

No. 836,815.

PATENTED NOV. 27, 1906.

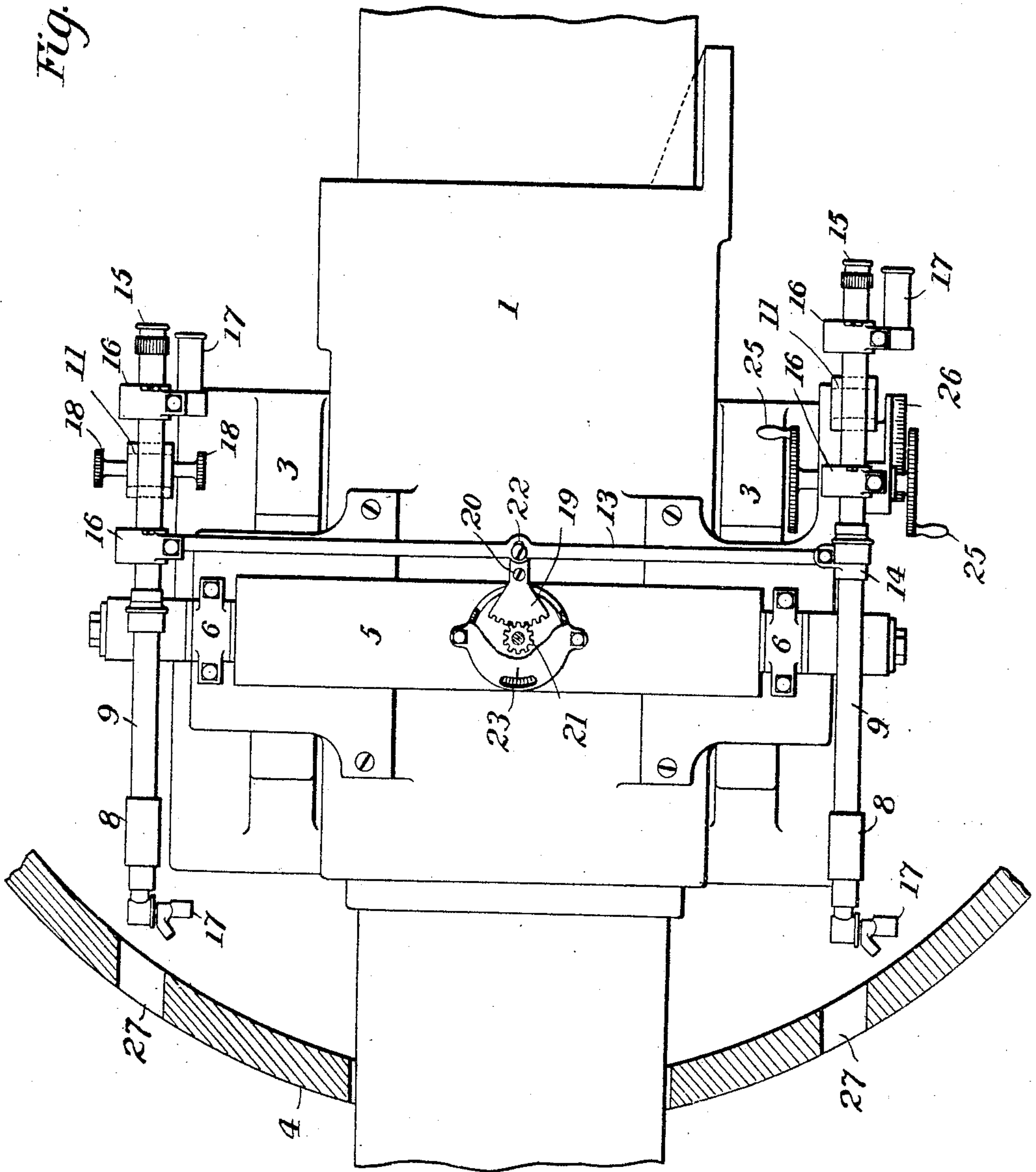
J. F. MEIGS & S. A. S. HAMMAR.

GUN SIGHT.

APPLICATION FILED JUNE 4, 1904.

2 SHEETS—SHEET 1.

Fig. 1.



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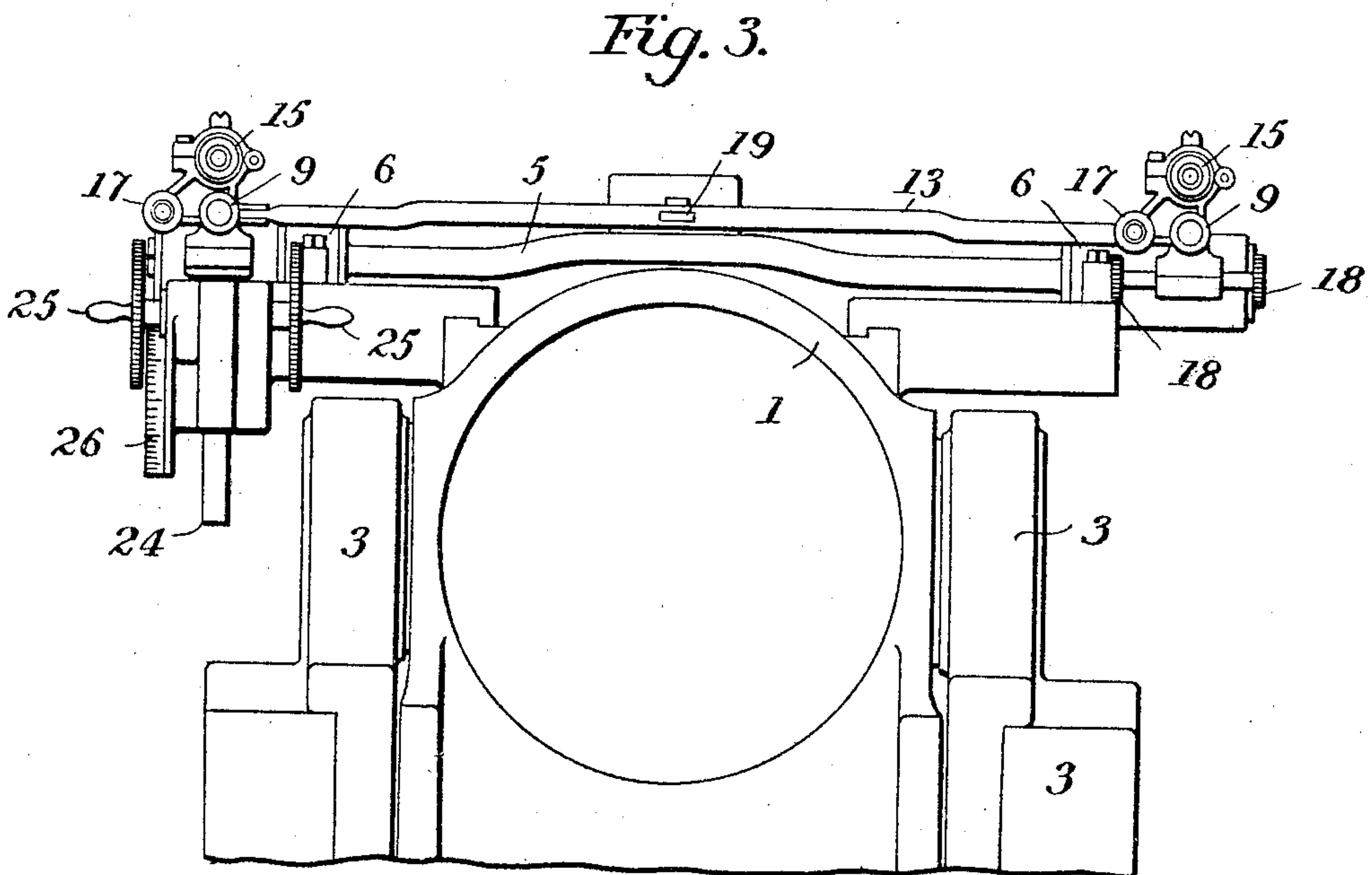
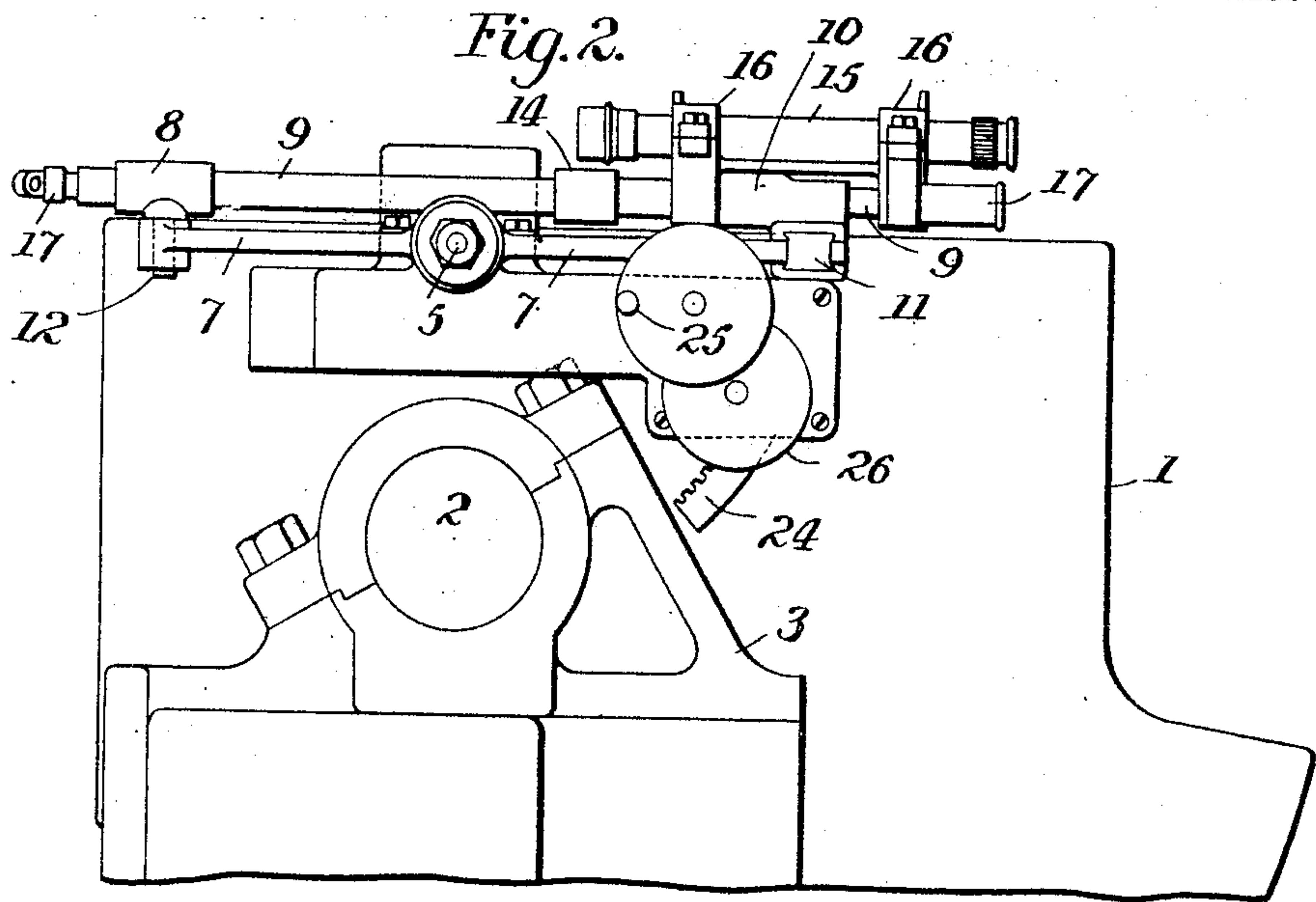
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UNITED STATES PATENT OFFICE.

JOHN F. MEIGS AND SIGARD A. S. HAMMAR, OF SOUTH BETHLEHEM, PENNSYLVANIA, ASSIGNORS TO BETHLEHEM STEEL COMPANY, OF SOUTH BETHLEHEM, PENNSYLVANIA, A CORPORATION OF PENNSYLVANIA.

GUN-SIGHT.

No. 836,815.

Specification of Letters Patent.

Patented Nov. 27, 1906.

Application filed June 4, 1904. Serial No. 211,175.

To all whom it may concern:

Be it known that we, JOHN F. MEIGS, a citizen of the United States, and SIGARD A. S. HAMMAR, a subject of the King of Sweden, residing at South Bethlehem, Northampton county, Pennsylvania, have invented certain new and useful Improvements in Gun-Sights, of which the following is a specification.

The objects of the present invention are:

First. To so mount the sighting device of a gun that any particular vertical adjustment with relation to the gun may be obtained with a minimum movement of the sighting device in a vertical angle and minimum height of sight-opening in the shield. This is accomplished by arranging the axis for vertical movement of the sighting device close to the trunnion of the gun or near the axis on which the gun rocks.

Second. To so mount the sighting device with respect to the gun-shield as to permit of the necessary lateral adjustment of the sighting device with a minimum width of sight-opening in the shield. This is accomplished by arranging the vertical axis of the sighting device close to the shield.

Third. To connect the sights on opposite sides of the gun, so that they shall move absolutely together and maintain their parallelism. This is accomplished by direct connections, avoiding gearing and consequent lost motion.

Fourth. The invention also consists in details of construction and arrangement which will be pointed out in the following specification.

In the accompanying drawings, Figure 1 is a view of a portion of the gun, showing the sighting devices and their connections in plan and a portion of the shield in section. Fig. 2 is a side elevation; and Fig. 3 is a rear end elevation of the same, the shield being omitted.

Referring to the drawings, 1 indicates the sleeve or cradle of the gun, and 2 the trunnions which support the gun and upon which it rocks vertically. These trunnions are suitably supported in the yoke 3 of the gun-carriage.

4 indicates the shield, which is situated in front of the gun-carriage and suitably supported thereon.

Adapted for attachment to the gun is a frame which can extend on both sides of the

gun forward of the trunnions, so that at each side there may be pivoted thereto at the forward end a support for the sighting device, and these two supports are connected so as to swing together upon said pivots with means for operating them from either side of the gun and also, if desired, with means for swinging the frame vertically upon a pivotal support upon the gun. A construction embodying these features is as follows: A transverse rock-shaft 5 is located directly above the trunnions 2 and as close as practicable to said trunnions, the rock-shaft being mounted in bearings 6 upon the sleeve. On each end of said rock-shaft is fixed a rocker 7, having arms extending both forwardly and rearwardly. On the forward end of each rocker 7 is swiveled vertically a bearing 8 for a rod or tube 9, which constitutes a support for the sighting device. The rear end of the support 9 is mounted in a bearing-block 10. This block is mounted upon a guide 11, which is supported on the rear end of the rocker 7, said block having freedom to move laterally on said guide when the sight-support 9 is swung about the swivel 12 of the bearing 8. The sight-supports 9 on opposite sides of the gun are connected by a rod 13, which is pivotally connected to collar 14 and arm 16 on said supports, respectively. The sighting device shown comprises a telescope 15, supported on arms 16 of the support 9, and open sights 17, supported on the ends of the support 9. This support 9 is rotatable to bring either the telescope 15 or the open sight 17 into operative position. By the above arrangement the pivot for the support of each sighting device is forward of the trunnions of the gun and adjacent to the shield, so that whatever the lateral movement of the sighting device the line of sight will be through a very limited opening in the shield, the two supports swinging about their forward vertical axis, but being maintained parallel with each other.

Any suitable device may be used to adjust the sighting device into proper horizontal relation with the axial line of the gun. As shown, a pair of thumb-screws 18 are mounted in the right rocker 7 and bear on the block 10, which carries the rear end of the sight-support 9. By reason of the rigid connecting-link 13 the axes of the sighting devices

are always maintained parallel, the left side of the sighting devices moving in unison with the right side when the latter are adjusted.

The lateral adjustment of both sets of sighting devices is therefore under the control of one adjusting device and located at one side of the gun so that one operator may give it his exclusive attention. A scale may be connected with the sighting devices at any suitable point to show the traversing movement of said devices. We prefer to locate the scale at the middle of the rock-shaft 5. As illustrated in the drawings, 19 indicates a sector-gear pivoted at 20 on an arm of the rock-shaft and meshing with a pinion 21 on the rock-shaft. The rear arm of the sector 19 has a pin-and-slot connection 22 with the link 13, whereby it is moved in unison with the sighting devices when the latter are adjusted horizontally by the thumb-screws 18. The pinion 21 carries a disk 23, upon which is a scale adapted to indicate the horizontal angle of the sighting devices.

The vertical adjustment of the sighting devices—that is, the adjustment for elevation—is effected by rocking the shaft 5. As illustrated, the rear arm of the left rocker 7 looking from the rear of the gun carries a sector-gear 24, which is adjusted up and down by means of handles or cranks 25 and suitable intermediate gearing. The elevation may be read on a scale suitably connected to said sector or gearing. As shown, the scale is on a drum 26, carried by a pinion intermeshing with the sector 24.

It will be evident that by locating the horizontal axis about which the sighting devices are adjusted close to the trunnions the sighting devices will have a small movement in a vertical angle for a given elevation of the gun. A minimum movement and small height of sight-port can be secured by rocking the sighting devices about the axis upon which the gun rocks; but this not being easily attainable the next best construction is to place the horizontal axis of the sighting devices directly above or slightly forward of and as close to the trunnions as the construction of the gun and carriage will permit. It will also be evident that by placing the vertical axis about which the sighting devices turn—namely, the swivels 12—as close as possible to the shield 4 the width of the sight-openings 27 in said shield may be reduced to a minimum.

By connecting the sighting devices on both sides of the gun to the same rock-shaft equal movements in a vertical angle are absolutely secured and by connecting the sight-supports by a suitable link equal horizontal movements are secured. These connections permit of the horizontal and vertical adjusting devices being located on opposite sides of the gun, where they can be attended to by separate operators without any interference.

It will be evident that the details of the mountings of the sighting devices and the details of the adjusting devices may be varied without departing from the spirit and scope of the invention.

Having described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. The combination with the gun, of a rock-shaft extending transversely of the gun, sighting devices each swinging about a vertical pivot forward of the gun-trunnions and supported to oscillate about the rock-shaft on opposite sides of the gun.

2. The combination with the gun, of a rock-shaft extending transversely thereof, sighting devices on opposite sides of the gun, each pivoted to swing about a vertical pivot forward of the trunnions and supported by the rock-shaft, and connections between the sighting devices to insure a simultaneous traversing movement.

3. The combination with a gun and its sleeve, of a rock-shaft having bearings on the sleeve, and sighting devices on opposite sides of the gun each pivoted forward of the gun-trunnions and supported by said rock-shaft, whereby said sighting devices are simultaneously adjustable.

4. The combination with a gun and a shield arranged forward of the trunnions, of a transverse rock-shaft, sighting devices carried by said rock-shaft, said sighting devices being each pivoted immediately adjacent to the shield to swing horizontally, and a link connecting said sighting devices, whereby the axes of the several sighting devices are always maintained in parallel relation.

5. The combination with a gun, of a transverse rock-shaft, sighting devices carried by said rock-shaft, and being pivotally mounted to permit of a traversing movement, a link connecting said sighting devices, whereby the axes of the several sighting devices are always maintained in parallel relation, and an indicator mounted on the rock-shaft and operated by said link to indicate the traversing adjustment of said sighting devices.

6. The combination with a gun and a shield, of a sighting device at each side of the gun having its horizontal axis adjacent to the trunnion of the gun and having its vertical axis forward of the horizontal axis and adjacent to the shield, whereby the sight-opening in the shield may be reduced to a minimum.

7. The combination with a gun and its shield, of a rocker having its pivot above and adjacent to the trunnion of the gun and provided with an arm extending forward from said trunnion nearly to the shield, and a sighting device having its vertical axis in the forward end of the rocker-arm adjacent to the shield, whereby the sight-opening in the shield may be reduced to a minimum.

8. The combination with a gun and its shield, of a rocker pivotally mounted on the gun adjacent to the trunnion thereof and having arms extending forwardly and rearwardly from its pivot, and a sighting device supported on said rocker, said sighting device being pivotally connected with the forward rocker-arm adjacent to the shield and having a sliding connection with the rear rocker-arm.

9. The combination with the frame adapted for attachment to a gun to extend forward of the trunnions thereof at each side, of a sight-support at each side each pivoted to the forward end of the frame, and means for connecting the two supports to move together about their pivots.

10. The combination with the frame adapted for attachment to a gun to extend forward of the trunnions thereof at each side, of a sight-support at each side each pivoted to the forward end of the frame, means

for connecting the two supports to move together about their pivots, and means for moving the supports at either side of the gun.

11. The combination of a frame, a rock-shaft adapted to be mounted transversely to a gun, a support for said frame to swing vertically, supports each pivoted to said frame at each side forward of the trunnions of the gun so as to swing laterally, connections between the supports, sighting devices mounted upon each support and means whereby the frame and supports may be operated from the side of the gun.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

JOHN F. MEIGS.
SIGARD A. S. HAMMAR.

Witnesses:

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EARL G. RUSH.