to which my improvements are adapted comprise a base having a pair of upright ears and a folding part provided with a tongue or "joint" fitted between said ears and having trunnions journaled therein, the trunnions consisting of a detachable pivotal part or hinge-bolt fitted through the tongue and held by a nut which forms one of the trunnions. Springs of U shape, having their limbs arranged longitudinally of the pivotal part and adapted to engage a notch in the ear of the base, have been largely employed in this class of sights; but such devices are expensive and cumbersome and entail a more limited range of elevation of the sight-post, which in such case cannot encroach upon the horizontal plane of the bolt in its vertical adjustment.

My improvements contemplate extending the range of adjustment of the sight-post down through the plane of the bolt and placing the spring mechanism within the plane of the hinge-ear of the base.

To this end the invention consists in the novel transversely-slotted and perforated bolt and in the novel combination, with the pivotal part or bolt, of a spring and detent arranged within the trunnion thereof and in the construction 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 with the fold-

ing part in the position assumed in sighting.

Fig. 2 is a central vertical lengthwise section on the line  $x x$ , Fig. 5, the sight in this and succeeding figures showing a shorter design of adjusting-sleeve and sight-post than those of Fig. 1. Fig. 3 is a side elevation, partly in section, through the central cross-plane of the hinge-bolt head on the line  $x x$ , Fig. 4. Fig. 4 is a central vertical transverse section on the line  $x x$ , Figs. 2 and 3. Fig. 5 is a front elevation. Fig. 6 is a horizontal section on the line  $y y$ , Figs. 3 and 4. Fig. 7 is a similar section on the line  $z z$ , Figs. 3 and 4, but having the spring removed. Fig. 8 is an enlarged vertical section through the hinge-bolt detached, similar to the section of the same in Fig. 4. Fig. 9 is an enlarged central horizontal section of the hinge-bolt similar to the section of the same in Fig. 7, but showing the spring. Fig. 10 is an end view of the clamping-nut of the hinge-bolt.

Referring to the drawings, A designates the base of the sight adapted for being mounted on the firearm rearwardly of the barrel and secured by screws through the screw-seat  $a'$ . It is provided with the vertical transversely-perforated hinge bearings or ears  $a^2$ , between which the hinge-eye  $b'$  of the joint B is fitted with its perforation concentric with those of the bearings, but of somewhat smaller diameter. Through these parts is passed a bolt fitting the hinge-eye  $b'$  and having a cylindrical head  $d'$ , journaled in one of the hinge-bearings, and a screw-threaded portion  $d^2$ , whereon is screwed a cylindrical nut  $d^3$ , journaled in the other hinge-bearing. The nut projects slightly outside of the bearing, and such projecting portion is milled away to provide the parallel-sided part  $d^4$  for the application of a wrench to screw the nut to place. When the nut is tightly screwed against the hinge-eye  $b'$ , thus correspondingly clamping the head  $d'$  against the opposite surface of the hinge-eye, the bolt-head and nut are rigidly held with reference to the joint and comprise trunnions on which the latter is swung in the hinge-bearings of the base, enabling the sight to be folded down rearwardly from



the vertical or sighting position (shown in Fig. 1) flat upon the base and out of the way when not in use. The upper part of the joint comprises a vertical cylindrical shell E, having a rectangular spline  $e'$  milled throughout its length and extending down to the perforation of the hinge-eye. An annular seat  $e^2$  is milled in the joint around the base of this shell to receive the lower end of a sleeve F, having a slight head or shoulder  $e^3$ , over which the metal of the joint is swaged to hold the sleeve in place vertically, but not so tightly as to prevent the free rotation of the sleeve in the seat thus formed. Said sleeve is screw-threaded internally, and the threads  $e^4$  of the screw are engaged with the teeth  $e^5$  of a rack formed on one side of a sight-post G, fitted in the spline  $e'$ , as shown in Fig. 6, the teeth of the rack being projected exterior to the circumference of the shell E, as shown in said figure, comprising a portion of the thread of a screw, of which the toothed side of the sight-post is a segment. The upper end of the sight-post is provided with the circular peep-sight orifice  $g$ , which may be adjusted at different heights by turning the sleeve F, and thereby elevating or depressing the sight-post G and its rack.

These parts are old and well known and here require no further description, the novel features of my improvement being as follows:

Diametrically through the bolt-head is a chamber H, formed by first drilling through the head and then reaming out the hole on one side at a slight angle therewith nearly through the head, but leaving a small shoulder  $h'$  at the periphery thereof at the end of the reamed portion, as shown in Fig. 3. On that side of the bolt-head opposite to said reamed space another hole  $h^2$  is drilled from the periphery of the head inward to the diametral chamber at a right angle therewith. The bolt is preferably arranged in its bearing with the diametral chamber H nearly in a horizontal plane and the hole  $h^2$  vertical in the lower half of the head, the shoulder  $h'$  in that case being on the upper side of the head. In the hole  $h^2$  is fitted a cylindrical plunger  $i$ , having a spur  $i'$  at its lower end adapted to fit a corresponding notch  $i^2$  in the base and its upper end grooved to receive the lower limb  $i^4$  of a looped or U-shaped spring  $i^3$ , arranged in the diametral chamber with the end portion of its upper limb  $i^5$  bearing on the upper side of the chamber, as shown in Fig. 3. The lower limb of the spring is shorter than the upper limb, as it does not require to project beyond the surface of the plunger whereon it rests. The upper limb is bent downward in its central part to provide clearance-space in which to spring upward, and its end is engaged by the shoulder  $h'$  to retain the spring in place against the tendency to slide upwardly on the inclined upper surface of the chamber.

In operation the pressure of the spring  $i^3$

downwardly on the plunger  $i$  retains the spur  $i'$  of the plunger engaged in the notch  $i^2$  in the base, and thus holds the head  $d'$  of the bolt stationary in its bearing. The bolt-head is clamped to the hinge-eye of the joint in position to bring the sight-post G in the vertical or sighting position (shown in Fig. 1) when the plunger is engaged with the notch  $i^2$  of the base, as shown in Figs. 3 and 4. From this position the joint, with the sight-post and its parts, may be folded down rearwardly by moderate pressure applied on the joint in that direction, the engaging shoulder, formed by the spur of the plunger and the notch of the base, being slightly rounded or beveled to permit this action.

With this construction of spring contained wholly within the head of the bolt the part of the bolt fitting the hinge-eye of the joint can be cut away to permit the passage through it of the sight-post, whereby a greater range of adjustment of the sight can be obtained. To attain this, the bolt is preferably milled out to provide a central vertical groove R, as shown in Figs. 2 and 4 and in the enlarged views shown in Figs. 8 and 9. Said groove is of the width of the sight-post, leaving entire the cylindrical sections M M of the bolt tied together by the segmental section N, extending between the sight-post and the circular front wall of the hinge-eye of the joint. Thus constructed the sight-post G may be brought down with its end nearly in contact with the lower side of the eye of the joint, as shown in Fig. 2, which provides a very neat and compact design of sight.

A common form of this sight is provided with a cylindrical sight-post instead of rectangular sided and having a rack on one side projecting from its cylindrical surface; but such construction requires no change in my improvements.

I claim and desire to secure by Letters Patent—

1. In folding sights for firearms the combination of a base provided with hinge ears or bearings, a folding part or joint fitted between the bearings of the base and provided with cylindrical trunnions journaled in the bearings, a folded spring received in a diametral cavity in one of the trunnions, and a plunger guided in a socket in said trunnions and sustaining the thrust of the spring, the bearing of the base being provided with a notch for engaging said plunger to hold the joint in sighting position, substantially in the manner and for the purpose specified.

2. In folding sights for firearms the combination of a base provided with hinge ears or bearings, a folding part or joint fitted between the bearings of the base and provided with cylindrical trunnions journaled in the bearings, a substantially radially operating plunger or detent guided in one of the cylindrical trunnions and a spring received in a cavity



within the trunnion and actuating the plunger, the bearing of the base being provided with a notch for engaging the plunger to hold the joint in sighting position, substantially in the manner and for the purpose specified.

3. In folding sights for firearms the combination of a base provided with hinge ears or bearings, a folding part or joint provided with a hinge-eye fitted between the bearings, a bolt fitted through the hinge-eye of the joint having a cylindrical head journaled in one of the hinge-bearings of the base and a cylindrical nut clamping the joint rigidly between the same and the bolt-head and journaled in the other hinge ear or bearing, a folded spring received in a diametral cavity in one of the cylindrical journals, and a plunger actuated by the spring to engage a notch in the base to hold the joint in sighting position, substantially in the manner and for the purpose specified.

4. In folding sights for firearms the combination of a base provided with hinge ears or bearings, a folding part or joint provided with a hinge-eye fitted between the bearings, a bolt fitted through the hinge-eye of the joint provided with a cylindrical head journaled in one of the hinge-bearings of the base and having a diametral perforation and a socket opening from the periphery into the diametral perforation, a cylindrical nut journaled in the other hinge-bearing of the base and screwed upon the bolt to clamp the same rigidly to the hinge-eye, a looped or U spring received in the diametral perforation of the bolt-head and a plunger or detent guided in the socket and engaged and actuated by the spring, the hinge-bearing being provided with a notch for engaging the detent to hold the joint in sighting position, substantially in the manner and for the purpose specified.

5. In a folding sight for firearms the combination of a base provided with hinge ears or bearings, a folding part or joint provided with

a hinge-eye fitted between the bearings, a sight-post vertically movable and adjustable in the joint, a bolt fitted through the hinge-eye of the joint with the part fitting the eye cut away to receive and permit the passage of the sight-post, and having a cylindrical head journaled in one of the bearings of the base, a cylindrical nut screwed upon the bolt to clamp the same rigidly to the joint, and journaled in the other bearing of the base, a plunger or detent carried in the bolt-head, and a spring carried in the bolt-head to actuate the detent, the base being provided with a notch for engaging the detent to hold the joint in sighting position, substantially in the manner and for the purpose specified.

6. In a folding sight for firearms the combination of the base having the hinge-ears *a* one of which is provided with the detent-engaging notch *i*<sup>2</sup>, the joint B hinged between said ears, the bolt fitted through the joint and having the groove M in the part fitting the joint, and provided with the journal-head *d'* fitting one of the hinge-ears and having the diametral chamber H and the socket *h*<sup>2</sup>, the journal-nut *d*<sup>3</sup> clamping the bolt to the joint and fitting the other hinge-ear, the spring *i*<sup>3</sup> received in said diametral chamber, the detent *i* guided in said socket and adapted to engage the notch of the hinge-ears to hold the joint in sighting position, a sight-post guided in the joint and received through the groove of the body of the bolt and provided with a rack, and an adjusting-nut journaled in the joint and engaging the rack of the sight-post to depress or elevate the post, substantially in the manner and for the purpose specified.

Signed by me at Middlefield, Connecticut, this 17th day of March, 1904.

JAMES WINDRIDGE.

Witnesses:

IRADELL L. COOK,  
HARRY F. PENNIMAN.