Dec. 5, 1961 C W. MUSSER 3,011,409

FIREARM SUPPORTING MEANS

Filed April 20, 1960 2 Sheets-Sheet 1

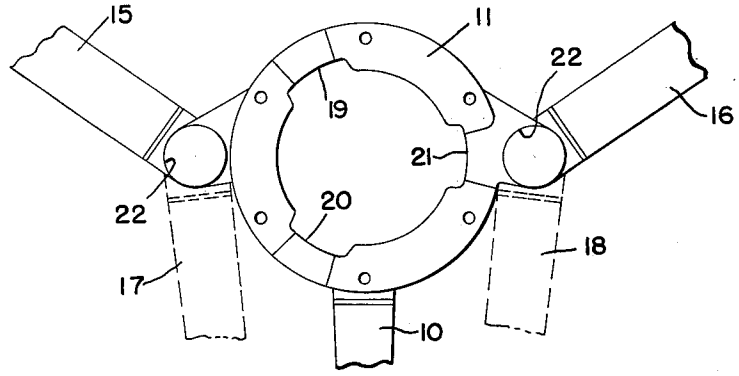


FIG. 1.

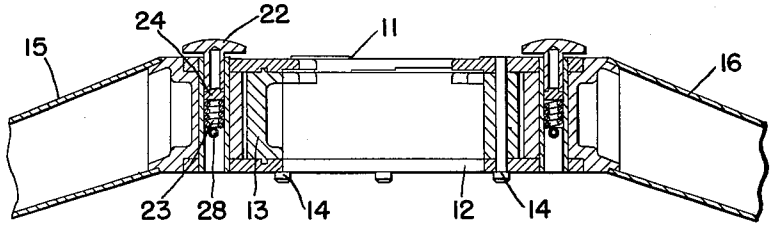


FIG. 2.

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FIREARM SUPPORTING MEANS

Filed April 20, 1960 2 Sheets-Sheet 2

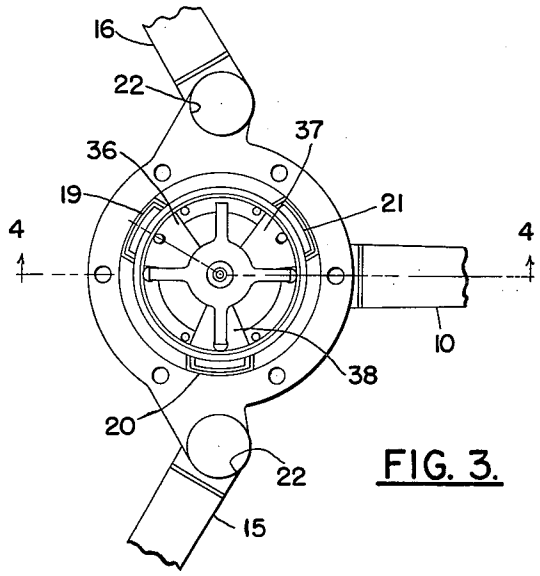


FIG. 3.

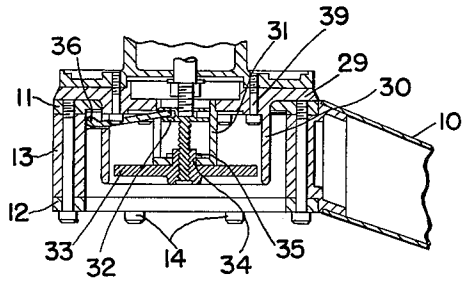


FIG. 4.

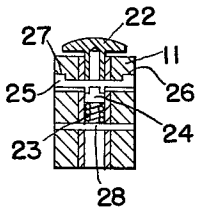


FIG. 2A.

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3,011,409

FIREARM SUPPORTING MEANS

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Filed Apr. 20, 1960, Ser. No. 23,585
5 Claims. (Cl. 89—40)
(Granted under Title 35, U.S. Code (1952), sec. 266)

The invention described herein may be manufactured and used by or for the Government for governmental purposes without the payment to me of any royalty thereon.

This invention relates to firearm supporting means, and more especially to an improved tripod combined with an improved means for coupling it to the elevating and traversing mechanism of a recoilless rifle or the like.

Where a recoilless rifle is to be transported by hand, it is desirable that its support be quickly detachable and capable of being folded into a compact unit. The present invention produces these highly desirable results by the provision of (1) a tripod having two hinged legs which are rotatable into engagement with a third fixed leg and (2) a quickly operable coupling means for clamping the tripod to the elevating and traversing mechanism of the rifle. As hereinafter explained the hinged legs are locked in position when in use and operation of the coupling means is effected by the rotation of a single handnut.

The invention will be better understood from the following description when considered in connection with the accompanying drawing and its scope is indicated by the appended claims.

Referring to the drawings:

FIG. 1 is a partial top view of the tripod, the folded positions of the hinged legs being indicated by broken lines,

FIGS. 2 and 2A are sectional views illustrating the details of the means for locking the hinged legs in their gun supporting and folded positions,

FIG. 3 is a bottom view of the means by which the tripod is coupled to the elevating and traversing mechanisms of the rifle, and

FIG. 4 is a section taken on the line 4—4 of FIG. 3.

The tripod illustrated by FIGS. 1 and 2 includes a leg 10 which is fixed between a pair of rings 11 and 12. These rings are clamped to a filler 13 by means of bolts 14 and have hinged to them legs 15 and 16 which are arranged to be locked either in their illustrated rifle supporting position or in a carrying position indicated by broken lines 17 and 18. For a purpose hereinafter explained, the ring 11 is provided with recesses 19, 20 and 21 (FIG. 1).

Means including a button 22 loaded by a spring 23 are arranged to lock the leg 15 in either of the two positions indicated by FIG. 1.

As indicated more clearly in FIGS. 2 and 2A, the spring 23 operates through a slug 24 to bias a locking bar 25 into slots 26 and 27 in the lower side of the ring 11. At its lower end, the spring 23 rests against a pin 28. The slug 24 functions to prevent longitudinal movement of the locking bar 25. It should be understood that, in addition to the grooves 26 and 27, there is a similar pair of grooves which are displaced from the grooves 26 and 27 by an angle of 120 degrees. With this arrangement, the

hinged legs are locked at either position and unlocked merely by depressing the button 22.

The device for coupling the tripod to the elevating and traversing mechanism of the rifle is shown in FIGS. 3 and 4. It includes a ring shaped adapter plate 29 having a tubular extension 30 which centers it in the opening of the flat upper ring ring 11. Fixed to the adapter plate 29 is a guide 31 within which a latch collar 32 is movable by rotation of a capstan or handnut 33. It can be seen that this handnut has an inwardly extending collar 34 which is positioned in the guide 31 by a retaining ring 35 and is threaded onto the shaft of the latch collar 32. With this arrangement, rotation of the handnut 33 functions to move the latch collar 32 up or down in the guide 31.

This movement of the latch collar operates through three latches 36, 37 and 38 to clamp the adapter plate 29 to the upper ring 11. This follows from the fact that the latches are positioned with their inner ends in a groove of the latch collar, are pivoted in openings through the adapter plate extension 30 and have their outer ends arranged to engage the bottom of the upper ring 11. Thus rotation of the handnut 33 in one direction tightens the adapter 29 to the upper ring 11 and rotation in the opposite direction loosens it therefrom.

The elevation and traversing mechanisms of the rifle are fixed to the adapter plate 29 by means of bolts 39. This assemblage is readily attached to the tripod by (1) aligning the outer ends of the latches 36—37—38 with the upper ring recesses 19—21—20, (2) passing the extension 30 through the central opening of the ring 11, (3) rotating the whole assemblage about sixty degrees into contact with a stop (not shown) and (4) rotating the handnut to force the outer ends of the latches 36—37—38 up against the bottom of the ring 11.

I claim:

1. The combination with a tripod to which a firearm is to be clamped, including a flat ring recessed at intervals around its inner periphery, and a coupling device including an adapter plate having a tubular extension adapted to fit into said ring, generally radially extending latches supported by and extending through said tubular extension to a point where their outer ends may be passed radially into and through said recessed portions of said ring in a direction axially thereof and rotated under a bottom surface of said ring, and means arranged within said tubular extension whereby the radially outer ends of said latches may be moved to and from a bottom surface of said ring for locking said adapter plate to said ring.

2. A combination as defined in claim 1 wherein two legs of said tripod are hinged to said ring so as to be folded against a third leg fixed to said ring.

3. A combination as defined in claim 2 wherein said hinged legs are each arranged to be locked in different angular positions.

4. A combination as defined in claim 3 wherein an operating member of said means is a push button, a gun adapted to be carried by said tripod, and elevating and traversing mechanism for said gun fixed to said adapter plate.

5. A device for clamping a firearm to a tripod comprising, a flat ring recessed at intervals about its inner periphery and secured to said tripod, a ring shaped

adapter plate having a tubular extension adapted to fit into said ring, a tubular guide fixed at its upper end to a radially inner portion of said plate, an internally threaded retaining ring at a lower end portion of said guide, a threaded shaft in said threaded retaining ring and extending upwardly in said guide, a collar fixed to said shaft within said guide and above said retaining ring, said collar having a peripheral groove, and generally radially extending latches having their radially inner ends within the groove in said collar and their radially extending outer ends projecting through and beyond said tubular extension whereby the outer ends of said latches may be received in the recessed portions of said ring and movable axially through such recessed portions to be clampable agianst a bottom surface of said ring by rotation of said shaft for clamping said plate to said ring.

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