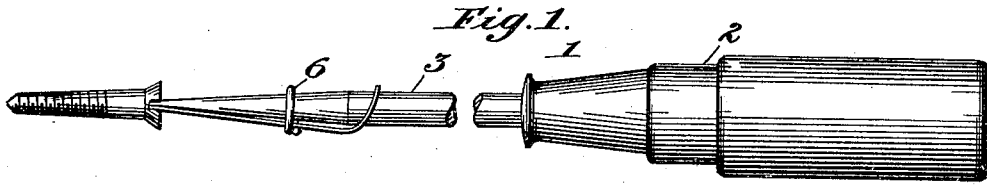
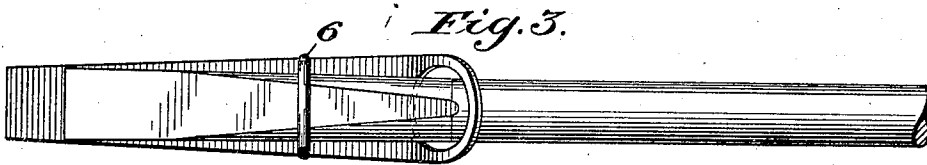
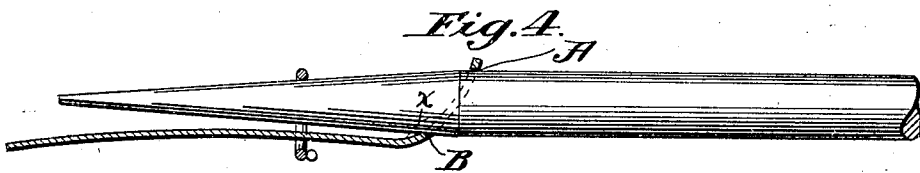
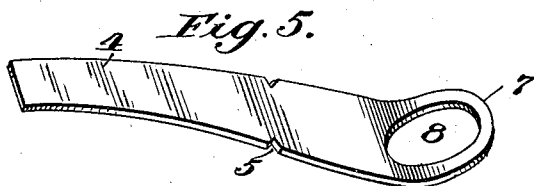
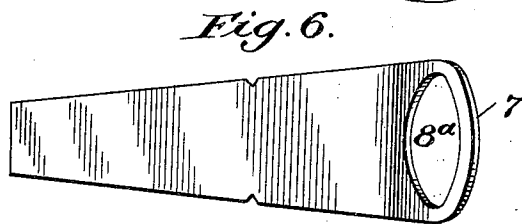


R. E. WHITMORE.
SCREW DRIVER ATTACHMENT.
APPLICATION FILED APR. 26, 1919.

1,438,469.

Patented Dec. 12, 1922.
2 SHEETS—SHEET 1.



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2 SHEETS—SHEET 2.

Fig. 9.

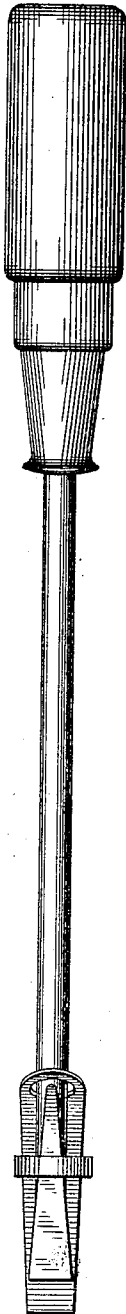


Fig. 7.

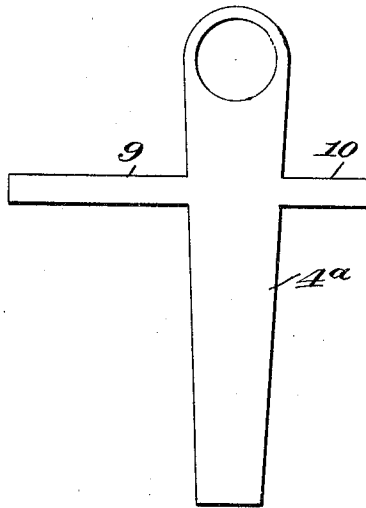


Fig. 8.

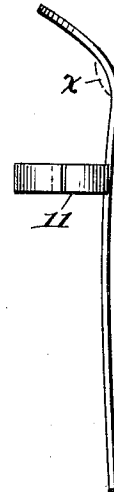


Fig. 10.

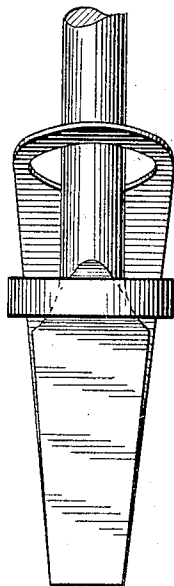


Fig. 11. Fig. 12.

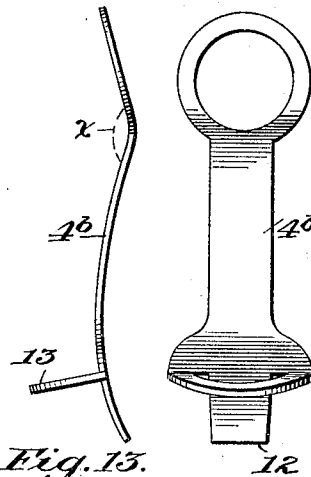
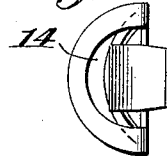


Fig. 13.



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UNITED STATES PATENT OFFICE.

ROY E. WHITMORE, OF STAUNTON, VIRGINIA.

SCREW-DRIVER ATTACHMENT.

Application filed April 26, 1919. Serial No. 292,924.

To all whom it may concern:

Be it known that I, ROY E. WHITMORE, a citizen of the United States, residing at Staunton, in the county of Augusta and State of Virginia, have invented new and useful Improvements in Screw-Driver Attachments, of which the following is a specification.

This invention relates to improvements in screw drivers or more particularly to an attachment for screw drivers which will facilitate the driving of the screw by holding the latter in proper position without the necessity of steadying the screw by the hand of the operator.

It often happens that a screw has to be driven in a locality in which it can be reached by the driver but which it is difficult or impossible to reach by the hand so as to hold and steady the screw during the first few twirls until it has secured a firm bite. It is upon such occasions that the desirability of an assisting or steadying attachment is apparent.

My invention has as its object to provide an attachment which will be useful for the purpose above mentioned and which may be employed upon an ordinary screw driver having an unmutilated blade.

A still further aim of my invention is to obtain a device of the character above described which may be freely placed upon and removed from the screw driver; and hence may be sold independent of any particular form of driver.

It is old in the art to provide a device adapted to be secured to a screw driver blade, the end of which device enters into the head-slot or nick of the screw together with the bit of the blade and by a spring action against the sides of the slot holds the driver therein. All such devices of which I am aware must either be used upon a driver having a blade of peculiar construction adapted to the attachment, or when used upon a driver are not freely removable therefrom. Furthermore, as driver blades vary in size both along their shank and adjacent their driving end or bit, one of the main objections to devices of this character already known, is that they must be manufactured for a particular size of driver blade

and are not adapted to use upon blades of a different size or construction.

My invention overcomes this last noted objection by offering an attachment which may be used upon the screw drivers whose blades vary in size throughout a very wide range. Of course my attachment must be produced in different sizes, but the number of sizes necessary is very few due to the construction of the attachment which will be hereinafter described more in detail.

Referring to the accompanying drawings, which constitute a part of this specification, and in which a particular embodiment of my invention is disclosed;

Fig. 1 is an elevational view of a screw driver provided with my attachment, the driver blade and attachment being shown as placed in the head-slot of a screw.

Fig. 2 is a view similar to Fig. 1, the handle of the driver being broken off and the blade and attachment being shown on an enlarged scale,

Fig. 3 is an elevational view taken at right angles to the view shown in Fig. 1;

Fig. 4 is a view similar to Fig. 2, the driving attachment being shown in longitudinal section,

Fig. 5 is a perspective of the attachment removed from the driver blade, the same being shown without the ring employed in the prior figures for holding the attachment adjacent the blade,

Fig. 6 is an elevational view of a modified form of my attachment,

Fig. 7 is an elevational view of the blank from which a still further modified form is obtained,

Fig. 8 is an edge elevation of the form of attachment the blank of which is shown in Fig. 7,

Fig. 9 is a view showing the attachment disclosed in Fig. 8 upon a screw driver,

Fig. 10 is an enlarged view showing how the attachment of Figs. 7, 8 and 9 adapts itself to another form of driver blade, and

Figs. 11, 12 and 13 are edge, front and end views of another modification of my attachment, the latter view being taken from the lower end of Figs. 11 and 12.

Referring to the drawings more in detail, 1 indicates a screw driver composed of

a handle 2 and blade 3, the latter being shown in Fig. 1 as having its end or bit within the head slot of a screw and being held therein by means of an attachment placed upon the blade 3.

This attachment, shown more clearly in Fig. 5, comprises a body portion 4 in the shape of an elongated tongue and having a rather marked curve so that its end adjacent the bit of the driver will project away from the blade in a manner that will become apparent from an inspection of Fig. 4. This curve, however, is not necessary since if the tongue is made straight, due to the bevel at the bit of the driver blade the extremity of the tongue will always be spaced from the bit, and this spacing is all that is necessary for the proper operation of the device. The body portion 4 is provided along each lateral edge with a V-nick 5 adapted to receive a split ring 6 or any other means adapted to hold the attachment up against the blade in the manner shown in Figs. 2 and 4. In order that the attachment may be properly retained upon the blade, it is provided at its upper end with a portion 7 bent therefrom on a curve to a plane almost at right angles to the body portion of the attachment. The off-turned portion 7 is provided with an annular opening 8 through which the blade of the driver is passed when the attachment is placed upon the same, the driver blade at the same time being inserted through the split ring 6 held upon the body portion of the attachment by the nicks 5 in its lateral edges. When the attachment is placed upon the blade, without using the ring 6, due to the fact that the bent portion 7 is not entirely at right angles to the main body of the attachment, the same has a tendency to project laterally from the driver blade, but when the ring 6 is employed it pulls the body of the attachment against the blade, rocking the same in the manner of a lever about its off-bent portion and causing frictional engagement at points A and B (Fig. 4) of the attachment and the blade. Due to this frictional engagement the attachment has no tendency to freely move up and down upon the blade, but when fixed in one position remains there until the necessary amount of force is applied to move the same, either upwardly or downwardly on the blade, as is desired. When it is not necessary to use this attachment, the same may be drawn upwardly upon the blade so as not to interfere during the use of the driver, or it may be entirely removed from the blade if desired. When a screw is to be driven which cannot be readily steadied by the hand of the operator, the attachment is placed upon the blade in the position shown in Figs. 3 and 4, with the end of the tongue projecting slightly beyond the bit end of the blade.

The end of the tongue is then placed in the screw slot and a downward pressure exerted upon the driver thereby inserting the bit in the slot together with the tongue. Due to the spring tendency of the tongue in a direction from the driver blade against the side of the slot, the blade is thus held within the slot and the screw may be readily driven and when the same has obtained a proper bite, the attachment tongue may be drawn upwardly upon the blade out of the way.

In the form of my device shown in Fig. 6 the laterally bent portion 7, instead of being provided with the circular opening 8, has an elliptical opening 8^a and with such an opening the attachment may be placed not only upon a blade of the form shown in Figs. 1, 2, 3 and 4, but may also be readily used upon a blade having a key stone type bit as shown in Fig. 10, for due to the elliptical opening, the attachment readily passes by the enlarged portion of the bit and the frictional contact with the blade at the points A and B is obtained as readily as in the form shown in Figs. 1, 2, 3 and 4. In the modification of my attachment tongue disclosed in Figs. 7 to 10, instead of employing the additional split ring 6 used in connection with the above described modifications, I form the attachment from a blank 4^a having laterally extending arms 9 and 10, the latter being the considerably shorter arm. In all other respects this form is identical with those of Figs. 1 to 6. Before placing the attachment upon a driver blade the arms 9 and 10 are bent circularly over the face of the tongue which is to be adjacent the blade, their ends overlapping as indicated at 11 in Fig. 8. As the attachment is formed from spring metal and the ends of the arms 9 and 10 are not joined together, it should be observed that the construction of this form will function in the same manner as the split ring employed in the embodiments of my invention above described and that when the attachment is first placed upon the blade the arms 9 and 10, as well as the split ring 6, will yield in order that the enlarged part of the bit (when the blade has a key stone type bit as in Fig. 10) may be passed.

In the still further modification of the attachment shown in Figs. 11, 12 and 13, the construction differs from the above described forms only in the means employed for holding the body portion 4^b adjacent the blade. In place of a split ring or laterally extending arms, I stamp out from the body portion 4^b of the attachment adjacent the end which is inserted in the screw slot, a short tongue 12, the end of which enters the head-slot of the screw, and the surrounding portion of the blank I bend outwardly to a plane at right angles to the tongue form-

ing an integral blade encircling member 13 having a semi-circular opening 14 therein. While a blade encircling member of this construction will not yield as that of the above described forms, the opening 14 is died out to a sufficient size so that the attachment may be readily placed upon a driver having a bit either of the form shown in Fig. 9 or of the form shown in Fig. 10.

From the above description it will be observed that I provide an attachment which is freely placeable upon and removable from a screw driver and one which may be used in conjunction with a screw driver having a blade of ordinary construction, it being unnecessary to form a blade to any particular structure to adapt the same to my attachment. It should further be observed that my attachment may be used upon drivers of various sizes, it being unnecessary to manufacture a particular size of attachment for each particular size of driver blade upon which it may be desirable to use the same. Due to the fact that the openings 8 and 8^a, split ring 6, arms 9 and 10 and the encircling member 13 encircling the shank of the blade need not snugly fit the blade, any given size of attachment may be used upon blades of various sizes, it only being necessary to obtain the frictional engagement at A, B (Fig. 4); this being obtained by drawing in the body portion of the attachment so that the same will lie in a plane more nearly parallel with and adjacent the blade as indicated in Fig. 4. If, when the attachment is used in connection with a particular driver, it is found that the frictional engagement is not attained when the ring 6 or other blade encircling members are placed around the blade, it is merely necessary to slightly bend the portion 7 back towards the plane of the body portion in a clock-wise manner increasing the angle X and thus, as will become apparent from an inspection of the structure, the frictional engagement will be obtained when the body portion of the tongue is drawn to the position shown in Fig. 4.

From the above it should be clear that my tongue may be adapted to various sized blades by varying the angle X of the terminal bent portion 7 to the body portion of the tongue; upon a blade of large diameter, it being desirable that the bent portion 7 be closer to a plane at right angles to the body of the attachment than when a blade of smaller diameter is used for the reason that when the body of the attachment is drawn to the operating plane more nearly parallel with the blade, the attachment is thereby rocked about its upper end as a fulcrum, and the edge of the opening 8 will only be moved a fixed and unvariable distance towards the blade. When a blade of smaller diameter is used, the diameter of the open-

ing 8 being therefore considerably larger than that of the blade, if the angle of the bent portion 7 to the body portion is not changed, the distance through which the periphery of the opening 8 must move to engage the blade is proportionately greater than when the blade of larger diameter is used. It is therefore necessary to accommodate the attachment to the blade of smaller diameter since when the body of the attachment is drawn by the ring 6 or other means to a plane more nearly parallel to the blade the distance through which the edge of the opening 8 will move toward the blade remains fixed and the distance through which it must move has relatively increased (due to the decreased blade diameter). To make allowance for this variation in the proportion of the blade and opening diameters, the angle X which the bent portion makes with the body portion must be increased so that the friction at points A and B of the opening periphery with the blade will be obtained when the body portion of the blade is pulled to its operating plane (and the blade at its upper end around the opening thereby moved its fixed and unvariable distance).

It should be understood that while the drawing shows several practical forms of the invention, the latter is not confined to strict conformity therewith, but may be changed or modified, so long as such changes or modifications mark no material departure from the salient features of my invention as pointed out in the following claims.

I claim:

1. A screw driver attachment for an ordinary unmutated driver blade and readily placeable upon and removable therefrom, having a resilient body portion extending longitudinally of the driver blade, an end adapted to enter the head slot of a screw together with the driver, and an end bent at an angle to the body portion having an opening therein through which the driver blade may extend, the angle of the bend being such that the edge of said opening frictionally engages said blade when the body of the attachment is drawn into substantial parallelism with the blade while the free end is slightly spaced from the face of the blade so that when the two are inserted in the head slot of a screw there is a resilient pressure upon the walls of the head slot.

2. A screw driver attachment for an ordinary unmutated driver blade and readily placeable upon and removable therefrom, having a resilient body portion extending longitudinally of the driver blade, an end adapted to enter the head slot of a screw together with the driver, an end bent at an angle to the body portion having an opening therein through which the driver blade may extend, the angle of the bend being such

that the edge of said opening frictionally engages said blade when the body of the attachment is drawn into substantial parallelism with the blade while the free end is slightly spaced from the face of the blade so that when the two are inserted in the head slot of a screw there is a resilient pressure upon the walls of the head slot, and means located between the ends of said attachment adapted to encircle the blade and to hold the body portion in substantial parallelism with the blade.

3. A screw driver attachment for an ordinary unmutilated driver blade and readily placeable upon and removable therefrom, having a resilient body portion extending longitudinally of the driver blade, an end adapted to enter the head slot of a screw together with the driver, an end bent at an angle to the body portion having an opening therein through which the driver blade may extend, the angle of the bend being such that the edge of said opening frictionally engages said blade when the body of the attachment is drawn into substantial parallelism with the blade while the free end is slightly spaced from the face of the blade so that when the two are inserted in the head slot of a screw there is a resilient pressure upon the walls of the head slot, and in-

tegral means located between the ends of said attachment adapted to encircle the blade and to hold the body portion in substantial parallelism with the blade.

4. A detachable screw driver attachment for an ordinary unmutilated driver blade, having a resilient body portion extending longitudinally of the blade, an end adapted to enter the head slot of a screw together with the blade, said end being slightly spaced from the face of the blade when the body of the attachment is maintained in substantial parallelism with the blade whereby when the blade and attachment are inserted in the head slot of a screw there is a resilient pressure upon the walls of the head slot, a blade encircling portion adapted to maintain the body of the attachment in substantial parallelism with the blade, and a portion bent transversely from the body portion provided with an opening through which the driver blade may extend, the angle of said bend being such that the edge of said opening frictionally engages the blade when the body of the attachment is held in substantial parallelism with the blade.

In testimony whereof I have hereunto set my hand.

ROY E. WHITMORE.