

June 27, 1967

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3,327,422

BIPOD FOR ATTACHMENT TO A FIREARM

Filed Oct. 23, 1965

3 Sheets-Sheet 1

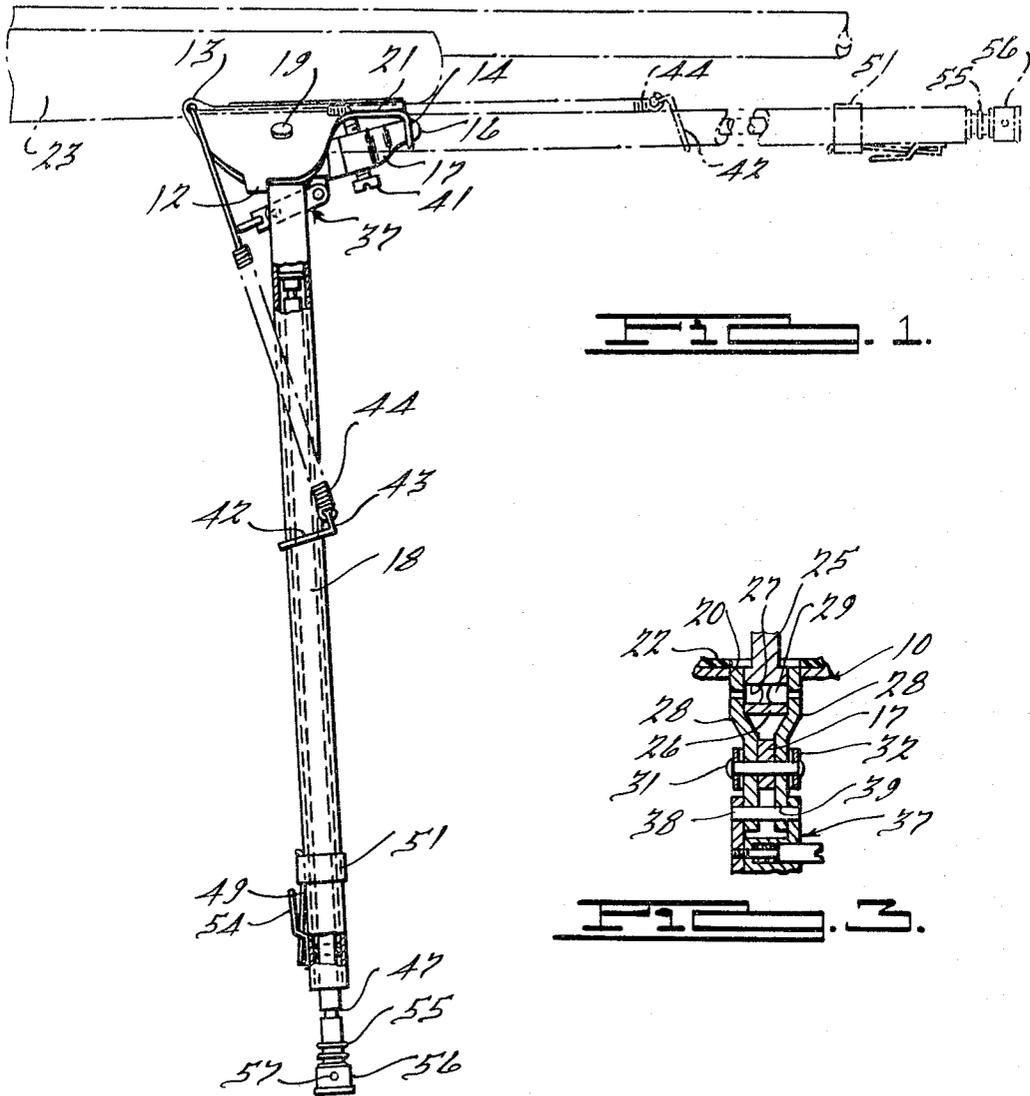


FIG. 1.

FIG. 3.

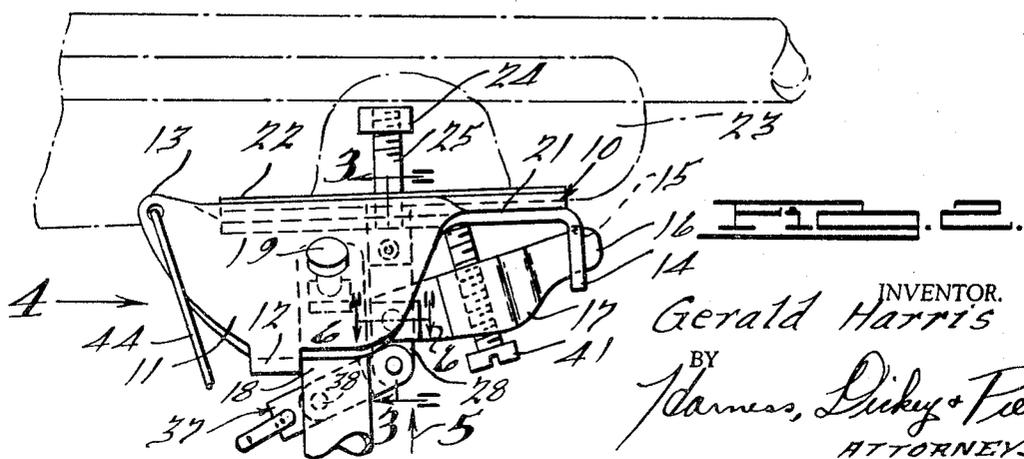


FIG. 2.

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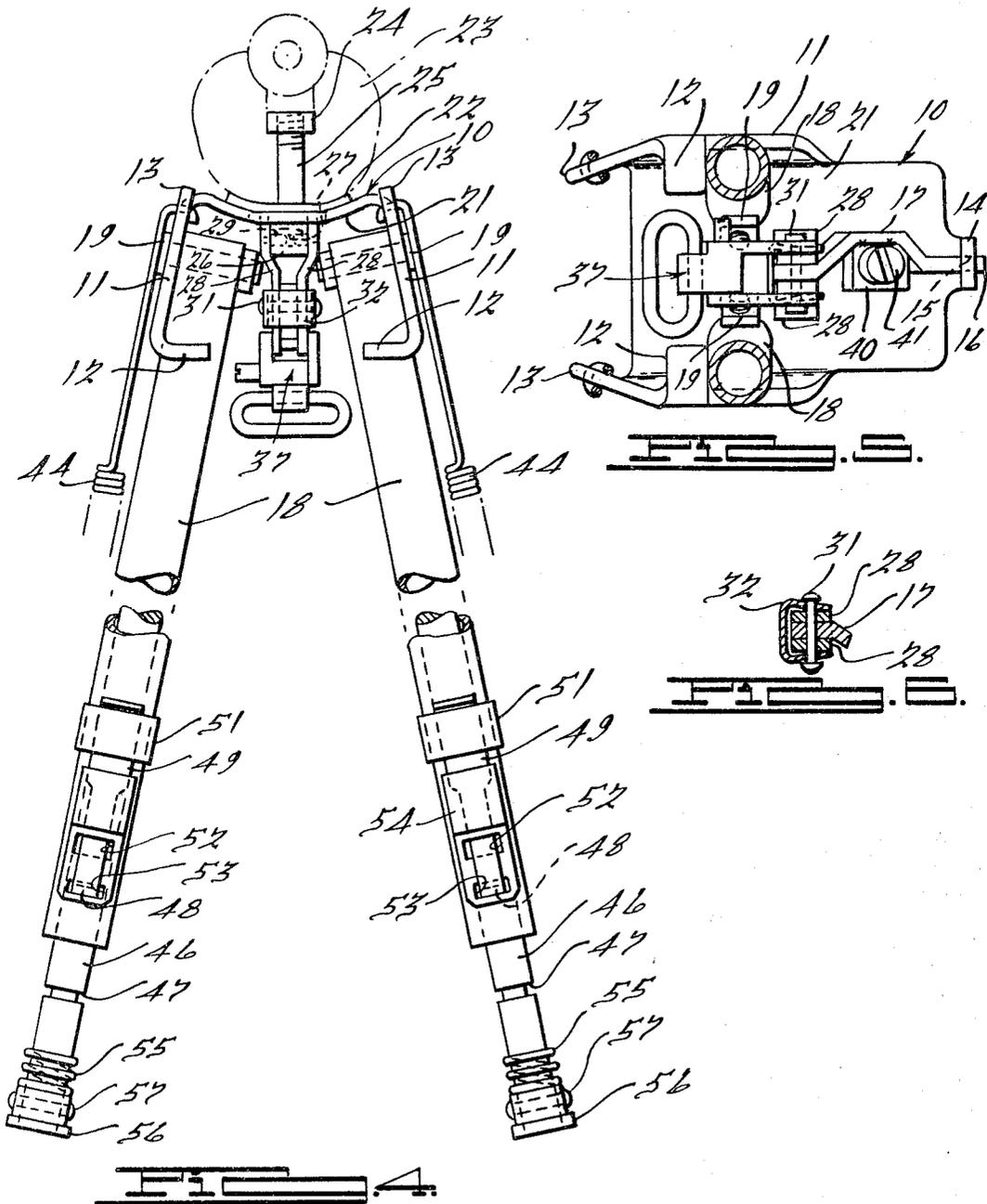
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3 Sheets-Sheet 2



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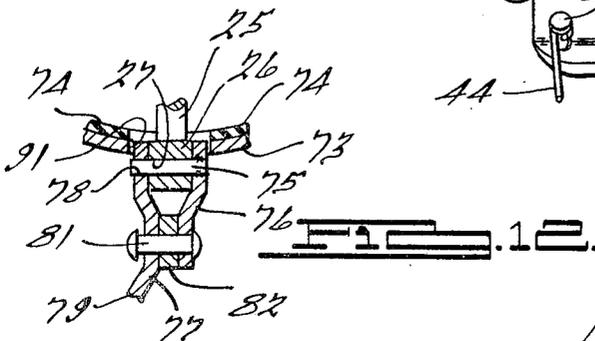
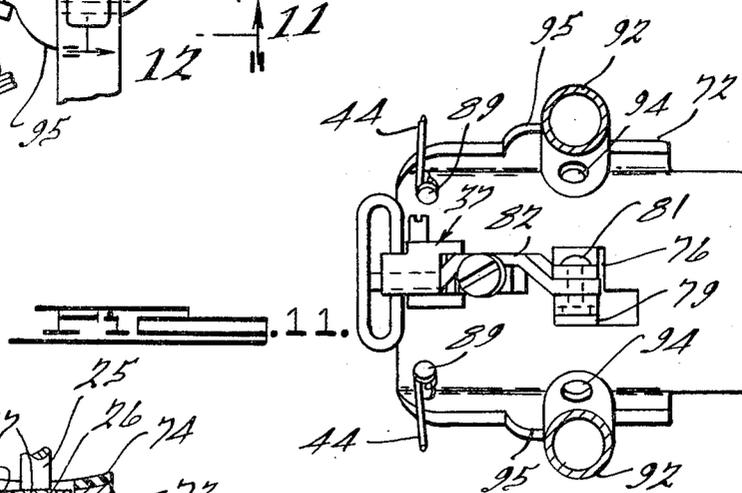
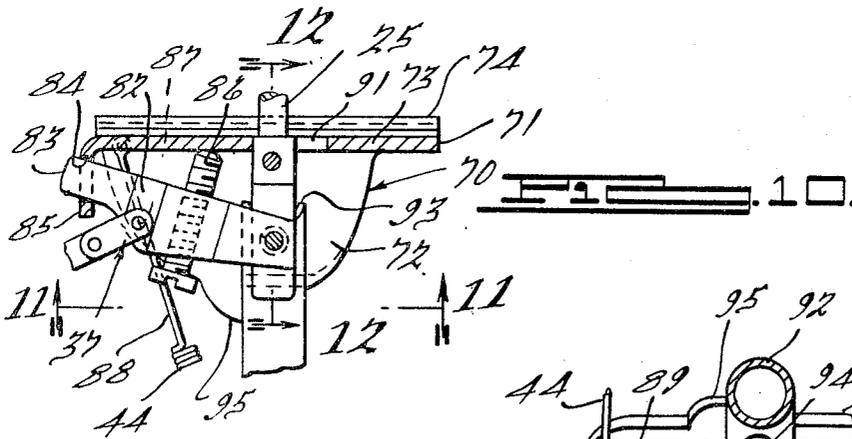
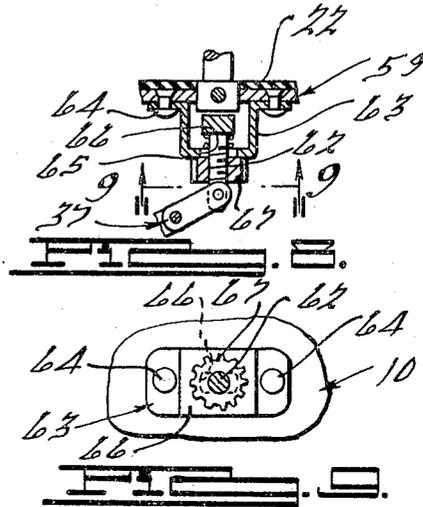
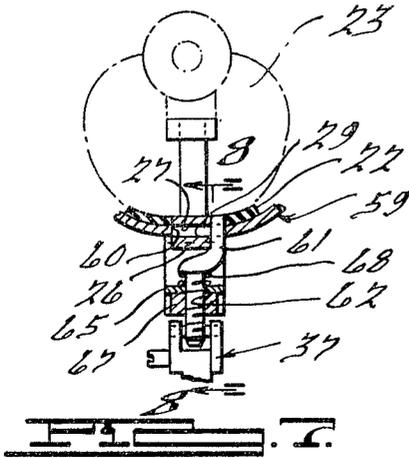
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BIPOD FOR ATTACHMENT TO A FIREARM

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3 Sheets-Sheet 3



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3,327,422

BIPOD FOR ATTACHMENT TO A FIREARM

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19 Claims. (Cl. 42—94)

ABSTRACT OF THE DISCLOSURE

The invention pertains to a chair having a swingable seat and back on a base with the seat and back hinged together and to the base to swing forwardly and upwardly. A link system supported by the seat has a leg rest on the front end which is disposed beneath the seat when retracted and in parallel relation therewith and with itself in all positions during movement from retracted to extended position.

This invention relates to bipods and particularly to a bipod for attachment onto the forearm of a hand gun.

While bipods are employed on modern rifles, they are usually constructed as a fixed part thereof. The present invention pertains to a bipod which is readily attached to a gun so as to be foldable along the barrel thereof when not in use. The bipod has a base stamping to which a pair of legs is pivotally supported for movement to a position substantially vertical to the barrel and to a position substantially parallel thereto. The forearm of the gun is usually provided with a bolt which supports a swivel for one end of a sling. The base stamping of the bipod is secured to the forearm by the head of the bolt. Pin means on support means extend through the base stamping and project within the aperture of the head after the pin securing the sling swivel has been removed. A link is pivoted on the support means and the base stamping containing a screw which engages the stamping and forces it against the forearm of the gun. If a sling swivel is to be employed, the pin of the sling swivel is supported in an aperture in the support means or the link. Stop means limit the movement of the legs to substantially vertical position where they are retained by spring means. The spring means also retain the legs in folded position adjacent to the barrel. The legs preferably, are made of telescoped sections having latching means which retain the sections in retracted and adjusted positions. Upon the release of the latching means the legs may be extended so that the bipod may be lengthened to a height which is desired. Slots in the legs are engaged by the latching means so that various lengths may be selected. The short lengths of coil spring are provided on the ends of the sections which are stressed when in closed position to be effective for ejecting the legs to extended position when released.

Accordingly, the main objects of the invention are: to support a bipod on the forearm of a gun on the sling swivel supporting head of a bolt provided thereon; to secure the base of a bipod to the forearm of a rifle by a pair of straps having aligned pins which extend in the ends of an aperture in the head of a bolt on the forearm and urged thereagainst by a screw on a link pivoted to the straps; to provide stop means on the base of a bipod against which the pair of legs are held by a pair of springs which are so located as to hold the legs adjacent to the gun barrel when in folded position; to telescope extensible leg sections within the hollow legs of the bipod having annular slots engaged by a spring pressed detent for retaining the legs in any one of a plurality of adjustable positions; and in general, to provide a bipod which is readily attachable to the forearm of a gun which is simple in construction, positive in operation and economical of manufacture.

Other objects and features and novelty of the invention will be specifically pointed out or will become apparent when referring, for a better understanding of the invention, to the following description taken in conjunction with the accompanying drawings, wherein:

FIGURE 1 is a view of a bipod having releaseable attaching means embodying features of the present invention;

FIG. 2 is an enlarged broken view of the structure illustrated in FIG. 1;

FIG. 3 is a broken sectional view of the structure illustrated in FIG. 2, taken on the line 3—3 thereof;

FIG. 4 is a view of the bipod illustrated in FIG. 2, as viewed from the point 4 thereof;

FIG. 5 is a view of the structure illustrated in FIG. 2, as viewed from the point 5 thereof;

FIG. 6 is a sectional view of the structure illustrated in FIG. 2, taken on the line 6—6 thereof;

FIG. 7 is a broken sectional view of structure, similar to that illustrated in FIG. 4, showing another form of the invention;

FIG. 8 is a sectional view of the structure illustrated in FIG. 7, taken on the line 8—8 thereof;

FIG. 9 is a sectional view of the structure illustrated in FIG. 8, taken on the line 9—9 thereof;

FIG. 10 is a sectional view of the structure, similar to that illustrated in FIG. 1, showing a still further form of the invention;

FIG. 11 is a sectional view of the structure illustrated in FIG. 10, taken on the line 11—11 thereof, and

FIG. 12 is a sectional view of the structure illustrated in FIG. 11, taken on the line 12—12 thereof.

One form of the bipod of the present invention comprises a base stamping 10 having sloping flanges 11 at opposite sides forming a supporting plate. The flanges 11 have inwardly extending stop flanges 12 and forwardly and upwardly extending arms 13. A downwardly extending flange 14 at the opposite end of the stamping from that having the arms 13 contains a slot 15 for receiving the end 16 of a lever 17. A pair of tubular legs 18 are secured to the flanges 11 by bolts 19 for pivotal movement thereon. The central web 21 of the base stamping 10 has an aperture 20, the web being arcuately dished to follow the contour of the forearm 23 of a gun. The web has a pad 22 bonded thereto to protect the finish on the forearm. A nut 24 is recessed within the forearm 23 for supporting a bolt 25, the head 26 of which is provided with an aperture 27 for receiving the ends of a sling swivel. The swivel is removed and a pair of links or straps 28 having fingers 29 thereon is supported on the head when the fingers extend within the aperture 27 thereof. A pivot pin 31 extends through the straps and the forward end of the lever 17 and through a U-shaped spring clip 32 which urges the links and lever together. A sling swivel 37 has a retractable pin 38 which is supported in aligned apertures 39 in the end of the links or straps 28. A screw 41 is threaded in a nut 40 which is welded or otherwise secured to the lever 17. When the screw 41 is tightened, the lever 17 is drawn downwardly along with the links or straps 28 which forces the base stamping 10 upwardly against the forearm 23 to securely fasten it thereagainst.

A washer-like element 42 having an upstanding flange 43 is locked to each of the legs 18 when tensioned by springs 44 secured in apertures in the flange 43 and the projecting ends 13 of the flanges 11. The springs exert a force on the legs 18 when in substantially vertical position to the forearm, as illustrated in FIG. 1, to retain them against the stop flanges 12. When moved to a position parallel to the barrel, the springs likewise produce a tension on the legs which retains them in the retracted

position. When the forearm of the gun is not provided with the bolt 25 and nut 24, it is an easy matter to drill a hole for the bolt and one for the nut so as to have the head 26 available on the forearm for supporting the bipod.

The legs 18 are hollow and have rods 46 telescoped therein. The rods are provided with annular slots 47 and are engaged by a right angle flange 48 on a strap 49 which is secured to the legs 18 by a band 51. The strap extends through apertures 52 and 53 in an actuating lever 54, which has an offset portion in the middle to permit the rear end to be rocked for moving the flange 48 from an annular slot 47. When the operating lever 54 is depressed, the rod 46 is ejected from the leg by a spring 55 which bears against a foot 56 secured to the end of the leg by a rivet 57. When the lever 54 is released, the flange 48 will engage the adjacent notch of the rod. When the rod 46 is withdrawn into the leg 18, the spring 55 becomes tensioned when the lowermost notch is engaged by the flange 48.

When securing the bipod to the forearm 23, the links 28 are moved upwardly through the aperture 20 in the stamping 10 and the lower ends of the straps containing the apertures 39 are pressed together. This separates the pins 29 so that they can be inserted in the ends of the aperture 27. The spring arms of the clip 32, pressing against the links 28, will hold the pins in the aperture until the stamping 10 can move thereover, as illustrated in FIG. 3. The screw 41 is tightened to draw the lever 17 downwardly and force the stamping against the forearm. The sling swivel 37 may have its pin 38 inserted through the apertures 39 in the links. When the bipod is to be removed from the forearm, the swivel 37 is removed, the screw 41 is retracted to permit the stamping 10 to move downwardly over the links 28. The upper ends of the straps move outwardly when the bottom ends are moved together to move the pins 29 from the aperture 27. With this arrangement the bipod is quickly applied to the forearm and very quickly removed therefrom.

Referring to FIGS. 7, 8 and 9, a further form of the invention is illustrated that wherein a base stamping 59 has an aperture 60 of sufficient width to receive the head 26 and also an arm or links 61 on a threaded stud 62. The arm or link has a pin 29 thereon which extends within the aperture 27 of the head. The stamping 59 has a U-shaped bracket 63 secured thereon in a suitable manner, herein illustrated as by rivets 64. The web 65 of the U-shaped bracket has an aperture 66 through which the stud 62 extends. When a nut 67 is screwed upwardly on the stud 62 the stamping 10 is forced against the forearm 23 into firm fixed relation therewith. The sling swivel 37 may be attached to the stud 62 in an aperture there-through.

When the bipod is to be attached to the forearm, the nut 67 is loosened on the stud and the arm or link 61 will be moved upwardly by a spring 68. The arm will extend beyond the aperture 60 in the stamping 59 so that the pin 29 can be inserted in the aperture 27. After the pin is inserted, the nut 67 is screwed upwardly on the stud 62 to move the stamping 59 upwardly to have the pad 22 firmly engage the surface of the forearm 23. When the bipod is to be removed, the nut 67 is screwed down on the stud 62 lowering the stamping 59 relative to the arm 61 so that the pin 29 can be moved out of the aperture 27. The sling swivel 37 having been removed may be applied directly to the head 26.

A further type of holding means for the bipod 70 is illustrated in FIGS. 10, 11 and 12. In this arrangement, a supporting plate 71 has side flanges 72 diverging outwardly from a web 73. The web has a strip of padding 74 bonded thereto on each side of the center thereof. The bolt 25 on the forearm 23 has an aperture 27 which receives a pin 75 fixed to a link 76. A second link 77 has an aperture 78 which receives the end of the pin 75 after it has been inserted through the aperture 27 of the head. The link has an outstanding end 79 which when moved inwardly, moves the opposite end outwardly from over

the pin 75. The link 77 is then pivoted on a rivet 81 away from the head 26. The pin 75 may be moved laterally from the aperture. The length of rivet 81 and the size of the aperture through which it extends is such as to permit the lateral tilting movement of the link 77. The rivet extends through a lever 82 and through the links 76 and 77 to be in pivotal relation to each other. The lever 82 has an end 83 extending through a slot 84 in a flange 85 extending outwardly from the web 73. A screw 86 is threaded through the lever 82 for forcing the supporting plate 71 against the forearm of the gun when tightened. An aperture 87 through the lever 82 receives the pin of the sling swivel 37. The ends 88 of the springs 44 are secured on pins 89 extending inwardly from the flanges 72.

When applying the pin 75 to the head 26, the screw 86 is loosened to permit the links to extend through an aperture 91 in the web 73 of the supporting plate 71. When extending therethrough, pressure is applied to the end 79 of the link 77 for moving the opposite end of the link from the pin 75. The link 77 is then rotated on the rivet 81 away from the pin 75 which may then be inserted into the aperture 27. Thereafter the link 77 is pivoted to have the aperture 78 aligned with the pin 75 after which the end 79 is moved outwardly to the opposite end over the end of the pins. Thereafter the screw 86 is tightened to force the pads 74 against the forearm to secure the bipod thereon. When the bipod is to be removed, the screw 86 is loosened dropping the supporting plate 71 downwardly so that the link 77 can be moved outwardly from the pin 75 and rotated away therefrom so that the pin can be removed from the aperture 27 to completely separate the bipod from the head 26 and forearm.

It will be noted in this arrangement that the legs 92 have a central slot 93 for receiving the flanges 72 to which they are secured by a through bolt 94. A pair of ears 95 extend upwardly on the flanges 72 against which the legs abut when retained in fixed substantially vertical position to the gun by the springs 44. The leg structure of the bipod of FIGS. 7 to 12 is the same as that described above with regard to the bipod of FIGS. 1 to 6. The springs 44 retain the legs in substantially vertical position and also in folded position adjacent to the gun barrel.

What is claimed is:

1. A bipod having a supporting plate and a pair of legs pivoted thereto, a hole in said plate for receiving the extending head of a bolt on the forearm of a gun, said head having a transverse aperture, link means, pin means on said link means insertable in said aperture, and means adjustable on said link means for adjusting the position of said plate relative to said head.

2. A bipod having a supporting plate and a pair of legs pivoted thereto, a hole in said plate for receiving the extending head of a bolt on the forearm of a gun, said head having a transverse aperture, link means, pin means on said link means insertable in said aperture, means adjustable on said link means for adjusting the position of said plate relative to said head, and means on said link means for supporting a sling swivel.

3. A bipod having a supporting plate and a pair of legs pivoted thereto, a hole in said plate for receiving the extending head of a bolt on the forearm of a gun, said head having a transverse aperture, link means, pin means on said link means insertable in said aperture, means adjustable on said link means for adjusting the position of said plate relative to said head, means on said link means for supporting a sling swivel, and projections on said plate against which the legs abut when disposed substantially normal to said plate.

4. A bipod having a supporting plate and a pair of legs pivoted thereto, a hole in said plate for receiving the extending head of a bolt on the forearm of a gun, said head having a transverse aperture, link means, pin means on said link means insertable in said aperture, means adjustable on said link means for adjusting the position of said plate relative to said head, means on

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said link means for supporting a sling swivel, projections on said plate against which the legs abut when disposed substantially normal to said plate, and spring means for retaining said legs against said projections when disposed substantially normal to said plate and adjacent to said plate when in folded position.

5. A bipod having a supporting plate and a pair of legs pivoted thereto, said plate having a hole for receiving the extending head of a bolt on the forearm of a gun, said head having a transverse aperture, link means, pin means on said link means insertable in said aperture, a lever having one end pivoted on the plate and the opposite end pivoted on said link means, means providing width to the lever intermediate its ends for containing a threaded aperture, and a screw in said threaded aperture engaging said supporting plate for tightly clamping the supporting plate against the forearm.

6. A bipod having a supporting plate and a pair of legs pivoted thereto, said plate having a hole for receiving the extending head of a bolt on the forearm of a gun, said head having a transverse aperture, a pair of links extending through said hole, pin means at one end of said links insertable in said aperture, a lever having one end pivoted on the plate and the opposite end pivoted on said links, means providing width to said lever intermediate its ends for containing a threaded aperture, a screw in said threaded aperture engaging said supporting plate for tightly clamping the supporting plate against the forearm, and a sling swivel pivotally mounted on said pair of links.

7. A bipod having a supporting plate and a pair of legs pivoted thereto, said plate having a hole for receiving the extending head of a bolt on the forearm of a gun, said head having a transverse aperture, a pair of links extending through said hole, pin means at one end of said links insertable in said aperture, a lever having one end pivoted on the plate and the opposite end pivoted on said links, means providing width to said lever intermediate its ends for containing a threaded aperture, a screw in said threaded aperture engaging said supporting plate for tightly clamping the supporting plate against the forearm, extending arms and stop projections on said supporting plate, attaching means on the legs, and spring means between the extending arms and the attaching means so positioned as to retain the legs against said stop projections when in supporting position and against the supporting plate when in retracted position.

8. A bipod having a supporting plate and a pair of legs pivoted thereto, said plate having a hole for receiving the extending head of a bolt on the forearm of a gun, said head having a transverse aperture, a pair of links extending through said hole, pin means at one end of said links insertable in said aperture, a lever having one end pivoted on the plate and the opposite end pivoted on said links, means providing width to said lever intermediate its ends for containing a threaded aperture, a screw in said threaded aperture engaging said supporting plate for tightly clamping the supporting plate against the forearm, extending arms and stop projections on said supporting plate, attaching means on the legs, spring means between the extending arms and the attaching means so positioned as to retain the legs against said stop projections when in supporting position and against the supporting plate when in retracted position, said legs being hollow, a leg section in each of said hollow legs which are movable therefrom to increase the height of the bipod, and latch means on the hollow legs for latching said leg sections in various positions.

9. A bipod having a supporting plate and a pair of legs pivoted thereto, said plate having a hole for receiving the extending head of a bolt on the forearm of a gun, said head having a transverse aperture, a pair of links at one end extending through said hole, pin means at one end of said links insertable in said aperture, a lever having one end pivoted on the plate and the opposite end pivoted on said links, means providing width to said lever

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intermediate its ends for containing a threaded aperture, a screw in said threaded aperture engaging said supporting plate for tightly clamping the supporting plate against the forearm, extending arms and stop projections on said supporting plate, attaching means on the legs, spring means between the extending arms and the attaching means so positioned as to retain the legs against said stop projections when in supporting position and against the supporting plate when in retracted position, said legs being hollow, a leg section in each of said hollow legs which are movable therefrom to increase the height of the bipod, latch means on the hollow legs for latching said leg sections in various positions, a foot on each said leg sections, and a spring on each said sections adjacent to the foot which is compressed when the sections are retracted and latched within the hollow legs.

10. A bipod having a supporting plate and a pair of legs pivoted thereto, said plate having a hole for receiving the extending head of a bolt, said head having a transverse aperture, link means, pin means on said link means insertable in said aperture, a lever having one end pivoted to the plate and the opposite end secured to said link means, and spring means urging said link means and lever together.

11. A bipod having a supporting plate and a pair of legs pivoted thereto, said plate having a hole for receiving the extending head of a bolt, said head having a transverse aperture, a pair of links in said hole, pin means on said links insertable in opposite ends of said aperture, a lever having one end pivoted to the plate and the opposite end secured to said links, spring means urging said links and lever together initially retaining the pins within the ends of the head aperture, means providing width to said lever interjacent its ends for containing a threaded aperture, and a screw in said threaded aperture engaging said supporting plate for adjusting the position of the supporting plate relative to the head.

12. A bipod having a supporting plate and a pair of legs pivoted thereto, said plate having a hole for receiving the extending head of a bolt, said head having a transverse aperture, a pair of links having a pin at one end insertable in opposite ends of said aperture when extending through said hole, a lever having one end pivoted to the plate and the opposite end secured to said links, means providing width to said lever interjacent its ends for containing a threaded aperture, a screw in said threaded aperture engaging said supporting plate for adjusting the position of said supporting plate relative to the head, extending arms and stop projections on said supporting plate, attaching means on the legs, and springs between the arms and the attaching means so positioned as to retain the legs against said stop projections when in supporting position and against the supporting plate when in retracted position.

13. A bipod having a supporting plate which is to be attached to a bolt having a head provided with a transverse aperture, means on said plate for fixedly securing the plate to the head by means including said transverse aperture, and a pair of legs pivoted on said supporting plate.

14. A bipod having a supporting plate which is to be attached to a bolt having a head provided with a transverse aperture, means on said plate for fixedly securing the plate to the head by means including said transverse aperture, a pair of hollow legs pivoted on said supporting plate, leg sections telescoped within said hollow legs, said sections containing apertures, a latch on each leg having a finger which extends in an aperture of the section for retaining the sections in retracted and extended positions, and a spring about the end of each leg section which are engaged and compressed when the leg sections are retracted and latched within the legs.

15. A bipod having a supporting plate and a pair of legs pivoted thereto, said plate having a hole for receiving the extending head of a bolt on the forearm of a gun,

said head having a transverse aperture, a pair of links extending through said hole, a lever having one end pivoted on the plate, a pivot securing said links and the other end of the lever together, a pin fixed to one of the links aligned with an aperture in the other link, said pin being insertable through the aperture in the head and that of the other link, means providing width to said lever intermediate its ends for containing a threaded aperture, and a screw in said aperture engageable with said supporting plate for securing the latter on the forearm.

16. A bipod having a supporting plate and a pair of legs pivoted thereto, said plate having a hole for receiving the extending head of a bolt on the forearm of a gun, said head having a transverse aperture, a pair of links extending through said hole, a lever having one end pivoted on the plate, a pivot securing said links and the other end of the lever together, a pin fixed to one of the links aligned with an aperture in the head and that of the other link, said lever having a threaded aperture, and a screw in said aperture engageable with said supporting plate for securing the latter on the forearm, said plate having side flanges with stop projections which are engaged by the legs when in supporting position.

17. A bipod having a supporting plate and a pair of legs pivoted thereto, said plate having a hole for receiving the extending head of a bolt on the forearm of a gun, said head having a transverse aperture, a pair of links extending through said hole, a lever having one end pivoted on the plate, a pivot securing said links and the other end of the lever together, a pin fixed to one of the links aligned with an aperture in the other link, said pin being insertable through the aperture in the head and that of the other link, said lever having a threaded aperture, a screw in said aperture engageable with said supporting plate for

securing the latter on the forearm, said plate having side flanges with stop projections which are engaged by the legs when in supporting position, said legs having a central slot on the supported ends which receive the flanges, and pivots extending through the slotted ends and the flanges.

18. A bipod attachable to the forearm of a gun by a head thereon containing an aperture, a supporting plate having a hole and side flanges, legs pivoted on said flanges, a support on said plate having an aperture, a stud extending through said support aperture, an arm on said stud, a pin on said arm, said arm and pin being movable through said hole to permit the pin to be moved into and out of said head aperture, and a nut on said stud engaging said support for moving said supporting plate against said forearm.

19. A bipod attachable to the forearm of a gun by a head thereon containing an aperture, a supporting plate having a hole and side flanges, legs pivoted on said flanges, a support on said plate having an aperture, a stud extending through said support aperture, an arm on said stud, a pin on said arm, said arm and pin being movable through said hole to permit the pin to be moved into and out of said head aperture, a nut on said stud engaging said support for moving said supporting plate against said forearm, and a spring between said support and arm.

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