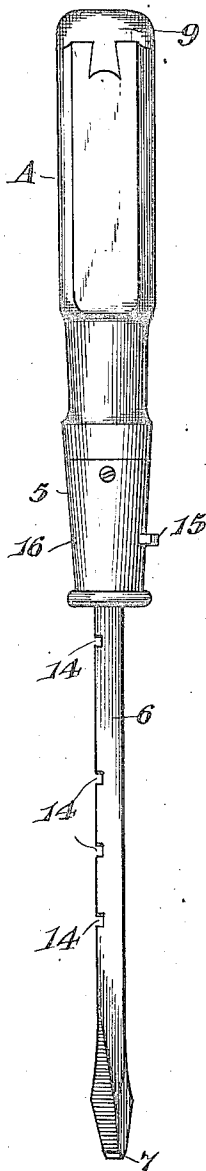


J. H. FINNIGAN.  
SCREW DRIVER.  
APPLICATION FILED JUNE 26, 1917.

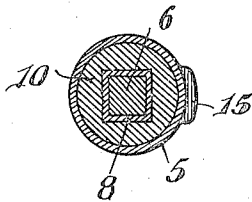
1,269,413.

Patented June 11, 1918.

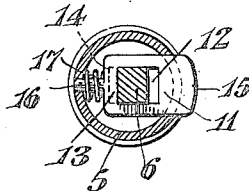
*Fig. 1.*



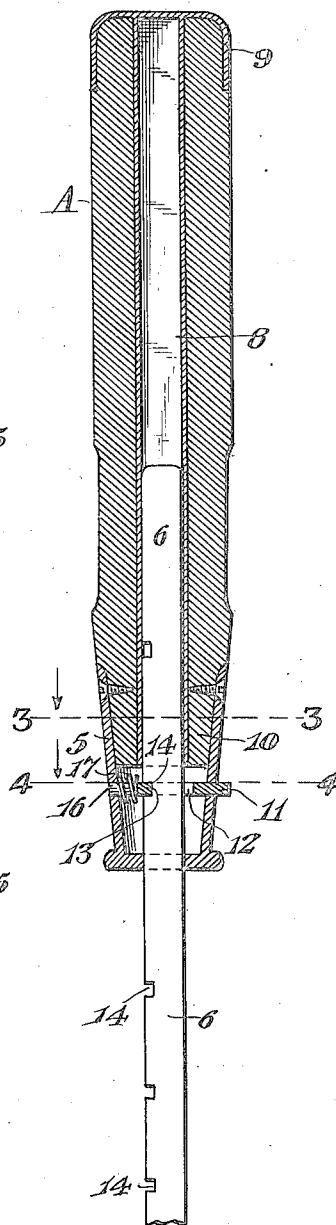
*Fig. 3.*



*Fig. 4.*



*Fig. 2.*



WITNESSES

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# UNITED STATES PATENT OFFICE.

JAMES H. FINNIGAN, OF NOXON, MONTANA, ASSIGNOR OF ONE-THIRD TO CHRIST C. HANSEN AND ONE-THIRD TO MAURICE BURK, BOTH OF NOXON, MONTANA.

## SCREW-DRIVER.

1,269,413.

Specification of Letters Patent.

Patented June 11, 1918.

Application filed June 26, 1917. Serial No. 177,038.

### *To all whom it may concern:*

Be it known that I, JAMES H. FINNIGAN, a citizen of the United States, residing at Noxon, in the county of Sanders and State of Montana, have invented new and useful Screw-Drivers, of which the following is a specification.

The invention relates to screw drivers, and more particularly to the class of adjustable screw drivers.

The primary object of the invention is the provision of a screw driver of this character wherein the adjustable and detachable screw bit telescopes within the handle, and is prevented from wear upon the latter, in the adjustment of said bit, for the lengthening or shortening of said screw driver to suit the fancy of the user.

Another object of the invention is the provision of a screw driver of this character, which is extremely simple in construction, readily and easily adjusted, being devoid of any protruding parts, such as a catch or latch, as the same is housed within the handle, and also one which is inexpensive in manufacture.

With these and other objects in view the invention consists in the features of construction, combination and arrangement of parts as will be hereinafter fully described, illustrated in the accompanying drawing and pointed out in the claims hereunto appended.

In the accompanying drawing:

Figure 1 is a side elevation of a screw driver constructed in accordance with the invention.

Fig. 2 is an enlarged fragmentary vertical sectional view through the handle of the screw driver, showing in detail the latch key.

Fig. 3 is a sectional view on the line 3—3 of Fig. 2, looking in the direction of the arrow.

Fig. 4 is a sectional view on the line 4—4 of Fig. 2, looking in the direction of the arrow.

Similar reference characters designate like parts in each of the several views.

Referring to the drawing in detail, the screw driver comprises a handle A preferably made from wood, although the same may be made from any other suitable material and is of the desired length and configuration. Mounted on one end of the handle A is a ferrule 5, preferably made

from metal and through the outer end of which is slidably and detachably passed the screw bit 6, which, for a major portion of its length, is of rectangular shape in cross section and is formed at its outer end with the beveled screw engaging extremity 7, as usual.

Mounted centrally within the handle A, and extending longitudinally thereof throughout the length of the same, is a barrel 8 in which is adapted to telescope the bit 6 for the adjustment of the same, the barrel 8 being of a shape in cross section corresponding to the cross sectional shape of the shank 6 and constitutes a lining and guide way in said handle A for the telescopic engagement of the bit 6 in the handle, so as to avoid wear upon the handle in the adjustment of the screw driver for the lengthening or shortening thereof, to suit the fancy of the user, or when the occasion requires in the manipulation of the screw driver.

At the outer end of the barrel 8 is a cap 9, which may be integral therewith and is adapted to be spun upon the end of the handle A opposite the ferrule 5, the barrel 8 being driven into the central bore in the handle through this end and the cap engaged with said handle, as shown in Figs. 1 and 2 of the drawing.

The ferrule 5 is of tapered formation and fits over the reduced correspondingly tapered end 10 of the handle A, and is fastened in place in any suitable manner, so as to form a unitary part of the handle.

Arranged within the ferrule transversely thereof is a latch key 11, which is provided with an opening 12 through which works the bit 6, and one edge of this opening 12 constitutes a latch lip or nib 13 for locking engagement in any one of a series of notches 14 formed in the bit 6 at one side thereof, so that said bit can be fastened in variable positions for the lengthening or shortening of the screw driver. The key 11 protrudes through a suitable slot in one side of the ferrule 5 to permit engagement thereof by the finger of the user of the screw driver, so that the key can be moved for unlatching the bit when it is desired to adjust the same. The key opposite the protruding end which constitutes the finger engaging portion thereof, is formed with a guide pin extension 16 which works in a suitable aperture in the ferrule 5 diametrically opposite

the slot through which the finger engaging end 15 protrudes, and surrounding this pin extension 16 is a coiled expansion spring 17, which has one end bearing against the inner surface of the ferrule and its opposite end against the key, and this spring serves to force the key in a direction for the positive locking engagement thereof in any one of the notches 14 in the bit 6 to lock the latter when adjusted.

On depressing the key 15, the same will be moved in a direction against the resistance of the springs 17 into a position for permitting the free sliding movement of the bit 6 through the ferrule 5 and in the barrel 8 within the handle, thus it being seen that the bit 6 can be adjusted for the extension thereof or the retraction of the same to lengthen or shorten the screw driver.

It will be apparent that in addition to the adjustability of the bit 6 in the handle A of the screw driver, said bit can be readily and conveniently detached from the handle so as to permit different styles of bits to be employed in conjunction with the handle for the execution of different characters of work.

The handle A in the mounting of the barrel 8 and the cap 9 is materially strengthened and reinforced and the possibility of wear upon the handle A by the adjustment of the bit 6 therein is entirely eliminated, thereby insuring longevity to the screw driver and also durability and strength.

It will be obvious that the bit 6 has three points of contact in the handle, namely within the barrel 8, which snugly receives the shank of the bit 6, the outer end of the ferrule 5, which has an opening therein adapted to snugly embrace the bit 6, and at the point of engagement of the key 11 with said bit, so that the latter will be prevented from wobbling or devoid of loose movement within the handle when the tool is in use.

From the foregoing, it is thought that the

construction and manner of operation of the screw driver will be clearly understood, and, therefore, a more extended explanation has been omitted. However, it is to be understood that certain features of construction of the screw driver can be varied and the proportions thereof such as come properly within the scope of the appended claims, without departing from the spirit or sacrificing any of the advantages of the invention.

What is claimed is:—

1. A tool of the character described, comprising an elongated handle, a barrel angular in cross section within and coextensive with said handle, a ferrule on one end of the handle and having opposed side openings, a bit passed through the ferrule and slidably telescoped in said barrel, and shaped in cross section correspondingly to the barrel, a key disposed transversely in the ferrule and having an opening for the bit, with one edge constructed to engage with bit, one end of the key being protruded through one opening in the ferrule to the exterior thereof, and its opposite end reduced to engage in the other opening in said ferrule, and a spring within the ferrule and working against said key for the positive engagement of the key with said bit.

2. A tool of the character described, comprising an elongated handle, a barrel within and coextensive with said handle, an adjustable bit slidable in the barrel through one end, and a cap formed on and closing the opposite end of the barrel, and turned over the adjacent end of the handle to reinforce the same.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

JAMES H. FINNIGAN.

Witnesses:

GEORGE H. BUCK,  
H. C. MINTON.