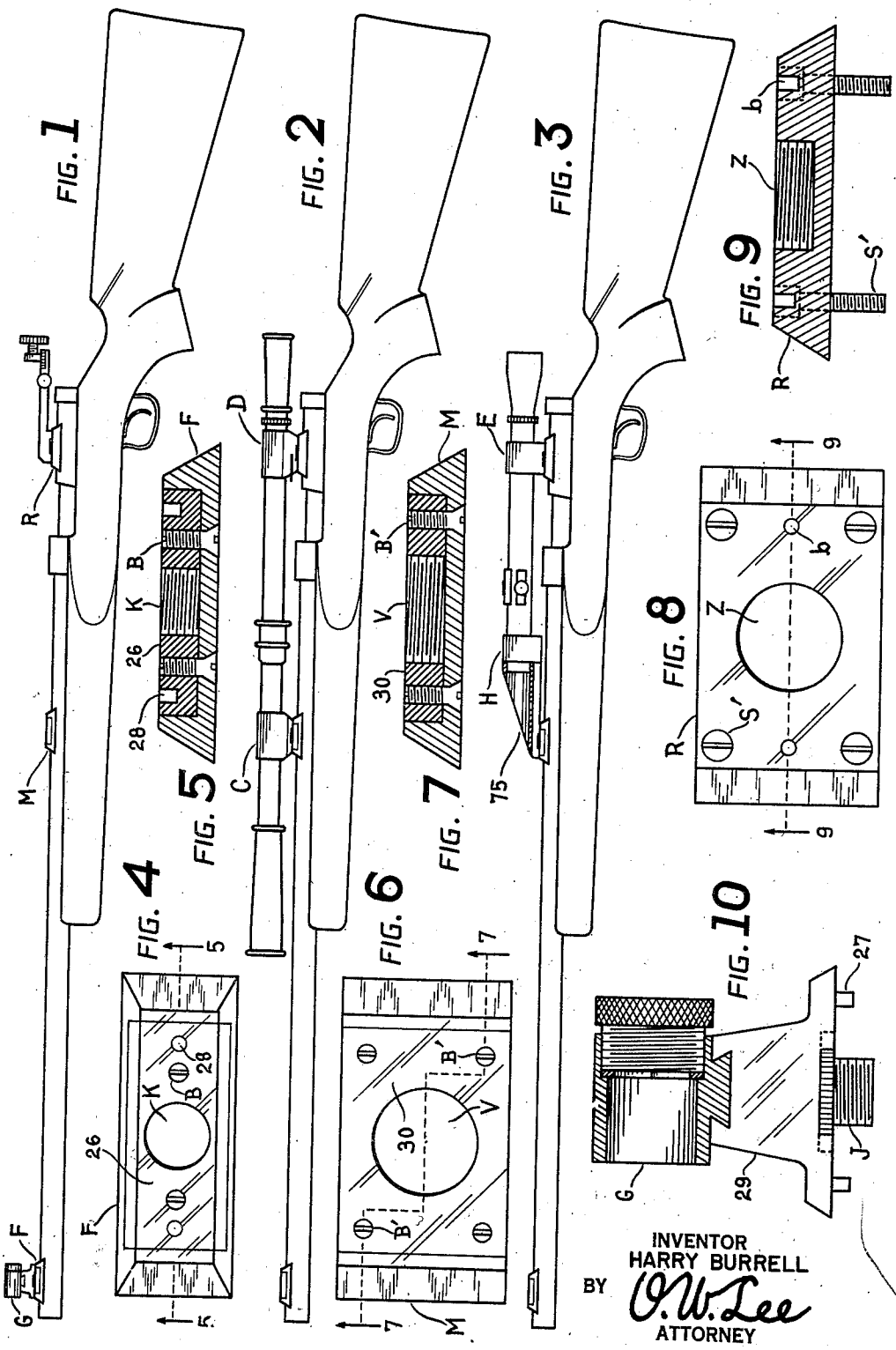
33-257. OR 2,306,997 SR Search Room

Dec. 29, 1942. H. BURRELL 2,306,997

INTERCHANGEABLE GUN SIGHTS

Filed March 22, 1941 3 Sheets-Sheet 1



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INTERCHANGEABLE GUN SIGHTS

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FIG. 11

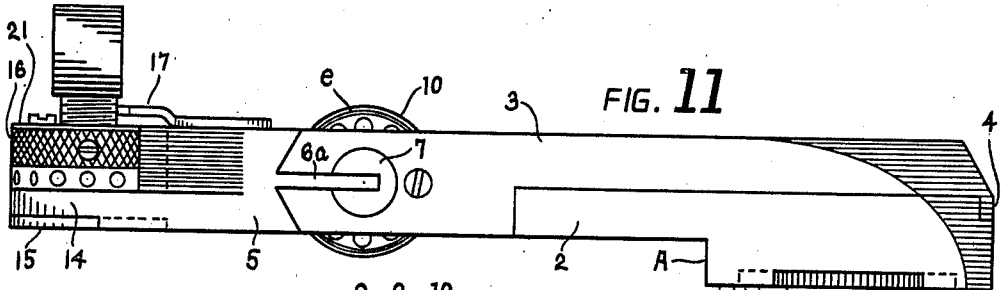


FIG. 12

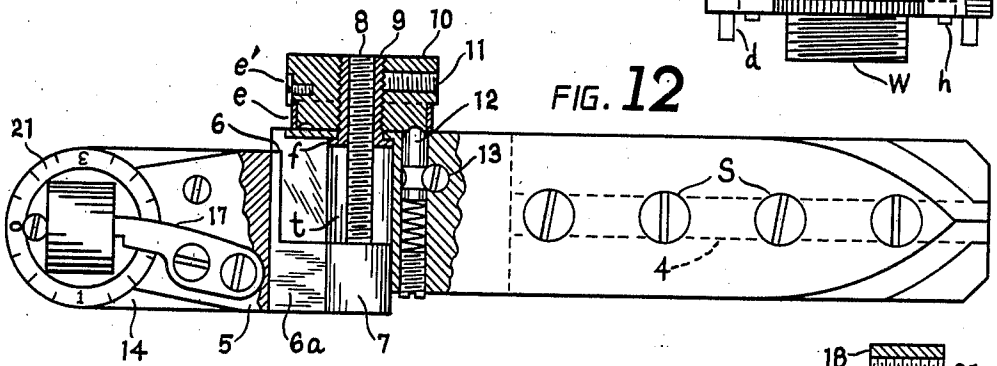


FIG. 13

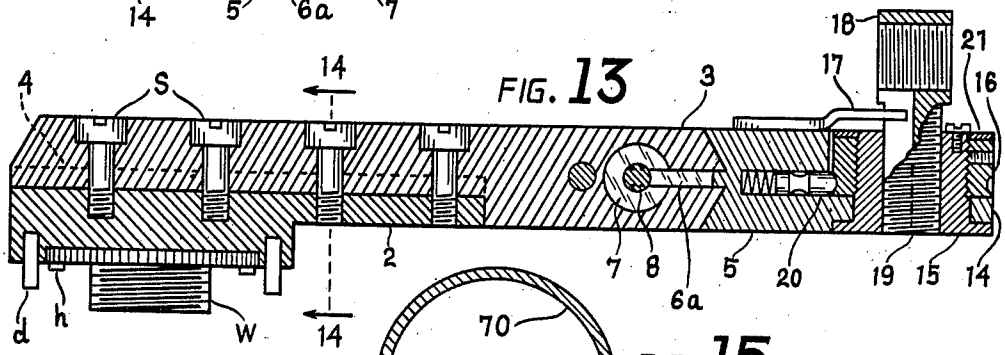


FIG. 14

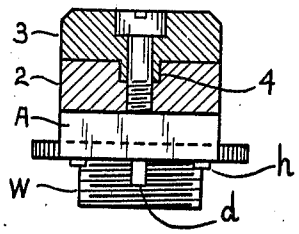


FIG. 15

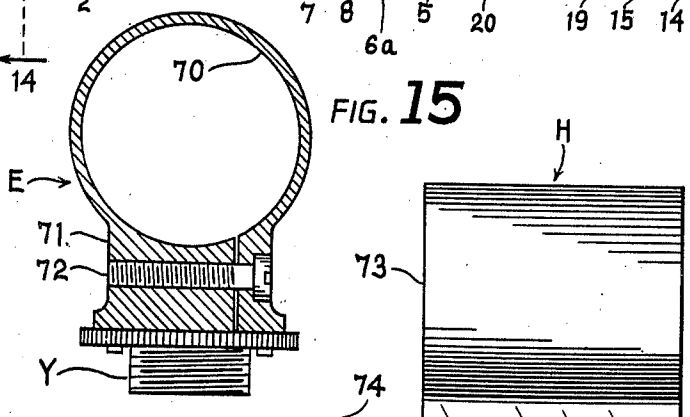
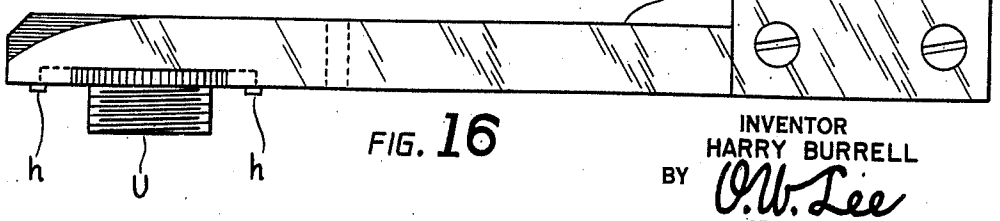


FIG. 16



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INTERCHANGEABLE GUN SIGHTS

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FIG. 17

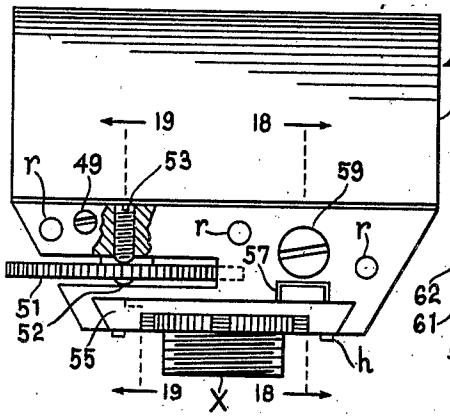


FIG. 18

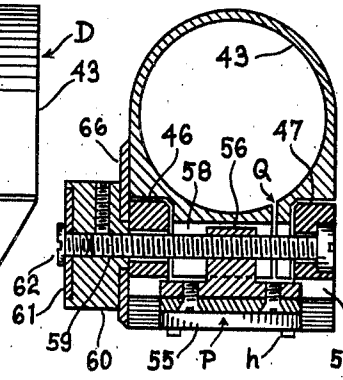
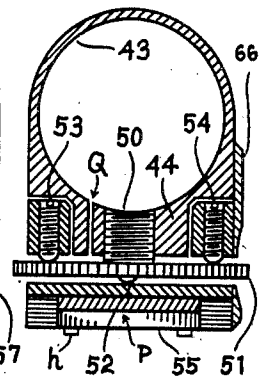


FIG. 19



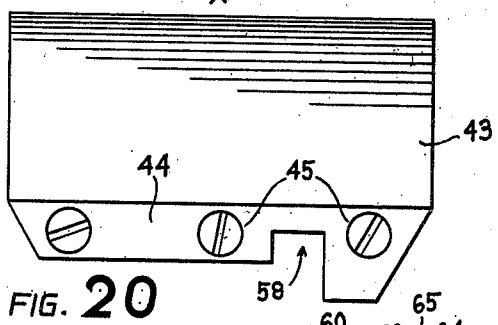


FIG. 20

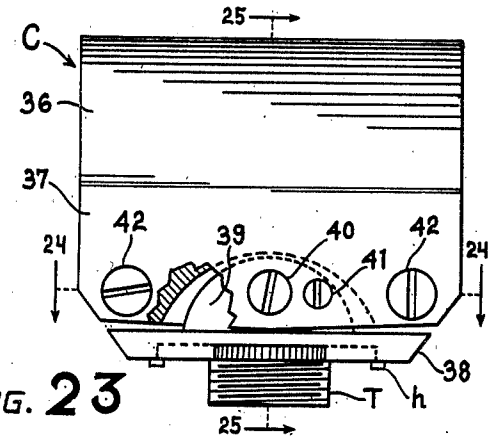
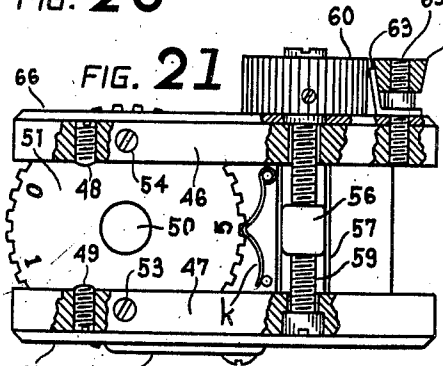


FIG. 23

FIG. 21



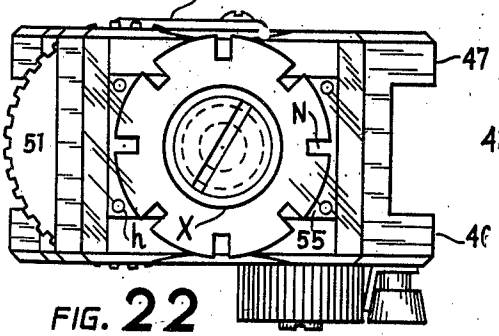


FIG. 22

FIG. 24

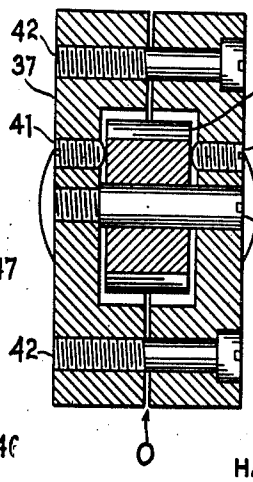
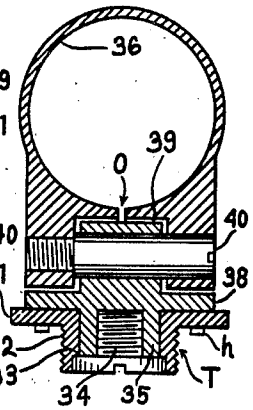


FIG. 25



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UNITED STATES PATENT OFFICE

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INTERCHANGEABLE GUN SIGHT

Harry Burrell, Fairbanks, Alaska

Application March 22, 1941, Serial No. 384,691

9 Claims. (Cl. 33—47)

The present invention relates to interchangeable gun sights and provides means for coordinating two or more rifles with various well known sighting devices so that all of such sighting devices can be zeroed alike on all of such rifles and interchangeably transferred from one rifle to another, as often as desired, with assurance that the zero of each sighting device will be the same known constant in each instance of repeated use upon the different rifles interchangeably.

It is well known that the credible precision of the gunsmith is not sufficient to mount the same telescope sight on a plurality of rifles so that it can be transferred from one rifle to another with uniform zeroing, and neither have arms manufacturers accomplished that desiratum. Furthermore, it is obvious that such extreme precision would be prohibitively expensive.

The present invention provides simple means for correcting mechanical tolerances, so that the same telescope sight can be interchangeably mounted on a plurality of rifles with uniform zeroing, and without resorting to expensive precision.

The invention enables the skilled rifleman who uses two or more rifles on different occasions, to interchangeably employ the same sights on each of them with dependable uniformity, and derive the advantage which he has gained from familiarity acquired from practice with his favorite sights. The rifleman is relieved of the necessity of separately setting the elevation of each sight to correct the mechanical tolerances which would otherwise exist with the same sight on more than one rifle and in transferring various sights from one rifle to another. Thus he may rely upon his markmanship which might otherwise be jeopardized because of lack of dependable uniformity.

In the present disclosure, the invention is shown in the preferred form, which has been reduced to actual practice and fully tested with successful results upon a number of different rifles using different ammunitions.

In the accompanying drawings,

Figures 1, 2, and 3 diagrammatically illustrate the invention thrice applied to the same rifle; and or, applied to three identical rifles wherein each one is in effect the equivalent of all three of them, by interchangeable substitution of the sights shown on the others.

Figures 4 to 9 are enlarged detail views of the three base blocks. Figures 10 to 25 are enlarged detail views of the sight mounts. In the printed patent, these enlarged detail views shown in Figures 4 to 25 appear larger than actual size.

Fig. 1 shows the invention upon a rifle, with front and receiver sights.

Fig. 2 shows the invention upon a rifle, with a target telescope sight supplanting the front and receiver sights of Fig. 1.

Fig. 3 shows the invention upon a rifle, with a game telescope sight supplanting the front and receiver sights of Fig. 1; and or, supplanting the target telescope sight of Fig. 2.

Fig. 4 is an enlarged plan view of the front base block and bolster.

Fig. 5 is a vertical longitudinal section through the center of Fig. 4.

Fig. 6 is an enlarged plan view of the intermediate base block and bolster.

Fig. 7 is a vertical longitudinal section, taken on the indirect dotted line 7 of Fig. 6.

Fig. 8 is an enlarged plan view of the receiver base block.

Fig. 9 is a vertical longitudinal section through the center of Fig. 8.

Fig. 10 is an enlarged left side elevation, partly in section, of the front sight mount of Fig. 1.

Fig. 11 is an enlarged right side elevation of the receiver sight mount of Fig. 1.

Fig. 12 is a plan view of Fig. 11, partly in section.

Fig. 13 is a vertical longitudinal section through the center of Fig. 12.

Fig. 14 is a vertical transverse section, taken on the dotted line 14 of Fig. 13.

Fig. 15 is a vertical transverse section through the rear mount for the game telescope of Fig. 3.

Fig. 16 is a left side elevation of the front mount for the game telescope of Fig. 3.

Fig. 17 is an enlarged left side elevation of the rear mount for the target telescope of Fig. 2, the left cover plate being removed, and a part being shown in section.

Fig. 18 is a vertical transverse section taken on the line 18 of Fig. 17.

Fig. 19 is a vertical transverse section, taken on the line 19 of Fig. 17.

Fig. 20 is a left side elevation of the upper portion of Fig. 17 as it appears after being removed.

Fig. 21 is a plan view, partly in section, of the lower portion of Fig. 17 as it appears after removal of the part shown in Fig. 20.

Fig. 22 is an underneath view of Fig. 21.

Fig. 23 is an enlarged side elevation of the front mount for the target telescope of Fig. 2.

Fig. 24 is a horizontal section, taken on the line 24 of Fig. 23.

Fig. 25 is a transverse vertical section, taken on the line 25 of Fig. 23.

To provide uniform interchangeability of various sights on the same rifle or several rifles, each rifle is provided with a series of three base blocks consisting of a receiver base block R, a front base block F and an intermediate base block M.

The receiver base block R which is separately shown in enlarged detail in Fig. 8 and Fig. 9 is

positioned on the rear of the receiver portion of the rifle and may be an integral part thereof, or else secured thereto in any practical manner. In the present instance the receiver base R is shown dovetailed into the upper face of the receiver and secured by screws such as S'; however, in most instances the screws will suffice when the illustrated beveled ends of the base are squared off and the block let into the receiver without being dovetailed. In instances where the receiver does not afford sufficient grounding for screws in the illustrated positions, this base block is dovetailed into the receiver and a tail is extended from the dovetailed block so as to position a pair of screws more rearwardly.

The front base block F which is separately shown in enlarged detail in Fig. 4 and Fig. 5 is mounted near the muzzle end of the rifle barrel and is laterally movable relative to the barrel so as to afford accurate centering when shooting in the gun. Preferably, this is accomplished by dovetailing this base into the rifle barrel or else into the ramp thereon when a ramp is present. Preferably, the dovetail is a tight friction fit so that this base is movable only by lateral driving; however, other means may be employed to hold the base in proper position. This front base F is provided with a bolster **26** which can be elevated to alter the total height of the base block. Preferably, this elevation is accomplished in the manner illustrated in Fig. 5 where there is shown a pair of inverted screws such as B which are countersunk flush with the under side of the base block and threaded into the bolster **26**. The upper ends of these screws are each provided with a kerf so that they can be turned from the upper face of the bolster. Since the under side of the base block seats on the bottom of the dovetail slot in the rifle barrel, it will be seen that turning of these screws B affords a positive lifting of the bolster **26**, it of course being understood that each screw is alternately given only a fractional turn so as to prevent binding. This positive elevation and the close fit of the bolster within the base block is sufficient to hold the bolster at set elevation; however, suitable shims may be used for seating, as for instance, the well known laminated metal foil shims are convenient for the purpose and readily variable by removing the required amount of the laminations. If desired, the heads of the screws may be countersunk into the upper face of the bolster and the screws threaded into the base, which procedure would of course necessitate the use of shims. However, the illustrated embodiment is far more preferable because of the greater threaded area of the screws, and also because of the positive lifting action.

The intermediate base block M which is separately shown in enlarged detail in Fig. 6 and Fig. 7, is mounted on the barrel of the rifle at a spaced distance forward of the fixed receiver base block R and is laterally movable relative to the barrel so as to afford accurate centering when shooting in the gun. Preferably, this is accomplished by dovetailing the intermediate base block into the rifle barrel in a tight friction fit so that the base is movable only by lateral driving; however, other means may be employed to hold the base in proper position. This intermediate base block M is provided with a bolster **30** which can be elevated to alter the total height of the base, the inverted screws B' being employed in the same manner as described under Fig. 5.

To facilitate interchangeability of the several sights upon these base blocks, I preferably provide each mount with a swiveled screw such as collectively indicated at T in Fig. 25 where it will be seen that the swiveled screw is in the form of an externally threaded sleeve **32** rotatably mounted on a stump **35** on the under side of the mount. Tightly threaded into this stump is a retaining screw **34** having its head recessed into the threaded sleeve **32** and seating on the shoulder **33** to hold the threaded sleeve **32** against longitudinal movement on the stump **35**. The threaded sleeve **32** is provided with a milled or knurled head **31** which is of sufficient size to serve as a thumb wheel, and this head is recessed into the mount so that the mount can be drawn down to a tight seat on the base. Similar swiveled screws such as J, W, X, Y, T and U are shown on each of the mounts in Figures 10 to 17 and in Figures 22 to 25, the recess being shown at P in Figures 18 and 19. If desired, notches such as shown at N in Fig. 22 may be provided to accommodate a pin wrench. As shown in Figures 5, 7 and 9, the respective base blocks F, M, and R are provided with threaded bores as indicated at K, V and Z to receive these swiveled screws of the respective mounts for the various sights. In the present instance the mounts are shown with small stud pins *h* for the convenience of seating and for reducing friction in the mounts C and D.

The receiver base black R serves the threefold purpose of securing a receiver sight in coordination with a front sight in the manner shown in Fig. 1, and for interchangeably securing the rear mount D of the target telescope sight shown in Fig. 2, or else the rear mount E of the game telescope sight shown in Fig. 3; the front mounts C and H of the respective telescope sights being interchangeably secured to the intermediate base block M as indicated in Fig. 2 and Fig. 3.

The target telescope sight shown in Fig. 2 may be of any well known kind, and as target telescopes are usually not made with internal adjustments for elevation and windage, it is necessary to provide mounts with suitable means to alter the elevation and windage according to the variable conditions encountered in actual firing. For this purpose I prefer to employ the mounts C and D in the manner illustrated in Fig. 2 and to clamp each mount securely to the telescope so as to prevent the recoil from causing the telescope to gradually shift forward in the manner which is well known to be a prevailing fault ring adjustment telescope mounts.

As shown in Figures 23 to 25, the front mount C for the target telescope sight consists of a clamp band **36** which is hinged to an attaching plate **38** which carries the swiveled screw T for threaded engagement in the threaded bore V shown in the bolster **30** of the intermediate base block M shown in Figs. 6 and 7. This clamp band **36** is provided with a body portion **37** into which is fitted the hinge lug **39** of the attaching plate **38**, and the parts are retained in hinged relation by the hinge pin **40**, lateral movement being prevented by the friction screws **41** and **41**. Preferably, the clamp action of the band **36** is provided by splitting its body portion as indicated at O and clamp screws **42** and **42** are employed to draw the parts together, any minor variations in the closure being accommodated by setting of the friction screws **41** and **41** to bear against the hinge lug **39**. This split O in the body is preferable because it eliminates projecting parts on the upper part of the clamp band; however, the

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clamp band may be split on the top or side if desired. It will be seen that when this mount C is clamped on the telescope and mounted on the intermediate base block M that the telescope has a hinge movement on the hinge pin **40** and a lateral swing movement on the swiveled screw T.

As shown in Figures 17 to 22, the rear mount D for this target telescope sight consists of a clamp band **43** having a body portion **44** split as indicated at Q and provided with clamp screws such as **45**. This body portion **44** is fitted between the side walls **46** and **47** of a lateral carriage unit shown in plan view in Fig. 21 and friction screws **48** and **49** bear against the opposite sides of the body portion. An elevating screw **50** is rockably mounted in this lateral carriage in the manner shown in Figures 17, 19 and 21 where it will be seen that this elevating screw is provided with a thumb wheel **51** which projects through slots in the side walls of the lateral carriage, and the under side of this thumb wheel is provided with a central bead **52** which bears against the floor of the lateral carriage, and fulcrum screws **53** and **54** bear against the upper surface of this thumb wheel **51** to hold the bead **52** in contact with the floor of the carriage so as to provide a rocking movement on these three points to accommodate the hinge action of the front mount C when this rear mount D is elevated in its lateral carriage by means of this screw **50**.

The periphery of this thumb wheel **51** is notched into equal divisions to represent ¼ minutes of angular inclination of the telescope sight as accomplished by the elevating screw **50**, and the upper face of the thumb wheel is provided with a suitable index. A click spring *k* (Fig. 21) is provided to engage the notched thumb wheel and hold it at set position of rotation.

To provide for the lateral movement of this carriage, a plate **55** is dovetailed into the underside of the floor of the carriage and laterally slidable therein. Secured to this plate **55** is an upright stump **56** which projects through a transverse slot **57** cut through the floor of the carriage, and this stump travels in a transverse groove **58** in the body **44** of the clamp band. Threaded into this stump **56** is a screw **59** which has its head journaled in the side wall **47** and its opposite end is provided with a thumb wheel **60** having a hub which provides a bearing in the side wall **46**. A suitable screw secures the thumb wheel **60** to the screw **59** and it will be seen that the screw **59** can be used to move the lateral carriage with relation to the plate **55** which carries the swiveled screw X for engagement in the threaded bore Z of the receiver base block R.

The periphery of the thumb wheel **60** is notched in equal divisions representing ¼ minutes of angle, and an index plate **61** is recessed into the face of the wheel and held in fixed relation therewith by the screw **62**. A click spring **63** engages the notches in the thumb wheel **60** and a conical head **64** threaded upon the screw **65** urges this click spring against this thumb wheel to afford a lock to hold the thumb wheel at set rotation.

Suitable cover plates **66** and **67** are provided on each side of the mount, the illustrated holes *r* in Fig. 17 being provided for screws for such purpose and the central hole also being employed to swingingly attach the lever latch **68** which engages the notches in the elevating thumb wheel **51** to hold the same at set rotation.

When the target telescope sight is clamped in these described mounts C and D and mounted on the base blocks M and R in the manner illustrated in Fig. 2 it will be seen that the telescope has a swivel movement in both base blocks and also a rocking or hinge movement in the front mount and in the rear mount, so that the axis of the telescope can be altered both vertically and laterally.

The game telescope sight shown in Fig. 3 may be of any well known kind, and as game telescope sights are usually made with internal adjustments for elevation and windage, the mounts H and E need not be provided with elevation and windage mechanism. As shown in Fig. 15 the rear mount E consists of a clamp band **70** having a body portion **71** split as illustrated and provided with clamp screws such as **72**, and the mounting screw Y is swiveled on this body portion for threaded engagement in the threaded bore Z of the receiver base block R.

The front mount H shown in Fig. 16 has a clamp band split in the same manner as shown in Fig. 15. This clamp band **73** is carried by a reach bar **74** which has a swiveled screw U on the forward end thereof for threaded engagement in the threaded bore V of the intermediate base block M. Game telescope sights are considerably shorter than target telescope sights, and this reach bar **74** provides the additional reach necessary to mount the game telescope sight in the manner shown in Fig. 3 by using the same base blocks M and R as also used for the target telescope sight in Fig. 2, so as to make these two telescopes interchangeable on the same rifle or on different rifles. If desired, a shield such as shown in section at **75** in Fig. 3 may be attached to the reach bar and telescope sight. It is also possible to make such a shield as a rigid extension upon the telescope and then attach the swiveled screw U to a suitable stump provided on the shield, so as to make the shield serve the purpose of a reach bar.

The receiver sight shown in Fig. 1 may be of any suitable kind such as aperture or iris shutter type and provided with elevation and windage adjustments. Preferably, I employ the extension receiver sight shown in Figures 11 to 14 where it will be seen that the forward end of the mount for this receiver sight is provided with a swiveled screw W for threaded engagement in the same threaded bore Z of the base block R which has previously been alternately used for attaching the rear mount of the target telescope sight and the rear mount of the game telescope sight. To maintain the receiver mount in alignment with the rifle barrel, the mount may be keyed to the receiver base in any suitable manner, in the present instance, there is shown paired dowels *d* for engagement in the bores *b* shown in the receiver base block R in Figures 8 and 9. As shown in Fig. 11 a riser may be provided as indicated at A to bring the receiver sight line up to the same height as the sight line of the previously described telescope sights. This riser also provides suitable clearance for the bolt of the rifle. The reach bar may be either fixed or variable, but in the present instance it is shown as consisting of two parts **2** and **3** keyed together as indicated at **4** and secured by equally spaced screws such as S so that the two parts are longitudinally slidable on each other and retained in extended position by two or more of such screws.

The rear end of the reach bar **3** is provided with beveled faces which provide bearings for the corresponding faces of the laterally movable section **5** which has a guide wing **6** fitting into

a corresponding slot in the reach bar, and as best seen in Fig. 12 this guide wing has an extension 6a which is fixed to a head 7 which travels in a transverse bore *t* in the reach bar. Fixed to this head 7 is a screw 8 which has threaded engagement with a sleeve 9 having a flange *f* seating on a shoulder at one end of the bore *t*. This sleeve is also externally threaded into a thumb wheel 10 which bears against the reach bar and holds the flanged sleeve seated against the shoulder of the bore *t*. A set screw 11 holds this thumb wheel in fixed relation with the sleeve 9, and it will be seen that turning of this thumb wheel will cause the screw 8 to travel and laterally move the section 5. A spring pressed detent 12 engages in equally spaced indentations in the thumb wheel 10 and provides a click action for regulating the windage settings, and the screw 13 engages the detent to provide a lock action. Recessed into the thumb wheel 10 is an index dial *e* which is held by a screw e^1.

The laterally movable section 5 has a rearwardly extending tail 14 having a stepped bore which provides a bearing for the flanged elevator sleeve 15 which is held in seat by threaded engagement with the thumb wheel 16 which is secured by a set screw as illustrated. Threaded into this elevator sleeve 15 is an elevating staff 19 which is longitudinally slotted to receive a guide finger 17 which holds the elevating staff against turning and causes the rotation of the elevator sleeve 15 to impart vertical movement to the elevating staff 19 which carries an internally threaded head 18 for the reception of whatever suitable rear sight the rifleman prefers. A spring pressed detent 20 engages in equally spaced indentations on the thumb wheel 16 to provide a click action for the elevation, and an index plate 21 is provided on the thumb wheel 16.

Thus it will be seen that this receiver sight provides the vertical and lateral movements necessary for elevation and windage settings, and also provides a sight line at the same height as the previously described telescope sights.

For cooperation with this receiver sight, there is mounted on the front base block F, any suitable kind of front sight in the manner indicated in Fig. 1. As shown in the enlarged detail of Fig. 10 the front sight G is provided with a mount 29 having a swiveled screw J for threaded engagement with the threaded bore K of the front base F. This mount 29 may be keyed to the front base F in any suitable manner, as for instance, there is shown in Fig. 10, paired dowels 27 which engage in the paired bores 28 in the bolster 26 shown in enlarged detail in Figures 4 and 5.

In Fig. 10 the mount 29 is shown in dovetail engagement with the sight G for economic practicability in accommodating the various front sights readily available on the open market and also for the reason that the height of the mount 29 may be different when the base F is mounted on a ramp instead of directly on the rifle barrel as here shown. Also the height of the mount may depend upon the height of the receiver sight used in conjunction therewith. For use under known conditions the mount 29 may be an integral part of the sight G, and if desired, the dowels 27 may be replaced by screws threading into the bolster 26 so as to make the swiveled screw unnecessary; however, the disclosed embodiment is preferable because it can be readily removed without tools.

From the foregoing description it will be seen that the receiver base block R is invariably employed to retain one of the sight mounts, no matter whether using the game telescope sight, or else the target telescope sight, or else the iron sights. It will also be seen that the front base block F and the intermediate base block M are each laterally movable relative to this fixed receiver base block R. It will also be seen that the front base block F and the intermediate base block M can each be altered in height relative to the fixed height of the receiver base block R. Thus it will be seen that after the target telescope sight has been zeroed on the rifle shown in Fig. 2, it can be removed and the game telescope sight of Fig. 3 then zeroed on the rifle shown in Fig. 2. Then the game telescope sight can be returned to the rifle shown in Fig. 3 and the gun shot in by changing the lateral position of the intermediate base block M and the elevation of the bolster 30 relative to the fixed receiver base block R, thereby zeroing this game telescope on this second rifle without altering the zero indexing initially obtained on the first rifle. That is to say that the zeroing on the rifle in Fig. 3 was accomplished solely by coordinating the intermediate base block M with relation to the fixed receiver base block R, and therefore these coordinated base blocks on the rifle of Fig. 3 also afford zero for any other telescope sight initially zeroed on the rifle of Fig. 2, and that the target telescope sight previously zeroed on the rifle of Fig. 2 can now be transferred to the coordinated base blocks of Fig. 3 without any change in the zero index nor in the base blocks. That is to say that both of these telescope sights have been made interchangeable on both of the rifles of Fig. 2 and Fig. 3 and there is a common zero on both rifles and also for both sights interchangeably on the same rifle of either Fig. 2 or Fig. 3.

The iron sights of Fig. 1 can be removed and initially zeroed on the rifle of Fig. 2 so as to shoot to the same point of aim as the telescope sights previously zeroed on that rifle. Then these zeroed iron sights can be transferred to the rifle of Fig. 3 and the gun shot in by changing the elevation and lateral position of the front base block F relative to the fixed receiver base block R thereby zeroing these iron sights on this rifle of Fig. 3 without changing the zero indexing initially obtained on the rifle of Fig. 2. Thus all of the sights shown in Figures 1, 2 and 3 now have a common zero on the rifles of Fig. 2 and Fig. 3; furthermore, each of these sights can now be zeroed on the rifle of Fig. 1 by altering the elevation and lateral positions of front base block F and the intermediate base block M relative to the fixed receiver base block R on the rifle of Fig. 1 without changing the zero indexing initially obtained on the rifle of Fig. 2.

Each rifle to which the invention is applied, is provided with a series of three base blocks such as F, R and M, and the intermediate base block M is spaced at a uniform distance from the receiver base block R, the same on all of the rifles, preferably at 10 inches from center to center, as that distance affords greater accuracy in the elevation and windage settings of the target telescope sight. By providing each rifle with the described series of base blocks, any number of different sights can be alternately zeroed on one rifle and then subsequently made to have a common zero on any number of other rifles so that all of such sights will be uniformly interchangeable on all of the rifles.

Properly speaking, true zeroing is done at whatever point blank range the bullet drop and wind-

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age will be negligible. When the gun is shot in at a longer range, of course the settings include the bullet drop, and while the sights may be indexed to zero, there is a distinction between this zero indexing and true zeroing at point blank range. In the present disclosure, zeroing is intended to mean zero at point blank range, as distinguished from zero indexing which is a mere selection of zero instead of some index numeral.

When the previously described bases are installed on three identical rifles using the same ammunition, the trajectory is of course the same for all three guns at whatever distance the user chooses to shoot in the three guns. The first rifle is then shot in at the selected range and each of the previously described sights are set so that the rifle shoots to the point of aim with each sight. The sights are then indexed alike, preferably at zero. The game telescope sight with its mounts is then transferred to the second rifle and shot in at the same range, and any difference in the point of aim is corrected by laterally driving the intermediate base block and by altering the elevation of its bolster, and without changing the previously obtained zero settings of the sight. This sight is then transferred to the third rifle and shot in at the same range and any difference in the point of aim is corrected in the same manner without changing the zero settings. Then plainly, this game telescope sight has the same zero index on all three rifles; and moreover, the target telescope sight which was indexed to the first rifle can now be transferred with its mounts to each of the other two rifles, and the point of aim will be correct on each rifle without altering the lateral position of the intermediate base block or changing the elevation of its bolster, because this target telescope sight occupies the very same base blocks as used for the game telescope sight. Like procedure is followed with the receiver sight and front sight and any necessary corrections in the point of aim are corrected by laterally driving the front base block and by altering the elevation of its bolster according to requirements, and without changing the zero settings obtained on the first rifle. Thus it will be seen that all of the sights have the same index on all three of the rifles, and that this would be impossible in the absence of the laterally movable base blocks and their bolsters for changing the point of aim without altering the zero setting of the sights. It will also be seen that it is essentially necessary that the mounts for each sight be transferred along with the sight in order to avoid the inaccuracies which would be inherent to transferring the sights from one mount to another.

As just described, the three guns being the same and the ammunition being the same, of course the trajectory is the same; and therefore the shooting in can be done at any desired range, say 100 yards; and the zero index includes the trajectory or bullet drop for that range. In such instances, the shooting in may be done at any desired range, say 100, 150, 200, or 300 yards as the rifleman may prefer. However, when zeroing two or more rifles using ammunition of different trajectory, the zeroing is done at whatever point blank range the different bullets will show such slight difference in drop that the difference can readily be compensated for by changing the elevation of the bolsters without resorting to extremes. That is to say that the bolsters are not intended to be used to supplant elevation adjustments of the sights for different trajectories, but merely to obtain uniformity and coordination of the settings for different sights on the same gun.

A point blank range of 25 yards will usually suffice in most instances, and the different rifles can be shot in and zeroed in the previously described manner; in which instance, the elevation of the bolsters will not only compensate for the mechanical tolerances but also for the slight difference in the bullet drop of the unlike ammunitions at the point blank range. Thus the previously described sights can be zeroed alike on two or more rifles at the same point blank range. When later shooting at a longer range, the elevation settings on all of the sights will be the same on the same gun for any given firing range, instead of a different elevation setting for different sights on the same gun, as would otherwise be the case if the second or third rifle was shot in with each of the sights, solely by changing the elevation settings of each of the sights, which would of course destroy the uniformity which is essentially necessary for interchangeability of the different sights.

Various modes can be employed for obtaining a uniform index of the various sights on a second rifle, after they have been uniformly indexed on the first rifle either at a selected firing range or else at point blank range, and it will be readily understood that the uniform indexing on one rifle may be different from the uniform indexing on another rifle when the trajectory conditions are different.

In the present disclosure I claim as my invention:

1. In interchangeable gun sights, a rifle, a mount retaining receiver base block secured in fixed relation upon the receiver portion of the rifle, a base block slidably mounted on the rifle barrel for lateral movement relative to said fixed receiver base block, a mount retaining bolster carried by said slidable base block, inverted screws seating on said rifle barrel and passing through said slidable base block and threaded into said bolster to produce a positive lifting of the latter by rotation of said screws, a mount detachably secured to said receiver base block, windage and elevation adjustments in said mount, a mount detachably secured to said bolster, a telescope sight retained in said mounts, whereby mechanical tolerances can be corrected by elevating said bolster and laterally shifting its base block, and whereby any number of rifles having like base blocks and bolsters can be coordinated with said telescope sight and its mounts so as to afford the same windage and elevation zeroing on the several rifles.

2. In interchangeable gun sights, a rifle, a mount retaining receiver base block secured in fixed relation upon the receiver portion of the rifle, a base block slidably mounted on the rifle barrel for lateral movement relative to said fixed receiver base block, a mount retaining bolster bolted upon said slidable base block and vertically movable relative thereto, a mount detachably secured to said receiver base block, windage and elevation adjustments in said mount, a mount detachably secured to said bolster, a telescope sight retained in said mounts, whereby mechanical tolerances can be corrected by elevating said bolster and laterally shifting its base block, and whereby any number of rifles having like base blocks and bolsters can be coordinated with said telescope sight and its mounts so as

to afford the same windage and elevation zeroing on the several rifles.

3. In interchangeable gun sights, a rifle, a mount retaining receiver base block secured in fixed relation upon the receiver portion of the rifle, a base block slidably mounted on the rifle barrel for lateral movement relative to said fixed receiver base block, a mount retaining bolster carried by said slidable base block, inverted screws seating on said rifle barrel and passing through said slidable base block and threaded into said bolster to produce a positive lifting of the latter by rotation of said screws, a swivelled mount detachably secured to said receiver base block, windage and elevation adjustments in said mount, a hinged and swivelled mount detachably secured to said bolster, a telescope sight clamped in said mounts, whereby mechanical tolerances can be corrected by elevating said bolster and laterally shifting its base block, and whereby any number of rifles having like base blocks and bolsters can be coordinated with said telescope sight and its mounts so as to afford the same windage and elevation zeroing on the several rifles, and whereby said hinged and swivelled mount accommodates the lateral shifting and elevation of said bolster and also accommodates the windage and elevation adjustments of the other mount.

4. In interchangeable gun sights, a rifle, a mount retaining receiver base block secured in fixed relation upon the receiver portion of the rifle, a base block slidably mounted on the rifle barrel for lateral movement relative to said fixed receiver base block, a mount retaining bolster bolted upon said slidable base block and vertically movable relative thereto, a swivelled mount detachably secured to said receiver base block, windage and elevation ad ustments in said mount, a hinged and swivelled mount detachably secured to said bolster, a telescope sight clamped in said mounts, whereby mechanical tolerances can be corrected by elevating said bolster and laterally shifting its base block, and whereby any number of rifles having like base blocks and bolsters can be coordinated with said telescope sight and its mounts so as to afford the same windage and elevation zeroing on the several rifles, and whereby said hinged and swivelled mount accommodates the lateral shifting and elevation of said bolster and also accommodates the windage and elevation adjustments of the other mount.

5. In interchangeable gun sights, a rifle, a mount retaining receiver base block secured in fixed relation upon the receiver portion of the rifle, a base block slidably mounted on the rifle barrel for lateral movement relative to said fixed receiver base block, a mount retaining bolster carried by said slidable base block, inverted screws seating on said rifle barrel and passing through said slidable base block and threaded into said bolster to produce a positive lifting of the latter by rotation of said screws, a telescope sight having a mount detachably secured to said fixed base block and also having a mount detachably secured to said bolster, whereby mechanical tolerances can be corrected by elevating said bolster and laterally shifting its base block, and whereby any number of rifles having like base blocks and bolsters can be coordinated with said telescope sight and its mounts so as to afford the same windage and elevation zeroing on the several rifles.

6. In interchangeable gun sights, a rifle, a mount retaining receiver base block secured in fixed relation upon the receiver portion of the rifle, a base block slidably mounted on the rifle barrel for lateral movement relative to said fixed receiver base block, a mount retaining bolster bolted upon said slidable base block and vertically movable relative thereto, a telescope sight having a mount detachably secured to said fixed base block and also having a mount detachably secured to said bolster, whereby mechanical tolerances can be corrected by elevating said bolster and laterally shifting its base block, and whereby any number of rifles having like base blocks and bolsters can be coordinated with said telescope sight and its mounts so as to afford the same windage and elevation zeroing on the several rifles.

7. In interchangeable gun sights, a rifle, a mount retaining receiver base block secured in fixed relation upon the receiver portion of the rifle, a base block slidably mounted on the rifle barrel for lateral movement relative to said fixed receiver base block, a mount retaining bolster carried by said slidable base block, inverted screws seating on said rifle barrel and passing through said slidable base block and threaded into said bolster to produce a positive lifting of the latter by rotation of said screws, sighting means having mounts detachably secured to said fixed receiver base block and said bolster, whereby mechanical tolerances can be corrected by elevating said bolster and laterally shifting its base block, and whereby any number of rifles having like base blocks and bolsters can be coordinated with said sighting means and its mounts so as to afford the same windage and elevation zeroing on the several rifles.

8. In interchangeable gun sights, a rifle, a mount retaining receiver base block secured in fixed relation upon the receiver portion of the rifle, a base block slidably mounted on the rifle barrel for lateral movement relative to said fixed receiver base block, a mount retaining bolster bolted upon said slidable base block and vertically movable relative thereto, sighting means having mounts detachably secured to said fixed receiver base block and said bolster, whereby mechanical tolerances can be corrected by elevating said bolster and laterally shifting its base block, and whereby any number of rifles having like base blocks and bolsters can be coordinated with said sighting means and its mounts so as to afford the same windage and elevation zeroing on the several rifles.

9. In interchangeable gun sights, a rifle, a mount retaining base block secured in fixed relation upon the rifle, a base block slidably mounted on the rifle for lateral movement relative to said fixed base block, a mount retaining bolster bolted upon said slidable base block and vertically movable relative thereto, sighting means having mounts detachably secured to said fixed base block and said bolster, whereby mechanical tolerances can be corrected by elevating said bolster and laterally shifting its base block, and whereby any number of rifles having like base blocks and bolsters can be coordinated with said sighting means and its mounts so as to afford the same windage and elevation zeroing on the several rifles.

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