

## United States Patent [19]

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Apel

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## [54] MOUNT FOR A TELESCOPIC SIGHT

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[58] Field of Search..... 248/205 R, 289, 291, 278; 33/233, 245, 246, 247, 248, 252, 254, 260

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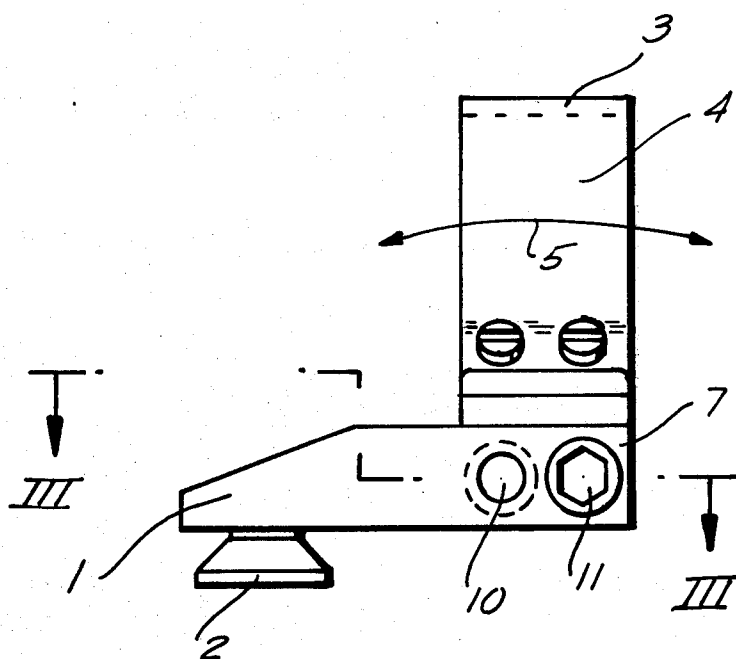
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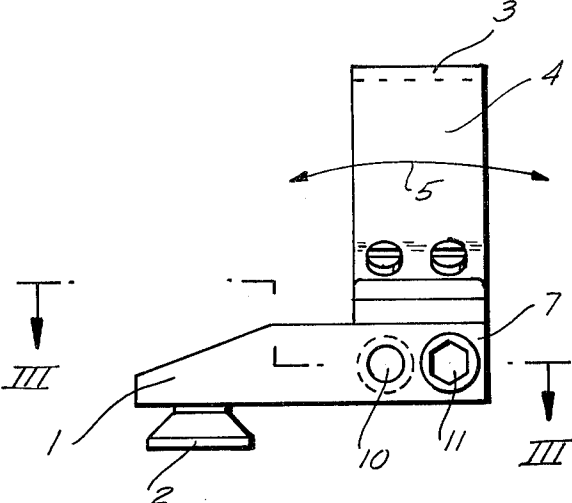
## ABSTRACT

A mount for a telescopic sight has a first component which is mountable on a firearm, and a second component which extends upwardly and is formed with a bore for a telescopic sight. One of these components has a bifurcated portion and the other has a part located between the arms of the bifurcated portion. The arms are formed with two sets of bores, each having two axially aligned bores formed in the respective arms. The part located between the arms has two bores each of which is aligned with the bores of one set. Bolts extend through the bores and connect the two components together. The one bore in the part located between the arms of the bifurcated portion has a larger diameter than the associated bores in the bifurcated portion. The bolt extending through this particular bore has a threaded portion which meshes only with the threads in one of the bores of the associated set formed in the arms of the bifurcated portion. The bolt extending through the other set and the associated bore of the part located between the arms of the bifurcated portion may also mesh only with the threads of a tapped one of the bores formed in the arms, or it may also mesh with threads provided in the bore of the part located between the arms of the bifurcated portion.

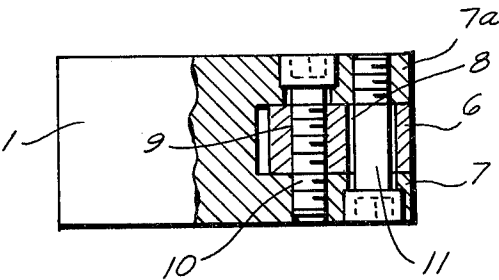
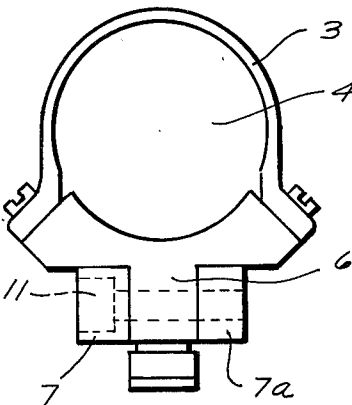
2 Claims, 4 Drawing Figures



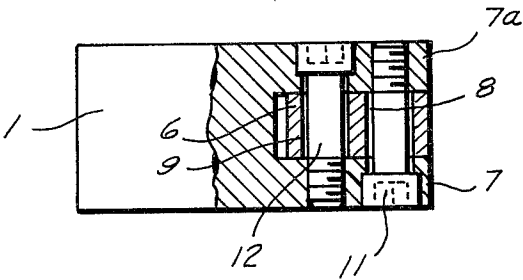
**FIG. 1**



**FIG. 2**



**FIG. 3**



**FIG. 4**

## MOUNT FOR A TELESCOPIC SIGHT

### BACKGROUND OF THE INVENTION

The present invention relates generally to a mount for a telescopic sight, such as a rifle scope or the like, and more particularly to an adjustable mount of this type.

Many different types of mounts for mounting a telescopic sight on a firearm, such as a rifle, shotgun or the like, have become known from the prior art. These mounts may secure the rifle scope fixedly to the firearm, or they may be of the releasable type which permits the rifle scope to be removed without difficulty at the discretion of a user.

Because there are always tolerance variations in the dimensions of the firearm and of the telescopic sight, the only absolutely reliable way in which complete accuracy could heretofore be obtained was to specifically construct a mount for a particular telescopic sight, and to carry out a precision installation of the mount and the sight on the weapon. This is both expensive and time consuming, and in many instances it is therefore preferred to utilize one of the prefabricated mounts which can be secured on the firearm in a simple manner and are much less expensive to produce and to install than custom installations. However, here the tolerance variations in the production of the mount itself are added to those in the manufacture of the weapon and of the telescopic sight, and all of these variations must be compensated for if the telescopic sight is to cooperate properly with the firearm. This can be done by using shims or by reworking the sight to eliminate the manufacturing tolerances; neither of these alternatives is particularly desirable, especially when one considers that the purpose of using prefabricated serially manufactured mounts is to reduce the expense of installing the telescopic sight. However, if neither of these alternatives is used, then the aforementioned tolerance variations will result in a deviation of the sight from its intended true position, and this will usually involve that the sight is misadjusted in vertical direction and, when the weapon is fired, this will cause the target to be missed. The difficulty cannot be overcome by readjusting the optical components of the telescopic sight, because this makes possible only a change in the orientation of the optical axis, but cannot compensate for the aforementioned difficulties.

### SUMMARY OF THE INVENTION

Accordingly, it is an object of the present invention to provide an improved mount for a telescopic sight which is not possessed of the aforementioned disadvantages.

More particularly, it is an object of the invention to provide such an improved mount which permits slight adjustments, making it possible to compensate for mounting errors resulting from manufacturing tolerance variations.

An additional object of the invention is to provide such an improved mount which is simple in its construction and in its use.

In keeping with these objects, and with others which will become apparent hereafter, one feature of the invention resides in a mount for a telescopic sight, such as a rifle scope or the like, which comprises a first component adapted to be mounted on a firearm, and a second component which is adapted to hold a telescopic

sight and extends upwardly of the first component. The components have respective first and second portions formed with aligned bores which are dimensioned to admit to slight changes in the vertical orientation of the second component with reference to the first component. Screw-threaded means are provided in these bores for connecting the first and second portions rigidly with one another in order to prevent changes in the selected relative orientation of the second component.

The novel features which are considered as characteristic for the invention are set forth in particular in the appended claims. The invention itself, however, both as to its construction and its method of operation, together with additional objects and advantages thereof, will be best understood from the following description of specific embodiments when read in connection with the accompanying drawing.

### BRIEF DESCRIPTION OF THE DRAWING

FIG. 1 is a side elevation of a mount according to the present invention;

FIG. 2 is an end view of FIG. 1, looking towards the left;

FIG. 3 is a section taken on line III-III of FIG. 1; and FIG. 4 is a view similar to FIG. 3, but illustrating a somewhat modified embodiment.

### DESCRIPTION OF THE PREFERRED EMBODIMENTS

Referring firstly to the embodiment illustrated in FIGS. 1-3 it will be seen that reference numeral 1 identifies one component of a mount for a telescopic sight. Neither the weapon on which the mount is to be installed, nor the telescopic sight which it is to hold on the weapon, have been illustrated since these are extraneous features not required for an understanding of the invention. The first component is provided in this embodiment with an undercut connecting head 2 that can be inserted into a correspondingly configured groove formed on a mounting plate which is secured to the barrel of the weapon. Such mounting plates are known, and it is also known to replace the coupling head 2 by some other type of connector, for instance a screw or the like.

Connected with the component 1 is a component 3 which, as FIG. 2 shows most clearly, is formed with an opening 4 (that could also have a different shape from the one illustrated) through which the telescopic sight (not shown) will extend and wherein it will be held in place. The usual practice, which is of no particular consequence for the present invention, is to make the component 3 of two parts as shown in FIG. 2, which are connected by screws, so as to permit the ready insertion and removal of the telescopic sight, and its clamping in the opening 4.

As FIG. 1 indicates by the double-headed arrow 5, the vertical orientation of the component 3 should be capable of being changed with reference to the component 1, that is the component 3 should be tiltable with reference to the component 1. The extent to which such tilting must be possible is relatively small, since the tolerance variations in the manufacture of the mount, the weapon and the telescopic sight are never very large. However, even very small tolerance variations are sufficient—unless compensation is made for them—to cause the telescopic sight to be installed so

far out of true that a weapon using it will miss the target.

The adjustment is made possible by having one of the components, here the component 1, formed with a bifurcated portion having the illustrated two arms 7 and 7a (compare FIG. 2). The other component, here the component 3, is formed with a portion 6 that is located in the space between the arms 7 and 7a. Needless to say, the bifurcated portion could be provided on the component 3, and the portion 6 could be provided on the component 1 if that should be desired.

As FIG. 3 shows, the portion 6 is formed with a transverse bore 8 the inner diameter of which is larger than that of the shaft of a bolt 11 which extends through it, and which is also larger than the diameters of a set of two aligned bores formed in the arms 7 and 7a, respectively.

A further set of such bores is formed in the arms 7 and 7a, respectively, and the longitudinal axis passing through them parallels that passing through the bores of the first set. The bores of the second set are aligned with a bore 9 which is also formed in the portion 6.

In the embodiment of FIGS. 1-3, the bore 9 is internally tapped, as is the bore formed in the arm 7 and aligned with the bore 9. A bolt 10 is threaded through the bore which is formed in the arm 7a and which is aligned with the bore 9, having sufficient threads on its stem so that they will mesh both with the threads in the bore 9 and with the threads in the bore formed in the arm 7. The head of the bolt 10 is located in a recessed portion of the bore formed in the arm 7a.

The head of the bolt 11 is also located in a recessed portion of a bore, but in this case in a recessed portion of the bore formed in the arm 7. The stem of the bolt 11 extends freely through the bore 8 in the part 6, and meshes with threads in the aligned bore formed in the arm 7a. When the bolts 10 and 11 are not tightened, the component 3 can be slightly pivoted about the bolt 10 in the direction indicated by the arrow 5 in FIG. 1, until it has been moved to a position in which the telescopic sight accommodated in the opening 4 will be trued. This is possible because there is play between the wall bounding the bore 8 and the shaft of the bolt 11. Subsequently, the bolts 10 and 11 are tightened, rigidly holding the components 1 and 3 together against any relative displacement until and unless the bolts are again loosened.

The embodiment in FIG. 4 differs only very slightly from that of FIGS. 1-3 and like reference numerals identify like elements. The difference in FIG. 4 is that the bore 9 in the part 6 is not tapped, and that the portion of the bolt 12 (which corresponds to the bolt 10 of FIG. 3) is not provided with screw threads. Only the end portion of the bolt 12 is provided with screw threads, and these mesh with the threads of the tapped one of the bores provided in the component 1; in FIG. 4 that is the bore which is formed in the arm 7 and aligned with the bore 9. In the case of FIG. 4 the fit of the part 6 between the arms 7, 7a should be considerably more precise than in the case of FIG. 3, since the arms 7, 7a are only clamped against the part 6, as opposed to FIG. 3 where there is a further connection because of the cooperating threads in the bore 9 and on

the bolt 10.

Evidently, the various parts of the novel mount will be made of metal, usually steel, although it might be conceivable to make some or all of them of synthetic plastic material.

It is possible to have both bolts extend through the arms 7, 7a and the part 6 from one and the same side, so that the heads of both bolts would be located at one and the same side but again it is possible as shown in FIGS. 3 and 4 to have the bolts extend from opposite sides through the arms and the part 6.

It will be understood that each of the elements described above, or two or more together, may also find a useful application in other types of constructions differing from the types described above.

While the invention has been illustrated and described as embodied in a mount for a telescopic sight, it is not intended to be limited to the details shown, since various modifications and structural changes may be made without departing in any way from the spirit of the present invention.

Without further analysis, the foregoing will so fully reveal the gist of the present invention that others can by applying current knowledge readily adapt it for various applications without omitting features that, from the standpoint of prior art, fairly constitute essential characteristics of the generic or specific aspects of this invention and, therefore, such adaptations should and are intended to be comprehended within the meaning and range of equivalence of the following claims.

What is claimed as new and desired to be protected by Letters Patent is set forth in the appended:

1. A mount for a telescopic sight, such as a rifle scope, comprising a first component adapted to be mounted on a firearm; a second component adapted to hold a telescopic sight and extending upwardly of said first component, said components having respective first and second portions formed with aligned bores which are dimensioned to admit of slight changes in the vertical orientation of said second component relative to said first component, one of said portions being bifurcated and having two arms provided with two parallel sets each composed of two axially aligned first bores in the respective arms, one bore of each set being tapped, the other of said portions being located between said arms and having two second bores each of which is aligned with one set of first bores, one of said second bores being tapped and the other second bore having an inner diameter which is larger than that of the aligned first bores; and screw-threaded means provided in said bores for connecting said first and second portions rigidly with one another, said screw-threaded means comprising a first bolt meshing with the threads in said one second bore and of the aligned tapped first bore, and a second bolt extending freely with the threads of the first bore which is aligned with said other second bore, so as to prevent changes in the selected relative orientation of said second component.

2. A mount as defined in claim 1, wherein one of said bolts extends through one of said arms into the other arm, and wherein the other of said bolts extends through said other arm into said one arm.

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